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**A Cross-disciplinary Study
of the Work and Collections by
Roberto de Visiani
(1800–1878)**

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Botany: *n.* The science of vegetables—those that are not good to eat, as well as those that are. It deals largely with their flowers, which are commonly badly designed, inartistic in color, and ill-smelling.

Ambrose Bierce [1]

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Preface

This section, not strictly a part of the thesis itself, deals with some choices related to its preparation and presentation.

First, a few words on the choice of language. Most literature on and by Visiani is in my native Italian, in Croatian, or in Latin. The choice to use (British) English, the *de facto* international language of our time, was motivated by the will to make the work accessible to as wide an audience as possible. As I write in a language that is not my own, I trust I shall be forgiven for my poor wording and the occasional mistake. More on the subject of language, I also hope readers will not mind that the whole thesis, save for this Preface and the Acknowledgements, is written with an editorial ‘we’. This choice was one of convenience and consistency, as some of its parts are or will be included in multi-author publications. It is also my impression, and surely not mine only¹, that using the first person singular pronoun can sound immodest, while resorting to highly contrived impersonal or passive sentences to avoid that impression is not in much better taste and makes the text needlessly hard to both write and understand. The few paragraphs contributed largely by other authors are all clearly indicated as such.

All locations are mentioned with their modern English or local official name, with the sole exception of the town of Padua, for which the Italian ‘Padova’ is preferred, following the style adopted by my *alma mater*.

Quotations of words or short phrases in languages other than English are presented in translation, in italics, with the original transcribed in footnotes, in guillemets, except when the passage in question is short and so close to the English that this would look redundant. Larger segments are presented as separate sections of text. All translations are original, if not otherwise stated. Besides translations, footnotes are also used, as is customary, to give additional information that is out of the main scope of the text, including the full name and basic biographical data about people who are being mentioned just passingly, and that the reader might not already know, as well as for the occasional interesting or amusing digression.

As a rule, citations are given in a compact author-number system, with full references in the bibliography. There are, though, a few exceptions: (1) the present Code of Nomenclature for algae, fungi and plants [3] is usually simply called ‘the *Code*’, and articles therein are just cited as ‘Art. oo.o’; (2) *Index Herbariorum* [4] is not cited every time we use herbarium abbreviations, which are set in small capitals to make them easier to

1. In fact, French polymath Blaise Pascal condemned this use of ‘I’ already in 1670, in his *Pensées*, where he wrote: *Certain authors, speaking of their works, say, “My book,” “My commentary,” “My history,” etc. They resemble middle-class people who have a house of their own, and always have “My house” on their tongue. They would do better to say, “Our book,” “Our commentary,” “Our history,” etc., because there is in them usually more of other people’s than their own.* [2]

identify, except when they are part of specimen codes (e.g. BASSA, G, NHMS, PAD, but PAD-HD03401); (3) citations of Visiani's works and of unpublished materials and correspondence conserved in Padova are given as is explained in § I.

All figures containing maps are presented at the end of the thesis, in § IX, but share the same numbering as those embedded in the main text.

The word 'Garden' or 'Botanical Garden', capitalised, refers to the Botanical Garden of the University of Padova when not otherwise stated. Out of the sections meant as formal taxonomical treatment, the word '*name*' is written in italics when intended in its technical meaning of an effectively published scientific name, as defined by the *Code*. Similarly, '*type*' refers specifically to a nomenclatural *type*. Finally, *names* published by Visiani, alone or with others, are mentioned without the abbreviation of the author whenever they appear out of sections intended as formal taxonomic treatment. A complete list of all such *names* can be found in § II.

1. Introduction

In this chapter the motivations and general goals of the research project are introduced, followed by the state of the art, some notes on the subjects on which we focussed most, and an extremely brief summary on the historical, philosophical, and scientific context in which Visiani's life and work must be framed, with a few words spent to illustrate the basic concepts of biological nomenclature, accompanied by a discussion on some of the unanswered questions that the present situation entails.

1.1 Research Project

The University of Padova holds in its collections a scientific and cultural heritage of utmost value. The presence of the Botanical Garden encouraged the creation of dried collections since the 18th century [Sacc. Chr.], which were put together by famous scholars and important figures in both the national and international scientific community. Amongst them stands Roberto de Visiani, a great expert of the flora and natural history of the western Balkans, who was director¹ of the Garden from 1837 to 1878 [§ 3.1.2]. With almost a thousand proposed scientific names and more than 600 newly described taxa [§ 6.1] that can be traced back to his work, and a crucial role in the development of the discipline in the whole region [§ 3.7.2], Visiani is amongst the great European botanists of the 19th century.

His life and work have been the subject of numerous small publications [§ 2.2], but his vast legacy of letters [§ 2.3.3] and unpublished works [§ 2.3.4] has remained almost entirely untapped to this day, despite his having lived, worked, and left a mark during one of the most defining and troubled times for the Garden itself [§ 3.2], the University [§ 3.1.3], and the scientific community at large [§ 1.5]. Similarly, his published corpus has been often discussed, but never re-read and analysed in detail, coherently, and with a modern approach [§ 2.2]. Furthermore, Italian and foreign scholars, Croatian in particular, have not always entirely agreed in their interpretation of his figure [§ 3.1.7], but the different traditions have rarely come into contact, possibly due to linguistic barriers. Meanwhile, the paucity and general vagueness of historical and geographical information attached to his collections have made it challenging for botanists to access and study his scientific heritage: less than twenty of his *names* had been typified before the beginning of our work [§ 1.2.4]. At the same time, recent technologies and modern research paradigms have made it possible to reinterpret historical collections in novel

1. Here and throughout this thesis, we use 'director' to translate the Latin 'praefectus' and Italian 'prefetto', as the English 'prefect' might sound confusing.

ways, so that cataloguing and digitising them can open the way to much new science, while the dangers of taxonomic impediment and of an unruly development of molecular identification techniques make working to resolve nomenclatural questions more relevant and urgent than ever [§ 1.6.4].

In the study of any 19th century botanist and of their collections, scientific, historical, and geographical issues are clearly intimately intertwined, but have rarely been considered together, with a widely cross-disciplinary approach. Our project was inspired by the encouraging success of the few such initiatives, in particular the *Linnaean Typification Project* [5], and aims at the same time to fill as many as possible of the aforementioned gaps in our knowledge of Visiani's life and work, and to explore and showcase the feasibility and efficacy of an author- and collection-centric approach in solving questions of historical botany. More in detail, our goals have been:

(1) to correctly identify and formally designate *type* material in Visiani's collections [§ 6], reconstructing the history of both his explorations and those of his collaborators in the western Balkans [§ 5.3], as well as his network of relationships and exchanges [§ 4];

(2) to analyse Visiani's work [§ 3.4] and to reconstruct his scientific standing at the national and international level [§ 3.6], clarifying the role he played in the formation of a local scientific identity and in the relationship between University and territory [§ 3.6], evaluating the importance of his studies in geography [§ 3.4.4] and in the history of the naturalistic exploration of the Balkans [§ 5.3], and highlighting his positions in the scientific debate of the time [§ 3.6], especially as for the significance he attributed to taxonomy and botanical nomenclature [§ 3.6.3], his procedures [§ 3.6.4] [§ 3.6.5], his thoughts about new theories (including evolutionism [§ 3.6.6]), and his point of view on the role of naturalists [§ 3.6.1], as well as his standing towards the process of unification of Italy [§3.1.7];

(3) to add value to the cultural heritage that Visiani's collections and archive represent, not only by studying them, but also by giving access to the public to the information produced with this research [§ 7].

1.2 State of the Art

In this section, we shall present all the works and data produced on our subject before the beginning of this doctoral project.

1.2.1 Literature on Visiani

Numerous works have been presented over the years about the life and work of Roberto de Visiani, mostly in Italian or Serbo-Croatian. These include (but are not limited to) Canestrini [6], Marzolo [7], Pirona [8], Šulek [9], P. Mazzoleni & Zuliani [10], Forenbacher [11], Béguinot [12], Trinajstić [13], Curti & Menegalle [14].

In 1978, on the centenary of his death, a conference dedicated to him was held in Šibenik, from 5th Aug. to 8th Aug. The proceedings [15] contain contributions by Balabanić, Cappelletti, Curti, Grubišić, Marković, Matković, Mika, Morović, Paganelli, and Pavletić, which were published only in 1983.

1.2.2 Studies at the Herbarium of Padova

The main repository of specimens collected by Visiani is the *Herbarium Dalmaticum* (*HD*)¹ [§ 2.1.2]. A project within the Institute of Botany to catalogue it was started 1977 [17], but despite the optimism of the then-director Prof. Lorenzoni², who believed it would be finished by 1979, it actually was not yet complete after thirty-seven years [18], and only a fragment dealing with ninety-six specimens (1.0%) was ever made public [15]. The only remaining depository of that work is, as far as we know, a retired lady in her 90s, who contemptuously refused to share it on numerous occasions and under any circumstance.

Meanwhile, a series of suggestions to improve the work in PAD and a method to potentially catalogue all of its specimens were proposed in the present author's master's dissertation [19], and these suggestions formed the basis for a project organised by the Department of Biology of this University, then owner of the collection³, to catalogue and study the *HD*, which lasted for two years (2011–2013). The various phases of that endeavour are briefly summarised below, with reference first to the general principles, then to their practical application to the *HD*⁴.

The first step was to develop a system to identify the single specimens unambiguously. Because no catalogue number had ever been associated with the vast majority of the specimens in PAD, most could only be identified, generally only up to the species level, by the position in which they were stored⁵. This situation not only made cataloguing troublesome because of the lack of a good unambiguous primary key for an electronic database, but also posed problems with the citation of preserved material in scientific journals, which often requires precise references, and put any potential reorganisation of the storage system out of the question. It is worth noting as well that unique identifiers for the specimens are now also a requirement of the Nagoya Protocol [22]. To solve this problem, we studied a system of numbering and barcoding modelled on the experience of many international herbaria (e.g. B, FI, G, K, NY, P, W); a protocol was developed with the help of the herbarium curator, and immediately adopted. Every catalogued specimen now receives a unique barcode ID, which, for all phanerogamic

-
1. In the stricter sense, a herbarium can be defined as a collection of pressed, dried vascular plants mounted on paper sheets, which together with accompanying information is intended be used for scientific purposes. This ancient method to preserve specimens is particularly effective, so that the vast majority of plant collections around the world are of this kind. In a broader sense, the word is also applied to collections of algae, fungi, and fossils, and it is used metonymically to indicate institutions that curate and manage such collections [16].
 2. Giovanni Giorgio 'Giangio' Lorenzoni (1938–1992).
 3. The botany collections in PAD are now owned instead by the Garden.
 4. For an in-depth explanation of the choices that were made and the full bibliography, see [19] [20].
 5. Herbarium specimens in PAD are stored following the classic work by Dalla Torre & Harms [21], though not without inconsistencies and errors.

herbaria, starts with the letter ‘H’. Closed collections also receive a second letter, immediately followed by a serial number. For the *HD*, the code is ‘HD’, followed by five digits (because the total number of *HD* barcodes used is just 9,914¹, the first digit is currently always a zero). The barcode itself does not include the abbreviation of the herbarium (‘PAD’), which should nonetheless be included when citing specimens in publications, followed by a hyphen, as we do throughout this thesis. A new scanner (*HerbScan*), specifically built to obtain high resolution pictures of herbarium specimens for scientific purposes, was bought based on our suggestion, and a scanning protocol was adopted. To develop the database, national and international standards on how biodiversity data could be shared with other institutions were studied. All the collections that are older than fifty years are considered items of cultural heritage under Italian law [23], and should be catalogued according to the extremely rigid standards imposed by the Italian Central Institute for Catalogue and Documentation (*ICCD*). At the international level, the *Biodiversity Information Standards (TDWG)* developed the *Darwin Core* data sharing scheme that is now widely used, for example by the well-known Global Biodiversity Information Facility (*GBIF*). Adherence to the minimum requirements of both standards was considered a basic requirement in our system. The next step was to choose a program to build the database. It was clear that it needed to be easy to use and robust enough that an even an undergraduate student could master it quickly and produce high quality data. Enough flexibility to catalogue all the different kinds of material that are stored in PAD was also a requirement. For the sake of price, compatibility, and openness, we opted for free, multiplatform, open-source software. We evaluated numerous available alternatives, but none fit all our requirements, so we resolved to build a new system ourselves. The first prototype was developed using *OpenOffice.org*, in 2010, and it was tested on the teaching herbarium of the Department of Biology. A subsequent version was based on the *MySQL* database management system; the structure was based on eight tables with sixty-two fields. To prevent errors and to facilitate access to the data, we developed an input form, at first again using *OpenOffice.org*. The interface was extremely simple: All the data could be entered from a single window, which made access very swift and the form itself easy to alter to suit to specific needs. Subsequently, the database was transferred to a dedicated server that was bought for the purpose by the Dept. of Biology, and a new online input form was developed by Carlo Menegazzo as a project for his bachelor degree in computer science. The original prototype website, with all data collected up to 2011, is available online [24], although unfortunately it can no longer be maintained, updated, improved, or populated by more data, due to a lack of further funding and technical expertise.

The *HD* was fully catalogued and made available to the funding Department in 2013; news of its completion was widely disseminated in national and international conferences [25] [26] [27] [28] [29] [30].

1. A few more codes were used than there are specimens; some were discarded either after having been applied wrongly or because the small label was deteriorated due to mishandling. The protocol provides that barcodes should never be reprinted to avoid any chance of duplicates.

1.2.3 Exploration of Dalmatia

To the best of our knowledge, the most detailed and complete chronology of the botanical exploration of Dalmatia in the 19th century is that prepared by Engler & Drude in 1901 [31], but more modern treatments may exist in Croatian language.

1.2.4 Types

No attempt was ever made to systematically typify whole blocks of *names* by Visiani.

During our work, we have identified previous typifications for the following thirteen *names*¹: *Brassica botteri*, *Brassica mollis*, *Chamaecytisus dalmaticus*, *Gentiana crispata* [32], *Lilium martagon* var. *cattaniae* [33], *Linaria rubioides*, *Lolium subulatum*, *Picridium macrophyllum*, *Salvia bertolonii* [34], *Sesleria interrupta*, *Silene remotiflora*, *Veronica saturojoides*, *Viola grisebachiana*.

1.3 Subjects of Particular Focus

Visiani's scientific production was so vast and disparate [§ 2.1.2], that devoting the same attention to everything would have been hopeless, so we were forced to concentrate the most on a few aspects. We explain here the reason for our choices.

1.3.1 Works with Josif Pančić

A number of reasons contributed to set the study of the relationship between Visiani and Pančić and the *names* of taxa they jointly described as a priority. Firstly, a remarkably large fraction such *names* are still in general use, or are basionyms of *names* in use: no less than twenty-four [35], which makes the four reference works [Pempt.] [Decas 1] [Decas 2] [Decas 3] of particularly high scientific interest. Secondly, the number of letters exchanged between the two scientists is high enough to serve our purposes but not unmanageably so, which, together with their highly informative content, made this case-study an ideal benchmark to test and eventually establish the usefulness of unpublished material as a support for taxonomical and nomenclatural investigations. Pančić's letters were written in fair Italian and his handwriting, though not always entirely clear, was neither exceptionally troublesome. Given the time constraints of a doctorate, we feel that questions of legibility in the choice of material to examine are an obvious practical necessity that should not remain undisclosed. The work on the publications by Visiani and Pančić could also benefit from the fact that a collaboration with Dr. Snežana Vukojičić, the Curator of the Herbarium at the Institute of Botany 'Jevremovac' in Belgrade, where most of Pančić's original collections are preserved, was already established since 2013. The relatively small size of each of the four joint works was also ideal in preparation for more extensive efforts, as was the uncommon nomenclatural intricacy, es-

1. We omit the place of publication of the typification for names treated in detail in § 6.

pecially of the last paper of the series [Decas 3]. Finally, interest on Pančić and his work was heightened due to the occurrence, in 2014, of the 200th anniversary of his birth, which made this section of our research particularly supported and well-received.

1.3.2 Flora Dalmatica

The second subject on which we worked with particular care was the three-volume masterpiece by Roberto de Visiani, *FD*, which contains the majority of his nomenclatural novelties, of which many are still in general use. Along with the fact that, with very few exceptions, the new taxa therein described have not yet been typified, the numerous unresolved taxonomical and nomenclatural questions surrounding it (see § 6.2.5) make this part of our research highly significant from the botanical perspective. Considered one of the cornerstones of Balkan botany, *FD* could simply not be neglected from our analysis. This work was also chosen to test the feasibility of carrying out such a large nomenclatural study on the initiative of a single researcher and taking into account all of the highly diverse sources of information that were gathered. *Flora Dalmatica* also contains most of the published geographical information on Visiani's travels, which must be considered precious especially in the light of the lack of detailed travel journals in Visiani's unpublished material [§ 2.3]. It must be mentioned as well that Visiani's *Herbarium Dalmaticum*, our main material of study, was mostly intended as a reference collection for that work [§ 2.1].

1.3.3 Visiani's Relationship with Massalongo

The main reason that led us to choose Massalongo over other collaborators of Visiani's is the very high number of letters that they exchanged in a quite short period, as well as their very close friendship, which allowed us to draw a very lively picture of the life of two scientists in 19th century Veneto. Moreover, the reference material of Visiani's palaeobotanical works is mostly conserved in Padova or Verona, and it has not been entirely typified [G. Roghi, *pers. com.*]. Providing material and expertise in this field of study could showcase the relevance of our investigations in a wider range of museum settings.

1.4 Historical Context

In this section we present a short (and admittedly simplistic) summary of the history of Italy and Dalmatia from the end of the 18th century to the end of the 19th.

1.4.1 From the Fall of Venice to the Fall of Napoleon

At the end of the 18th century, the Republic of Venice had control over mainland Veneto, including Padova, since 1406, and had controlled most of Dalmatia since 1481. Dubrovnik and some adjacent territories, including the Pelješac peninsula and the islands of Mljet and Lastovo were organised as the independent Republic of Ragusa¹.

Following a period of economic and military decline, the Republic of Venice became a theatre of war between Austria and Napoleonic France. The two powers divided Venice between themselves with the treaty of Campo Formio (1797), thus ending an almost 1,000-year long period of independence. Austria got control of all the territory of present-day Veneto and all the overseas dominions of Venice, including Dalmatia and the Bay of Kotor, while Ragusa remained independent. A series of further wars between France and Austria, culminating with the Austrian defeat at Austerlitz (1805), ended with the Peace of Pressburg (1805), which established that all the possessions that Austria obtained at Campo Formio were to be ceded to the newly formed Kingdom of Italy, which, as part of the French Empire, was controlled by Napoleon. Ragusa was conquered by the French army in 1808 and annexed to Italy as well. In 1809 another French-Austrian war, which ended with the Treaty of Schönbrunn (1809), secured Napoleon's dominion over Upper Carinthia, East Tyrol, Carniola, Gorizia, Trieste, Istria, and the Croatian territories south of the river Sava, which were organised as the French Illyric Provinces, along with the former Venetian lands in the Balkans, which were separated from the Kingdom of Italy.

Napoleon was overthrown in 1814 by a coalition that included most independent European countries, and he was definitively removed after the battle of Waterloo, in the following year. In 1815, after the Congress of Vienna, most of the countries and boundaries existing prior to the Napoleonic wars were restored, but the lands that Austria had secured at Campo Formio remained under its control. The Austrian Empire obtained direct control over all Lombardy and Veneto, which were united as the Lombardo-Venetian Kingdom (with Milan and Venice as co-capitals), and it achieved indirect control over the small Duchies of Parma and Modena, and the Grand Duchy of Tuscany. The former Venetian lands in the Balkans, the Bay of Kotor and the territory of the former Republic of Ragusa formed the Kingdom of Dalmatia (capital city: Zadar), Istria and the Kvarner formed the crown land of the Austrian Littoral (capital: Trieste), and the coastal area north of Dalmatia eventually formed the Kingdom of Croatia (capital: Zagreb; see also § 2.4.3). In Italy, the Kingdom of Sardinia (Turin) covered Piedmont, Savoy and the namesake island; the Papal State (Rome) controlled most of the central regions; and Kingdom of the Two Sicilies (Naples) all the south.

1.4.2 The Italian Unification

The first insurrections aimed at creating a united Italy took place in Piedmont in 1820–1821. Patriots had different ideals: Although some moderates believed that the small

1. The Italian name for *Dubrovnik*.

Italian states should have joined as a confederation, with the Pope as its head, others advocated a true war of independence, to be initiated by Piedmont against Austria, with the final goal of expelling foreign rulers outright. Others still, believed that a popular insurrection could have led to Italy's establishment as a single, republican country. In 1848, after learning of insurrections in Austria, rebellions started throughout the Lombard-Venetian Kingdom, including in Padova, where both students and professors took part¹. On the 17th Mar., a provisional Republican State was proclaimed in Venice, and in Milan (12th–22nd Mar.) the Austrians were forced to flee.

The King of Sardinia, Charles Albert I, attacked Austria, trying to gain control of all northern Italy (1st Italian War of Independence). After initial successes, he was decisively defeated at the Battle of Custoza on the 24th of July. With the armistice of Salasco (9th Aug.), Austria regained control of all of Lombardy-Venetia, except Venice itself. In February of 1849, new insurrections took place in Rome and Florence, while Venice kept resisting. When Charles Albert declared the armistice null (12th Mar.), the Austrians attacked Piedmont and defeated their army in Novara (23rd Mar.). Charles Albert abdicated in favour of his son, Victor Emmanuel II. Austria regained control of all Lombardy-Venetia and imposed a fierce repression against all who had participated to the uprisings. They then occupied Tuscany, while the King of the Two Sicilies regained control of all the lands under his jurisdiction. By the end of 1849, the political map of Italy had returned to the one that had been agreed upon in Vienna.

The failure of the war made Sardinian politicians realise that they could not have defeated Austria on their own. Prime Minister Camillo Benso of Cavour decided to send help to England and France in the Crimean War against Russia, so that he could take part in the peace treaty, which was held in Paris. There, he managed to convince the King of France, Napoleon III, to send help in case of Austrian attack; in exchange Cavour offered the lands of Savoy and Nice. He then provoked Austria by building forts and sending the Sardinian army along the border. In response, Austria issued an ultimatum on the 23rd Apr. 1859, which was not heeded. Austria declared war against Sardinia three days later, sparking the 2nd Italian War of Independence. Intending to march to the capital city of Turin, Austrian troops advanced very slowly, so that the French had time to reinforce the vastly inferior Sardinian army. Austria was definitively defeated at Solferino in late June. The French, fearing an intervention of the German States, signed an armistice in Villafranca on the 11th Jul. 1859. Most of Lombardy was to be ceded to France (which immediately transferred it to Sardinia), whereas the rulers of central Italy, which had faced more insurrections during the war and had been occupied by Sardinia, were to be restored. The Sardinians, who had hoped to gain control of all Northern Italy, were outraged, and they refused to cede control of the occupied territories. On the 22nd Mar. 1860, Sardinian rule over Parma, Modena and Tuscany was made official.

1. On the 8th Feb., two students were murdered by the Austrians; before that event, participation had in fact been far from enthusiastic. After the rebellion was ended, seventy-three students and four professors were expelled, but many more, including Meneghini [§4.3.4] and Clementi [§4.1.2], fled the town, often never to return.

In 1859, the king of the Two Sicilies Ferdinand II of Bourbon died, and rule over the country was inherited by the weak twenty-two-year-old Francis II, who refused to form a military alliance with Sardinia. Soon afterwards, numerous unsuccessful rebellions started in Sicily, where many had been fighting for independence, and were now keen to join a unified Italian state. Italian patriot Giuseppe Garibaldi was in Genoa gathering men and equipment to attempt a conquest of the Italian South, with some support from Sardinia and, covertly, the United Kingdom. An expedition of a little over a thousand men sailed to Sicily on 5th May 1860, and it landed in Marsala on the 11th. On the 15th they defeated the Sicilian army in Calatafimi, and they soon conquered Palermo. Numerous volunteers joined Garibaldi, who was then able to go on to conquer almost all of Southern Italy and reach Naples on 7th Sep. They then intended to march on Rome, but the Sardinians, fearing a French intervention in favour of the Pope and the establishment of a republic, attacked and conquered most of the Papal State, except for a still large region around Rome. On the 26th Oct., Garibaldi and Victor Emmanuel II met in Teano, and the former ceded control over the south to the King of Sardinia. In Feb. 1861 the Kingdom of Italy was finally declared. Its capital city was initially Turin, but it was moved to Florence four years later. It covered all present-day Italy except the North-east (which was still under Austrian rule) and the area controlled by the Pope.

The King of Prussia William I and his chancellor Otto von Bismarck wished to gain hegemony over the German Confederation, which was controlled by Austria. They proposed an alliance to Italy to attack it, promising to cede Veneto in case of victory. The Austrian-Prussian War, and Third Italian War of Independence thus started in June 1866. While the Prussians won major battles in Gitschin and Königgrätz¹, the Italian forces faced two serious defeats in Custoza (24th Jun.) and, on sea, in Lissa² (20th Jul.). Only Garibaldi had some success in Trentino. To avoid foreign intervention, the Prussians ended the conflict soon after establishing their superiority, gaining control of all the German countries north of the Main, the dissolution of the German Confederation, and exclusion of Austria from all German affairs. Veneto was then ceded to Italy.

After the Franco-Prussian War of 1870, which ended with the deposition of Napoleon III, the new French provisional government was in no position to keep protecting the Papal State. After failed negotiations with pontiff Pius IX, that would have allowed him to save face, Victor Emmanuel II attacked Rome and entered the city on the 20th Sep.. Rome was made capital of Italy on 21st Jan. 1871, while the Holy See did not recognise the sovereignty of Italy until 1929.

The remaining territory, which is part of modern-day Italy was not conquered until after World War I, and the Free territory of Triest *de facto* became Italian only in 1954.

1.4.3 Austrian Croatia and Dalmatia

Within the Austrian Empire, the first decades of the 19th century saw an attempt to Magyarise the Kingdoms of Croatia and Slavonia, which, along with the Free City of Fi-

1. Gitschin is now called *Jičín*, while Königgrätz is now *Hradec Karlové*.

2. Now *Vis*.

ume¹ and Bosnia-Herzegovina, were under indirect Hungarian control. This sparked the birth of the so-called Illyrian cultural movement in 1830s. This movement led most notably to the formalisation of Croatian as a national language. The nationalist governor of Croatia Josip Jelačić intervened in the fight against Hungarian forces alongside Austria and Russia in 1848, when Hungarian revolutionaries were fighting for independence. The eventual defeat of the insurrectionists was not particularly favourable to Croatian nationalist sentiments; a fierce attempt to Germanise the whole Empire ensued. Having been defeated in the war against Prussia and Italy in 1866, Austria was forced to re-define its policies in the face of centrifugal nationalism. In 1867, a compromise was reached between Austria and Hungary that led to the recognition of a dual Austro-Hungarian monarchy. In 1868, the Croatian-Hungarian Settlement sanctioned the formation of a united Kingdom of Croatia-Slavonia, largely independent from Budapest, which formally also claimed sovereignty over Austrian Dalmatia.

Meanwhile, Dalmatia remained under indirect Austrian control. Two anti-Austrian factions developed: one mainly sustained by Slavs and represented by the People's Party (*Narodna stranka*) which desired a full Croatisation of the region, with the aim of eventually joining Croatia—and a second, mainly composed of Italian Dalmatians, fighting initially to form an independent multicultural country, as Niccolò Tommaseo [§ 4.3.8] hoped, and later to protect the Italian identity of its supporters and possibly eventually to join Italy. This latter faction was represented by the Autonomist Party (*Partito autonomista*). The Autonomist Party was also sustained by some Orthodox Serbs, who were loath to join a Catholic Croatia. In 1870 the Croatian faction gained power in Dalmatia and attempted to join Croatia-Slavonia to form a Triune Kingdom, but it failed due to Austrian intervention. In Dalmatia, the empire tended to support Italian culture because it was seen as a counterbalance to Slavic nationalism; however, at the same time, the empire fought against the independence of Italy. Dalmatian Italians were generally rich and educated, and they had a vastly disproportionate political representation, whereas the vast majority of the rural population identified as Croatian. The political map of the region established in 1868 did not change until the formation of the Kingdom of Yugoslavia in 1919, after World War I.

1.5 Philosophical and Scientific Context

By the end of the 18th century, rational thought and empiricism, which had developed during the Scientific Revolution, had come to be amongst the central values of the Enlightenment, a widely dominating philosophical movement that opposed them to traditional and religious thought. This shift in scientific and philosophical thought paralleled the demand for democratic representation and more liberal policies. Natural history, and botany in particular, became a remarkably popular subject in polite society. The discovery and naming of living things, by then carried out almost universally according to

1. Now Rijeka.

the Linnaean system (see § 1.6), was seen as its central goal, in line with a general tendency towards encyclopaedism, and supported by the exploration of many new lands by the European colonial powers. Meanwhile, more natural systems¹ of classification than the Linnaean were enthusiastically being developed, although they did not surpass it in popularity until the 1830s.

The beginning of the 19th century saw the rise of romanticism, which, given its exaltation of emotion over rationality, the past over the future, and wild nature over modern civilisation, could be considered a counter-movement to the Enlightenment. From the political point of view, romanticism contributed to a wave of patriotic and nationalistic sentiment, in stark contrast with the universalism preached during the Enlightenment. Romantic thought was chiefly restrained to arts and literature in most of Europe. However, in Germany it eventually developed into *Naturphilosophie*, a movement with recurring themes of researching hidden forces and morphological relations, and the establishment of correspondences between natural objects, often with a teleological perspective. Romantic scientists opposed what they perceived as the excesses of reductionism and rationalism, and they proposed that science should rather seek to reunite men with nature. Romantics maintained that observation and imagination were a superior ways to gain knowledge about nature, and especially about biological phenomena, which were considered not to be explainable with the same principles that govern physics. The most prominent figure of romantic botany was certainly Goethe, with his *Metamorphosis of Plants* [36] (see also §). Romanticism cannot be said to have been particularly influential in systematic botany itself. Its goals and methods were not compatible with the premises of that philosophical system.

By the mid-19th century, positivism had emerged as the new dominant philosophical and cultural movement. It bore many affinities with the stances of the Enlightenment, and it could be roughly described as an attempt to apply the scientific method to all aspects of life and to every area of study. Empirical knowledge was considered by positivists to be the only valid kind, and the history of human society was seen as driven by technological progress, the benefits of which were emphatically acclaimed.

Among the great shifts in the study of biology during the 19th century, the most important was certainly the development and spread of evolutionism, as described by Darwin and Wallace, beginning in the 1860s. Another crucial development was the perfecting and general acceptance of cell theory in the 1830s and of the germ theory of disease from the 1880s.

Meanwhile, science in general moved away from being a gentlemen's pastime towards becoming a proper professional endeavour, requiring higher and higher levels of specialisation, which could only be carried out in universities. The barriers that traditionally existed between theoreticians and experimentalists fell away with the generalised acceptance of a mathematical modelling of the world, which had previously been largely limited to mechanics. Another significant change was the ever-closer link between science and technology in a society that was going through its first wave of in-

1. Or, rather, *methods*. At the time, 'system' was used for artificial classifications (e.g. Linnaeus's sexual system), whereas 'method' referred to attempts at classifying plants according to natural affinities.

dustrialisation, while the development of the railway and the telegraph made the world smaller than ever. This new framework for science originated in France and soon reached England and Germany. Lombardy-Venetia, a less rich and less industrialised country, lagged behind, not least because of the tighter control on research and the comparatively lower budgets provided by the Austrian government.

1.6 Botany and its Nomenclature

For the sake of conciseness, in this section and elsewhere in this thesis, the word ‘botany’ is taken in its classical meaning, i.e., to indicate not only the study of plants, but of all the organisms covered by the *Code*, including fungi, algae, and their fossil remains.

1.6.1 Basic Concepts and Scientific Names

It is a very familiar concept that all living organisms known to humankind bear a *scientific name*, composed of a pair of Latin words. Scientists and other professionals rarely use vernacular names instead of these seemingly quaint Latin designations, mainly because vernacular names are ambiguous and quite local in their usage, and thus they are not an effective means of communication in international settings.

The first of the two words in a *name* refers to the *genus*, whereas the second (*epithet*) refers to the *species*. For instance, the dog-rose is *Rosa canina*, peppermint is *Mentha piperita*, and modern humans themselves are famously *Homo sapiens*. This basic approach is used equally by both botanists and zoologists (as well as by bacteriologists), despite being confusingly called *binomial* nomenclature by the first, and *binominal* nomenclature by the second. Each genus can include multiple species and is itself assigned, usually with many others, to a *family*. Families form *orders*, orders form *classes*, and so on, in a sequence of *ranks* that is fixed, but admits an indefinite number of intermediate levels. Each organism is therefore assigned to an indefinite series of nested groups, each of which is generically called a ‘taxon’ (plural: ‘taxa’). Although the precise rank in the hierarchy to which each taxon is assigned is almost entirely arbitrary¹, their relative position is not: the branching in the classification is presently intended to represent the branching in the path of the evolutionary history of life.

The invention—or at least the popularisation—of modern scientific nomenclature is attributed to Linnaeus, who first proposed it as an alternative to the longer and impractical name-descriptions previously in use, in the first edition of his book *Species Plantarum* [38], which was partly inspired by a previous work by Bauhin² [39], and published on the 1st May 1753. That is the official starting date of modern botanical nomen-

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1. The rank of *species*, which has an independent definition, is the crucial exception. Countless publications have tried (and failed) to define this concept precisely, but it can most often be regarded as *the largest group of organisms in which two individuals are capable of reproducing fertile offspring, typically using sexual reproduction* [37], which is the so-called *biological species concept* (numerous others have been proposed and are in present use). Taxa of lower rank than species (*subspecies*, *variety*, and *form*) also exist, but their scope is even less clearly fixed.
 2. Gaspard Bauhin (or ‘Caspar’, 1560–1624). Swiss botanist.

clature [3], whereas zoologists adopted, after much dispute, the tenth edition of Linnaeus's *Systema Naturae* [40], published in 1758.

1.6.2 Nomenclatural Types

The Linnaean binomial system became a standard very soon after having been proposed, undoubtedly in part because of its inventor's rare self-promotion skills. Originally, each scientific *name* could be attributed to any organism that corresponded to the given description, just as everyday objects can be called any name that describes them in a dictionary. For instance, just as any *piece of furniture designed to accommodate one sitting or reclining person* [41] can be called a 'chair', so any *rosa caule aculeato petiolibus inermibus calycibus semipinnatis* [38] was called *Rosa canina*. In more formal terms, taxa were defined *intensionally*, the definition referring not to any particular specimen, but to an abstract *type*, of which the real organisms are but mere individual representations. This typological approach was grounded in Aristotelian essentialism and in the belief in the fixity of species, which were regarded as created by God separately and independently from one another, though following a series of common 'blueprints'.

For a long time (see e.g. [42]) there was no more precise means of ensuring that *names* created by scholars were understood and applied correctly by others. Botanists began to refer to original specimens collected by the author of a species¹ to check their own usage, and they began to call these specimens 'types' (or, in Latin, 'typus'), which were increasingly viewed as a physical repository of the 'true' characters defining the species, again, *intensionally* by similarity. Visiani himself felt the need to visit Linnaeus's herbarium in London for precisely this reason [§ 3.4.8]. The role of types as links between a *name*, a taxon, and its characters was first formalised in the United States in 1907 [43], but it was only accepted in Europe in 1936, with the *Cambridge Code* [44].

As fixist and typological thinking was abandoned, nomenclatural types gradually lost their role as a repository of characters to describe a species, and they are now formally simply what has been called an 'onomatophore' [45], that is, an element linking a taxon to a *name*, and not to any specific set of characters. In other words, species are now defined no longer by *intension*, but by *inclusive ostension* [46], i.e., as a group of organisms *including* its type, which is but a 'sample' of the taxon². It is therefore not at all necessary that a type be in any way a 'typical' representative of its taxon; it is essentially just a tool to allocate *names* that comes into play only when taxa have already been defined by other means³. Still, the characters of a *type* obviously remain the only way to attribute it to the taxon that will bear its *name*, and they are therefore routinely scrutinised by experts in much the same way as they used to be when they were re-

1. The author of a taxon is the person who first named it.

2. A fitting parallelism can be found in some geopolitical subdivisions, such as Italian provinces and their capitals.

3. The *Code* reads: 'the purpose of giving a name to a taxonomic group is not to indicate its characters or history, but to supply a means of referring to it and to indicate its taxonomic rank' (Preamble 1).

garded as the only ‘true’ ones. For this reason, a clear correspondence between the *type* and the characters commonly shown by a taxon remains highly desirable, as is made most clear by the very existence of the concept of an *epitype* in botany [Art. 9.8]. Much of the philosophical difference between the old and the new concepts of *type* is therefore of little impact in daily practice, and it is often overlooked. However, it has been argued [46] that a faulty understanding of these basic concepts is to blame for some of the common misrepresentations of taxonomy as a fundamentally fixist, essentialist, and unscientific discipline, stuck in 18th century name-giving. Nomenclature is now instead entirely independent from taxonomy, upon which the *Code*—and types— do not *infringe*¹ in any way.

1.6.3 Typification

Nomenclatural *types* (‘holotypes’) are now to be explicitly designated by the author whenever a new species or subspecific taxon is described (Art. 40).

Because the rule to designate *types* is also applied retroactively, the 183-year period from the publication of *Species Plantarum* to the *Cambridge Code* is particularly problematic². *Types* relative to this period must be chosen (as ‘lectotypes’) from amongst the original material used by the author of a species to write its description or diagnosis. All sources of information useful to identify such material are admissible, so that unpublished documents preserved in the libraries and archives of botanical gardens that concern this period and subject are not only interesting for the history of the discipline, but also for modern botanical research in the taxonomical and nomenclatural field. The process of selecting *types* from this ‘difficult period’ is called *typification*, and it requires, to be effected, publication of the choice in a book or scientific journal (‘designation’) [Art. 7.9].

1.6.4 The Role of Typification and Some Challenges

The importance of typification and botanical nomenclature in general seems to be often underestimated, sometimes even by the experts themselves.

Nomenclatural research in fact occupies a large percentage of the working time of taxonomists: A 1992³ study estimated that percentage to be, in the United Kingdom, around 20%, then corresponding to fifty-two full-time positions and a yearly expense of £ 1.3 million [48]. If this estimate still holds true, we must conclude that nomenclature robs taxonomists of about a fifth of the time for their core research, or, just as well, that

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1. This expression is taken from the International Code of Zoological Nomenclature (ICZN [47]), as in its botanical counterpart the very same concept is considered a given. The ICZN clearly reads: *The Code refrains from infringing upon taxonomic judgement, which must not be made subject to regulation or restraint [...] Nomenclature does not determine the inclusiveness or exclusiveness of any taxon, nor the rank to be accorded to any assemblage of animals, but, rather, provides the name that is to be used for a taxon whatever taxonomic limits and rank are given to it [...] The device of name-bearing types allows names to be applied to taxa without infringing upon taxonomic judgement.*
 2. In fact, the problem can extend to 1st Jan. 1958, the year in which the explicit indication of a holotype in the description of a taxon was finally made compulsory [Art. 40.1].
 3. Surprisingly, it appears that this topic has not been treated again more recently.

the requirement to deal with *names* corresponds to a reduction of one fifth of of the number of researchers in taxonomy. The necessity of taking so much time to solve nomenclatural issues, can therefore be said to worsen the already complex problem of *taxonomical impediment* [49], that is, the difficulty of creating instruments to protect species whose taxonomy has yet to be completely clarified. It is estimated that about 10–20% of all plant species remain undiscovered, while the number of trained taxonomists is declining steadily [50]. Solving problems of historical botany more efficiently is therefore highly desirable.

The topic of *types* is also relevant to the recent development of techniques to recognise organisms based on molecular markers (DNA-barcoding in particular). To guarantee the correct and consistent application of *names* to specimens identified by these means, it is important, just as for material studied with morphological analyses, that reference molecular sequences correspond as best as possible¹ to those that can be extracted from *type* material, to which the *name* is attached. Indeed, taking reference sequences from material different from *types* is tantamount to creating a parallel system of nomenclature, separate from that prescribed by the *Code*². Unfortunately, this correspondence is only very rarely checked, both because until recent years extracting genetic samples from historical specimens was technically infeasible and because arguably those who deal with creating databases of genetic sequences rarely have a clear understanding of biological nomenclature or sensitivity to the problem.

Currently, the vast majority of typification works are published by taxonomists as digressions or asides in more general papers. First amongst the problems that this approach creates is a great dispersion of *works*: Typifications are routinely published in a myriad of small or minuscule papers³, often in minor publications with little diffusion, so that it is extremely difficult to know whether or not a species has already been typified. The creation of a centralised archive for typifications has long been called for (see e.g. [56]), but such a system has not yet been implemented. A second problem is the dispersion of *work*: the same collections, with the same reference material, must be studied from scratch by every researcher interested in the history of possibly just one single *name*, which of course often limits the depth of the analysis to the bear minimum required. This misses the opportunity to get insightful cross-disciplinary results, and it is a potential source of less than optimal choices and even outright mistakes.

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1. If DNA cannot be extracted from types, the sequences should at least be obtained from material growing at the *locus classicus* (see § 5.5), which should be preserved and designated as epitypes (see Art. 9.8 and Art. 9 Ex. 9). Whether first trying to extract sequences from the *type* is a requirement, is a matter of debate (see e.g. [51] [52] [53]).
 2. But this development has even been explicitly supported [54].
 3. A search of the 200 most recent papers having ‘typification’ as a keyword (Oct. 2015, [55]) revealed that 160 were related to botany. Of these, 65 (41%) dealt with only one or two species, and 61 (38%) dealt with typification of *names* for either a natural group of plants or a geographic area. Only 34 (21%) analysed the work of an author or a publication, but of these only 10 (6%, four of which were published for this doctoral project) had typification and nomenclature as their primary theme.

2. Materials and Methods

This chapter deals with the different sources of data used for this thesis, which include herbarium specimens and both published and unpublished literature, and gives an account of how they were retrieved, processed, selected, and studied, both from a practical and theoretical perspective.

The main computer used for this work operates on *Kubuntu Linux 16.4*; all programs and commands mentioned within this thesis run on that operating system, with the sole exception of *Dragon Naturally Speaking 11*, which was installed on a separate machine under *Microsoft Windows XP*, and *ArcGIS*, which was installed in yet another computer with *Microsoft Windows 7*.

2.1 Herbarium Specimens

This section deals exclusively with the various plant collections containing material used by Visiani for his taxonomical works. Information on the other collections put together by him, that were not used for this thesis, can be found in § 3.2.2.

2.1.1 The Herbarium Dalmaticum

The *HD* is a closed collection¹ conserved separately in a cabinet in PAD. The name ‘Herbarium Dalmaticum’ was used by Visiani himself throughout his works, though it appears to have been subsequently forgotten [15] [57], with ‘Erbario Visiani’ or ‘Erbario della Flora Dalmatica’ used in its stead.

The collection is organised in forty bundles with 2,382 folders, one for each genus. Conspecific plants are generally attached together on the same support, usually by means of strips of paper and pins². The herbarium was organised in this way in the 1970s, when the material was removed from the original sheets and mounted on new ones of larger, standard size, and put together again after the process of uniting it with the main collection was stopped [17]. We acknowledge that this lengthy and complex work was instrumental to our own, though it was admittedly carried out *meticulously but yet without scientific competence*³, so that errors are not rare.

1. A collection is closed when no new specimens can be added.

2. This method of mounting is typical of most Italian herbaria [16]. It allows for easy study of the specimens, but as they can move quite a lot on the sheet, which has to be thin enough to be easily perforated, is not ideal for conservation. Moreover, old pins rust and leach oxides on the paper.

3. «con cura, ma, però, senza competenza scientifica» [17].

The *HD* includes 9,764 specimens mounted on 5,521 sheets (an average of 1.7 specimens per sheet). Of these specimens, 1,499 bear a label with the printed text 'Flora Dalmatica Visiani' and Visiani's handwriting. Given that the *name* on such labels does not always correspond to that in *FD*, we can suppose these were prepared later, possibly in 1860–1866, when Visiani and his assistant Beltramini reorganised the whole herbarium [§ 4.1.4]. The second most important series of specimens are those with a label reading 'Plantae itineris turcici per annum 1872 susceptae' (1,797 specimens) or 'Iter hercegovico-crnogoricum anno 1872 susceptum' (140 specimens, a total of 1,937), by Pantocsek [§ 4.2.18]. Other minor series are those named 'Dalmatische Reise', by Ascherson [§ 4.2.4] (176 specimens), 'Ex herbario Floræ Illyricæ' by Sendtner [§ 4.2.22] (37 specimens), 'prope Fiume' by A. M. Smith [note in § 5.3.2] (16 specimens).

As for the mounting system, 8,636 specimens (95%) are pinned directly to the sheet, while 289 (3%), most often very tiny plants, are in envelopes mounted on the paper, and 186 (2%) have both a separate specimen and an envelope (for the remaining 348 specimens the information was not recorded).

The collection is remarkably well conserved: during cataloguing 8,661 (96%) of the 9,035 evaluated specimens were considered in good state and usable for scientific purposes, 272 (3%) were considered damaged, but not entirely unfit to be studied, and only 92 (1%) were deemed to have been damaged beyond scientific significance, save possibly for molecular studies.

According to the simple nomenclatural update carried out during cataloguing [§ 5.1.3], there must be represented at least 2,393 species. For comparison, little over 5,000 are presently known for Croatia [58], a considerable number of which are invasive or sporadic foreign species of more recent introduction. The most represented species in *HD*, with thirty specimens, seems to be *Edraianthus graminifolius* (L.) A.DC., whose high variability must have been of special interest to Visiani.

The total number of different *names* attributed to all the specimens during their history is 12,000 [sic], an average of 1.2 per specimen. Of these, 10,704 (89%) were given to the specimen directly after determination, 510 (4%) were just added to the label as synonyms, and 785 (7%) were not directly given to the specimen, but could be deduced with certainty by other means, usually from the context of other specimens on the sheet.

At present, 1,924 specimens of the *HD* (20%) have been scanned.

During cataloguing, it took a considerable amount of time to get familiar with the handwriting on the labels, which was not already known from the study of letters. Consequently, it was only after a large number of specimens had already been studied that it became often possible to identify their collector just on that basis. As time did not allow to review all the catalogued material at the end to again try and guess the identity of the collector (which, at any rate, would still not have been possible in most cases), the numbers given hereafter are mostly based on specimens that were explicitly signed, and should be taken as a rough estimate of the total, or as an indication of the minimum number of specimens known for certain to have come from each person. After Visiani, who almost never signed his labels, the main contributors to the *HD* were Pantocsek

(with 1,974 specimens) [§ 4.2.18], Stalio [§ 4.2.23] (304), Pichler [§ 4.2.20] (196), Ascher-son [§ 4.2.4] (168), Noë [§ 4.2.16] (160), Clementi [§ 4.1.2] (149), Neumayer [§ 4.2.14] (136), Alschinger [§ 4.2.2] (128), Sendtner [§ 4.2.22] (120), Kargl [§ 4.2.9] (120), Maly [§ 4.2.11] (86), Huter [§ 4.2.10] (63), Tommasini [§ 4.3.9] (55), Pančić [§ 4.3.5] (46), Petter [§ 4.2.19] (43), Pappafava [§ 4.2.17] (32), Andrich [§ 4.2.3] (31), Smith [note in § 5.3.2] (29), Studniczka [note in § 5.3.2] (26), Botteri [§ 4.2.6] (25), Freyn [§ 4.2.8] (23), Bertoloni [§ 4.3.1] (20), Nisiteo [§ 4.2.15] (14), Roich [note in § 5.3.2] (14), Rubrizius [§ 4.2.21] (14), Portenschlag [note in § 5.3.2] (12), Bernardi (11), A. Mazzoleni [§ 4.3.3] (11), Biasoletto [§ 4.2.5] (10). There are at least forty other collectors who contributed a small number of specimens, often only one, among which we mention Alexander [note in § 5.3.2], Borbás¹, Brocchi [§ 4.2.7], Grisebach², Heldreich³, Jan⁴, Kitaibel⁵, Schultz Bipontinus [note in § 3.4.6], Welden [note in § 3.4.2], Welwitsch⁶, Zahlbruckner⁷, and Zanardini⁸.

As for the geographical origin of the specimens, see § 5.

2.1.2 Other specimens by Visiani in Padova

Some of Visiani's specimens got lost during the interrupted attempt to join the *HD* to the two open phanerogamic collections in PAD [§ 2.1.1], and have never since been systematically looked for [18]. A very small number, mostly specimens by Pantocsek, was in fact found, often by chance, during our project. The issue is further complicated by the fact that the *Herbarium Venetum* ('*HV*') should in theory only contain plants from 'Veneto', yet the precise boundaries of what this means were never clearly defined. In fact, while some people took a historical interpretation, and considered all the areas previously dominated by the Republic of Venice, including Dalmatia, to be part of Veneto, others did not [17]. Presently, plants not only from the Italian region of Veneto, but Trentino-Alto Adige and Friuli-Venezia Giulia as well are filed there [R. Marcucci, *pers. com.*], despite all of the former and most of the latter lands having never been Venetian territory. To further complicate the matter, we should not forget that Istria, part of the Kvarner, most of Slovenia and the area round Zadar were actually briefly Italian territory during the second World War.

It is not easy to estimate how many specimens from the original *HD* may now be in *Herbarium Generale* ('*HG*') or *HV*, but since we know that Visiani left about 10,000 specimens and 2,500 species from Dalmatia [§ 3.7.1], and this number is really close to what

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1. Vincze von Borbás (1844–1905). Hungarian botanist.
 2. August Heirich Rudolf Grisebach (1814–1879). German botanist and phytogeographer who worked in Göttingen.
 3. Theodor Heinrich Hermann von Heldreich (1822–1902). German botanist from Dresden.
 4. Giorgio Jan (1791–1866). Austian-Italian naturalist, mostly interested in herpetology and botany.
 5. Pál Kitaibel (1757–1817). Hungarian botanist and chemist. In the first discipline, he is mostly remembered for his work with Franz von Waldstein (1759–1823) on the flora of Hungary; in the second, for the discovery of the element tellurium.
 6. Friedrich Martin Josef Welwitsch (1806–1872). Austrian explorer and botanist, mostly remembered for his discovery of the very unique plant that was named after him: *Welwitschia mirabilis* Hook.f.
 7. Alexander Zahlbruckner (1860–1938). Austian lichenologist.
 8. Giovanni Zanardini (1804–1879) was a physician, phycologist and botanist, most famous for his work on the algae of the Adriatic sea. He collaborated with Visiani for his work on the blight of grapes (see § 3.4.9), and was dedicated by him the new species *Iberis zanardini*.

we found during cataloguing [§ 2.1.1], we can suppose that only very few are actually missing. As a general rule, specimens from Serbia sent by Pančić [§ 4.3.5] are instead in *HG*.

2.1.3 Specimens by Visiani out of Padova

Not all of Visiani's specimens are conserved in Padova, as he and his successors sent some of them around Italy and Europe, either to have them checked by experts, or on others' request, as had been the custom since Linnaeus's time [16].

From Visiani's correspondence with Hofmeister, the editor of his *FD* [§ 3.4.4], we know he sent him some specimens for his collection in 1843, on his surreptitious request: the publisher asked if he *knew some young botanist who would have wanted to exchange some dried plants from Dalmatia for some plants from Germany*¹. We do not have the answer, but in the following letter he wrote: *I thank you a thousand times for the magnificent shipping of plants from Dalmatia*². Visiani's present was not at all disinterested: Hofmeister was a notoriously venal man [§ 3.4.4], and since the two had already had countless clashes (and more were to come [§ 3.4.4]), the botanist was probably hoping to buy a more amenable attitude, with plants. Indeed, Hofmeister was not ashamed to admit that the *precious gift* made him *renounce his aversion to give to the imperial royal sanctioning office the 6 copies of Flora Dalmatica that they required*³, which had recently been a point of contention. Hofmeister's herbarium is now conserved in HEID [P. Sack *pers. com.*], but as most of the collection is not catalogued, we do not precisely know how many specimens by Visiani there may be.

Another block of specimens whose exchange we were able to trace are those sent to the Central Italian Herbarium in Florence (Fi). Padova was one of the few institutes not to pledge any plant for that collection when its foundation was announced, in 1841 [§ 3.3.3]. Visiani was not there in person at the congress in question, and his assistant Clementi, who was there, certainly could not have taken any decision in his stead. At any rate, no contribution from Padova reached Fi for over thirty years. At the time, the most interesting specimens in PAD were those from Dalmatia, and since that region is not part of Italy, Visiani might have believed his collection to be out of the 'jurisdiction' of Florence, so to speak. Moreover, although he certainly was in favour of a tighter collaboration between Italian botanists [§ 3.3], he might well have regarded the existence of a central herbarium as a menace for the prestige and independence of his own institution. Be that as it may, in 1866 the director of Fi, Parlatore [§ 4.3.7], tried to persuade him to give a contribution with the following words:

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1. «Vous m'obligerez infiniment, si vous voudrez avoir la bonté de m'annoncer l'adese de quelque jeune botanist, qui aurait envie d'échanger des plantes sechées de la Dalmatie, contre des plantes de l'Allemagne. J'aimerais d'avoir dans mon herbier les belles espèces, que j'apprende connaître de votre flore, et d'en communiquer à mes amis» [hfms-430128].
 2. «Je vous mands mille grâces pour l'envoi magnifique de plantes de la Dalmatie» [hfms-430708].
 3. «Ce present précieux me fait renier [?] mon aversion de donner à la censure imp. et roy. les 6 exemps. de la *flora dalmatica* lesquelles elle requient» [hfms-430708]. All the books distributed in the Empire had to undergo the censorship of the *Zensurkommission*, which we translate as 'sanctioning office'. Visiani himself had great trouble understanding the rules of Austrian sanctioning [b25189].

I very much regret that of all the Italian botanists, you are the only one that has given nothing to this herbarium, and even more that this collection lacks such an ornament, as it is rich with plants by almost all botanists present and past¹.

It took Visiani six more years [prlt-720110] to eventually surrender to his friend's requests, and put together a bundle of just 143 plants from Dalmatia [L. Cecchi, *pers. com.*] to send to Florence.

Apart from those in HEID and FI, we know of at least forty-nine specimens by Visiani conserved in Vienna: thirty-eight in HAL, six in Reichenbach's herbarium (W-RCHB) and five in other closed collections in W or WU. A list of about thirty plants sent to Reichenbach exists in *Lib. HB.* [b25183]. At least twenty-eight specimens are in G, where De Candolle² Sr. had established one of the most important schools of botany in the world. The at least twenty-six specimens conserved in K were a gift to Ball and his wife Elisa Parolini [§ 4.3.6] or were exchanged with Hooker³. At least twelve of Visiani's specimens are in P, and two in L. An unknown number may also be conserved in BASSA, exchanged with Parolini [§ 4.3.6], and TSM, in Tommasini's [§ 4.3.9] herbarium. According to Stafleu & Cowan [60], other specimens by Visiani should exist in BP, H, L, M, Mw, OXF, though we have no evidence of this nor do we know of any connection of Visiani with those institutes.

When it came to exchanging plants, the fact that Visiani lived almost all of his life far from Dalmatia [§ 3.1] put him at a great disadvantage, as he could not easily collect or obtain further material to satisfy his correspondents. Moreover, he openly resented [FD1] the hasty conclusions and the criticism on his judgement that some of his colleagues had put forward after seeing often just one of his dried specimen, as he believed he knew the plants much better than they ever could, for having seen them multiple times in the wild and often also from cultivation (see § 3.4.4, § 3.6.2). For this reason, while he was more than happy to exchange seeds and bulbs of plants from Dalmatia [§ 3.2.3], he certainly tried to avoid to share his scarce dried material, in part to fend off this disagreeable circumstance. In fact, of the forty-nine specimens by Visiani that are known to exist in Vienna, thirty two are potentially original material for his *names*, but only ten of these were described after 1837, when he became a professor, which is a really disproportionately small number. Of the 143 specimens in Florence, almost none is of taxa he described. This peculiar situation suggests that, for the majority of Visiani's *names*, all of the original material is likely to be conserved in Padova, which makes the *HD* even more precious than was previously believed. Our conclusion that specimens by Visiani out of Padova are likely to be few and duplicate of plants conserved in *HD* is confirmed by the importance he gave to having access to original material [Linn.], and is not disproved by the calculation in § 5.4.

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1. «Assai mi duole che di tutti i botanici italiani voi siate il solo che non avete dato nulla a questo erbario e più ancora che di tanto decoro manchi questa raccolta, ricca delle piante di quasi tutti i botanici passati e presenti» [prlt-660327].
 2. Augustin Pyrame De Candolle (1778–1841). Swiss botanist from Geneva, mostly noted for starting the monumental and hugely influential seventeen-volume book *Prodromus Systematis Naturalis Regni Vegetabili* [59], which was completed by his son Alphonse [note in § 2.3.3].
 3. Sir Joseph Dalton Hooker (1817–1911). English botanist, director of the Royal Botanic Gardens of Kew, and best friend of Charles Darwin. His father William Jackson had himself been a top botanist.

For our nomenclatural research, we saw also the whole collection by Brocchi [§ 4.2.7] in BASSA (taking pictures of all the sheets), numerous additional specimens by Pančić [§ 4.3.5] in БЕОУ, and on occasion material by other collectors in many other institutions.

2.2 Literature Review

All the biographical commentaries on Visiani and his work that we were able to retrieve have been studied. The publications were all found either online or at the Ancient Library of the Botanical Garden of Padova (henceforth '*Lib. HB.*'). All of the published works by Visiani were retrieved and studied; each one is treated in § 3.4.

Most of the material had already been made available online, through various services including (but not limited to) Google Books [61], the Internet Archive [62], the online portal of the Bavarian State Library [63], the Croatian-based Metelgrad Digital Library [64], the Biodiversity Heritage Library [65], and two portals by the University of Padova: the old DAFNE Project [66], whose development apparently stopped in 2003, but which still hosts many documents not available elsewhere, and the newer PHAIDRA [67] (see § 7). Though nothing by or on Visiani was found there, we wish to acknowledge as well the impressive collection of ancient books made available by the Library of the Royal Botanic Garden of Madrid [68], many of which we have consulted during our research. All the remaining consulted material was found at the *Lib. HB.*, and was digitised with the same method adopted for the unpublished papers [§ 2.3]. As most books available online lack the illustrations, these were retrieved from the *Lib. HB.* as well.

All books found online were downloaded or converted in PDF format, saved locally, and consulted on the computer, except for *FD*, a copy of which had already been printed from the online version and bound in three volumes before the beginning of this work. Books not found online were also consulted in their digital form, as separate pictures.

2.3 Unpublished Material

The large amount of unpublished material by Visiani that we consulted is presented in this section.

2.3.1 Retrieval

The unpublished material conserved at the *Lib. HB.* was mostly retrieved following an unpublished (and incomplete) list prepared by former librarian Fernanda Menegalle. Letters received by Visiani are stored in folders, one for each correspondent, in four bundles catalogued from Ar.B.9 to Ar.B.12. Within each folder, they are archived more or less precisely by date. Other material by Visiani is kept separately in Ar.B.23–28, and

does not seem to be in any particular order, while Ar.B.29 contains almost only official documents, such as certificates and diplomas.

At the General Archive of the University of Padova, we retrieved documents concerning Visiani's graduation and academic position¹, his retirement², and his will and testament³. We retrieved the text of his speeches at the *Acc. Pad.* from its library. The letters sent by Visiani to Abramo Massalongo [§ 4.3.2] were found at the Civic Library of Verona, and imaged in collaboration with Prof. Guido Roghi. The letters sent by Visiani to Josif Pančić [§ 4.3.5], conserved at the Library of the Botanical Garden and Institute of Botany 'Jevremovac', in Belgrade, were retrieved and imaged by Dr. Snežana Vukojičić.

More material that relates to Visiani's activities as a philologist and lexicographer may exist at the Civic Library of Padova, where his large collection of about 2,000 rare manuscripts and non-botanical books is conserved [14] [8]. More still may be available from the *Ist. Ven.*

2.3.2 Digitisation and File Naming System

All pictures that we made of Visiani's unpublished materials were shot with a tripod on white (correspondence) or black (other) background, under natural lighting. A Nikon Coolpix P510 digital camera was used to produce pictures in JPEG format with a 4:3 aspect ratio and a resolution of 15.9 Mpx (4608 × 3456 px). Each frame includes a small handwritten label containing the number of the bundle in which it was found and a simple three-digit serial number, different for each document, for univocal permanent identification. A grand total of 12,530 pictures were shot, of which 6,989 are of letters. According to the numbering, the sum of the single documents is calculated to be 2,867, of which 2,139 letters and 728 other documents (but minor errors are not unlikely to have occurred).

The files produced during the digitisation of the collections were renamed using a coherent system that was studied to maximise the quantity of data retrievable from the file names themselves, ensuring that each and every picture could immediately be identified even if all of them were to be moved to a single folder, and thus avoiding the time-consuming need to maintain a separate database to store the metadata. Files of letters were stored in separate folders by author, and named as is explained in the following table:

L-PPPP-YYMMDD-[@]-#[NNNNN].ext

L	A symbol meaning 'letter'.
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1. Conserved in 'Archivio dell'Ottocento / Personale Universitario / 1867–1885', (abbreviated as 'a.g.-per').
2. Conserved in 'Archivio dell'Ottocento / Atti del Rettorato / Atti organizzati per posizione / b.26 fasc. 324 "Visiani Prof. Bot.^a – Riposo"' (abbreviated as 'a.g.-rip.').
3. The original holographic will itself is not to be found there, but a report on its reading on 6th May 1878 bears its full text, which we transcribed. It is conserved in 'Archivio dell'Ottocento / Atti del Rettorato / Atti organizzati per posizione / b.34, fasc. 447 "Visiani legato"', (abbreviated as 'a.g.-leg.').

PPPP	The four-letter abbreviation of the author of the letter (or the recipient, when not Visiani), according to the standard list presented in § I.
YYMMDD	The date, with the first two numbers representing the last two digits of the year (the century always being the same), the second representing the month, the third couple representing the dates. When no date is available, the letter ‘D’ followed by a progressive five-digit number is used instead, not to change the length of the file name.
@	An optional symbol used to mark answers by Visiani. The presence of this special character makes it easy to distinguish sent letters from received ones and to automatically tell them apart, while its position allows to automatically sort the exchanges chronologically.
#	A serial number for each picture taken of the same letter.
NNNNN	An optional string representing the serial number attributed to the document. This part was not used when the letter is found in the default position (i.e. in a folder alphabetically ordered by author, in Ar.B.9–12). Out of convenience, the official abbreviation ‘Ar.B.’ was shortened to just ‘B’; the bundle number was padded to two digits, and that of the specific document to three.
ext	The file extension (originally always ‘jpg’).

Files referring to other unpublished material were renamed with the following simplified symbology: ‘NNNNN-ext’, where ‘NNNNN’ is the same serial number explained for the case of letters. The front page of the folders in which the letters in Ar.B.9–12 were kept, where the name and sometimes a short note on the correspondent was written by Visiani, were renamed simply with an ‘F’ followed by a hyphen and the same author abbreviation used for the letters.

The renaming was carried out partly by hand, and partly by means of the automatic tool *KRename*. This was also used to sort all the pictures of a single letter or document in a separate subfolder (using the renaming model ‘[$\$1-13$]/ $\$$ ’ for letters, and ‘[$\$1-6$]/ $\$$ ’ for manuscripts). The command-line tools `find` and `convert` could then be used together to easily generate a more handy multi-page PDF for each document, when desired, simply by running, within each folder:

```
./find . -type d | while read d; do convert "${d}"/*.jpg ./"${d}##*/'.pdf
```

2.3.3 Letters and their Transcriptions

We shall begin with a short mention of Visiani’s handwriting. Most people nowadays are no longer used to read long handwritten texts, and the styles of cursive in use in the 19th century, which were meant to be written with a dip pen, include outdated shapes and ligatures which make them especially unfamiliar. Having conceded this, Visiani’s hand is still dismal. The fact that his letters were quite hard to decipher was often pointed out to him by his correspondents (e.g. [mssl-540812] [hfms-420907] [mssl-540729]), and he even admitted it himself [mss-540110-@] [mssl-560820-@]. His personal notes are often almost entirely unintelligible even to the trained eye.

The letters conserved in *Lib. HB.* came from 359 correspondents (see the complete list in § I), most of whom were botanists. Visiani did not keep absolutely all of his corres-

pondence: in a letter to Massalongo he wrote: ‘*I do with your letters the same as you do. I keep the ones I like, and burn the others*’¹. This is confirmed by the fact that many pieces in the exchanges between him and both Massalongo and Pančić are clearly missing. The earliest conserved letter is from 1823 [brtn-230720], the last was written just a few months before Visiani’s death [snnr-780711]. The person who sent most letters to Visiani by far was Tommasini [§ 4.3.9] (203 letters), followed by Pančić [§ 4.3.5] (94), Bertoloni [§ 4.3.1] (75), Massalongo [§ 4.3.2] (62), Tommaseo [§ 4.3.8] (56), Parlatore [§ 4.3.7] (54), Hofmeister [note in § 3.4.4] (41), Moris² (37), Senoner³ (33), De Candolle⁴ Jr. (28), Fanfani⁵ (27), Noë [§ 4.2.16] (26), Parolini [§ 4.3.6] (24), Cesati⁶ (23), Boissier⁷ (22), Linden⁸ (22), Reichenbach (22), Ball [note in § 4.3.6] (21), Gussone⁹ (20), and Neumayer [§ 4.2.14] (20); 222 correspondents (61%) exchanged with him only three letters or fewer. The letters sent to Massalongo that we could find are 301, while those to Pančić are fifty-two.

A total of 853 letters (30%) were transcribed during our study, amounting to just under 1.5 million characters¹⁰. Transcription of most documents in digital format was carried out manually, with a minority of the letters handled using speech recognition engines (*Dragon Naturally Speaking 11* and *Dictanote*), which, though much quicker, were unfortunately often quite unreliable due to the old-fashioned vocabulary, sometimes with comical results. The main goal in transcribing and formatting texts was *not* to ensure maximum fidelity to the original, but rather to create the most useful output in terms of data mining. In particular, great care was taken to make scientific *names*, names of collaborators, dates, and localities as easy as possible to locate by means of automatic tools. Scientific *names* were always rendered italicised and with no ligatures (‘æ’, ‘œ’), regardless of their form in the original; parts that are abbreviated in the original were expanded in the transcription and marked as such by being underlined in dots (e.g., ‘*C. præcox*’ in the original is rendered ‘*Cirsium præcox*’ in the transcription; ‘la lejocarpa’ → ‘la *Potentilla lejocarpa*’). Whenever the modern form of a *name*, as prescribed by the *Code*, was different from the original in one or more letters, the modern spelling was given after the original one, italicised, in square brackets (e.g., ‘A. Cupani’ → ‘*Allium cupani* [*Allium cupanii*]’). This method was also used for common names, whenever used in the original (e.g., ‘ho ricevuto un’iride’ → ‘ho ricevuto un’iride [*Iris*]’). This allows to find *names* mentioned in the correspondence by means of a simple

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1. «Delle lettere Vostre fo quello che fate voi. Tengo quelle che mi garbano, l’altre le abbrucio» [mssl-D0001].
 2. Giuseppe Giacinto Moris (1796–1869). Piedmontese botanist, mostly known for his study of the flora of Sardinia.
 3. Adolf Senoner (1815–1895). Austrian librarian and geologist in Vienna. A friend of Massalongo’s, he exchanged with Visiani fossils and books.
 4. Alphonse de Candolle (1806–1893). The son of Augustin Pyrame, and author with his father of the celebrated *Prodromus* [note in § 2.1.3].
 5. Pietro Fanfani (1815–1879). Italian philologist, lexicographer, and writer.
 6. Vincenzo de Cesati (1806–1883). Botanist from Milan who became director of the Botanical Garden of Naples.
 7. Pierre Edmond Boissier (1810–1885). Swiss botanist. A pupil of De Candolle Sr., he collected very extensively in Europe.
 8. Jean Jules Linden (1817–1898). Belgian botanist, explorer, and horticulturalist.
 9. Giovanni Gussone (1787–1866). Botanist from Naples, most famous for his studies in Sicily.
 10. Or 241,000 words. For comparison, this thesis is about 1,107,000 characters, or 175,000 words long, excluding notes.

text search, and makes them more easily identifiable by means of automated tools, such as those available through the *Global Names Recognition and Discovery* web service [69]. Other abbreviations, whenever their content may be useful to search, are expanded in the same way as scientific *names* (e.g., ‘che raccolti sull’I. Livad.’ → ‘che raccolti sull’*Ivanova Livada*’ or ‘che raccolti sull’I. Livad. [*Ivanova Livada*]’). Names of collaborators, but not authorship citations of scientific names or publications, nor signatures, are set in small capitals (e.g., ‘l’opinione del Boissier’ → ‘l’opinione del BOISSIER’; ‘*Cynara syrica* Boiss.’ → ‘*Cynara syrica* Boiss.’; ‘ho letto nel Kunth’ → ‘ho letto nel Kunth’; ‘suo, | Visiani’ → ‘suo, | Visiani’). Text evidently added after the main text, between lines, is set as superscript (e.g., ‘so [‘che’ added later] Lei ha’ → ‘so^{che} Lei ha’). Different paragraphs in the original letter are separated by a vertical bar (‘|’), while the whole letter is always set in a single paragraph for brevity and clarity, and to make it possible to order letters automatically and to keep track of their precise number by simply counting paragraphs. Any additional notes are added in square brackets. Illegible text, when no longer than a few words, is simply indicated with a question mark (‘[?]’). Single uncertain words are marked by an asterisk (‘*’), single unreadable letters are exchanged with an underscore (‘_’). To avoid confusion, asterisks appearing in the original text are substituted by daggers (‘†’).

2.3.4 Other Unpublished Material by Visiani

The rest of Visiani’s unpublished materials includes: ninety-three manuscripts of published or unpublished papers and speeches, the most interesting of which are described in § 3.4 and § 3.5 respectively; ninety lists of plants, only some of which are of known provenance or meaning, and described in § 4; eight lists of other nature, mostly vernacular names of plants, and libraries; forty-five blocks of relatively coherent notes, mostly on botanical subjects treated by others, of which many appear to be records of lectures he attended as a student; fourteen drafts of letters or communications addressed to various recipients, mostly officials; six notepads with mixed notes, many of which were taken during his travels as a professor (see § 3.1.4); a large number of notes on single sheets or scraps of paper, mostly drafts or annotations of formal descriptions of plants, of doubtful meaning; all of Visiani’s diplomas and certificates, that we used to prepare the list in § II.

2.3.5 Saccardo’s Chronicles

Another important source of data were Saccardo’s [§ 4.1.3] chronicles. In 1870, as Visiani was fighting his debilitating illness [§ 3.1.9], rector Coletti¹ decided to start collecting data aimed at the publication of a general history of the University [Sacc. Hist.]. Since Visiani was unavailable, the job to put together every possible information on its chair of botany fell on his assistant Saccardo, who was required to examine its teaching

1. Ferdinando Coletti (1819–1881). Physician and patriot who published many works on the history of the University.

and scientific activities, its organisation, its economic management, and to indicate all regulations, books, decrees, and documents produced throughout its history. His work, which we have referred to extensively as for the period of Visiani's directorship, is now contained in three manuscript books. The first one is titled *Information and Documents of the History of the Botanical Garden of Padova*². It starts with a detailed chronicle of all the most significant events in the Garden from 1545 to 1866, followed by tables of directors, assistants, and gardeners, a list of all the inscriptions found in its premises, and a table of its financial endowment through the centuries. After that, we find a messy collection of other notes, most of which are simply different versions of the same material. The whole document is clearly intended as a draft, as it is written very casually and with many corrections, and the data are intermingled with doodles and apparently unrelated calculations. The second chronicle is titled *Materials for the History of the Chair of Botany of the Royal University of Padova*³, and appears to be nothing more than a final, more polished draft of the previous. The third work is titled *Chronicle and Documents about the History of the Botanical Garden and the Attached Chair of Botany of the Royal University of Padova*⁴, and covers a much longer period: from 1545 to 1919, with additional notes by Saccardo's successor Béguinot⁵ that reach until 1921. Along with all the same kind of data already present in the previous two, this last chronicle also includes lists of: the most significant ancient trees in the Garden; the pieces of furniture in its buildings; the most important works of its directors; the main ancient manuscripts preserved in its library; the lists of cultivated plants; the seed lists; its various portraits of botanists. While information taken from these chronicles was used for Saccardo's works on the history of botany [70] [71] [72] and probably for other successive works (especially Gola [73]), as far as we know none of them was ever published as such. As for the the project promoted by the rector, it led to a just 228 pages long booklet [74], published in 1873, for which Visiani eventually managed to write the short chapter on the Garden [H. Pat. 73].

2.4 Methods of Cartographic Representation

This section deals with the work and the general methods used for the geocoding of Visiani's data and our spatial analyses, performed on a GIS.

2.4.1 Preliminary Choices

Visiani's unpublished material was unexpectedly found to contain hardly any travel diary concerning his botanical explorations [§ 2.3.4]. In order to compensate for this, at

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2. «Notizie e Documenti della Storia dell'Orto botanico di Padova raccolti da P.A. Saccardo (1545–1870)» [b09008] (abbreviated as 'Sacc. Doc.').
 3. «Materiali per la storia della Cattedra di botanica ed orto botanico della R. Università di Padova di Padova» [b09009] (abbreviated as 'Sacc. Hist.').
 4. «Cronaca e documenti relativi alla storia dell'Orto botanico e dell'annessa cattedra di Botanica della R. Università di Padova [...] con aggiunte del prof. A. Béguinot» [b09010] (abbreviated as 'Sacc. Chr.').
 5. Augusto Béguinot (1875–1940).

least in part, we determined to geocode the records of species he presented in his main taxonomical works, as well as his herbarium [§ 5.2]. Presenting in a single place information that was previously unavailable or not available in a coherent and easily accessible format, would ease the access to useful historical data for taxonomical and biogeographical research beyond the goals of this thesis, and give the opportunity to kick-start the adoption of tools whose development is long overdue at the Herbarium of Padova [§ 1.2.2].

Before starting to work on a GIS, a suitable program, file type, projection, and feature type needed to be chosen.

The software we considered first was *ESRI*'s proprietary package *ArcGIS*, as the program most widely used and taught at our Department. It was soon abandoned, in favour of the free, open-source alternative *QGIS*. This choice is in line with the policy to use free software and formats whenever practical, that was already in place since the start of our work at the Herbarium of Padova [19] [20] [§ 1.2.2]. We also took into account the very high licensing cost of the former: smaller institutions curating natural history collections would not necessarily be able or willing to afford it, unless it provided very substantial advantages over free competitors, but as projects like ours do not require any of the highly specialised features provided by *ArcGIS*, developing knowledge and skills on that platform would probably not have been the best investment. Moreover, a local install could be useful for testing when and if GIS capabilities should be integrated into the present database of the Herbarium of Padova [§ 1.2.2], and since its server runs a *LAMP* solution stack, working with *QGIS* would bypass compatibility issues.

As for the file type, we initially worked on shapefiles, a format that was chosen mainly for its popularity and universal compatibility between platforms. As the data were integrated into a database with a more complex logical architecture [§ 5.1], they were converted to *SpatiaLite* features [§ 2.4.5], a format that combines ease of use with advanced querying capabilities, save for the background features and final maps, which were kept as shapefiles [§ 2.4.5].

Adhering to common practice in GIS-enabled natural history collection management systems (see e.g. G, NY), the global WGS-84 datum (EPSG: 4326) was chosen. This was motivated by its extremely widespread use and the potential necessity to accurately represent material coming from different parts of the world (Visiani himself received specimens coming from California, Egypt, and Australia [§ 3.2.2]), which are best represented together on a geocentric reference ellipsoid. Moreover, as this is the reference system for GPS, the choice would ease a possible future expansion of the capabilities of our database to include such data.

Choosing the most suitable feature type was much more problematic. Our data is of course to be represented by vectors, for which all GIS software offers three basic options: points, lines, or polygons. Some of our records would be best represented in all three categories: villages and peaks, for instance, are best shown as points, rivers and mountain ranges as lines, islands or whole regions as polygons. Again following the choice of most other institutions (see e.g. [58] [75] [76]), we opted to reduce everything to single points [§ 2.4.4].

2.4.2 Materials for a Cartographic Representation

Our maps were built with the help of basemaps provided via the internet by *Google* (*Google Streets*, *Google Physical*, *Google Satellite*) and *OpenStreetMap*, which were added directly through the *OpenLayers* plugin in *QGIS*. *OpenStreetMap* place name were also downloaded as shapefiles for convenience.

Detailed modern administrative border data could only be freely acquired, as shapefiles, from *Global Administrative Areas* [77]. Their maps are rather poor: despite being in vector format, they were clearly obtained from rasters, so that at very large scale the borders appear pixelated. This causes the additional inconvenience that the polygons do not fit perfectly together at the borders, so merging them seamlessly requires laborious workarounds¹. There are also frequent undesirable and quite noticeable approximations. Despite this, considering the rough level of detail of our data [§ 2.4.1], we determined that they would be precise enough for our needs².

Numerous historical maps were also seen during our work, among which we mention those from the Austrian second (1806–1869), and third (1869–1887) military surveys [79], those published by Petter in his works on the geography of Dalmatia [§ 4.2.19], and the many available through *Old Maps Online* [80].

2.4.3 Drawing a Background Map

The first step taken to represent our data in a GIS was to draw a background political map showing the administrative subdivisions of the time [Fig. 1]. During Visiani's adult life, the borders of Dalmatia did not change [§ 1.4.3], but those of the neighbouring regions did, often dramatically: the former Kingdom of Illyria was split into three regions (Carniola, Carinthia, and the Austrian Littoral) in 1849, while The Kingdom of Croatia-Slavonia was formed by fusing the Kingdom of Croatia, the Kingdom of Slavonia, and the Croatian and Slavonian Military Frontiers in 1868. These changes did not substantially alter the situation of the coastal regions, though, where the vast majority of Visiani's specimens were collected, so we deemed it not necessary to produce a whole series of separate maps to represent all these changes. We eventually decided to show the subdivisions as they were at the time of Visiani's death, so that they would be most suitable to display all the data from the *HD* and from all of Visiani's corpus. By chance, this also proved to be the easiest option: numerous maps of the Austro-Hungarian Empire as it was just before the First World War (unchanged since 1878) are freely available online, whereas maps representing the previous situation are comparatively scarce.

For our background map we chose to only show Dalmatia, Croatia-Slavonia, and the Austrian Littoral. Comparing historical maps with the modern administrative data, we found, as was expected, that many of the present borders still follow the ancient subdivisions [Fig. 1]. In particular, Dalmatia comprised the present Croatian counties of Za-

-
1. Namely: superimposing on the border a polygon from a new virtual vector, merging it with the polygons that do not match, dissolving all three in a single shape.
 2. Had the geometries in question been simpler, we would have considered re-drawing them nonetheless, but the eastern Adriatic coast is immensely complex. Croatia alone has over one thousand islands [78].

dar (minus the township of Gračac), Šibenik-Knin, Split-Dalmatia, Dubrovnik-Neretva, and almost all the Montenegrin townships of Herceg Novi (minus the still disputed strip of Sutorina¹), Kotor, Tivat, and Budva. Croatia-Slavonia comprised all the remaining present Croatian counties (minus part of Primorje-Gorski, Istria, Medimurska, the township of Dvor, and the lands left of the Danube) and the Serbian district of Srem. The Austrian Littoral, on the other hand, follows present borders only for some small sections: between present Slovenia and Italy, and between the present Slovene regions of Gorizia and Upper Carniola, so that its borders had to be drawn by hand, superimposing to our base layer historical maps using the *QGIS* built-in georeferencer.

Understanding the exploration of a region also requires locating the most important routes of communication. Roads in Dalmatia were added based on the description and maps in Petter [81], and since most still exist, they were traced with the help of a modern basemap. We also followed Petter to classify the roads in a two-level hierarchy.

2.4.4 Geocoding

Locating on the map the place names cited in Visiani's works and specimens was not a straightforward task, mainly for linguistic reasons. A minority of the toponyms we dealt with were given in Serbo-Croatian, but were almost invariably written with a non-standard, Italianate spelling (e.g. 'Crivoscie' for Krivošije, 'Vergoraz' for Vrgorac). In many cases, the knowledge of both Italian and Serbo-Croatian spelling and phonology allowed us to infer the modern spelling, sometimes after a few guesses, after which the location could be geocoded automatically via the *GeoCoding* plugin in *QGIS*, found by online search, found simply by looking for a compatible locality in the basemap, or by browsing the *OpenStreetMap* data. Other times, it was necessary to look for more clues in geographical works of the time, historical maps, or online, in which case locating the place was largely a matter of luck or serendipity. As an Italian speaker [§ 3.1.6], Visiani usually adopted the now outdated Italian toponyms for the region (e.g. 'Sebenico' for Šibenik, 'Almissa' for Omiš), which is true also for the vast majority of his collaborators. In this case, the most useful tool at our disposal was the impressive list of Italian toponyms of Dalmatia and adjacent regions that is available on the Italian version of *Wikipedia* [82], put together from almost 400 different sources, but we also frequently used old maps and descriptions. Other times still, especially in his earlier works and specimens, Visiani used the ancient Latin toponyms. In these cases, we made use of the translation to Italian or Serbo-Croatian that Visiani himself provided in the introductions to *St. Dalm.* and *FD*.

Particular care was required not to mix up the numerous homonym places in the region, which was mostly achieved by comparing the various dates and places of collection, so to restrict the possible area of exploration of the collector in question, and by

1. Two narrow strips of land comprising the villages of Neum and Sutorina were ceded to the Ottoman Empire with the treaty of Karlowitz in 1699 in order to cordon the border between the Republics of Venice and Ragusa, which had been frequently at war. While Neum is now administered by Bosnia-Herzegovina, which was Turkish when the treaty was signed, Sutorina was moved to Montenegro while both countries were part of Yugoslavia. Now that they are independent, the decision has been criticised and is the source of much dispute.

looking for other places that were mentioned by him or her in the vicinity. For instance, the ‘Rjeka’ mentioned by Pantocsek could not be the city of Rijeka, in Croatia, but it is instead the village of Rijeka Crnojevića, in southern Montenegro, close to Šindon and Ceklin, which he mentions visiting around the same date. Similarly, his ‘Peručica’ is not the famous Perućica primaeval forest in Bosnia, but rather the homonymous stream in Montenegro, while Sendtner’s ‘Bukoviza’ must be Bukovica near Travnik, in Bosnia, and could not be any of the other dozens of places with the same name¹. It is noteworthy that many of these issues were noticed and could be solved only as the work of the author in question was analysed as a whole, and might very well have been missed by a botanist taking note about just one specimen or record.

In a small minority cases (8%), the original place names could not be located with any certainty. *QGIS* does not allow to add records without spatial attributes to a spatial table like `geo` (see § 5.1.5). As we did not want to discard any data, hoping that unidentified places would be located in the future, we forced all those that appeared more than once² into the table by importing them through *Spatialite_GUI* (see § 2.4.5).

To make our map more detailed and easier to understand, we decided to categorise the points, which was achieved by simply adding a classification field (`Cat`) [§ 2.4.3].

The most frequently cited geographical feature in Visiani’s works and specimen is by far human settlements [§ IV]. Settlements in Dalmatia³ were classed into four levels of importance, again precisely following Petter [81]. The exact location of the points for settlements follows *OpenStreetMap*, except for the few cases in which it was clear that the historical centre that must have existed in Visiani’s time was elsewhere.

In our data, islands are also often cited. Many of these bore (and often still bear) the name of the largest town on them (e.g. Vis, Hvar). We decided to use two separate points in this case: one representing the town, and another representing the whole island. The precise location of the latter was again attributed following *OpenStreetMap*. In cases of doubt, we attributed locations from our data to the whole island.

Rivers are also sometimes cited in our material. Accurately representing them as a single point is, of course, impossible, but no GIS model can manage on the same layer both point and line data. We were then forced to either discard them altogether or to find a rational way to reduce them down to a point. We chose the latter option, positioning our point closest to the largest road crossing it, assuming that the river would most often have been reached from a road, so that part closest to it is the only one we can be reasonably certain was seen.

Mountains were also located on a map following criteria similar to those used for rivers and islands.

A list of place names used by Visiani with their modern equivalent and geographical coordinates is presented in § IV. A simplified map of the area is presented in Fig. 2.

1. In Serbo-Croatian ‘Bukovica’ is a very common toponym meaning ‘beech wood’.

2. The many places that were mentioned once were excluded mainly as we could not confirm the spelling.

3. Out of Dalmatia all settlements were sunk to the lowest category.

2.4.5 Building and Populating the Geodatabase

The *SpatiaLite* geodatabase [§ 5.1] was not created using the native capabilities of *QGIS*, but rather by means of the external tool *SpatiaLite_GUI*, which is more powerful and better handles straight SQL statements.

As for the geocoded localities, the shapefile on which we had initially worked ('visiani_shp.shp') was imported in *SpatiaLite_GUI*, choosing the correct SRID (4326) and encoding (UTF-8). A new table to contain the geocoded data was created, with the same structure as the shapefile's attribute table [§ 5.1.5]:

```
create table geo (  
  id_geo integer not null primary key autoincrement,  
  Geo text,  
  GeoIt text,  
  GeoLa text,  
  Cat text);
```

A geometry column (Spaz) was then added:

```
select AddGeometryColumn ('geo', 'Spaz', 4326, 'multipoint', 'xy');
```

Finally, the content of all fields was copied from the shapefile into *geo*, after which the former could be dropped.

```
insert into geo (Geo, GeoIt, GeoLa, Cat, Spaz)  
select Geo, GeoIt, GeoLa, Cat, Geometry  
from visiani_shp;  
  
drop table visiani_shp;
```

The pre-existing non-geographical tables were first exported from the *MySQL* database [§ 1.2.2] as CSV files. When necessary, they were corrected and modified manually, according to the updated structure [§ 5.1], through a spreadsheet manager¹ (*LibreOffice Calc*), and saved as XLS files, which were then imported as such in *SpatiaLite_GUI*. A new database table was created for each one (see the *create* statements in § 5.1), and the data were imported using an *insert* statement, starting from the parent tables and taking care to add the appropriate relations. As an example, we give here the *insert* statement used to populate table *det* from the 'det_xls.xls' file:

```
insert into det (id_det, CBD, DetN, DetT, NomD, OrthEm, DetS, Set,  
  DetD, NoteD)  
select id_det, CBD, DetN, DetT, NomD, OrthEm, DetS, Set, DetD, NoteD  
from det_xls;  
  
drop table det_xls;
```

The newly created and populated tables were finally imported in *QGIS* by means of the inbuilt *SpatiaLite* manager.

1. Many complex database statements could be emulated by means of the `vllookup` function.

2.4.6 Maps of Records and Specimens

In order to produce the maps described in § 5.2, the geocoded records and specimens were mapped by first issuing, in *Spatialite_GUI*, *SQL* statements such as:

```
select Geo, Spaz from letgeo join geo on id_geo = Geol join let on  
id_let = LetG where BibL='6'
```

This example statement selects the modern place name (*Geo*) and geometry (*Spaz*) of the records in *letgeo* that are linked to the record in *bib* representing *FD. Sup.* (*BibL='6'*). The result was exported as a shapefile, which has, for each locality cited in *FD. Sup.*, as many superimposed points as there are records for that locality. The resulting shapefile was imported in *QGIS*, and the tool *GroupStats* was used to calculate the number of distinct records for each locality. The result was exported as a CSV file, which was then imported in *QGIS* and joined to table *geo* through *geo.Geo = New_shapefile.Geo*. The result was saved as a new shapefile; points for which the count was *null* were set to zero. The map could then be created from this last shapefile by simply size-scaling the points to 0.5 map units per record.

The maps used to compare the different works/years were produced with an almost identical procedure; the points were size-scaled to 0.25 map units per record.

2.5 Methods of Nomenclatural Study

For this thesis, we decided to only concentrate on the nomenclature of taxa from the rank of genus to variety: the few notes on new families, tribes, and subtribes established by Visiani are to be considered purely tentative.

In our nomenclatural treatments [§ 6], we followed what is considered good common practice in botanical research, in accordance with the provisions of the *Code*. When in doubt about the interpretation of some rules, we generally preferred to strictly follow the word of the *Code*, rather than consulting experts straight away. This choice may be somewhat controversial, but it is our conviction that the correct understanding of any regulatory text should not require the involvement of authority or any external knowledge. In other words, we believe that the *Code* should ideally be made clear enough to simply be *followed*, rather than *interpreted*. We also argue that mistakes arising from misinterpretations would be worth the inconvenience, as they would offer an opportunity to clarify the text. A similar case surfaced about the correct interpretation of Art. 9.3 with respect to illustrations published along with the protologue. We found that, with the present wording, it is not clear whether they should be considered original material when they depict a specimen that was available to the author of the *name* of a species or an infraspecific taxon (see [83]). After having mistakenly excluded them, a long discussion led us to propose an Amendment to the *Code* to fix the wording in accordance to common practice [84], which, if approved, will hopefully prevent others from committing the same error.

Because of the absence of a central database [56] [85], finding previous lectotypifications, that the *Code* establishes should take priority over any new one (Art. 9.19), is extremely difficult. In order to avoid making unwarranted later designations, we could only resort to a simple search by keywords in publicly available bibliographical archives (e. g. [55] [86]).

Nomenclature was checked mostly against publicly available online databases (including [87] [88] [89] [90] [91]). Unpublished provisional names were included in our analyses.

The original material was firstly searched for in the *HD*. We then probed the *HG* and *HV*, and finally consulted online lists and/or contacted the curators of other herbaria according to information that we were able to gather about each *name* under scrutiny. Approached herbaria include: BASSA, BOLO, BP, G, GOET, HEID, K, NAP, P, PR, PRC, TSM, UPS, W, and ZAGR. Most of the original specimens discovered in Serbia by Josif Pančić are conserved in the special collection *Herbarium Pancicianum*, conserved in Belgrade (BEOU), which was searched meticulously and comprehensively.

For the published works [§ 3.4], correspondence to the protologue was checked for reference specimens and illustrations by means of simple morphological analysis on identification keys (including: [92] [93]). A stereoscopic microscope, common dissection equipment, and an ultra-high resolution herbarium scanner (*HerbScan*) were employed to analyse the finer details and to be able to share pictures. Any taxonomical difficulty was discussed with experts of the taxa in question, including Prof. Marjan Niketić and Günther Gottschlich for *Hieracium*, Dr. Uroš Buzurović for *Goniolimon*, Prof. Goran Anačkov for *Allium*, Prof. Gordana Tomović for *Viola*, and others.

Types were chosen according to the provisions of the *Code*, taking into consideration all of the additional information gathered from unpublished research and material. Whenever possible, we preferred to choose as type specimens that are clearly recognizable in corresponding illustrations in the protologues, in accordance with Recommendation 9 A.3.

3. Roberto de Visiani

This chapter deals with Visiani's life, career, works, thought, and legacy, as reconstructed from the analysis of all the materials.

3.1 Biography

This section is limited to Visiani's private life and beliefs; his scientific views being treated in detail further on.

3.1.1 Visiani's Surname

Before analysing Visiani's life in detail, a few words should be spent on his surname. According to the (often inaccurate) obituary by Marzolo¹ [7], Roberto de Visiani's father was *native of France*², while all other authors assume a Venetian origin, which, as will be explained, is well documented. The surname 'De Visiani' (or 'Visiani') no longer exists in Italy [94] or Croatia [95], while the very rare 'Vesian' does exist in France [96]. Visiani himself, in a notepad containing mixed scraps of text [b09002], traced his surname to a Venetian sea captain named Roberto Vesian, to whom *for high merits occurred in pressing war circumstances*³, the government of Venice granted the use of the nobiliary particle 'de', with a dogal decree dated 12th Oct. 1715. It was not possible to locate said decree, so that the authenticity of this account cannot be ascertained as of now. The absence of the surname 'Vesian' or 'Visiani' in Veneto can probably be explained away as a mere question of transcription. Surnames like 'Veggian', 'Veggiani', and 'Vezzani' are very common in the area, and along with 'Visiani', they might simply be different Italianate forms of a single original Venetian surname. As for the particle 'de', it is very clear that Visiani used it just as the Germans use the *adelprädiat* 'von', that is, he did not consider it an integral part of his surname. Moreover, he consistently translated 'von' with 'de' when writing in Italian, for instance calling Diedrich von Schlechtendal⁴ 'de Schlechtendal' [H. Pat. 44: 6]. Conversely, the form 'von Visiani' is occasionally seen in documents in German (e.g. [b29027]). Finally, for his signature he adopted a lower case 'de' throughout his life, though he occasionally signed just with 'Visiani' (even in papers, e.g. [Uva 2]), and, in choosing a botanical abbreviation for himself [St. Dalm.], he selected just 'Vis.', not 'De Vis.'. Friends and colleagues usually called him just 'Visi-

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1. Francesco Marzolo (1818–1880). Italian surgeon. Was a student and later colleague of Visiani's, and one of the four professors expelled from Padova after the 1848 revolts [note in § 1.4.2].
 2. «oriundo francese».
 3. «per distinte benemerenze conciliate in stringenti occasioni di guerra».
 4. Dietrich Hermann Reinhard von Schlechtendal (1838–1916). German entomologist.

ani', not 'De Visiani', and he is called just 'Visiani' in almost all non-Italian publications, as we have decided to do throughout this thesis. These considerations led us to conclude that the almost ubiquitous usage of the form 'De Visiani' in Italian texts must be regarded as incorrect. Nobility particles alone (i.e. not appearing before a territorial designations) were part of the system of honours of the Republic of Venice and the Austrian Empire, but not of the Kingdom of Italy, so it is conceivable that Visiani's Italian successors after Saccardo, who knew him personally and still used the lower case 'de' [Sacc. Not.], simply lost knowledge of the proper traditional usage.

3.1.2 Family of Origin and Early Life

The de Visiani family, who had been in Dalmatia at least since the beginning of the century, moved from Split to Šibenik around 1765. Roberto's grandfather, Roberto Antonio, opened a pharmacy there in 1789, in the central square that is now Krešimirov Trg [97]. It is possible that his wife might have been French, which would explain Marzolo's remark (see § 3.1.1). He had two sons: Luigi and Giovanni Battista. Luigi, Roberto's uncle, was a monk, and he became the episcopal vicar of Šibenik [6]. Giovanni Battista instead followed the family tradition and studied medicine in Padova, graduating in 1794. He went on to become a well-known physician, and in 1802, he was nominated as district physician of Zagora by the Austrian government, which had recently seized power. When France conquered the town in 1806, he remained very active and was part of a commission that presented a petition (12th Jun. 1807) to Paris to better the living conditions in Dalmatia. In particular, he proposed sanitary measures such as repairing the old hospital and building a new one, creating a system of disinfection and quarantine for goods imported from the adjacent Turkish regions, carrying out a programme of vaccinations, and other measures to improve hygienic conditions. He later became the first director of the new hospital of the town, the foundation of which he had contributed to substantially [97]. Roberto's mother was Mandalena Dražić, also from Šibenik, usually rendered in Italian publications as 'Maddalena Drassich' [12], 'Drasich' [6], or 'Blasich' [8]. She was probably of Slavic nationality. Visiani also had a brother, Pietro, who shared his interest in botany but who unfortunately died young (see § 3.4.2).

Roberto de Visiani was born on the 9th Apr. 1800¹, a few paces away from the house where Niccolò Tommaseo [§ 4.3.8] was born, two years later, on 9th Oct. He was christened in the church of the Holy Trinity as Roberto Antonio Luigi [13], although he never used his second and third names. Roberto was first educated by a monk, Antonio Tommaseo, an uncle of Niccolò, with whom he went on to study classics at the Seminar in Split, where their close friendship developed (see § 4.3.8).

In 1817, Visiani had to leave Dalmatia and enter the University of Padova, where he was to read medicine as his father and grandfather had done. He seemed in fact very re-

1. P. Mazzoleni [10] wrote he was born on 3rd Mar., certainly by mistake.

luctant to do so: In his unpublished poem *Valediction to Dalmatia*¹, he described his upcoming travel to Italy as a *fated misfortune*, imposed on him by an *invincible law*².

In those years, the position of director of the Botanical Garden and professor of botany was held by Bonato³. When he was chosen for that role, in 1794, he was a very well-known physician and librarian, but he had no experience or special interest in botany. His contributions to the discipline were few and unremarkable, and while the limitations of Linnaeus's sexual system were starting to surface in the most modern schools, Bonato was still teaching Tournefort's more than century-old classification system, as his predecessor had done [Intr. Veg.]. However, he did make many efforts to renovate the Garden [14], and founded both the Herbarium and the Library, which he endowed with his vast collection of over 5,000 books [Sacc. Chr.], most of which were about botany. As is confirmed by Pirona [8], it seems it was from this true treasure of knowledge in print, more than from the teachings of his master, that Visiani developed his vast and profound knowledge of botany, which is made so evident by the detailed and accurate synonymy of his masterpiece, *Flora Dalmatica*. At the same time, at the beginning of his studies, Visiani started to frequent the house of Enrichetta Treves⁴ [V. Par.]. This woman was at the centre of a circle of intellectuals and naturalists and was particularly passionate about botany and gardening⁵. Visiani wrote that it was she who *instilled* and *cultivated* his love for plants [Gast.], and he attributed to her influence his choice to persevere in his pursuit of a career in botany:

nor can I refrain from remembering even now with the deepest sense of gratitude the encouragement I had from that extraordinary old lady to persist with that science [botany], in which she liked to call me her pupil⁶

Another crucial figure in Visiani's early career was Antonio Bertoloni, with whom he exchanged both plants and observations from very early on [§ 4.3.1].

During his studies, Visiani spent his holidays back in Šibenik, where he started to collect plants [§ 5.3.2].

He graduated with excellent marks [b29057] on 1st Sep. 1822, and Bonato, who held him in high esteem [bont-351 005] [8], immediately proposed him as his new assistant, and he was nominated for the position on the 15th Nov. by a decree from Venice. The office lasted for two years and could only be confirmed once, which Visiani was, receiving his second endorsement, again by decree, on 4th Dec. 1824 [6]. At the end of each term, he produced a book, first his *Intr. Veg.*, then *St. Dalm.*, both of which were met with great acclaim (see § 4.3.1, § 4.3.2).

1. «Congedo dalla Dalmazia» [b23005].

2. «fatale disavventura», «irresistibil legge» [b23005].

3. Giuseppe Antonio Bonato (1753–1836).

4. Ricca 'Enrichetta' Consolo Treves de' Bonfili (1790–1832). She came from a rich Jewish noble family from Venice, and was widowed for most of her life.

5. Her nephews Jacopo and Isacco Treves turned her English-style house garden into a private botanical garden, which has now become the Treves Park in Padova.

6. «né io posso trattenermi dal rammentare anche adesso con profondo senso di gratitudine i conforti avuti da quella rara vecchietta per insistere in quella scienza, in cui essa piacevasi di chiamarmi suo allievo» [V. Par.].

Visiani then moved back to Dalmatia to work as a private physician. On 29th Apr. 1829 he was nominated as an interim municipal doctor and medical officer of the gaol in Kotor [a.g.-per.]. After a year, he moved to Drniš, where he gained a stable position in the same role (6th Apr. [a.g.-rip.] [a.g.-per.]). Five and a half years later (9th Oct. 1835 [a.g.-rip]), he was made district physician of Budva, a position that he held for only one month [b2815], as he finally had the chance to pursue his dream career.

On 26th Aug. 1834, the most catastrophic hailstorm recorded in local history fell on the town of Padova, and especially on the Botanical Garden, which—in Visiani’s words — *quickly turned its previously flourishing plants to a scramble of torn leaves, broken branches [and] naked trunks*¹. Bonato, who was already eighty-one, could not find the necessary strength to take care of such havoc. He asked for retirement, which he was eventually granted on 21st Jun. 1836 [98]. Meanwhile, it was announced that a selective exam to choose a new professor would be held in Vienna at the beginning of 1836. Due to the lack of infrastructure, the about 650 km travel from Zadar to the capital of the empire took Visiani no less than a whole month. Visiani often recalled, with his friends, the anecdote of that lamentable, wintry journey [6]. Among the other candidates to the position, we know only Meneghini [§ 4.3.4], who had been Bonato’s assistant from late 1834 to 1839. Whereas Meneghini was considered too young and not sufficiently knowledgeable about exotic plants [99], Visiani’s exam was excellent overall. He won the position, and he was nominated as a temporary professor on 14th Jan. 1836 [a.g.-rip.], and as a regular professor and 14th director of the Garden on 9th Mar. 1837 [a.g.-rip.]. On the occasion (20th Apr. 1837), he read at the great hall of the University a long inaugural speech [Util.], which can be interpreted as a record of young Visiani’s cultural background (see § 3.6). His position was finally confirmed on 20th Aug. 1840 [a.g.-rip.].

3.1.3 Life as a Professor

When Visiani became a professor in Padova, the University was still organised just as it had been when he was a student, according to a model inherited from the Napoleonic reform of 1806. Botany was still considered a branch of medicine—as it had been since antiquity—and was a compulsory subject for all the students of the medical faculty, which included both aspiring physicians and pharmacists. Until 1820, lectures were given at the Garden, but due to the lack of space for the many students, they were moved to the central building of the University (Palazzo del Bo) until 1842, when Visiani managed to have the botanical theatre built (see § 3.2.1), a project that had been rejected when Bonato suggested it in 1824 [Sacc. Chr.]. During that period, lectures were on Monday, Tuesday, Wednesday, Friday, and Saturday, from April to September. They started at 7 a.m., but plants to examine were distributed to the students one hour before, at the Garden. Soon after the construction of the theatre, Visiani was allowed not to wear the lecturers’ robe during practical lectures [Sacc. Chr.]. Beginning in 1859, lectures had to be held twice a day (from 8 to 9 a.m. and from 10 to 11 a.m.) because of the increasing

1. «ridusse in brev’ora dalla floridezza passata le sue piante ad un ingombro di foglie lacere, di frondi spezzate, di tronchi ignudi» [H. Pat. 42].

number of students. From 1845 to 1853, a more basic course of botany was provided for the scholars of the *school of surgery*¹, by another professor (see also [4.3.4]).

In 1860, the botany course was moved to the faculty of philosophy, along with chemistry and natural history, and in 1870, with the Casati reform, it was moved again to the newly formed faculty of physics, mathematics, and natural history, while remaining compulsory for future physicians.

During his career, Visiani therefore witnessed the transformation of the very idea of botany, which shifted from being considered a mere branch of pharmacy to becoming an almost entirely independent science. His successor, Saccardo, was the first professor of botany in Padova to hold a degree in philosophy.

Visiani spent a quiet adult life, as much as was possible in those troubled years [§ 1.4.2], with no *noteworthy cases and salient subjects*². All his energies were absorbed by his work as a botanist and as a teacher, as well as by his love of letters, and his travels. The only major event in Visiani's university career after his appointment as a professor was his election to dean of the medical faculty, a position he held in 1858–1859 [§ 3.5.10].



Fig. 3: Visiani at the age of about fifty-five (obtained from PHAIDRA).

3.1.4 Chronology of Visiani's Travels as a Professor

During his career, Visiani travelled a lot around Italy and Europe. The main source for the following chronology were his notepads³, which unfortunately are all largely illegible and certainly incomplete.

1826: Travelled to Bologna and Firenze [Satur.].

1832: Travelled to the congress in Vienna [§ 3.3.10] [Satur.].

1839: Travelled to Pisa to attend the congress in October [§ 3.3.1]. He left Padova on the 26th Sep., passing through Bologna and Florence on his way [b09001]. Afterwards, he went to Lucca and Genoa with Meneghini, and arrived on 20th Oct. [b09001] [Satur.].

1840: Travelled to Turin to attend the congress [§ 3.3.2].

1. «Magistero in Chirurgia».

2. «casi notevoli e motivi salienti» [12].

3. [b9001] [b9002] [b9003] [b9004] [b9006] [b9007].

1843: Travelled with Santini¹, to visit botanical Gardens in Graz, Vienna, Prague, Dresden, Leipzig, Halle, Berlin, Postdam, Hamburg, Luneburg, Brunswick, Magdeburg, Regensburg, and Munich [b9007] [H. Pat. 44].

1844: Travelled to Milan to attend the congress [§ 3.3.6].

1845: Travelled to Naples to attend the congress [§ 3.3.7], before which he visited Sicily and Malta. He left Padova on 25th Aug., and passed through Rovigo, Ferrara, Bologna, Florence (where he stayed four days), Pisa, Livorno, Civitavecchia, Naples (3rd Sep.), Messina, Catania, and Siracusa. From there, he sailed to Malta on 13th Sep., and was back in Siracusa two days later. He went back to Catania, from where he took part to an expedition to Mt. Etna. From Catania, he travelled to Palermo and some neighbouring villages, and sailed to Naples from there on the 22nd Sep. [b9007].

1846: Travelled to Genoa to attend the congress [§ 3.3.8].

1856: Travelled to Vienna to attend the Congress [§ 3.3.10].

1857: Travelled through Europe in the late summer and autumn. He passed through Como, Chiasso, Lucerne, Lausanne, Zurich, Basel, Strasbourg, Épernay, Paris, London, Gand, Brussels, Liège, Cologne, Bonn, and Freiburg [mssl-aa0915-@] [prln-571104] [b9006].

1859: Went to Vienna on the 8th Sep. [b09006].

1862: Visited the Agricultural exposition in Paris and the Great Exposition of London. He departed from Padova on 31st May, and passed through Milan, Turin, Genoa, Nice, Toulon, Marseille, Montpellier, Toulouse, Bordeaux, and arrived in Paris on 9th Jul. After a week (16th Jul.) he travelled to Calais and sailed to London, where he visited the Garden of Kew and the Great Exposition. Thirteen days later (29th Jul.) he travelled to Manchester, Sheffield, York, Edinburgh, Glasgow. He came back to London on 4th Aug., visited the Linnean Society (see § 3.4.8) and once again Kew. On 15th Aug. he sailed to Antwerp, then reached the Hague, Leiden, Amsterdam, Erfurt, Meiningen, Munich, Bolzano, and was back in Padova on 2nd Sep. [b09002]. The travel was longer than he had expected, as he had hoped to return by early August [pncc-620611-@]. While he was away, his assistant Beltramini [§ 4.1.4] taught in his stead [Sacc. Chr.].

1864: Travelled from Padova (17th Mar.) to Florence, Lucca, Pisa, and possibly² to Rome and Naples.

1867: Travelled to Florence (14th Oct.), Rome, Orte, Livorno, Civitavecchia, Naples Pompei, and back to Livorno and Florence [b9003]

1869: Travelled to the congress in Saint Petersburg [§ 3.3.11] on 3rd May, passing through Trieste, Vienna and Warsaw, where he and Parlatore [§ 4.3.7] arrived on 12th May. He was back in Padova on 12th Jul. [b9004] [100].

1870: Travelled to lake Como in late August [b9004].

1871: Travelled to Florence (6th–16th Mar.) [b9004].

1. Giovanni Santini (1787–1877). Astronomer and mathematician from Padova.

2. There are some adresses in those cities in his notepad, but no clear indications that he actually travelled there.

3.1.5 Career and Income

Visiani was made a member of many scientific societies and awarded numerous honours during his career. The list in § III, which should be complete, was prepared by directly searching through his certificates at the *Lib. HB*.

Of all the various societies of which he was member, the most important for him was certainly the *Ist. Ven.*, which was (re)founded¹ in 1838, but only gathered for the first time two years later. Visiani was almost immediately admitted among its forty members (26th Sep. 1840 [a.g.-rip.]), and from 1844 (16th Jan. [a.g.-rip.]) he was nominated among the twenty *members with allowance*², which amounted to a yearly sum of ft. 400 [b29045]. The meetings were organised on Sundays and Mondays, about once a month, and were originally at the Doge's Palace in Venice, but moved to its present location in Palazzo Loredan after the unification of Italy. From the correspondence with Masalongo, we know Visiani attended regularly. Thirteen of Visiani's papers were published in the *Mem. Ist.*

Another important Academy in whose life Visiani took an active role was the *Acc. Pad.*, which was funded already in 1599 as *Accademia dei Ricovrati*, and still survives as *Accademia Galileiana di Scienze, Lettere ed Arti in Padova*. Visiani was its president from 1863 to 1865. Twelve of his works were first presented to this institution, mostly those dealing with the Garden [§ 3.2.3].

Visiani's yearly income through his life is summarised in the following table (data from: [a.g.-rip.] [Sacc. Chr.] [b29 112]). The allowance from the *Ist. Ven.* is disregarded, whereas the *extras*³ he received for taking part to examinations (about ft. 450 a year) are accounted.

Date (start)	Role	Income
15 th Nov. 1822	Assistant of Prof. Bonato	ft. 400
4 th Dec. 1824	Assistant of Prof. Bonato	ft. 400
28 th Apr. 1829	Physician in Kotor	ft. 450
6 th Apr. 1830	Physician in Drniš	ft. 420
9 th Oct. 1835	Physician in Budva	ft. 472
14 th Jan. 1836	Professor in Padova	ft. 600
4 th Mar. 1837	(regular professor)	ft. 1,000 + 450 = 1,450
14 th Jul. 1840	(increase of salary)	ft. 1,365 + 450 = 1,815
2 nd Oct. 1870	(royal decree)	£ 6,600
1 st Nov. 1873	(increase of salary)	£ 7,200
1877	Retired professor	£ 5,346

1. A similar institution had existed under Napoleon.

2. «soci pensionati».

3. «propine».

The florin ('ft.')

The florin ('ft.') was essentially a conventional unit, not often minted in Italy. The currency circulating in Padova from 1822 to 1866 was mostly the Lombard-Venetian lira ('a£'), which was equivalent to about ft. ½. One post-unitarian Italian lira ('£') was equivalent to about a£ 1.15, so that his 1840 yearly salary (extras included) can be expressed as amounting to about £ 4,735. To get a rough understanding of how rich Visiani was compared to the average Italian, we can compare this to the average yearly income in Italy in 1861, that was just £ 316. For further comparison, the gardener Caslini [§ 4.1.1] earned a yearly ft. 400 [Sacc. Doc.].

3.1.6 Private Visiani

The following physical sketch is combined from several photographs, a pastel portrait by some Mr. Della Valentina [Sacc. Chr.], the description given by P. Mazzoleni [10], and the almost anatomical one by Canestrini [6], which includes numerous anthropometric measurements. Visiani was 1,67 m tall, which was average for the time, and he was very slender and pale. He had small, sunken blue eyes and straight black hair, which in his maturity he seems to have combed over to disguise his mostly bald head [Fig.3]. A portrait made in his forties depicts him as clean shaven, whereas he later wore a full moustache, but no beard [Fig. 4]. He was blessed with perfect vision¹ and agility of both body and mind for his entire life, but as an old man he became hard of hearing and suffered various ailments. *Many times in his life, illness brought him to the brink of the grave*².



Fig. 4: Visiani at the age of about forty (obtained from PHAIDRA).

All of Visiani's biographers give a very consistent picture of his character, which also shows clearly in his private correspondence, describing him as an energetic, steadfast and straightforward man³, who always remained cool minded, moderate and gentlemanly. Fair but strict in his judgement, he was a very loyal friend who did not hold onto resentments. In his speech he was approachable, kind, refined and often witty, but not very talkative. Although very frugal, he was generous with others and could spend great sums of money for what he deemed worthy.

Visiani spent his adult life in Padova at the ancient House of the Prefect, adjacent to the Botanical Garden, which is now occupied by offices. There, he often accommodated guests, especially students, one of whom

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1. This is reported in all sources, although Visiani himself mentions having a *weakened vision* in 1862 [pncc-620126-@].
 2. «Più volte nella sua vita giunse per malattia sull'orlo del sepolcro» [6].
 3. In his letters, Visiani himself often refers to his own *usual straightforwardness* («solita schiettezza»), and he regularly asks his correspondents not to be ceremonious.

was young Massalongo (see § 4.3.2). As all rich people did, he had servants to take care of him: One was Giacomo Tacchetto¹, another was a Ms. Rosa, almost certainly his wife. He also had a horse and a small carriage at his disposal. When he was free from academic duties (especially the exams, which he dreaded), he moved to a country house in Torreglia, a village not far from Padova, which was a property of the Ferri's², from whom he had rented it for life. Visiani always describes it as lovely and quiet, contrasting it with his busy life in town. He frequented the *Ist. Ven.* regularly, and so he was very often in Venice, and he also regularly visited his friends in Verona, Vicenza, Bassano, and Schio.

Visiani never married, and as far as we know, there is no record left of any affair with women at all, though he was in regular contact with Alberto Parolini's daughter Elisa [§ 4.3.6], noblewoman from Split Maria Seleban de Cattani³, and numerous other ladies, including an unnamed *girl* mentioned in *St. Dalm.* The relationship with Ms. Parolini, who was very interested in plants and a fine botanical illustrator, was particularly close; she is often praised in Visiani's letters to Massalongo and he even dedicated a new species to her, *Daphne elisae*. Massalongo might have alluded to her as a possible bride for Visiani when he wrote: *pity a botanist doesn't have her, he'd be happy [or: she'd be happy]*⁴. It has been speculated that Visiani might have been homosexual, which, though certainly not impossible, can neither be definitively proved nor ruled out. In his correspondence with Massalongo, sexual innuendo is rather frequent, the most remarkable piece being the following, directed to Visiani on 30th Apr. 1858:

Farewell, *Visiania elastica*⁵, I hope you will keep your elasticity for half a century more in all parts of your body, save one, when you will come to Verona⁶.

Massalongo was married and had five children, and he was often playful and borderline rude in his writing. In this instance, Visiani answered that he did not know if he was more *confused* from this *effeminate* closing remark or more *displeased* to not be able to satisfy his friend's request (for him to go to Verona) [mssl-Doo09-@]. In one of his travel notepads [§ 2.3.4], Visiani wrote an almost entirely illegible poem of which the last stanza seems to read something like (in paraphrasis):

A single love like the one aroused in the heart by two equal beauties, one the image of the other: my woman and flowers⁷.

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1. He is called *my loving butler* («il mio amoroso domestico») in his testament, and mentioned in numerous letters to Massalongo. Visiani left him £ 700, as well as his wardrobe and rugs. His clumsy signature suggests he was illiterate.
 2. The Ferri were a stupendously wealthy family of earls from Padova.
 3. Maria Seleban de Cattani (1789–1870).
 4. «peccato che un botanico non la posseggia – sarebbe felice» [mssl-540 224]. In the original Italian the phrase is ambiguous and it is not possible to understand if it would be Elisa or the botanist that would be happy.
 5. *Visiania elastica* (Roxb. ex Hornem.) Gasp. is a synonym of *Ficus elastica* Roxb. ex Hornem, the common rubber fig used as houseplant (see § 3.7.3).
 6. «Addio, *Visiania elastica*, spero che l'elasticità vi duri ancora mezzo secolo in tutte le parti del corpo, meno che in una, quando passerete da Verona» [mssl-580 430]
 7. «Unico amor qual destano | Due beltà pari, in cor | Ché l'un dell'altro imagine | Son la mia donna e i fior».

Although he might actually have been writing about his own feelings for an unknown woman, the complete lack of context does not allow the drawing of any firm conclusions: for instance, the poem might very well be just a translation, refer someone else, or even not have been intended as romantic¹.

Like many rich and poor individuals at the time, Visiani enjoyed opera. He might also have been partial to card games. Through Massalongo, he ordered countless decks, often twelve or sixteen at a time, from a cheap printer in Verona². Another pleasure of life he did not disdain was good food and drink, as is clear, once again, from his correspondence with Massalongo, where victual is a very frequent topic and often a subject of jokes. Therein, pork bones, cakes, and doughnuts feature once, plums, peaches, and frogs twice, molluscs in general and mantis shrimp are mentioned three times, salami seven times, natalini³ nine times, and oysters a whopping thirteen times. As for drinks, the exotic citrus-flavoured liqueur *curaçao* is mentioned.

We end with a few words on Visiani's knowledge of languages. At the end of the 19th century, standard Italian—which Visiani clearly considered his mother tongue—was used outside of its native Tuscany only by the rich and educated, in both Italy and in Dalmatia. Some jokes written to Massalongo and occasional regionalisms in his personal letters⁴, suggest that he might have spoken or at least understood some dialect of Venetian, which was used by commoners in Veneto and had been exported to Dalmatia under Venetian rule [101]. His mother might have been a native Serbo-Croatian⁵ speaker [9] and Visiani certainly understood it, despite never having used it in any of his works, published or otherwise, if we except the vernacular names of plants he mentioned. One piece of evidence for this was already noted by Blabanić [13]: In a letter to Pančić, Visiani wrote:

I thank you for the book you have sent me, but unfortunately I cannot understand it, as the alphabet is unknown to me⁶.

The book in question was Pančić's *Flora of Serbia* [102], which was written in Serbian and printed in Cyrillic. Had Visiani not understood Serbo-Croatian at all, reasoned Blabanić, he would not have referred specifically to the alphabet, and Pančić, who knew him well, would probably not have sent it. His classical education led him to learn an-

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1. The Italian verb «amare» (*to love*) and its derivatives are now only used in a romantic context, but they often had an entirely innocent connotation in Visiani's time, when it could mean also 'to like', 'befriend' or 'esteem'. Much the same goes for the use of 'my', 'your' or 'our' before another person's name.
 2. They were then smuggled in Padova. Massalongo wrote: *I begged Martinati to send [the cards], but he refused, rightly. How to send them? ... by mail and coach I dare not, not to put you in trouble* («Ho pregato il Martinati pella spedizione, ma èssi rifiutato, e giustamente. Come spedirle? ... Pella posta e diligenza non oso, per non porla in bordello») [mssl-540729].
 3. The Veronese cake 'nadalini' is the forerunner of the famous pandoro.
 4. E.g. calling his son 'Massacurto' [mssl-540701-@], a pun on the Venetian *massa longo*, lit. 'too long', and *massa curto*, 'too short', or the word *mezzà* [mssl-500415-@], lit. 'mezzanine floor' to mean 'a lawyer's office'. Neither expression is intelligible in Italian.
 5. The use of the term 'Serbo-Croatian' is quite controversial in the Countries where the language it is spoken, but given that in Visiani's time there hardly was a standard form of it, let alone more than one as there now are (Bosnian, Croatian, Montenegrin and Serbian), it would be inappropriate to further characterise it.
 6. «La ringrazio del libro speditomi ma duolmi di non poterlo intendere perché l'alfabeto mi è ignoto» [pncc-711212-@].

cient Greek and Latin, the latter of which he argued on many occasions should have remained the common language of science (e.g. [Decas 1] [Palm. V.]). He also knew French, the international language of those years, and he had some basic understanding of German, despite clearly not being fluent in it, as is demonstrated by the translations that accompany most of the letters in German he received and the fact that he regularly wrote in French to his Austrian colleagues. Visiani's CV from 1836 [b28015] also confirms Blabanić's conclusions about his knowledge of Serbo-Croatian, and it contradicts Marzolo, according to whom he spoke very little of it [7]: Under the heading '*Knowledge of Languages*' he wrote '*Italian, Latin, Illyric, French, German, Greek*', in this order. Because his French was fluent, his 'Illyric' was probably not any worse.

3.1.7 National Identity and Political Views

The matter of Visiani's national identity must be understood in the context of that of the entire Dalmatian-Italian community. The Croatian historiographical tradition tends to negate or disregard the presence of Latin people in the area before the Slavic invasion, posing instead that all Dalmatian-Italians are the descendants of later invaders, Venetians in particular. Dalmatian-Italians are often simply considered Croats; even Tommaseo has been widely appropriated by both Croat and Serb historians and men of letters [103]. Of course, this is also true also for Visiani, who is universally claimed by the Croats, and whose name is generally rendered as 'Robert Visiani'¹ [9] [13] [15], whereas the fact that he was 'forced' to work in Padova has been described as making him *a victim of the ill-fated Austrian policies in Dalmatia*². Conversely, in Italy he is now always regarded as fully Italian [57] [14].

Visiani's love for Dalmatia was manifest and well known [99]: He declared it his homeland in numerous publications, including *St. Dalm.* and *FD*, which he famously signed as 'Roberto de Visiani Dalmata Sibenicensis', and he consistently stated that he felt it to be his moral duty, as a Dalmatian, to illustrate the nation's flora. His inclusion of Serbo-Croatian vernacular names for plants in his works has been read as an implicit declaration of Slavic national identity [13], although he himself only cited practical reasons [§ 3.4.2]. We must not forget that Visiani never wrote a single line in Serbo-Croatian [§ 3.1.6], but he was highly interested in the history and development of Italian [§ 3.4.11]. In a letter to Pančić, he wrote: '*loyalty is the character of our nation*'³, which could refer equally to Italy, Lombardy-Venetia or Dalmatia. With the word 'our' he might also have intended to include Pančić, who was born in a coastal area of Croatia with a significant Italian minority, and spoke fluent Italian himself. Finally, we should also consider the great amount of charity money he spent for the town of Šibenik [§ 3.7.1], and his explicit request to be buried there [§ 3.1.9].

1. To be fair, since Serbo-Croatian nouns, as in almost all Slavic languages, are highly inflected, the habit of 'serbianising' or 'croatising' foreign words and names serves at least in part the very practical purpose of making them more naturally fit a declension pattern.

2. «žrtva zlosretne austrijske politike u Dalmaciji» [9].

3. «La lealtà è il carattere della nostra nazione» [pncc-620814].

Incidentally, Visiani also consistently showed a strong and somewhat nostalgic admiration for the Republic of Venice, *the wisest of the Republics*¹, whose merits he praised in *Venet.*. This is hardly surprising: not only did the dissolved country sponsor botany by founding and lavishly financing his beloved Garden, overseeing its most glorious years, as well as those of science in Padova as a whole, but also represented the most clear symbol of the injustice of Austrian domination (see § 1.4.1), the concrete historical link between his native Dalmatia and his adoptive town, and was the nation under which his ancestors had gained their wealth and renown [§ 3.1.2].

Nineteenth century Dalmatia was still a highly ethnically diverse country that had long been politically and culturally separate from historical Croatia. A considerable fraction of the voting population, especially the Italians (including Tommaseo), strenuously opposed a full croatisation of the region, and they fought instead to create an independent, multi-ethnic country [§ 1.4.3]. Given Visiani's innumerable references to Dalmatia as a country, the fact that he never referred to its Slavic inhabitants as Croats, and taking into account that he might himself have been of mixed ancestry, we can quite safely conclude that he must have agreed with Tommaseo and the 'dalmatianists' of the Autonomist Party [§ 1.4.3]. Consequently, calling Visiani a Croat is an inaccurate anachronism. Because we also lack any unambiguous self-identification of Visiani as an Italian, other than from a linguistic perspective, we conclude that referring to him just as an Italian is also at least simplistic. We believe, instead, that his own choice should be followed, and that he should simply be called 'Dalmatian', as 'Italian' would only be allowable as short for 'of Italian language'.

Pirona wrote that Visiani *loved Italy as his homeland, and desired it to be great and free*². Canestrini [6], remembering his elegy for the death of Francesco Sartori [§ 3.4.11] wrote:

And while Padova was being besieged, and when every moan led to the Piombi³,
Visiani dared to write to [Sartori's] mother the aforementioned elegy, full of affection and love for the Nation⁴.

One of the stanzas of the poem in particular was in fact quite audacious (paraphrased):

The enthusiasm typical of a young man and his very uncertain hopes brought him to Venice, the city that was once the wife of the sea, and is now the wife of tears⁵.

Some of his acquaintances were famous Italian patriots, among which was of course his childhood friend Tommaseo, whom Visiani dared to visit in Venice as he was being kept a prisoner for his protests in favour of freedom of press. His beloved Massalongo was also well-known for his nationalistic inclinations, and two of his closest collaborators in Padova—Meneghini and his own assistant Clementi—fled Padova after 1848, fear-

1. «la più sapiente delle Repubbliche» [Venet.].

2. «amò l'Italia come sua madrepatria, e la desiderò libera e grande» [8].

3. 'Piombi', lit. 'Leads' was an ancient and harsh prison in Venice.

4. «E mentre Padova era stretta di assedio, e quando ogni gemito conduceva ai Piombi, il Visiani ebbe il coraggio di dirigere alla madre di quel martire l'elegia anzidetta, piena di affetto e di patrio amore».

5. «Giovin bollor, speranze incerte ahi quanto! | Trasserlo alla città, che un dì del mare | Ed or la donna si dirà del pianto».

ing the consequences of having participated in the anti-Austrian revolts [§ 1.4.2]. However, Visiani not only was not troubled on that occasion, he had even proved his loyalty to the government by accepting the role of general secretary of the 1842 Congress of Italian Scientists in Padova, chaired by his friend Cittadella Vogodarzere, a former councillor to the Emperor, and that of secretary of the botanical session in 1847. His close collaborator Tommasini was an Austrian administrator and politician, and his friend Parolini always remained faithful to the emperor. Finally, Visiani personally knew and certainly revered Maximilian of Austria [7], who was viceroy and governor of Lombardy-Venetia from 1857 to 1863, and who later became emperor of Mexico. For him, Visiani studied the flora of Lokrum [§ 3.4.8], and he dedicated to him the fossil palm *Latanites maximiliani* [§ 3.4.7]. Maximilian in turn made Visiani a Knight of the Order of Guadalupe [§ III]. It must be said, though, that Maximilian was very liberal and not at all in a good relationship with his brother, emperor Franz Joseph I. His assassination (see § 3.4.8) was universally seen as a brutality, so much so that he received posthumous tributes by the likes of painter Édouard Manet, composer Franz Liszt and poet and Italian patriot Giosuè Carducci.

Visiani's participation in most of the Congresses of the Italian Scientists, where patriotic ideals were widely shared, and his representing Italy in Saint Petersburg with Parlatore¹ [§ 3.3.11], have been regarded as indications of self-identification as an Italian patriot. However, he also took part in congresses in other countries, including Austria, where he had many good friends (see e.g. § 4.3.2). We feel that the political subtext of the choice to participate in such meetings should not so hastily be put before simple matters of scientific expedience. In his speech at the Congress in Padova, Visiani publicly commended the choice by Amici not to publish a discovery he considered important in a *foreign* journal [§ 3.3.4], and in Venice, he called for botanists to work for the improvement of science in their homeland, but in neither case were his measured words enough to cause any explicit reprehension from the very irritable Austrian authorities. In fact, we know from a letter to Massalongo that Visiani, as a Dalmatian, feared that Veneto joining Italy would cause him to be discriminated against as a *stranger*², which his strongly patriotic friend absolutely denied [mssl-d00015]. After the armistice in Villafranca [§ 1.4.2], Visiani said that he shared Massalongo's *sadness* [mssl-590722-@], but he also had felt a pity for the faithful Austrian subject Molin³, *possibly about to lose everything and wander about burdened with family and debt*⁴, that was nowhere to be found in his friend.

As was already noted by others [12], Visiani in fact managed to keep his head down and was never directly involved in a political movement nor accused of defiance, at least as far as anybody knows, despite his obvious favouring of the revolutionary side. It is conceivable that, given his ambiguous national self-identification, he did not feel as in-

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1. Incidentally, despite his work to strengthen the ties between Italian botanists, Parlatore himself vehemently opposed the unification of Italy under king Victor Emmanuel [104].
 2. «straniero» [mssl-aa0623-@].
 3. Raffaele Molin (1825–1887). Dalmatian professor of zoology in Padova and later in Vienna.
 4. «prossimo forse a perder tutto, per ramingare carico di famiglia e di debiti» [mssl-aa0615-@].

volved in the struggle for Italian independence as many others did¹, but it is also possible that this was a deliberate strategic or even philosophical choice; his positivist attitude had him focused on science as a universal endeavour [§ 3.6.1]. Whatever his private convictions might have been, we are inclined to conclude that he was essentially prepared to accept any government that would have allowed him to carry on with his research in Padova, which he saw not only as his source of income, but also as his main purpose in life and something he was not prepared to put in jeopardy for political reasons. In a letter to Pančić, he went so far as to refer to the upcoming Third War of Italian Independence as a mere *hindrance*² to their studies. Such a cautious stance also fits well with the kind and moderate spirit that all his biographers attribute to him, and that shines so brightly through his letters³.

3.1.8 Religion

Young Visiani received a religious education [§ 3.1.2] and remained a devout Catholic throughout life, as was reported by P. Mazzoleni [10], who found him reading Tommaseo's translations of the Gospels when he visited him in early 1878.

His inaugural speech [Util.] is filled with religious images akin to natural theology: Plants were created by God Almighty with the sole purpose of purifying the air, tempering the climate, beautifying Earth, and most importantly transforming inanimate matter into food adequate for all the different kinds of *more perfect beings*⁴ that were to come into the world after them, among which God-like man is king. These transformations are deemed to have occurred in the time frame of a few centuries. Visiani also touches on the problem of evil, which he blames entirely on humanity: Original sin brought all suffering and ailments, while the cutting of primaeval forests led to the formation of steppes, deserts, and other inhospitable territories. As their bodies were weakened, men started to eat meat and to study plants to find remedies to their suffering, which is the reason why medicine and botany are to be regarded as the most senior of the sciences.

The beginning of his *Venet.* [§ 3.4.10], written by a more mature Visiani seventeen years later, is on a somewhat different note. The speech opens with a highly lyrical, almost romantic picture of the heavens and Earth, with its plants and animals, where stars are described as

inextinguishable lamps suspended in the immense serenity of space, [that] seem to point to the thoughtful, confident beholder the path that must guide us to the centre of every greatness, of every power, of every perfection that is God⁵.

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1. It is interesting to note as well how in his inaugural speech [Util.] he talked at length of the merits of 'you, Italians' in botany, never referring to 'us, Italians'.
 2. «inciampo» [pncc-660608-@].
 3. Fittingly, Tommaseo wrote, about Cittadella Vogodarzere: *we should not impose heroism onto others as a sort of toll, because, if everybody were a hero, heroism would lose its prerogative* («non bisogna imporre ad altri l'eroicità come una specie di gabella, giacché, se tutti fossero eroi, perderebbe i suoi privilegi l'eroicità») [105].
 4. «esseri più perfetti».
 5. «lampade inestinguibili sospese nella serena immensità dello spazio [che] additar sembrano al pensoso e fidente contemplatore il sentiero che dee guidarci al centro d'ogni grandezza, d'ogni potenza, d'ogni perfezione che è

But the image is a rhetorical device: Visiani goes on to point out that astronomy tells us that the Earth is but *a grain of dust, an atom* in the universe, and that there are not only other worlds orbiting the visible stars but also more stars and more worlds that can hardly be imagined, thus shifting the intended object of admiration from the benevolence of God to the power of science and to the mysteries it reveals.

Visiani's testament [a.g.-leg.] suggests that his religious feelings should be acknowledged, but probably not taken as central to his life and thought. Despite passingly confirming his self-identification as a Catholic¹, he broke with the tradition of invoking the grace of God², and he did not ask for prayer for his soul, admit his sins, or bequeath anything directly to the Church³.

3.1.9 Last Years and Death

In March of 1870 Visiani fell seriously ill with bronchitis and moved to his country house in Torreglia, while Saccardo lectured in his stead. Defeating all odds, he got well again in May, but could not take up his regular teaching routine until 1873. Along with nine other guests, in 1876 he partook to a luncheon with princess Margherita and the mayor of Padova, which was organised by the *Araucaria* greenhouse [§ 3.2.1], to celebrate her visit [Sacc. Chr.]. On 1st Jun. 1877 a new illness pushed rector Zanella⁴ to transfer all of his duties to Saccardo, seeing how the old professor was no longer *able to adequately bear his charges*, noting that the Garden rested in *great decay and neglect*⁵. On the 10th May of the same year [a.g.-rip.], Visiani formally asked the ministry to retire from his duties as a professor, keeping the rights to live at the Garden and to access its library and collections. On 23rd Jul. of the same year, he was granted his request and nominated professor emeritus by royal decree [a.g.-rip.].

In 1877–1878 Visiani suffered three attacks of '*pulmonary apoplexy*' in a few months, which he overcame surprisingly well. A fourth one, which came about at 11 p.m. on 4th May 1878⁶, was so sudden and serious that his physician, Dr. Mercante, who had been called to assist him, could do nothing but ascertain his death. Canestrini read his eulogy [6] at the great hall of the University, Pirona at the *Ist. Ven.* [8], Marzolo at the *Acc. Pad.* [7]. Visiani was initially buried in Padova, but his remains were transferred to St. Anne's Cemetery Šibenik two years later, in the early summer, on his testamentary request [10]. On 10th Jul. 1880 his monument was solemnly inaugurated in Šibenik.

Dio» [Venet.].

1. He left some money to the poor of his native parish who shared his *Catholic religion*.
2. Massalongo, for one, started his own invoking Christ and the Holy Mary.
3. He did make the bishop of Šibenik one of the three administrators of the money he left to the town, but he specified on what it should be spent in detail.
4. Giacomo Zanella (1820–1888). Poet from Vicenza. A priest and a vehement opposer of evolutionism, to which Visiani seems to have got closer in his old age [§ 3.6.6].
5. «in grado di reggere adeguatamente l'ufficio», «grande decadenza e abbandono» [14].
6. While both Pirona and Canestrini give this date and time, Marzolo says instead that he died on the night between the 3rd and the 4th. This looks like a mistake, but as he appears to have spoken directly with his colleague Mercante, we cannot entirely rule out the possibility that Visiani in fact died on the 3rd of May.

3.2 Visiani at the Botanical Garden

In this section we summarise Visiani's work for the Botanical Garden of Padova, including the papers on its plants.

3.2.1 Works and Expenses

Visiani's work and expenses for the Botanical Garden can be reconstructed in detail, thanks mostly to Saccardo's chronicles (see § 2.3.5). As already mentioned, when Visiani took up the role of director of the Botanical Garden of Padova from Bonato, both the buildings and the living collections were in dire straits because of the 1834 hailstorm [§ 3.1.2]. In his own words:

[...] it looked like the treasured creation of the Venetians was about to be lost to the same fate as the annihilated Republic¹.

Only 3,000 species out of the over 5,500 that were cultivated previously survived. Visiani, thanks to both the government and the generosity of viceroy Rainer Joseph² [H. Pat. 40], was able to secure over a£ 50,000 in his first six years for its restoration, of which a£ 2,380 were spent to rebuild almost the entirety of the southern half of the circular wall (1838), a£ 854 to repair the windows of the buildings (1839–1840), a£ 1,193 to buy and lay the stones that were put around the new patches planted in front of greenhouses (1841), and a£ 3,763 to reconstruct the machine supplying water to the fountains, completed in 1842. During Visiani's directorships, all the buildings, gates, fences, fountains and pools were restored, some multiple times. Already in 1836, Visiani had decided that the section that had been traditionally reserved for the private use of the director would become part of the facilities, and he had it planted with foreign trees [H. Pat. 42]. The following year, with a move that fits well with his great care for the educational value of the Garden [§ 3.6.1, § 3.2.4], he spent around a£ 1,000 on 6,000 tinplate tags to display the *names* of the various species, making their study much more accessible to visitors and students.

As for entirely new facilities, in 1840, an underground greenhouse was built along the director's house for a£ 2,281. In 1842, a much more significant change was the building, authorised and funded (a£ 5,500) by a royal decree, of the extant botanical theatre, with a seating capacity of 200. This once again allowed the hosting of lectures at the Garden [§ 3.1.4]. A new greenhouse for succulents and a second to keep camellias were also added on that occasion, and in the same year, a wall was erected along the canal (a£ 5,981). In 1854, a total of a£ 2,271 was spent for a second underground greenhouse for tropical plants. It was covered with rushes and complete with an entrance vestibule decorated with tree trunks and ferns, which was heated with a modern hot water system.

1. «Pareva che la prediletta creazione de'Veneti avesse a perdersi nel fato stesso dell'annientata Repubblica» [H. Pat. 40].

2. Archduke Rainer Joseph of Austria (1783–1852). Viceroy of Lombardy-Venetia from 1818 to his death. Visiani dedicated to him a *Hibiscus rainerianus*, and a *Libanotis raineriana*.

Some particularly large plants required the construction of dedicated buildings: In 1840 a wooden structure was built to host a specimen of *Araucaria brasiliensis* Loudon, apparently for only a£ 250 (probably an error!). In 1847, an octagonal wooden shed was made (for a£ 2,700) for the Norfolk pine (see § 3.2.2), which two years later was protected with an iron net. Despite this, the whole construction had to be updated, in 1864, to an almost 20 m tall greenhouse with a zinc roof to accommodate the ever-growing tree¹. At the same time, yet another greenhouse was built to connect this newer one with the others, so that they all conveniently formed a single building.

Among the many other works at the Garden, some of the most important mentioned by Saccardo were: building the roof of the so-called ‘green’ glasshouse (1849, a£ 10,773) and providing it with a heating system (1851, a£ 338.34), building a permanent tool shed (1853, a£ 2,500), rebuilding the roof of another greenhouse (1846, a£ 6,923), restoring many roofs (1855, a£ 1,442), rebuilding the roof of the lecture theatre (1852, a£ 1,413), renewing the piping of the water machine (1855, a£ 6,175), building an iron scaffolding in the *tepidarium* (1853, a£ 2,7), rebuilding the *calidarium* with iron (a£ 10,580) and furnishing it with a new cast iron stove (1856, a£ 6059.37), elevating the lecture theatre and once again rebuilding its roof (1860, a£ 1,777), rebuilding the water machine in iron (1863, ft. 221 ≈ a£ 663). After 1866, when Veneto joined Italy, the pace of the works seems to get quite a bit slower², with the only significant entries in Saccardo’s chronicle being the reconstruction of a shed for the *Latania* (1871) and the reconstruction of the entrance bridge over the canal, which had fallen down after a flood (1874–1874, £ 6,000). The permanent greenhouse to protect Goethe’s Palm [§ 3.2.3], built in 1874, cost £ 6,000, which Visiani paid out of his pocket [6].

Visiani’s works at the Garden were all entirely respectful of its original design, and he made almost no concession to the highly popular new style of the romantic English garden. Part of the reason for his choice was certainly the utmost respect he felt for the Garden’s ancient legacy [§ 3.4.10], but his negative opinion of romantic gardens, which he considered *filth*³, was more general. In his *Venet.* he wrote:

there is no small garden [...] nowadays that does not split in wavy lanes, whose contrived turns backwards, sickening bends, and childish crossroads are useless and have no justification; that does not rise here and there in bumps that pass for mountains; that does not fall in valleys that are ditches; that does not stagnate in dead and petty lakes that are quagmires, that does not flaunt at every step the miserable spectacle of caves with a wood beam scaffolding, of cliffs cooked in furnaces, of meadows with no vegetables, of woods with no shadow, of huts with no shepherds, and bridges with no stream, and streams with no water, and water that has no motion, or that receive it measured by the hand of a mean gardener who regulates its quantity according to the more or less promising appearance of the ecstatic visitor⁴.

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1. This greenhouse is no longer used as such: Divided into three floors, it now hosts offices and collections.
 2. This is not necessarily a consequence of the political change: Saccardo’s first two chronicles [§ 2.3.5] reach only to this date, and the work was taken up from there only in his third one, so that the difference might simply be due to his account becoming less accurate. At any rate, Visiani did not show much faith in the government’s continual financing, in his will [§ 3.7.1] [a.g.-leg.].
 3. «sconciature» [Venet.]
 4. «non è giardinetto di oggidi [...] che non frastagli in viottoli tortuosi, le cui svolte ammanierate e ritrose, e i ritor-

The following table summarises the annual financial endowment of the Garden during Visiani's directorship (see also § 3.2) [Sacc. Doc.], which includes the salary of the workers, but not those of the gardener and second gardener [H. Pat. 42]. From 1871, the gardeners' salary was included:

1824–1826	a£ 2,300
1827–1828	a£ 2,000
1828–1829	a£ 1,500
1830–1838	a£ 2,000
1839–1845	a£ 2,900
1846–1870	a£ 3,200
1871–?	£ 6,000

Much extra funding was secured for the Garden's library: a£ 2,300 in 1839; a£ 1,203 in 1851; a£ 1432 in 1853, and a£ 1155 in 1856.

What Visiani never provided for the Garden, as Saccardo laments in his chronicle, were laboratories furnished for the more modern studies and a good collection of foreign medicinal plants, which he attributes to Visiani's preference for a more classic research approach [§ 3.6.3].

3.2.2 New Collections

At the same time as he was restoring the facilities of the Garden, the living collections were quickly replenished by means of exchanges and purchases [99], and were reorganised according to the natural method. Visiani immediately started corresponding with over forty other Garden directors in Italy, Switzerland, France, Holland, the German States, and Russia. Their number reached fifty-two in 1842 [H. Pat. 42]. He received seeds from China by Meyer¹, from the U.S. by Martens², from Australia and South Africa by Kachler³, from Eastern Russia and Siberia by Schychowsky⁴, from Egypt by Figari⁵. In 1839 the viceroy gave as a present for the Garden an assortment of seeds collected by Kotschy⁶ in Nubia, Ethiopia, and Kurdufan in 1837–1838, and a second from Mexico, Peru, and Cuba collected in 1839 [H. Pat. 40]. In 1843 Visiani travelled to visit the botan-

neli stucchevoli, e i bambineschi crocicchi, nessuno impaccio necessita, nessuno scopo giustifica; che non rinalzi ogni bel tratto in bernoccoli [...] che si spacciano per montagne; e non affondi in vallicelle che son fossati; e non istagni in poveri e morti laghi che son pantani, e non presenti a ogni passo lo spettacolo miserevole di grotte impalcate di travicelli, di rupi cotte nelle fornaci, di prati senza verzura, di boschi senz'ombra, di capanne senza pastori, e ponti senza torrenti, e torrenti senz'acqua, ed acque che non hanno moto, o lo ricevono ammisurato dall'avara mano del giardiniere, che ne regola la quantità sull'apparenza più o men promettente dell'estatico visitatore».

1. Ernst Heirich Friedrich Meyer (1791–1858). Prussian botanist.
2. Georg Matthias von Martens (1788–1872). German botanist and phycologist.
3. Johann Kachler (1782–1863?). Seed merchant in Vienna.
4. Ivan Osipovič Šikovski (Иван Осипович Щиковски, usually rendered 'Iwan Osipovich Schykowsky' (?-?). Russian botanist.
5. Antonio Bey Figari (1804–1870). Italian pharmacist and amateur botanist and phycologist, who worked in Egypt and the Middle-East.
6. Theodor Kotschy (1813–1866). Austrian botanist who collected mostly in the Middle-East.

ical gardens of Middle Europe, [§ 3.1.4], bringing back hundreds of new plants, and was promised seeds from Australia, Brazil, and Mexico [H. Pat. 44]. Saccardo mentions the purchase of a Norfolk pine (*Araucaria excelsa* /Lamb./ R.Br.) for a£ 400, in Milan, in 1839, and that of 10-year-old *Latania chinensis* Jacq. in 1842¹. Besides the foreign trees close to the house, a wood of pines and one of shrubs were planted in 1837.

There is a great deal of confusion surrounding how many different species of plants were cultivated during Visiani's directorship: He himself stated in *H. Pat. 42* that their number was about 10,000, 12,000 in *H. Pat. 44*, whereas in 1854 his assistant Ceni [107] [14]) estimated a whopping 16,000 species, a number that was afterwards often reported (e.g. [107] [14]). In his chronicle, Saccardo is sceptical of both estimates, and reckons that, around 1870, no more than 5,000 species were present, though he had written elsewhere that they were in fact 9,200, in 1842 [Sacc. Chr.]. Visiani's *H. Pat. 42* includes not only his estimate, but also an eighty-one pages long list indicating the *names* of all the species, with their precise place of cultivation within the Garden, which apparently neither he himself nor anybody afterwards ever bothered to count. Because the many botanists who were invited to evaluate his work as a director, to whom the booklet was presented (see § 3.3.4), might have looked for any of them, we believe that that their number on the list must at least be a reliable lower bound. They add up to precisely 8,850. Saccardo was probably not much off in his 1870 estimate, as it is quite possible that, with an older professor and a less exceptional first gardener than Caslini [§ 4.1.1], some short-lived or less attractive species might no longer have been kept by then. On the other hand, although it is quite possible that the Garden was richer in 1856 than it had been fourteen years before, Ceni's estimate is most likely widely in excess². Still, even if we rely on a count of 'just' about 9,000 species, the common notion [107] that the Garden reached its highest diversity under Visiani, at least in absolute terms, remains true: Despite its total area having increased by almost 80% since the recent enlargement, and despite the modern greenhouses, it now holds about 7,000 species.

The herbarium grew at a slower pace: In 1842 it only included 14,000 plants [H. Pat. 42], mostly from Dalmatia. In 1857 Visiani bought Moretti's herbarium from his widow, for the sum of ft. 600 [Sacc. Chr.]. The deceased professor from Pavia described in his career some sixty species, many of which are now generally accepted (for instance: *Centaurea aplolepa* Moretti, *Ophrys bertolonii* Moretti, and *Xanthium italicum* Moretti). Their original material can be assumed to be conserved in PAD.

Among the many non-living collections that Visiani also brought to the Garden, that of plant fossils, which amounted to 1,018 specimens at the time of his death⁴, was certainly the most important. Most specimens were either donated to Visiani or bought by

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1. *A. excelsa* is now generally considered a synonym of *A. heterophylla* (Salisb.) Franco, and *Lat. chinensis* is usually classified as *Livistona chinensis* (Jacq.) R.Br. ex Mart., but we decided to keep the names that were used at the time.
 2. In fact, as the whole Garden covered an area of just about 1.86 hectares [107], having 16,000 species would mean cultivating each one on patch of just 1.2 m² on average, which is unrealistic, given the many large trees and the room needed for paths and buildings.
 3. Giuseppe Moretti (1782–1853). Botanist from Pavia.
 4. This number was obtained from an anonymous catalogue ('Catalogo dei fossili vegetali') in two handwritten volumes that is available at the Museum of Geology and Palaeontology of the University of Padova, kindly provided by Dr. Maria Gabriella Fornasiero.

him over the years [§ 3.4.7], but an unknown number came from the Natural History Museum, where they *lay since many years unnamed, as useless clutter*¹, along with the animal fossils. The transfer was ordered by the lieutenancy in 1852 [mssl-520806-@], on Visiani's request. Catullo², who was responsible for the fossil collections, was furious about it, and went so far as to indirectly calling Visiani a thief and Massalongo an ignorant, in two open letters he published in geological journals [mssl-550813-@]. The plant fossils remained at the Garden until the 1920s, when they were transferred to the new Museum of Geology and Palaeontology of the University.

Some other non-living collections put together by Visiani included one of seeds and fruits that was positioned among the greenhouses, the xylotheque and collection of spices that was installed on the ground floor of the director's house (along with the ever-growing library), and the set of wax model mushrooms prepared by Martinati³.

3.2.3 Papers on the Garden and Seed Lists

In this section we shall introduce the many works Visiani published on the Garden of Padova and briefly present their botanical and horticultural segments. In these papers, Visiani described a great number of new species, originating from all over the world, and corrected countless common misidentifications that he had witnessed in other similar institutions, thus giving proof of the vast knowledge of exotic floras that had helped him secure his position (see § 3.1.2).

Three memoirs titled *Illustration of the New or Rare Plants at the Botanical Garden of Padova* were read at the *Acc. Pad.* in 1840 [H. Pat. 40] and 1844 [H. Pat. 44], and at the *Ist. Ven.* in 1856 [H. Pat. 56]. The first starts with a quite long introduction mostly focussed on the present state of the institution and on the regrettable lack of private botanical gardens in Italy—and in Veneto in particular—compared to the preceding century, which Visiani mostly attributes to the fall of Venice [§ 3.4.10] and the relative lack of commerce with other continents in Lombardy-Venetia. The paper contains the description of ten plants that had recently been introduced in Padova, of which three were entirely new to science, with the others having been described previously in the seed lists. The second memoir was first read at the *Acc. Pad.* and printed as a book in 1844 [H. Pat. 44], then reprinted for the *Sag. Acc.* only three years later, because that society only produced a volume of its proceedings roughly every ten years. It begins with a description of the various Botanical Gardens in the German States and Austria, which Visiani had visited the year before [§ 3.1.4]. Therein, fourteen species are described, of which four were new to science. Because it is generally assumed that these *names* were published in 1847 (e.g. [89] [87]), the discovery of the correct anterior date might have no-

1. «giacciono da tanti anni innominati e servivano d'ingombro inutile» [mssl-550626-@].

2. Tommaso Antonio Catullo (1782–1869). Naturalist and geologist who taught natural history in Padova since 1829, and was rector of the University in 1843–1844.

3. Domenico Martinati (1774–1855). Naturalist from Padova [V. Mart.]. He worked mostly as a zoologist, but was also interested in gardening. Visiani published the names of two plants Martinati had recognised as new: *Aloë obscurivirens* and *Aloë punctata*.

menclatural consequences. The third memoir was published only much later, in 1856, for the *Mem. Ist.* [H. Pat. 56]. Its introduction is a defence of taxonomy and floristics over more modern physiological studies (see § 2.6.3). Twelve species are described therein, of which none was new to science.

Two smaller works on the rarest plants of the Garden were read at the *Ist. Ven.* and published in 1855 [H. Pat. 55] and 1858 [H. Pat. 58]. They are both written in Latin, and they have almost no introduction, containing instead only descriptions of species, twenty-one of which new to science [§ II]: eight in the first, thirteen in the second. More details on two of the plants described in 1858 were published in another short note at the *Acc. Pad.* five years later [Due P.].

The largest work on the Garden of Padova written by Visiani was the aforementioned booklet he prepared in 1842 [H. Pat. 42] during the Congress of the Italian Scientists, which was presented to the botanists who were to report on its condition (see § 3.3.4). It starts with a nice lithographic picture of the Garden as seen from the Abbey of Santa Giustina (by some Mr. Tosini), followed by a lengthy and detailed history of the institution put together by careful archive research, which also includes a description of the various areas and buildings. After that follows the impressive list of all the cultivated plants (see § 3.2.2). Finally, taxonomical, nomenclatural and horticultural notes on eighty of those are presented, which include the first description of twenty new species and two varieties [§ II].

Another quite short paper on the Garden, written in 1857, was Visiani's *P. Stor.*, in which he mentions four ancient plants growing in its premises and tries to establish their age based on unpublished documents in *Lib. HB.* One of these is the majestic oriental plane (*Platanus orientalis* L.), planted in 1680, which still stands not far from the modern entrance. The second is a large date-plum tree (*Diospyros lotus* L.) that he determined to be far younger than was commonly imagined, and which no longer exists. The third plant is the monk's pepper tree (*Vitex agnus-castus* L.) which died in 1984, at an impressive age of over 480 years, having been there since at least 1550. The last is, of course, 'Goethe's Palm'¹, a huge specimen of Mediterranean dwarf palm² (*Chamaerops humilis* L.) for which, in Canestrini's words, Visiani *had a special veneration*³. The plant has been growing there since 1585, and it is now the oldest specimen in the Garden.

Beyond the various special publications on the Garden, Visiani and his head gardener also curated the preparation of the *Index Seminum*, the list of seeds and bulbs that the institute made available for exchange, which was periodically sent out to the many corresponding Gardens. There are twenty-seven such lists prepared under his directorship [12] [14], for the following years: 1825, 1827⁴, 1828–1829, 1830, 1831, 1832, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1843–1844, 1845, 1846, 1847, 1848–1849, 1850, 1851, 1852, 1855, 1855–1856, 1857, 1857–1858, 1860–1861, 1862–1863, 1865–66, 1869,

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1. As has been reported countless times, its anisophylly inspired Goethe to explore the homology of the different parts of plants [36], and to establish the influential concept that all their different organs are but modified leaves.
 2. Goethe's Palm is now almost ten metres tall, but wild specimens typically attain only a fifth of its height, which really is quite diminutive for a palm.
 3. «Il Visiani aveva per questa pianta una speciale venerazione» [6].
 4. These first two are included as Visiani curated the *Index Seminum* also as Bonato's assistant.

1871, 1872, 1872–73, 1875, 1877, 1879. Thirteen of these are particularly important, as they are the place of valid publication of new *names*: Visiani described in his *Indices Seminum* a total of four genera, thirty-four species, one variety, and established four new combinations [§ II]. As the lists were usually prepared at the end of any year and only published during the first months of the following, there is often quite a lot of confusion in taxonomical databases on the precise date of publication of said *names*. The bibliography of this thesis, which only includes the *Indices* in which new plants were described, clarifies the matter.

3.2.4 Flower Festivals and the Society for the Promotion of Gardening

To celebrate the 300th anniversary of its foundation, in 1845, Visiani and his students, inspired by the success of similar initiatives in Belgium and England [b24003] organised a Flower Festival at the Botanical Garden of Padova, for which the government accorded *a£* 691 [Sacc. Chr.]. In its name, it recalled the celebrated flower festivals that were held from 1164 in memory of the liberation of Speronella Dalesmanini¹ [108]. As the first such event in Italy, it paved the way to all the numerous horticultural shows that were to come. Several prizes were offered for the best plants, and numerous horticulturalists from all Veneto took part, despite the fact that they had to take care and pay for both transportation and for their own accommodation. The festival was to take place on 29th Jun. 1845, but it had to be postponed to the 1st Jul. due to bad weather [109]. The show was a hit, and it must have been really spectacular: according to Marzolo the Garden was so *enchanting* that *it seemed it had been created by fairies*². It included music and lights, went on until the night, and was a huge success both as for the quality and quantity of plants and flowers that were exhibited, and in terms of attendance: representatives of the public and political life, professors, scientists, students, and members of the general public all enthusiastically took part. Visiani was made particularly happy by the attendance of his friend Tommaseo [14]. The first prize was won by an impressive collection of citrus plants coming from Antonio Trevisan³'s garden in Stra.

The enthusiasm surrounding the first show spurred Visiani to form a *Society for the Promotion of Gardening*⁴, whose main goal was to develop the culture of gardening in Veneto and to organise a new competitive flower show each year. It was formally established on 1st Jan. 1846, had Visiani as its president and Meneghini as vice-president, and counted over 170 members [b24003]. Each was required to buy at least one share of the society and keep it for at least three years. At *ft.* 8 a year, the cost of membership was quite high, which made it accessible only to the well-to-do. The Society bought plants from all the participants, both to enrich the Garden itself, and to distribute to its members. The second Flower Festival was on 7–8th Jun. 1846, the third on 21–22nd Sep. 1847,

1. The event spurred the rebellion of the City of Padova against emperor Frederick Barbarossa.

2. «una scena incantevole», «sembrava creato dalle fate» [7].

3. Antonio Trevisan (?-?). Not to be confused with Vittore Trevisan [note in § 3.3.2], the man we cite by just his surname throughout this thesis.

4. «Società promotrice del giardinaggio».

when it received the visit of the botanists from the 9th Congress of the Italian Scientists [§ 3.3.9]. The political unrest of 1848 [§ 1.4.2] of course put a stop to the activities, while at the same time the initial fervour was fading: A fourth show was held only in 1854, on 8–9th June, and a last one was on 17–18th May 1868, after which the society was dissolved, partly for political clashes [14], although Visiani hoped to be able organise more flower shows until the end of his life. At any rate, he gained a great international reputation as an expert horticulturalist, as is demonstrated by his invitation as a judge to the world flower exposition in St. Petersburg [§ 3.3.11]. The acts of the society are available in *Lib. HB* (conserved in Ar-B. 13), but have not been studied. Curiously, Clementi attributes to Visiani the introduction of the word *giardinaggio* (i.e. ‘gardening’) in the Italian language [110:3094], but it was in fact in use at least since the late 18th century.

3.3 Congresses

From 1839 to 1875, twelve congresses were organised with the intention to gather in a single event all the scientists from the Italian states. They could start taking place mainly by the involvement of Bonaparte¹, who managed to convince² the Grand Duke of Tuscany to host the first in Pisa, in 1839, which was inspired by other similar initiatives that had been very successful in England and Germany [111]. The nine annual congresses that took place before 1861 have been the subject of much scholarly research, mainly by historians, who have mostly concentrated on their political significance, as they are widely recognised as linked with the growth of the nationalistic sentiment that ultimately led to a unite Italy [112] [113]. Not coincidentally, they were all closely policed. It is not within our goal or our means to here enter this discussion, nor to comment on the wider societal impact of other similar congress of the time. However, given their utmost importance, we will give an overview of all of the congresses to which Visiani took part, focusing especially on his own contributions, the works by his Paduan colleagues and friends, and the impact that they had on his own research, and give an outline of the discussion that took place in the botanical sections. After that, the other congresses to which Visini participated will be outlined.

Beyond the meetings presented here, Visiani was also invited to the 3rd extraordinary congress of the Italian Naturalists [b29146], that was held in Vicenza on 14th–17th Sep. 1868, but he did not participate [114], possibly because of the health issues he faced on the way back from St. Petersburg [§ 3.3.11].

For the sake of conciseness, in the sections dealing with the Congresses of the Italian Scientists all the information that does not have other references is to be intended as retrieved directly from the proceedings, which are cited only once, at the beginning.

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1. Prince Carlo Luciano Giulio Lorenzo Bonaparte (or—in French—Charles Lucien Jules Laurent, 1803–1857). Nephew of Emperor Napoleon Bonaparte, an ornithologist and Italian patriot.
 2. In fact the Grand Duke was almost tricked into accepting: Bonaparte had deliberately already announced the congress in foreign newspapers, and *cancelling* a scientific meeting would have looked too retrogressive.

3.3.1 First Congress of the Italian Scientists (Pisa, 1839)

The congress was held on 1–15th Oct. 1839. On the first day of the botanical section in Pisa, Visiani read the preface to *Flora Dalmatica*, which he said was *about to be published* [111]. On the same session, Meneghini spoke about the algal flora of the Euganean Hills, so that the whole day was taken up by contributions from Padova. During the following days, most active in the discussion was Amici¹, who talked, among other things, about his observations on the pollen tube, and the movement of fluids in *Chara*. Other topics treated were the peculiar seeds of orchids (with a letter by Link²), the taxonomical *position* of the Cycadeae, some theories on grafting, and considerations on the different species of the medicinal plant *Cinchona*, from which quinine is extracted. Visiani made only two other small contributions: one was reading his essay on *Satureja hyssoipifolia* (see § 4.3.1), the other was as a member of a commission that gave a (negative) comment on a new method of preserving plants. In Pisa, Visiani met botanist Pietro Savi³, son of Gaetano⁴, the seventy-year-old president of the section, with whom he had corresponded since 1837⁵. Some limited collaboration with Pietro Savi started right after the congress [savp-331111].

3.3.2 Second Congress of the Italian Scientists (Turin, 1840)

The second Congress of the Italian Scientists was held in Turin, 16–30th Sep. 1840 [115]. While in the wider scientific world it is most remembered for the attendance of British mathematician Babbage⁶, who first presented there his analytical engine⁷, the star of the botanical section was Swiss De Candolle Jr.. During this congress, Visiani was more active than in Pisa, and as the secretary of the botanical section, he seems to have given special focus to his own interventions in the record of the event. He read there two essays: one on *Gastonia palmata* (see § 3.4.8), and one on the plants collected by Parolini and Webb in Greece and Turkey (see § 3.4.3). Other than that, he had some disagreement with De Candolle on the exact definition of a stipule, and criticised some observation on pollen tubes by De Notaris⁸, showing a wide knowledge on the recent discoveries on this histological subject. Another work on plant anatomy was on the structure and function of hydathodes. The rest of the section had numerous contribution on phy-

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1. Giovanni Battista Amici (1786–1863). Most famous as an engineer and mathematician for his work in optical instruments, especially microscopes, with which he made numerous observations of plant histology. He is credited with the invention of the diploscope and the Amici prism, that carries his name.
 2. Johann Heinrich Friedrich Link (1767–1851). A very influential German naturalist and botanist.
 3. Pietro Savi (1811–1871).
 4. Gaetano Savi (1769–1844).
 5. Paolo Savi (1798–1871), Pietro's older brother, was also a naturalist, and among the organisers of the congress.
 6. Charles Babbage (1791–1891).
 7. The analytical engine was a mechanical forerunner of a computer, which was never actually built. Babbage's project was particularly interesting to mathematician and politician Luigi Federico Menabrea (1809–1896, later prime minister of Italy), who later published an account, in French, of Babbage's plans. The wide notes to a translation into English of Menabrea's work, by lady Ada Lovelace (1815–1852), are often considered to contain the first example of a computer program.
 8. Giuseppe De Notaris (1805–1877). Botanist from Milan, is mostly famous for his works on mosses.

cology, mostly from Padova, with works by Trevisan [§ 4.3.10]¹, Meneghini [§ 4.3.4], and Nardo². There were also a record of a botanical voyage to Brazil by Casaretto³, some shorter essays on the taxonomy of *Citrus*, *Camellia*, and the Myrtaceae, a discussion on circadian rhythms in the sensitive plant (*Mimosa pudica* L.), and some history of botany around dubious plants by Allioni⁴, as well as a work on Mattioli described by Moretti. An acclaimed essay explaining the smell of flowers as a *protection from humidity* and the petals as a structure to *elaborate sap*, shows just how little support there was for Sprengel's theory of pollination by means of insects (see § 3.4.1), whose conclusions appear, to the modern eye, almost trivial to draw.

3.3.3 Third Congress of the Italian Scientists (Florence, 1841)

The third Congress was held again in the Grand Duchy of Tuscany, in Florence, 15–30th Sep. 1841 [116]. Visiani was not personally present, though he did send there his young assistant Clementi. As for the reason of his absence, we can speculate that he might have been too busy with the preparation of his *FD*, for which he was put under great pressure from his editor [§ 3.4.4], or simply embarrassed for not yet being able to present it, after having announced it two years before. Clementi read on that occasion the report on his travel through Dalmatia [§ 5.3.2], which was generally well received. Among Italian botanists, this congress is mostly remembered as the occasion in which Parlatore first proposed the creation of a Central Italian Herbarium in Florence, which was eventually established in 1845 (see also § 4.3.7). The project was to create a collection to be used for the preparation of monographs, on the model of the large herbaria in Berlin, Vienna, and Paris, rather than simply to put together a collection representing the flora of Italy. Many immediately promised to send their most interesting specimens to Florence, but Clementi did *not* do so on behalf of Visiani (see also § 2.1.3). Many foreign botanists were very active during this congress, including Morren⁵, who read about the studies on *Vanilla* that later inspired Visiani's work on the same plant [§ 3.4.9], and a project on phenology. Fée⁶ read a work on ergot, then there were Link, and Brown⁷. Among many works on taxonomy, the genera *Camellia*, *Araucaria*, *Portulaca* were discussed, while photosynthesis and parasitism were treated by physiologists. For the history of botany, a wide essay on the Botanical Society of Florence was read. Meneghini

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1. Earl Vittore Benedetto Antonio Trevisan (1818–1897) was an amateur botanist from Padova, mostly remembered for his studies on lichens and algae.
 2. Giandomenico Nardo (1802–1877). Zoologist and assistant to Catullo in Padova.
 3. Giovanni Casaretto (1812–1879). Botanist from Turin, described around a hundred species from his travels to that country.
 4. Carlo Allioni (1728–1804). Botanist from Turin and early adopter of the Linnaean system.
 5. Charles François Antoine Morren (1807–1858). Belgian botanist who is mostly known precisely for the two works he presented in Florence: the pollination of *Vanilla*, and phenology, a word he himself later coined.
 6. Antoine Laurent Apollinaire Fée (1789–1874). Very prolific botanist from Paris, and later a great admirer of Mas-salongo's work.
 7. Robert Brown (1775–1858). Scottish botanist, palaeobotanist and early palynologist. He is mostly remembered for describing what was later named *brownian motion* in his honour, i.e. the microscopic phenomenon that eventually led Albert Einstein to definitively prove the existence of molecules, in 1909.

contributed some works in phycology and mycology. Pietro Savi, who was the Secretary, seems to have been unusually active, as Visiani did in the report from Turin.

3.3.4 Fourth Congress of the Italian Scientists (Padova, 1842)

The fourth Congress of the Italian Scientists was organised in Padova (15–29th Sep. 1842), where it was, somewhat unexpectedly, allowed to take place by the Austrian authorities. Visiani played a very important role in its organisation [cttd-421121], and he acted as General Secretary, also writing a closing talk on it, that was included in the final publication [117]. The President was earl Cittadella-Vigodarzere¹, a personal friend of Visiani's and a counsellor to the Austrian Emperor, who is known for his interest in agriculture and his philanthropic work. Their moderate political stance was undoubtedly one of the reasons why the two were appointed to the job [§ 3.1.7].

Visiani's closing talk can only be described as institutional, with moderate praises to the Government and the organisers, and a rather dull overview of the event². A special mention was for Antonio Pedrocchi, the owner of the famous *Pedrocchi* café, right in the centre of Padova, which had long been a meeting place for intellectuals, and was enlarged especially for the congress. Special relevance was given to Amici's discovery on plant fertilisation (see later), and he is especially commended for not publishing his discovery with some *foreign* academy. The Congress of Padova was smaller than the previous ones, as Austrian authorities had forbidden many 'dangerous' men to come.

During the botanical section, Clementi was much more active than Visiani, who was probably often engaged in other official duties. He presented the work on *Vanilla* [§ 3.4.9] that was inspired by Morren's, and opened a discussion on the precise identity of a *Danthonia* or *Triodia*. The section was held for two days at the Botanical Garden, and a special commission was created to judge its state and collections, for which Visiani had written *H. Pat. 42* [§ 3.2.]³, and which included Link, Amici, Moretti, Savi, and Parlatore. The response was that *one does not know what is more to be praised: its richness in plants and the rarity of some of them, or the order in which they are distributed*³. This was the first of a series of evaluations of botanical gardens that were made during the congresses, and by far the most favourable. Many words of laud were spent for Visiani, his *indefatigable* assistant Clementi, and the *capable* gardener Caslini [§ 4.1.1]. More praise was for its library and herbarium and other collections, while Link and Moretti, who had already visited the premises before Visiani became prefect, noted how much it had improved from its erstwhile state of decay. As for the other topics treated during the section, there was again almost daily discussion on the precise definition of stipules, and on many teratological specimens, including one in almonds presented by Visiani

1. Andrea Cittadella-Vigodarzere (1804–1870).

2. Pirona was quite impressed by Visiani's style, and described the talk as *the best that one could devise for this kind or writing; even if the matters were commonplace and the subjects dull, they came out from the pen of our colleague so wonderfully adorned, that they seemed beautiful and attractive* («quanto di meglio si a ideare in scrittura di tal genere. Fossero pur comuni i soggetti e gli argomenti aridi, essi dalla fiorita penna del nostro collega uscivano così vagamente ornati, che ti apparivano belli ed attraenti») [99].

3. «non si sa se sia più a lodare la ricchezza delle piante e la rarità di talune di esse, o l'ordine con cui sono distribuite»

and one in *Delphinium* by Meneghini. Taxonomists dealt with *Crataegus*, *Origanum*, once again with *Araucaria*, and with Fumariaceae; Trevisan read a work on mycology and proposed a high rank classification system for algae, while Meneghini dealt with *Liagora*. For the history of botany, Moretti once again read a defence of his hero Mattioli, while Zanardini and Meneghini on what the ancient Greeks meant with the name *Androsace*. As for more general works, Link read a essay on the structure of stems in monocots, but it was Amici who made the most important contribution, by finally disproving the theory, which was mainly held by Dutch and German scholars, that the pollen grain contains the whole embryo, while the ovule is merely a sterile receptacle. He also better characterised the spermatozoids in the green alga *Chara*. Much discussed was the use of Italian rather than Latin in botanical publications, on which views differed.

A joint section with zoologists was called for by Bonaparte to discuss the possible adoption of a formal, unified set of rules for the two branches of biology, that would be based on the common practices of botanists, and that was first proposed in England by Strickland¹. The proposal mainly dealt with precisely defining and sanctioning the principle of priority. After some discussion, a commission of five zoologists and six botanists, including Visiani, was formed. Their conclusions were presented in Lucca the following year [§ 3.3.5].

Parlatore and Meneghini first proposed at this congress the creation of an Italian Botanical Journal, to solve the practicalities of which, another *ad hoc* commission was formed. A manuscript titled *Project for an Italian Botanical Journal*², probably Visiani's proposal, is available in Padova [b28023a]. Interestingly, while proposing the creation of a society for the exchange of specimens and discussing the role of the Central Italian Herbarium, that was being set up in Florence, Bracht³ proposed that botanists should contribute to it the *authentic specimens of the species they established [...] thus forming a Herbarium that could eliminate any doubt in the future, and be a touchstone for every species*⁴. He even suggested that the research of such material should be carried out in the collections of earlier scholars, thus anticipating by many decades the discussion on type specimens.

1. Hugh Edwin Strickland (1811–1853). English geologist and ornithologist.

2. «Progetto per un Giornale Botanico Italiano».

3. Captain Albert Bracht (1804–1848), a German born in Bohemia, was an amateur botanist.

4. «[...] autentici esemplari delle specie che hanno stabilito [...] onde in tal guisa formare un Erbario, che togliesse ogni dubbio per l'avvenire, che fosse la pietra del paragone per ogni specie»

3.3.5 Fifth Congress of the Italian Scientists (Lucca, 1843)

The fifth Congress of the Italian Scientists, 15–30th Sep. 1843 [118], was hastily organised in Lucca, a town in Tuscany which was at the time the capital of a tiny independent duchy, after both the governments of Modena and Parma, also two small independent duchies, refused their patronage. Less than five-hundred people took part in it, and especially few botanists, so that most of the discussion was by more minor figures such as Tassi¹, Spaniard Colmeiro², Corinaldi³, physician Parola⁴, high school teacher Puccinelli⁵, and a twenty-year-old Adolfo Targioni Tozzetti⁶. Parlatore and Savi were the only major figures attending. Visiani himself did not personally attend, though Padova was represented with the reading of two essays by Meneghini (both on the anatomy of stems), and one by Clementi⁷ (on *Nepenthes*). Parlatore talked about the recent additions to the Italian Central Herbarium, which included Dalmatian specimens by Clementi, but not yet by Visiani.

The resolutions of the commission for an Italian Botanical Journal and the rules of nomenclature were also given. As for the first, Visiani suggested that the publication, which still had few subscriptions, should have accepted not only papers of strictly botanical subjects, but also works on agriculture, horticulture, medicine, industry, and home economics. This proposal fits well with his positivistic idea that botany and science in general is tightly linked to technological and human development [§ 3.6.1]. In the report by the commission on nomenclature, the botanists from Padova (Meneghini, Trevisan, and Visiani) observed that their discipline had remained much more faithful to Linnaean principles than zoology, and argued that it would be hugely damaging for it to abandon them and adopt the new rules. For this reason, they believed that the Strickland proposal *could not serve as a starting point*⁸ for a discussion on rules of nomenclature, despite in fact agreeing with its general principles (first and foremost: priority). They argued instead that the Linnaean rules should be re-examined and possibly slightly modified to suit all the needs of botanists, and that zoologists should then consider if and how they too could adopt them. We can imagine that even if Meneghini was the secretary of the group, the mind behind this very conservative reply was probably Visiani, its oldest and most authoritative member, and a great champion of the Linnaean tradition [§ 3.6.3]. Bonaparte, who led the discussion, was very disappointed with the negative answer, but at any rate, since the debate had meanwhile moved on in France and in England too, it was agreed to once again move any final decision to the following year. It was, in fact, never seriously taken up again in Italy.

1. Attilio Tassi (1861-1905). Botanist from Lucca.

2. Miguel Colmeiro y Penido (1816-1901).

3. Jacob Corinaldi (1782-1847). Tuscan botanist especially interested in algae.

4. Luigi Parola (?-?). Physician from Cuneo.

5. Benedetto Puccinelli (1808-1850). Tassi's master.

6. Adolfo Targioni Tozzetti (1823-1902) came from a family of botanists: His grandfather Giovanni (1712-1783), his father Ottaviano (1755-1826), and his older brother Antonio (1785-1856) all worked in the field.

7. Another very short work by Clementi on the compounds in *Vanilla* was read at the chemistry session.

8. «non possa servire di punto di partenza».

3.3.6 Sixth Congress of the Italian Scientists (Milan, 1844)

The sixth congress was held in Milan, 12–27th Sep. 1844 [119], and was much more successful than the previous one, with more than a thousand participants, including Visiani. There, he showed some fruits of *Vanilla* that were cultivated in Padova, and noted that [b29 146] the procedure he had developed to fertilise the plant was already in use at the Garden of Monza, which he visited as a member of the commission in charge of evaluating it (the result was mild praise). A more significant contribution by Visiani was the reading of his work on *Matricaria* [§ 3.4.8]. Bonaparte, who was attending, remarked *how lamentable it is having to waste time to discover errors made by others, rather than studying nature*¹; who this comment was meant to blame, Visiani or others, is not clear. As for the other contributions, De Notaris and Meneghini presented large essays on the topic of phycology, describing to the congress thirty-eight new species of algae in total. Trevisan described his plan for his flora of the Euganean Hills, which was very appreciated. A remarkable number of papers on phytopathology were also presented, along with works on the anatomy of aquatic plants (Parlatore), on seven new species from Italy (Moretti), and many smaller ones. Among foreigners, Mohl² was very active, presenting three works (on *Aldrovanda*, read by Bertoloni in French, on the nature of some types of bark, on the flower of Gramineae); De Candolle presented an essay on Cordiaceae, and Link yet another work on the stem of monocots. John Ball [§ 4.3.6] was also present for the first time. He discussed a topic that was very dear to Visiani: the concept of species (see § 3.6.4), though his contribution received no comment at all.

3.3.7 Seventh Congress of the Italian Scientists (Naples, 1845)

The seventh congress was held in Naples, 20th Sep.–5th Oct. 1845 [120]; king Ferdinand II made it particularly lavish, to dispel his image of an enemy of culture. The botanical section was chaired by Tenore³, while Meneghini was vice-president. Visiani, who had just come back from a travel in Sicily and Malta [§ 3.1.4], attended the meetings, but did not present anything. The congress was dominated by contributions from Sicilian botanists: Tornabene⁴ presented a large essay on the geobotany and one on the lichens of the Island, and a third one on the flora of some clay formations around Mt. Etna; Prestandrea⁵ read a work on *Yucca*, one on *Xanthium*, some observations on an (ineffective) newly invented method to conserve plants, and proposed both the creation of an Italian medicinal plant herbarium (which was rejected), and that Italian phycologists should send duplicates of their specimens to Meneghini, to which many agreed. Tenore himself presented some observations on *Opuntia*. The Botanical Garden of Naples was generally judged as well kept by the commission that had to evaluate it, which included Visiani.

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1. «quanto sia a deplorare la necessità di consumare il tempo nella scoperta degli altrui abbagli anziché nello studio della natura».
 2. Hugo von Mohl (1805–1872). German botanist, mostly interested in histology.
 3. Michele Tenore (1780–1861). From Naples, he was the director of the botanical garden of that city, and is most famous for his *Flora Napolitana*.
 4. Francesco Tornabene Roccaforte (1813–1897). Founder of the botanical garden of Catania.
 5. Antonio Prestandrea (1817–1854). Botanist from Catania. None of his contributions were very well received.

Another commission to which Visiani took part judged a work on embryology, by Gasparri¹, as particularly important, and proposed that it should be published in the proceedings. A work on a similar topic, by Sorda², was instead shamefully discredited. Zanardini presented three essays, including a large one on Callithaminieae. Many recurrent topics touched on in previous congresses were discussed again: Parlato³ returned on the anatomy of aquatic plants and the Italian Central Herbarium, Ridolfi³ on *Araucaria*, Bracht on the formation of a society for the exchange of plants, which was again rejected. Among the few foreigners, Link presented an essay on *Pinus*, D’Hombres-Firmas⁴ on allelopathy in *Juglans*.

3.3.8 Eighth Congress of the Italian Scientists (Genoa, 1846)

The eighth Congress of the Italian Scientists was held in Genoa, 14–29th Sep. 1846 [121]. The botanical section was chaired by Bertoloni, who, along with many other scientists, could attend thanks to the liberality of the newly elected pope Pius IX, who for the first time did not forbid his subjects to participate⁵. Visiani presented there his work on *Meneghinia* [§ 3.4.8], and was part of numerous commissions, including one to evaluate the Botanical Garden of Genoa, directed by De Notaris, which was found in good conditions, but lacking in greenhouses. As a member of another commission, Visiani evaluated some illustrations by the Perini brothers⁶, which were found to be excellent. He discussed their work once again in 1855 [§ 3.4.12]. Amici presented a work on the fertilisation of orchids, which Visiani advised should be expanded to other families as well. Meneghini, as prolific as usual, read on a new species of *Chara*, on the anatomy of the inflorescence in *Tilia*, and contradicted Prestandrea’s findings in *Xanthium*, that had been presented in Naples. Other works were on the state of mycology in Italy (Bertoloni), on Boraginaceae (Moris), on the development of cell walls (Mohl), on new plants from Cape Verde (Bertoloni). De Notaris presented his findings on Hysteriaceae, Calycieae, and some lichen genera; Ridolfi introduced a discussion on hybridism. Clementi returned once again on *Vanilla*, describing the finding of raphides in its leaves. Among foreigners, Gorâninov⁷ presented two essays on the organisation of living things at the highest ranks and of nature in general, both clearly inspired by German *naturphilosophie*, which were received with very stern disapproval, especially by Meneghini and Bertoloni.

1. Guglielmo Gasparri (1803–1866). Botanist from Naples, was a famous taxonomist and physiologist.

2. Francesco Saverio Sorda.

3. Cosimo Ridolfi (1794–1865).

4. Baron Louis-Augustin D’Hombres-Firmas (1785–1857). French naturalist and agronomist.

5. Bertoloni had refused to even share an opinion on the congresses in a letter sent to Visiani in 1843 [brtn-430627].

6. Agostino (1802–1878) and Carlo Perini (1817–1883). From Trento.

7. Pavel Fëdorovič Gorâninov (Павел Фёдорович Горяинов, ‘Horaninow’ in the proceedings, also ‘Gorjaninow’, ‘Gorianinow’, ‘Ghoryaninow’, and ‘Gorjaninow’, 1796–1866). Russian botanist.

3.3.9 Ninth Congress of the Italian Scientists (Venice, 1847)

The ninth Congress was held in Venice, 14–24th Sep. 1847 [122], in a very tense atmosphere, as it had by then become clear to both the scientists and the authorities that a general insurrection in Lombardy-Venetia was at hand and probably inevitable [§ 1.4.2]. Indeed, despite the many spies the government had to attend the meetings, so many were the calls for national unity and so strong and widely shared was the anti-Austrian sentiment¹, that the full proceedings of the congress were confiscated and never got published, so that our only source on what was discussed is the short collection of the memorandums presented at the end of each session [122].

The botanical session was entirely directed by scholars from Padova: Visiani was the president, Meneghini the vice-president, Clementi and Zanardini the secretaries. It was opened with Visiani highlighting the merits of Venetians in botany (as he would do also later [§ 3.4.10]) and calling for everybody to work to the benefit of their homeland and the progress of science. Zanardini successfully asked that the speech should be included in full in the proceedings. With each congress, the subjects of discussion were becoming more and more centred on physiology rather than taxonomy: Zanardini presented a work on the algal cell, Moretti on the reaction of plants to electricity, Zantedeschi on the circadian rhythm of the sensitive plant and on the effects of moonlight, Berlese² discussed some implications of photosynthesis. More classical works were presented by Visiani (on *Tillandsia* [§ 3.4.8]) and Parlatore, who read about the systematics of a group of grasses and illustrated his project for a new Italian flora, the first volume of which was published the following year [123]. Among the foreigners, Link presented his new general classification method and discussed how he believed the Cycadeae to be closer to palms and *Dracaena*, for some anatomical details, than to Coniferae. On this point, Parlatore commented that the existence of a group at the same time close to gymnosperms, palms, and ferns showed how much classification systems are really man-made abstractions. Visiani would probably not have agreed at all [§ 3.6.4], but we do not know of any comment on his part. Brown presented numerous fossil plants.

On the 21st Sep. the meeting visited the Garden of Padova, where the flower exhibition was being held [§ 3.2.4]. Both Hügel and Parlatore publicly expressed their admiration for the institution and the work of its director.

A few months after the turbulent ninth Congress, the 1848 insurrections started throughout the kingdom, and the following meeting, that was to be organised in Siena, was never held. Four other congresses were called only after the unification of Italy: in Florence (1861), Siena (1862), Rome (1873), and Palermo (1875), to none of which Visiani took part.

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1. For instance, Bonaparte came dressed as a Roman Civic Guard wearing an Italian flag sash. He was expelled.
 2. Lorenzo Berlese (1784–1863). Abbot and botanist. Not to be confused with entomologist Antonio Berlese (1863–1927) or mycologist Augusto Napoleone Berlese (1864–1903), who was an assistant to Saccardo.

3.3.10 Meetings of German Naturalists and Doctors in Vienna

The yearly *Meetings of the German Naturalists and Doctors*² were first organised by Oken³ and a group of other romantic scientists in 1822, and still go on to this day [124]. Visiani participated to the 10th (1832) and the 32nd (1856), both of which were held in Vienna.

Although we know nothing of young Visiani's involvement in the former, as his name is never mentioned in the proceedings [125] other than in the list of participants, we can safely assume that he first met there many of his future colleagues.

About the 32nd meeting, he wrote instead an open letter [Vienna] to his friend Masalongo (whom he had unsuccessfully invited to come along [mssl-560809-@]), in which he especially praised the congress for the number of illustrious scientists he could meet there, one of which was future collaborator Pančić [§ 4.3.5]. He was most struck by some teratological plant collections, and by some potted grapevines that still gave copious fruits. Among other things he mentioned was the beauty and richness of the Garden of Schönbrunn castle, and his opinions on a gorilla (see § 3.6.6).

3.3.11 Horticultural Exposition of Saint Petersburg

In 1868 a universal exposition of plants was organised in St. Petersburg, modelled on the great expositions of Paris and London, but for unknown reasons, it was delayed by one year. Visiani and Parlatore were invited to be among the judges called to give out an extravagant 180 golden medals and 350 silver medals to the gardeners and agriculturalists who presented the best material from all around Europe. The Italian ministry of agriculture and commerce not only granted them permission to go, but asked them to act as official representatives of the Country, and provided £ 2,000 each to cover their expenses [prlt-690422]. After their visit, the two wrote a rather pedestrian report [Pietr.] on their travel, not much more than a description of the facilities, which surely made a great impression on them, if anything for their sheer size and the number of employees.

From Visiani's confused and largely unreadable notepad on the travel [b09004], we learnt some anecdotes such as his impressions on the lifestyle and health condition in the lands he visited, often not at all flattering, and that he visited a famous dentist and suffered quite serious urinary problems on his way back, in Vienna.

3.4 Published Works

In this section we analyse all of Visiani's works in detail in all aspects save for the taxonomical treatment, which will be dealt with in § 6. We tried to order his publications chronologically and by subject.

2. «Versammlung Deutscher Naturforscher und Ärzte».

3. Lorenz Oken (1779–1851). German naturalist who was among the founders of Naturphilosophie.

3.4.1 Introduction to the Study of Vegetables

The first botanical work by Visiani was his only educational book: a translation of Jacquin Sr.'s¹ 1785 work titled *Manual of Botany according to Linnaeus's Method for the Usage of his Theoretical Lessons*², which was published in Padova [Intr. Veg.]. In the short introduction, Visiani first draws an interesting sketch of the history of botany from creation to his day, which we summarise.

In Visiani's view, men were necessarily interested in plants since their creation, as is made clear from passages of both the Bible and the poems by Homer, even though the first text explicitly about botany was written by Theophrastus. After that, the discipline fell into disgrace, as scholars blindly trusted ancient texts and abandoned the study of living plants. Visiani attributes the merit of renovating the science to Brunfelds³, Tragus⁴, Fuchs⁵, and Bresavola⁶. The inventor of the modern herbarium, Ghini⁷ is not mentioned, and neither is Mattioli⁸, whose annotated edition to Dioscorides was hugely influential [127]. It might not be coincidental that both were rivals of the school of Padova: The first was the founder of the Botanical Garden of Pisa, to which goes the record of oldest in the world if subsequent relocations are disregarded, whereas the second was known for his vicious feud with Padova's director Guilandino⁹ and his work (see e.g. [115:195]). Visiani goes on to mention Gessner¹⁰, Clusius¹¹, and the Bahuin brothers as the first to give precise descriptions of plants, and he attributes to Cesalpino¹² the first comprehensive system of classification. He then goes on to briefly mention the greatly influential method of Tournefort, to finally give praise to his personal hero, Carl Linnaeus, whom he calls *immortal* and *enlightening star*¹³. Finally, he acknowledges Bernard de Jussieu and his nephew Antoine Laurent¹⁴ as the creators of the first modern natural system of classification.

Visiani then introduces a subdivision of botany into three branches: theoretical (anatomy and physiology), practical (phytography, the subject of the book), and applied. He goes on to argue that the only language of botany should be Latin, and that its vocabulary should remain Linnaeus's, a position that he was to uphold for all his life.

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1. Baron Nikolaus Joseph Edlen von Jacquin (1727–1817). Born in the Netherlands, in Visiani's time he worked in Vienna.
 2. «Anleitung von Pflanzenkenntniss nach Linnés Methode, zum Gebrauche seiner theoretischen Vorlesungen» [126].
 3. Otto Brunfelds (1488–1534). Theologian and herbalist.
 4. Hieronymus Bock, 'Tragus' (1498–1554). German botanist.
 5. Leonhart Fuchs (1501–1566). German physician and botanist.
 6. Antonio Musa Bresavola (1500–1555). Botanist from Ferrara.
 7. Luca Ghini (1490–1556). Botanist in Pisa, founder of the Garden and often considered the inventor of the modern herbarium.
 8. Pietro Andrea Mattioli (1501–1578).
 9. Melchior Wieland ('Melchiorre Guilandino' in Italian, ~1520–1589). German, second director of the Garden.
 10. Conrad Gessner (or 'Konrad', 1515–1565). Polymath from Zurich.
 11. Charles de l'Écluse 'Clusius' (1526–1609). Flemish doctor, highly influential horticulturalist and botanist.
 12. Andrea Cesalpino (1519–1603). Successor of Ghini at the Botanical Garden of Pisa.
 13. «immortale», «astro serenatore».
 14. Antoine Laurent de Jussieu (1748–1836) French botanist. Nephew of botanists Antoine (1686–1768) and Bernard (1699–1777) de Jussieu, both pupils of Tournefort, and father of Adrien-Henri, also a botanist.

The core of the translation is subdivided into chapters dealing in extreme detail with the vocabulary used to describe the different organs of plants: roots, stem, branches, leaves, accessories (including petiole, stipules, bracts etc.), flower and inflorescence, and fruit. A final part deals with describing odours, tastes, colours and measurements. Visiani struggles to provide an Italian translation for every Linnaean term mentioned¹, and he often adds long and accurate comments to the text, often citing other authors, particularly Mirbel².

After the original part by Jacquin, Visiani adds an appendix, almost as long as the rest of the text, in which he deals with the vocabulary used to describe cryptogams—which was still underdeveloped—and provides a quite detailed treatment of the classification systems of Tournefort³, Linnaeus, Jussieu, Lamarck⁴, and De Candolle Sr.. In the treatment of Linnaeus’s system, a wide account of sexual reproduction in plants as was understood at the time is given. Visiani mentions knowing Sprengel’s⁵ foundational work on pollination ecology [129], in which the author argues that insects play a crucial role in cross-fertilisation and that flowers are designed to attract them. That book was not widely accepted for many decades; Visiani himself finds Sprengel’s conclusions in contrast with the dominating physiological theories, and still believes pollination to almost always happen spontaneously within hermaphrodite flowers. As was common at the time [127], Visiani keeps mentioning *natural affinities* between plants, but he fails to justify or even define them. The book ends with an index of botanical terms with references to the pages in which they are explained, which was another addition by Visiani.

Intr. Veg. was Visiani’s first great success, and was adopted in all Italian universities as a teaching manual [9] [7].

3.4.2 *Stirpium Dalmaticarum Specimen* and its Supplements

The first work on systematics proper prepared by Visiani was his *Stirpium Dalmaticarum Specimen* [St. Dalm.], published in Padova in 1826, at the end of his second term as an assistant.

The plants that he had collected in Dalmatia between 1824 and 1826 [§ 5.3.2] were routinely sent to Bertoloni for a more expert opinion than Bonato’s [§ 4.3.1], and they were the subject of frequent and detailed discussion between the two⁶. Bertoloni helped Visiani to identify new species and genera, often coming up with the *names* that were eventually published [§ II], and advised him on how to proceed, for instance by caution-

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1. It is not unlikely that some of these words were actually *coined* by Visiani. It would be interesting to study whether some have remained in our vocabulary, which is possible, given the great success of this work.
 2. Charles-François Brisseau de Mirbel (1776–1854). French botanist, considered the father of plant cytology.
 3. Joseph Pitton de Tournefort (1656–1708). French botanist, inventor of the word ‘herbarium’.
 4. Jean-Baptiste Pierre Antoine de Monet, Chevalier de Lamarck (1744–1829). French naturalist, mostly remembered as amongst the first to propose a coherent theory of evolution, he described almost 5,000 plants [89]
 5. Christian Konrad Sprengel (1750–1816). German naturalist, not to be confused with his nephew Kurt Sprengel (1766–1833), curator of the 16th edition of Linnaeus’s *Systema Vegetabilium* [128].
 6. In *Lib. HB.* there are no less than ten letters by Bertoloni dating before 1826: [brtn-240 118] [brtn-240 502] [brtn-250 215] [brtn-250 503] [brtn-250 621] [brtn-250 730] [brtn-251 024] [brtn-251 120] [brtn-260 615] [brtn-260 88g].

ing him not to put too much trust in ancient illustrations [brtn-250503], and to avoid criticising others' works too soon:

Nor should you try to criticise anybody. You want to start a career: think of your honour and to do what is good for you, and avoid making enemies. But in the preface of your book you should say that others have found plants in Dalmatia, but since you have not come across them, you will avoid talking about them until you will be more certain. Pardon me if I speak so, but I do so for your own good¹.

St. Dalm. was dedicated to Jacquin Jr.², the son of the author of the book Visiani had translated two years before [§ 3.4.1]. This might not have been an entirely disinterested choice: As a professor of botany in Vienna, like his father before him, Jacquin Jr. was to be one of the men responsible for judging the candidates for the soon-to-be empty chair of botany in Padova, given that Bonato was already seventy-three. The book, which was written in Latin, could be considered a *prodromus* to a complete flora of Dalmatia, toward which Visiani was already working [130].

Visiani starts his introduction by stating that scholars have a moral obligation to illustrate their motherland, especially when its natural history is still poorly understood, and he points out that no botanist had ever focused on describing the flora of Dalmatia, except Fortis³ [131], whose work, though meritorious, he considers too generic and un-systematic. He then explains that, due to his position in Padova, he could not for the time being write a complete flora. However, he argues that the *most important* part of any such work, the descriptions of newly discovered plants, is *mostly exiguous*⁴ anyway. Convinced that it was not necessary to illustrate common species along with the new ones, and probably concerned that others might have published them before him, he sets out to make just a floristic list, with a description of some new taxa and remarks on the most interesting findings. Finally, he states that he is about to *permanently* move back to Dalmatia, from where he plans to produce a series of supplements, especially concerning early blooming plants. As he explains, due to his position in Padova, he could recently only be in Dalmatia during the summer and autumn [§ 5.3.2]. He closes his introduction with some acknowledgements: First he mentions professors Bonato, Jacquin Sr., Moretti, and Bertoloni [§ 4.3.1], then he moves on to mention a *girl*⁵ who wishes to remain anonymous, and his friends Jadrov⁶, Miotto [§ 4.2.13], and Andrich [§ 4.2.3], who sent him some plants to study. Finally, he remembers his recently dead brother Pietro with the following moving lines:

But with what tears will I cry for you, my sweet brother, too early taken from me?

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1. «Nemmeno Ella cerchi di criticare alcuno. Ella vuol cominciare una carriera; pensi al suo onore col fare bene per lei, ed eviti di farsi de' nemici. Però nella prefazione del suo libro potrà dire, che altri ha trovato altre piante nella Dalmazia, le quali non essendo cadute sotto gli occhi di lei, si riserba a parlarne, quando ne avrà maggiore certezza. Perdoni se le dico così; ma lo dico pel vero suo bene» [brtn-250621].
 2. Baron Joseph Franz von Jacquin (1766–1839).
 3. Alberto Fortis (1741–1803). Naturalist from Padova, he travelled to Venetian Dalmatia many times in his life.
 4. «negari nequit, in qualibet Flora partem maxime utilem omnino exiguum esse» [St. Dalm.].
 5. «adulescentula».
 6. Vicko Jadrov (also 'Vincenzo Giadrov' and 'Vincentius Jadorov', 1797–1874). A well-known physician from Šibenik, with a strong interest in ethnobotany.

You spent all the time that was not subtracted from you by your long and distressing illness to lovingly collect the gracious and many flowers of our native soil, so almost to weave to me a collected wreath, a highly desired pledge of brotherly love. Enjoy the peace of the blessed, sweet soul! Enjoy the peace that you never enjoyed in your short, unhappy life. I venerate and kiss these flowers, an honoured and perpetual memorial of your heart, and with these, weaved in a garland, I piously encircle your tomb, and I mix my inconsolable tears with those of our dismayed family. Brother, do not scorn any present from a brother, may it be for you a supreme proof of our mutual love, both a passing—oh too much!—image of the shortness of your life, and of the beautiful one that will embrace you in heaven, in a certain way a representation of the garland itself¹.

The second part of the book is the first version of the essay *on Dalmatia and its vegetation*². Its text is largely identical to that included in his later *FD1* (see § 3.4.4).

The third part contains an accurate description and discussion of twelve taxa, classified according to Linnaeus, Jussieu, and De Candolle Sr..

The fourth and central section of the book is the catalogue, with *names* given according to the famous *Nomenclator* by Steudel³ [132]. It includes 763 taxa, of which 716 species and 47 varieties; only plants that Visiani could see directly are included⁴. To the scientific *name*, usually without mention of the author, Visiani adds the *illyric* name (i.e. the vernacular Serbo-Croatian), and a minimal note on habitat and locality. The main reason why he chose to include a vernacular name, Visiani explains, is so that botanists travelling through Dalmatia would be able to ask the locals directly for a given plant. These names were collected from some manuscripts by the late Bartulović-Puović⁵, from the small herbarium by a Doct. Barbieri from Trogir, from Stulić⁶'s *Lexicon latino-italo-illyrico* [133], and finally directly from local farmers and mountain dwellers. Aware that errors in these lists were unavoidable, Visiani asks his readers for corrections.

Eight plates with fine-line drawings of the twelve taxa described more in detail complete the work.

A manuscript for *St. Dalm.* can be found in Padova, separated into two parts, one with the introduction and essay on Dalmatia and its vegetation [ar-b24-028a], and the other containing the descriptions of the species and the catalogue [ar-b24-028b]. They are both probably final versions, as they were intentionally written with a very clear hand, and they bear no difference from the printed version and almost no corrections.

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1. «Sed quibus ego Te complorabo lacrymis, o mihi ante diem erepte, Frater dulcissime? Qui quantum temporis Tibi longa et anxifera aegritudo non praecepibat, id totum impendebas peramanter ad multiplices nativi soli venustosque flores colligendos, ut lectam mihi texeres quasi corollam, fraterni amoris pignus exoptatissimum. Fruare pace beatorum, Anima suavissima! fruare pace, quam numquam brevi infelicis vitae curriculo adeptus es. Hos ego flores, honoratum ac perenne cordis Tui monumentum, veneror ac deosculor, hisque in serti modum contextis pie Tuum redimio tumulum, atque insolabilibus consternatae familiae lacrymis commisceo meas. Hoc quaecumque fratris frater ne spernas donum, quod Tibi sit et pro supremo amoris nostri pignore, et fugacis, eheu nimium! vitae Tuae brevitatis imagine, et speciosae qua praecingeris in coelo, coronae quodam veluti simulamine»
 2. «De Dalmatia ejusque vegetationis» [St. Dalm.].
 3. Ernst Gottlieb von Steudel (1783–1856). German botanist and physician educated in Tübingen.
 4. «nonnisi eas plantas recenseri quas hisce oculis egomet vidi, et de quarum existentia sine errandi periculo testari possim».
 5. Father Petar Bartulović-Puović (1756–1815). Croatian historian and philosopher, dean of Makarska.
 6. Joakim Stulić (or 'Stulli', 1730–1817). Lexicographer from Dubrovnik.

St. Dalm. had numerous reviews [130:414–415] [134] [135], which were all very positive. According to Mayer [134], De Candolle Sr. told him in a private letter that, if Visiani kept up his work, the flora of Dalmatia would soon become among the best known, and Configliacchi¹ and Brugatelli did not hesitate to call Visiani's essay *one of the most sensible and profound botanical works ever published*² [130]. *St. Dalm.* is now also available in a Croatian translation published in 1978, as *Ogled dalmatinskog bilja* [137].

Two supplements of *St. Dalm.* were prepared, and were published in the Austrian journal *Flora*, the first in 1829 [Flora 29], and the second in 1830 [Flora 30]. They deal mostly with plants that Visiani had discovered in 1828 and 1829, in the areas around Imotski and Hvar respectively, and in southern Dalmatia [§ 5.3.2].

In the introduction to the first supplement, Visiani mentions that he had finally been able to collect plants during the spring and summer. He laments the lack of books, incisors, and reference specimens in Dalmatia, which stopped him from producing a work of the same level as the previous one. Visiani also mentions having received plants from Tommasini's travels around Kotor [§ 5.3.2]. From his biographies [138] [139] and a letter sent to Visiani [tmmn-250728] we learn that Tommasini had also sent duplicates of his plants also to Host in Vienna, who described many of them as new species in the second volume of his *Flora Austriaca* [140]. The history of the collection of these specimens and their nomenclature was detailed by Tommasini in 1835 [141]. In *Flora 29* thirty-five plants are described, of which thirty-three were new ones [§ II], which makes this work the most important in Visiani's career in terms of number of new species.

The introduction of the second supplement to *St. Dalm.* is shorter than the that of the first one. Visiani acknowledges the contributions of Welden³, Alschinger [§ 4.2.2], Rubrizius [§ 4.2.21], Petter [§ 4.2.19], Neumayer [§ 4.2.14], and Biasoletto [§ 4.2.5]. He closes by remembering the young Mayer⁴, who had recently met a tragic end.

In *Flora 30*, eight plants are newly described [§ II].

3.4.3 Works on Plants from North Africa and South-Western Europe

As soon as he became a professor, Visiani had the opportunity to study plants from Egypt and Nubia collected by both Acerbi [§ 4.2.1] and Brocchi [§ 4.2.7], and discovered that many were not known for the region, and some were entirely new to science. As he had done for his *Flora 29* and *Flora 30* [§ 3.4.2], he opted to present an abstract⁵ with only the newly discovered species [Pl. Aeg.] before writing a full paper on the subject [Pl. Aeg.-2]. The abstract, having been presented first, is the place of valid publication of the sixteen nomenclatural novelties it contains, while only three new varieties and one new status take priority from *Pl. Aeg.-2* [§ 3.4.3]. *Pl. Aeg.-2* was written in Latin, and

1. Luigi Configliacchi (1787–1864) was a teacher. He studied the plants of the area around Padova [136].

2. «uno de' più giudiziosi e profondi lavori botanici fin qui pubblicati».

3. Franz Ludwig Baron von Welden (mostly known as just 'Ludwig', 1780–1853). Austrian army officer and amateur botanist and geographer.

4. Friedrich Mayer (1788–1828). German tutor in Italy and amateur botanist.

5. This was also translated into German and published in the journal *Flora* a year later [Pl. Aeg.-3].

contains, beyond the bare descriptions of new and known taxa (174 in total), a very short introduction on the two collectors, detailed nomenclatural and taxonomical observations for each plant, and eight illustrations [§ V]. A taxonomical treatment of the plants described in *Pl. Aeg.* and *Pl. Aeg.-2* can be found in § 6.4.1.

Visiani's *Illustration of some plants from Greece and Asia Minor*¹ was first read in 1840 at the Congress in Turin [§ 3.3.2]; the proceedings contain the description of the newly described taxa [Gr. AM]. The paper was read again at the *Ist. Ven.* on 7th Mar. 1841, and published in full, with six plates, first in 1842 as a booklet [Gr. AM.-2], then in the *Mem. Ist.* in 1845 [Gr. AM.-3]. The full paper was written in Italian, and deals with sixteen plants, of which eleven new to science. Most of the material came from what Parolini had gathered during his voyage with Barker-Webb [§ 4.3.6], while a few specimens were collected around Ankara by Liston² and later sent to Parolini. In the very short introduction, Visiani describes Parolini and Barker-Webb's travel and apologises for any inaccuracy in the descriptions, which he says was due to the poor quantity and quality of the specimens. The work is complete with six tables [§ V]. In the first number of the Italian Botanical Journal [142], Barker-Webb harshly criticised Visiani's paper, which he felt made him look unfair to Parolini by appropriating some of his merits, and also opposed some of its taxonomical conclusions. Visiani answered immediately [L. Parl.]: avoiding to deal with *personal facts* between the two, he rejoiced that Webb's observations were very vague for an *expert and observant botanist* as he was, who had original specimens at his disposal and could easily have instead given *the most well-founded and definitive judgement*³ on them, which he hoped would eventually come from others.

3.4.4 Flora Dalmatica

Flora Dalmatica [FD] is undoubtedly Visiani's most important and most well-known work. A complete and modern flora of Dalmatia, written in a polished yet very clear Latin, it was published in Leipzig, with Hofmeister⁴, between 1842 and 1851.

As we mentioned previously [§ 4.3.2], Visiani had been working on a flora at least since 1826, when he decided instead to first publish some short essays on the subject. Two separate draft manuscripts for an earlier comprehensive work on the flora of Dalmatia exist in Padova, both bound as books and both incomplete. The first [b24022] was prepared in 1832, and includes the front page of the volume, which was to be titled *Enumeratio Stirpium Dalmaticarum quas hactenus sibi observatas descripsit, digessit rariorumque iconibus illustravis Robertus de Visiani*. From the fact that it was numbered 'vol. I', we can conclude that Visiani intended his work to be published as more than one book from the very beginning. We also learn from the title page that Visiani was considering

1. «Illustrazione di alcune piante della Grecia e dell'Asia Minore» [Gr. AM].

2. Henrietta Liston (1751–1828) was an amateur botanist and the wife of the British ambassador to Constantinople, Sir Robert Liston (1742–1836). Her herbarium is mostly conserved in BASSA.

3. «fatti personali», «esperto ed oculato botanico», «pronunciare il più fondato e definitivo giudizio» [L. Parl.].

4. After the index of vernacular names of *FD1*, we find written *Dresdae, typis Caroli Kamming*; after the index of *FD2*, *Lipsiae, B.G. Teubner*. We have no clue about the role of these other printers. The printing facility founded in 1807 by Friedrich Hofmeister (1782–1864) still exists (as *Friedrich Hofmeister Musikverlag*), and specialises in musical sheets, which was its main business also in Visiani's time.

having it printed in Zadar, with the types of Pietro and Francesco Battara. The text of this manuscript begins with an apparently haphazard list of plants with references to previous descriptions or illustrations and very short notes, mostly on the illustrations themselves. Later in the text, we can find some notes on single publications and descriptions of old and new taxa, followed by some classification tables, and finally some mixed notes. The second manuscript is similarly titled: *Enumeratio Stirpium Dalmaticarum Fasc. I*. It lacks the first part, but it is, in its composition, almost identical to the final version of *FD*. Although it bears no date, it contains a note slip—with part of the main text—which was written on the back of a letter addressed to *Dr. Roberto de Visiani, physician in Drniš*. If we assume that Visiani just used a piece of white paper he had on hand at the moment, then the manuscript must date from the period he worked in that town: between 1830 and 1835.

As we discovered from the correspondence between Visiani, his editor Hofmeister, and Muzio Tommasini [§ 4.3.9], who acted as a mediator, publishing *FD* was a remarkably complicated business. The choice of Hofmeister was probably dictated by the fact that not only was he well-known for his high quality books¹ with exquisitely printed illustrations (e.g. the *Icones Florae Germanicae et Helveticae* [143]), but he was also personally interested in plants², and worked in close collaboration with his dear friend, the eminent botanist Reichenbach Sr.. He was also famously *devoted to profit* and prone to bullying his clients for his own gain³, which did not mix well with Visiani's slowness and perfectionism. Displeasing as it may be, we do not withhold the fact that Tommasini attributed Hofmeister's greediness to his being Jewish [tmmn-381224], and in all honesty, we shall see that the printer did not do much to dispel this negative stereotype. Visiani had already proposed the publication of his book to Hofmeister in 1838 [tmmn-380303], via Tommasini, who appears to have known him well and who had already published with him almost all of his works. The editor, believing that Visiani already had half of the manuscript ready and that he could prepare one volume a year [hfms-470310], accepted with the following conditions: He would only print the book after receiving the complete manuscript, he would prepare eighteen copies with coloured illustrations, and most crucially, he would pay Visiani a fee of ft. 500 [hfms-3804404]. This was not a particularly great sum; it was not even enough to pay for the preparation of the pictures to be engraved and printed, which was done at the author's expense. Nevertheless, Hofmeister deemed the fee quite considerable [hfms-381116]. Soon after signing the final contract, Hofmeister informed Visiani that Reichenbach would require compensation, at Visiani's expense, for his correction and improvements to the text [tmmn-381117]. Moreover, urging him to include all the most recent discoveries in Dalmatian botany until the very last moment, he remarked that *an author should not work*

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1. Visiani wrote to Massalongo that he *cared very much* for his works to be printed accurately, as this *always gives a good example of the diligence of its Author* («a ciò io tengo sommamente», «dà sempre un buon saggio della diligenza messaci dal suo Autore») [mssl-540113-@].
 2. His son Wilhelm Friedrich Benedikt (1824–1877) took up his passion for plants and became a very prominent botanist, whose work was exceptionally advanced for the time. He is credited as the first to introduce the concept of alternation of generations as a general rule in plants, in a series of revolutionary essays published between 1852 and 1857 [144], and as the founder of modern plant embryology.
 3. «dedito all'ineteresse» [tmmn-380317].

*just for money, [but] he must instead prefer honour and reputation*¹. Visiani was deeply offended by this treatment, but when he was on the brink of abandoning the project, Tommasini convinced him to go on, mainly to avoid making an enemy of Reichenbach, who possessed a large amount of Dalmatian plants and was highly influential. Visiani then offered to cap Reichenbach's fee to fifteen sequins² [tmmn-381 224], which was accepted. The first proofs of *FD1* were sent to Padova on 3rd Oct. 1839; the author found numerous mistakes and some additions by Reichenbach that he considered absolutely unacceptable, especially one on the genus *Alopecurus*, which he required be removed. On pain of rescinding the contract, he demanded that no more additions or notes should be added to his manuscript [tmmn-400410]. By 2nd Apr. 1840, Hofmeister claimed he had already lost over ft. 2,000 in the business, whereas Visiani did not even believe that the first part of the book had in fact already been printed in all the necessary copies. Finally, on 14th Jul. 1842, after endless requests to send more of the manuscript on Hofmeister's part and quite a lot of bargaining on Visiani's, the two agreed, again thanks to Tommasini's mediation, to publish what had been printed up to that point as the first volume [tmmn-420410-b25174], which was ready soon after. Only in 1844, after many more pleas to Visiani to hasten his work, did Hofmeister receive a small part of the manuscript for the second volume. Visiani's initial intention was to publish his book in two volumes [tmmn-420410-b25174], and despite *FD1* only containing about a quarter of the species that needed to be dealt with, Hofmeister still hoped to limit the work to two volumes. To avoid printing a third book, he proposed some typographical changes that would have made everything fit into just two volumes, arguing not that otherwise it would have cost him much more to print, but that a work in three parts would have been *very expensive, impossible for most botanists to buy*³. Visiani did not accept the proposal, but he evidently did agree to a somewhat tighter spacing, as can be seen in the books⁴. The unrelenting requests for more text went on, and a large piece of the manuscript reached Leipzig on 14th May 1845. Nine months later, having not received another single line [hfms-460211], Hofmeister wrote a letter full of resentment, plainly stating that he regretted having accepted the job (which he also confirmed on 10th Mar. 1847, as *FD2* was in press), and that he believed—along with most of his buyers, he said—that it would never be completed. He finally threatened to write to *some botanical journals* to clear himself from any responsibility for the failure of the project, and as for the sloth he attributed to Visiani, he ended his message with a vitriolic *I leave it to you to justify that in front of yourself*⁵. Just two days later, he received a piece of text large enough to carry on the work, and the last piece arrived on the 27th Aug. of the same year, followed soon after by the index, title, and preface [hfms-470922]. On the 16th

1. «Un auteur ne doit pas seulement travailler à cause de l'argent, mais il faut que'il préfère l'honneur et la renommée» [hfms-381 116]

2. We do not know exactly to how much this sum corresponded in Austrian liras. The sequin was a Venetian golden coin (~ 3.5 g), not minted since the fall of the Republic. Visiani even sent four sequins to Pančić as late as in 1867 [pncc-670 202].

3. «assez cher [...] il serait impossible au plupart des botanistes de l'acheter» [hfms-4 440 522].

4. Despite this, the average number of species treated per page in *FD2* (2.28) remained almost identical to that of *FD1* (2.24), since in the second volume more information is contained for each species.

5. «je vous abandonne de vous en justifier devant vous-même».

Nov. 1847 the books were printed; Hofmeister reported selling only sixty copies. Still many more requests later, on the 19th Feb. 1849, Visiani informed his editor that he had finished most of the manuscript for *FD3*, and on 26th Jun. he promised to complete it *very soon*. Three months later [hfms-490920], Hofmeister was still waiting in vain, and despite having said on multiple occasions that he would not have the pages set before receiving the whole manuscript, he went on with printing. Because of the war in Italy [§ 1.4.2], he informed Visiani that he did not trust the regular mail services to safely deliver the proofs to Padova, however. because he needed the types to set other books, he had given the first seventy-three pages of *FD3* to Prof. Petermann¹ for proofreading instead. On 9th Nov. 1849 Visiani again promised to send the end of the manuscript, this time by the following January, but by the beginning of February, 1850, Hofmeister still had not received it. Therefore, the editor took a drastic initiative [hfms-500616]: He distributed the first 181 pages, which were already available, as a first part of *FD3*, with a provisional title and index, *before all who bought volumes 1 and 2 should die*². According to the *Code*, this constitutes effective publication, so that some of the taxa described in *FD3* date from 1850, and some others from the following year. By that time, only the last family in the flora (Leguminosae) remained to be prepared. On 30th Dec. 1850 the last pages of Visiani's monumental work reached Leipzig, and the book was printed and distributed a year later, in early December, 1851 [60].

An often highlighted and frequently overblown point on the preparation of *FD* is the involvement of King Frederick August II of Saxony³. The king, who was an amateur botanist, travelled through Istria, Dalmatia, and Montenegro during the spring of 1838 [§ 5.3.2] to study the plants of those regions and, allegedly, to avoid attending a meeting of German royals in Berlin [tmmn-400410]. He was accompanied, among others, by Visiani's collaborators Tommasini and Biasoletto, the latter of whom prepared a detailed account of the voyage that was published in 1841⁴ [146]. According to Šulek, the monarch offered Visiani *that he would personally correct Flora Dalmatica, if it were published in his city of Leipzig*⁵, a proposal he emphatically compares to the anecdote of Charles V picking up Titian's paintbrush⁶. Šulek's words led Trinajstić [13] to the wrong conclusion that the choice of editor was determined by the king's offer, although in fact Visiani had been negotiating his conditions with Hofmeister for months when he first knew about the king's project from Tommasini [tmmn-380505]. Although it is true that the monarch saw some drafts of *FD*, his actual contribution to the text, if any, must have been tiny. It was probably limited to helping Reichenbach correct the Slavic spelling of places he had visited, which the German botanist often found unreadable due to Visi-

1. Wilhelm Ludwig Petermann (1806–1855). Botanist from Leipzig.

2. «avant que tous ceux mourussent qui ont acheté les volumes 1 et 2».

3. Friedrich August II von Sachsen (1797–1854). Reigned from 1836 to 1854.

4. According to an essay by Kilibarda [145], Biasoletto's unbiased report helped to deflate the widespread prejudice that the Montenegrins were savages. Fifty years later, Victor Emmanuel III of Italy married princess Elena Petrović-Njegoš of Montenegro, whose memory is still cherished for her charitable work and contributions to medical research.

5. «da će on sam ispravljati Dalmatinsku Floru, ako se bude tiskala u njegovom gradu Lipskom» [9].

6. This comparison was probably taken from Tommaseo, who first drew it in 1862 [147]. It was also reported by P. Mazzoleni [10].

ani's ghastly handwriting [hfms-391129]. Moreover, Visiani himself did not give any special prominence in *FD* to the king's assistance, and considering that the book was published in Saxony, it would have been impossible not to, had his help not been entirely insignificant. It is in fact likely that Visiani would not have wanted any involvement from the king, because, as Tommasini put it—*who would dare to contradict a royal remark?*¹ [tmmn-391223]. However, Frederick August and his party did find numerous rare species, some of which made their way into Visiani's herbarium via Reichenbach. One, *Saxifraga frederici-augusti*, was recognised as new by Biasoletto and validly published in his report as an illustration with analysis. Visiani dedicated to him a very distinct species of centaury that was sent to him by Stalio [§ 4.2.23] (*Centaurea friderici*), and the king sent him a medal as a token of gratitude after receiving a copy of *FD*₁ as a gift.

Visiani intended to dedicate *FD* to the king of Dalmatia [tmmn-380710], but he was advised against it by Tommasini, who believed this could have been *misinterpreted*², given that the king was a foreigner whom Visiani did not know personally, and he was no more interested in botany than other Austrian royalty. Probably convinced that his book was no place to make political statements, Visiani eventually decided to dedicate it both to the king of Dalmatia and, in first place, to the emperor³.

The introduction to the first volume of *FD* begins with Visiani acknowledging that, while the geographical position of Dalmatia always suggested a rich flora, sharing plants with Sicily, Hungary and Greece, there had been very little botanical exploration of the region, and no monographs on the topic. He attributes this to the region's remoteness and its lack of infrastructure, to the different costumes and language, and to the *stereotype, not entirely true*⁴, that the roads were dangerous. In this respect, he disagrees for instance with Welden, who had had gone so far to call Dalmatia an *uncivilised country*, and remarked that *the whole of the frontier of Bosnia, as well as the Velebit and the Buccovitzza, could only be visited with a strong military escort*⁵ [149]. Visiani writes that this situation especially called for a Dalmatian botanist. Therefore, moved also by love for his home country, he had been collecting plants and data for twenty years with the goal to eventually fill this gap. He then goes on to attack some of his colleagues for having hastily judged his previous work, based on the dried specimens from Dalmatia that he himself had provided. He claimed that, given that he had seen the living plants innumerable times, his own observations must be the most authoritative. He complains as well that some of those conclusions were drawn by comparing his plants

1. «chi oserebbe mai censurare un detto regio?».

2. «male interpretata» [tmmn-380710].

3. Because the dedication, as usual, does not appear in all copies of the book, we transcribe it here in full: «Ferdinando I | Austriae Imperatori | Hung[ariae] Bohem[iae] Longob[ardiae] Venet[iae] Galic[iae] Lodom[eriae] Illyr[iae] | et Dalmatiae Regi | qui fidelissimam hanc florentis Imperii partem paterno amore complectitur | qui Rem Herbariam Hortumq[ue] Patavinum | inter Botanicos vetustissimum | munifico patrocinio | fovet auget illustrat | Robertus de Visiani | Dalmata | et in Patav[ino] Archigymn[asio] Botanicus Prof[essor] Hortiq[ue] Praef[ectus] | ob beneficia in Scientiam in Patriam | in semetipsum conlata | Floram hanc Dalmaticam | obsequii gratiq[ue] animi argumentum | d[ono] d[edit] d[edidcavit]» (in all capitals in the original).

4. «præconceptam opinionem [...] minus veram».

5. Translation is by Palliser [148].

not with original specimens by the authors of the taxa in question, but with doubtfully or even wrongly named material¹. Finally, he censures the fact that some had already published some of his discoveries². He states that for these reasons and so that a complete flora of Dalmatia would not be missing much longer, he decided to start preparing his book. He goes on explaining the general organisation of his work, and following his lead, we also do so below.

For the classification, Visiani chose a modified version of the relatively modern natural system by Bartling³ [150], instead of the artificial Linnaean sexual system [38] that had been in more widespread use before (e.g. [151] [152] [153]), despite the latter being generally preferred by students for its much greater ease of use. He had decided on this at least by 1839 [111]. Visiani probably knew well enough how difficult it is to navigate an unknown classification system: Having been taught the Tournefortian one in a period when almost all botanists followed Linnaeus, he probably had to struggle with the latter, only to be forced to abandon it when the eventual success of natural systems made it obsolete. Among the few modifications he made to Bartling's system was subdividing the Gymnoblatae into Mono- and Dichlamydeae (as De Candolle Sr. had done [154]), and the latter in Monopetalae and Polypetalae, which he treated as *classes*. With many authors of his time, he recognised only one rank between *class* and *genus*, that of *order*, which corresponds to the modern concept of *family*, and should be treated as such according to Art. 18.2. The complete suprageneric classification used by Visiani in *FD* is presented in § VI.

To compensate for the increased difficulty of the natural system⁴, Visiani decided to add a dichotomous identification key to *FD*, which can be used to recognise plants down to the rank of genus or, occasionally, down to lower supraspecific subdivisions. His key is a *synoptic* one [155], i.e. it is intended to strictly reflect scientific classification, rather than working as a mere tool for easy identification, as are most modern *diagnostic* keys. Although such a tool was first introduced by Lamarck [156] [157], it was not at all in widespread use in Visiani's time (see e.g. [158] [59] [159] [160]), so much so that he felt the need to explain how it should be used in a lengthy paragraph. The inclusion of the dichotomous key is to be interpreted as one of the main signs of modernity of the work.

The introduction goes on with Visiani explaining some nomenclatural choices: First, he declares that the work follows a principle of priority⁵ for the choice of *names*, starting from Tournefort for the genera, and from Linnaeus for the species. The author believes that earlier ones, established before *the dawn of botanical philosophy* have *no authority* and therefore *deserve no priority*⁶. It should be noted that Visiani gives priority to

1. We could not establish in any way who these remarks refer to, but they certainly highlight the importance Visiani attributed to the availability of original material.

2. He does so with a quote attributed to Virgil: *sic vos non vobis mellificatis, apes*, i.e. 'in such a way do you make honey, bees, but not for yourselves'.

3. Friedrich Gottlieb Bartling (1798–1875). German botanist and professor in Göttingen.

4. «ut utilitas methodo naturali propria cum facilitate artificialis jungatur».

5. Visiani was a strong defender of priority, calling it *the nomenclature law that certainly stands above any other* in a letter to Massalongo («la legge di nomenclatura che a tutto l'altro sovrasta si è certamente quella dell'antieriorità» [mssl-530427-@]).

6. «ante Philosophiae botanicae exortum», «nulla auctoritate», «nullam praelationem mereri». The phrase 'Philo-

Linnaeus as an author, and not to any one of his books in particular, as is the case now (Art. 13.1) [3]. For this reason, *names* by Linnaeus are *not* usually cited in *FD* from their original place of publication, where they first appeared, but rather from the last work in which the Swede mentioned them, most often the second edition of *Species Plantarum* [162]. Visiani goes on explaining that, for each species, the name *by its first establisher*¹ is given first, after which only those *names* from other authors who dealt specifically with plants from Dalmatia are considered, and mentioned in chronological order, from the oldest to the newest. At first, this seems a rather arbitrary and unjustified choice to the modern reader. Indeed, why should any taxonomical publication be disregarded solely on the grounds that its author did not examine plants from Dalmatia? Just a glance into the special part of *FD* solves the conundrum, which is purely terminological: In this context, Visiani does not refer to a *name* in the sense of the *Code*, i.e. one that has been effectively published, nor to any of the various kinds of synonyms, but rather to the one *name* he accepts and its successive uses in following publications, i.e. to its *chresonyms*². A list of chresonyms from works on the same territory can be a useful tool to interpret the nomenclature of earlier publications, whereas listing those from works on other areas would not only be a rather vain display of erudition but also a potential source of errors, which Visiani understandably chooses to avoid. Visiani then moves to the subject of synonyms proper, of which he includes not only those put forward by authors that have dealt with Dalmatia, but also those established by *the most commendable masters and innovators of the discipline*³. Including so much nomenclature for every species, and doing so with such accuracy that we see in *FD*, must have taken Visiani a great deal of time and effort, as even Hofmeister had to concede⁴. Scientific *names* are followed by an indication of some vernacular ‘illyric’ names, so that the plants may be more easily found by foreign botanists with the help of locals (the same reason why he included them in *St. Dalm.*).

After that, the places in which the plants can be found are given. The habitat follows, and, *only for the rarest*⁵, the altitude, the life-form⁶, and the colour of the flowers. In fact, all these data (a part from the altitude) are present in the vast majority of cases, and the period of anthesis is included as well.

These biogeographical and ecological notes are followed by information on the medicinal and economic uses of the species, if any were known. As for the first, Visiani

sophia botanica’ might just as well refer to the science of botany itself or specifically to Linnaeus’s book, *Philosophia botanica* [161]. It is not unlikely that this ambiguity was written on purpose, to signify the coincidence of the two in Visiani’s view of the subject [§ 3.6.3].

1. «nomen primi speciei statoris».
2. The very apt word ‘chresonym’ to refer to this concept was introduced in 1972 [163], but has had very limited success among zoologists and effectively no success among botanists.
3. «a laudatoribus scientiae magistris et novatoribus».
4. He wrote: *If I consider how many books, illustrations etc. you must have consulted, I do understand that it has taken you a lot of time* («Si je vois combien de livres, de figures etc. vous devez avoir consulté, je conçois bien que il vous en fallu beaucoup de temps») [hfms-440522].
5. «in rarioribus».
6. Although the modern concept of the plant life-form was first introduced by Danish ecologist Christen Christensen Raunkiær (1860–1838) at the beginning of the 20th century, we use the phrase in this context as the most intuitive translation of Visiani’s *vitalitas imo*, literally ‘vitality of the lower part’. This is given with the following traditional symbols, which he does not explain anywhere: ♣ for perennial woody plants, ♣ for perennial herbaceous plants, ♂ for biennial plants (not the symbol for male!), and ☉ for annual plants.

claims to have tested the efficacy of the traditional plant remedies used by *farmers*¹ in collaboration with his close friend Dr. Jadrov, whom he cites as an expert authority. Further comments on these notes in *FD* can be found in § 3.4.9, along with a discussion of all other contributions by Visiani to applied botany.

Further on, Visiani writes about his sources. The only species he includes in his treatment are those that he had directly seen in the wild or in herbaria he considers *undoubtedly worthwhile*². Amongst these were those by Alschinger [§ 4.2.2], Kargl [§ 4.2.9], Petter [§ 4.2.19], Andrich [§ 4.2.3], Tommasini [§ 4.3.9], Biasoletto [§ 4.2.5], Nisiteo [§ 4.2.15], Neumayer [§ 4.2.14], Rubrizius [§ 4.2.21], Portenschlag [note in § 5.3.2] (both at the Joanneum in Graz and in Vienna), and Host [note in § 5.3.2] in Vienna. Plants simply said by others to grow in Dalmatia are purposefully excluded. Whenever a species has been found by only one person, their contribution is explicitly acknowledged, carefully distinguishing the merits of those collaborators who actually encountered the plants on the ground from those of people who simply had specimens to send.

After the customary apology for errors and omissions that may appear in the work, which Visiani predicts may be particularly common as for the mountain flora, and the usual request for corrections, Visiani closes his introduction with an unavoidable but rather disingenuous display of gratitude to Reichenbach, for his *benevolent spirit* and the *fatherly hand*³ with which he corrected drafts and illustrations.

After the introduction comes the twenty-two page long essay *on Dalmatia and its vegetation*, largely identical to the version he had included in his *St. Dalm.* [§ 3.4.2]. Even in this second version, the most recent work that Visiani cites is from 1803 [164]. We have no reason to believe that he consulted any more modern texts, which shows a certain neglect for a subject that had been recently treated often and in detail, for instance by Petter [101] [165] [81] and Welden [149], both of whom he knew. An incomplete manuscript of the second version is available in *Lib. HB* [b24028m].

Visiani believed that since vegetation is largely determined by the local environment and climate, a geographical introduction is a necessary part of every good flora [St. Dalm.] [FD1]. This concept had a more profound meaning in Visiani's time than it has for the modern reader: we should not forget that botanists of the time, oblivious of evolutionary and geological processes, had no workable framework to understand phenomena like geographical vicariance, which was always interpreted as purely ecological in nature.

Visiani recognises two geographical regions in Dalmatia: the *littoral*, and the *insular*. For each he discusses the main settlements, including the abandoned cities of archaeological interest, and he mentions their historical names. Whereas Visiani's littoral region strictly corresponds to the mainland of the Kingdom of Dalmatia, even excluding the strips of Neum and Sutorina (see note in § 2.4.3), the insular is defined by a physical rather than political border, and it also includes Krk, Cres, Lošinj and the neighbouring

1. «rustici».

2. «apud herbarios indubia fide dignos». A more literal translation would be 'in herbaria worthwhile by undoubtful faith'.

3. «benevolo animo», «paternam manum».

islets, which were part of the Austrian Littoral, a fact that Visiani surprisingly fails to acknowledge. Further on, some additional information on the borders and extension of Dalmatia is given.

The essay moves on with a description of mountains, of which Visiani recognises four series¹: (1) a *border range*, separating all mainland Dalmatia from Croatia and Bosnia, from Tribanj to Budva, which includes, among others, the Velebit, Orlovac, Gnjat, Dinara, Kamešnica, Orjen and Lovćen; (2) a *Mediterranean range*, including Mt. Promina, Kozjak, Svilaja, and Visošnica, before joining the border range by Vrgorac; (3) an *intermediate range*, extending from Drniš to Klis; and (4) a *littoral range*, extending from Šibenik to the region of Primorje, which includes Mt. Biokovo, with its highest peak Sveti Jure. After these, he lists some isolated peaks, mostly on the islands.

The next section of the essay is a quite superficial treatment of regional geology, which mostly concentrates on the economic value of the different rocks. Visiani states, making no exception, that the Dalmatian mountains are calcareous. Despite having put the *nature of the soil* at the first place amongst the factors that determine vegetation, he fails to give any more detail on the subject, even though Tommasini had pointed out to him, in 1825:

The soil in Budva, and Paštrovići is siliceous, therefore there grow plants that are foreign to other parts of the region, while not rare in Germany, Italy, etc.²

The treatment goes on with a description of the many karstic cavities, the few forests, the cultivated areas, the rivers, thermal springs, lakes, and swamplands.

The following section deals with the Dalmatian climate, which is described as typically Mediterranean, with mild rainy winters and very dry and hot summers, similar to those of Naples. Its main distinguishing feature is *bura*, the fierce katabatic wind that lashes the whole eastern Adriatic coast in the autumn and winter³. Its effects are described as follows:

plants are not only killed by both the unexpected cold that attacks them and the unbridled force in which they are plunged, they are even ripped from the deepest roots and thrown far away, with no mercy even for the lushest, tallest, and best anchored to the soil [...]. Whatever obstacle there may be on [the wind's] way, it shakes it, breaks it, rips it out, and blows it away⁴.

Visiani blames the scarcity of woodlands in Dalmatia both on the *bura* and on the regular summer droughts.

The essay goes on with a description of Dalmatian vegetation, which is not present in the first version [St. Dalm.]. Three altitudinal zones are described: (1) the *littoral zone*,

1. Respectively: (1) *catena limitanea*; (2) *catena mediterranea*; (3) *catena intermedia*; (4) *catena litoralis*.

2. «Il suolo di Budua, e Pastrovichio è siliceo, perciò vi crescono delle piante estranee alle altre parti della provincia, sebbene in Germania, Italia etc. non rare» [tmmn-250728].

3. The *bura* ('bora', in Italian), which blows from north-east or north, regularly reaches speeds of over 70 km/h, sometimes exceeding 180 km/h (the absolute record was 304 km/h, measured in 2003). It can cause the temperature to drop by over 10 °C, it eradicates trees, and it sprays the land with salt water.

4. «tum inopina frigore, quo plantas corripunt, tum effraena vi, qua in ipsas ingruunt non solum eas enecant, verum etiam ab imis evellunt radicibus, lateque projiciunt, nulli parcentes, immo in vegetiores, proceras, firmiusque solum amplexas [...] ac quaecumque viam secus extent obstacula quatiat, diffringat, evellat, eripiat».

extending from sea level to around¹ 600 m a.s.l., characterised by strictly Mediterranean plants such as *Olea europaea* L., *Arbutus unedo* L., *Laurus nobilis* L.; (2) the *montane zone*, extending from around 600 to 1100 m a.s.l., characterised by a more mesophilic vegetation such as *Fagus sylvatica* L., *Acer pseudoplatanus* L., and *Prenanthes purpurea* L.; and (3) the *subalpine zone*, above 1100 m a.s.l., with species such as *Juniperus nana* Willd., *Dryas octopetala* L., *Lonicera alpigena* L.. A truly alpine flora is not present in the country. From the ecological point of view, Visiani subdivides Dalmatian plants into ten loosely defined categories²: (1) species of forests, such as *Paeonia russoi* Biv., *Saxifraga aizoon* Jacq., *Paris quadrifolia* L.; (2) montane species such as *Seseli promonense*, *Seseli montanum* L., *Fritillaria tenella* M.Bieb.; (3) species of rocks and rocky soils, such as *Chrysanthemum turreanum*³, *Dianthus racemosus*, *Asperula canescens*; (4) species of meadows, such as *Peucedanum petteri*, *Peucedanum chabraei* (Jacq.) Rchb., *Glyceria festuciformis* (Host) Heynh. ex Rchb.; (5) species of swamps and marshes, such as *Gratiola officinalis* L., *Scabiosa australis* Wulfen, *Scirpus holoschoenus* L.; (6) species of hedges and thickets, such as *Paliurus australis* Gaertn., *Crataegus monogyna* L., *Smilax aspera* L.; (7) synanthropic species of disturbed habitats, such as *Lepidium ruderales* L., *Marrubium peregrinum* L., *Verbascum undulatum* Lam.; (8) species living within and on the shore of freshwater lakes and rivers, such as *Iris pseudacorus* L., *Juncus glaucus* Sibth., *Salix alba* L., *Nymphaea alba* L.; (9) seawater species, such as *Posidonia oceanica* (L.) Delile, *Potamogeton marinus* L.; (10) parasitic plants, such as *Cytinus hypocistis* (L.) L., *Viscum album* L., *Cuscuta europaea* L..

The work goes on with some statistics on the richest ‘natural orders’ (i.e. families) in Dalmatian flora, and with a list of vicariant taxa which, as previously mentioned, are interpreted as separated by ecological factors.

The chapter ends with a detailed history of the botanical exploration of Dalmatia, which was included in § 5.3.2.

When compared to the older work by Petter [101], Visiani’s geographical essay looks generally superficial. His preference for citing authors from antiquity rather than modern ones makes it look more like a reluctantly written summary by an erudite man of letters, rather than a modern, insightful compendium. The lack of substantial amendments from the 1826 to the 1842 version only confirms this impression.

The special part of *FD1* begins after two diagrams on high rank classification, and the identification key to the rank of ‘order’ (i.e. family), which is valid for all three volumes. Each ‘order’ is numbered in Roman numerals and is accompanied by an original description⁴; for the larger ones an identification key to the rank of genus is provided. Genera are also described and numbered, separately, in Roman numerals, and they are

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1. Visiani gives his height measurements in Parisian feet, which correspond to about 0.325 m. We approximated the conversions to the nearest hundred metres.
 2. Respectively: (1) *sylvaticae*; (2) *montanae*; (3) *saxatiles*; (4) *pratenses*; (5) *palustres*; (6) *dumetorum*; (7) *ruderales*; (8) *ripariae*; (9) *marinae*; (10) *parasiticae*.
 3. This is the Dalmatian chrysanthemum (see § 3.4.9), whose correct name in *Chrysanthemum* L. is *C. cinerariifolium* Trevir. Visiani knew about Treviranus’s description in 1827 [tmmn-270713], so this nomenclatural blunder suggests that this part on vegetation was written very early on and neglected afterwards.
 4. That for Labiatae was considered particularly ingenious [Rev. Trevisan].

sometimes accompanied by keys to supraspecific ranks. Species are numbered independently in Arabic numerals; the accepted name (in bold) is immediately followed by the chresonyms. Visiani, following the nomenclatural conventions of his time, always cites only the author who established the name with its accepted form and circumscription; he does not indicate the author of the basionym in parentheses, as is now prescribed by Art. 49.1, nor does he retain the ascription to the first author of a *name* when its diagnostic characters or circumscription were altered, as is now prescribed by Art. 47. Despite this, the basionym of any name in *FD* is usually mentioned among the synonyms. Every *name* and chresonym is accompanied by an abbreviated citation of its place of publication. After the list of chresonyms, illustrations of the species are cited under the indented heading ‘Icon.’, followed by the synonymy (‘Syn.’), the vernacular names (‘Illyr.’, not always present), the biogeographical and ecological notes, and—when mentioned—the collector (‘Hab.’), a more detailed description—only for the rarest species—(‘Descr.’), and often some very detailed notes on taxonomy (‘Obs.’) and uses (‘Usus’). His treatment of subgeneric and subspecific ranks require a more in-depth analysis, which we carry out in § 6.3.2.

After the special part, *FD*₁ closes with a general index, an index of ‘orders’, tribes, and genera for that volume, and an index of vernacular names.

*FD*₂ also begins with an introduction, which is titled *praemonitus*, i.e. ‘forewarning’. Visiani explains that one of the main reasons for the five-year delay after the publication of the previous volume was the overwhelmingly large number of new taxa just established by botanists, which he had to take into account. He goes on to note how few authors had actually explained their concepts of genus and species, and proceeds with a clear and detailed exposition of his point of view on this matter (see § 3.6.4). He goes on to acknowledge the botanical travels to Dalmatia that had occurred during the previous five years (see § 5.3.2). The organisation of the special part and the indices closely mirror those of the previous volume.

*FD*₃ starts with a sheet of *errata corrigere*, after which the special part directly follows. After that follow twenty-seven pages of unnumbered taxonomical additions and corrections, which include the treatment of eighty-four species and five varieties. The volume closes with an index of vernacular names for *FD*₃, and the general index of all classes, ‘orders’, tribes, genera, and species for the whole work (there is no taxonomical index for just *FD*₃).

A total of fifty-seven exquisite illustrations with analysis (as defined by the *Code*) accompany *FD* [§ V]. As already mentioned, these were prepared in Italy at Visiani’s expense, and engraved in Saxony with Reichenbach’s supervision. These pictures were prepared much in advance, in fact some of them had already been presented at the first Congress of the Italian Scientists in 1839¹ [§ 3.3.1], where they were judged to be excellent. Sixteen of them are the place of first publication of new taxa established by Visiani [§ II]. Eighteen copies of the book with coloured illustrations were prepared, of which two were of a larger format [hfms-380404] [hfms-430128]. One of the larger copies was

1. They were not printed in the proceedings [111], so their presentation does not constitute an effective publication.

prepared—for some unknown reason—for the king of Denmark [hfms-471116], another was almost certainly for the Austrian Emperor. As for the other ‘regular’ coloured copies, one was sent to Geneva [60] and one was almost certainly sent to the king of Saxony, but we have no information on any of the others. All the illustrations are listed in § V.

The following table summarises some statistics on the three volumes of *FD*: the total number of taxa treated, the number of species and varieties, the number of nomenclatural novelties published within the book, the number of taxa illustrated (*not* the number of illustrations!), and the number of pages. The discrepancies between our calculation and the numbering in *FD* are due to irregularities and occasional errors in the books themselves, as well as the fact that we also count both the unnumbered final additions and the names presented only in the illustrations. The percentages are calculated out of the total.

Volume	Taxa	Species	Varieties	N. Nov.	Illustr.	Pages
<i>FD1</i>	580 (22%)	505 (24%)	75 (14%)	49 (17%)	39 (45%)	252 (28%)
<i>FD2</i>	801 (31%)	599 (29%)	202 (38%)	110 (40%)	41 (47%)	268 (30%)
<i>FD3</i>	1,227 (47%)	966 (47%)	261 (49%)	116 (43%)	7 (8%)	388 (43%)
(total)	2,607	2,069	538	275	87	908

It should be made clear that these are counts of taxonomical treatments, and they do *not* exactly represent the number of taxa *accepted* by Visiani for Dalmatia in *FD*. Those figures, which are close to but slightly smaller than those in the table, could hardly be pinned down with absolute precision. Amongst the many reasons for this, is the fact that, during the preparation of the work, Visiani often changed his mind on previous taxonomical choices, that had sometimes already been published. In the table, taxa established in a volume of *FD* as an illustration with analysis and treated again in a following volume, either with the same name or another one, are counted twice; those that were later rejected are instead counted only separately from it. Moreover, Visiani accepted and even introduced some taxa only tentatively, and some he introduced as synonyms or potential synonyms. Some other taxa were even apparently established only by mistake, and he also occasionally treated taxa that are (or were) not known to grow in Dalmatia. Some of the varieties treated in *FD* may or may not have been intended to include the type of the species, and therefore may or may not need to be counted only once [§ 6.3.2]. Finally, many of the taxa recognised by Visiani received invalid *names*, and sometimes even name-descriptions; whether these should be included in the tally is at least questionable. In light of all these complications, producing a precise figure for the number of taxa accepted (rather than *treated*) in *FD* would be arduous if not impossible, and would in any case be a quite unfruitful exercise.

FD received some very positive reviews, the most detailed of which are those by Fűrnrrohr [166] [167] [168], Cesati [169] and the unpublished one by Trevisan that can be found in *Lib. HB*.

3.4.5 The Two (or Three) Supplements to Flora Dalmatica

An elderly Visiani prepared two supplements to his life's most famous achievement: the first was published in the *Mem. Ist.* in 1872 [FD. Sup.], while the second was divided into two parts, the first appearing in 1877 [Sup. Al. 1], and the second only posthumously, in 1881 [Sup. Al. 2], for the same journal. All these supplements are presented with the same format as the list of taxonomical corrections and additions that closes *FD*, i.e. as a sort of *errata corrigere* to the original text, and again as in that section, all entries are unnumbered.

The first supplement [FD Sup.] begins with a four-page introduction, in which Visiani simply acknowledges the botanical explorers who sent him material for the work, after generically thanking his collaborators and the authors of the many small papers on the flora of Dalmatia that he integrated into *FD*.

The second supplement [Sup. Al.] is intended to present not only the flora of Dalmatia, but of Bosnia, Herzegovina, and Montenegro as well. Visiani states in its introduction that the idea for this work came as Nägeli¹ let him see specimens collected in Bosnia by Sendtner, which made him notice the great geological similarities between that country and Dalmatia [Sup. Al.]. Nevertheless, it is very clear from his correspondence with Pančić and Pantocsek, as well as from the book itself, that his interest was in fact mostly limited to Montenegro [§ 4.2.18]. Most of the data on Bosnia and Herzegovina he simply freely drew from just Pantocsek's herbarium and from his work [170], taking advantage of his supposed retirement from botany [§ 4.2.18], as well as from an essay by Pančić. He further justified his inclusion of these new regions in his work with the following rather sad note, closing its introduction:

Because if [my work] did not look unworthy to some certainly illustrious men and highly skillful botanists when it only showed the Flora of Dalmatia, I hope that they will accept with an equal approval and benevolence this final supplement containing almost all of the plants of Middle Europe, which was mostly not yet explored, and which, as a most horrific war is now raging there, may God avert this, will not be safe to explore for a long time².

Visiani refers to the uprisings against the Ottomans by Serbian nationals that had started in Bosnia and Herzegovina 1875³.

Sup. Al. 1 gives notes on the first volume of *FD*, and is itself completed by a short list of *corrigenda et emendanda*, followed by an index and one illustration. This subdivision

-
1. Wilhelm Karl von Nägeli (or 'Naegeli', 11 818–1891). Swiss botanist, he was then the director of the Garden and Herbarium in Munich, where Sendtner's specimens were stored.
 2. «Quod si viris profecto praeclaris et botanices peritissimis tale [= non indignum] tunc [opus a me peractus] visum fuit quum dalmaticam solummodo Floram exhibebat, spero equidem fore, ut non minori gratia et benevolentia iidem accepturi sint postremum hoc Supplementum, quo plantae fere omnes continentur Europae mediae, qua magna ex parte nondum explorata fuit, teterrimum nunc bello ibidem saeviente, per longum posthac tempus, quod Deus avertat, tute explorari [sic] non poterit».
 3. These revolts led Serbia, Montenegro and Russia to declare war against the Turks, who eventually lost control over Bosnia and Herzegovina, which *de facto* passed under Austria-Hungary. This arrangement did not suit local nationalists, one of whom murdered Archduke Franz Ferdinand in Sarajevo in 1914, sparking the beginning of the First World War.

indicates Visiani intended to publish *FD Sup. Al.* in three parts, one for each of the volumes of *FD*.

Sup. Al. 2 was published on Visiani's behalf by his successor Saccardo. The work was still incomplete, and stops with the 'order' Ambrosiaceae, just short of halfway through *FD2*, yet it contains far less species than should be expected (see § 5.2).

The following table summarises the number of taxa newly treated by Visiani in each supplement, the number of taxa in *FD* to which he made amendments, the number of nomenclatural novelties published within the work, the number of taxa illustrated, and the number of pages. The total is the sum of *FD* and all its published supplements.

Book	Taxa	Species	Varieties	Amended	N. Nov.	Pages
<i>FD. Sup.</i>	243	180	63	562	20	119
<i>Sup. Al. 1</i>	235	189	46	337	2	102
<i>Sup. Al. 2</i>	137	100	37	261	7	69
(total)	3,222	2,538	684		302	2,897

The incomplete manuscripts of *Sup. Al.* are available in *Lib. HB* [b26 012a] [b26 012b] [b26 012g] [b26 012l].

3.4.6 Works on the Flora of Serbia

Visiani prepared four works on the Flora of Serbia [Pempt.] [Decas 1] [Decas 2] [Decas 3], all in collaboration with Pančić [§ 4.3.5].

After their discussion, in 1857, about how the recently discovered *Pancicia serbica* should be named (either that or '*Karageorgia*', see § 4.3.5), Pančić left Visiani free to publish the species himself, because he believed that finding a good illustrator in Serbia would have been *impossible maybe for half a century*¹, finally convinced that political statements should be avoided in favour of following botanical common practice [pncc-570523]. Visiani then pointed out that a work dealing with a single species was not going to be well received, and proposed including five, to make up a *pemptas plantarum*, for which he had already been sent enough specimens from Pančić [pncc-570810-@]. Pančić's answer was lost, but it must have been positive, as *Pempt.* was presented to the *Ist. Ven.* on 17th Jun. 1860, and published in the *Mem. Ist.* probably that same year, in late December [pncc-601201-@]. This three-year delay between the initial discussion and the eventual presentation was due to Visiani's travels [§ 3.1.4] and to some problems of communication between the two, resulted at least in part from the 1859 Second Italian War of Independence [§ 1.4.2]. *Pempt.* was published by Visiani alone and in Italian, and it in fact contains the first description of only four plants, as *P. serbica* had meanwhile already been described in *IS. 48*. The illustrations accompanying the work were considered by perfectionist Visiani to be *well drawn, though the lines ended up being slightly too thick*². In his introduction, the author mentions the lack of knowledge on the flora of

1. «sarebbe forse un mezzo secolo impossibile».

2. «ben disegnate, ma i tratti della litografia riuscirono un po' troppo grossi» [pncc-610201-@].

the region, which was believed to hold little promise¹, and he argues once again, as he had done in *Stirp. Dalm.* and *FD*, that only a local botanist can properly describe all the plants of any given area. In this case, that local botanist was of course not himself, but Pančić, whom he compliments for his exactitude and modesty, and thanks profusely for giving him the honour of publishing his discoveries. An incomplete manuscript for *Pempt.* is available in Padova [b280266], and includes the introduction, the description of *P. serbica*, and two versions of a treatment of an unpublished '*Senecio compactus*', which Visiani apparently intended to segregate from *S. umbrosus* Waldst. & Kit. after having received a single specimen by Pančić in Vienna [pncc-d00004]. A nomenclatural discussion of the plants published in *Pempt.* can be found in § 6.2.1.

Visiani proposed carrying on together with the description of Serbian plants immediately after the publication of *Pempt.* [pncc-610202-@]. He suggested that the newly discovered plants should be presented in groups of ten (*decada*), and published again for the *Ist. Ven.*, without any expense on the part of Pančić, who would receive half of the printed copies (i.e. thirty-five out of seventy). As for the authorship, Visiani proposed that either those plants first recognised as new by him should bear his name, and vice-versa, or that five plants for each *decas* should be ascribed to each of them. Pančić accepted, mostly because he realised he could not yet have his findings published in Belgrade [pncc-610218]. He recommended that the works should be written in Latin, and that Visiani alone should write the introduction, perfect the descriptions, have the pictures made, and deal with the printing, and remarked that a geographical account of Serbia should be added. As for the authorship, Pančić proposed that all the newly described plants should bear the name of both authors, whereas those that were already described in 1856 in his *Verzeichniss* [172], but whose *names* needed changing, would only be ascribed to Visiani. He then instructed Visiani on the orthography of Serbian names, and he asked to receive some copies coloured and possibly printed in a different format. Pančić originally intended to prepare seven or eight *decada*, which would have presented not only new species, but also the rarest Serbian plants as well [pncc-610218]. In his answer, Visiani plainly stated that he could not afford to do so, as each picture would have cost him ft. 2, for a total of about ft. 160, and that the *Ist. Ven.* might not have accepted works that were not entirely original. Moreover, he advised against the preparation of coloured copies; as for the rest, he agreed his friend's outline [pncc-610224-@]. Pančić in turn agreed with all of Visiani's advice, and he reckoned that three *decada* could be prepared under their new plan [pncc-610313].

Pančić sent Visiani the first batch of plants for *Decas 1* in the autumn of 1861 [pncc-611007], and he declared that he could yet not prepare any vegetational or geographical introduction for it, because his material was *too scant for a very mediocre treatment*, and climatological data could not be obtained because the only man who could provide them was busy *rebuilding his house*². The finished work was presented to the *Ist. Ven.* on

1. Visiani mention Grisebach's remark that *Serbia [...] does not seem to hold much in promise* («Serbia... non multum promittere videtur») [171].
 2. «per una mediocrissima dissertazione ancora troppo manco» [pncc-611007], «a riedificar la sua casa» [pncc-620307].

29th May 1862, and published in the *Mem. Ist.* by the early autumn [pncc-620814-@]. The work has sometimes been wrongly considered to have been published in 1861 instead of 1862 (e.g. [89] [88]). This error could have occurred as the *Mem. Ist.* was a collection of papers that were bound in a single book at the end of an *academic* year, so that and the tenth volume—in which *Decas 1* was published—includes works presented from November 1861 to October 1862. Since the first articles in that issue were presented in 1861, the first pages of the book bear that date, leading some to the wrong conclusion that all the works therein were published in that year. In the introduction to *Decas 1*, Visiani notes once again the lack of knowledge about the Serbian flora at the time, and he lists a few publications on such flora. He proceeds to condemn the behaviour of other botanists who publish their discoveries in obscure works with limited distribution in European libraries, and written *in any language*¹ other than Latin. He finishes explaining how the *decada* were to be intended as supplements to Pančić's *Vereichniss* [172]. A manuscript for *Decas 1*, titled *On the Rarest plants found and collected in Serbia with careful observations by prof. Josif Pančić described and illustrated by prof. Roberto de Visiani*² is available in Padova [b26018a]. A digression on this title is needed: with the wording of the manuscript, the two authors' contributions are presented as complementary but separate (Pančić 'found and collected', Visiani 'described and illustrated'), whereas in the title of the final published version this distinction disappears (both men are described as having 'described and illustrated'). The front page of the manuscript bears the phrase *Pres. on 29th May 1862*, and both a letter to Pančić [pncc-620526-@] and the very account of the presentation itself [173:617] confirms that indeed that was the title originally chosen by Visiani for the work. In the same letter [pncc-620526-@], Visiani informed his friend that he had to adopt that wording because it was a policy of the *Ist. Ven.* not to accept papers from authors that, like Pančić, were not among its members. Apparently certain that his choice would have been approved by his colleague, as in fact that title accurately reflected how the work was carried out, Visiani wrote Pančić that, had he found the compromise unacceptable, their joint publications would have to stop there, and the work should consequently be renamed simply 'decas', instead of 'first decas'. To Visiani's surprise and regret [pncc-620815-@], Pančić answered with a very short and enigmatic message stating that the paper should indeed be called just *decas*, because *the many decada affair had taken an unexpected turn*³. Only in the following letter [pncc-620828] did he explain why: A senior Serbian politician, having seen the printed *Pempt.*, had unexpectedly offered him economic support for the publication of his newer results in Belgrade, which he refused, having already agreed with Visiani's proposal to publish them in Venice. However, to justify his refusal he had argued that the expenses would not have been worth the trouble, because his being a full author of the paper ensured an equal share of the honour to Serbian science. As with the proposed title this was no

1. «quamvis lingua».

2. «Plantarum rariorum quas in Serbia inventas lectisque [sic] observtionibus acutas [sic] a prof. Josepho Pančić [sic] descripsit et illustravit prof. Robertus de Visiani».

3. «l'affare delle molte decadi abbia preso per me una inaspettata volta» [pncc-620 530].

longer technically the case, he would have looked like *a fibber*¹ to the government, and he had therefore asked to withdraw. Nonetheless, some even more recent events had turned the tables once again: The summer of 1862 saw numerous confrontations between the Serbians and the Ottomans, especially in Belgrade. The authorities were no longer in the position to sustain scientific research or to investigate *whether Pančić spoke the truth or not*², and given that the scrambles could potentially impede further botanical exploration of Serbia³, Pančić asked Visiani to go on and publish as many of his discoveries as possible, as that would be his *only consolation*. Meanwhile Visiani had somehow managed to have the work published with the final title, giving both authors an equal role, and the entire incident was forgotten. The manuscript contains the whole introduction and the description of the following taxa: '*Gladiolus serbicus*' (later recognised as *G. caryophyllus* Sibth. and crossed out from the manuscript), *Eryngium serbicum*, *Goniolimon serbicum*, *Viola grisebachiana*, *Triticum petraeum* (twice), *Euphorbia subhastata* (twice), *Geranium fasciculatum* Pančić (not presented in the final paper), *Campanula secundiflora* (twice), *Geum molle* (also indicated with the provisional epithet: *serbicum*), '*Potentilla tanacetifolia*' (provisional epithet: *pimpinelloides*, eventually published as *P. poterifolia* and later renamed *P. visianii* Pančić), *Potentilla lejocarpa* (provisional epithet: *viridis*), *Dianthus papillosus* (provisional epithets: *tubulosus*, *leucozonus*). A full taxonomical treatment of the plants described in *Decas 1*, with some remarks on the authors' discussion on the single species, can be found in § 6.2.2.

The discussion on *Decas 2* started soon after the presentation of *Decas 1* [pncc-620519]. The work was presented on 18th Jun. 1865 [174:1190]. Some doubt exists as to its exact date of publication, with some sources indicating 1866 (e.g. [60]). Indeed, in a letter to Pančić from June, 1866 [pncc-660608-@], Visiani stated that he had just received the eighty additional copies of that work that his co-author had ordered. We must also consider that *Decas 1* was presented in May and was only published at the very end of December, whereas *Decas 2* was presented later, in June. Despite this, a note in *Decas 3* reads: [*Euphorbia glabriflora*] *was made public in year 1865, in which our [Decas 2] was published*⁴. We conclude that probably at least the first copies of that work were made available at the *Ist. Ven.* in late 1865, barring any dishonesty on the authors' part. Be that as it may, the precise date of publication of *Decas 2* is only relevant for determining which name has priority between *E. glabriflora* and *E. inermis* Pančić ex Boiss.. However, because the latter is an illegitimate later homonym of *E. inermis* Mill., the issue is inconsequential. The preparation of the manuscript was much encumbered by the fact that Pančić was often unable to travel in 1862, as well as by the very dry weather of the summer of 1863 [pncc-630923]. Thus, many plants were described based on few imperfect specimens or on specimens cultivated by Pančić in Belgrade. This fact is particularly significant for *Scabiosa achaeta* (see § 6.2.4). From the nomenclatural point of view, one particularly relevant letter was written by Pančić to Visiani on 17th

1. «un favolone».

2. «se il Pančić ha parlato vero o no» [pncc-620828].

3. Pančić wrote that the bombings kept him in a state of *insufferable captivity*.

4. «publici juris facta est anno 1865, quo Decas nostra edita fuit».

Sep. 1865 (see § 6.2.4). In it, he expressed his final opinion on the new species that were about to be published, but unfortunately for him, the work had already been presented, and none of his latest remarks could be taken into consideration. A manuscript for *Decas 2* is available in Padova, and it contains the description of the following taxa: *Heliosperma monachorum* (thrice), *Scabiosa achaeta* (twice), *Scabiosa fumarioides* (also with the provisional epithets *myriotoma* and *fumariaefolia*), *Hieracium marmoreum*, *Centaurea myriotoma*, *Centaurea derventana*, *Linaria rubioides* (twice), *Verbascum pannosum* (twice), *Euphorbia glabriflora* (twice), *Allium serbicum* (twice), and *Nasturtium proliferum* Heuff., which Visiani considered new until the very last moment, and which he intended to name '*N. argutum*'.

The work for *Decas 3* started immediately after the presentation of the previous instalment [pncc-650829-@]. From the nomenclatural point of view, that paper presents many more challenges than the previous ones, mainly because it integrates a complex manuscript by Schultz Bipontinus¹, who died during its preparation and three years before it was published. Pančić received it in 1863 [pncc-630421]; we were not able to find it. Both he and Visiani were in regular contact with Schultz, and had received from him permission to publish some of the species that he had recognised as new. Nevertheless, Visiani in fact rather resented Pančić's propensity to constantly ask for Schultz's help. He felt that this was slowing the progress of their publications and feared that disseminating information on the plants of Serbia might have given others the chance to describe them [pncc-640709-@]. The work was presented at the *Ist. Ven.* on 10th Jul. 1869, and published a year later. All the plants were in fact already available to Visiani in early 1869 [pncc-690210], but he fell severely ill with bronchitis, and the publication was delayed [pncc-700626-@]. No manuscript for *Decas 3* could be found in Padova; a detailed treatment of the names mentioned therein can be found in § 6.2.5.

Both Visiani and Pančić hoped to also publish a fourth *decas* of plants from Serbia [pncc-690408]. The first species suggested by Pančić to be included were² *Iris serbica*, *Centaurea calvescens*, '*Stachys bracteosa*', *Stipa cerariorum*, *Orobanche esulae*, '*Verbascum pannoso-lanatum*', and *Erysimum comatum* [pncc-710124], to which he later added *Althaea kragujevacensis*, '*Taraxacum cardiolepis*', *Soyeria serbica*, *Genista subcapitata*, *Rosa belgradensis*, and *Crepis moesiaca*, plus some unnamed *Potentilla*, *Sempervivum*, *Picridium*, *Acer*, *Malcolmia*, *Tragopogon*, *Myosotis*, *Dianthus*, and two *Hieracium* [pncc-711124]. Unfortunately, the preparation of the manuscript was delayed by Visiani's work on his *FD Sup.*, and by three long and serious illnesses he suffered in 1871 [pncc-711116-@] and 1873 [pncc-730226-@]. Visiani could only start to deal with '*Decas 4*' in 1874, when he prepared a sketchy draft [b26012y], and proposed the following plants to be included: *Stachys truncata*, '*Tragopogon panicii*', '*Taraxacum cardiolepis*', *Erysimum comatum*, '*Dianthus serbicus*', '*Centaurea caulescens*', '*Myosotis serbica*', '*Parietaria cordifolia*', *Verbascum heteromallum*, *Orobanche esulae*, and possibly *Ramonda serbica* and *Iris*

1. Carl Heinrich Schultz 'Bipontinus' (1805–1867). German botanist who focused mainly on Compositae. He was the brother of Friedrich Wilhelm, also a botanist, although a less successful one. He chose the moniker 'Bipontinus', which is Latin for 'from Zweibrücken' (his native village), to distinguish himself from Carl Heinrich Schultz 'Schultzenstein' (1798–1871), another German botanist.

2. Plants that were not eventually published elsewhere with the same *name* are in inverted commas.

serbica [pncc-740 309-@]. Unfortunately for him, Pančić that year published his Flora of Serbia, and in it, he described almost all of his recent discoveries [102]. The following year, the Serb was still hopeful that other plants for a *decas* could be found, and he mentioned his discoveries of *Viola nicolai* var. *serbica* and *Picea omorika* (under *Abies* in Pančić's letter) [pncc-751 204]. A dejected Visiani answered that he *doubted with good reason that anything remained for him to describe, or that it would be worth doing*¹. That ended their correspondence. We cannot say whether it was because Visiani felt betrayed by his old friend², because he was too old and ill to work on many different projects and maintain an extensive network of international collaborations, or simply because both felt that no more was to be said.

3.4.7 Palaeobotany

As confirmed by Pirona [99], Visiani was drawn to take interest in palaeobotany by his close friend Massalongo [§ 4.3.2]. His very first approach to this topic was writing a comment [R. Mass.] on two recent papers by him on the fossil flora of Mt. Bolca³ [175] and some other minor caves [176], of which he emphatically compliments the method, the accurate descriptions, the ingenious comparisons with modern plants, and the numerous but good new genera and species. Acting as a true protector, he used the occasion to ask for the *Ist. Ven.* to cover the cost of publication of his next work, which could not be granted.

Soon after, Massalongo insisted on having Visiani work with him for an upcoming paper on the fossil flora from a cave in the village of Novale⁴. The professor was initially reluctant, because he feared that his contribution would not be significant enough to grant his inclusion as an author, as is evident from the following passage of a letter, sent on 20th May 1853:

My dear friend | before I definitely refuse, I think it would be better to see the illustrations, as you suggest, and outline the work needed for the plant fossils. For that work I do not disdain to associate my name with yours, which is already famous and very dear to me, but I would not like mine to be there beyond what's reasonable!⁵

In the end, though, he was convinced; their joint paper appeared first as a short synopsis in the journal *Flora*, in 1854 [Noval.]. Therein, seventy-three species are listed, including thirty-two new ones, all ascribed to both scientists, although not always in the

1. «dubito con ragione che [...] nulla resterà più a me da illustrare, né varrebbe la pena il farlo» [pncc-760 108].

2. Pančić not only had published alone the plants that they had been studying together (though in fact this time with minimal contributions on Visiani's part), he had also recently refused to split Pantocsek's herbarium [pncc-741215] (see § 4.2.18), and to jointly prepare a work on his discoveries from Montenegro [pncc-731208], which Visiani viewed as 'his' territory [pncc-731203-@], or even to provide Visiani with specimens [pncc-760108-@], thus in effect obstructing the preparation of *Sup. Al.*

3. Mount Bolca, not far from Verona, is a well-known fossil lagerstätte of the Eocene.

4. Novale is a village by Valdagno, north of Vicenza.

5. «Mio buon Amico | Pria di decidermi assolutamente pel no sarà miglior consiglio il suo di veder le tavole e progettar il lavoro occorrente per le Filliti. Nel qual lavoro non è ch'io sdegni d'associarmi al suo nome già chiarissimo e a me carissimo, ma non vorrei che il mio ci stesse quasi a pigione!». The original has 'fillite', which denotes any kind of plant fossil, rather than the rock that is called a *phyllite* in English.

same order. Despite announcing therein that a wider treatment with more detailed descriptions and illustrations was *so at hand* that it could *immediately be committed to the typographer and lithographer*¹, the full version only appeared two years later [Noval.-2], in the Proceedings of the Royal Academy of Sciences in Turin. The choice of this journal was due to the refusal by the *Ist. Ven.* to publish anything that was not entirely new, and the long delay was caused by the refusal of the Academy to print new illustrations of material that had already been depicted elsewhere [mssl-540812], for which the two researchers eventually had to pay out of their own pockets [mssl-540902-@]. Its wide introduction includes a geographical description of the area and a discussion on the limitations that botanists face in describing fossils, as well as arguments in favour of this sort study, which many considered meaningless due to the unavoidably high level of uncertainty about the determinations. In this paper, as in all subsequent works by Visiani on the subject of fossils, there is not much of a geological overview, which is intentionally left for a specialist to discuss. As was his habit (see e.g. § 3.4.4), Visiani, who wrote the descriptions [mssl-540110-@], did not take them from other books, but rather wrote them anew based only on the material he had seen. The book was the first illustrated fossil flora ever published in Italy.

Visiani's second paper on fossils [Fos. Dalm.] was published by him alone, and it was intended as a supplement to a previous work by Ettingshausen² [177] on the rich fossil flora found at a coal mine on Mt. Promina, not far from Drniš, in Dalmatia, as the first one was considered too incomplete [lanz-580113]. Just as the German, Visiani received many fossils from the director of the mine, Mr. Schlean, and from Dr. Lanza, a geologist in Vienna and former high school teacher in Split. Visiani could also examine 164 specimens that were used for Ettingshausen's work, which were sent to him by the director of the Geological Institute in Vienna, Prof. Haidinger³, whom he thanks profusely in the introduction to the work. The paper, read at the *Ist. Ven.* on 26th Jul. 1858, presents a total of twenty-two species, including fifteen new ones. Some new *names* were dedicated to Haidinger, Massalongo, Lanza, and Schlean [§ II]. The work is completed by a table of all the plant fossils found by then in Dalmatia, with an indication of findings of the same species in other excavations, and of living analogues, as well as by a modern floristic list of Mt. Promina, put together from Visiani's earlier works. From a letter written by Massalongo, [mssl-541212] we know that he and Visiani had been thinking about a new paper on the fossils of Mt. Promina for at least four years. Massalongo, in fact, despised Lanza, repeatedly calling him a charlatan and a braggart, and commenting that the fossils he sent were *repeated, and double, and twice double*⁴. Visiani, as always, was much more sympathetic, only remarking that Lanza just had a *superficial* and *generic* knowledge [mssl-580118-@]. Massalongo not wanting to step into what he believed was Visiani's territory (i.e., Dalmatia), did not co-author the paper, despite having helped with the determinations [mssl-550119] [mssl-571211] and bibliography [mssl-

1. «sic praesto sunt, ut typographo et lithographo statim committi queant».

2. Constantin von Ettingshausen (1828–1897). German geologist and botanist.

3. Wilhelm Karl Ritter von Haidinger (1795–1871). Austrian mineralogist and geologist.

4. «ripetute e doppie e stradoppie» [mssl-550119].

580728-@], and having curated the beautiful illustrations after his friend had to reject a previous version made by a very poor artist. Interestingly, in the paper Visiani attributes the extinction of the tropical flora of Dalmatia not to some catastrophe, but rather to the *gradual tempering of the climate*¹, which suggests that, by 1858 he had begun to endorse a modern gradualist view of geological time.

The third palaeobotanical work by Visiani, the first written after Massalongo's death, was on the fossil palms² found in Veneto [Palm.]. He had received a few of them as a gift from Massalongo, and others were found in excavations that he had funded himself. A long summary in Italian was presented to the *Ist. Ven.* and published in the *Att. Ist.* with no formal descriptions or illustrations, and the full paper, in Latin, appeared in *Mem. Ist.* in 1864. The introduction of the full work is nothing more than a somewhat more formal translation of the previous presentation, and deals primarily with the history of the discovery of the fossils and some rather technical taxonomical and nomenclatural considerations. In the paper, thirteen species are mentioned, of which six are new³ and four are recombined into the two newly established genera *Geonomites* and *Hemiphoenicites*.

The fourth work, published in 1867 [Latan.] deals with a magnificent fossil palm found in the limestones of Sostizzo, north of Vicenza. At over three metres tall, the exceptionally well preserved specimen was the only complete palm fossil ever found. After describing in detail both the discovery and the fossil itself, Visiani compares it in succession with all other known species, finally concluding that it was new to science. To honour his personal friend emperor Maximilian [§ 3.1.7], particularly for his direct involvement in the expedition of *SMS Novara*⁴, he chose the name *Latanites maximiliani*. The work was presented at the *Ist. Ven.* on 1st Mar. 1867, just three months before the emperor was assassinated at the hand of Mexican rebels, and because it was not printed until July, Visiani was able to add the following heartfelt end note:

This homage becomes no less just nor deserved after the horrendous tragedy, for which on the past 19th of June this magnanimous and enlightened Sovereign fell victim of treason and of the most savage brutality. Indeed, it joins that unanimous cry of grief for him and of loathing for his slayers, that burst forth from each heart in which beats the slightest sense of humanity, and that can appreciate generous intentions and value forsaken by fortune⁵.

1. «graduato ratiepidirsi del clima».

2. Visiani was partial to palms in general, writing that *to their sublime and noble aspect all nations have accorded the prize for beauty* («al cui sublime e nobile portamento il consenso delle nazioni accordò il premio della bellezza») [Util.]. He spent a fortune to be able to cultivate some of them in Padova [§ 3.2.2].

3. There are seven new names, though, as Visiani intended to base his *Hemiphoenicites dantesiana* on Massalongo's *Phoenicites danteana*, but under the present *Code*, this change of epithet to a more etymologically correct version constitutes the inadvertent creation of a new superfluous and illegitimate *name*, rather than a new combination.

4. *His Majesty's Ship* («*Seiner Majestät Schiff*») *Novara* was a frigate sent to circumnavigate the world in 1857–1859, for scientific purposes. The expedition made particularly significant contributions to oceanography, to the study of the geomagnetic field, and to pharmacology (cocaine was first isolated from dried material collected during the mission). Over 26,000 specimens of plants and animals were collected. The same vessel was used by Maximilian and his wife to reach Mexico.

5. «Quest'omaggio non viene ad essere né men giusto né men doveroso dopo l'orrenda catastrofe, per cui nel 19 del passato giugno questo Principe magnanimo e illuminato cadeva vittima del tradimento e della più selvaggia ferocia. Che anzi si unisce a quel grido unanime di dolore per Esso, di esecrazione pe' suoi carnefici, che proruppe da tutti i cuori in cui batta il più lieve senso di umanità, e che sappiano apprezzare i generosi propositi ed il valore ab-

A further quite short palaeobotanical work by Visiani deals with the description of two species in two new genera: *Aloites prisca* and *Agavites italica*. It was presented in 1869 in numerous versions: first as a booklet [Due F.], then as an abstract for *Sag. Acc.* [Due F.-2], and finally in the first number of *Giornale Botanico Italiano* [Due F.-3]. The manuscript is available in *Lib. HB.* [b26o12d].

His last work on the topic of fossils was published for the *Mem. Ist.* in 1875 [178]. In its introduction, Visiani first notes how palaeobotany had finally managed to become an established field of research, no longer deemed unscientific. The paper deals mostly with the extremely confusing progymnosperm genus *Noeggerathia*, which still puzzles experts to this day [179]. In 1857, *Noeggerathia* fossils were a frequent subject of discussion between Visiani and Massalongo, who firmly believed them to belong to the south-hemisphere conifer genus *Phyllocladus* [mssl-570812]. Visiani was never convinced, and he eventually decided not to follow his friend's opinion in his much later work. The material for this paper, all excavated in Bohemia, was partly sent to Padova from Haidinger and partly bought from Krantz¹, from whom Visiani had requested all the specimens of *Noeggerathia* he had [mssl-571020-@]. Six new species were described and illustrated along with the *Agavites* and *Aloites*, that had not been pictured before.

3.4.8 Other Works on Systematics and Floristics

Visiani wrote numerous minor essays on systematics and floristics, which we summarise hereunder.

In 1840 he dealt with the precise identity of *Satureja montana* L. [Satur.] (see § 4.3.1).

In 1841 he worked on the ornamental plant *Gastonia palmata* Roxb. ex Lindl. [Gast.]², which he demonstrated to be better placed in the new genus *Trevesia*, the position that is now generally accepted [87].

In 1844 he published a work on some plants in Xeranthemeae [Xeranth.], in which he established the genus *Amphoricarpos* and the illegitimate *A. neumayeri*³.

In 1845 he published a reclassification of some plants previously included in *Matricaria* [Matric.] in the new illegitimate⁴ genus *Chamaemelum*, and described the new species *C. uniglandulosum*. His concept of *Chamaemelum* is precisely the same that Schultz-Bipontinus later adopted for his *Tripleurospermum* [182:31], and is now generally adopted with the latter, legitimate name [88].

Some notes on *Trevirana* Willd. and on the new illegitimate genus *Meneghinia* Vis. (non Endlicher 1836 [183:1402]) were published in the Proceedings of the congress of Genoa, in 1847 [121:556–561].

bandonato dalla fortuna».

1. Adam August Krantz (1808–1872). A German dealer of minerals and fossils from Berlin.
2. Stafleu & Cowan [60] incorrectly cite this work as republished in *Mem. Ist.* 1: 39–58, where in fact *Gr. AM.* was published.
3. The plant should have been called '*A. neumayrianus*', as Visiani explicitly cites as a source the illustration of *Jurinea neumayeriana* he previously published in *FD1*. The error was corrected by Greuter [180].
4. The name is a later homonym of *Chamaemelum* All. [181:186].

In 1848 Visiani published in *Sag. Acc.* his only work on systematics at a rank higher than genus: his *proposal for a new distribution of European Labiatae*¹ in twelve tribes², in which he explains in detail the new system he had already adopted in *FD2* [§ VI]. His classification is based on the structure and opening of the anthers.

In 1853 Visiani published in the *Mem. Ist.* an essay on some plants in Bromeliaceae [Bromel.] he had already read and discussed the same year [Bromel.-S]. In the work he argues that *Tillandsia duratii* (which he had described in *H. Pat. 40*) is better classified in the new genus *Phytarrhiza*, and gives priority to *Cryptanthus* Klotsch over his own *Pholidophyllum*.

In 1863 archduke Maximilian (see § 3.1.7) decided to build a mansion on the island Lokrum, by Dubrovnik, which he had bought in 1859. As he wanted to plant around it a garden of tropical and subtropical plants, he asked Visiani to study the local climate and flora to assess the feasibility of his project. The report [Lacr.] contains climatological data³, a geographical introduction, a floristic list, and a map of the island. Despite Visiani's conclusion that the island would be very suitable for such a garden⁴, Maximilian famously decided to locate his mansion at Miramare, by Trieste. Two manuscripts of this work are available in *Lib. HB.* [b2601b] [b26010].

In 1867 he published an essay in *Mem. Ist.* [Cheil.] in which he reclassified *Cheilanthes szovitsii* Fisch. & C.A.Mey. in the new genus *Oeosporangium*. The manuscript, original handmade illustrations (some of which unpublished), and numerous letters on the subject are available in *Lib. HB.* [b26005c–b26007u].

Visiani also worked at a floristic list of Veneto, the first version of which was published in two parts in the *Att. Ist.* in 1858 [Cat. V.-1] and 1859 [Cat. V.-2]. A second, much more complete version [Cat. Sacc.], preceded by a short introduction and with some final statistics, was presented ten years later, and is mostly the work of his assistant Saccardo [184].

In 1870 Visiani published some observations he had made on some specimens in Linnaeus's herbarium, which he had seen in 1862 [§ 3.1.4]. In the paper, he describes the herbarium and its history and condition, and argues that scholars should not opine on Linnaeus's concepts before seeing his *types*, explicitly citing his controversy with Bertoloni⁵ [§ 4.3.1]. In this respect, it is the same attitude he had for his own *names* and *materials* [§ 2.1.1]. According to Pirona [8], he was allowed to annotate a sheet with the name *Seseli globiferum*, but we could not find it.

1. «Proposta per una nuova distribuzione delle Labiate europee» [Labiati].

2. Of these, four appear to be new: Galeopsidae, Leonureae, Marrubieae (originally 'Marrubiaceae', but see Art. 19.7), and Stachydeae. The last one was also divided in two new subtribes: Nepetinae (originally 'Nepeteae') and Lamiinae (originally 'Lamioideae').

3. Which he received by Tommaso Burato and Antun Drobac [b26010j].

4. In fact, a botanical garden to cultivate tropical plants was eventually established in Lokrum in 1859.

5. The work was published eight years after Visiani had been in London, after Bertoloni had died a very old man, in 1868. It is possible Visiani wanted to wait for him to pass away as a mark of respect.

3.4.9 Applied Botany

Visiani's contributions to applied botany are far less well-known than those to systematics, though not at all unremarkable.

His *FD* contains a wealth of information on both known and new medicinal usages of plants from Dalmatia. Among these, we first mention one that Visiani himself must have considered particularly remarkable, as he disclosed it already in his introduction to *FD1*, although the plant in question was only discussed in the following volume: the power of dried stramonium¹ leaves to resolve asthmatic attacks when smoked in the form of medicated cigarettes, mixed with tobacco. The plant was traditionally smoked through a pipe in India for that same reason, and knowledge of the treatment had already reached the English medical community in 1802 [186], although quite evidently it was still unknown in Middle Europe forty years later, because both Visiani and his German reviewer Fürnröhr [167] present it as an entirely new discovery. Inhalation of stramonium smoke, whose efficacy is widely recognised and supported by scientific evidence² (see e.g. [188]), remained the most potent readily available treatment for asthma up to the invention of salbutamol, in the late 1960s [186]. It would be very interesting to understand whether Visiani's work was in any way responsible for spreading to Italy and Germany the knowledge of a treatment that could have saved many lives.

Visiani's most celebrated achievement in applied botany, at least during his time, was his 1844 work on vanilla [Vanig.], which was presented the previous year at the *Ist. Ven.*, on the 26th Jun. [Vanig.-S], and printed in 1845 in *Mem. Ist.* [Vanig.-2]. In it, some physiological remarks and a method to artificially pollinate the plant are described. The flat-leaved vanilla (*Vanilla planifolia* Jacks. ex Andrews), by far the most important species in trade, is a climbing orchid native to Mexico, whose pods had been sold as a valuable spice for centuries. Although the plant was widely cultivated in the glasshouses of the botanical gardens of Europe, Padova included, it hardly ever produced any fruit out of its native range, where an endemic solitary bee (*Melipona beecheii*) serves as its only natural pollinator. The lack of a suitable partner had made it impossible to produce any vanilla out of Mexico up until, in 1841, a practical method for hand pollination was developed by Albius³, but not published. The first man to obtain fruits from the plant by artificial pollination was probably Morren, in 1837, if the unsubstantiated claims of priority by the head of the Garden of Paris, Neumann, are to be disregarded [189]. Despite much publicity around their success, both kept their method a secret. The *Imperial Royal Horticultural Society in Vienna*⁴ had put up a prize for the first to produce vanilla pods in the Empire in 1837, which—possibly along with the fame that the success had

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1. *Datura stramonium* L. is a rather common and highly poisonous weed, known in English with a variety of vernacular names including 'jimson weed', 'devil's snare', 'thorn-apple', 'moon flower' and others [185]. It is known as 'stramonium' in the pharmaceutical literature.
 2. Stramonium owes its effect to atropine, the same powerful anticholinergic agent found in deadly nightshade (*Atropa belladonna* L.), still considered indispensable for a variety of medical treatments [187].
 3. Edmond Albius (1829–1880). Réunionnais slave who invented the method at the age of twelve, while working in his master's garden. Despite his fundamental contribution, which started a whole new industry in Réunion and in other French tropical colonies, he died young and in misery.
 4. «Kaiserliche Königliche Gartenbau-Gesellschaft in Wien».

brought to Morren—spurred Visiani and his assistant Clementi to explore the subject. The two immediately realised that the pollen sacks could not ever have spontaneously reached the stigma, which is separated from the anther that sits on top of it by a fleshy projection (*rostellum*) that prevents this from happening. Visiani was probably baffled by this morphology, as it plainly contradicts the then-prevailing notion that pollination usually occurs spontaneously within hermaphrodite flowers. Despite knowing Sprengel’s work [§ 3.4.1], it seems that Visiani could only come up with the rather petty conjecture that natural self-pollination was only impossible when the plants were cultivated in greenhouses; he either did not know or failed to acknowledge that vanilla does not naturally produce fruit in any location outside of its native range, not even in the tropical gardens where it can grow in the earth. Moreover, he apparently did not realise that this hypothesis entailed two problems. First, arguing that cultivation could alter plant physiology or even morphology so substantially greatly diminishes the strength of his claim that it is the most secure way to determine the stability of characters, and therefore the boundaries between species [§ 3.6.2]. Second, despite being well aware that this detail of flower morphology in *Vanilla* is not at all unique but is instead shared by the vast majority of orchids [FD1: 165], he failed to question whether the *rostellum* could also block self-pollination in other species, as indeed is the general case. Visiani explains his technique after a nomenclatural treatment and a lengthy and very accurate description of the plant: He began by removing the whole anther with a pair of tweezers and drew out the pollinia by means of a metal point. He first tried to ‘extract’ the pollen by shaking and cutting the mass and he transferred what he got directly onto the stigma with a penknife, after slicing the underside of the flower for easier access. However, he soon moved to simply squeezing the whole anther onto the stigma. These methods, although both effective, are obviously quite apart from any possible natural mechanism, and once again betray how much Visiani—along with his assistant and most of the pre-Darwinian¹ botanical community—still generally lacked the culture and the imagination to ask fundamental questions like ‘how is vanilla supposed to be pollinated in nature’. Out of seventeen flowers that were pollinated in the first year, fourteen produced fruit, which were left on the vine until they matured, fell off, and naturally developed their characteristic fragrance². In contrast, commercially produced vanilla was (and is) generally picked when still unripe and unscented and subjected to a complex curing process, which Visiani advises against, feeling that natural ripening should produce better results. Visiani, with his usual practical spirit [§ 3.6.1], closes his essay by suggesting that vanilla could become a very profitable crop if cultivated on a large scale in southern Europe, especially if a method to get it to flower more regularly could be found. Having sent the first fruits to be on display at the 13th Exposition of the Horticultural Society in Vienna, Visiani was awarded the prize of the great golden medal of the society on 27th Apr. 1843 [b29027], which unfortunately is no longer to be found in

1. We refer to Darwin’s work on the pollination of orchids [190] as much as to evolution.

2. The fruit of vanilla is unusual among orchids in that it does not dry and split to disperse the powder-like seeds into the wind. Rather, it falls off before opening, exposing the seeds, mixed in an oily matrix. Male orchid bees (*Euglossini*), in search of the fragrant compounds they collect to use during mating displays [*sic*], regularly visit the ripe pods, and are probably the main means of seed dispersal in the wild [191].

Padova. He was made a corresponding member the following year [b290028], and his paper was translated and published in the Society's bulletin [99]. Visiani's method is rather cumbersome compared to Albius's, and it never caught on in commercial production; despite this, it has not been abandoned in Padova, where vanilla is still regularly hand-pollinated using Visiani's method.

Visiani is also widely credited for being the first to spread the knowledge to the wider scientific community of the precise source of what was known as *dalmatian insect powder*, i.e. pyrethrum. This extremely potent insecticide is still extensively in use in its natural form, and its source plant, the Dalmatian chrysanthemum (*Tanacetum cinerariifolium* /Trevir./ Sch.-Bip.), is cultivated around the world. Moreover, the isolation and characterisation¹ of its main active substance, pyrethrin, led to the synthesis of an entire series of related compounds (pyrethroids) which now constitute one of the most widely used classes of insecticides, and sustain a billion dollar industry [192]. Various kinds of insect powders were historically obtained from plants in the genus *Tanacetum* (also classified in *Chrysanthemum* and *Pyrethrum*). In particular, the dried and ground heads of the red-flowered Caucasian species *T. coccineum* (Willd.) Grierson were traditionally used in eastern Europe and Persia to treat lice, and they had been sold worldwide for that purpose since at least 1818 [193]. The discovery of the much more potent effect of the Dalmatian chrysanthemum has been attributed to Drobac², a pharmacist from Dubrovnik. A more elaborate version has it that, in 1840,

a German woman Anna Kosauer, who lived in Ragusa [Dubrovnik], Dalmatia, picked, for decoration, a bunch of wild flowers, which later, as they became withered, she threw into a corner. After several weeks she noticed that many dead insects lay near the flowers. This led to the discovery that the death of the insects was due to some virtue possessed by the flowers, whereupon she undertook the production of insect powder. After her death a pharmacist of Ragusa [Drobac] continued her work³.

Visiani suggests instead that the plant was used *from time immemorial* [Insett.], and its powder was reportedly sold in Vienna already by 1810 [195]. At any rate, it was certainly Drobac who launched its wide-scale production from wild sources in the surroundings of Dubrovnik, which earned him the title of *meritorious citizen*⁴ of the town for providing a new source of income to many local families [196]. Much like with modern mosquito coils, the powder was made to produce a thick, acrid smoke by placing it over a red-hot iron or firebrand, and this smoke served to repel and paralyse flying pests. The identity of its botanical source remained a closely guarded secret for decades, because Dalmatians, wishing to monopolise the market, withdrew information about the plant and baked the powder to kill any viable seeds [193]. The secret was unveiled only as Visiani wrote, in a note about the plant in *FD2*:

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1. The characterisation of pyrethrin was the main work that led Croatian scientist Lavoslav Ružička (also 'Leopold' 1887–1976) to win the 1939 Nobel Prize for chemistry, which he shared with German Adolf Butenandt (1903–1995).
 2. Antun Drobac (1810–1882) ran a very famous pharmacy with his brother [Insett.], who might well be the 'Luca Drobacz' [FD3: 21] from Dubrovnik who contributed a few specimens to the *HD*.
 3. The story is reported by Jüttner and Siedler [194], the translation is from McDonnell & al. [193].
 4. «Zaslužan gradanin».

Its flower heads, ground to a powder, smother fleas both of men and animals, and it is this herb that is mixed to their straw for this reason, not *C. leucanthemum* as Cantraine wrote [...]. Moreover the smoke of its powder paralyzes mosquitoes and has been used against them since a while in Dalmatia, and more recently also in the Venetian Kingdom¹.

The reference to Cantraine's² work is explained more in detail in a wide-reaching essay on the plant that Visiani published in 1854, titled *On two insect-repelling plants, Pyrethrum roseum Bieb. and Pyrethrum cinerariaefolium Trevir.* [Insett.]. The Belgian had written a very short note in 1841 [197], in which he reported that the common ox-eye daisy (*Lecanthemum vulgare* Lam.) was used in Dalmatia and Bosnia against fleas. Visiani knew that this plant, although ubiquitous in Europe, does not commonly occur in the area, and he suspected it might in fact have been confused with the Dalmatian chrysanthemum, whose large white capitula look quite like those of an ox-eye daisy to the untrained eye. Connecting his suspicion with the mysterious insect powder used against mosquitoes, he inquired about it to some friends in Dalmatia, including Stalio [§ 4.2.23], who, confirming the secrecy that surrounded the subject, answered:

About the two plants you tell me are used in Dalmatia specifically against the nuisance of fleas and mosquitoes, I can tell you one of these is *Pyrethrum cinerariifolium* Trev., whose flowers, dried and made into a powder, are used to kill fleas. There are however those who contrast the truth of this experience, but most are persuaded. As for the other, namely the one is used against mosquitoes, I could not tell you anything, as I have not heard anybody speak about it³.

Visiani could easily get hold of fresh specimens and resort to experimentation, which confirmed his hypothesis. In his *Insett.* he suggests that the plant should be cultivated as a new commercial crop, and he reports the positive result of some test he did against woodworms, mealworms, and common herbarium pests, suggesting it might also prove effective against the insects that damage fur coats and books. The essay is completed by a chemical analysis of the powder carried out by Ragazzini⁴. As for the plant itself, according to the account given in *Insett.*, it was first recognised as a separate species by Dalla Torre⁵, and it had been cultivated at the Botanical Garden since 1660. It was nevertheless missed by all botanists from Linnaeus up to 1820, when Treviranus⁶ described it in the seed list of the Garden of Bremen as *Chrysanthemum cinerariifolium* Trevir. Visiani himself, unaware of Treviranus's work, redescribed it four years later in his *St. Dalm.* as *C. turreanum*, in honour of Dalla Torre.

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1. «Capitula hujus in pulverem trita pulices enecant tum hominis tum animalium, horumque stramini hac de causa immiscitur herba haec, nec Chr. Leucanthemum ut scripsit Cantraine [...]. Insuper pulveris ejusdem fumigationes culices obstupefaciunt, et contra ipsos jamdiu in Dalmatia, et modo etiam in Regno Veneto usuveniunt».
 2. François Joseph Cantraine (1801–1868). Belgian marine zoologist from Ghent.
 3. «Intorno alle due piante che Ella mi dice adoperarsi in Dalmazia come specifiche contro la molestia delle pulci, e delle zanzare le dirò, che una di queste è il *Pyrethrum cinerariifolium* Trev., i di cui fiori disseccati, e ridotti in polvere si adoperano per ammazzare le pulci. V'è però chi contrasta la verità di questa esperienza ma il maggior numero n'è persuaso. Dell'altra, cioè di quella adoperata contro le zanzare non saprei dirle nulla, non avendone inteso a favellare». [stal-Dooooox]
 4. Francesco Ragazzini (1799–1873). Professor of chemistry in Padova.
 5. Giorgio Dalla Torre (1607–1688). Director of the Botanical Garden of Padova.
 6. Ludolph Christian Treviranus (1779–1864). German plant taxonomist and physiologist.

In 1852, Visiani published a mostly bibliographical work [Koussou] on *koussou*. Koussou is a drug consisting of the dried panicles of the African redwood (*Hagenia abyssinica* Willd.) that had only recently been introduced to Europe for its anthelmintic properties, especially against tapeworms. Although quite effective, the plant is toxic and its use is now only local and limited to curing livestock [198].

Another interesting contribution to applied botany was Visiani's involvement in a *commission on the blight of grapes*¹. The pathogen in question was powdery mildew (*Uncinula necator* /Schwein./ Burrill.²), which in nature infects wild American grapevines, and which had recently reached Europe, causing substantial losses especially in France. Three contributions on the subject were presented in *Att. Ist.*, between 1853 and 1855. In the first [Uva 1], the rapporteurs Visiani, Zanardini and Fappani³ offer a very sanguine view of the situation: They begin by suggesting that the parasite is not a new species, but one known from antiquity. They go on to argue that the damage it causes is limited, that it only attacks already ill or dying plants, that it is not contagious, it does not penetrate the stem of the vines, and it does not contaminate the wine with toxic substances. They argue that cultivators should be able to control it simply by thinning the foliage so that more light can reach the ripening grapes. Trevisan published a reply in which he argued that the hypotheses he had put forward in his works on the subject had been misinterpreted by the commission, to which Visiani and Zanardini answered by openly accusing him of plagiarism, and arguing that the ideas with which he disagreed were those that he had carelessly taken verbatim from a work by Lèveillé⁴. The second work [Uva 2] was published in 1854 and included the contribution of Sandri⁵. It is much longer than the first work, and it has an entirely different tone. The parasite had about halved the previous season's production of grapes, and it had become clear not only that the disease was contagious, but also that it could affect perfectly healthy plants, even in a year that was much drier than 1851. In the work, the term *invisible germs* is used to describe the fungal spores that the botanists believe to have spread the *infection* from France to Italy, taken by the dominant winds. If we remind ourselves that the germ theory of (animal) diseases was only fully established about thirty years later, with the works of Louis Pasteur and Robert Koch, we can understand why most people were not easily convinced that the malady was directly caused by a pathogen attacking the grapevine from without, and not by any internal or environmental cause, so much so that this fact had to be made the central point of the paper and be argued so thoroughly and strenuously by Visiani and Zanardini. The two researchers, in line with the domin-

1. «Commissione sull malattia dell'uva».

2. This *name* was originally applied only to the teleomorph. The anamorph was described fifteen years later as *Oidium tuckeri* Berk., the *name* used by Visiani. Under the 'one fungus = one name' rule approved at the International Botanical Congress in Melbourne, the two should be considered simply as heterotypic synonyms. The *name Oidium* Lam. (1809) is earlier than *Uncinula* Lév. (1851), but the general consensus seems to be that the types of the two should be ascribed to separate genera, the former applying to a group including a teleomorph called *Blumeria* Golovin ex Speer (1976), whose *name* has recently been proposed for conservation against *Oidium* [199], which would then no longer apply to anything.

3. Agostino Fappani (1778–1861). Agronomist from Treviso.

4. Joseph-Henri Lèveillé (1796–1870). Famous French mycologist.

5. Giulio Sandri (1804–1876). Veterinarian and naturalist.

ating theories, had themselves previously believed that mildew grows on the grapes when they have already started to rot. This conclusion also implied that a topical treatment could potentially be used to prevent it, whereas cutting down the vines and planting new ones, as had been suggested, would instead have been a useless devastation. The paper suggests the application of powdered lime or gypsum, but it also mentions sulphur as an alternative, which was later discovered to be highly effective and remains a treatment of choice against powdery mildew. In this work, we also find the only microscopical observations by Visiani that were ever published, which he made with the help of the more expert Massalongo [mssl-510913-@] [mssl-doooox]. He examined and described the hyphae and austorial structures of the fungus, and he concluded that the infection caused the nucleus of the underlying cells to disappear and the *chlorophyll grains* (i.e. the chloroplasts) to move towards the wall of the cell, become brown, and eventually grow until they clog it altogether. What he described seems to be the process of cell lignification, which we now know is in fact not a direct consequence of the infection, but rather a defence mechanism by the plant to limit its spread [200]. The third and last work on the subject [Uva 3] was primarily a rather unremarkable account of the previous year's losses and of the different remedies that were tried to contain the disease, the only noteworthy observation being that plants that were spared from infection in the early spring were protected for the entire year.

Visiani also reported to the *Ist. Ven. on the nature, uses, and wholesomeness of a plant observed by botanists in Polesine and called by them Cyperus esculentus*¹, whose tubers are commonly used as food in countries such as Spain. The text was approved and transmitted to the government without any mention of its contents; a manuscript of that text [b28037] exists in *Lib. HB.*, but was not studied.

For the sake of completeness, we also mention Visiani's hardly original contribution [Manna] on the natural history of the lichen *Lecanora esculenta* (Pall.) Eversm., which he tentatively identifies with the biblical manna, along with many others before him. Three manuscripts of this work are conserved in Padova [b26009b] [b26009c] [b26009f].

Finally, Visiani presented a note [Pesci] on a marine fish farm that had been established in Lago della Costa, a freshwater thermal lake in Arquà on the Euganean hills, now part of a UNESCO world heritage site for the Bronze Age relics of a village that were discovered on its banks. One curious thing in this work is Visiani's note that the fish could be captured as hemp was put to macerate on the banks, after which they emerged *poisoned by the stench and taste of the narcotic plant*². Visiani had not ascribed any pharmacological effect to hemp³ in *FD*; these effects were only introduced to the Italian medical community by Erba⁴ in 1847 [201]. The work was followed up by a second short note by Visiani [Pesci-2] and a brief monograph by Canestrini [202].

1. «Sulla natura, sugli usi, e sulla salubrità di una pianta osservata dai Botanici del Polesine e chiamata da essi *Cyperus esculentus*» [Cyperus].

2. «avvelenati dal puzzo e dal sapore della narcotica pianta».

3. Although the industrial plant and the source of marijuana have often been classified as two separate species (respectively *Cannabis sativa* L. and *C. indica* Lam.) they are now understood to be just different cultivars, and indeed some degree of pharmacological potency is shared by the entire genus.

4. Carlo Erba (1811–1888). Pharmacist in Milan. His laboratory grew to become Carlo Erba S.p.A., now a prominent pharmaceutical and chemical supply company. Amusingly, 'erba' is also Italian for 'grass', 'herb', or 'weed'.

Visiani's alleged [14] work on *Nosema bombycis* is in fact nothing more than a passing mention of some observations made by others.

3.4.10 History of Botany and Biographies of Botanists

Visiani dealt with the history of botany on numerous occasions, for instance he treated the exploration of Dalmatia in *FD* and its supplements [§ 3.4.4] [§ 3.4.5], the history of the Garden of Padova in his *H.Pat. 40* and *H.Pat. 42* [§ 3.2.3], the origins of the discipline in *Intr. Veg.* [§ 3.4.1] and *Util.* [§ 3.6.1]. A common theme is his belief that Italy in general and Venice in particular had led the way in most botanical discoveries, but later lagged behind other nations due to the limited exchanges with foreign lands and the smaller amounts of money spent for scientific research by later governments [*Util.*] [*H.Pat. 40*] [*Venet.*] [§ 3.5.5]. The reference, as far as Padova is concerned, seems to be mostly to the period of Bonato's directorship, as all his works clearly show he was proud of what he himself had achieved, and thankful for the substantial economical support he could receive from the authorities (see e.g. [*H.Pat. 42*]).

In 1839, Visiani wrote a paper *on the origin and age of the Botanical Garden of Padova*¹, in which he demonstrates, citing numerous sources, chief of which was Guazzo² [203], that the Botanical Garden of Padova was founded in late June or early July 1545³. At the same time, he raises substantiated doubts on the notion that the one in Pisa was established the year before, and points out that, even if it were the case, it was moved twice. He concludes, then, that the Garden of Padova is the oldest surviving botanical institution in the world, and possibly the absolute oldest.

In 1845, on the occasion of the 300th anniversary of the establishment, he prepared a detailed paper on the work and unfortunate life of its founder Francesco Bonafede (1474–1558), to whom Visiani also attributes the merit of having prompted the creation in Padova of the first chair of botany⁴ in Europe. In the same year, a marble bust with his likeness was erected at the Garden at the expense of the students of botany [*Sacc. Chr.*].

In his 1854 *Venet.*, after introducing the first ever botanists, Visiani praise the many discoveries of the early Venetian explorers. He then argues that Venice alone had more private gardens between the 16th and 18th century than Italy had at his time, and mentions a few. Finally he summarises once again the history of the Garden of Padova.

In 1857 Visiani wrote a long paper *on the life and writings of Pietro Arduino* [*V. Ard.*]. Arduino (1728–1805) was the chief gardener in Padova from 1753 to 1763, and the *de facto* director from 1757 to 1760, when the chair of botany remained vacant. He was a correspondent of Linnaeus and an early adopter of his system, and an accomplished botanist who described around sixty new species [89]. His brother Giovanni, whom Vis-

1. «Dell'origine ed anzianità dell'Orto Botanico di Padova» [Orig.].

2. Marco Guazzo (1480–1556). Historian from Padova.

3. Other dates that had been previously given were: 1533, 1540, or 1563 [Orig.].

4. In fact, its predecessor «*materia medica*».

iani does not mention, was a geologist, and is considered one of the fathers of stratigraphy.

As a member of the *Ist. Ven.*, Visiani was also occasionally called upon to write obituaries: in 1861 he accepted the disagreeable task to pen one for his best friend Masalongo [§ 4.3.2]; in 1856 he wrote on naturalist Martinati [note in § 3.2.2] [V. Mart.]; in 1867 it was the turn of Parolini [§ 4.3.6] [V. Par.].

3.4.11 Literary Works

Visiani, as one would expect from man of classical training [§ 3.1.2] and a close friend of Tommaseo, was extremely interested in letters. In the spirit of his positivistic ideas [§ 3.6.1], he believed that literature too should serve a practical purpose, and went as far as to call all novels *exotic junk to waste time with*¹. In his speech addressed to the fourth Congress of the Italian Scientists [§ 3.3.4] he said:

[...] the unfair and detrimental barrier, that for long fatally divided letters and sciences, has in our time crumpled, and men of letters know that the intellects of modern people want to be fed more than words, whose vain sound achieves nothing without any originality or usefulness in the concept, except to induce weariness and annoyance. And Italian scientists realised on the other hand that, without the powerful efficacy of words, the bare though useful truths are more cumbersome to understand, to savour, to spread, and do not cause in the spirit of listeners the rapture that is born from the evidence with which the truth is presented, that originates persuasion and that assures and clears the way to its triumph².

Dealing with Visiani's work as a poet, philologist, and lexicographer is of course not within the scope of this thesis, nor is it within our means to evaluate his output. For this reason, we can only hereunder list and very briefly describe his many purely literary contributions. Still, we should bear in mind that, as has often been observed [99] [204] [10], his scientific works, whether in Latin or Italian, were often written in such a highly polished prose that they should themselves also be considered for their artistic value³.

Young Visiani published three poems [Ferri] [Bacio] [Salic.], two of which on the occasion of wedding ceremonies. A fourth, an elegy directed to Francesco Sartori⁴'s mother after his death, was presented in 1849 [Eleg.]. In 1865, again for a wedding, he published an entirely free translation from the Spanish of *La Modestia*, by José Selgas Carrasco (1822–1882) [Garof.].

1. «cianfrusaglie esotiche da spreca tempo».

2. «[...] la barriera ingiusta e dannevole, la quale fatalmente partì gran tempo le lettere dalle scienze, a' di nostri è crollata, e i letterati sanno, che gl'intelletti degli uomini d'oggi di vonno essere pasciuti d'altro che di parole, e il vano suono di quelle senza la novità o la importanza o la utilità del concetto a nulla riesce, se non se ad ingenerare sazievolezza e fastidio. E gli scienziati italiani s'avvidero d'altra parte, che prive della efficacia potente della parola, le ignude benché utili verità più malagevolmente s'intendono, s'assaporano, si diffondono, né fanno sull'animo di chi le ascolta quel commovimento, che nasce dalla evidenza con cui la verità è presentata, che origina la persuasione, che ne appiana e rassicura il trionfo» [117].

3. Mika [204] wrote: *the style of the prose [in Visiani's inaugural lecture] can be compared without any exaggeration to Manzoni's* («Prozni stil toga rada bez ikakvog pretjerivanja možemo usporediti s Manzonijevim»).

4. Francesco Sartori (1832–1849). A patriot who fought during the insurrections of 1848. He succumbed to an illness in Venice, just as the Austrians managed to reconquer the city.

In 1854 he presented, with Cabianca¹ and Cristina², *Letters by XII Illustrious Italian Writers*³ [Scr. It.]. In 1859 he published a *Piece of Italian History Taken from a Code Written in the Good Century of the Language*⁴. The philological work was presented to Sartori, who dedicated it to nobles Margherita Cittadella Vogodarzere and Alberto Papafava⁵ on the occasion of their wedding. It was a piece of a newly rediscovered ancient Italian translation of the *Tresor*, a sort of mediaeval encyclopaedia written in langue d'oïl by Brunetto Latini, Dante's master (1200?–1294?). More on that codex was presented at the *Ist. Ven.* in 1859. In 1865, Visiani presented an *Essay on Moral Virtues*⁶, an original piece that had been inserted in place of the seventh chapter of the *Tresor* and not previously published. The whole text was eventually published in 1869, in a book dedicated to Tommaseo. Much more on Visiani's *Tresor* can be found in Bertelli & Giola [205]. Visiani explained his philological approach in a lengthy paper presented at the *Acc. Pad.* in 1866 [Avved.], in which he included as an example some pieces of a 14th century translation by Lancia⁷ of Valerius Maximus's *Factorum ac dictorum memorabilium libri IX* [Avved.], which he published in full (no less than 738 pages!) the following year [Val. Max.].

In 1862 he wrote *On some Codices at the Library of the Botanical Garden of Padova*⁸, in which he describes the collection of the library and examines some manuscripts by scientists like Malpighi⁹ and by previous directors including Alpini¹⁰, Pontedera¹¹, Marsili¹². He also mentions some transcriptions by Arduino [§ 3.4.10] of letters by Linnaeus.

In 1857 Visiani read at the *Ist. Ven.* a paper in which he convincingly argues that the plant that Greek and Roman writers called 'acanthus' was specifically *Acanthus mollis* L., and not *A. spinosus* L. as was commonly assumed [Acanth.]. The manuscript is available in *Lib. HB.* [b28029].

From the 14th to the 16th May 1865, celebrations were organised by the township of Florence for the 600th anniversary of the birth of Dante [206]. Tommaseo was among the organisers, which spurred Visiani to attend and give a speech on the hints to botany in his *Divine Comedy*, which was printed in the proceedings [207]. The work [Dante] is not much more than a commented paraphrasis of all the passages of the *Comedy* where plants, flowers, or fruits are mentioned.

1. Jacopo Cabianca (1808–1878), a poet and novelist from Vicenza. He also kept a famous private garden [136].

2. Giuseppe Cristina.

3. «Lettere di XII illustri scrittori italiani».

4. «Brano di storia italiana tratto da un codice scritto nel buon secolo della lingua» [Stor. It.]. The phrase 'the good century of the language' refers to the 14th century, when writers like Dante, Petrarca, and Boccaccio codified vernacular Tuscan, which later developed into modern Italian, as a literary tongue.

5. The two were respectively the daughter and a brother-in-law of earl Andrea Cittadella Vigodarzere; the Papafava de' Carraresi were an ancient Venetian noble family (see also § 4.2.17).

6. «Trattato di virtù morali» [Virt. Mor.].

7. Andrea Lancia (1296–1357?). Notary from Florence.

8. «Di alcuni codici nella Biblioteca dell'Orto Botanico di Padova» [Codic.].

9. Marcello Malpighi (1628–1694). One of the fathers of microscopical anatomy.

10. Prospero Alpini (1553–1617). Venetian botanist, discoverer of many new species from the Middle East.

11. Giulio Pontedera (1688–1757). Tuscan botanist who mostly worked in Padova.

12. Giovanni Marsili (1727–1795). Bonato's predecessor in Padova.

Visiani was also member of a commission within the *Ist. Ven.* for the study of Italian language and culture, led by Cittadella Vigodarzere, which mostly dealt with lexicography, and reported numerous times on its conclusions.

3.4.12 Reviews

Visiani, especially in his youth, published a small number of wholly unremarkable reviews on works by other researchers, which we mention here for the sake of completeness [R. Freyl.] [R. Fl. Ver.] [Perini].

3.5 Unpublished Works

In this section we shall give a brief introduction of only those pieces of unpublished work by Visiani that we consider important or interesting, but do not find a proper place elsewhere in this thesis.

3.5.1 Early Writings

A number of writings by Visiani, prepared in his youth, before he left Dalmatia, is loosely bound in a book [b23005]. They include a translation of the comedy *Adelphoe* by Roman playwright Terence, some quatrains on Marcus Atilius Regulus composed for an exam of rhetoric when Visiani was a student, a sonnet composed for the wedding of Pietro Zuliani and Maria Giadrov, a long poem titled *La giornata autunnale* and, more significantly, the aforementioned *Valediction to Dalmatia* (see § 3.1.2).

3.5.2 On Two Serious Spasmodic Affections

The manuscript is wordily titled *Essay on Two Cases of Serious Spasmodic Affections and on Animal Magnetism Proposed as a Healing and Resolving Method*¹, and is indicated as read at the *Acc. Pad.* on 17th Jan. 1822, though it was not published in the proceedings of that institute. Its thirty-one pages are bound, and the handwriting, though certainly Visiani's, is so clear that that we can suppose the document was intended as a final draft to be officially presented, but the many scribbles and corrections over the text lets us imagine it was eventually scrapped. The text, of medical subject, deals with some neurological problems seen in two girls, which Visiani tries to explain in the light of Mesmer²'s theory of animal magnetism.

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1. «Memoria sopra due casi di gravi affezioni spasmodiche e sul Magnetismo animale proposto come mezzo curativo ed espletivo della malattia» [b24009].
 2. Franz Friedrich Anton Mesmer (1737–1815). German physician and early hypnotist. His bizarre and controversial theory on 'animal magnetism' was never widely accepted, but fascinated many at the time. The English verb 'to mesmerise' and its derivatives originate from his surname.

3.5.3 Advice on the Creation of a Flora

The manuscript titled *Advice on the Creation of a Flora*¹ seems to have been intended as the draft of a theoretical paper on the best way to write a flora, and was almost certainly written after the publication of *FD*, taking into account both that Visiani did not follow much of his own advice [§ 3.4.4], and that this was obviously a subject for a senior, established scholar. It is organised as an ordered list of topics that an author should deal with, with progressively longer comments. These are: (1) Physical description of the country, including its natural borders, latitude and longitude, extension, figure, soil, mountains, woods, rivers, lakes, thermal waters, seasons, natural produce, botanical topography; (2) Chronological and critical account of everything that was published on the flora in question; (3) Indication of the less well-known areas; (4) Indication of the less well-known plant families; (5) Choice of a method; (6) Description of the plants.

As for the ‘method’ (i.e. classification system) to be used, Visiani states the natural method to be the only acceptable one, and suggests using analytical keys instead of a parallel classification with the sexual system to aid determination, as he finds the latter less secure. He recommends that characters of both genera and species should be deduced by direct observation of the plants living in the region and not taken from books, and calls for the principle of priority to be followed in the application of *names* (see also § 3.4.4).

He then goes on to propose some unusual and interesting ideas on author citation. At his time, it was customary to only cite the author who had established the *name* with its accepted position, rank, and circumscription, without any reference to the basionym (if any), which is the criterion he adopted in all of his works (see also § 3.4.4). He reasons that this is unfair to the botanists who actually discovered the plant, as it makes it too easy, so to speak, for *office botanists*² to oust them. Limiting his argument to the case of a change of genus, he proposes to adopt Reichenbach’s practice³ of indicating, after the accepted specific *name*, the *name* of the genus of the basionym in parentheses, followed by its author, and *not* by the author of the new combination. As an example, he mentions *Cerasus intermedia* Host, which, when moved by Reichenbach to the genus *Prunus*, would be cited as ‘*Prunus intermedia* (*Cerasus*) Host’. Immediately after writing this, Visiani seems to change his mind, as goes on to argue that ‘*Prunus* (*Cerasus*) *intermedia* Host’ may be a better option. After only a few more lines, he stops altogether and writes, almost as if to decide what he likes best:

Cerasus intermedia Host | *Prunus intermedia* Rchb. | *Prunus intermedia* (*Cerasus*)
Host | *Prunus* (*Cerasus*) *intermedia* Host | *Prunus* (*Cerasus* Host) *intermedia* Rchb.

1. «Avvertenze per la creazione di una flora» [b280044].

2. «botanici da gabinetto».

3. This system was used for instance in his *Flora Germanica Excursoria* [153].

The last option is in fact quite similar to the modern system, as provided by Art. 49: the plant would now be called '*Prunus intermedia* (Host) Rchb.' (if the *name* had in fact ever been published!).

The preparation of the manuscript was then apparently interrupted and taken up again later, as is made evident from the change of ink and of handwriting, which shifts from ghastly to indecipherable. After little more than another page, the manuscript ends.

3.5.4 Notes on the State of the Vegetation in Dalmatia

In *Lib.HB.* a short final draft manuscript by Visiani, titled *Notes on the State of Vegetation in Dalmatia*¹ was found. It must have been written between 1844 and 1847, as the author says that *FD2* was then being printed [§ 3.4.4]. Visiani once again argues in this work that Dalmatia shows the passage between a truly European and an Eastern vegetation [§ 3.4.4], and proceeds to list the most rare and significant plants for the largest families. He goes on to give a brief history of its exploration, which is shorter than that in *FD1*. The most relevant part, to us and probably to Visiani as well, is the list of places in Dalmatia that he argued should be better explored by travelling botanists: the Sveto Brdo and the other peaks of the Velebit, mounts Kom, 'Bossanskiert'², Dinara, Gnjat, Prolog, Tmor, Vlastica, Orjen, Koložun, Orlić, the saltworks by Ston, the swamps by the estuary of the Neretva (where few dared to venture for fear of malaria [nmyr-300606-b25008]), the islands of Pag, Korčula, Vis, Lastovo, Mljet, Palagruža, Šipan, Lopud, Koločep, and the areas of Budva and Paštrovići. The 'Bossanskiert', Tmor, and Koložun, and the islands of Lopud and Koločep remained unexplored until Visiani's death [§ 5.3.2]. We can speculate the paper was either rejected or not presented at all for its lack of original content, other than the interesting final suggestions.

3.5.5 On the Condition of Botanical Gardens in Italy

The report *on the condition of botanical gardens in Italy*³ was written in 1846, apparently as a foreword to the third of the memoirs titled *Illustration of the New or Rare Plants at the Botanical Garden of Padova* [§ 3.2.3], which was in fact only published ten years later with an introduction on an entirely different topic [§ 3.2.3]. In it, Visiani describes and gives his opinion on the state of the facilities and management of many of the public and private Botanical Gardens of Italy, a large number of which he had seen during his 1845 travel [§ 3.1.4].

Among these, he has words of praise for those in Turin, Milan, Florence, and most of all Pisa. The one in Naples he considers also good, but not up to its potential, while Padova, of course, he sees as second to none. The botanical garden of Genoa, founded in

1. «Cenni sullo stato della vegetazione in Dalmazia» [b24007].

2. We could not identify this toponym, but it may be linked to the Bosnian town of Bosansko Grahovo, just beyond the border with present Croatia.

3. «Della condizione degli orti botanici in Italia» [b24003].

1803, he considers still not fully developed, the one in Pavia is in his opinion in a state of general decay, whereas the Gardens of Ferrara, Bologna, and Rome he considers not truly scientific institutions. Palermo surprises him for the scarcity of species and the general neglect. A quite long digression follows on the rich flora of Malta, which he uses to argue that a proper botanical garden on the island could easily become the most rich and beautiful in the world.

In his closing remarks, he notes that Germany, France, and even more so England and Belgium have much richer Gardens than Italy, despite their less favourable climate, which he attributes, as always [§ 3.4.10], to:

our narrow commerce, the tight funding, the little honour that was given in the past to gardens, and the still little praise for gardeners¹.

The same gardeners, are therefore *ignorant* and *discouraged*. Visiani goes on by explaining how the newly founded Society for the Promotion of Gardening [§ 3.2.4] could help improve the situation, and reveals he hoped it could also soon start curating a bulletin of practical horticulture, to be named *The Horticulturalist*², which would mostly contain translations taken from foreign publications on gardening, but which was never actually printed.

3.5.6 Elementary Treatise of Botany

We learnt from a letter directed to Massalongo on 29th Sep. 1852 [mssl-520929-@] that the Ministry of Public Education had asked Visiani to prepare an elementary treatise of botany for high schools in 1852, which he accepted, planning to write it during the following winter. In a second letter, without the year but dated 13th of October, Visiani wrote:

In all discretion I let you know that the Ministry asked me by letter my opinion on the Elements of Botany by [deleted]. As you have read it and made some observations on it, I ask you to send me by mail all the errors you noticed in it³.

We can easily conclude that the date must be 1852, and the author in question was almost certainly Manganotti⁴, who had just printed in Verona a treatise of botany for high schools, and who later became a bitter opposer of both Visiani and Massalongo [§ 4.3.2].

An eighteen-page long final draft manuscript discovered in *Lib. HB.* and titled *Botany* [b28 030] seems to be the beginning of that work. As far as we know, it was never actually published, and it is possible that the text by Manganotti was eventually chosen.

Visiani's text is extremely simple and clear in its language, and can largely be considered as a more general and elementary version of his earlier *Intr. Veg* [§ 3.4.1]. It is

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1. «la ristrettezza de' nostri commerci, la scarsezza degli assegnamenti, il poco onore in cui si tennero in passato i giardini, e il poco pregio in cui tuttora si tengono i giardinieri».
 2. «L'Orticolture».
 3. «In tutto riserbo vi comunico che il Ministero mi chiese in iscritto parere sugli Elementi di Botanica del [deleted]. Avendolo voi letto e fattemi sopra delle osservazioni, Vi prego di mandarmi a posta corrente tutto ciò che vi notaste di errori» [mssl-d00003-@].
 4. Antonio Manganotti (1810–1892). Pharmacist in Verona, had studied with Visiani. In 1852 Manganotti was still close to Massalongo, and the two lived in the same city.

noteworthy that Visiani here classifies plants mostly¹ according to the simple but out-dated Linnaean sexual system. Although he rejected it for any ‘serious’ botanical work [§ 3.4.4] [§ 3.6.3], he must have attributed it some value as a teaching tool.

3.5.7 A Botanical Trip on Steamboat along the Dalmatian Littoral

*A Botanical Trip on Steamboat along the Dalmatian Littoral*² seems to be the first, very short draft for a sort of guide for travelling amateur botanists. As far as we know, it is the only piece of popular work that Visiani ever wrote, although it was never actually published.

3.5.8 Letter to the Municipal Congregation

As an expert on plants, Visiani was asked from the Municipal Congregation to express his opinion on whether the large planes (*Platanus sp.*) that grew at the time in the island of Prato della Valle³ were to be cut down or left in place. Visiani’s answer, of which we have a draft [b24005], was that they should be spared. He argued that the lichens that grew on the statues would not have disappeared even if the trees were removed, that plants in general make the air healthier by producing oxygen, and that the fact that they impeded the view of the opposite side of the square during races was inconsequential, as the temporary platforms that were put up in such occasions were too short for that anyway. The professor’s opinion was followed, but the trees continued to be controversial for many decades, especially since they were not part of the original 18th century project. They were eventually cut down in 1995, after they suffered a serious illness, and exchanged with much shorter Norway maples (*Acer platanoides L.*).

3.5.9 Evaluation of Candidates for a Professorship in Genoa

Around 1873 Visiani was asked to evaluate the credentials of three candidates to a professorship in botany at the university of Genoa: Delpino⁴, Baglietto⁵, and Briosi⁶. The document itself was of course reserved, but its draft [b26005a] is conserved in *Lib. HD*. Visiani’s preference went to Delpino, who was clearly much more qualified than the other candidates and eventually won. In his review, Visiani shows a very unexpected admiration for Delpino’s works, in particular for his contribution to the understanding of allogamy⁷ in flowering plants (see § 3.6.6), so much so that, after mentioning some of

1. He also quickly introduces the barely more natural system by Jussieu.

2. «Una corsa botanica sul battello a vapore lungo il litorale della Dalmazia» [b28043].

3. Prato della Valle is a nine hectare square in Padova, one of the largest in Europe. In its centre, there is a green island surrounded by a canal bordered with seventy-eight statues.

4. Federico Delpino (also ‘Del Pino’ 1833–1805). Botanist from Chiavari, near Genoa. A regular correspondent of Darwin, he studied mostly pollination ecology, and was the first to recognise pollination syndromes. His interpretation of evolution, though certainly insightful, was highly speculative and teleological.

5. Francesco Baglietto (1826–1916). Italian lichenologist who studied under De Notaris.

6. Giovanni Briosi (1846–1919). Engineer, became professor of botany in Pavia in 1883.

7. «Dicogamia» in the original, but the word ‘dichogamy’ has now got a different meaning.

the most revolutionary recent papers by other European and American botanists on the subject, he wrote:

One could say that if Italy did not lag behind other nations in this branch of botany, this is due to Delpino¹.

Some of the remarks in this text led us to question the traditional view that Visiani was always entirely convinced of the fixity of species (see § 3.6.6). Delpino thanked the old professor for his flattering review in a letter dated 3rd Jul. 1876.

3.5.10 Letter on the Deanship

In an unpublished letter [b24004], written on behalf of all the professors of the faculty of Medicine, Surgery, and Pharmacy, and probably directed to the viceroy, Visiani begged for the role of dean of faculty, that then only a simple registered physician could perform [208], to be returned to a professor, *as it had been until the time of the immortal Maria Theresa*². The document was certainly prepared before 1860, as in that year the chair of botany was transferred to the faculty of Philosophy [§ 3.1.3], and probably after Maximilian had taken charge, in 1857 [§ 3.1.7], since it seem likely that the professors hoped to take advantage of his liberality and his personal friendship with Visiani. Among the reasons why a professor would be more suited to the role, the letter mentions first the fact that as they are public employees, professors should be more loyal to the government than any self-employed professional (which of course was often not the case!). A second mentioned reason is that only they knew the students directly, which implied a superior moral authority over them and a better ability to evaluate them during their final exams, as professors, they argued, would not *confuse shyness for ignorance*³. The professors also found it unfair that a mere physician, who might not have been an expert on all the fields covered by the faculty, and who, after all, had a lower academic rank, should have made decisions for them. Finally, they argued that they knew the rules of the University better than anybody else, and had more time to spend for the deanship, not having patients to visit.

The plea was successful, and Visiani himself was elected the new dean in 1858–1859. In fact, he was not at all happy of his new position, not least for the many final examinations over which he had to preside [mssl-581116-@]. He once wrote:

Those who envy my constant luck, should not think about the damage of this most miserable year of deanship, and how this damage greatly surpasses the erstwhile luck⁴.

-
1. «Può affermarsi che se in questo ramo della Botanica l'Italia non rimase indietro dall'altre nazioni, è al Delpino che ciò si deve».
 2. «com'era sino a' tempi dell'immortale Maria Teresa» [b24004]. This remark seems out of place: when she reigned (1740–1780) Padova was yet not part of the Austrian Empire.
 3. «confondere la timidezza coll'ignoranza».
 4. «Quelli che invidiavano la mia costante fortuna, pensino ora al danno di quest'anno di Decanato il più misero, e come questo danno superi d'assai le fortune passate» [mssl-@].

We do not know if he just found the mostly bureaucratic and ceremonial job unpleasant and unrewarding, as it came with no additional compensation [§ 3.1.5] [208], or if some more substantial mishappening took place. It would be interesting to try and reconstructed more of the context, as the change of faculty of the chair of botany on the following year may not be a coincidence, and might well be linked also with the outcomes of the Second Italian War of Independence that was meanwhile being fought [§ 1.4.2].

3.6 Scientific and Philosophical Views and Preferences

Some of Visiani's scientific and philosophical views are discussed here. It should be made clear that this section is *not* intended to present a complete view of the author's thought, but merely to draw the attention to some specific aspects of it, while some other important topics are dealt with elsewhere. These include for instance Visiani's views on a possible reform of author citation in botanical nomenclature [§ 3.5.3], his ideas of the principle of priority [§ 3.4.4], and his approach to the naming and numbering of infraspecific taxa [§ 6.3.2].

3.6.1 The Role of Science

Already in his *Intr. Veg.*, Visiani presents botany and science in general not just as an intellectual pursuit, but also as a necessary tool for the betterment of human life. His *Util.* deals widely with the role of plants not only in natural ecosystems, but also in human development. Therein, Visiani traces the history of the relationship between plants and mankind, reminding the reader of how vegetables, since the beginning of time, have provided food and medicine, material to construct housing and the ships necessary to explore the world, clothing, and amenities such as tinctures and paints, musical instruments, condiments, perfumes, and balsams. In the later *Venet.*, Visiani added to the list two more modern plant products: rubber¹ and gutta-percha², the natural polymer that was just starting to be used to insulate underwater telegraph cables, thus highlighting the link between botany and cutting-edge technology. Coming back to *Util.*, the paper goes on with Visiani arguing that the role of botany in the progress of humanity is to liberate the study of plants from *blind practices, old prejudices, and childish habits*³, to the benefit in particular of agriculture and medicine, which he viewed as *the most necessary of the arts*⁴. Similarly, ten years later, he closed his *Gen. Sp.* with the following remark:

in the accurate distinction of genera, species, and varieties lies all the study of

-
1. Natural rubber is derived from *Hevea brasiliensis* Müll.Arg., and it is still commonly preferred to synthetic alternatives, especially for high-end uses such as gloves and condoms. It came into wide use after Charles Goodyear (1800–1860) developed vulcanisation in the 1840s.
 2. The substance, now of little commercial use, is derived from the latex of *Palaquium gutta* (Hook.) Burck., which Visiani called by its basionym *Isonandra gutta* Hook. The first underwater telegraph cable, linking Paris and London, was laid in 1850.
 3. «cieche pratiche, vieti pregiudizii, di purili abitudini».
 4. «le più necessarie delle arti».

nature [...] the accurate distinction of these is intimately linked to the most useful applications, that connect the lovely science of vegetables to the most precious of the arts, agriculture!¹

Visiani's great attention to the link between science and human development in general and between botany and agriculture in particular clearly resonates with the ideals of the Enlightenment first, and of Positivism later [§ 1.5], as he shared the view that (in Mika's words) *practice is blind without theory, and theory without [practise] is useless*². It is thus unsurprising that he was the first director to invest his energies to engage the public with the work at the Botanical Garden, especially through the Society that he promoted [§ 3.2.4], and that he did not refrain from divulging and calling for the development of practical discoveries he believed to hold economic potential [§ 3.4.9]. He also argued that scientific journals should accept papers of applied botany [§ 3.5.5].

Still, Visiani drew a clear line between those for whom botany is nothing but a *useful pastime* and those who actually *practice the science*³. In other words, he believed that although science should be a subject of general concern, it is the responsibility solely of professionals to guide its development, as only they have the moral authority to keep it rigorous and honourable. Proofs of this attitude are found scattered throughout many of his works, but his view is once again most clearly expressed in *Gen. Sp.*, in which he calls for botanists to work towards

forever abolishing from science those barbaric, adulatory, exaggerated, or absurd names, mostly introduced by people foreign to [botany], that soil its nomenclature, and serve no other purpose but to mislead the gullible, to enrich the wary, and to make science almost an accomplice in an immoral commerce, in which it gains nothing but shame and damage⁴.

3.6.2 Empiricism and Experimentalism

Visiani's scientific attitude and methods were rooted in the objectivism and empiricism that had developed already with the Scientific Revolution. Already in his *Intr. Veg.*, he wrote that both physicians and botanists

[...] must be guided only by accurate observation and repeated experience [...] which] by pushing the acuity of intellect into the dark recesses of nature, tear off from the reticent the impenetrable veil with which it was covered by the sadness of the dark ages, superstitious ignorance, the tyrannical yoke of opinions, the systematic frenzy, by injustice, and by the whim of fortune⁵.

-
1. «nell'accurata distinzione dei generi, delle specie e delle varietà riposa tutto lo studio della natura [...] l'accurata distinzione di questi è legata intimamente alle più utili applicazioni, che stringono l'amena scienza dei vegetabili alla più preziosa delle arti, l'agricoltura!»
 2. «Takva je praksa slijepa bez teorije i teorija je bez nje nepotrebn» [204].
 3. «utile passatempo», «la scienza professano» [Gen. Sp.].
 4. «bandir per sempre dalla scienza tutti que' nomi o barbari, o adulatorii, o iperbolici, od assurdi, che, introdotti per lo più da persone estranee alla stessa, la nomenclatura ne imbrattano, e a null'altro servono che a corbellare i creduli, ad arricchire gli accorti, e a far la scienza quasi complice di un mercimonio, in cui non resta ad essa altro partaggio che la vergogna e il danno». 'Mercimonio', that we translate as 'immoral commerce' refers specifically to the illicit and reprehensible exchange for money (usually) of abstract things that should not be for sale, e.g. justice, honour, personal dignity.
 5. «e sole guide esser debbono l'osservazione accurata e la ripetuta esperienza, questi due rami importantissimi del sapere, in luogo di nuocersi l'un coll'altro, soccorronsi fraternamente, e spingendo nei tenebrosi recessi della

In his inaugural speech [Util.], he expanded on the image of a nature reticent to give up its secrets, calling for scientists to

sharpen the powerful minds to a rigorous analysis of facts, train in the patient work of observation [...] and assault, attack with all weapons this reticent nature, which needs to be molested, which does not grant its bounties but to those indefatigable ones who irritatingly endure all struggles, and win over every challenge to get them¹.

However, as a Catholic [§ 3.1.8], he did not argue that science can or should explain everything; he believed that men should accept that some truths are reserved only for God. In any case, where the limits of human knowledge lie is for Visiani not a matter of faith; it is dictated by nature itself:

[nature] will show you that boundary beyond which human intelligence is not helpful, and will force you to respect it²

His introduction to *Gen. Sp.* shows how he viewed his efforts as a temporary and perfectible interpretation of an underlying truth, that he believes to exist independently of human opinion. The whole work is, in fact, precisely an attempt to clear science of any trace of subjectivity by providing a set of rules, as objective as possible, to establish taxonomical boundaries.

Experimentation, rather than mere observation, is there presented as the only truly reliable way to solve scientific questions, which, in his field of botanical taxonomy, chiefly meant resorting to repeated experimental cultivation. He argues that such experiments should be tried to definitely distinguish hybrid forms from separate species, and clarify the correct taxonomical position of plants with intermediate characteristics. Most importantly, he insists that cultivation should be routinely used as a tool to verify the stability of diagnostic characters:

No other means to recognise [hybrids] is more secure and definitive than their cultivation and repeated sowing, carefully and incessantly changing the conditions of weather and soil. A character that resists to such challenges for a few generations is enough to qualify the plant as a good species³.

For Visiani, the Botanical Garden is therefore a scientific laboratory more than anything else. His call for a more experimental approach to taxonomy may be considered relevant even today. It could be argued that although modern molecular techniques have immensely widened our ability to *observe* plants, providing an almost endless list of characters to scrutinise, this does not automatically give us the means to definitively estab-

natura l'acume dello intelletto, strappano alla ritrosa quel velo impenetrabile, di cui r avvolse le divine sue forme la tristezza de' tempi barbari, l'ignoranza superstiziosa, il giogo tirannico dell'opinione, la mania sistematica, i falsi metodi d'insegnamento, l'ingiustizia e il capriccio della fortuna».

1. «aguzzate i potenti ingegni all'analisi rigorosa dei fatti, induratevi al paziente travaglio della osservazione [...] forti di tutte le armi, assalite, attaccate questa ritrosa natura, che vuol essere violentata, che non accorda i suoi favori se non a quelli che indefessi, importuni durano ogni fatica, vincono tutte le prove per meritarsi».
2. «vi additerà quel confine, oltre a cui umano ingegno non vale, ed imporravvi di rispettarlo».
3. «Nessun mezzo adunque più sicuro e terminativo per riconoscerli quanto la cultura e le risemine ripetute dei medesimi, variandone accortamente ed incessantemente le condizioni e di cielo e di suolo. Un carattere che resiste a siffatte prove per alcune generazioni basta a qualificare per buona specie la pianta che lo possiede» [Gen. Sp.].

lish the evolutionary boundaries between species, at least not in the strictly biological sense.

3.6.3 Visiani the Linnean

Visiani saw himself as a disciple of Linnaeus, whom he considered, quite rightly, *the great legislator of botany*¹, and the first to give a clear definition of the concept of species [Gen. Sp.]. As we have seen [§ 3.4], Visiani's work was mostly analytical, and he pursued the goal common to most botanists during the first half of his century: the analysis of regional floras. Coherently with the approach of *the great Swede that knew everything*², he too focussed mostly on the meticulous description of single species and varieties, rather than on more general works of classification at higher ranks, of which he wrote only one [Labiato.] [§ 3.4.8], again following a tradition established in the previous century. Consequently, his work can be described more accurately as that of a phytographer than that of an all-round taxonomist. His analyses have in fact been described as showing *an exactitude of observation that is rarely to be found even in the most celebrated men*³.

In his *Gen. Sp.* Visiani proposed, as Linnaeus had done, a system to recognise genera and species based on a very rigorous hierarchy of characters [§ 3.6.4]: the most important (*essential*) ones being: calyx, corolla, nectaries, stamens, pistils, fruits, seeds, and receptacles, after which (*accessory*) come bracts, and inflorescence, followed by leaves, stems, and roots. The central role he attributed to reproductive organs in his system is confirmed also in his palaeobotanical works (e.g. [Noval.]). Those traits deemed *vague, arbitrary* or *not expressible in words*⁴ are excluded altogether. Priority should be given to the most evident features, rather than to microscopic ones.

However, his admiration for Linnaeus did not blind him to more modern concepts: For instance, already from the beginning of his career he rejected the sexual system in favour of natural ones (see § 3.4.4, § 3.5.3), and he agreed with his contemporaries on the importance of the structure of the inflorescence in the determination of genera, contrary to Linnaeus's opinion.

Visiani's traditionalist approach was criticised by some of his contemporaries, who accused him of *having neglected those parts of the science which are founded on the microscopical and chemical analysis of plants*⁵. They also pointed out that his *works and lectures [...] were certainly affected by the age in which he was initiated to botany, and mainly by the absence of some tools of investigation that are now indispensable, first of*

1. «il grande legislatore della botanica» [Gen. Sp.].

2. «il grande Svedese che tutto seppe» [P. Stor].

3. «esattezza d'osservazione quale raramente si rinviene anche negli uomini più insigni» [10].

4. «vaghi, arbitrarii, non esprimibili a parole» [Gen. Sp.]

5. «aver trascurato quelle parti della scienza che hanno fondamento nell'intima analisi microscopica e chimica delle piante» [8].

which the microscope⁶. In *H. Pat.* 56 Visiani wrote a lengthy defence of taxonomy over other branches of botany, arguing that:

as vegetable physiology has grown amazingly in this last century, botanists from every land turned in great numbers to cultivate it, neglecting and abandoning the descriptive part of science, whence of course it was necessary to commence. It is for this that phytographers are becoming rarer and rarer each day, and as the reciprocal affinities of plants are little studied, we risk putting botany, as for their distinction and ordering, back into the thick darkness out of which phytographers struggled so much to take it, after the Linnaean reform¹.

It is interesting to notice how claims of an impending, irreversible crisis of taxonomy are far from a recent phenomenon (see e.g. [209] [210]). Visiani argues that phytophography, by which he clearly meant taxonomy as a whole, is fundamental for applied botany, promotes the exploration of new lands, and is the reason why people are drawn to the *lovely science* in the first place. He also stressed the need for any physiologist to have a basic knowledge of taxonomy [Gen. Sp.].

3.6.4 Taxonomical Concepts

Visiani briefly discussed his concepts of genus and species in the introduction to *FD2*, and produced a much larger theoretical paper on the subject on the same year (1847), *Gen. Sp.*, whose central points are presented here.

After lamenting that the multiplicity and variability of *names* discourages amateurs and entails a great waste of time for professionals (as it still does [§ 1.6.4]), he proceeds to explain that he considers the uncertainty over the concepts of taxa as its main source. After complaining that botanists generally failed to discuss their taxonomical concepts in the introduction to their papers, he treats the history of the idea of genus from Tournefort to his days, touching on the opinions of Linnaeus, De Candolle Sr., Mirbel and De Candolle Jr.. Having analysed the precision and convenience of the rules proposed by each of his predecessors, Visiani distils his own version in fourteen points. His 'rules' in fact turn out to be a somewhat disorganised mix of definitions, suggestions, observations, and true guidelines, which are hereunder summarised:

(1) A genus is *an association of species joined together by one or more common and constant characters of all the organs of flowers and fruits, as well as the arrangement of flowers in phanerogams, and by those of the general organisation and the reproductive parts analogous to these in cryptogams*².

6. «Le opere e le lezioni di questo scienziato si risentono certamente dell'epoca, nella quale egli fu iniziato agli studi botanici, e principalem,ente della mancanza di alcuni mezzi d'investigazione ora indispensabili, fra i quali principalmente il microscopio» [7].

1. «cresciuta mirabilmente in questo ultimo secolo la fisica vegetale, i botanici d'ogni terra si volsero in gran numero a coltivarla, trascurando ed abbandonando la parte descrittiva della scienza, da cui era pur mestieri pigliar le mosse. Egli è per ciò che i fitografi si vanno rendendo rari un dì più di un altro, e poco studiandosi le affinità reciproche delle piante, si corre rischio di ritornare la botanica, riguardo alla distinzione ed ordinamento delle medesime, a quel fitto bujo, da cui tanto penarono, dopo la Linneana riforma, i fitografi a rilevarla».

2. «associazioni di specie unite insieme per uno o più caratteri comuni e costanti tratti dagli organi tutti del fiore e del frutto nonché dalla disposizione dei fiori nelle piante Phanerogame, da quelli della organizzazione generale delle parti riproduttrici od analoghe nelle Crittogame».

(2) Two kinds of genera should be admitted: those based on a single *essential* shared character, called ‘systematic genera’ by Mirbel, which are rarer, and those based on many shared characters, which are more natural and more common. Genera whose species lack any clearly defined common characters (Mirbel’s ‘concatenated genera’), but are instead linked together only by gradations of secondary characters, should be avoided as far as possible.

(3) The more characters from the reproductive organs that are shared within a genus, the more natural and secure it is.

(4) A genus can be based also on a single character from the reproductive organs, but only if the plant’s *habit*¹ is also common and distinct from that of close genera. When the habit is not common and separate, the single character can only be used to define a section. Visiani does not define ‘habit’ anywhere, not even in *Intr. Veg.*, so we must assume he had in mind Linnaeus’s definition:

a certain conformity of plants that are allied and related, among other things, in their placentation, radication, ramification, intorsion, gemmation, foliation, stipulation, indumentum, glandulation, lactescence, inflorescence, and others².

(5) A natural genus cannot be divided into smaller ones only on the grounds of a single character. Visiani probably saw this point and the previous one as the core of his argument, as he believed this was the rule most often disregarded by ‘splitter’ botanists. In *FD2*, we find the single episode that might have spurred him to write a paper on this subject: in a direct attack on Fischer³’s choice [212] to separate *Adenophora* Fisch. from *Campanula* L. just on the basis of the shape of the nectariferous disc⁴, he commented:

A single character does not make a genus, unless it is of the greatest importance, or at least supported by the habit, about which a group of species, joined by that character, not only are coherent with one another, but are also different from those close to them already at a first glance. Unless botanists stick to this Linnaean law, artificial genera will obscure the science, and in a short time we will have as many genera as there are small differences in the organs of reproduction, and so, as the analysis itself gets more and more accurate, almost as many as there are species⁵.

(6) The more species there are in a genus, the more secure it becomes.

(7) Only the characters mentioned in rule n. 1 are admissible in the description of genera. They should be analysed according first to their existence or absence, then by their relative position, and finally, depending on each case, by their continuity or articu-

1. «portamento».

2. «conformitas quaedam Vegetabilium affinium & congenerum, in Placentatione, Radicatione, Ramificatione, Intorsione, Gemmatione, Foliatione, Stipulatione, Pubescentia, Glandulatione, Lactescentia, Inflorescentia, aliisque» [161], translation from Nickelsen [211].

3. Friedrich Ernst Ludwig Fischer (1782–1854). Russian botanist of German origin.

4. Incidentally, the correct interpretation of floral features and classification of the whole Campanuleae tribe remains a very hard question to this day (see e.g. [213]).

5. «Character unicus enim non facit genus, ni maximi sit momenti, aut saltem habitus accedat, cujus ope species aliquot caractere illo conjunctae non solum inter se convenient, sed etiam ab illis congeneribus prima jam fronte differant. Ni legi huic Linnaeanae botanici arctissime inhaereant genera artificialia scientiam obruent, et brevi tempore tot genera habebimus quot parvae in organis reproductionis differentiae, ideoque, cum eorundem analysis in dies subtilior fiat, ferme quot species».

lation, or by their adhesions, relative proportion, shape, or number. In cryptogams also the nature of the tissue, structure, texture, and colour can be taken into account.

(8) The habit is not enough to distinguish a genus, but it can suggest the existence of more important common characters.

(9), (10), (11) No organ, character, or part of an organ should be given the same importance in all genera.

(12), (13) When some species within a genus do not share one of its common characters, they should probably be separated from it. Conversely, when some species in a genus share some of their characters with a close genus, they should probably be joined to it.

(14) When a species is attributed by different authors to a different genus, it should probably be attributed to an entirely new genus.

Most of the 'rules' are illustrated by detailed and clear examples, meant to guide other botanists in their correct application.

From the principles he states and his word choices, it is clear that Visiani, with Linnaeus, believes genera to already exist in nature, and he insists that their description should be considered just that: an accurate picture of a natural entity, as was originally created, rather than a subjective grouping of organisms formed for reasons of convenience¹. Coherently, he argued that *characters do not form a genus, but rather indicate it, and the former comes from the latter, not vice-versa*², and often referred to *false genera* and to *the true* (i.e. 'natural') *laws* of their formation, which are just to be *discovered*, rather than created. He apparently believed as well that all genera could and should be made to only contain clearly similar species:

It would be highly desirable that all genera be natural, and that botanists turn to the very important work of accurately restudying and purging all genera of ambiguous species, to only keep in them similar species³.

He also suggest that, in taxonomical works, those species whose characters do not perfectly fit with the description of the genus should be listed at the end.

It should be noted that the problem of the definition of genera, discussed by Visiani, is still far from solved, despite taxonomy having freed itself from his essentialist views, and supraspecific ranks having become arbitrary. In the struggle to build a system of *names* that is both phylogenetically correct and as informative and practical as possible, works like Visiani's provide a clear insight on the workings, merits, and flaws of the traditional concepts, that are universally used as a baseline and indirectly defended in any call for nomenclatural stability.

The second part of *Gen. Sp.* deals with the concepts of species and infraspecific taxa. As is to be expected from a 19th century taxonomist, and self-proclaimed disciple of Lin-

1. This contrasts with Linnaeus's classes and orders in the sexual system, which he was well aware were entirely artificial.

2. «il carattere non forma il genere, ma lo indica, e che quello proviene da questo e non viceversa» [Gen. Sp.].

3. «sarebbe vivamente a desiderarsi che tutti i generi fossero naturali [cioè composti di specie evidentemente fra loro simili], e che gli studii di tutti i botanici si volgessero a questa importantissima opera di una accurata rivista e depurazione de' generi delle specie ambigue che gli oscurano, onde ritenere in essi le sole specie simili».

naeus, Visiani's view is again essentialistic and based on a fixed hierarchy of characters. For him, what defines species and infraspecific taxa are both their common characters, and their common descent from a single ancestor. A species is defined as:

a group of individuals more similar to one another than to all the others, so that they can be considered to have all been bred by a single hermaphroditic or monoecious plant, or by two equal dioecious plants, which have in common immutable characters that reproduce unaltered by direct and constant generation¹.

On the existence of species, he also added:

The species exists in nature, it exists in the same way for the idiot and for the botanist, it appears before the eyes of everyone because it is independent from the [classification] systems of men².

This remark could be read as indirect and unusually scathing attack to his many colleagues who doubted that species really exist, including for instance Meneghini [§ 4.3.4] and Parlatore [§ 3.4.7], whom he apparently considered less observant than any *idiot*.

A 'subspecies' is defined as:

a group of individuals whose characters are maintained in cultivation, and spread as those of the species, but are of inferior importance³.

A 'race' (or, in Candolle's words, a 'variety permanent by seed') is defined as:

a group of similar individuals whose characters are conserved by subdivision or generation, but not always nor in all circumstances⁴.

A 'variety' (or, in Candolle's words, a 'variety permanent by extension') is:

a group of similar individuals whose common characters disappear with sowing, and cannot be conserved by means other than subdivision of parts, i.e. by grafting, layering, cuttings⁵.

Finally, a 'variation' or 'local variety' is defined as:

a modification of some character of the species, produced by external circumstances [...], which cannot be reproduced nor transmitted even by subdivision⁶.

Whether the many names at the rank of *varietas* that Visiani described in his works are to be interpreted as subspecies, races, or varieties proper, according to his own defini-

-
1. «una riunione di individui più simili fra loro che a tutti gli altri, per cui si possono considerare tutti procreati da una stessa pianta ermafrodita o monoica, o da una coppia di piante eguali dioiche, i quali hanno in comune alcuni caratteri immutabili, e si riproducono inalterati per generazione diretta e costante».
 2. «La specie esiste in natura, esiste per l'idiota al pari che pel botanico, si appalesa agli occhi di tutti perché è indipendente dai sistemi dell'uomo».
 3. «una riunione di individui, i cui caratteri comuni reggono alla cultura, e si riproducono di seme come quei della specie, ma sono di un'importanza minore».
 4. «una riunione di individui simili, i cui caratteri comuni si conservano immutati per divisione, ed anche per generazione, ma non sempre né in tutte le circostanze».
 5. «una riunione d'individui simili, i cui caratteri comuni scompaiono colla seminazione, né si possono conservare che per divisione di parti, cioè per innesti, margotte, talee».
 6. «una modificazione di alcun carattere della specie, prodotta da circostanze esteriori [...], la quale non può essere conservata e trasmessa nemmeno per divisione».

tions, is not clear, whereas the *variationes* he described in *Taraxacum* and *Olea* are instead clearly ‘variations’.

As he had done for genera, Visiani goes on to list thirteen ‘rules’ to recognise species, obtained from his critical review of the opinions of previous scholars:

(1) *The true species must be distinguished from the others in the same genus by one or more common and constant characters, taken from the organs of vegetation, or from those accessory to reproduction, or from organs of reproduction taking characters not used for the genus*¹.

(2) When a species is based on a single character, that must be taken from the most important ones (existence, relative position, shape based on underlying structure), or from the most important organs.

(3) The relative number of parts, if constant, is a specific character, unless it is confused by excessive or insufficient development, or by accidents.

(4) Relative size has specific value, absolute size does not.

(5) The shape of organs has specific values only if accompanied by the underlying anatomical structure, such as by the distribution of vascular bundles.

(6) The relative position of parts is a good specific character.

(7), (8) Colour, taste, smell are not specific characters, nor are the general habit and look of a plant alone.

(9) Species are more secure and characters more constant if described from many living, wild individuals growing in different environmental conditions.

(10) Species are more natural and distinct if based on important and numerous characters.

(11) When a species grows alongside other similar ones in the same environment, but without forming intermediate individuals, it is probably separate.

(12) Vicariant species should be cultivated together to test their independence.

(13) If there are intermediate individuals between species, the differential character should be tested on numerous specimens from many different locations, or by experimental cultivation.

Determining if and in what cases Visiani’s criticism of the tendency to excessively split species and genera is coherent with his own taxonomical choices is not as immediate as it may seem, but a sufficiently clear idea can be drawn simply from looking at the *new statuses* from the list of all the nomenclatural novelties he proposed [§ II]. These add up to 193, of which 188 (97%) are taxa originally described as species and moved by him to the rank of variety, and remaining five (3%) are varieties he elevated to the rank of species, two of which he himself had first discovered and named (*Lilium cattaniae*, *Achillea abrotanoides*). The disparity in the two numbers is such that Visiani must clearly be considered a radical lumpner, at least by the standards of his age.

1. «la vera specie deve essere distinta dalle congeneri per uno o più caratteri comuni e costanti, tratti dali organi della vegetazione, o dagli accessori della riproduzione, o dagli organidella riproduzione prendendo caratteri non usati per il genere».

3.6.5 Naming Choices

In a letter to Massalongo [mssl-541110-@], Visiani scolds his younger colleague for *working with the English and German* to make botanical nomenclature *ever more agonizing and barbaric*¹ by forming too complex *names*, intended to indicate the species' characters. He argues that this can never work perfectly, and makes them unnecessarily hard to correctly remember. He then argues that the example of Linnaeus² should always be followed, and that names should be short and harmonic. Still, his longest epithet (*'calaminthaefolia*³) is a respectable sixteen letters long.

Following Peruzzi & *al.* [214], we classified most of Visiani's names according to five⁴ etymological categories:

Category	Number	Examples
morphological	429 (70%)	<i>nodosa, microcalyx, flavescens, dilatata, minor</i>
eponymic	90 (15%)	<i>elisae, brocchiana, kitaibelii, littae, grisebachiana</i>
geographical	46 (7%)	<i>dalmatica, aegyptiaca, serbica, novalensis, ascrivensis</i>
ecological	27 (4%)	<i>perennis, autumnalis, pratensis, praecox, sylvestre</i>
other	24 (4%)	<i>marasca, vulgaris, pulchella, prisca, stans, amoena</i>
total	616	

Visiani's strong preference for morphological epithets is clear.

3.6.6 Theory of Evolution

No work on a 19th century naturalist can be complete without a discussion on their position concerning the theory of biological evolution, be it the modern Darwinian understanding (i.e. evolution by natural selection) or other, earlier versions, which for the sake of simplicity we shall all indiscriminately call 'transformism'. Visiani has sometimes been depicted as a *dogmatic* champion of fixism (e.g. [14]), but the truth is not so clear-cut, as is often the case.

Visiani did not write extensively on the subject of transformism. However, he did touch on it in his 1856 open letter to Massalongo [Vienna], where, after mentioning having seen a gorilla at the congress in Vienna [§ 3.3.10], and listing some similarities and differences between the ape and humans, he wrote:

This seems to be the clearest transition from ape to man, as for physical shapes; except in these such differences stand out, that they certainly do not provide better or more certain support to the opinion of those who, belittling themselves to the point of seeing in themselves nothing more than an ape, with more than philosophical abnegation, do not shy away from recognising in this, the primitive type

1. «cooperiate [... con] inglesi e tedeschi», «sempre più barbara e straziante» [mssl-541110-@].
2. The same Linnaeus who described 34-letter long *Leucadendron hypophyllocarpodendron!*
3. Applied to a variety of *Mentha aquatica*. The name is to be corrected to *calaminthifolia* according to Art. 60.8.
4. Our reference paper has six categories, distinguishing eponymy ascribed to Italian or foreign people.

of men¹.

From this extract, it is clear that Visiani did not like theories involving the mutability of species, and that he especially disliked them when applied to humankind, although he *did* concede that gorillas and humans are quite similar in many ways. This of course was (and still is) a common immediate reaction, and it resonates well with his religious upbringing and beliefs [§ 3.1.8]. It may be worth noting that Tommaseo, who shared Visiani's exact same education until the age of seventeen, was the author of a 1869 booklet [215] in which he launched a vicious (and rather hollow) rhetorical attack against evolutionism as applied to humans, and even more so to its teaching to students and the general public, with a streak of patronising obscurantism that Visiani would almost certainly not have approved of [§ 3.6.1].

In his most philosophical work, his 1847 *Gen. Sp.*, Visiani had supported his position with stronger arguments than a mere appeal to emotion:

Plants and animals known to the Greeks and Romans, can largely still be recognised [...]. Animals and plants that were indigenous to ancient Egypt, and are depicted in the hieroglyphics, and moreover conserved in nature in the necropolises, still show the same characters and the most perfect resemblance to their analogues, still living in the Country of the pyramids, almost as to show us that not even the slightest change has occurred in their shape. So three thousand or possibly four thousand years were not enough to alter them: what longer, more certain, more definitive proof could man not just ask for, but imagine, with which to prove the immutability of species?²

Famously, it was the father of vertebrate palaeontology, Cuvier³, who analysed animal mummies from ancient Egypt, and did not find any anatomical difference between them and modern animals. More proof, in Visiani's opinion, came from cultivation experiments:

In more than three centuries since botanical gardens exist, during which some plants have been cultivated constantly, and the annual ones sown again every year, nobody could ever witness the transition of a true species into another [...]. In the King's garden in Paris one-hundred-fifty grasses were incessantly sown for thirty years, always in different conditions, preferring on purpose those which, being their generic and specific boundaries often light and ambiguous, should be con-founded more easily, and [the gardeners...] never had a chance to witness any transition from one species to another⁴.

1. «Sembra questi il più evidente passaggio dalla scimmia all'uomo quanto alle forme fisiche; senonché in queste stesse spicca pure tal differenza, da non porgere di fermo nuovo o miglior sostegno all'opinione di quelli, i quali con più che filosofica abnegazione abbassandosi a tale da riconoscer in sé medesimi nulla più che una scimmia, non rifuggono dal ravvisare in questa, il primitivo tipo dell'uomo».

2. «Le piante e e gli animali conosciuti dai Greci e dai Romani, in gran parte si ravvisano anche oggidì [...]. Gli animali e le piante indigeni già dell'antico Egitto, e raffigurati ne' geroglifici, e quel ch'è più, conservati in natura nelle necropoli, presentano tuttora i caratteri stessi e la più perfetta rassomiglianza con quelli analoghi, che or vivono e crescono nel paese delle piramidi, quasi per dimostrarci non esser avvenuto nelle lor forme il menomo cangiamento. Tremila adunque e forse quattromila anni non bastarono ad alterarle: e quale più lunga, più certa, più concludente prova di questa potrebbe l'uomo, nonché chiedere, immaginare, onde accertare l'immutabilità della specie?»

3. George Cuvier (1769–1832). French naturalist, was one of the fathers of palaeontology and comparative anatomy, and an opposer of transformism.

4. In più di tecento anni dacché esistono i giardini botanici, nei quali alcune piante si coltivano costantemente, e le annuali si riseminano ciascun anno, nessuno ha potuto cogliere il passaggio di una vera specie in un'altra [...]. Nel

Visiani's position, expressed over ten years before the publication of Darwin's seminal book [216], was therefore not truly dogmatic, but rather grounded on the solid result of experiments, coupled with a lack of understanding of the depth of geological time, of which 3–4,000 years was generally considered a large fraction, and thirty years a substantial segment. Buffon¹ himself had calculated, by a rather naïve extrapolation on the time it took a ball of molten iron to cool, that the age of the Earth was only 75,000 years [218], whereas it is now understood to be over 4.5 billion. The estimates of physicists were in fact at odds with the conclusions of geologists and biologists for a very long time: Darwin himself famously feared that Kelvin² had struck a mortal blow to his theory when he estimated the age of the Sun to be at most a hundred million years, in 1862³. That a practical man like Visiani, with his complete trust for experimentation over speculation [§ 3.6.2], did not accept the still unripe hypotheses of the transformists is therefore entirely reasonable and unsurprising.

Visiani believed that the *bizarre idea* of transformists would undermine the whole of systematic biology by invalidating the description of species as separate entities, thus making classification, which he saw as the main subject of botany [§ 3.6.3], impossible at the lower ranks:

Some believe, with Buffon himself, that species are not immutable. This bizarre idea (which, if true, would destroy the concept of species and would render the science which is based on it useless) is strengthened by the observation that there exist in nature individuals that are intermediate between species, which seem to indicate and demonstrate such transitions⁴.

Indeed, purely essentialist species concepts like Visiani's [§ 3.6.4] are difficult if not entirely impossible to reconcile with transformism or evolutionism, so much so that Darwin himself rejected the existence of species altogether:

I look at the term *species* as one arbitrarily given for the sake of convenience to a set of individuals closely resembling each other, and that it does not essentially differ from the term *variety* [216: 52].

The question in fact is not yet entirely solved, and surfaces when palaeontologists are faced with the classification of so-called pseudoextinct taxa⁵ (see e.g. [219]); its relev-

giardino del re a Parigi si fecero per trent'anni seminagioni incessanti ed in circostanze sempre variate di cincin-
quanta graminacee diverse, preferendo a bell'arte siffatte piante, come quelle, i cui limiti generici e specifici es-
sendo sovente ambigui e leggeri, parrebbero dover confondersi più agevolmente, senza che [ai giardinieri ...] fosse
dato giammai di scorgere alcun passaggio dell'una nell'altra specie».

1. George-Louis Leclerc, Comte de Buffon (1707–1788). French naturalist, mathematician, and cosmologist of the En-
lightenment. He is considered one of the forerunners of evolutionism, having been one of the first to openly hypo-
thesise the transformation of species in scientific terms [217].
2. Sir William Thomson, Lord Kelvin (1824–1907). British physicist who gave crucial contributions to thermodynam-
ics. The SI unit of temperature was named after him.
3. Kelvin's calculations are formally correct, but his result arises from the wrong assumption that the Sun's heat is
generated by a chemical reaction, as nuclear energy was not yet known.
4. «Pensano alcuni collo stesso Buffon, che le specie non sieno immutabili [...]. Rafforzano una sì strana sentenza (la
quale se fosse vera distruggerebbe l'idea della specie, e renderebbe inutile la scienza che vi si fonda), coll'osservare
che esistono in natura individui intermedii fra specie e specie, i quali paiono segnarne e dimostrarne i passaggi».
5. That is, taxa whose lineage is not extinct, but that have diverged so substantially from their ancestral state that it
is more convenient to consider them to have become a new entity.

ance to the study of present biodiversity is limited, once again, only by the huge depth of geological time and the relatively slow pace of evolutionary change.

Visiani saw transmutation as tightly linked to hybridism, as neither he nor his predecessors could picture any sources of variability other than that already existing in living things from their beginning. Speciation by hybridisation was first proposed by his hero, Linnaeus [220], who in his old age suggested that only genera were created by God, whereas all species originated through hybridism. Visiani, on the other hand, only conceded that

hybridism does rarely originate some species, but it generally only produces races, which tend to degenerate¹.

Visiani's position on evolution by natural selection, as first proposed by Darwin in 1859 [216] and presented in Italian by his colleague Canestrini² two years later, is less well documented. His contemporary biographers concur that he never changed his mind on the subject, remaining a fixist for all his life [6] [99], although Canestrini himself concedes that he must have experienced some doubts³. Visiani's great interest in palaeobotany [§ 3.4.7] already pointed not to a blind rejection of the subject, but rather to an inquisitive and open attitude towards it, and he in fact had unusually harsh words for the *nay-sayers*⁴ who feared, in Canestrini's words, *the light that geology spreads on bygone times*⁵. More evidence to support a nuanced attitude, and possibly even a late conversion, comes from his unpublished comments on Delpino's work [§ 3.5.9], in which Visiani shows for him the greatest admiration. More specifically, he praises his translation of Müller⁶'s paper on *the application of Darwinian theory to flowers and flower-visiting insects*⁷, and his work on the *Biological and genealogical relations in the Marantaceae*⁸, in which the peculiar structure of their flowers is explained explicitly in the light of evolution. Visiani also mentions Darwin among *the most competent judges* to have approved Delpino's contributions, and shows knowledge and appreciation for his work on the pollination of orchids [190], which solved the questions that were left unanswered in his *Vanill.* [§ 3.4.9]. Nonetheless, he interlined his deluge of compliments with the following:

And though not all might agree with [Delpino] in ['all of' added later] the teleological deductions he draws, still one cannot deny he has much clarified and illustrated this still new part of botany⁹.

-
1. «l'ibridismo alcune rare volte origina qualche specie, ma d'ordinario non produce che razze, le quali tendono a degenerare».
 2. Giovanni Canestrini (1835–1900). Italian zoologist who worked in Modena and Padova, was the first Italian translator of Darwin's *Origin of the Species* (1866).
 3. He wrote that Visiani *felt the ground failing under his feet* («si sentiva mancare il terreno sotto i piedi»), a rather transparent idiom.
 4. «schifiltosi» [Noval.-2].
 5. «la luce che la geologia spande sui tempi passati» [6].
 6. Hermann Müller (1829–1883). A German botanist, correspondent of Darwin's and great supporter of his theory. One of the first to explore coevolution, he described the kind of mimicry that we now call 'müllerian'.
 7. «Die Anwendung der Darwin'schen Lehre auf Blumen und blumen-besuchende Insekten» [221].
 8. «Breve cenno sulle relazioni biologiche e genealogiche delle Marantacee» [222].
 9. «E quantunque non tutti possano consentir con lui nelle in tutte le deduzioni teleologiche ch'egli ne trae, pure non

We cannot say if it was in fact himself who did not agree with *all of* Delpino's deductions, or if this sentence was instead intended to mitigate the potential hostility of other panel members who might have strongly opposed the new theories, although the fact that Visiani only felt the need to add it later seems to favour the latter case. It is also possible that the phrase 'teleological deductions' did not refer to evolutionism *tout court*, but rather to Delpino's personal interpretation of the matter, which was indeed strongly spiritualistic, vitalistic, and teleological [223].

What is certain is that Visiani's successor Saccardo, who was already often teaching in his stead during that period, did not believe in evolution [184], so that any late concession to Darwinism by his master could not have had much impact on the teaching and understanding of botany in Padova, which remained itself fixed on the old paradigm for a very long time.

3.7 Legacy

In this section we shall present both Visiani's material and scientific legacy.

3.7.1 Material Legacy

By 1871, Visiani had already left most of his worldly possessions to the Botanical Garden. These included [Sacc. Chr.]: a collection of fossil plants from Veneto, with 284 species and 432 specimens, of which 102 were of large size; a collection of 92 species of fossil plants from Dalmatia; a collection of about 8,500 plants from Greece, Germany, Russia, Egypt, France, and Italy, which were united with the *HG*; a collection of about 2,000 cryptogams; his *HD*, with around 2,500 species and 10,000 specimens from Dalmatia, already organised in forty bundles; a precious but obsolete Dancer¹ microscope with two eyepieces, four lenses, a polariscope, two condensers, some instruments for microtomy, and numerous microscopic preparations, all in a mahogany casing; 32 plaster models of fossil plants; two wax models representing the epidermis of a leaf and a section of a dicot trunk, sculpted in 1868 by Egisto Tortori of Florence [74]; a collection of about a thousand botanical books in around 1,500 volumes, many of them rare and precious; and about 1,000 booklets and papers on botany.

Beyond all this, with the testament he wrote on 2nd Dec. 1877 [a.g.-leg.], five months before passing away [224], Visiani left to the benefit of the Garden all the money from his accounts that he had not explicitly bequeathed to others, which amounted to the conspicuous sum of £ 37,000. These resources should have been used to increase its collections and to cover for a potential reduction of funding from the Government:

Of all my remaining substance, I make this royal Botanical garden the sole heir.
[...] If it should come to pass that its allowance of £ 6,000 should disappear or

gli si può negare l'aver egli assai chiarito ed illustrato questa parte tuttor nuova della Botanica».

1. John Benjamin Dancer (1812–1887). Celebrated English instrument maker and inventor of microphotography.

diminish so substantially that it is not enough for its essential needs, being my will to prevent such a disaster, I authorise the aforementioned Rector, the Director of the Garden and the Head Gardener [...] to use all or a part of the yearly profits of my wealth to cover that. Nor can I leave this painful topic without imploring those on whom the Garden will depend not to let this eminent monument to the wise munificence of our Fathers to perish for their own fault or under their Administration¹.

As Cappelletti explained very clearly [224], in 1983 a large part of this donation remained to be spent, and amounted to £ 39,728 (€ 20.52) in treasury bills. Almost all of the considerable original value was lost to inflation. We do not have any information about the 12 shares of Banca Popolare that he also apparently bequeathed [224]. He also left mementoes to his friends and relatives² and donated his portrait to the Garden, *because he desired to always remain there at least as his likeness*³. As already mentioned [§ 3.4.11], his collection of about 2,000 ancient books, some of which are rare or even unique, was left to the township of Padova [99], and are now at the Civic Library.

At his death, a much smaller sum than that for the Garden, ft. 600, was donated to the Hospital of Šibenik, and ft. 400 were assigned for the needy of his native parish [10]. In fact, the charitable professor had already made a much more substantial donation of ft. 2,800 to improve and elevate the hospital by one floor in 1863, just after his recent visit to his home town [§ 5.3.2], for which he received a formal demonstration of gratitude by both the local council and the Parliament of Dalmatia [13]. He had also donated numerous books to the schools of Šibenik, as well as two portraits: one of himself and one of Tommaseo [10].

We know from a letter to Massalongo [mssl-570206] that Visiani had already decided to bequeath everything to the Garden at least by 1857, which irritated his friend quite a lot; Massalongo evidently had hoped to get (back) at least some of the fossils (see § 3.2.1). Massalongo felt that such generosity was undeserved, especially because Visiani had not recently received any honours or recognition by the Austrian government, which, at any rate, he despised. These are the words Massalongo wrote, (in Latin, for some unknown reason):

[...] however this irritates me strongly, and even more so because this thing affects me personally. I understand now that you have a great reason to bequeath your books and herbarium to the Imperial Royal Garden of Padova, now that you have received so many honours! Shouldn't I better go and feed the fish in the Brenta river?? Do as you wish⁴

-
1. «Di tutta la mia sostanza residua istituisco mio Erede universale questo regio Orto botanico [...]. Che se avvenisse il caso che dovesse mancare o menomarsi di tanto la sua dotazione di £ 6.000, da non bastar più ai bisogni suoi più essenziali, essendo mia volontà di prevenire questo disastro, autorizzo il Rettore, il Prefetto dell'Orto ed il Capo Giardiniere suddetti, che [...] si possano impiegare in ciò o tutti o in parte i redditi annui della mia facoltà. Né posso abbandonare questo doloroso argomento senza scongiurare coloro da' quali in allora dipenderà l'Orto a non voler lasciare perire per colpa loro o sotto la loro Amministrazione questo insigne monumento della munificenza sapiente de' nostri Padri» [a.g.-leg].
 2. Visiani had distant cousins who lived in Venice.
 3. «perché desiderava di rimanervi sempre presente almeno in effigie», as reported by Pirona [8]. His wish was fulfilled: as we mentioned in § 3.1.6, his portrait is still there, on a wall in the office of the herbarium curator.
 4. «[...] me tamen sollicitat vehementer, et augeat per inde ac me res ipsum afficeret. Intelligo nunc magnam tibi esse causam tuum herbarium librosque Caesareo Regio Horto Patavino legandi, tot tantisque honoribus nunc acceptis! Non me praestat in Medoacum flumen piscibus alendis dispicere?? Fac quod vis».

Unfortunately for him, he died a long time before Visiani [§ 4.3.2], so the interest in his legacy was misplaced.

3.7.2 Scientific Legacy

As Forenbacher wrote, Visiani was for decades *in a certain sense the soul of all the botanical research of Dalmatia*¹. The importance of his work in the scientific fields and the territories he dealt with is so obvious that it is not to be restated here (see also § 7), but his record forty-two years of teaching and work at the Garden did of course also leave other marks.

First and foremost, as a Linnaean [§ 3.6.3], Visiani was an example for many other who followed, in particular for his successor Saccardo, who despite focussing on microscopic observation, was still essentially a morphologist and a taxonomist [§ 4.1.3]. The same could be said of Abramo Massalongo and his sons Caro and Orseolo [note in § 3.6.3], of Trotter², Forti³, and all the most influential botanists in Padova, at least up to Gola⁴. To realise how crucial Visiani's influence was, we must only try and imagine how different our legacy would now be had physiologist Meneghini won the chair in his stead [§ 3.1.2].

Visiani's successors arguably also inherited his remarkable openness to the world and the will to put science before personal dislikes and political struggles.

Finally, it was Visiani who first tried to establish a concept of the Botanical Garden of Padova as a both a place of beauty and scientific research, open to the public and intended to inspire marvel and curiosity, in which he was more modern than many of his successors.

3.7.3 Eponymy

A large number of species were named in Visiani's honour through the years: we could count thirty-nine. They are here simply listed alphabetically, with the abbreviation of the author; for the full bibliographical references, we direct to our sources, which are all available online: [89] [90] [225] [226] [227] [228].

Acer visianii Nyman, *Achillea visianii* Dalla Torre, *Adiantum visianii* Schloss & Vuk., *Anthemis visianii* Weiss ex Boiss., *Asperula visianii* Korica, *Bilimbia visianica* Beltr., *Blastenia visianica* A.Massal., *Centaurea visianiana* Plazibat, *Centaurea visianii* Rouy, *Chara visianii* Blazenčić & V. Randjel., *Chrysanthemum visianii* Gjurašin, *Cineraria visianiana* Nyman, *Colchicum visianii* Parl., *Crocus visianicus* Herb., *Cymbalaria visianii* Kümmerle, *Cytisus visianii* H.Lindb., *Dichopteris visianica* Zigno, *Eryngium visianii* Tey-

1. «u neku ruku duša svih botaničkih istraživanja Dalmacije» [11].

2. Alessandro Trotter (1874–1967). Botanist and entomologist, most interested in galls.

3. Israele Achille Italo Forti (mostly known as 'Achille', 1878–1937). Botanist and celebrated diatomologist from Verona. He was also interested in art: at his death he left his large collection of paintings to the township of Verona, and asked for his house to be made into a museum.

4. Giuseppe Gola (1877–1956). Botanist and plant physiologist, he was director of the Garden of Padova from 1921 to 1947.

ber, *Gypsophila visianii* Bég., *Hesperis visianii* E.Fourn., *Inula visianii* Rouy, *Knautia visianii* Szabó, *Lactuca visianii* Bornm., *Leontodon visianii* Fritsch, *Onobrychis visianii* Borbás ex Nyman, *Onosma visianii* Clementi, *Ornithogalum visianicum* Tomm., *Ozania visianii* Gand., *Pilosella visianii* F.W.Schultz & Sch.Bip., *Potentilla visianii* Pančić, *Pulmonaria visianii* Degen & Lengyel, *Radula visianica* C.Massal., *Ripatria visianii* Gand., *Satureja visianii* Šilić, *Scleranthus visianii* Rchb. ex Vis., *Senecio visianianus* Papaf. ex Vis., *Stigmella visianica* Sacc., *Trifolium visianii* Gand., *Verbascum visianianum* Rchb.f.

A new genus named *Visiania* was segregated from *Phillyrea* L. by De Candolle Jr. [229], and from *Ficus* L. by Gasparrini [230], in two publications both from 1844. The former seems to be the earlier, legitimate one. Neither name gained wide acceptance: *Visiania* A.DC. is now treated in *Ligustrum* L., and *Visiania* Gasp. *nom. illeg.*, back in *Ficus* L.

A new genus of Geometrid moths from Australia, still widely recognised, was named *Visiana* by Swinhoe¹, in 1900, who did not state its etymology [231: 335]. Although we do not know of any connection between him and Visiani, we could not find any other compatible source for it either, be it from other people or place names, so we cannot exclude that it might really honour the Dalmatian botanist.

Visiani was also commemorated in street names ('via Roberto De Visiani') in Padova, Rome, Trieste, and a park in the centre of Šibenik ('perivoj Roberta Visianija'). Curiously, according to Paganelli [107], the dedication of the street in Padova (1923) was to *Roberto De Visiani philologist-botanist*² which, if anything, shows just how much liberal arts were considered prestigious over science in fascist Italy.

1. Charles Swinhoe (1838–1923). English lepidopterist.
2. «Roberto De Visiani filologo-botanico».

4. Relationships and Exchanges

In this chapter, the most important collaborators and friends of Visiani's are framed in various degrees of detail, but always focussing mainly on their relationship with the professor and his work. They have been divided, somewhat artificially, into three groups: (1) Assistants and Gardeners, (2) Plant Collectors, and (3) Colleagues, Friends, and Co-authors. Within each category, for lack of a better criterion, they are simply listed alphabetically, by their surnames. In the case of people with multiple first names or complex surnames and honorifics, the form used in the title of the paragraph is the most commonly found.

Some other figures that were important in Visiani's life for other reasons or only for specific events, such as Bonato (see § 3.1.2) or Hofmeister (see § 3.4.4), are introduced elsewhere.

4.1 Assistants and Gardeners

The role of assistant to the chair of botany was created in 1818 [Sacc. Chr.] and, as was previously mentioned [§ 3.1.2], it was given for two years and could be renewed only once. The following table lists all the assistants that worked under Visiani.

1835–1839	Giuseppe Meneghini	Padova
1839–1845	Giuseppe Carlo Clementi	Alcenago, Grezzana (VR)
1845–1847	Giovanni Battista Ronconi	Schio (VI)
1847–1849	Antonio Keller	Dalmazia
1849–1851	Antonio Ceni	Carpinedolo (BS)
1851–1854	Jacopo Barlini	Padova
1854–1856	Giuseppe Kofler	
1856–	(vacant)	
1860–1866	Francesco Beltramini de Casati	Bassano del Grappa (VI)
1866–1870	Pier Andrea Saccardo	Treviso
1872–1878	Caro Massalongo	Tregnago (VR)

Just three head gardeners worked in Padova during Visiani's directorship:

1791–1837	Antonio Lodi	Rovigo
1838–1864	Carlo Caslini	Giussano (MB)
1864–1933	Gaspere Pigal	Bitov (Czech Republic)

The Garden also had a vice-gardener, three workers, and three apprentices [H. Pat. 42].

4.1.1 Carlo Caslini

Visiani seems to have had an exceptionally good and close relationship with gardener Caslini, who served for the largest and better part of his directorship. Not only is he often mentioned, by first name, in his correspondence with Massalongo, he even once added his own greetings and signed the letter [mssl-560222-@]. He was often charged with jobs of high responsibility and delicacy, for instance he was asked to open any mail from Heufler¹ and to redirect it to Massalongo during Visiani's absence, while the two were waiting for important news on a possible job in Padova (see § 4.3.2). Caslini's *intelligent industry*² was openly praised by Visiani in *Vanig.*, and the importance of his practical contribution to the Garden was recognised at every occasion (see e.g. [117]). Finally, he was involved in the preparation of seed lists of the Garden, which he often signed with the director (see § 3.2.3). So much was his work appreciated by Visiani and Massalongo, that they dedicated to him the species *Dalbergia caslinii*, calling him *intelligent and very zealous*³ in their paper; an honour not shared by very many manual workers.

1. Ludwig Joseph von Heufler (1817–1885). Austrian botanist in Vienna.

2. «intelligente operosità» [Vanig.].

3. «intelligente e zelantissimo» [Noval.-2].

4.1.2 Giuseppe Carlo Clementi

Giuseppe Carlo Clementi was born in Alcenago (VR) in 1812. After studying at a high school in Verona, he trained as a pharmacist under Fontana⁴ [232]. He then entered the University in Padova to study chemistry, and became Visiani's assistant from 1839 to 1845. In 1840, he was sent to collect plants in Dalmatia and Montenegro, where he could travel thanks to the protection of the Prince-Bishopric [232]. The results of his travel were presented by Meneghini at the congress in Florence [§ 3.3.3] and published in its proceedings [116], which contain the description of eight new species. As an assistant, he also contributed to the study on vanilla [§ 3.4.9]. Much of his research was in fact in organic chemistry, particularly on ethers, but he also produced some minor works on plant biochemistry and anatomy. In 1847 he got a teaching position at a high school in Bergamo, but came back to Padova to take part in the 1848 insurrections [§ 1.4.2] (see also § 4.3.4). After the revolts were quenched, he briefly went back to Bergamo, but soon fled to Ancona with Meneghini. As the Austrians entered also that city, he sailed to Corfu, and from there to Athens, where he tried to establish a school of agriculture. During his stay in Greece, he collected over 15,000 plant specimens, which he sold by the hundred. In 1855, he produced a booklet on his findings [233]. His projects in Athens eventually failed, so he moved to Constantinople, but did not manage to start a career there either, so in 1851 he came back to Italy, first to Genoa, then to Sanremo, and finally to Turin. After Veneto was annexed to Italy, in 1866, he finally moved to Udine, where he spent the rest of his life. He died in Verona, in 1873.

Clementi's herbarium is mostly conserved in BER [4].

4.1.3 Pier Andrea Saccardo

Pier Andrea Saccardo (1845–1920) was born in Treviso, but he spent his infancy in the nearby tiny village of Selva di Volpago. He studied at high schools in Venice, Padova, and Treviso, then read philosophy at the University of Padova, where he graduated in 1867 [184].

Saccardo was interested in nature from a very young age; at thirteen he started collecting plants, insects, and molluscs, and he soon put together a private botanical garden by his house, with about 300 species. At the age of fifteen, he prepared a catalogue of 800 plants of the Montello hill, and published his first work, a flora of the province of Treviso [234], at only eighteen.

Visiani noticed his great skills and asked him to become his assistant in 1866, before he even got his degree, a position he kept for the legal maximum of four consecutive years. It was during this period that he wrote the chronicles that we so often cite in this thesis [§ 2.3.5], substituted for Visiani during his travels and illnesses, and contributed most of the data for the second catalogue of the flora of Veneto, which remained the most complete for over a century [§ 3.4.8] [184]. He gained a teaching position at a high

4. Francesco Fontana (1794–1867). Famous pharmacist in Lazise (VR), was interested in botany, that he had studied under Ciro Pollini (1782–1833). He was also a friend of Massalongo and Catullo.

school in Padova in 1872, which he kept until he was called to teach permanently in Visiani's stead in 1877 [§ 3.1.9]. He was nominated professor and 15th director of the Garden in 1879, after his master's death, by which time he had already published no less than thirty works, on disparate subjects such as palaeobotany [235], history of science [236], and bryology [237].

His name, though, is linked mostly to mycology, a subject he explored beginning in 1873 [238], and particularly to his monumental *Sylloge fungorum omnium hucusque cognitorum*, a commented list all of the scientific names that had been published for fungi, which he started in 1882 [239] and that was only completed, twenty-six volumes and 16,000 pages later, by Trotter in 1975. Mainly thanks to the *Sylloge*, Saccardo became one of the most influential mycologists of all times, and he was nicknamed the 'Linnaeus of the fungi', his work being associated with over 22,000 *names* [226]. His research was focused particularly on the so-called 'Deuteromycetes', for which he devised an artificial system of classification based on the shape and colour of the spores. In 1876 he established the mycological journal *Michelia*.

His collection of over 70,000 fungal specimens is conserved in PAD, with barcodes like 'PAD-MS012345'; the correspondence he kept with over 1,300 collaborators is available in *Lib. HB*.

Saccardo's career and work as a professor have been treated in detail in countless publications (see [60]).

4.1.4 Francesco Beltramini de' Casati

Francesco Beltramini de' Casati (1828–1903), a nobleman from Bassano, was a student of chemistry in Padova when Visiani asked him to help him reorganise the entire herbarium, in 1860. For the job, the professor offered him *a*£ 1 a day and accommodation at his house, with the promise that accepting would pave the way to his appointment as his next assistant [mssl-600107-@]. Beltramini agreed, started the tedious work soon after [mssl-600116-@], and gained the coveted position that same year.

Beltramini's botanical interest was mostly in lichens¹, and Massalongo, who was a friend of his, considered him quite good [mssl-550419]. Still, he was frequently made fun of by both him and Visiani for being very pale and gaunt. Massalongo once wrote:

I send you back another book, that belongs to the Lanceolate-oblong Beltramini, which a botanist should diagnose as such: *Capite obovali-tetragono antrorsum inclinato, stipite (Podetio) cylindrico-tereti araterio—undique—cordato ante cavo, auris vestitis, erectioribus, latis recte patentibus, extremitatibus acutis (nudis, subulatis), brachiis rectis rigidis vix ancor et compe donatis in digitos attenuatis, cruribus aequantibus. etc. etc.* Massal. (Non Trevis.!!) | Woe betide if you let know Beltramini what I am writing, I shall seek revenge on the Dalmatian plant fossils, that I shall have pulverised².

1. To our knowledge, he only published a richly illustrated work on the lichen flora of Bassano in 1858 [240] and some books on beekeeping much later in life.

2. «[...] vi rimando un'altro libro, che è del Lanceolato-oblungo Beltramini che botanicamente dovrebbe essere diagnosticato così [...]. Guai a voi se fate sapere al Beltramini quanto vi scrivo, mi vendicherò sulle filliti Dalmate che farò polverizzare». The reference to Trevisan hints at the lichen genus *Beltraminia*, that he had recently estab-

Visiani answered that he would keep the diagnosis for himself until the next edition of *Systema Naturae* [mssl-570739-@].

In 1863, as his fourth and supposedly last year as an assistant was coming to an end, Beltramini wrote a long letter¹ to Visiani [bltr-630908] in which he asked him to try all he could to have him confirmed for an extra two years, which would have eased his difficult economic situation. With a rather entitled tone, he reminded Visiani that the reorganisation of the herbarium was still far from finished, and he argued that the professor could not complete it alone, and instructing someone else to do it would waste a lot of time. Visiani apparently agreed, and Beltramini was confirmed, irregularly, for a third term.

In 1865, the two travelled together to southern Dalmatia [§ 5.3.2], and Visiani proposed, while they were in Dubrovnik, that if Beltramini would collect plant specimens around the country while coming back alone, they would then split them and he would pay half the expenses. Beltramini accepted, but he brought back only a few common and ill-dried plants, which he left in Padova without asking for any compensation. After that, the two lost touch [bltr-700221-@]. No less than twelve years later, a penniless, desperate Beltramini wrote again to Visiani claiming the refund for his travel. The professor, in the draft of his answer [bltr-700221-@], accused him of having never given back some of the specimens he had borrowed from him seven years before, including some by Brocchi [§ 4.2.7], and Bose, and some from the *HD* and the rest of the herbarium. He proposed that, should Beltramini return everything, he would help him and give him some of the money, despite arguing that he had definitely not earned it. About this story, Béguinot & Zenari [241] conclude that Visiani's request was not satisfied, since there is no record of any specimen by Brocchi in PAD coming from Beltramini. However, given the context² it seems unlikely to us that he would have refused such a conciliatory and more than generous proposal, so that, in our opinion, both Visiani's allegation and Béguinot & Zenari's conclusion remain doubtful.

4.2 Plant Collectors

This section deals with the most significant contributors to Visiani's *HD*. Many others, who were not in direct contact with Visiani, or about whom we could find too little information, are simply mentioned in § 5.3.2.

lished in his honour.

1. The letter also contains the report of some chemical analyses on a preparation intended to treat powdery mildew (see § 3.4.9).
2. Béguinot & Zenari make no mention in their work of the hardship that had pushed Beltramini to write in the first place.

4.2.1 Giuseppe Acerbi

Explorer, diplomat, writer, archaeologist, composer, and naturalist Giuseppe Acerbi was born in Castelfreddo (MN) in 1773. In 1798–1799 he travelled to Lapland; the book¹ he published about his voyage, published in English in two volumes in 1802 [242] made his fame as an explorer. He spent the next two decades between France and Milan, when, in 1825, he was nominated Austrian Consul General to Egypt, a land then under indirect Ottoman control. In 1834, he was forced to return to Italy due to health problems, and soon (May 1835 [Pl. Aeg.]) decided to donate to the Botanical Garden of Padova the *not large, but select*² collection of dried plants he had gathered on duty. The donation was accepted by eighty-two-year-old Bonato and is still conserved in PAD. His large collection of archaeological remains from Egypt is conserved at Palazzo Te, in Mantova. Acerbi died in 1846.

4.2.2 Andreas Alschinger

Andreas Alschinger (1791–1864) was a high school teacher in Rijeka and Zadar, where he taught classics and natural history [243]. In 1829 he travelled with Pietro Petrucci through Dalmatia to collect plants. The results of that voyage were published in three years later in his *Flora Jadrensis* [244], a small book intended for his pupils³, in which 506 plants are listed and described. Later on, he visited Mt. Velebit seventeen times, and Mt. Biokovo twice, between 1829 and 1859 [243].

His herbarium is now mostly conserved in BASSA [60], although 128 plants are in HD. Visiani could see it and comment on his plants even before the publication of *Flora Jadrensis* [FD1] [244]. From his correspondence, we know the date of shipping of seventy-five specimens⁴:

Batch	N. of Specimens	Date	Localities
1	23	7 th Aug. 1828	Velebit, Biograd na Moru, Bokanjac, Zadar
2	23	1 st Jan. 1829	Pag, Karlobag, Rab
3	16	15 th Mar. 1829	Novi Grad, Velebit, Pag, Rijeka
4	14	11 th Apr. 1829	(unknown)

The fourth batch contains six plants that were requested by Visiani, and ten sent on Alschinger's initiative. The letter on the fourth batch [alsc-290411] bears Visiani's determinations.

Visiani dedicated to Alschinger the new genus *Alschingera*, as well as *Cytisus alschingeri*.

-
1. Acerbi's work deals also with the costumes and popular music of the Finns; he is credited for introducing into English the Finnish word 'sauna'.
 2. «non numerosa, ma scelta» [Pl. Aeg.-2].
 3. «pro Gymnasiorum studiosis, et pro Lycaei nostri auditoribus».
 4. The date is in fact the date of the accompanying letters to Visiani [alsc-280807] [alsch-290101] [alsc-290315] [alsc-290411].

4.2.3 Andrea Andrich

Andrea Andrich (also ‘Andrija Andrić’, 1799–1897) was a pharmacist from Trogir [245]. He met Visiani in Padova, where he studied, graduating in 1821. From 1823 he started collecting plants from the area around his home town, together with his friend Miotto. His main collection of 2,623 specimens is conserved in NHMS, and thirty-one specimens are in *HD*. No correspondence between him and Visiani is conserved, although we know that it must have started very soon, as he is acknowledged in *St. Dalm.*

4.2.4 Paul Ascherson

Paul Friedrich August Ascherson (1834–1919) was a German botanist, as well as historian and linguist. A student of Alexander Braun¹, he worked in Berlin, and became the most respected authority on the flora of Middle Europe with his monumental work *Synopsis of the Middle-European Flora*², which he published in twelve volumes from 1896 to 1938, mostly in collaboration with Graebner³ [60]. He described around 600 new taxa, and was the author of about 800 nomenclatural novelties [89].

In 1867, at the beginning of his career, he wrote to Visiani and visited him in Padova to ask for advice for a botanical travel through southern Dalmatia that he intended to undertake [asch-670408]. In June that year, he visited Mt. Orjen, accompanied by Pichler [§ 4.2.20] and Huter [§ 4.2.10]. A mostly geographical account of his voyage can be found in *Der Berg Orjen an den Bocche di Cattaro* [247], and the rare plants of the region are briefly treated in *Beitrag zur Flora Dalmatiens* [248], where he described with Visiani the new species *Vincetoxicum huteri*. In fact, he had proposed jointly writing with him a florula of Orjen [asch-690107], but Visiani declined, possibly because he could not collect enough plants [asch-670615]. Of the specimens he gathered there, bearing the printed label ‘Dalmatische Reise’, 168 can be found in *HD*, and from browsing his correspondence we gather that many others from later explorations are probably to be found elsewhere in PAD. This may be worth exploring, as most collections from his mature years were deposited in B [60], a herbarium that was famously and grievously destroyed by fire during a bombing, in 1943.

4.2.5 Bartolommeo Biasoletto

Bartolommeo Biasoletto (1793–1858) was a pharmacist and botanist in Trieste [249]. He graduated in pharmacy in Vienna in 1814 and in philosophy in Padova in 1823, where he became acquainted with Visiani. He later taught botany in Trieste, where he founded the Botanical Garden in 1828. He was a friend of Tommasini, who very frequently mentioned him in his correspondence with Visiani, and, despite not having published much,

1. Alexander Carl Heinrich Braun (1805–1877) was a famous plant morphologist.
2. «Synopsis der Mitteleuropäische Flora» [246].
3. Karl Otto Robert Peter Paul Graebner (1871–1933) was German botanist.

he often collaborated with some extremely influential botanists such as Hoppe¹, Sternberg², and Agardh³, the latter of whom introduced him to phycology. In 1838 he accompanied king Frederick August II of Saxony in his botanical travel through Dalmatia (see § 5.3.2).

He sent Visiani only fourteen dried specimens [bslt-400220], of which eleven are now found in *HD*, although he also sent him numerous living plants to be cultivated. The bulk of his specimens are preserved in TSM [60].

Visiani dedicated to him the species *Artemisia biasoletiana*.

4.2.6 Matteo Botteri

Matteo Botteri (also ‘Matija’, 1808–1877) was an *indefatigable and intelligent collector and observer of Dalmatian plants*⁴, who was born in Hvar. According to Trinajstić [13], he was introduced to natural history by Visiani, and explored not only his native island, but most of the coast of Dalmatia as well. In 1854 he travelled to Mexico, on a mission for the Royal Horticultural Society of London to study the local flora. There, he settled in Orizaba, where he worked as a teacher. He became most famous for his contributions to ornithology, in particular for collecting specimens of a new species of sparrow that now bears his name: *Peucaea botterii* (Sclater, 1858) [250].

Twenty-five specimens conserved in *HD* bear his name, although from his correspondence we gather that he sent Visiani no less than 461 [bttr-500804]. A rather chaotic list of plants by him with a short comment, written by Visiani, is available in Padova [b25111]. Other specimens collected by him are in ZAGR.

Visiani named *Brassica botteri* after him.

4.2.7 Gian Battista Brocchi

Adventurer and geologist Gian Battista Brocchi (or ‘Giovanni Battista’ or ‘Giambattista’) was born in Bassano del Grappa (VI), in 1772. He studied law and theology in Padova, but he became very interested in natural history, especially geology. In 1801, he was called to teach at a high school in Brescia, a position he held until, in 1808, he was nominated inspector of the mines of the Napoleonic Kingdom of Italy (see § 1.4.1) and he moved to Milan. Between 1811 and 1821, he travelled through Italy on geological explorations, initially accompanied by a young Parolini [§ 4.3.6]. His most famous work, dealing with the fossils and geology of the Appennines, was published in Milan in 1814 [251]. In 1822 he was invited with some other experts to move to Egypt in search of some ancient abandoned mines. He departed from Trieste on 23rd Sep., he spent some days in Dubrovnik, and he arrived in Alexandria on 3rd Nov.. He travelled through

1. David Heinrich Hoppe (1760–1846) was a German mycologist and botanist.

2. Kaspar Maria von Sternberg (1761–1838), a Czech scholar of German nationality, is considered one of the founders of palaeobotany.

3. Carl Adolph Agardh (1785–1859) was a Swedish lutheran bishop and a phycologist, widely considered one of the founders of that discipline.

4. «indefesso ed intelligente osservatore di piante dalmate», Visiani [F-bttr].

Egypt for about a year, then he moved to Syria through Palestine. In 1824 he went back to Egypt, and after another year he started a long and difficult voyage to Nubia (now northern Sudan), during which an unknown illness brought him to his end, probably in 1826. His death, at the age of fifty-four, was officially announced on Christmas Day 1827 by Acerbi [§ 4.2.1], then Consul General of Austria in Cairo. A detailed biography and treatment of Brocchi's scientific contributions can be found in [252].

After his death, Brocchi's collection of around 500 plants from Egypt and Nubia came into the hands of Acerbi, who, through the Governor of the Austrian Littoral, sent it to Brocchi's brother Domenico, that in turn ceded it to the township of Bassano [Pl. Aeg.-2] [241]. According to Béguinot & Zenari [241], some bundles were lost or stolen while it was being kept in Trieste. Somehow, a relatively small number of specimens reached Visiani, who studied them in 1836 [§ 3.4.3]. After completing his work on the plants by Brocchi and Acerbi that he had available [Pl. Aeg.-2], Visiani asked Domenico Brocchi to see the rest of the collection, which he was soon granted [brcc-370224]. He kept it for three years, but had to give it back before he could present anything new on it, due to pressures from the township of Bassano [brcc-400305] [241], although at least one specimen from Dubrovnik (PAD-HD05075) remained in his *HD*. Some time later, the original collection used by Visiani to describe his new species was, in Saccardo's words, *fatally lost*¹, for which Visiani blamed his former assistant Beltramini [§ 4.1.4]. According to Chioventa [241], Acerbi later sent some of Brocchi's specimens conserved in Bassano to De Candolle Jr. in Geneva, and some of them were wrongly cited in the *Prodramus* [229] as collected by Acerbi in Nubia, where he never went. Béguinot & Zenari found about a hundred specimens by Brocchi in PAD in 1820, some of which they speculate were sent from BASSA in 1873 [241]. Others, apparently including a few from the original collection that Visiani had used, returned to Padova from the two herbaria originally possessed by Meneghini and Agosti² [241]. Why the two had those specimens in the first place is anybody's guess. During our research, we found more material by Brocchi in Meneghini's main collection in P1 [§ 6.4.1]. Finally, Bertoloni asked Visiani to receive some specimens by Brocchi in 1837 [brtn-370304], so there is also an off chance that some duplicates might exist in BOLO.

4.2.8 Josef Franz Freyn

Joseph Franz Freyn (also 'József František', 1845–1903) was a successful Bohemian civil engineer and amateur botanist [60], who collected plants from Central Europe, the Balkans and the Middle East [60]. Despite being self-taught in *the lovely science*, he published a surprisingly large number of papers (twenty-seven), and he described almost 1,000 new taxa [89].

Just two years before Visiani died, in 1876, Freyn started to correspond with him quite frequently, in French, and contributed to the *HD* twenty-five punctiliously annot-

1. «fatalmente smarrita» [236].

2. Giuseppe Agosti (1715–1786). Jesuit monk and botanist from Belluno.

ated specimens, which can be readily recognised from his unusually clear handwriting and his unconventional choice of a bright blue ink.

4.2.9 Joseph Kargl

Joseph (or ‘Giuseppe’) Kargl is a rather mysterious figure: All we know is that he worked as a forest inspector in Asiago, north of Vicenza [tmmn-391124] [253], but he was sent to some missions to Dalmatia and, in 1831, to the Austrian Littoral [254] He was in regular contact with Tommasini.

Only three letters sent by him survive in *Lib. HB.*, but the first one, written in 1835 [krgl-350508], starts with a wordy apology for having interrupted previous exchanges. Therein, he mentions having just sent Visiani 230 dried plants, requiring in exchange nothing but a list of their correct *names*, to be able to use them for the reports he had to write. A numbered list of 230 plants from Kargl, written by Visiani, can be found in Padova [b25101], and we know that at least some of these were lent by Visiani to Tommasini in 1839 [tmmn-391124]. A further delivery of thirty-six specimens is mentioned in an undated letter sent to Visiani where Kargl congratulates him for his recent appointment as a professor. In *HD* only 146 plants were explicitly indicated as coming from him, although there must be many more. These often bear a letter ‘K’ on the label, for ‘Kargl’. Given that Dalmatia was not Kargl’s regular area of work, it seems likely that all his specimens antedate the publication of *FD*.

Visiani named *Bupleurum karglii* after him.

4.2.10 Rupert Huter

Rupert Huter (1834–1919) was an Austrian priest and amateur botanist. During his life, he collected mostly on the western Alps, accompanied by Porta¹ and Rigo², putting together an impressively large collection of over 120,000 specimens, most of which are now conserved in BRIX. He mainly focussed on the complex genera *Hieracium* and *Salix*, and described over 170 new species [89].

In 1867 he visited southern Dalmatia and Montenegro, and sixty-eight of the specimens he collected there made their way into Visiani’s herbarium, whereas others were bought for the Natural History Museum in London [255]. Huter is mentioned in *FD. Sup.*, but we have no clue as of how he and Visiani came in contact, as they apparently did not exchange any letter, and the Austrian is not mentioned in any of the transcribed correspondence.

Visiani named *Vincetoxicum huteri* after him.

1. Pietro Porta (1832–1923).
2. Giorgio Rigo (1841–1922).

4.2.11 Karl Maly

Joseph Karl Maly (1797–1866) was an Austrian botanist who, from 1852 to 1861, explored Dalmatia seven times [§ 5.3.2]. The specimens he collected during these travels were mostly sent to Vienna, where his master Schott¹, who had organised the expeditions [FD. Sup.], used them to describe numerous new species, mostly in his 1854 book *Analecta Botanica* [256].

Visiani, who held Maly in high esteem, received from him numerous living plants, and was promised dried specimens from Dalmatia when the two met in Vienna, during Visiani's travel back from Saint Petersburg, in 1869 (see § 3.1.4) [b9004]. Eighty-six specimens by Maly are present in *HD*, most of which bear the date '1869'. Since the Austrian apparently did not visit Dalmatia after 1861 [§ 5.3.2], we can assume the date represents the exchange, rather than the gathering.

Visiani named *Crocus malyi* after him.

4.2.12 Carlo Marchesetti

Carlo de Marchesetti (1850–1926) was an archaeologist, palaeontologist, and botanist from Trieste. A pupil and great admirer of Tommasini, his contributions to botany were mostly on the flora of Trieste, Istria, the Julian Alps, and Dalmatia, which he visited in 1876 accompanied by Burton² [257].

Visiani probably first knew Marchesetti in person in 1873, when the latter visited Padova [257]. The at least nine specimens by him that are found in *HD* come all from Palagruža, and were sent to Padova in Oct. 1877, on Visiani's request [mrch-771027].

4.2.13 Giovanni Miotto

Giovanni Miotto (also 'Ivan Miotto', ?–1838) was originally from Padova, but later worked with Andrich in Trogir. Only two specimens certainly by him are found in *HD*, although a list by Visiani of 211 specimens by him is available in Padova [b25113].

4.2.14 Franz Neumayer

Franz Neumayer (1791–1842) was a teacher of classics, who worked both privately and at a high school, in Dubrovnik. He was also a very active dealer in dried plants, insects³, and other specimens of natural history, and was in contact with Visiani since at least 1830 [nmyr-300606].

In his letters he often praised Visiani's kindness and expertise, and constantly complained about his economic situation, saying that as he had five children [nmyr-370115-

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1. Heinrich Wilhelm Schott (1794–1865). German botanist, mostly remembered for his work on Araceae.
 2. Sir Richard Francis Burton (1821–1890). English explorer and ethnographer. Among his many achievements are his journey to Mecca, disguised as a Muslim, and his translations into English of *One Thousand and One Nights* and the *Kama Sutra*.
 3. Visiani requested from him also some entomological samples [nmyr-300606], about which we have no information.

b25015] he was always short of money, and sometimes even found himself starving, with no clothes, forced to sell his books to carry on [nmyr-320807-b25011]. In an 1830 letter [nmyr-300612-b25007], he declares a rivalry with a powerful *plant dealer*, whom he said Visiani knew, with a name starting with ‘P’. In a second undated letter, he warned Visiani that

a person in Dalmatia is rushing to go on with the elaboration of a Dalmatian Flora, [so] I am pressed to write to warn you about it. A man, who would have many reasons to talk about you, Doctor, with gratitude, has written this news with more piercing ones against you, to a gentleman in Ragusa, which I heard with indignation².

We can probably deduce that the *person* in question is in both cases Petter [§ 4.2.19], the upcoming ‘Dalmatian Flora’ most likely being his 1832 *Botanical Guidebook* [165]. Petter was in fact a good friend of Visiani’s [§ 4.2.19]. On a specimen of *Seseli globiferum* (PAD-HD06483), Neumayer annotated:

From a nearby high mountain a peasant brought me also this imperfect specimen, among other herbs. Sent [to bring more], the same man brought back some other imperfect specimens, but with more developed florets. But some thief stole from my room the more perfect specimens that I held. Someone I certainly know: he who took also other natural objects from the bottom of my drawers, and especially the herbs he had found out to be very rare, even some not yet dried, from the presses³.

Dried plants were certainly of some value at the time, but the story might very well be an excuse; Tommasini, who also knew Neumayer well, suggests he was not a person to be trusted [tmmn-400422].

A list of seventy-two plants seen by Visiani in 1827 in Neumayer’s herbarium is available in *Lib. HB* [b250908]. We do not know how many specimens Visiani bought from him in total, but they were sent in at least four bundles:

Batch	Species	Specimens	Date	Reference
1	[unknown]	[unknown]	before 1832?	nmyr-d00003-b25009
2	[unknown]	[unknown]	1837	nmyr-370115-b25015
3	[unknown]	[unknown]	1840	nmyr-400312-b25006
4	300	500	12/03/1840	nmyr-400317-b25014

A scarcely readable list of all the plants of the fourth batch, written by Visiani, is available in *Lib. HB* [b25105].

-
- «Una persona in Dalmazia voglia affrettarsi per venire avanti coll’elaborazione d’una Flora dalmata, mi preme a scrivere per avvisarlane subito. Un uomo, il quale avrebbe molte raggioni di parlare Signor Dottore di Lei con gratitudine ha scritta questa nuova con altre mordaci contro di Lei, ad un Signore a Ragusa, quello che ho sentito io con indignazione».
 - «Ab alto monte confini rusticus et hoc inter varias herbas adtulit exemplar imperfectum. Inde missus iterum exemplaria non perfecta quidem, sed cum flosculis magis evoluti procuravit. Aut exemplaria, quæ perfectiora conservabam, e camera fur aliquis abstulit. Notus quidem, ille quam et alia objecta Naturalia, imo e scriniis & presertim [sic] herbas, aliquoties & necdum siccas e torquius quas esse rariores investigaverat sustulit».

Visiani and Neumayer wrote to each other in Italian, but Neumayer's is quite clumsy, with frequent awkward misspellings of clear Latin or French origin, and German grammar¹. His specimens are often easy to recognise thanks to his unmistakable handwriting: extremely clear, with thick marks, and huge lettering compared to that of most his contemporaries.

The year of his premature death (1842) conveniently sets all of his specimens before the publication of *FD*. Soon afterwards, Tommasini was offered by the tutor of his children to buy his whole herbarium, which he offered Visiani to split [tmmn-420224]. We do not know if the proposal was accepted.

Visiani named four plants after him: *Avena neumayeriana*, *Echinops neumayeri*, *Jurinaea neumayeriana*, *Taeniopetalum neumayeri*, as well as the illegitimate superfluous name *Amphoricarpos neumayeri*.

4.2.15 Pietro Nisiteo

Pietro Nisiteo (also 'Petar Nižetić' or 'Niseteo', 1774–1866) was an antiquarian who lived in Stari Grad, on the island of Hvar.

A good friend of both Stalio [§ 4.2.23] and Visiani [nist-390726], he was interested in botany since his youth [nist-400204], and contributed to the *HD* at least fourteen specimens, all from his native island.

4.2.16 Wilhelm Noë

Friedrich Wilhelm Noë (1798–1858) was born in Berlin, but worked as a pharmacist in Rijeka from 1832 [258] [stal-420620]. In 1844 the King of Saxony sent him on a mission to collect plants in Turkey. He never returned, but settled instead in Istanbul, where the Sultan appointed him a teacher of botany at his Imperial School of Medicine and director of the Botanical Garden. His main contribution to botany was as a collector, as he travelled through Europe and the Middle East to gather the plants that he sold, by the hundreds, to almost fifty correspondents [259]. Tommasini commented on him: *Noë's skill is in drying plants, which are really masterfully prepared*². The place of origin of his specimens, on the other hand, was often found to be incorrect by Visiani [FD. Sup.] [258].

Noë and Visiani started corresponding already in 1834 [noew-341205] and kept in contact until the former died [noew-580420]. His letters are sometimes written in German, other times in Latin, other times still in a very clumsy Italian, always with the same unmistakable thick, loopy handwriting, quite difficult to read.

In *HD* there are at least 160 plants collected by him. A list, available in *Lib. HB* [b25138], includes the 156 specimens collected by Noë in Krk and Cres between 1831 and 1838, that Visiani bought in May 1838 [tmmn-380505]. A second batch of a hundred

1. E.g. 'Governo' for 'governo', 'attrahono' for 'attraggono', 'mercredi' for 'mercoledì', 'se vedesse [...] avesse potuto' for 'se vedesse [...] avrebbe potuto'.
2. «La bravura di Noë consiste nell'asciugare le piante, che sono veramente preparate da maestro» [tmmn-340206].

specimens, of which we have an undated list [noew-d0002], was collected by Noë in the Kvarner and the surroundings of Rijeka and probably sent to Visiani not much after the previous one¹. In his correspondence, Noë also mentions sending Visiani around 4,500 specimens of plants from Germany and the Austrian Littoral [noew-d00001], which may be found elsewhere in PAD.

4.2.17 Domenico Pappafava

Domenico Pappafava (1815–1899) was a lawyer from Zadar; his father had been the mayor of the town, and he was probably a distant relative to the noble Papafava's in Padova, who spelt their surname with a single 'P'. A student of Alschinger's, he became a fervid amateur botanist: between 1834 and 1862 he put together a huge herbarium of about 30,000 specimens, which has almost miraculously survived both World Wars and the Yugoslav wars. It is now mostly conserved at the Natural History Museum of Zadar, which still is not registered in *Index Herbariorum* [260], and it is fully catalogued in the Flora Croatica Database [58].

No doubt thanks to his aristocratic background, Pappafava could easily come in contact with numerous botanists of both local and international fame, including Biasoletto, Kotschy, Meyer, Neumayer, Petter, Rubrizius, Stalio, Welden, Welwitsch, and Visiani. To the latter, he wrote asking to start sharing plants [pppf-340316] and about his project to sell specimens from the area around Kotor, at the price of ft. 7 for every hundred, if he could find at least forty subscribers in Italy [pppf-371106]. His plan probably failed, as no full series of material by him is to be found in PAD, nor in other major European herbaria, at least to the best of our knowledge.

Thirty-three specimens by him are conserved in *HD*, whereas only three plants by Visiani are available in his collection, including an original specimen of *Centaurea tuberosa* [58].

4.2.18 József Pantocsek

József Pantocsek (also spelt 'Josef', 1846–1916) was a Hungarian botanist and physician. At the age of twenty-six (1872), he travelled for sixteen weeks through Herzegovina, Montenegro, and southern Dalmatia, in order to explore the flora of a then wholly unknown region [170]. The itinerary is discussed in § 5.3.2. After that, he intended to abandon botany to practise medicine [pncc-741215], although in fact he eventually developed a great interest in diatomology, and authored over 1,500 nomenclatural novelties in diatoms [225].

His plant collection from the Balkans was initially studied by Grisebach, with whom Pantocsek described numerous new species and varieties; many of his specimens remain in GOET (others are in C, G, LE [60]). In 1875, he decided to sell all that he still possessed, which Visiani knew from Pančić [pncc-741215], who had also introduced him to

1. Tommasini wrote to Visiani that he had met Noë collecting plants for him in Rijeka already in June 1838 [tmmn-380710].

his work¹. Pančić refused Visiani's offer to split the collection between themselves [pncc-750 102-@], so the latter went on to purchase all of the almost 2,000 plants², for an expense of ft. 350 [pntc-doo 002]. We can therefore suppose that the *HD* must be the largest repository of plants by Pantocsek that is presently available. Many of those specimens still bear the original field notes in pencil, whereas the definitive labels by Pantocsek have a printed title and are written in dark blue.

Visiani dedicated to him the new species *Gatyona pantocsekii*.

4.2.19 Franz Petter

Franz Petter (1798–1853) was a German high school teacher in Split, and an amateur geographer and botanist [60]. He probably knew Visiani already from the time he studied in that town, and started corresponding with him in 1826. The two were certainly very well acquainted, as Petter often talked about family and common friends, and addressed Visiani as *my dearest friend*³.

As well as numerous short notes on the plants of Dalmatia in the journal *Flora*, in 1832, he published a paperback booklet titled *Botanical Guidebook of the Surroundings of Split in Dalmatia*⁴ [165], which contains only a short geographical introduction and an alphabetical list of 1,037 species, with the indication of the locality where they could be found and their local name. In a letter to Visiani [tmmn-380317], Tommasini did not hesitate to mercilessly call that work, along with Alschinger's *Flora Jadrensis* (see § 4.2.2), an *abortion*.

Petter was also a prolific writer on the geography of Dalmatia [101] [81].

Forty-three specimens in *HD* bear Petter's name, although there are probably more. Three lists of plants from Petter are available in Padova: the first, written by him, contains over 200 *names* with a locality [b25135]; the second, written by Visiani, is titled *Received by Petter and seen in his herbarium*⁵ and lists fifty-five [b25136]; the third is titled *Plants found by Petter and alive in his own herbarium*⁶ and lists around forty [b25151].

4.2.20 Thomas Pichler

Thomas Pichler (1828–1903) was an Austrian alpine guide and collector of plants, which he used to sell for profit to around twenty botanists around Europe [261]. Among the herbaria that hold specimens by him are G, K, PRC, W, and others. Visiani knew him via Tommasini, who in 1867 wrote about him:

-
1. Visiani wrote Pančić: *I don't know Adnotationes from Pan... (I couldn't read this name)* («Non conosco le Adnotationes del Pan... /che non ho potuto leggere questo nome/»), which shows he had never heard of the Hungarian before [pncc-740 325-@].
 2. In fact, Visiani initially requested only those from Montenegro and Dalmatia [pntc-750 722]. We can suppose Pantocsek did not consent, believing he would not have been able to sell his Herzegovinian plants alone.
 3. «Mio carissimo amico».
 4. «Botanischer Wegweiser in der Gegend von Spalato in Dalmatien».
 5. «Ricevute a Pettero e viste nel suo erbario».
 6. «Plantæ a Pettero inventæ et in herbario ejusdem vivæ».

He is a very active individual, and despite being simply a collector and devoid of scientific knowledge he is still is enough of an accomplished explorer to distinguish rare from common species. It's a pity he does not know the language of that country, as if he did I would persuade him to undertake the exploration of the Mountains of Herceg Novi³.

In 1870, he sold Visiani 120 meticulously annotated plants from Dalmatia, for just ft. 10 [pchl-700215]. That was probably the first shipping, but not the only one, as a few of the 175 specimens by him in *HD* were collected later.

Visiani named a new species *Campanula pichleri* in his honour.

4.2.21 Joseph Rubrizius

Joseph Rubrizius (?–1835) was a Bohemian who worked as an under-commissioner of police in Zadar from 1817 [262]. He explored the area around Dubrovnik with Neumayer, and is noted for discovering mandrake (*Mandragora officinarum* L.) in the vicinity of Mount Sniježnica [tmmn-350218] [262]. He contributed fourteen specimens to the *HD*, which probably reached Visiani via Tommasini, as the two did not correspond directly.

4.2.22 Otto Sendtner

Otto Sendtner (1813–1859) was a botanist from in Munich, mostly interested in mosses [60]. From 1841 to 1843 he worked with Tommasini on a flora of the Austrian Littoral, but abandoned the project as he became a museum curator in Eichstätt [139]. Nonetheless, he travelled many other times to the Balkans [§ 5.3.2], often accompanied by Tommasini, who also paid him to undertake a long and dangerous botanical travel to Bosnia in 1847. During this exploration, Sendtner fell victim of an ambush and was very seriously wounded, which forced him to turn back [138]. From the specimens in *HD*, we can deduce he undertook a second, successful travel to Bosnia in 1876, as most of his 130 plants bear that location and date. Visiani first met him in person at the 1856 Congress in Vienna [mssl-561001-@] [§ 3.3.10]. Most of Sendtner's herbarium is conserved in M.

3. «È soggetto molto attivo, e quantunque semplicemente raccoglitore e destituito di conoscenze scientifiche ciò nondimeno abbastanza esperto esploratore per distinguere le specie rare dalle comuni. Peccato che non conosca la lingua del paese, che se ciò fosse lo determinerei ad intraprendere l'esplorazione dei Monti di Castelnuovo» [tmmn-670223]

4.2.23 Luigi Stalio

Luigi Stalio (?-?) was a Dalmatian naturalist who lived on the island of Hvar, where he worked as an elementary school teacher [263]. He later went on to become a professor in Venice [264] [265]. How he first got in touch with Visiani is unknown. During a period of five years, he sent him at least 1,434 numbered plants, of which he probably kept duplicates, to get a correct determination by Visiani. They were sent in at least seven batches, and come almost all from Hvar itself¹:

Batch	Numbers	Date	List	Comment(s)
1	1–420	Jul. 1839	[b25121]	(none)
2	421–713	(none)	[b25122]	(none)
3	714–843	Jul. 1840	[b25123]	(none)
4	844–1109	(none)	(none)	[b25128] [b25 145]
5	1110–1318	12 th Aug. 1843	[b25127]	[b25121]
6	1319–1410	(unknown)	(none)	(none)
7	1411–1434	(none)	[b25 124]	(none)

A separate list of all specimens is available for batches 1, 2, 3, 5, and 7, whereas Visiani's comments on each plant, which is most often simply the *name* itself, is available for batches 4 and 5. Nothing is available from batch 6, whose existence we infer only from the numbering.

Specimens by Stalio can often be recognised in *HD* even when they have no direct indication of his name: they almost always bear a small strip of paper with two slits through which the stem of the plant is (or was) passed, with the progressive number clearly written on top, usually followed by two or, less frequently, one dot (or comma). The lists can be used to retrieve information on the date of collection and habitat; the locality should probably always assumed to always be Hvar, when it is not otherwise stated.

Visiani named *Asperula staliana* after him.

4.3 Colleagues, Friends and Co-authors

4.3.1 Antonio Bertoloni

Antonio Bertoloni was born in Sarzana (SP) in 1775, and he worked as a professor of botany in Bologna beginning in 1815. He is mostly remembered for his *Flora of Italy* [266], which he published in ten volumes separated in fifty-four fascicles, from 1833 to 1857 [60].

1. 'Numbers' refers to the progressive number of the specimen; 'Date' is the date of shipping.

Visiani started corresponding with him and sending him specimens from Italy in 1823 [brtn-230720] and from Dalmatia in 1824 [brtn-240502], many of which he later described as new taxa in his *St. Dalm.* (see § 6.4.2). Their correspondence stopped as Visiani returned to Dalmatia, but the frequent friendly exchanges took up again as he was nominated professor in Padova, only to cease abruptly in 1840 when the two entered into a long and bitter argument over the identity of *Satureja montana* L.. Bertoloni believed it to be not what most botanists thought, but rather the plant that Visiani had called *S. subspicata* [267], on the basis of an illustration by Sibthorp. Visiani, by contrast, asserted at the congress of Pisa [111] that the Linnaean *name* was generally applied correctly, and so that the new one Bertoloni had coined for the well-known winter savory, *S. hyssopifolia* Bertol., was unwarranted. The controversy went on for over a year [Bertol.] [Satur.], but it was eventually won by Visiani¹ [88]. The two did not start writing to each other again until 1845, mostly about Visiani's purchases of the many volumes of Bertoloni's *Flora* and on exchanges of books, seeds, and living plants.

Bertoloni died in 1868, at ninety-three years of age.

4.3.2 Abramo Massalongo

Abramo Bartolommeo Massalongo (1824–1860) was born in Tregnago, in the province of Verona, the fifth and last son of Bortolo (also 'Bartolommeo'), a quite well-off landowner, and Teresa Milani. Having studied at a high school in Verona, he moved to Padova in 1844 to read medicine, in order to cultivate the great interest in natural history that he had shown since a young age. Unfortunately, just as had been the case for Tommasini [§ 4.3.9], Massalongo's poor health forced him to abandon his career of choice to study law, which did not require regular attendance to lectures, and he chose Messedaglia² as his private mentor. He graduated in 1849. In 1850, he married his niece Maria 'Marietta' Colognato. She gave him five children: first three boys (Caro³, Orseolo⁴, and Roberto⁵), then two girls, who both died very young. Soon after graduating, Massalongo visited Visiani with a reference letter by Manganotti [note in § 3.5.6]), and he begged to be allowed to study botany despite his previous career, as well as to have access to the botanical library of the Garden. Both requests were immediately conceded, after which the shameless aspiring botanist ventured to ask [V. Mass.]:

Oh, since you were so yielding in conceding me these first two favours, cap it off by granting me a third one: accept me as a guest in your house, so that, thanks to you, I can have everything together and at hand, the plants and the books, the school and the teacher⁶.

1. He explained his argument once again in his *Linn.*

2. Angelo Messedaglia (1820–1901). Lawyer in Verona and later Senator of the Kingdom of Italy.

3. Caro Benigno Massalongo (1852–1928). Was Visiani's assistant from 1872 to 1878, and later became professor of botany in Ferrara, where he mostly studied liverworts.

4. Pietro Orseolo Massalongo (1854–1901). Studied engineering, but also presented some small works on entomology.

5. Roberto Massalongo (1856–1919). Became a well-known neurologist.

6. «Oh [...] giacché fu sì arrendevole da concedermi le prime grazie, compia l'opera coll'accordarmi la terza, m'accolga ospite in casa sua, ond'io per lei m'abbia tutto assieme e alla mano, le piante e i libri, la scuola e il maestro» [V. Mass.].

Visiani, impressed by such eagerness for learning, also granted this last request, and accommodated Massalongo in his house beginning in mid-November 1849, providing bedding, lunch, dinner, and laundry for *a*£ 3 a day [mssl-491013-@]. The two quickly developed a deep, affectionate friendship, that lasted until the frail and perpetually ill Massalongo died of tuberculosis, on 25th May 1860, at the age of only thirty-six.

During his ten years of scientific work, Massalongo was truly consumed by his will to make an impact and to pursue his dream of becoming a scientist, publishing no less than sixty works, mostly in palaeobotany and lichenology, but with occasional contributions to herpetology, geology, and palaeontology. He was also a fine illustrator and microscopist. His life and work have been the subject of countless works (including, but not limited to: [268] [269] [270] [271] [272] [V. Mass.]).

A fervent patriot, Massalongo, under the pseudonym ‘Reivas’, was among the founders (1856) of a society named ‘Ibis’, whose goals were openly anti-Austrian, and which Visiani called a *noble fellowship* [mssl-560827-@]. In his testament, he stipulated that, should his collections be sold, they should be *first offered to the King of Italy [...] and under no circumstance to a place where a prince of the Austrian house reigns*².

In 1850, Massalongo started an internship with Dossi, a lawyer in Padova [mssl-500415-@], but he left Visiani’s home and the town in 1851, to go and teach natural history and civil history at a high school in Verona, after failing to gain a similar position in Padova [V. Mass.]. It was a hard, unrewarding, and underpaid job that did not do justice to his brightness and tirelessness, and Visiani feared that his position might trap Massalongo’s research in the closed and sometimes toxic circle of the local naturalists [mssl-511002-@]. Massalongo disliked his job [mssl-540919], and plainly admitted being envious of Visiani’s position [mssl-550110]. The professor tried everything in his power to support Massalongo’s career, and to have him to move to Padova or to other relevant centres, but was never successful. In 1850, Visiani suggested that Massalongo could become his new assistant; Ceni [§ 4.1] would leave the position vacant the following May [mssl-501217-@]. Unfortunately, his candidacy was refused by the lieutenancy because of his degree in law instead of medicine [mssl-501120-@], despite his obvious competence in botany. In 1852 [mssl-520821-@] and again in 1854 [mssl-540701-@] Fée [note in § 3.3.3], who very much admired Massalongo’s lichenological work, invited him to Strasbourg, offering accommodation and all he might have needed for his studies, but the invitation was not accepted. In 1853, Massalongo even considered applying for a position as a librarian in Padova, which Visiani considered hopeless [mssl-530621-@]. In 1856, he was offered a position as a temporary natural history teacher in Padova, but he rejected the position in order to avoid leaving his father, who was ill at the time, and for a *ridiculous pusillanimity* [mssl-560304-@] to sit the required exam. In 1857, he hoped to be hired as a botanist to travel around the world on the SMS Novara [note in § 3.4.7]. Visiani, after suggesting that Massalongo should personally present his candidacy to the Emperor and beg to be considered, which he would never have done, wrote about the

2. «venga offerta avanti tutti al Re italiano e in nessun caso mai a sito ove dominasse un principe di Casa d’Austria» [272]

issue to his friend Heufler [note in § 4.1.1], hoping to gain some support for his pledge in Vienna. He was answered that unfortunately there was simply no room for him on the ship [hflr-570409], although Massalongo believed the reason was another:

About the travel you wrote rightly to Heufler—I give up any project—but going or not was not a matter of capacity of the Novara, but rather a question over two lines I had to give to the Emperor, of which they had even sent me the form from Vienna¹.

With Heufler, Visiani also discussed Massalongo's chances of becoming either the curator of the herbarium in Padova, or a second professor of botany, possibly of cryptogamy [hflr-570514]. The Austrian, who considered Massalongo a *genius* [hflr-570514], gave many suggestions on how and to whom such a plea should be addressed [hflr-570915]. Visiani, having received the backing of the Faculty [mssl-570707-@] wrote a letter about it to the Ministry. We do not have any answers that might have been given, but we know that the plea was eventually denied.

In Massalongo's obituary [V. Mass.], Visiani argues that had his friend not bickered with his previous master Catullo [note in § 3.2.2], he could have become a great geologist. His disputes with Catullo were just the beginning of a long series; Massalongo was uncommonly irritable, suspicious, and hot-tempered. At the same time, he was also highly opinionated, self-confident, and adversarial, which, coupled with his rapidly growing esteem as a scientist made him a long list of enemies, whom he apparently very much enjoyed taunting. For example, in 1854 he complained to Visiani that Zigno² was trying to undermine his reputation (or, rather, to save face by attributing an error to him) with the following words:

Good Lord if only [Zigno] knew on what platitude his geological fame is founded, he would not dare to whisper a word. Well, well, I am not noble, I am not a knight, I need protection—this time I must swallow it up. Cheers³.

Meanwhile, Nylander⁴ was preparing to attack Massalongo on his lichenological system, about which the always moderate Visiani [§ 3.1.6] suggested:

If Nylander writes you, you should dispassionately read his words, and if he finds out you have run into some error (and who doesn't?), you should honestly admit it, and if he's wrong you should explain why without bitterness and with dignity⁵.

But the master's endless appeals to tolerance and temperance under any circumstance (e.g. [mssl-530708-@] [mssl-570807-@] [mssl-570308-@]) were all to no avail. In 1864, Massalongo's previous protector Manganotti wrote a short and mediocre work titled

1. «Del Viaggio avete scritto bene al Heufler — ho rinunciato ad ogni progetto — ma l'andare o meno, non istava nella capacità della Novara, bensì sopra due righe che io dovea dare all'imperatore*, delle quai mi aveano madato da Vienna anche la modula» [mssl-570228].

2. Baron Achille de Zigno (1813–1892) was mostly interested in the palaeobotany of Veneto.

3. «Buon Dio se sapesse sopra quali inezie ha fondata la sua rinomanza geologica, non avrebbe il coraggio di fiatare. Bene bene io non sono nobile, io non sono cavaliere, ed ho bisogno della protezione — è l'epoca in cui devo ringhiottire. Prosit» [mssl-540404].

4. William Nylander (1822–1899). Finnish botanist and entomologist, mostly interested in lichens.

5. «Se il Nylander scriverà a Voi spassionatamente leggete il suo scritto, e se vi avrà colto in qualche errore (e chi non ci cade?) voi onestamente il confesserete, e se avrà torto glielo dimostrerete senza agrezza e con dignità» [mssl-540602-@].

*Notions of Geography and Botanical Palaeontology relating in particular to Northern Italy and Dalmatia*¹. The book sparked a bitter controversy [274] [275] [276] between him and a pseudonym reviewer ('Fisiofilo Medoacense'), who accused him of being ludicrously inaccurate and having chosen a misleading title. Massalongo strongly denies being the author of the first of the two attacks on Manganotti in a letter to Visiani [mssl-540729], who had rightfully reprimanded the paper as *squirting venom in all directions* and *not honouring its Author*². Massalongo did admit to Visiani having *something* to do with the second paper, but only after it had become clear that the professor had already discovered his involvement, as he had just been asked by Massalongo for many of the pieces of botanical information that were later used to discredit Manganotti [mssl-540729-@]. We do not know for sure if Massalongo blatantly lied to his best friend and was really the author of the whole entire vicious assault, as has always been believed [277]. However, given the entire context, it does not seem unlikely at all. For his part, Manganotti later tried to discredit Visiani [mssl-570206] to get revenge for his poor comments on the same book (or possibly, his treatise of botany [§ 3.5.6]) by stating that it really was Clementi, and not him, who had managed the artificial fertilisation of vanilla (see § 3.4.9). Whereas Visiani opted to ignore him [mssl-570308-@], Massalongo of course intended to write a harsh rebuttal [mssl-570206]. Massalongo also found himself in controversies with Trevisan [mssl-550130], Nardo³ [mssl-590802], and Molin [mssl-600107].

In 1858, Massalongo also very nearly fell out with Visiani. The professor had asked him to send to Padova some specimens of plant fossils from Veneto in order to increase his private collection [mssl-580301-@] (see § 3.4.7). Massalongo broke out [mssl-580305] and accused him of stealing his every *first laurel leaf* in palaeobotany, of invading 'his' field of study by covertly buying Venetian fossils directly from the miners⁴, and even of inadvertently sabotaging his plan to eventually sell his collection to the government to repay his children the large amount of money he spent on his studies. Visiani reacted, as always, very staidly, managing to excuse himself of every accusation [mssl-aa0831-@]. The dispute was soon forgotten.

Visiani and Massalongo were close confidants, the older man playing the part of a guide for a much less experienced and much more excitable friend. Not only did he give advice on career choices, but on life in general, and on health. In particular, he never stopped begging Massalongo to slow down with his work and to try and remain calm, convinced that his life depended on it (e.g. [mssl-540304-@] [mssl-550223-@] [mssl-570114-@]). They regularly exchanged signs of the deepest affection, for instance Massalongo wrote:

After my family, my children, I have no person dearer than you, and I'm sure you

-
1. «Cenni di geografia e paleontologia botanica in relazione specialmente all'Italia settentrionale e Dalmazia» [273].
 2. «schizza veleno da ogni parte» «non onora il suo Autore». [mssl-540727-@]
 3. Giovanni Domenico Nardo (1802–1877). Naturalist from Venice.
 4. Specifically, the Cerato family, whose members have worked in the field of fossils for centuries, and now run a private museum in Bolca. Massalongo had numerous quarrels with them too, and was especially furious when he discovered that they had taken to fabricating fake palm fossils by gluing together multiple parts [mssl-580314].

will believe me¹.

Visiani, as should be expected, was usually somewhat more self-contained, but he did not hesitate to sign as *your best friend* [mssl-571024-@] and to refer to his *most tender affection*² towards Massalongo. They often exchanged jokes and gossip as well. Particularly touching are the many letters (e.g. [mssl-590703-@] [mssl-590720] [mssl-590722-@]) exchanged between them during the frightful days of the War of Independence [§ 1.4.2] and after its unfortunate outcome.

4.3.3 Antonio Mazzoleni

Antonio Mazzoleni (1820–1850) came from an influential family in Šibenik, which originated from Bergamo [278]. He read medicine in Padova, and took a particular interest in Visiani's lectures on botany. In 1844, during the autumn break from his studies, he explored some mountain ridges in Dalmatia [§ 5.3.2], and brought back to his master at least eleven specimens, which are now conserved in his *HD*. The next year, he read a short essay about his travel to the *Acc. Pad.* (3rd Jul. 1845), which was later published in a general journal [279]. Its subject is mostly geographical; his botanical discoveries were treated by Visiani in *FD*.

His younger brother Paolo (1831–1923), a chemist and a close friend of Tommaseo's [§ 4.3.8], wrote Visiani's eulogy for his funeral in Šibenik [10].

4.3.4 Giuseppe Meneghini

Giuseppe Giovanni Antonio Meneghini was born in Padova in 1811, from a quite wealthy bourgeois family. In 1829, he entered the University of his native town to read medicine; five years later, he graduated with a thesis on neurology, qualifying also as a surgeon, obstetrician, and ophthalmologist [280]. During his studies, he became particularly close to zoologist Catullo [note in § 3.2.2] and geologist Da Rio³.

In 1834, Bonato's assistant to the chair of botany, Francesco Pegoretti, suddenly died, soon after his appointment to the role [Sacc. Chr.]. Meneghini was offered to cover the position, which also required standing in for the professor on the frequent occasions he was unable to work. In 1836, when Bonato eventually retired, Meneghini competed with Visiani for the newly vacant chair, but, as we know, he was not successful. Showing no resentment, he was at the forefront of the committee which welcomed Visiani upon his arrival in Padua [281], and kept working as his assistant until 1839. Determined to make a career in academia⁴, he sat an exam for the chair of forensic medicine in 1837, which he failed, and a further, successful one, for the teaching of physics, chemistry, and botany for surgeons. Later in his life, Meneghini commented openly about his dislike for

1. «Dopo la mia famiglia, i miei figli, io non ho persona che mi sia più cara di voi, e sono sicuro che mi crederete» [mssl-doo008].

2. «affetto mollissimo» [mssl-520301-@].

3. Earl Nicolò Da Rio (1765–1845) came from one of the richest and most influential families of Padova.

4. The choice was dictated as well by the collapse of his family's finances after some wrong investments [281].

the job, which dealt only with very elementary concepts, and which he said *was considered intermediate in value between that of a janitor and that of an assistant*¹.

Contrary to Visiani, Meneghini was most interested in plant anatomy and physiology, rather than taxonomy, and became an open defender of Darwin's theory of evolution [280] [281]. He was also a keen microscopist since his childhood², as well as a fine illustrator. His first work, titled *Researches on the Structure of the Stem in Monocotyledonous Plants*³, was published in 1836 and was very well received [280], but his most noteworthy contributions to botany were his numerous studies on the morphology, physiology, and taxonomy of algae, which he often conducted in collaboration with his very close friend Zanardini, starting from 1838 [280]. Meneghini was also amongst the most active participants to the Congresses of the Italian Scientists [§ 3.3], and he probably played a role in promoting the participation of many of his foreign correspondents [281].

Meneghini's life changed dramatically after the rebellions of 1848 [§ 1.4.2]. His brother Andrea⁴ was among the chief leaders of the anti-Austrians in Padova, and Giuseppe himself was heavily involved, especially for a mission he undertook with Clementi [§ 4.1.2] to invite King Charles Albert of Piedmont to take Padova (see § 1.4.2). Fearing for his life, as the Austrians quenched the protests, he fled Padova on 13th Jun. 1848, moving first to Bologna and eventually to Pisa. There, thanks mainly to his friendship with Paolo Savi [note in § 3.3.1], he was almost immediately chosen as the new professor of geology (1849), a position he kept until his life ended, on 29th Jan. 1889. In Pisa, he abandoned his research in biology altogether and turned entirely to geology and palaeontology.

Meneghini reportedly kept a good relationship with Visiani for all his life [280] [281], but only two letters from him dating from the period after 1848 are available in *Lib.HB*. It is easy to imagine that, if more were sent, they would probably have been delivered directly by trusted friends, and destroyed afterwards, to avoid alerting the Austrian authorities.

Visiani dedicated to him the illegitimate genus *Meneghinia*.

4.3.5 Josif Pančić

Josif Pančić (or 'Josip', 1814–1888) was born in Bribir, near Crikvenica, in Istria, the fourth son of a poor Catholic family. He received his primary education in Gospić, where his uncle served as an archdeacon, and he later studied in Rijeka and Zagreb. He read medicine in Budapest, where he graduated in 1842 with a thesis on botany, under the supervision of prof. Sadler⁵. To pay for his studies, he gave lessons in Italian

1. «si diceva di valore intermedio a quello del posto di bidello e del posto di assistente» [280].

2. His father gave him a microscope as a gift while he was still a young boy [280].

3. «Ricerche sulla struttura del caule nelle piante monocotiledoni» [282].

4. Andrea Meneghini (1806–1870) was a financier and an agronomist. Along with Clementi [§ 4.1.2], he founded and worked for years for *Il Tornaconto* (i.e. 'The Profit'), a journal on agronomy which regularly published openly anti-Austrian articles. Giuseppe was its director.

5. Joseph Sadler (1791–1849).

(which was widely spoken in Istria) and French. He later unsuccessfully pursued a career as a private physician, and ended up working as a tutor in the Banat, where he started to take interest in the flora of the region. After a short stay in Lika, he moved to Vienna and met Vuk Karadžić¹, who advised him to move to Užice, in *de facto* independent Serbia, which he did in 1846. Even with Karadžić's backing, he was unable to find a job there, but just as money was about to run out, he was asked by the government to move to Jagodina to fight a typhoid epidemic. In 1847, he was transferred to Kragujevac, applied for Serbian citizenship (which he only got in 1854), and started a relationship with noblewoman Ljudmila Milka Kordon, whom he married in an Orthodox church in 1849, and who later gave him seven children. In 1853 Pančić moved to Belgrade, where he was nominated as a teacher at the Lycaenum, which was later to become the University of Belgrade [283]. By that time, he had not managed to publish a single scientific paper: his first work was his 1856 *Catalogue of the Wild Phanerogams in Serbia*². He lived and worked in Belgrade until he met his end, in 1888 [172].

In Serbia, where he is a household name, Pančić is most remembered as the first president of the Serbian Royal Academy, the founder of the Botanical Garden and Institute of Botany 'Jevremovac' in Belgrade, and the discoverer of the Serbian spruce (*Picea omorika* Pančić). Widely considered to be the father of Serbian botany, he described around 200 species new to science, of which forty-two were co-authored with Visiani [35], in nine publications [60], of which the most significant is probably his *Flora of the Principality of Serbia*³.

Pančić and Visiani first met in Vienna in 1856, on the occasion of the 32nd Meeting of the German Naturalists and Doctors [§ 3.3.10]. Immediately after the meeting, Visiani wrote to Pančić [pncc-561115-@] to gather more information on a plant that they had shared there, which was later to become the type specimen of *Pancicia serbica*. This letter started a collaboration that would last for more than twenty years, with the last documented exchange in 1876 [pncc-760108-@], only two years before Visiani's death (see § 3.4.6 on the end of their collaboration). When the relationship between the two began, Visiani was already an established professional, whereas Pančić was struggling to build a reputation in botany, which he attributed to Serbia being isolated from the main scientific circles of Europe. His first letter to Visiani opens with:

I received your most distinguished letter of last November, which brought me—as you can believe—a great joy, as I see we are starting a correspondence that may be for you of some interest, whereas for me it will be a much more precious source of education, as the isolation in which I find myself is great⁴.

-
1. Vuk Stefanović Karadžić (1787–1864) was a Serbian linguist, philologist, and patriot, considered the main reformer of the Serbian language.
 2. «Verzeichnis der in Serbien wildwachsenden Phanerogamen».
 3. «Flora Kneževine Srbije» [102].
 4. «Ho avuto la di lei pregiatissima del novembre passato a un tempo, e ne ho avuto me lo può ben credere grandissima gioia, vedendo incominciata una corrispondenza, che avrà per lei forse qualche interesse, per me sarà fonte di istruzione tanto più preziosa, quanto è più grande di isolamento, in cui qui mi trovo». The original Italian is quite more convoluted than the free translation [pncc-570107].

The choice to move to self-governing Serbia, where he could enjoy no *theatres, meetings, nor other European amusements*¹, was due in part to the hostility that Austrian botanists showed towards him, as a Slav, in an Empire where anti-Slavic sentiments were widespread and supported by the establishment [§ 1.4.3]:

[...] my friends from Vienna, although they love Serbian rarities, are not fond of them if they get described by a Slav².

Pančić asserts that he had to rush the publication of his first work because his discoveries were being stolen, and that he was prevented from accessing books and collections [pncc-570401]. He also portrays the low quality of the pictures that were published therein and the many errors introduced by the printer in Vienna as an attempt to sabotage his work. It is interesting to note how he did not hesitate to express these allegations to Visiani right at the beginning of their correspondence. Visiani was careful never to touch on political topics in his answers, but we can speculate that he might have already privately shared with his friend his distaste for the Austrian government [§ 3.1.7].

While in Serbia, many of Pančić's choices were dictated by the need to find support and funding for his research. For instance, after Visiani proposed that they name the plant they had shared *Pancicia*, he replied [pncc-570107] that he would rather call it '*Karageogia*'³ in honour of Karađorđe Petrović (1752–1817), the Serbian leader who had brought the Country to independence, in 1817, in order to gain institutional patronage. Visiani did not accept this proposal, arguing that Karađorđe had never practised or even supported botany, in line with his usual policy not to mix science and politics [§ 3.6.1] and his respect for the Linnaean canon [§ 3.6.2]. On the same topic, see as well the paragraph on *Decas 2*, in § 3.4.6.

Pančić and Visiani not only exchanged information and specimens, but also books and research instruments, such as the stanhope⁴ Visiani sent his friend in 1861 [pncc-621203-@]. From time to time, they also commented on political topics, as well as on the state of scientific research in their respective countries and internationally. On one occasion [pncc-630923], Pančić asked his friend to explain to him how museums, and the Garden of Padova in particular, were most commonly organised from the administrative point of view. In particular, he wanted to know if their directors were usually obliged to provide a complete list of all the objects that were present in the collections, as the Serbian government had recently required, since this seemed to him *a great waste of time*⁵. Visiani answered that they usually just had to produce list of what they bought,

1. «teatri, né reunioni, né altri trastulli europei» [pncc-581017].

2. «[...] i miei amici di Vienna, benché amatori delle rarità serbe, poco le hanno a grado se descritte vengono da un slavo» [pncc-570107].

3. The odd spelling probably betrays Pančić's Catholic upbringing; it is only close in pronunciation to 'Karađorđe' when read with the ecclesiastical Italianate pronunciation of Latin.

4. A stanhope is an optical instrument, a sort of minute portable microscope.

5. «una gran perdita di tempo».

and mention if some objects had deteriorated, with no obligation whatsoever on material that they acquired by other means¹ [pncc-631027-@].

The relationship between the two was more than merely professional, and their correspondence contains quite a few hints about their private life. In particular, Pančić (who, we should remember, lived to the ripe age of seventy-four) very often talked about his many ailments. For instance, he apparently suffered from *a chronic malady of the liver or lungs*², which he doubted could heal, and which he was told was just *melancholy*. On another occasion, he admitted that he could hardly work because of his *hypochondriasis* [pncc-620307]. In the 19th century, both ‘hypochondriasis’ and ‘melancholy’ referred to some sort of ill-defined psychological issue, then thought to have an organic cause in the digestive system, which we may now recognise as depression, anxiety or even hypochondriasis proper. He once wrote:

During winter I sing the song of the sparrow *živ živ*, I live, but I do not carry on well, as I am always tormented by some cold, catarrh or lower back pains. I live but I wail with my friend the sparrow for the spring, not to start new loves, but to again be able to breath some pure countryside air³.

He also had to endure an inflamed prostate beginning at the age of just forty-five, a problem about which he talks openly on multiple occasions, possibly to prompt some suggestions on Visiani’s part [pncc-590920] [pncc-650725].

Visiani dedicated to Pančić the new genus *Pancicia*, and the species *Mulgedium pancicii*, whereas the Serb named a *Potentilla visianii* after Visiani, and remembered him in an obituary.

4.3.6 Alberto and Elisa Parolini

Alberto Parolin⁴ was born in 1788 in Bassano del Grappa, from a very wealthy family of landowners. At the age of only eight, he came in contact with Brocchi [§ 4.2.7], who inspired his life-long love for gardening. Even as Brocchi moved to Brescia to teach (1801 [§ 4.2.7]), young Parolini kept cultivating ornamental plants in the private garden that was created in town by his father. In 1805, he went to Padova to read botany under Bonato, and started frequenting the house of Enrichetta Treves (see § 3.1.2) [V. Par.], but moved to Pavia five years later on Brocchi’s advice. He accompanied his protector in his travels through Italy in 1811–1812 [§ 4.2.7]. In 1815 Parolini met Barker-Webb⁵ in Venice, who became a very close friend. Soon after, he started travelling through France

1. This was obviously convenient for botanists, who obtained the bulk of their specimens through gathering or exchange, although in the eyes of present-day researchers the fact that full catalogues of ancient herbaria do not exist is most unfortunate!

2. «un male cronico del fegato, oppure dei polmoni» [pncc-580615].

3. «nell’inverno io canto la canzone del passero živ živ, vivo ma non mi porto bene perché sono quasi sempre tormentato da qualche corizza, catarro o dei dolori sacrali. Vivo ma sospiro col mio amico il passero per la bella primavera non già per cominciare nuovi amori, ma per poter di nuovo respirare un’aria pura della campagna» [pncc-660102]. In Serbian, ‘živ živ’ is not only an onomatopoeia for the sparrow’s tweets, it also means ‘alive’. Pančić probably presumes his friend would understand the pun.

4. The surname was changed to ‘Parolini’ in 1815.

5. Philip Barker-Webb (1793–1854). British amateur botanist who collected in Europe and the Middle-East. He bequeathed his large collection to FI.

and England, where he was welcome in numerous scientific circles. Fascinated by the English gardens, he adopted their style for his own, which soon became a true private botanical institution, with a list of about 2,000 species available for exchange that was distributed in Italy, France, and Germany [V. Par.]. From the plants he collected and cultivated, he put together a herbarium of over 10,000 specimens. Visiani started corresponding with him and exchanging plants as soon as he became a professor [prln-361227]. The two were good friends and could meet regularly in person, so that their correspondence is scarce and quite difficult to follow. In 1819–1820 Parolini and Barker-Webb travelled together to Greece and Turkey (see § 3.4.3). They sailed from Otranto in Apulia, visited the Greek islands of Corfu, Preveza, Lefkada, Ithaca, and Zakynthos, then moved to Patras, Nafpaktos, Missolonghi, Corinth, Kechries, and Athens. From there, they sailed to Paros and Hydra, from where they intended to reach Constantinople, but storm forced them to first sail to Rineia, Delos, Mykonos, Chios, and Tenedos. As they eventually reached Constantinople, the city was facing a plague, so the two stayed in the village of Büyükdere for two months, exploring the surrounding area. They finally entered the city on 22nd Sep. 1819, then visited the areas of Marmara, the Dardanells, and the Troad. In their way back from İzmir to Malta they had to fight in an attack by pirates. From Malta, they reached Sicily in late March 1820, and moved to Naples, where they separated. Parolini reached Bassano on 9th Apr. 1820, passing through Rome and Florence [V. Par.] [Gr. AM.]. From this travel, he brought home a vast collection of natural specimens, especially rocks, the study of which kept him occupied for most of his life. Parolini was generally reluctant to write about his discoveries [V. Par.], and most of them were put in print by others (including Visiani's *Gr. AM.* [§ 3.4.3]). He personally knew Emperor Francis I, and remained faithful to the Austrian monarchy for his whole life [136], which ended in 1867. His collections were donated to the township of Bassano, his herbarium is conserved in BASSA. His daughter Antonietta inherited the Garden, which eventually was also ceded to the township, in 1929.

Parolini had six children, but only two daughters reached adulthood: Antonietta and Elisa. Elisa Parolini was born in 1830 and became herself very passionate about botany, as well as fine illustrator. She became a very good friend of both Massalongo and Visiani, who called her

a strong and virtuous woman, of just and open mind, honest and gentle ways, of much and varied knowledge [...] very knowledgeable of natural studies¹.

In 1856, shortly after having been shamefully rejected by an unknown previous fiancé [prln-530709], she married John Ball (1818–1889), an Irish naturalist, politician, and Alpine explorer, and moved to London, where she lived until she died of consumption at the young age of thirty-seven, five months after her father. She and her husband became acquainted with Hooker Jr. [note in § 2.1.1] and his family, and mediated the exchange of some specimens between him and Visiani [prln-580702] [prln-590416] [prln-580708].

1. «forte e virtuosa donna, di mente giusta e aperta, di modi schietti e cortesi, di molto e vario sapere [...] conosciutissima degli studii naturali» [V. Par.].

Visiani dedicated two species to Alberto and one to Elisa: *Stachys parolinii*, *Pinus parolinii*, *Daphne elisae*.

4.3.7 Filippo Parlatore

Filippo Parlatore was born in Palermo in 1816. He graduated as a physician from the university of his home city in 1837, and published his first work on the flora of Sicily one year later [284]. Other contributions to floristics followed in quick succession. In 1841, he travelled to Geneva and Paris, where he gained the trust and friendship of scientists like De Candolle [note in § 2.1.3] and Humboldt¹. On the same year, he could take part to the Third Congress of the Italian Scientists [§ 3.3.3] as an already established botanist, at the young age of only twenty-five. At the congress, Parlatore proposed the creation of a Central Italian Herbarium, which received the enthusiastic endorsement of the congregation. Just one year later, the Grand Duke of Tuscany accepted the botanists' proposal to establish it in Florence, and called the same Parlatore to organise it, making him the new professor of botany and director of the Botanical Garden of the city.

Parlatore spent most of his career in an effort to advance Italian botany: he founded not only the Central Herbarium, but also the Italian Botanical Journal, and wrote a flora of Italy² that has been regarded as one of the best in Europe from that period [93]. He died in 1877, at the age of sixty-one; his life and work has been the subject of numerous publications, among which we only mention the report of the ceremony organised in Florence on the 50th anniversary of his death [285].

Visiani probably first met Parlatore in person in Padova, in 1842 (see § 3.3.4), although the two had started a sporadic correspondence already in 1837 [prlt-370 117]. In 1869, they shared the honour to represent Italy at the Horticultural Exposition of Saint Petersburg [§ 3.3.1], after which their relationship grew to become a good friendship, despite some friction about Visiani's refusal to contribute specimens to the Herbarium in Florence [§ 2.1.3]. They kept exchanging letters, sometimes dealing only with personal subjects [prlt-730221] [prlt-750417], for the rest of their lives; fifty-four in total³ are available in *Lib. HB*. Their last exchange dates 27th May 1877, just about three months before Parlatore's death.

4.3.8 Niccolò Tommaseo

Niccolò Tommaseo (1802–1874) was a celebrated Italian writer, linguist, and patriot (see also § 3.1.2). Of course, it is not for us to discuss his great contributions to literature and politics, nor to trace his life, which have all been treated in countless publications (among the most recent: [286] [287]). We shall only say he was one of Visiani's closest

1. Alexander von Humboldt (1769–1859). German geographer, naturalist, and explorer.

2. The work is in ten volumes, but Parlatore in fact only managed to publish the first four. The rest was prepared by his successor Théodore Caruel (1830–1898), mostly on the basis of Parlatore's manuscripts.

3. Of these, forty-six date from after 1868.

friends; the two used to meet as often as they could, and mainly discussed linguistic and literary topics [7]. The letters sent by Tommaseo to Visiani have not been extensively studied, as they too deal largely with literature, and seem for the most part disconnected from one another. Remarkably, Tommaseo is the single correspondent that addressed Visiani with ‘tu’¹.

4.3.9 Muzio Tommasini

Muzio Giuseppe Spirito de Tommasini (also ‘Mutius Ritter von Tommasini’, 1794–1879) was born in Trieste to a family of Tuscan merchants. At the age of fifteen he went to study at the Ljubljana Lyceum, where he met Hladnik², who first inspired his love for plants [138]. He moved to Vienna to read medicine in 1818, where he met Host and Jacquin Jr., who took him to many of their travels on the Austrian mountains³ [139]. As he was coming back to Trieste to attend family business, in 1813, he contracted typhoid, which seriously impaired his health for a long time. He was then forced to abandon medicine in favour of the less demanding study of law, in Graz; a shift of career that proved very successful. In 1817, at the age of twenty-three, he accepted an internship at the local lieutenancy, but he moved to Split the following year to work as a secretary, and to Zadar in 1819. In 1823 he was nominated *district commissioner*⁴ in Split, where he started his botanical explorations anew [§ 5.3.2]. In June 1827 he was moved to Kotor in the same role, but he kept the position for only four months, as he was called to serve as an assessor in Trieste the following September. During his brief stay he carefully explored the region [§ 5.3.2], and managed to get hold of some plants from Montenegro, which he could only receive from locals, because travelling to the country was forbidden due to sanitary regulations [139] [138]. In Trieste he married⁵ and started exploring the entire Austrian Littoral with Biasoletto [§ 5.3.2] [139]. In 1838 he helped organise and took part in the beginning the king of Saxony’s travel [§ 5.3.2] [§ 4.2.5], but he was forbidden to pass the border of the Littoral [138]. In 1839 he was nominated head of the City Council by the Emperor, a hard job that made his botanical travels rarer and more concentrated on areas that could be reached from Trieste very quickly, such as the Kvarner islands. Because Tommasini understood then that he would not be able to complete his project of a flora of the Austrian Littoral on his own, he paid Sendtner for three years (1841–1843) to help him with explorations [138]. However, the project had to be abandoned when Sendtner left Trieste [§ 4.2.22]. In 1846, Tommasini promoted the foundation of the Natural History Museum of Trieste. Tommasini’s botanical studies

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1. In Italian, the regular singular ‘you’ (‘tu’) becomes ‘lei’ (lit. ‘her’) or ‘voi’ (lit. ‘you’, plural) when addressing people of respect. Nowadays ‘lei’ is considered the standard polite form, whereas ‘voi’ sounds old-fashioned or regional (southern). In Visiani’s time, though, ‘lei’ (or rather ‘Ella’) was used as the mark of respect, while ‘voi’ was the form used among friends. Only family members and childhood friends used ‘tu’. Visiani and Massalongo shifted from ‘Ella’ to ‘voi’ in 1853 [mssl-531 120-@], but never moved on to ‘tu’, despite their great closeness [§ 4.3.2].
 2. Franz Hladnik (1773–1844). Botanist from Ljubljana who studied the flora of Carniola.
 3. In one of these excursions, Tommasini fell and broke his right kneecap, which never fully healed and troubled him for his whole life [139].
 4. «Kreiskommissar».
 5. His marriage was short-lived: Tommasini’s wife died of cholera in 1836, after giving him three sons.

came to a standstill with the revolts of 1848 [§ 1.4.2], which were followed by a terrible cholera outbreak in 1849, and his election as mayor of Trieste in 1851, a role he kept for just over ten years. Only afterwards, as an old man, did he start his research again, focussing on the Kvarner Islands [§ 5.3.2]. Tommasini died at eighty-five, on the last day of 1879. According to Marchesetti [138], the last word he uttered, in delirium, was the name of a plant.

Visiani and Tommasini started corresponding in 1825 [tmmn-250728]; Tommasini's advice was fundamental in the publication of *FD* [§ 3.4.4]. His letters, which we only transcribed up to 1852, are all very friendly in tone, but they rarely deal with topics other than plants, botanical exploration, and botanical literature. Their correspondence did not end until Visiani's death, in 1878. Tommasini contributed at least sixty-eight specimens to the *HD*.

Tommasini's main herbarium collection (over 12,000 specimens) is now conserved in TSM, although the specimens he gathered before 1813 are all in W. Numerous specimens from Dalmatia have duplicates in PAD and W [60]. Despite his large contributions to the knowledge of local flora, Tommasini only established nine new *names* [89].

5. Geodatabase and Botanical Explorations

This chapter presents the geodatabase as developed during this doctoral project, an overview of the geocoded data, and some results that were extracted from both the database itself and our study of all other materials, including a detailed chronology of the botanical exploration of the western Balkans from antiquity to Visiani's death.

5.1 The Geodatabase

The database [§ 1.2.2] that was originally developed to catalogue the *HD* was expanded to manage through a GIS both geographical data from the collection and records of taxa found in literature.

The new geodatabase is organised in ten interconnected tables, with a total of seventy-five fields and 52,831 records. In this section, we shall only explain its structure and some choices related to its building, whereas the description of the single fields is in § VII.

5.1.1 Table of Objects: *ogg*

The largest and central table of our geodatabase is *ogg* (26 fields, 9,754 records). It includes all the data collected from Visiani's *HD* that are intrinsic to the specimen itself, including for instance its barcode, position, place of collection, and was entirely populated (save for *Geo0* [§ 5.1.5]) during our work at the herbarium in 2011–2013 [§ 1.2.2].

The table is child to *inhp*, *per*, and *geo*, and parent to *det*. Its create statement is the following:

```
create table ogg (  
id_ogg      integer not null primary key autoincrement,  
CB          text not null unique,  
Col         text,  
Pos         text,  
Tipol       text,  
Cons        text,  
NCamp       text,  
Rac         text,  
Inhp0       integer,  
LgS         integer,  
Lg          integer,  
LgD         text,  
MntS        integer,  
Mnt         integer,  
MntD        text,  
Dig         integer,  
DigD        text,  
Geo0        integer,  
Loc         text,  
Hab         text,  
Subs        text,
```

```

Osp      text,
Fen      text,
Fos      integer,
NoteOr   text,
Note     text,
    constraint fk_ogg_inhp
        foreign key (Inhp0)
        references inhp (id_inhp)
        on update cascade,
    constraint fk_ogg_perlg
        foreign key (Lg)
        references per (id_per)
        on update cascade,
constraint fk_ogg_permnt
        foreign key (Mnt)
        references per (id_per)
        on update cascade,
    constraint fk_ogg_perdig
        foreign key (Dig)
        references per (id_per)
        on update cascade,
    constraint fk_ogg_geo
        foreign key (Geo0)
        references geo (id_geo)
        on update cascade);

```

5.1.2 Table of Determinations: det

Table det (10 fields, 12,000 [sic] records) contains all the data about the different *names* and designations that have been attributed to each specimen throughout its history. It was entirely populated in 2011–2013 [§ 1.2.2]. *Names* were kept on a separate separate table from specimens as they are in a many-to-one relation with them.

The table is child to ogg, and per. Its create statement is the following:

```

create table det (
id_det   integer not null primary key autoincrement,
CBD      integer,
DetN     integer,
DetT     text,
NomD     integer,
OrthEm   text,
DetS     integer,
Det      integer,
DetD     text,
NotedD   text,
    constraint fk_det_CBD_ogg
        foreign key (CBD)
        references ogg (id_ogg)
        on update cascade,
    constraint fk_det_Det_per
        foreign key (Det)
        references per (id_per)
        on update cascade);

```

5.1.3 Table of Accepted Names: inhp

Table inhp¹ (11 fields, 14,256 records) contains a list of presently accepted *names* that may be attributed to each specimen, and was entirely populated in 2011–2012.

Note that simply linking a specimen to an accepted *name* is *not* a new, separate determination, which would be added to det, but is rather a purely nomenclatural update

1. The initialism stands for ‘Index of Names of Herbarium of Padova’, or ‘Index Nominum Herbarii Patavini’.

of the most recent actual determination, carried out tentatively and only as accurately as possible¹. A modern and coherent single nomenclatural reference is a useful tool for both statistical and taxonomical purposes, as it allows at the same time to estimate how many specimens in the collection belong to any given taxon, and to virtually link or separate taxa without actually moving them, so that they can be more easily found. It also provides means to keep the the nomenclature of specimens automatically updated, as long as the reference list is maintained.

The information to prepare the list was obtained from national and international checklists ([288] [289] [290] [58] and others) and is was updated and checked for coherence up to 2013.

The table is parent to `ogg`. Its `create` statement is the following:

```
create table inhp (  
  id_inhp integer not null primary key autoincrement,  
  Nom      text,  
  Gen      text,  
  Sp       text,  
  ASp      text,  
  SspL     text,  
  Ssp      text,  
  ASsp     text,  
  Fam      text,  
  Bib      text,  
  T        text);
```

5.1.4 Table of Collaborators: `per`

Table `per` (3 fields, 139 records) contains data about people. It was kept very simple on purpose, and does provide means to manage multiple authors separately. Although this capability could be added in the future, by means of intermediate relation tables, we deemed it an unnecessary complication in this phase.

The table is parent to `ogg`, and `det`. Its `create` statement is the following:

```
create table per (  
  id_per integer not null primary key autoincrement,  
  Per    text not null,  
  PerN   text);
```

5.1.5 Table of Places: `geo`

Table `geo` (5 fields, 494 records) is the single geocoded table of our database, and contains all the geographical data. It was first created as a shapefile [§ 2.4], and was entirely populated within this doctoral project.

It is parent to `ogg`, and `letgeo`. Its creation is detailed in § 2.4.5.

1. For instance, if the species was split in two since a specimen was last studied and assigned a *name* (`NomD`), it would generally only be possible to attribute it an accepted *name* (`Inhp0`) to the rank of genus.

5.1.6 Table of Publications: `bib`

Table `bib` (2 fields, forty-three records) contains data on publications presenting records of plants, and was populated within this doctoral project. As with `per`, this table was also kept very simple on purpose, as it would be desirable to expand it by linking it to pre-existing bibliographical databases.

It is parent to `let`. Its `create` statement is the following:

```
create table bib (  
  id_bib      integer not null primary key autoincrement,  
  Bib        text not null);
```

5.1.7 Table of Records: `let`

Table `let` (7 fields, 6,649 records) contains data about records of species mentioned in literature. It was populated within this doctoral project.

The table is child to `bib`. Its `create` statement is the following:

```
create table let (  
  id_let      integer not null primary key autoincrement,  
  BibL        integer not null,  
  Pag         text,  
  Num         text,  
  NomL        text,  
  Stat        text,  
  LocC        text,  
  constraint fk_let_BibL_bib  
             foreign key (BibL)  
             references tab_ogg (id_bib));
```

5.1.8 Table of Relations (Records/Places): `letgeo`

Table `letgeo` (3 fields, 7,572 records) is the intermediate table required to represent the many-to-many relation between places (`geo`) and literature records (`let`). It was populated within this doctoral project.

It is child to `geo` and `let`. Its `create` statement is the following:

```
create table letgeo (  
  id_letgeo   integer not null primary key autoincrement,  
  GeoL        integer not null,  
  constraint fk_letgeo_GeoL_geo  
             foreign key (GeoL)  
             references geo (id_geo)  
  constraint fk_letgeo_LetG_let  
             foreign key (LetG)  
             references let (id_let));
```

5.1.9 Table of Citations: `cit`

Table `cit` (5 fields, no records) was designed to contain data about mentions of specific specimens in literature, in particular type designations. The table should be considered a proposed new feature, as it has not yet been populated.

It is child to `bib`. Its `create` statement is the following:

```
create table cit(  
  id_cit      integer not null primary key autoincrement,
```

```

NomDC    text,
TypC     text,
Typ      text,
BibC     integer not null,
         constraint fk_cit_BibC_bib
         foreign key (BibC)
         references bib (id_bib));

```

5.1.10 Table of Image Files: `img`

Table `img` (3 fields, 1,924 records) contains data about the many-to-many relationship between specimens and the files representing them. It was populated within this doctoral project, despite many of the image files having been prepared before.

It is child to `ogg`. Its `create` statement is the following:

```

create table img(
id_img   integer not null primary key autoincrement,
CBI      integer not null,
Img      text,
         constraint fk_img_CBI_ogg
         foreign key (CBI)
         references ogg (id_ogg));

```

5.2 Geocoded Data

This section presents some discussion on our effort to geocode all plant records from Visiani's corpus and from the *HD*.

From *St. Dalm.* we retrieved 406 records from 44 separate localities [Fig. 5]. As should be expected at this early stage in Visiani's career, the distribution of the localities is very skewed towards the area close to Šibenik; about 75% of the observations come from the six most represented places: Šibenik (104; 38%), Trogir (58; 14%), Split (46; 11%), Brač (22; 5%), Vrlika (12; 3%), and Omiš (11; 3%). Notably, no observations at all were made south of the river Neretva.

From *FD1* we retrieved 1,263 records from 145 localities [Fig. 6], of which 111 not previously cited¹. The distribution of the localities is much more uniform than that in *St. Dalm.*; the most represented places are Zadar (108; 9%), Šibenik (85; 7%), Dubrovnik (83; 7%), Drniš (77; 6%), Split (59; 5%), the Velebit (52; 4%), Hvar (51; 4%), the Biokovo (41; 3%). From the map in Fig. 7 it is immediately clear that the most significant areas of new exploration are around Zadar (explored by Visiani, Tommasini, Sendtner, and Alschinger), the whole internal Dalmatia around Drniš, Sinj, and Knin (Visiani), Hvar (Stalio, Visiani, Clementi), Dubrovnik (Visiani, Neumayer), and Kotor (Visiani, Clementi); less clear is who visited the Velebit.

From *FD2* we retrieved 1,724 records from 181 separate localities [Fig. 8], of which 71 not previously cited. The most represented places are Dubrovnik (127; 7%), Hvar (118;

1. Beware that *FD* was written in systematic order, so these numbers (as well as the related maps) represent only a *sample* of what Visiani had available at the time of publication of *FD1* and *FD2*! It should be acknowledged as well that the records published in *St. Dalm.* are all presumably repeated in *FD*. Nonetheless, the number of records is high enough that some general conclusions can certainly be drawn.

7%), Zadar (95; 6%), the Velebit (89; 5%), Split (81; 5%), and Šibenik (81; 5%). From the map in Fig. 9 we observe a clear increase in the observations from mountainous regions, in particular the Velebit, Dinara, Mt. Gnjat, Mt. Prolog, and the Biokovo, thanks probably to the contributions by A. Mazzoleni [§ 5.3.2], as well as from Hvar (thanks again to Stalio).

From *FD₃* we retrieved 2,316 records from 202 separate localities [Fig. 10], of which 33 not previously cited. The most represented places were the same as in *FD₂*: Dubrovnik (168; 7%), Hvar (142; 6%), Zadar (128; 6%), the Velebit (117; 5%), Split (103; 4%), and Šibenik (101; 4%). The map in Fig. 11 confirms the apparent slowdown in exploration that can be deduced from our chronology [§ 5.3.2], and that may be linked with the political instability of the years around 1848 [§ 1.4.2]. The most significant advancements in the knowledge of the region can be attributed to the work of local botanists who sent Visiani specimens from their surroundings: Dubrovnik (possibly Drobac? [note in § 3.4.8]), Hvar (Stalio), the Velebit, and the Kvarner islands (Tommasini).

From *FD. Sup.* we retrieved 453 records from 98 separate localities [Fig. 12], of which 31 not previously cited. The most represented places were Mt. Orjen (40; 9%), Dubrovnik (33; 7%), Crkvice (21; 5%), Ston (19; 4%), Kotor (19; 4%). The map in Fig. 13 shows that the areas where there was the largest increment in the number of records are around Mt. Orjen and Ston (possibly seen by Visiani in 1858 [§ 5.3.2]), as well as southern Dalmatia, and the islands of Skrakane and Susak.

From *Sup. Al. 1* we retrieved 1,335 records from 117 separate localities [Fig. 14], of which ninety not previously mentioned. The most represented places were Krk (village and island combined: 144; 11%), Trebinje (68; 5%), Mt. Gljiva (56; 4%), Mt. Kom (44; 3%). The map in Fig. 15 shows how, in accordance with Visiani's plan [§ 3.4.5], most records are of places in Montenegro, southern Herzegovina, and Bosnia, where they were made respectively by Pantocsek and Pančić, Pantocsek alone, and Sendtner [§ 5.3.2]. The very large number of observations from Krk are all by Tommasini [§ 5.3.2].

From *Sup. Al. 2* we only retrieved 79 records: the work is almost insignificantly small compared to the previous ones.

Fig. 16 represents together all the steps in the growth of Visiani's records.

The whole *HD* was geocoded as far as was possible [Fig. 17]. Of the 9,754 specimens 6,860 bear a locality on the label. In many cases, though, this is multiple (e.g. 'Budua et Sebenico') or too vague to be useful (e.g. 'in Dalm. montana'), so only 5,184 (53%) could be effectively geocoded. Specimens were geocoded in 238 separate localities.

5.3 Chronology of Botanical Exploration

In this section we condense a chronology of the botanical exploration of Dalmatia from antiquity to Visiani's death, as was reconstructed from all possible sources, including his published and unpublished material, correspondence, other literature, and the labels in *HD*.

5.3.1 Before Visiani's Life

1537: Bresavola [note in § 3.4.1] was the first botanist who surely collected plants in Dalmatia [FD1].

1561: Anguillara¹ included some specimens from Dalmatia in his 1561 book [291] [FD1]

1697: Boccone² described some Dalmatian plants [292] [FD1].

1750: Donati³ found some plants in Dalmatia, which he sent to the Garden of Padova [293] [FD1].

1770: Agosti, mentions collecting some plant in Dalmatia [294] [FD1].

1770: Cirillo⁴ visited the Kvarner [St. Dalm.].

1771: Fortis Visited the Kvarner and published a list of plants three years later [131] [St. Dalm.] [258].

5.3.2 During Visiani's Life

1802: Host⁵ visited Dalmatia from the Kvarner to Makarska [St. Dalm.] [FD1].

1805: Seenus⁶ explored the Kvarner islands and the adjacent Croatian coast [289] [259] [FD1].

Bernhardi⁷ explored the area around Rijeka [31].

1812–1823: Sieber⁸ explored the areas around Split and Kotor [31].

1818: Portenschlag⁹, who hoped to write a full flora of the country [296] [297], accompanied emperor Francis I¹⁰ and his wife in a travel through Dalmatia, from the Kvarner to Makarska and Mt. Biokovo [149] that lasted from April to June, where he collected a large number of plants for his herbarium, that Visiani saw [§ 3.4.4]. His discoveries were published only in 1824, in a book curated by a group of friends, as he died in 1822 [296] [165] [31] [St. Dalm.] [FD1].

Bartling visited the Kvarner islands [298] [258] [St. Dalm.] [FD1].

Sieber visited the Austrian Littoral [31].

1820: Visiani started collecting plants from Dalmatia, as he returned at his parents' while lessons were suspended, in the early autumn [§ 3.1.2]. He visited the surround-

-
1. Luigi Squalerno, 'Anguillara' (1512–1570). Pupil of Luca Ghini, botanical explorer, first director of the Botanical Garden of Padova.
 2. Paolo Silvio Boccone (1633–1704). Sicilian botanist.
 3. Vitaliano Donati (1717–1762). Archaeologist and botanist from Padova.
 4. Domenico Maria Leone Cirillo (also 'Cyrillo' 1739–1799). Neapolitan botanist.
 5. Nicholas Thomas Host (1761–1834). Austrian botanist and physician to the Emperor, he described about 500 species [89].
 6. Josef von Seenus (1825–1871). Austrian botanist.
 7. Johann Jakob Bernhardi (1774–1850). Botanist from Erfurt.
 8. Franz Sieber (1789–1844). Austrian botanical explorer, he travelled to the western Mediterranean, South Africa, Mauritius, and Australia, contributing to the description of almost 1,000 species [89]. In his late life, he suffered mental issues, and died in an insane asylum at the age of fifty-five.
 9. Franz von Portenschlag-Ledermayr (1772–1822). Lawyer and botanist, he put together a huge herbarium of the Austrian Empire, mostly conserved in Gjo and W.
 10. Emperor Franz Joseph Karl II von Habsburgh-Lothringen (1765–1835). The last Holy Roman Emperor, he reigned in Austria as Francis I from 1804 to 1835.

ings of Šibenik, and passed through the maritime area by Trogir, the countryside of Split and, more quickly, through the Dalmatian mountains.[St. Dalm.] [FD1].

1822: Visiani more carefully explored the flora of the area from Šibenik to Split, during the autumn and winter [St. Dalm.] [FD1].

Brocchi briefly visited Dubrovnik [§ 4.2.7].

1823: Tommasini [§ 4.3.9] visited Mt. Biokovo in May [138] [139].

1824: Visiani once again visited the same areas, and travelled from Makarska to Mt. Biokovo on the 16th Sep. [b26 031] [St. Dalm.] [FD1]. He was accompanied by a Mr. Lorenzo Andriasceвич and two guides. Departing from Makarska, they climbed up to the peak Troglav, from a hut, in five hours, and returned back in four. The same track was followed again the next day [b25 129].

1825: Tommasini visited the District of Kotor, including Budva, Kotor, the Krivošije, Mt. Lovćen, and Pastrovići [tmmn-250728] [165] [FD1].

1826: Visiani explored the coastal area of Dalmatia, including the island of Brač and the rocks around Omiš, in the spring [FD1].

Tommasini visited the surroundings of Split, Klis, Omiš and Priko, and Solin [tmmn-260515] [FD1].

Friedrich Müller visited the Kvarner [258].

1827: Visiani visited the areas of Drniš, Makarska, the Neretva river, Šibenik, Sinj, Split, and the countryside of Zadar, during the spring and summer [tmmn-270713] [FD1].

Tommasini visited the whole district of Kotor, and received plants from Montenegro [tmmn-270 713] [tmmn-270 828] [tmmn-270 907] [141] [138] [139] [FD1] [31].

1828: Visiani visited the area around to Imotski and the island of Hvar, during the summer and autumn [Flora 29] [FD1].

Petter and Mayer visited most of Dalmatia and its islands in the months of May and June [165]¹.

Biasoletto visited the Kvarner islands, Pag, Rab, the area of Zadar, and the Biokovo [165] [149] [31].

1828–1829: Alschinger visited the Kvarner and the area around Zadar for his *Flora Jadrensis* [244], as well as Mt. Biokovo [FD2].

1828–1830: Welden explored the areas of Zadar, Split, Dubrovnik, and Kotor [149] [165].

1829: Visiani visited the area round Dubrovnik, Hvar and Korčula, and Kotor in the autumn and winter [Flora 30] [FD1].

1831: Visiani visited the Velebit and Obrovac, and passed quickly through Skradin, Šibenik, Drniš, and Vrlika [31] [FD1].

1833: Tommasini visited the Kvarner islands [31].

1835: Visiani visited Mt. Svilaja on 3rd Jun [b25 102].

1837: Visiani, during the autumn vacation of his first year as professor, once again visited the whole coast of Dalmatia, including the islands of Brač, Hvar, and Vis.

1. Visiani incorrectly wrote that this exploration occurred in 1838 [FD1].

1838: Biasoletto [§ 4.2.5] accompanied the king of Saxony through Dalmatia. The travel started in Trieste on 13th May and had the following itinerary: through the coast of Istria, the islands of Cres, Lošinj, Susak, and Zeča, to Zadar, then by road to Nin, Skradin, Šibenik, Trogir, Split, Solin, by boat to Hvar, Vis, Korčula, Orebić, Gruž, Dubrovnik, Kotor, Budva, to Cetinje in Montenegro, then back to Budva, to Herceg Novi, Perast, Koločep, Slano, Opuzen (reached by sailing up the Neretva), Makarska, an excursion on the Sveti Jure, then back to Makarska, Omiš, Zadvarje, then by road to Trilj, Sinj, Klis, Šibenik, by boat to Lošinj, then to Rijeka, and finally back in Trieste on the 13th June [146].

1840: Clementi visited Dalmatia in the months of June and July. He travelled to the islands of Lošinj, Hvar, and Korčula, visited the surroundings of Šibenik, Split, and Kotor, then Budva, Paštrovići, Cetinje in Montenegro, the coast of lake Skadar, Mt. Lovćen, then the border between Dalmatia and Bosnia-Herzegovina, and the Biokovo [116] [FD2].

Zanardini and Meneghini [§ 4.3.4] also visited the coast, mainly to collect algae [299], and donated some plants they found along the way to the *HD* [FD2].

Sendtner [§ 4.2.22] started his explorations of the Kvarner, Istria, and Dalmatia, which went on until 1852 [FD. Sup].

1840–1873: Tommasini visited on multiple occasions and with extreme care the island of Krk, along with Sendtner from 1841 to 1843 [258] [Sup. Al.].

1841: Sendtner [§ 4.2.22] visited the Kvarner islands.

Zanardini and Meneghini [§ 4.3.4] visited the area around Split to collect algae [31].

Ebel¹ visited Montenegro in the late spring [300].

1842: Alexander² travelled through all Dalmatia [FD2].

1844: Mazzoleni [§ 4.3.3] visited the ridges of Vellebit, Dinara, Kom, Gnjat, Svilaja and Prolog during the autumn break from his studies in Padova [279] [FD2].

Roich³ visited the peaks between Sinj and Bosnia, particularly the Gnjat [31] [FD2] [HD].

Botteri visited the islands of Palagruža, Svetac, and Jabuka [stal-430815-b25126].

1847: Sendtner ventured in Bosnia, but was soon forced to turn back [§ 4.2.22].

1852: Schlosser⁴, accompanied by Farkaš-Vukotinović⁵, visited southern Croatia, including the border with Dalmatia and climbed mount Sveto Brdo [301] [FD. Sup.].

1852: Maly [§ 4.2.11] started his seven exploration travels to the mountainous areas of Dalmatia, from the Velebit to Montenegro [FD. Sup.] [HD].

1855: Visiani visited Miramare, Kotor, Cetinje [b09006].

Maly visited Dalmatia for the second time [b9004]

-
1. Paul Wilhelm Sosistheus Eugen Ebel (1815–1884). Botanist from Königsberg.
 2. Richard C. Alexander (?–?). London-born physician and amateur botanist who lived in Graz.
 3. Giorgio Roich (also ‘Georgius Roich’, ‘Đure Roić’, ?–?). Dalmatian physician who studied in Padova.
 4. Josip Klasancije Schlosser (1801–1882). Croatian botanist mostly remembered for his 1869 work on the flora of Croatia, prepared with Farkaš-Vukotinović [301]
 5. Ljudevit Farkaš Vukotinović (1813–1893). Croatian politician and amateur botanist.

1856: Sardagna¹ travelled through all Dalmatia, from Zadar to Kotor and climbed the Biokovo, mainly to study mosses, but made some observation on its vascular flora as well [302] [FD. Sup].

Maly visited Dalmatia for the third time [b9004].

1857: Sendtner [§ 4.2.22] visited Bosnia [Sup. Al. 1].

Maly visited Dalmatia for the fourth time [b9004]

1858: Visiani visited Dalmatia and Montenegro in the summer and early autumn. He passed through Zadar, Šibenik, Split, Makarska, Korčula, and Dubrovnik, and Collected plants in Solin and Klis. Afterwards he travelled to Montenegro, hoping to be able to climb Mt. Orjen [mssl-580911-@] [pncc-581017].

Maly visited Dalmatia for the fifth time [b9004]

1859: Alschinger once again visited Mt. Biokovo.

Maly visited Dalmatia for the sixth time [b9004]

1861: Maly visited Dalmatia for the seventh time [b9004]

1862: Tommasini started a careful exploration the Kvarner islands by visiting Lošinj in April, Susak and Lošinj in September [FD. Sup].

Josch² and Rastern³ visited Lošinj [31].

Reichardt⁴ visited Lošinj with some other naturalists, including Petter [FD. Sup] [31].

In April, a group of botanists from Vienna visited Lošinj [FD. Sup].

1863: Visiani stayed in Dalmatia for over a month, visiting Šibenik, Dubrovnik, and Lokrum [pncc-630507-@] [b26010e].

Tommasini visited Lošinj and Cres [FD. Sup].

Josch⁵ reached Lošinj, Koludarc, and Susak in May, travelling there from Ljubljana through Trieste and Istria [303] [FD. Sup].

1864: Tommasini visited Krk, and Lošinj in the spring. [FD. Sup].

1865: Visiani visited Herceg Novi, Dubrovnik, Lokrum, Šipan, Koločep, and Lopud, accompanied by Beltramini [§ 4.1.4], who collected plants alone along the Dalmatian coast on his way back.

Tommasini visited Lošinj in the spring. [FD. Sup].

Weiss⁶ visited Vis [FD. Sup].

Smith⁷ explored Krk [FD. Sup].

1865–1866: A. Stossich⁸ [§ 4.2.24] visited Cres [FD. Sup]:

1866: Weiss visited the Dalmatian southern coast from Dubrovnik to Kotor, in the late summer and autumn, focussing mainly on the surroundings of Gruž and Meljine [304] [FD. Sup].

1. Michele de Sardagna (1833-1901). Botanist from Trento.

2. Eduard von Josch (1799–1874).

3. Baron Nicomedes Rastern (1824–1875).

4. Heinrich Wilhelm Reichardt (1835–1885). German botanist from Jihlava.

5. Eduard von Josch (1799–1874). Jurist and amateur botanist.

6. Emmanuel Weiss (1837–1870). Austrian naval physician and botanist [31].

7. Anne Mary Smith (?–?) was an English amateur botanist who collected plants, mostly in Krk, between 1869 and 1870. Twenty-nine of her specimens are now in *HD*.

8. Adolfo (also 'Adolf', 1824–1900) was a naturalist from Trieste, who concentrated mainly on molluscs.

1867: A group of botanists from Vienna once again visited Lošinj [FD. Sup.].
 Huter travelled through all Dalmatia [§ 4.2.10] [FD. Sup.].
 Ascherson [§ 4.2.4] visited southern Dalmatia in June [FD. Sup.] [HD] [31].
1867–1879: Pichler explored the area around Rijeka and southern half of Dalmatia, particularly the Krivošije [§ 4.2.20] [FD. Sup] [HD] [31].
1869: Borbás visited southern Croatia and the Velebit [31].
1870: Ascherson and Pichler visited Dalmatia again [FD. Sup.].
1872¹: Pantocsek [§ 4.2.18] travelled through Montenegro and southern Herzegovina from 11th Jun. to 30th Jul. His itinerary was: from Dubrovnik, to Trebinje, to the triple border (Dalmatia, Montenegro, Herzegovina) through Grančarevo and the Velika Jastrebica, then south-east to Cetinje through Njeguši, from Cetinje to Rjeka Crnojeviča, then through Danilovgrad to the Komovi and Karina, north-east through the Tara valley to the Durmitor massif, south through Nikšić to the area around Vučija, then again to Cetinje and finally to Kotor [170]. The whole area was previously unexplored from the botanical point of view [Sup. Al. 1].
 Marchesetti made a quick visit to Krk [258].
1873: Pančić made a quick visit to Montenegro, particularly the Zeta valley and the northern coast of lake Skadar, which had not been seen by Pantocsek.
1875: Tommasini, M. Stossich² and Syrski³ explored Palagruža on steamboat [305].
 Borbás visited Rab [31].
1876: Studnička⁴ explored the gulf of Kotor [HD].
 Spreitzenhofer⁵ explored Vis and the nearby islets [31].
 Freyn explored Dalmatia [§ 4.2.8] [HD].
 Sendtner visited Bosnia [HD]
 Borbás visited Krk.
1876-1877: Marchesetti explored Dalmatia, particularly Palagruža and Vis [257] [HD].
1877: Borbás visited Krk and Rab once again [31].

5.4 Correspondence between Records and Specimens

Our list of plant records from Visiani's published works on Dalmatia allows us to try and falsify⁶ our conclusion [§ 2.1.3] that the *HD* is an almost complete collection, that matches Visiani's works very closely.

-
1. Not 1873, as Visiani wrongly writes in *Sup-Al. 1*.
 2. Michele Stossich (1857–1906) was the Adolfo's son (see earlier note). A zoologist, he was mostly interested in flat-worms.
 3. Szymon Adam Syrski (also 'Simeone Adamo', 1824–1882) was a Polish zoologist, who directed the Natural History Museum in Trieste from 1866 to 1875.
 4. Karl Studniczka (?–1904?). Austro-Hungarian officer and plant collector.
 5. G.C. Spreitzenhofer (1835–1883). Austrian bank employee and amateur botanist.
 6. The assumptions we need to make are not strong enough to *verify* our hypothesis it, but should the number of records be found to be much higher than that of specimens, then the *HD* would necessarily be incomplete.

In order to evaluate how closely the *HD* represents Visiani's knowledge of the flora of his area of study, we must first try and estimate how large *Sup. Al.* would have been if it were completed with data from the material Visiani had at hand in 1878. If we assume that both the complete second part and the third part would have had the same proportion of added records since the publication of *FD2* and *FD3* as the first one had since *FD1*, and if we take into account that *FD1* only deals with 22% of all the taxa treated in *FD* [§ 3.4.4], we can calculate that the complete second supplement to *FD* would have contained around 6,068 records (i.e. 1,335 from the first part, 4,733 from the rest). By adding 4,733 to our 7,576 actual records, we get a total estimate of 12,309. Considering that Visiani did not receive any of the around 1,300 plants collected by Pančić in Montenegro and cited in *Sup. Al.* [§ 3.4.5] [306], nor from the around 900 plants collected by Tommasini in Krk, our estimate is found to be extremely close to the number of specimens that are actually present in *HD* (9,764). This rough calculation, therefore, does not contradict our conclusion.

The map in Fig. 18 shows, for each locality, the numerical difference between the specimens conserved in *HD* and the final sum of all records we gathered from the literature. In the vast majority of cases (193, 81%), the difference is within twenty units; the graph in Fig. 18 illustrates how the values clearly cluster around zero. In other words, for the average locality, we have precisely as many specimens as there are records in the literature. As was to be expected, all the places for which there are over twenty more specimens in *HD* than there are records are localities explored by Pantocsek. Conversely, the places where literature records far outnumber the specimens are precisely those towns where we know Visiani or his collaborators spent a lot of time (Šibenik, Trogir, Split, Drniš, Hvar, Krk). We can suppose that, in these cases, an indication of the place of origin could have looked superfluous to the collector.

5.5 An Inventory of *Loci Classici*

The Latin phrase *locus classicus*¹ refers to the geographical location from which the original material for the description of a taxon was collected; the phrase 'type locality' is used as well, with the same meaning.

The relevance of *loci classici* cannot be overestimated. First of all, identifying where the original material came from is a necessary first step towards the typification of the *names* [307]. Types alone, though, are not suitable for any study that requires analysis of the variability of a population, so new gatherings from the type locality (sometimes called 'topotypical') are therefore routinely used for morphometric analyses, caryological investigations, and studies on genetic variability. More importantly, and more questionably [§ 1.6.4], they are often employed instead of types to provide reference

1. In fact 'locus classicus' is most commonly used to indicate a particularly famous passage from a literary work, out of the taxonomical jargon.

material for molecular taxonomy, including DNA-barcoding, most often without being designated as epitypes.

The ongoing project to document all the *loci classici* of the plants growing in Italy [308] [307] has put the question in particular focus in our country. All the available *loci classici* of Visiani's newly described species and varieties, legitimate and illegitimate, are listed in § VIII.

6. Nomenclature and Taxonomy

In this section we shall present all nomenclatural and taxonomical results stemming from our research. Published and submitted nomenclatural papers are listed in § 6.2, whereas works yet to be completed for submission are listed in § 6.3 and § 6.4.

We would like to make clear that this thesis is *not* to be regarded as an effective publication for any nomenclatural act (Art. 30.8).

6.1 List of Nomenclatural Novelties by Visiani

An alphabetical list of all nomenclatural novelties down from the rank of genus that were published by Visiani, alone or with others, is available in § II. The following table summarises their numbers:

Novelty	inval.	illeg.	leg.	non fossil	p. total
<i>gen. nov.</i>	2 (11%)	2 (11%)	15 (79%)	16 (84%)	19 (2%)
<i>sect. nov.</i>	1 (25%)	0 (0%)	3 (75%)	4 (100%)	4 (0%)
<i>sp. nov.</i>	14 (4%)	16 (5%)	296 (90%)	270 (83%)	326 (33%)
<i>var. nov.</i>	59 (19%)	41 (13%)	204 (67%)	304 (100%)	304 (31%)
<i>stat. nov.</i>	28 (12%)	15 (6%)	196 (82%)	239 (100%)	239 (24%)
<i>stat. & comb. nov.</i>	1 (13%)	0 (0%)	7 (88%)	8 (100%)	8 (1%)
<i>comb. nov.</i>	3 (4%)	8 (11%)	65 (85%)	73 (96%)	76 (8%)
<i>nom. nov.</i>	0 (0%)	5 (45%)	6 (55%)	11 (100%)	11 (1%)
partial total	108 (11%)	84 (9%)	791 (80%)	921 (94%)	987

The column ‘non fossil’ is to be read as ‘of which non fossil’, making no distinction based on the validity and legitimacy of the *names* in question.

As for the status of the *names*, the table should not be considered absolutely definitive: rather, it represents our ‘best guess’ at the present stage of our research. All the varieties whose validity is doubtful (see § 6.3.2) have been considered valid.

The percentages within each kind of nomenclatural novelty are calculated out of the partial total; the percentages that accompany the partial totals are calculated out of the grand total of 987.

The number of nomenclatural novelties we found for non-fossil plants is substantially higher than those listed in publicly available nomenclatural databases: IPNI lists 518 *names* [89], Tropicos only 342 [90].

6.2 Typifications

This section contains the parts dealing with taxonomy and nomenclature of works prepared and published during this doctoral project. The text was reformatted to be consistent with the rest of this thesis, but is otherwise unaltered. When not otherwise stated, the first author of the publication prepared the drafts and coordinated the joint work.

6.2.1 On *Pempt.* (2014)

The work was published by M. Clementi, N. Kuzmanović, Z. Barina, D. Lakušić, and S. Vukojičić under the title ‘Typification of five names published by Roberto de Visiani in Plantarum Serbicarum Pemptas’ [309].

Pancicia serbica Visiani [Pempt.: 9]. Lectotype (designated in [309]):—[SERBIA]. M. [Monte] Javor Serb. merid. [Serbia meridionalis], [1]857 [1857], *Pančić s.n.* (PAD-H0024681!). Additional specimens examined:—SERBIA. Pratis M[onte] Javor / C. Užicens, 2500', Jul[io] [1]846, *Pančić s.n.* (PAD-H0024682!); SERBIA. Užice district: M. Vasilin vrh [Mt. Javor, top of Vasilin vrh] u Užičkoj, *s.d.*, *Pančić s.n.* (BEOU-6438!). Note:—Visiani validly described the new genus *Pancicia* [Pempt.: 9] without the mention of any species name. However, he clearly linked it by an asterisk to the single species *Pancicia serbica* [Pempt.: 6]. Consequently, according to Art. 38.5 of the ICN [3], this description constitutes valid publication of both the genus and the species. In the label of the lectotype, locality, date and signature are in Pančić's handwriting, while the name was later added by Visiani. A second name ('*Pimpinella serbica*'), in an unrecognisable handwriting, was added later. The specimen we have selected as lectotype is fully compatible with the protologue and was used to prepare the illustration in Visiani [Pempt.]. Another examined specimen is mounted on the same herbarium sheet as the lectotype. It could not be selected as type since its label only bears the name '*Kundmania sicula?*', although Visiani probably recognised it as *P. serbica*, having mounted it alongside the first specimen. It also differs from the protologue in some additional details on the locality, suggesting that it might not have been seen by Visiani before he published the name. This name has sometimes been incorrectly reported as published in 1857 (e.g. [89]). This error stems from the fact that the seed list in which the name was published was indeed for year 1857, but it was only completed on the 1st Feb. 1858.

Ranunculus serbicus Visiani [Pempt.] Lectotype (designated in [309]):—[SERBIA]. Ad rivulus M. [Monte] Kopaonik, C. Kruševac, Aug [Augusto] [1]856, *Pančić s.n.* (BEOU-2361!). Note:—This name was published by Visiani for the first time in 1859 [IS. 58] without a description or diagnosis, thus being a *nomen nudum*. The first valid description was given later in Visiani [Pempt.: 170] on the basis of Pančić's material from Mountain Kopaonik. The name on the label was added later by Pančić himself, most likely after Visiani's valid description was published.

Centaurea chrysolepis Visiani [Pempt.]. Lectotype (designated in [309]):—SERBIA.

Rupestrib[us] calcareis M[onte] Oul [Ulj kamen] Serb[ia] mer[idionali], Jul[io], *Pančić s.n.* (PAD-H0024689!). Additional specimens examined:—SERBIA. M. [Monte] Oul [Ulj kamen], *s.d.*, *s.n.* (BEOU-10693!, in Pančić's handwriting). Note:—The specimen selected as lectotype corresponds to the protologue and was obviously used to prepare the illustration in it. This plant was already recognised and published as new by Pančić [172:556], who described it as *C. orientalis* Linnaeus [38] var. *armata*. Visiani raised it to specific level under the name *C. chrysolepis*, following Pančić's remark on the label ('quasi atrorubens chrysocephala').

Mulgedium pancicii Visiani [Pempt.]. Lectotype (designated in [309]):—SERBIA. Bela reka Serbia meridion[ionali], Jul[io], *Pančić s.n.* (PAD-H0024680!). Additional specimens examined:—SERBIA. Bela Reka Užicaer K., Jul[io] [1]856, *Pančić s.n.* (PAD-H0024686!); Without locality, *s.d.*, *Visiani s.n.* (PAD-H0024688!). Note:—The specimen selected as lectotype (label with Pančić's handwriting) closely corresponds to the protologue and is clearly the basis for some of the illustrations in it. The second specimen cited here is the only one among the identified original material with the year of collection written in the label, but, despite that, we preferred to choose one that is recognisable in the illustrations, in accordance with Recommendation 9A.3 of the ICN [3]. The third specimen cited here was also clearly used for the illustrations (PAD-0024688!) and is part of the original material, but since it lacks leaves, it would be less appropriate to serve as lectotype.

Acer macropterum Visiani (1860: 175). Lectotype (designated in [309]):—SERBIA. M[onte] Jastrebac S[erbia] mer[idionali], Aug[ugusto] 1856, *Pančić s.n.* (lectotype designated here: BEOU-3798!). Note:—This specimen fits with the protologue and was collected before its publication, being therefore suitable for typification. The new label was written by Pančić after Visiani formally described the new species. A fossil species from England was given the name *Acer macropterum* Heer [310]. It was renamed *Acer grahamensis* Knowlton & Cockerell in Knowlton [311] to correct the homonymy. A new species from Tibet was described under the name *Acer macropterum* T.Z. Hsu & H. Sun in [312:29]. It is now generally considered a synonym of *Acer laurinum* Hasskarl [313:138] (see for instance Wu & *al.* [314]), therefore we do not propose any replacement name here.

6.2.2 On *Decas 1* (2015)

The work was published by M. Clementi, S. Vukojičić, D. Lakušić, and N. Kuzmanović under the title: 'Typification of the names published by Roberto de Visiani and Josif Pančić in *Plantae Serbicae Rariores aut Novae – Decas I'* [315]. The observations on the missing elements in the illustration of *Goniolimon serbicum* are by U. Buzurović.

Geum molle Visiani & Pančić [Decas 1]. Lectotype (designated in [315]):—SERBIA. E seminibus originatibus M. Javor in horto culta, Maj. Jun. [1]860, *J. Pančić s.n.* (PAD-0022698!). Additional specimens examined:—SERBIA. In apricis M. Javor S[erbia] merid[ionalis], June [1]861, *J. Pančić*, (BEOU-4547!); *s.l.*, *s.d.*, *J. Pančić s.n.* (PAD-

H0022701!); *Culta e seminib[us] de M. Javor S[erbia] merid[ionalis], flor[ens] Maj. fruct[iferum] Juni, s.d., J. Pančić s.n.* (BEOU-4544!). Note:—The specimen in Padova, selected here as lectotype, and the one in Belgrade are, as far as we know, the only ones with information on locality and collection date of that are completely compatible with the information provided in the protologue. The specimen selected here as lectotype was preferred since it bears the provisional name ‘*Geum serbicum* spec. nov.’, the same name that appears in Visiani’s manuscript for Visiani & Pančić 1862 [Decas 1]. Moreover, Pančić’s remark on the label ‘Species certissime a vicino *Geum urbano* diversa’ also appears in the protologue. Finally, the illustration in the protologue was certainly based on it. The additional specimen from PAD (PAD-H0022701) is also probably part of the original material: in a letter to Visiani dating 1857, Pančić wrote that he was sending him a flowering specimen from M. Javor. PAD-H0022701 is the only flowering specimen, collected by Pančić, available in Padova, besides the lectotype. The name is still generally accepted [88].

Potentilla lejocarpa Visiani & Pančić [Decas 1: 431]. Lectotype (designated in [315]):—[SERBIA]. s.l., s.d., s.c. s.n. (PAD-H0023185)!. Additional specimens examined:—SERBIA. In rupestr[us] syeniticis M. Crni vrh Serb[ia] austr[alis], Jun. [1]861, *J. Pančić s.n.* (PAD-H0023186)!. Note:—The lectotype consists of a complete specimen that was clearly used as a basis for the illustration in the protologue. Attached to it, there is a small seed envelope originally labelled ‘Sem. *Potentillae*’ (in Pančić’s handwriting). The only label clearly referring to the lectotype was written by G. F. Reuter (‘Voisine de la *P. heterophylla* Lehm. *intermedia* auct. dont elle diffère par les lobes calycinaux plus longs et plus étroits, les carpelles plus petits non rugueux’, i.e. ‘Close to *P. heterophylla* Lehm. *intermedia* auct., from which it differs by the longer and narrower calycine lobes, the smaller carpels that are not rough’). The other examined specimen is very badly preserved and hardly suitable as type: only a small segment of the stem, part of a leaf and no flowers nor fruits are present, although its label is complete and compatible with the protologue. It is possible that the lectotype and the additional specimen were originally two parts of a single specimen or gathering, which were only later divided when Visiani’s collection was reorganised, after Visiani’s death [17]. If this is the case, the additional specimen would be an islectotype. Alternatively, the lectotype might have been grown in Padova from the seeds contained in the envelope that is attached to the specimen. The incorrect orthographical variant ‘*Potentilla leiocarpa*’ appears in some publication [88]. The name is now generally treated as a synonym of *Potentilla chrysantha* Treviranus [316: 5] subsp. *amphibola* Schur [317: 198] Soják [318: 128] [88].

Potentilla poteriifolia Vis. in Visiani & Pančić [Decas 1: 433] *nom. illeg.* = ***Potentilla visianii*** Pančić in Visiani & Pančić [Decas 2: 480]. Lectotype (designated in [315]):—SERBIA. In saxosis serpentinceis ad Brdjane, Maj. [1]856, *J. Pančić s.n.* (BEOU-4517)!. Additional specimens examined:—SERBIA. E rupestr[us] serpentinceis ad Brdjane Serb[ia] Med[ia] culta, *J. Pančić s.n.* (PAD-H0023189)!. [SERBIA]. s.l., s.d., s.c. s.n. (PAD-H0023188)!. [SERBIA]. s.l., s.d., s.c. s.n. (PAD-H0023187)!. Note:—This taxon was named *Potentilla poteriifolia* Vis. in Visiani & Pančić 1862 [Decas 1], a later homonym of *Poten-*

tilla poterifolia Boissier [319: 50] (Art. 53.1, [3]). For this reason, Pančić alone later published the legitimate replacement name *Potentilla visianii* [Decas 2]. The specific epithet '*poterifolia*' was hastily chosen by Visiani after Pančić refused Visiani's suggestion to use the name '*P. pancicii*' and proposed '*P. serpentini*' instead, as can be seen in a letter sent by Pančić to Visiani dated 7th Mar. 1862. The specimen that we select as lectotype was collected by Pančić in May 1856 near Brđani and is very well preserved. The name *P. visianii*, that appears on its label, was added later, probably after the correction published in 1865 [Decas 2: 480]. A smaller specimen from PAD (PAD-H0023187!), with no indication of collection date or locality, was clearly used to make the illustration that accompanies the protologue and is certainly part of the original material. The name '*Potentilla pimpinelloides* Pančić, non L.' is cited as a synonym in the protologue. Despite being erroneously listed by some sources (e.g. IPNI 2014 [89]), the name '*Potentilla pimpinelloides* Pančić' was never published as a new species, but was listed in Pančić's work as '*P. pimpinelloides* L.' [172: 487]. Therefore *P. visianii* is neither replacement name for '*P. pimpinelloides* Pančić', nor is it an illegitimate synonym of *Potentilla pimpinelloides* Linnaeus [38: 497], since its type is explicitly excluded. This name *P. visianii* is generally accepted [88].

Dianthus papillosus Visiani & Pančić [Decas 1: 436]. Lectotype (designated in [315]):—SERBIA. In rupestr[us] calcareis ad Mokra gora Serb[ia] Occid[entalis], August [1]861, *Ĵ. Pančić s.n.* (PAD-H0022789!). Additional specimens examined:—[SERBIA]. s.l., s.d., s.c. s.n. (PAD-H0016481!); SERBIA. Collib[us] serpentinceis prope Raška C. Čačkensi, July, *Ĵ. Pančić s.n.* (BEOU-1514!). Note:—The specimen selected here as lectotype fully corresponds with the protologue. The label, in Pančić's handwriting, bears the unpublished name '*Dianthus leucozonus*', which appears also in Visiani's original manuscript for Visiani & Pančić 1862, as a provisional name. This specimen was clearly used to make the illustration in the protologue. The additional specimen in PAD (PAD-H0016481) bears Reuter's remark ('Me parait en effet distincte des nombreuses especes du groupe des *sylvestris* par les singulières papilles qui sont sur les petales et sur les feuilles!', i.e. 'it seems to me distinct from the many species of the *sylvestris* group by the particular papillae that are all over the petals and leaves') and is therefore part of the original material. This taxon is generally treated as a synonym of *Dianthus sylvestris* Wulfen in Jacqu[emont] [320: 237].

Viola grisebachiana Vis. in Visiani & Pančić [Decas 1: 433]. Lectotype (designated by Tomović & al. [321]):—SERBIA. Aleksinac district: Rtanj Mountain, July 1847, *Ĵ. Pančić s.n.* (BEOU-15052!). Note:—The original spelling in the protologue ('*grisebachana*') must be corrected in accordance with Art. 60.12 of the ICN [3].

Goniolimon serbicum Vis. in Visiani & Pančić [Decas 1: 440]. Lectotype (designated in [315]):—Illustration in Visiani & Pančić [Decas 1: 450]; (epitype designated by U. Buzurović [315]):—SERBIA. Vujan, 26th Jun. 2012, *U. Buzurović s.n.* (BEOU-34923!). Additional specimens examined:—SERBIA. Raška, [1]861, *Ĵ. Pančić s.n.* (BEOU-6900!). Note:—In the protologue, Visiani mentions as synonyms two names: '*Statice tatarica* Pančić' [172: 90] and '*Statice serbica* Visiani (in herb.)'. The former is not a published name, but an indica-

tion that the name *G. serbicum* is based on the specimens previously identified by Pančić as *S. tatarica*, which excludes the type of *S. tatarica* Linnaeus [38: 275]. No specimens by Pančić named '*Statice tatarica*' and compatible with the protologue are to be found in Visiani's collection. No specimen named '*S. serbica*' are to be found either in Visiani's herbarium in PAD or elsewhere. Although this name was published by Visiani alone, Pančić and Visiani discussed this taxon together in their correspondence. It was Pančić who proposed that all corrections to his previous work [172] would only bear Visiani's name, in a letter dated 18th Feb. 1861 ('Le piante, che nella mia Enumerazione sono pubblicate sotto un nome che loro non conviene, porterebbero, da Lei rettificate, il suo nome solo, come *Statice serbica* Vis. etc. tutte le altre che giudicheremo nuove porteranno appo sé i nomi Visiani et Panč.', i.e. 'Those plants that in my Enumeration were published under an inconvenient name, will bear just your name, after your correction, like *Statice serbica* Vis. etc. all the others that we shall find new will bear upon them the names Visiani et Panč'). After a very thorough research of original material, only a specimen collected by Pančić in 1861 was found (BEOU-6900!). This specimen must represent also Visiani's concept of the taxon, but since it might not have been seen by him, it cannot be considered original material (see also Art. 46.8. if the ICN, [3]). Therefore, the illustration published along with the protologue is the only conserved piece of original material, and it must be selected as a lectotype. Some important diagnostic characters are not clearly recognisable in the lectotype, including: pubescent mucro on the outer bract, size and relative length of the mucro on the inner bracts, number of flowers on each spikelet, hairiness of the calyx. For this reason, an epitype representing the modern concept of the species is selected to support the lectotype. This name is now treated as a synonym of *Goniolimon tataricum* Linnaeus [38: 275] Boiss. in Candolle [322: 632] [323].

Campanula secundiflora Visiani & Pančić [Decas 1: 442]. Lectotype (designated by Janković & al. [324: 270]:—SERBIA. In fissuris rupium calc[areis] ad rivum *Panjiska* Serb[ia] merid[ionali] August 1861, *J. Pančić s.n.* (PAD-H0023203!).

Euphorbia subhastata Visiani & Pančić [Decas 1: 444]. Lectotype (designated in [324]):—SERBIA. De rupib[us] M. Kablar Serb[ia] centr[alis] fl. culta, s.d., *J. Pančić s.n.* (PAD-H0023182!). Additional specimens examined:—[SERBIA]. s.l., s.d., s.c. s.n. (PAD-0023183!); SERBIA. M. Kablar, Jul. [1]858, *J. Pančić s.n.* (BEOU-764!). Note:—The specimen selected here as lectotype was clearly used to prepare the illustration in the protologue (complete specimen on the left of the iconography). From a letter by Pančić to Visiani (17th Oct. 1858), we discovered that this species was cultivated by Pančić in Belgrade since 1858, from roots collected during an excursion in central Serbia ('nel centro della Serbia'). Mount Kablar is adjacent to mount Ovčar, which is cited in the protologue. The two localities were certainly visited during the same excursion. The additional specimen in PAD-0023183 that we cite was clearly used to prepare the picture of the flowering stem on the right side of the illustration and was almost certainly part of the same gathering as the lectotype. It is, therefore, an isolectotype. It bears Reuter's remark: 'bonne espèce, près de *E. iberica* Boiss. dont elle diffère par les feuilles beaucoup

plus profondément [illegible] les caulinaires retuses, la capsule lisse, toute la plante tomentelle' ('good species, close to *E. iberica* Boiss., from which it differs by the much more deeply [illegible] leaves, the cauline ones retuse, the smooth capsule, the whole plant slightly tomentose'). The additional specimen in BEOU is also certainly part of the original material. According to Euro+Med [88] this name is treated as a synonym of *Euphorbia agraria* Bieberstein [325:375].

6.2.3 On *Campanula secundiflora* (2015)

This work was published by I. Janković, N. Kuzmanović, M. Clementi, and D. Lakušić as 'Lectotypification of *Campanula secundiflora* (Campanulaceae), a species of European concern' [324]. The section reproduced here was drafted by M. Clementi.

Campanula secundiflora Visiani & Pančić [Decas 1: 442]. Lectotype (designated in [324]): in fissuris rupium calc. [in clefts/fissures of calcareous rocks] ad rivum Panjiska [by river Panjica] Serb[ia] merid[ionali] Aug[usto] 1861, J. Pančić s.n. (PAD-H0023203!). Protologue citation:— in fissuris rupium calcarearum ad rivum Panjiska circ. Užicensis. Other original material examined:— *Campanula diffusa* Vahl. *secundiflora* Vis. Pančić. Felsen des mali Rzav bei Klisura in Uzica... Jul 1856. potuis affinis *pyramidalis* et prob. nova! (BEOU-9536!). Note:—We found two herbarium specimens belonging to original material. The first one, designated here as lectotype (PAD-H0023203), was collected by Pančić in August 1861 on rocks in the Panjica River gorge. According to the note left by Pančić on the label, he considered the plant closely related to *C. fragilis* Cirillo and *C. lactiflora* M. Bieb. Although the specific epithet 'secundiflora' is not written on the label and the material is determined just as *Campanula*, the details regarding the locality on which the material was collected perfectly match the details published in the protologue and no other compatible specimens are to be found in PAD. Taking this into account, as well as the fact that the plant is in flower and clearly recognisable, we decided to designate it as lectotype. The second specimen was collected earlier by Pančić, still not in full flower (July 1856), on rocks in the Rzav gorge in Užički district. It was determined as *Campanula diffusa* Vahl., but this original determination was later corrected by Pančić, probably after the publication of the description of *C. secundiflora*. As can be seen on the label, at the time Pančić had already noticed that it was probably a new species closely related to *C. pyramidalis*, an observation recently confirmed by the results of molecular [326], [327] and chemotaxonomic studies [328]. Although this specimen is not selected here as type, the information regarding the place of its collection needs clarification. Pančić made a mistake regarding the locality Klisura, where he collected the first specimens in 1856. Klisura is the name of a monastery in the gorge of the river Panjica, not in the gorge of river Mali Rzav [329]. However, the presence of *C. secundiflora* in the gorge of Mali Rzav River is not excluded, as these two rivers are geographically close to each other.

6.2.4 On *Decas 2* (2015)

This work was published by M. Clementi, G. Anačkov, A. Miola, and S. Vukojičić as ‘Typification and taxonomical notes on the names published by Roberto de Visiani and Josif Pančić in *Plantae Serbicae Rariores aut Novae – Decas II* [330]. The taxonomical notes on *Allium serbicum* were drafted by G. Anačkov.

Heliosperma monachorum Visiani & Pančić [Decas 2: 463]. Lectotype (designated in [330]):—SERBIA. Rača, August[o], *J. Pančić s.n.* (BEOU-1716!). Additional specimens examined:—SERBIA. s.l., s.d., *J. Pančić s.n.* (BEOU-1719a!); SERBIA. s.l., s.d., *J. Pančić s.n.* (BEOU-1719b); SERBIA. Derventa, 8 [August] [1]880, *J. Pančić s.n.* (BEOU-1719c); SERBIA. E loc[us] class[icus], s.d., *J. Pančić s.n.* (BP 124030). Note:—One of the additional specimens (BEOU-1719a) bears many morphological observations by Pančić and the generic name *Heliosperma*, certainly written before the name *H. monachorum* was published, and the specific epithet ‘*monachorum*’, added later, but no place or date of collection. Amongst these observations, ‘habitus pudibund. semina pudibund. × Tommasinii’ can be read. In a letter to Visiani (6th Jul. 1860) Pančić referred to this then-unknown taxon with the words ‘my *Heliosperma* related to *pudibundum*’ (‘il mio *Heliosperma* affine al *pudibundum*’). In a later letter (7th Dec. 1861), after alluding to the fact that it was Visiani who pointed out to him the affinities between that species and *H. tommasinii* Visiani [FD3], he added that, after reading Juratzka [331], he had reached the conclusion that it was ‘*H. chromodontum* Boiss.’. The specimen that we select here as type bears the note ‘prob[abiliter] *Heliosperma chromodontum* Boiss.’ and no other final designations. Nevertheless, since BEOU-1719a was later identified by Pančić as *H. monachorum*, and we could prove, albeit very indirectly, that Pančić considered BEOU-1716 to be a member of the same species, and that it was available to him between 1861 and 1865, we can safely conclude that it too must be part of the original material. Since it was also certainly collected from the *locus classicus*, we prefer it over other specimens as the lectotype. The previously unpublished name ‘*Silene monachorum* Vis.’ is cited in the prologue as a synonym. It appears that Visiani and Pančić intended it as an alternative name, in anticipation of a possible reclassification of *H. monachorum* in the genus *Silene*. The name was therefore not validly published in Visiani & Pančić [Decas 2, per Art. 36.1(c) of the ICN [3]. Pančić suggested (*in litt.*) not to use the epithet ‘*monachorum*’ since the plant ‘grows far from the small monastery of Rača (in which just one monk is living) and it also grows elsewhere’ (‘cresce distante dal piccolo monastero Rača in cui vive per adesso solo un monaco [...] e cresce anche [...] altrove’). He suggested the name ‘*Heliosperma microdon*’ instead ‘*ob paleolas in margine seminis quem in affnibus breviores*’. This taxon is now generally treated in *Silene pusilla* Waldstein-Wartenburg & Kitaibel [332] = *Heliosperma pusillum* (Waldst. & Kit.) Reichenbach [143:78], either as a synonym (e.g. Euro+Med [88]) or as a subspecies: *H. pusillum* subsp. *monachorum* (Vis. & Pančić) Niketić & Stevanović [333].

Scabiosa achaeta Visiani & Pančić [Decas 2: 465]. Lectotype (designated in [330]):—SERBIA. In saxosis arenaceis ad Trnava Serb[ia] merid[ionalis], July [1]856, *J. Pančić s.n.*

(PAD-H0023204!). Additional specimens examined:—SERBIA. Trnava blizu Raške [Trnava close to Raška], [1]856, *Ĵ. Pančić s.n.* (BEOU-9297!). Note:—Both the specimen selected as type and the additional specimen are certainly part of the original material. We preferred the one in Padova (PAD-H0023204) since it is more complete and clearly recognisable in the illustration accompanying the protologue. This species has long been considered to be extinct (Vukojić in Stevanović & *al.* [334]). At the best of our knowledge, no possible causes for its disappearance were ever proposed, and doubts about its true identity were raised, for instance, by Niketić [35]. When Pančić recapitulated the differences between *S. achaeta* and *S. fumarioides* (*in litt.*), he wrote that ‘they are no different but for the thicker hairiness (*achaeta*) and the internal calycine setae, that are shorter or rather absent in *achaeta*’ (‘io direi che non sono diverse se non per il indumento più copioso (*achaeta*) e le sete del calice interno più brevi o piuttosto nulle nella *achaeta*’). He then suggested to exclude it from the manuscript, which would have given him more time to solve his doubts, and to exchange it with ‘*Lactucopsis aurea* del Schultz’. Given that he did not mention *S. achaeta* in Flora of the Principality of Serbia [102], it seems that he was at least never entirely convinced that *S. achaeta* and *S. fumarioides* are different, or possibly eventually convinced of the opposite. As we examined the original material to check the differential characters, we found that the type specimen of *S. achaeta* bears at least one quite developed seta, along with numerous others that are reduced to stubs, but not outright absent. We also discovered that numerous fruits on one original specimen of *S. fumarioides* (BEOU-9367!) bear no setae at all. It is therefore not possible to distinguish the two taxa only on the grounds of this feature. No clear difference in hairiness could be detected in the original material. Pančić also pointed out (*in litt.*) that the two species share the same kind of serpentine soil, which is not evident from the protologue. It is noteworthy that he altogether failed to ever mention the clearest character that is usually believed to separate the two (see for instance Tutin [335]), which is not recognisable in the dried specimens: the colour of the corolla, that is given in the protologues as lilac (*‘lilacini’*) in *S. achaeta*, and yellow in *S. fumarioides*. Although it is true that phytochemical features, like colouration and smell, were usually deemed to be of little or no importance by many 19th century botanists (see for instance Visiani [Gen. Sp.]), this omission is still striking and casts doubts over the validity of this differential character. In the protologue, Visiani also mentions larger leaf laciniae in *S. fumarioides* compared to in *S. achaeta*, but in the specimen of *S. fumarioides* that he had available in Padova (PAD-0044651) they are unusually large for the taxon, while they are in fact not at all different from those of the type of *S. achaeta* in many cases. We conclude that, although a more in depth analysis of these specimens is granted (molecular trials are underway), there are no clearly discernible morphological differences between the original material of *S. achaeta* and that of *S. fumarioides*, and so no grounds, at present, to consider them two distinct species. In order to maintain nomenclatural stability, we here establish that, when the two taxa are treated as the synonyms, the name *S. fumarioides* should take priority over *S. achaeta* (see Art. 11.5, [3]).

Scabiosa fumarioides Visiani & Pančić [Decas 2: 466]. Lectotype (designated in [330]):

—SERBIA. In glareosis serpent[inaceis] ad Raška C[irculo] Čačkens[is]. Jul[io] [1]864. *Ź. Pančić s.n.* (PAD-0044651!). Additional specimens examined:—SERBIA. Raška, Jul[io] [1]864, *Ź. Pančić s.n.* (BEOU-2367!). Note:—The specimen selected here as the lectotype perfectly corresponds with the protologue and was clearly used to prepare the illustration in it. It consists of a full specimen and an envelope with detached fruits. The type bears two labels: one, by Visiani, with the provisional name ‘*Scabiosa myriotoma* Vis.’, and the other, by Pančić, with ‘*Scabiosa subachaeta* nov. spec?’, both later corrected by Visiani to *S. fumarioides*. The first provisional name (‘*S. myriotoma*’) is found in Visiani’s manuscript for Visiani & Pančić [Decas 2]. The name is currently accepted [35].

Scabiosa fumariifolia Pančić ([102: 390), ‘*fumariaefolia*’. Lectotype (designated in [330]):—SERBIA. In glareosis serpent[inaceis] ad Raška C. Čačkens[is]. Jul[io] [1]864. *Ź. Pančić s.n.* (PAD-0044651!). Note:—In all of their correspondence, Visiani and Pančić referred to *S. fumarioides* as ‘*Scabiosa fumariaefolia*’, a name that Pančić considered to be inappropriate (*in litt.*). Instead, he asked Visiani to consider ‘*Scabiosa prolixa*’ and ‘*Scabiosa leptostoma*’. Pančić himself later published the name *S. fumariifolia*, evidently by mistake. We typify it here on the same specimen as the former.

Hieracium marmoreum Visiani & Pančić [Decas 2: 468]. Lectotype (designated in [330]):—SERBIA. In rupestr[us] calcareis M[ali?][ons?]. Vukan S[erbia] A[ustralis], Jul[io] 1863, *Ź. Pančić s.n.* (PAD-H0023200!). Additional specimens examined:—SERBIA. In rupestr[us] calcareis ad Gornjak Serbi[ia] austr[alis], Jul[io] [1]861 *Ź. Pančić s.n.* (PAD-H0023199!); SERBIA. In rupestr[us] calcareis M[ons] Rtanj C[irculi] Aleksinac[ensis], Jun[io] [1]854 (PAD-H0023198); SERBIA. E seminib[us] in [illegible] cult[um], s.d., *Pančić s.n.* (PAD-H0023195!); [SERBIA] s.l., s.d., *s.c. s.n.* (PAD-H0023196!). Note:—The specimen selected as lectotype bears two labels. The original one, by Pančić, bears the name ‘*H. marmoreum* Panc. in litt. ad Schultz’. Indeed, Pančić wrote, in a letter to Visiani (4th Jan. 1863), that he had asked an opinion to Schultz Bipontinus on this species before publication. This label also bears the signature of the famous monographer of *Hieracium*, Casimir Arvet-Touvet (1841–1911), who confirmed the identification. The second label is by another expert on this genus, Saverio Belli (1852–1919), and it reads ‘Questo è il vero *Hieracium marmoreum* Panc. Vis. etc. ben differente da quello così determinato e pubblicato da Janka e che sta pure in questo foglio teca’ (i.e. ‘This is the true *H. marmoreum* Panc. Vis. etc. quite different from the one thus determined and published by Janka that is also present in this sheet file’). This specimen is compatible with the protologue, well conserved, and was considered by two experts as representative of the concept of *H. marmoreum*; therefore we do not hesitate to designate it as a type. The name is generally accepted (e.g. Euro+Med [88], Niketić [35]).

Centaurea myriotoma Visiani & Pančić [Decas 2: 470]. Lectotype (designated in [330]):—SERBIA. Am Vukan in Kr. Požarevac. Jul[io] 1861. *Ź. Pančić s. n.* (BEOU-10790!). Note:—The specimen selected here as lectotype is, as far as we know, the only one with information on locality and date of collecting that are compatible with the data provided in the protologue. The name is now generally regarded as a synonym of *Centaurea triniifolia* Heuffler [336] ([88], [35]), and is sometimes incorrectly reported as

‘*Centaurea myriostoma*’ (e.g. in IPNI [89]).

Centaurea derwentana Visiani & Pančić [Decas 2: 472]. Lectotype (designated in [330]):—SERBIA. E seminib[us] de rupib[us] calcar[eis] ad Derventa Serb[ia] Merid[ionali] culta. Flor[et] Maj[o] Jun[io], *J. Pančić s.n.* (PAD-H0022800!). Additional specimens examined:—SERBIA. s.l., s.d., s.c. s.n. (PAD-H0022796!); SERBIA. In rupestr[ib] calcareis ad rivum Derventa Serb. Occid. Aug[usto] [1]861, *J. Pančić s.n.* (PAD-H0022799!); SERBIA. In rupestr[ib] ad Derventa S[erbia] occid[entali] Jul[io], *J. Pančić s.n.* (GOET 001235); SERBIA. Derventa, s.d., *J. Pančić s.n.* (JE 00015656). Note:—The specimen selected here as lectotype consists of a seed envelope and a dried specimen, and is mounted on the same sheet as PAD-H0022796. Data from the label perfectly corresponds to the protologue and the specimen is clearly recognisable in the illustration. This species was already cultivated by Pančić in 1863, which we discovered from a letter to Visiani dating 14th Jul. 1863. The name is still generally accepted [88], [35].

Linaria rubioides Visiani & Pančić [Decas 2: 473]. Lectotype (designated in Niketić & Tomović [337]):—SERBIA. M. Šagran Serb[ia] merid[ionalis], Jul[io] [1]861, *J. Pančić s.n.* (PAD-H0045503!). Note:—The name is still in use, a detailed account of the taxonomy and nomenclature of this taxon was published in Niketić & Tomović [337]. The number of the specimen, ‘PAD-H0045503’, could not be given there, since the new cataloguing system was only developed later [20].

Verbascum pannosum Visiani in Visiani & Pančić [Decas 2: 475]. Lectotype (designated in [330]):— Illustration in Visiani & Pančić [Decas 2: t.14]. Additional specimens examined:—SERBIA. Иванова Ливада [Ivanova Livada], Jul[io] [1]863, *J. Pančić s.n.*, (BEOU-7516!). Note:—The additional specimen in BEOU bears the name ‘*Verbascum niveum* Ten.’, later corrected to ‘*pannosum* Vis. & P’. The unpublished name ‘*Verbascum montanum* Pančić’ is cited as a synonym in the protologue, but the type of *Verbascum montanum* Schrader [338] is explicitly excluded, so Visiani’s name is legitimate. Since we were unable to find any specimen that was certainly available to Visiani (and the name was published by he alone), we are forced to select the illustration as a lectotype, although we know that no species published jointly by Visiani and Pančić were studied by Visiani alone (see Clementi & al. [309]) and the additional specimen was certainly available to Pančić before the publication of the protologue. This taxon is now generally treated as a subspecies of *Verbascum longifolium* Tenore [151:16], as *Verbascum longifolium* subsp. *pannosum* (Visiani & Pančić) Murbeck [339:144] [88].

Euphorbia glabriflora Visiani in Visiani & Pančić [Decas 2: 477]. Lectotype (designated in [330]):— Illustration in Visiani & Pančić [Decas 2: t. 13]. Additional specimens examined:—SERBIA. In saxosis serpent[inaceis] ad Mokragora S[erbia] merid[ionalis]. Jun[io] [1]868, *J. Pančić s.n.* (PAD-H0044647!); SERBIA. In saxosis serpent[inaceis] ad Mokra gora S[erbia] merid[ionalis], Jul[io], *J. Pančić s.n.* (PAD-H0044648!); SERBIA. M. Zlatibor. Jul[io] [1]856, *J. Pančić s.n.* (BEOU-675!); SERBIA. M. Stol. Jul[io] [1]864 (BEOU-755!). SERBIA. In rupestr[ib] serpentinac[eis] M[ons] Stol Serb[ia] merid[ionalis], Jul[io], *J. Pančić s.n.* (G00405590!); SERBIA. s.l., s.d., *J. Pančić s.n.*

(G00405592!). Note:—We located numerous specimens that were certainly available to Pančić, including two with no date that were certainly sent to Boissier in Geneva in 1865, as we learnt from a letter by Pančić to Visiani dated 17th Nov. 1865. Unfortunately, we were not able to locate any specimen that was certainly available to Visiani, the single author of this name, therefore we had no choice but to select the illustration published along with the protologue, that is very clearly recognisable as *E. glabriflora*. The name is still generally accepted [88], [35].

Allium serbicum Visiani & Pančić [Decas 2: 479]. Lectotype (designated in [330]):—SERBIA. Illustration in Visiani & Pančić [Decas 2: t. 8]. Additional specimens examined:—SERBIA. Mokra gora Serb[ia] merid[ionalis] in rupestrib[us] calcareis, Jul[io], J. Pančić s.n. (BEOU-11931!). Note:— The original label of the only specimen that we found, kept in the *Herbarium Pancicianum* - BEOU, includes the name of the genus, locality, and habitat, followed by the month of collection and the collector's signature. The year of collection is not indicated. The epithet '*serbicum*' was clearly added on the label after the rest, and it is therefore likely that this specimen is part of the original material. Nevertheless, we preferred to select the illustration that was published along with the protologue, which illustrates the taxon very clearly. Hayek [340] treated this species as a synonym of *Allium tenuiflorum* Tenore [151]:165], which was known from Italy. This nomenclatural approach caused much confusion. Tatić [341] follows this approach in the Flora of Serbia, and includes *A. tenuiflorum* in the list of the Serbian *Allium* species. In two studies of the genus *Allium* in the Balkan Peninsula, Stearn [342], [343] treated *A. serbicum* as a synonym of the typical subspecies of *Allium pallens* Linnaeus [162], and he followed this nomenclature in Flora Europaea [344] as well, which includes also *A. tenuiflorum* as a subspecies of *A. pallens* [344]. More recently, in several studies of the genus *Allium*, including Gregory [345] and Govaerts [346], *A. tenuiflorum* was reinstated to the rank of species; for this reason its presence is confirmed in the countries of former Yugoslavia. However, in these works, *A. serbicum* is still inconsistently included in *A. pallens*. This disorder is caused by lack of knowledge of *A. serbicum*. Insufficient data on the distribution and the differential morphological characters of *A. serbicum* are the result of the inaccessibility of the area where it is known to grow. In a morphological study of the species of *Allium* in Serbia, Anačkov [347] showed that specimens harvested in Beli Ržav, on the Mokra Gora correspond to the description given in Visiani & Pančić [Decas 2, but are clearly different from the description of *A. pallens* given by Stearn [342], [344]. *A. serbicum* is a smaller plant that grows on steep and often rocky calcareous movable surfaces. Compared to *A. pallens*, the valves are smaller, with one being evidently shorter. The flowers are milky white, without the pronounced lines that characterise *A. pallens*. Moreover, the inflorescence does not ever bear more than 23 flowers (Anačkov, *pers. com.*), while in *A. pallens* the number of flowers can reach up to 70. These recent observations led to the conclusion that *A. serbicum* should be considered as a separate species from *A. pallens*.

6.2.5 On *Decas 3* (2016)

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Picridium macrophyllum Visiani & Pančić [Decas 3: 3, t. XVI]. Lectotype (designated by Conti & al. [349]):—SERBIA. Mokra Gora, [1]866, *Ź. Pančić s.n.* (BEOU-11147). Note:—Conti & al. [349], along with all other sources that we could find, ascribe this taxon to the genus *Reichardia* Roth [350: 35] as *R. macrophylla* (Vis. & Pančić) Pančić [102: 460], now the generally accepted position. Nonetheless, we realised that in fact that combination was already validly published in Visiani [FD. Sup.], so that Pančić’s name is a later isonym, with no nomenclatural status, of *R. macrophylla* (Vis. & Pančić) Visiani [FD. Sup.: 70].

Mulgedium sonchifolium Visiani & Pančić [Decas 3: 5, t. XVII]. Lectotype (designated in [348]):—SERBIA. Озрен пл. близу Бање Сврљишке [Mount Ozren near Svrlijske Spa], Јун [June] [1]847, *Ź. Pančić s.n.* (BEOU-11189). Additional specimens examined:—SERBIA. Serb[ia] Meridionali, Jun[io] [1]856, *Ź. Pančić s.n.* (BEOU-14752). Note:—This taxon is now generally treated in the genus *Lactuca* Linnaeus [38: 795] (e.g. Euro+Med [88], Niketić [35]) as *L. aurea* (Sch.Bip. in Visiani & Pančić [Decas 3: 7]) Stebbins [351: 14], a name hereafter typified on the same specimen. An in-depth analysis of the nomenclature of this taxon is carried out in the following paragraph on *Lactucopsis aurea* Sch.Bip.. The name *Lactuca sonchifolia sensu* Pančić [172: 559] is cited in the protologue as a synonym, but the type of *L. sonchifolia* Willdenow [352: 1530] is explicitly excluded, so that the name is legitimate, save on transfer to the genus *Lactuca* (see paragraph on *L. aurea*).

Lactucopsis Sch.Bip. in Visiani & Pančić [Decas 3: 5]. Type (designated by Kirpicznikov in Komarov & al. [353: 286]):—*Lactuca chaixii* Villars [354: 32]. Note:—*Lactuca chaixii* is currently regarded as a synonym of *Lactuca quercina* Linnaeus [38: 795].

Lactucopsis aurea Sch.Bip. in Visiani & Pančić [Decas 3: 7]. Lectotype (designated in [348]):—SERBIA. Озрен пл. близу Бање Сврљишке [Mount Ozren near Svrlijske Spa], Јун [June] [1]847, *Ź. Pančić s.n.* (BEOU-11189). Note:—This name is often incorrectly ascribed to Visiani & Pančić or to Schultz-Bipontinus ex Visiani & Pančić (e.g. Euro+Med [88]). If this were the case, it would be invalid, as it is treated by Visiani and Pančić as an unaccepted synonym or alternative name for *Mulgedium sonchifolium* Visiani & Pančić [Decas 3], a fact that is only explained in a final note in the protologue and might not be immediately clear. As was already pointed out by Stebbins [351], Visiani and Pančić in fact unambiguously attribute both the name *L. aurea* and its description, separate from that of *M. sonchifolium*, solely to Schultz-Bipontinus, with the following words: ‘*Schultz Bipontinus [...] supra plantam hanc [Mulgedium sonchifolium] [...] novum genus condiderat, quod aliis quoque Mulgedii et Lactucae speciebus ditatum in scheda manuscripta et adhuc inedita sequenti modo illustraverat*’ (i.e. ‘Schultz Bipontinus

[...] had established a new genus on this plant [*Mulgedium sonchifolium*], which he had illustrated also with some new species of *Mulgedium* and *Lactuca* in the following way, in a yet unpublished manuscript'). The sentence we have quoted, numerous letters exchanged between Visiani and Pančić, and the presence of *Lactuca sonchifolia sensu* Pančić [172] in the synonymies of both protologues, also make it clear that *M. sonchifolium* and *L. aurea* were intended to apply to precisely the same taxon, with the same circumscription, at the same rank, for which reason we believe they should share the same type. As both the names *L. aurea* and *M. sonchifolium* are validly published, in the same work, they would appear to have equal priority. Still, we believe it could be argued that Visiani and Pančić, by implicitly rejecting Schultz-Bipontinus's name in favour of their own, effected a choice as provided by Art. 11.5 of the ICN [3]), thus establishing priority of the final epithet 'sonchifolium' over 'aureum'. It follows from this very peculiar situation that the epithet 'aureum', although valid, can never be used to form any correct combination, as 'sonchifolium' must always be preferred, and is only to be taken into account in matters of homonymy, save for the cases in which the provisions of Art. 11.5 cannot apply. When Stebbins [351] moved *M. sonchifolium* to *Lactuca*, he could not adopt the epithet *sonchifolia*, which was unavailable because of *L. sonchifolia* Willdenow [352: 1530]. Therefore, in this case, Art. 11.5 does not apply, as the resulting combination would be illegitimate. Stebbins [351: 14] correctly created a new combination based on Schultz-Bipontinus's name, *Lactuca aurea* (Sch.Bip.) Stebbins, rejecting the later *Lactuca visianii* Bornmüller [355: 29]. The label of the specimen selected as type, along with the name '*Mulgedium sonchifolium*', bears the designation '*Botryoseris sonchifolia* DC.'. The genus '*Botryoseris*' seems to have never been published (by De Candolle or anybody).

Mulgedium aureum Sch.Bip. ex Visiani & Pančić [Decas 3: 5], *nom. inval.* Note:—Despite being listed by some sources (e.g. IPNI [89]), this name was not validly published, as it was not accepted by the authors in the original publication, but merely listed as an unpublished synonym (Art. 36.1a [3]). It was, nonetheless, the name that Visiani and Pančić almost always used for this taxon in their correspondence.

Lactucopsis* sect. *Prenanthopsis Sch.Bip. in Visiani & Pančić [Decas 3: 6]. Type (designated in [348]):—*Lactucopsis brevirostris* Fenzl ex Sch.Bip. in Visiani & Pančić [Decas 3: 6]. Note:—This is the only species definitively cited by Schultz-Bipontinus under this section, so that it could be considered its 'holotype' (see Art. 10.1 Note 1 [3]).

Lactucopsis* sect. *Eulactucopsis Sch.Bip. in Visiani & Pančić [Decas 3: 6], *nom. inval.* Note:—As the name of this section was formed from the name of the genus by adding the prefix 'Eu-', it is invalid according to Art. 21.3 of the ICN [3]. Since it contains the type species of the genus as a whole, *Lactuca chaixii* Vill., its correct name is the autonym *L. sect. Lactucopsis* (Art. 22.1 of the ICN [3]), automatically established as Schultz-Bipontinus established *L. sect. Prenanthopsis* and *L. sect. Mulgediopsis* in Visiani & Pančić [Decas 3].

Lactucopsis* sect. *Mulgediopsis Sch.Bip. in Visiani & Pančić [Decas 3: 8]. Type (designated in [348]):—*Lactucopsis plumieri* Linnaeus [356: 1192] Sch.Bip. in Visiani & Pančić

[Decas 3]. Note:—This is the only species definitively cited by Schultz-Bipontinus under this section, so that it could be considered its ‘holotype’ (see Art. 10.1 Note 1 [3]).

Mulgedium* sect. *Chrysomulgedium Sch.Bip. ex Visiani & Pančić [Decas 3], *nom. inval.* Note:—This name is merely cited in Visiani & Pančić [Decas 3] as having been used in a letter by Schultz-Bipontinus to Pančić. As it was not accepted in Visiani & Pančić [Decas 3], it is invalid (Art. 36.1 [3]).

Lactucopsis mulgedioides Sch.Bip. in Visiani & Pančić [Decas 3: 6]. Syntypes:—Specimens named ‘*Lactuca mulgedioides*’ in the gathering from year 1859 titled ‘*Iter cilicico-kurdicum*’ collected by Theodor Kotschy (1813–1866) and already labelled as a new species by the collector and Pierre Edmond Boissier. Note:—In the protologue, Schultz-Bipontinus explicitly cited the provisorial name ‘*Lactuca mulgedioides*’, which was applied to a collection with duplicates widely distributed to herbaria in Europe. As the name *L. mulgedioides* was not effectively published simply by the distribution of such specimens (Art. 29.1 [3]), and as Schultz-Bipontinus provided a short diagnosis, the name *Lactucopsis mulgedioides* was validly published by him as a new species in Visiani & Pančić [Decas 3]. A validating description for the name *Lactuca mulgedioides* appeared a few years later (*Lactuca mulgedioides* Boissier & Kotschy ex Boissier [357: 815], with no mention of Schultz-Bipontinus’s work. We consider the series of duplicates cited by Schultz-Bipontinus as syntypes designated by him (see Art. 9.5 and Art. 40 Note 1 [3]).

Lactucopsis brevirostris Fenzl ex Sch.Bip. in Visiani & Pančić [Decas 3: 6]. Syntype:—Specimens named ‘*Lactuca brevirostris*’ and numbered ‘№ 335’ in the gathering from year 1836 labelled ‘*In monte Tauro*’, collected by Theodor Kotschy. Note:—Schultz-Bipontinus cited in his treatment the name ‘*Lactuca brevirostris* Fenzl’, a *nomen nudum* that was first adopted by Eduard Fenzl (1808–1879) ‘*in sched.*’ (Kotschy [358: 384]), and that was later applied also by Kotschy to a gathering of his, with duplicates distributed to many herbaria in Europe. Schultz-Bipontinus, having seen some of Kotschy’s specimens, considered that they had to be included in his new genus *Lactucopsis*, and proposed for that taxon the name *Lactucopsis brevirostris*, intending it as a new combination based on Fenzl’s invalid ‘basionym’. In his treatment, he then compared *Lactucopsis brevirostris* with *Lactuca deltoidea* (Bieberstein) Meyer [359: 56]) (see also following paragraph) stating that the latter ‘is different because of the larger head, with 8–10 flowers, and the more compressed achenes, which are prolonged in a thinner and paler beak’ (‘*diversa capitulo 8–10-floro et acheniis magis copressis, in rostrum gracilius pallidius abeuntibus*’). Schultz-Bipontinus, by making this comparison, provided the earliest validating diagnosis for the name first proposed by Fenzl, as defined by Art. 38.2 [3], thus establishing it as new species. Boissier later used the final epithet from Schultz-Bipontinus’s name to form the illegitimate new combination *Lactuca brevirostris* (Fenzl ex Sch.Bip.) Boissier [357: 817], there incorrectly cited as having been published by Visiani and Pančić instead of Schultz-Bipontinus), whose name was unavailable because of the earlier homonym *Lactuca brevirostris* Campion ex Bentham [360: 237]. Killian & Greuter were the first to propose a legitimate new combination for *Lactucopsis brevirostris* under *Lactuca*: *L. fenzlii* Killian & Greuter (in Greuter [180: 234]). In their treatment, they did

not correctly cite the author who validly published the basionym of their replaced synonym, as required by Art. 46.3, since they too attributed it to Visiani and Pančić. Nevertheless, according to Art. 41.6 [3], this error does not preclude the validity of their new name. We consider the series of duplicates cited by Schultz-Bipontinus as syntypes designated by him (see Art. 9.5, Art. 40 Note 1 [3]).

Lactucopsis deltoidea (M.Bieb.) Sch.Bip. in Visiani & Pančić [Decas 3: 6], *comb. inval.*
Note:—The new combination proposed by Schultz-Bipontinus is marked with a question mark (“?”). It is therefore invalid, having been proposed in anticipation of the future acceptance of a particular position of the taxon in question (Art. 36.1 [3]).

The following new combinations, also proposed by Schultz-Bipontinus in *Decas 3* are typified by the type of their basionyms (Art. 7.3 [3]): ***Lactucopsis chaixii*** (Vill.) Sch.Bip. in Visiani & Pančić [Decas 3: 6] = *Lactuca chaixii* Vill. [354: 32]; ***Lactucopsis altissima*** (M.Bieb.) Sch.Bip. in Visiani & Pančić [Decas 3: 6] = *Lactuca altissima* Bieberstein [325: 242]; ***Lactucopsis wilhelmsiana*** (Fisch. & C.A.Mey. ex DC.) Sch.Bip. in Visiani & Pančić [Decas 3: 6] = *Lactuca wilhelmsiana* Fisch. & C.A.Mey. ex De Candolle [361: 134]; ***Lactucopsis quercina*** (L.) Sch.Bip. in Visiani & Pančić [Decas 3: 7] = *Lactuca quercina* Linnaeus [38: 795], ***Lactucopsis plumieri*** (L.) Sch.Bip. in Visiani & Pančić [Decas 3: 8] = *Sonchus plumieri* Linnaeus [356: 1192].

Hieracium schultzianum Pančić & Vis. ex Sch.Bip. in Visiani & Pančić [Decas 3: 9, t. XVIII]. Lectotype (designated in [348]):—SERBIA. In Serbia, s.d., *J. Pančić* s.n. (NAP, unnumbered in Pasquale’s herbarium). Note:—The specimen that we selected as type is the only one that we were able to locate, the label is in Visiani’s handwriting and bears his signature. It was collected in Serbia by Pančić and sent by Visiani to Giuseppe Antonio Pasquale (1820–1893), director of the Botanical Garden of Naples. Despite the lack of a date, it must have been collected before 1865, since, as we can understand from the correspondence, Pančić sent all the specimens of this taxon that remained to him to Visiani in that year and none other afterwards. This is supported also by the lack of a precise locality in its label, as Pančić only communicated to Visiani the exact place where he collected *H. schultzianum* in 1868. Moreover, this specimen might have been used to draw picture number 2 in the iconography accompanying the protologue. Specimens of this species were initially identified and recorded by Pančić as ‘*Hieracium pallescens*’ [172: 561]. He later sent them to Schultz-Bipontinus, who recognised them as members of a new species, which he intended to name ‘*H. panicii*’ and for which he recognised two varieties. As already mentioned, Schultz-Bipontinus prepared a manuscript with the protologue for the new names, but died before he could publish it. Pančić and Visiani, having received the manuscript by Schultz-Bipontinus, published it in their paper almost unaltered. In the protologue, Visiani and Pančić unambiguously ascribe both the description and the diagnosis of this taxon to Schultz-Bipontinus, with the following words: ‘*Shultz Bip. [...] diagnosi supra exposita firmaverat et sequenti descriptione et [plantam hanc] observationibus hucusque ineditis illustraverat*’, i.e. ‘Schultz Bip. [...] authored the diagnosis given above and the following description and illustrated [this plant] with observations still unpublished’. In his manuscript, Schultz-Bipontinus had

proposed the name '*Hieracium pancicii*', which was changed by Pančić and Visiani to *H. schultzianum* in his honour. They cite themselves as authors of this latter name, in reversed order with respect to the publication as a whole. In the protologue, two varieties of *H. schultzianum* are also recognised: 'Var. I' and 'Var. II'. The first one is described as 'Spithameum' (i.e. 'one span tall'), the second as 'Pedale' (i.e. 'one foot tall'), plus a short description for each. These designations might be confused for names, but they were probably intended as phrase names or simply as parts of the description proper, so that they should not to be regarded as names (Art. 26.3). Since the introduction of Zahn's concept of collective species, this taxon is commonly accepted as a subspecies, *Hieracium sparsum* subsp. *schultzianum* (Pančić & Vis. ex Sch.Bip.) Zahn in Engler [362: 1020]. However, Assyov & Petrova [363: 228] and Niketić [35: 218] consider it as a separate microspecies, probably apomictic.

Hieracium* [unranked] *Chlorocarpa Sch.Bip. in Visiani & Pančić [Decas 3: 10]. Note:—Schultz-Bipontinus intended this name and the following to represent an unranked group under *Hieracium* subg. *Archieracium* ser. *Aurella* [unranked] *Glauca* Fries [364: 66]. According to Art. 37.3 [3] the names are validly published, but being unranked, they have no status in questions other than homonymy. Selection of a type would be unwarranted.

Hieracium* [unranked] *Melanocarpa Sch.Bip. in Visiani & Pančić [Decas 3: 10]. Note:—See the note for the previous name.

Scabiosa macedonica var. *lyrophylla* (Pančić) Visiani & Pančić [Decas 3: 11, t. XIX] = ***Knautia macedonica* var. *lyrophylla*** Pančić [172: 547]. Neotype:—SERBIA. In pratis montanis Kurilovo S[erbia] austr[alis], Jul[io], *J. Pančić s.n.* (BEOU-9264!). Additional specimens examined:—SERBIA. M[onte] Pleš, [1]868, *J. Pančić s.n.* (BEOU-9265!); SERBIA. In pratis M[ontis] Pleš, Jul[io] [1]869, *J. Pančić s.n.* (WU-Kerner- 0083295!). Note:—In Visiani & Pančić [Decas 3] the new combination *S. macedonica* var. *lyrophylla* was proposed for *K. macedonica* var. *lyrophylla*, a taxon previously described by Pančić alone, which we typify here. In an observation, Visiani and Pančić explain that this variety is not different from a specimen by Emanuel von Friedrichstahl (1809–1842) that they had seen in W, which they imply to be part of the original material used by August H. R. Grisebach (1814–1879) to describe his species. Still, they consider it far removed from the description that the same Grisebach gave for the taxon, 'for the slender velvety-greyish stem, the leaves greyish-hairy on the underside, the bilamellate styles, the involuclers prolonged into teeth on two of the corners (rather than on all of them)' ('*caule gracili velutino-incano, foliis subtus incano-villosis, stylo bilamellato, involucleri angulis duobus (nec omnibus) in dentem productis*'). We were not able to locate any specimen that was certainly collected by Pančić before the publication of the protologue. The specimen here selected as type bears a signature that might not be Pančić's, though it is conserved in his herbarium and the handwriting seems his. The locality of Kurilovo was cited in the protologue. The specimen that we designate here as a neotype might in fact be a lectotype; should this be demonstrated, our designation would then need to be corrected accordingly under Art. 9.9 [3]. The locality of the additional specimen that we

mention, Pleš, was incorrectly set as 'Plés' in Visiani & Pančić [Decas 3] and is absent in the protologue. This taxon is now generally treated in *K. macedonica*, [88], sometimes as a separate variety bearing Pančić's name [35: 218].

Scabiosa lyrophylla Visiani & Pančić [Decas 3: t. XIX f. 1], *nom. inval.* Note:—The illustration (with analysis) of *S. macedonica* var. *lyrophylla* appearing in Visiani & Pančić [Decas 3] is labelled '*Scabiosa lyrophylla*', a name previously considered by Visiani, who had the pictures made. As it is clear that the authors did not accept this name, it was not validly published in Visiani & Pančić [Decas 3].

Scabiosa macedonica* var. *indivisa Vis. in Visiani & Pančić [Decas: 12], *nom. inval.* Note:—The name is invalid for two reasons. Firstly, from the synonymies listed in the protologue, it is clear that this variety is meant to comprise the type of the species, but it does not comply with the provisions of Art. 26 [3]. Secondly, it is only intended as a provisional name, to be adopted 'in case [*Scabiosa macedonica* var. *lyrophylla* (Pančić) Vis. & Pančić] could not be distinguished as a separate species' from *Knautia macedonica* Grisebach [158: 178] ('*ni sufficeret ad hasce plantas specificè distinguendas*'). This strange sentence is explained by taking the fact that, as is clear from their correspondence, Visiani and Pančić considered their plant as a probably separate species ('*Knautia lyrophylla*') from at least 1861 and almost up to the publication of Visiani & Pančić [Decas 3]. As already mentioned, they changed their mind on the appropriate rank for this taxon after seeing a specimen by Friedrichstahl in W, but they failed to remove this now useless section from their work.

Scabiosa macedonica* var. *lyrata Vis. in Visiani & Pančić [Decas 3], *nom. inval.* Note:—This name was intended as a provisional name, and is therefore invalid (see the previous paragraph). Were it valid, it would be illegitimate, as *Knautia macedonica* var. *lyrophylla* Pančić is cited as a synonym.

Stachys anisochila Visiani & Pančić [Decas 3: 13, t. XX, f. 1]. Lectotype (designated in [348]):—SERBIA. s.l., s.d., s.c. s.n. (BEOU-8391-8393, bottom-right specimen). Labels:—SERBIA. Občinske [Ovčinjске] Stene, Aug[usto], J. Pančić s.n.; SERBIA. C[irculo] Valjevensis, М. Медведник [Medvednik], [1]856, J. Pančić s.n.; SERBIA. Кошље у Подрињу [Košlje in Podrinje], [1]866. Note:—Three unmounted specimens and three separate labels are present in the same herbarium sheet; it is not possible to connect each one to the appropriate label. The label with no year of collection bears the provisional name '*Stachys anisocheilos*', which was used by Pančić (*in litt.*) until 1861. All data on all three labels are compatible with the protologue, so that all specimens on the sheet are certainly part of the original material and any of them could be selected as type. We here select the most complete. Some localities in the protologue (Visiani & Pančić 1870) are erroneously cited: *Košlje* as 'Koslie', *Ovčinjске Stene* as 'Občinjske stene', *Arilje* as 'Krilje'. This species is now generally accepted as a separate member of the *S. recta* group [88], [35: 25].

Haplophyllum boissierianum Visiani & Pančić [Decas 3: 14 '*Haptophyllum*', t. XX, f.

2]. Lectotype (designated in [348]): —SERBIA. M[onte] Panjak, [1]868, *J. Pančić s.n.* (BEOU-3709!). Additional specimen examined:—SERBIA. Panjak M[onte] Zlatibor, [1]866, *J. Pančić s.n.* (BEOU-3708!). Note:—Both the specimen here selected as type and the additional specimen are certainly part of the original material; we here select the more complete of the two. The name was wrongly spelt '*Haptophyllum*' in the protologue, a correctible typographical error (Art. 60.1 [3]). This name is now generally accepted [35:217].

Gypsophila spergulifolia Grisebach [171:183] '*Gyptophila*'. Note:—Visiani and Pančić discussed the identity of some specimens of this taxon, that they shared, from 1857, and soon suspected them to be members of some unknown variety of *G. spergulifolia*. It was probably during this period that Visiani commissioned the preparation of the illustration that was later published along with the protologue, which bears the invalid, unaccepted name '*Gypsophila spergulifolia* var.'. Visiani and Pančić's determination was eventually confirmed by Grisebach himself in 1866 (Pančić *in litt.* 18th Oct. 1866), as is explained in the protologue (see also the following paragraph). Pančić, in the aforementioned letter, proposed to Visiani to include the plant in their upcoming work 'as a new form of a rare and little known species' ('*come forma nuova di una rara e poco conosciuta specie*'). In their work, but not in the illustration, they listed the plant with the wrong spelling '*Gyptophila*' (correctible under Art. 60.1 [3]). This name is now generally accepted [88].

Gypsophila spergulifolia* f. *serbica Griseb. in Visiani & Pančić [Decas 3: 15, t. XX, f. 3]. Lectotype (designated in [348]):—SERBIA. Serbia australis in m[onte] Slatibor [Zlatibor] aridis serpentinae, s.d., *J. Pančić s.n.* (GOET-014241!). Additional specimens examined:—SERBIA. s.l., s.d., s.c s.n. (PAD-H0022793!); SERBIA. s.l., s.d., s.c s.n. (PAD-H0022795!); SERBIA. In apricis M. Zlatibor S[erbia] merid[ionali] substr[ato] serpent[inaceo], Jul[io], *J. Pančić s.n.* (GOET!); SERBIA. M. Zlatibor S[erbia] merid[ionali], Jul[io], *J. Pančić s.n.* (PAD-H0022794!). Note:—From the endnote of the protologue ('*Grisebach [...] binas formas distinxit*', i.e. '*Grisebach [...] distinguished two forms*'), as well as from the numerous letters that we analysed, it is clear that Grisebach was the first who recognised this new form. Indeed, Grisebach's letter addressed to Pančić (11th Oct. 1866, [365:323], let. № 164) reads [in translation]: 'both plants belong to the same species, but two forms are distinguished by the following subordinate and variable characteristics', followed by a short description of both ('f. *albanica*' and 'f. *serbica*'). Not so clear is whether the main description in the first paragraph on *G. spergulifolia* in Visiani & Pančić [Decas 3] was meant as a wider treatment for whole species or as the protologue of the new infraspecific taxon *G. spergulifolia* f. *serbica*. Visiani and Pančić unambiguously stated that they had only seen specimens of that form ('*planta Albaniae nobis adhuc invisae*'), which was the one to be '*hic fusius descripta*' (i.e. 'described more at length here' = in Visiani & Pančić [Decas 3]). However, the heading of the whole chapter reads simply '*Gypsophila spergulifolia* Griseb., Spicil. fl. Rumel. 1 p. 183', and the differential characters of f. *serbica* are omitted from the main description. That paragraph does, still, include characters from the capsule and seeds, which are

lacking in Grisebach's protologue. Therefore, we conclude that the main description in the first paragraph, although based only on specimens of f. *serbica*, was meant to apply to the species as a whole. The name *G. spergulifolia* f. *serbica* must then be validated solely by the observations that can be found in the endnote, which contains a short diagnosis and an unambiguous attribution of both it and the name itself to Grisebach. It should be noted, furthermore, that Grisebach had distinguished the plants from Serbia as members of a new *variety*, not as a new *form*, as is evident from the label that he himself wrote for the specimen that he had received by Pančić and that kept in his herbarium, here chosen as a lectotype (but which might in fact be a holotype, since we know of no other original material). Nevertheless, when he wrote to Pančić, he used the word '*forma*', which Pančić twice reported to Visiani (*in litt.* 18th Oct. 1866, 8th Apr. 1869). Visiani did not accept '*forma*' as a formal rank in any of his works (and both Pančić and Grisebach only very rarely did), but in preparing the manuscript for Visiani & Pančić (1870) he apparently decided not to change what he believed was Grisebach's choice (which further confirms the ascription of the name to him). This name is accepted in Niketić [35: 217], but in accordance with the initial intention of the author, we consider the rank of variety more appropriate. In fact, the rank of form is most often reserved for deviations from the type, usually based on a single morphological difference, that appear sporadically, while in this case there seem to exist two quite distinct vicariant taxa, as all collected specimens from Serbia closely match the diagnosis and description (dense glandular pedicels, obtuse calyx, emarginate petals, and other) (Niketić *pers. obs.*). At the rank of variety, the correct name for this taxon is *G. spergulifolia* var. *serbica* (Griseb.) Stroh [366: 458].

Gypsophila spergulifolia* f. *albana Griseb. in Visiani & Pančić [Decas 3: 15], *nom. inval.* Note:—This name is invalid, as it was clearly intended to comprise the type of the species, but does not comply with the provisions of Art. 26.2 [3]. The correct name is the autonym *G. spergulifolia* Grisebach [171: 183] f. *spergulifolia*, automatically established as he published *G. spergulifolia* f. *serbica* in Visiani & Pančić [Decas 3].

Gypsophila boissieri Vis. in Visiani & Pančić [Decas 3: 16]. Note:—When Pierre Edmond Boissier (1810–1886) moved *Heterochroa spergulifolia* Jaubert & Spach [367: 28] to the genus *Gypsophila* Linnaeus [38: 406], he created the illegitimate combination *G. spergulifolia* (Jaubert & Spach) Boissier [160: 559], a later homonym of *G. spergulifolia* Grisebach [171: 183]. Visiani alone (on Pančić's suggestion, as we learn from a letter dated 8th Apr. 1869) proposed this name as a replacement, in a note in Visiani & Pančić [Decas 3]. Boissier himself later recognised his error and, unaware of Visiani's work, published the superfluous new name *G. jaubertiana* [368: 89]. Boissier's name was long accepted as correct, while it appears that Visiani's was entirely neglected (e.g. see Stroh [366: 467]); *G. boissieri* is, nonetheless, the correct name of *H. spergulifolia* when treated in the genus *Gypsophila*. This species is now generally treated under *Bolanthus*, as *B. spergulifolius* (Jaubert & Spach) Huber-Morath in Huber-Morath & al. [369: 23] (e.g. Euro+Med [88]).

Dianthus moesiacus Visiani & Pančić [Decas 3: 17, t. XIX, f. 2]. Lectotype (designated

in [348]):—SERBIA. Vrška Čuka, *s.d.*, J. Pančić *s.n.* (BEOU-1861, first specimen from the left). Note:—We located four unmounted specimens on the same sheet in Belgrade (BEOU-1861) that are part of the original material for this taxon. The sheet bears seven separate labels by Pančić and one by Visiani. Four labels by Pančić bear the name ‘*Dianthus strobifolius*’, a provisional name that Pančić proposed for this species, widely used throughout the correspondence. Two others, including Visiani’s, bear the uncertain determination as *Dianthus pinifolius* Sm. in Sibthorp & Smith [370:284], a closely related species. As it is not possible to link any of the four specimen to the only label bearing a date (1868), but they all were certainly collected before the publication of the protologue, all labels bearing just provisional names, we here select the most complete of the specimens.

Nasturtium proliferum Heuffel [371:624, t. XXI]. Note:—Visiani and Pančić chose to illustrate this species, that they had provisionally called ‘*Nasturtium congestum*’ as they believed Heuffel’s description to be too short. This taxon is now generally treated as *Rorippa prolifera* (Heuff.) Neilreich [372:263].

Eryngium palmatum Pančić & Vis. in Visiani & Pančić [Decas 3: 20, t. XVIII f. 3]. Lectotype (designated in Kuzmanović & *al.* [373]):—SERBIA. Moravica District: S[erbia] merid[ionali], in saxosis calc[areis] M. Ogradjenik, Jul[io] [1866], Pančić *s.n.* (PAD-H0016461!).

6.2.6 On *Aegilops uniaristata* (2015)

This work was published S. Bogdanović, I. Ljubičić, and M. Clementi as ‘*Aegilops uniaristata* Vis. (Poaceae): typification and occurrence in Croatia’ [374]. The following nomenclatural treatment was drafted by M. Clementi.

Aegilops uniaristata Vis. [FD3: 351]. Homotypic synonyms: *Chennapyrum uniaristatum* (Vis.) Á. Löve, *Triticum uniaristatum* (Vis.) K. Richter. Heterotypic synonyms: *Aegilops notarisii* Clementi, *Aegilops uniaristata* Steud. (*nom. illeg.*). Lectotype: CROATIA. Circa Zara [Zadar], *s. d.*, Alsch. [A. Alschinger] (lectotype designated in [374]: PAD-H0028902). Epitype: CROATIA. Circa Zara [Zadar], *s. d.*, *s. n.* (epitype here designated: W-Rchb. 1889-0251356). Note: The sterile specimen that we have selected, from the general collection in PAD (PAD-H0028902) fully corresponds to the protologue (‘in herbidis circa Zara, unde communicavit Prof. Alschinger’). The label is in Visiani’s handwriting. The lectotype is mounted on the same sheet as another, later specimen (PAD-H0028901). What appeared to be a fruiting duplicate is available from Visiani’s main collection (Herbarium Dalmaticum in PAD, PAD-HD00406), but unfortunately the spikelets conserved in the envelope pinned to the herbarium sheet clearly do not belong to the genus *Aegilops* and were certainly attached there by mistake. That specimen, therefore, does not correspond with the protologue and could not be selected as type. Since the spike is fundamental for the morphological identification of this species, we designate, as an epitype, a second specimen by Visiani, in W (W-Rchb. 1889-0251356),

which was incorrectly recognised as an isotype by M. Van Slageren (WAG), in 1989. This specimen was not suitable as lectotype since it cannot be shown to have been collected by Alschinger as cited in the protologue.

6.2.7 On *Amaranthaceae* described by Visiani (2016)

This work was published by D. Iamónico and M. Clementi as ‘Nomenclatural notes about the names in *Amaranthaceae* published by Roberto de Visiani [375].

***Amaranthus gangeticus* var. *cuspidatus*:** Visiani [FD1: 54] proposed the taxon *cuspidatus* at the varietal rank, under *Amaranthus gangeticus*, associating with it the abbreviations ‘ann.’ (= ‘annua. Pianta erbacea annuale’, i.e. ‘annual herbaceous plant’), and ‘s.d.’ (= ‘sub diu. Pianta che vive all’aperto’, i.e. ‘plant living in the open’) (see Visiani [FD1: 49]). Lacking a description or diagnosis, this name is nudum, and, consequently, it is invalid according to Art. 38.1a. No specimens bearing labels referring to this variety were found in Visiani’s collections, so it was not possible to elucidate his concept of this taxon.

***Amaranthus hierichuntinus*:** Visiani’s protologue [H. Pat. 58: 139] consists of a detailed description, the provenance (‘Hab. in herbidis circa Hierico’, where ‘Hierico’ is the city of Jericho, in Israel/Palestine), and a diagnosis comparing it to *Am. polygonoides* as treated in Willdenow [376: 11], which should differ from *A. hierichuntinus* for having ‘utriculis [...] certe indehiscentis, flores monoici, calyx faemineus 5-fidus, utriculus calyce inclusus’. The fact that this plant originates from the Middle East and is not from the western Balkans, the main area of study of Visiani’s, might seem unusual. Although we were unable to retrieve any information on the precise source of this material either in Visiani’s published corpus or in his unpublished material, it must be noted that none the taxa presented in Visiani [H. Pat. 58] were in fact collected by himself or his Dalmatian collaborators, but were instead all plants cultivated at the Botanical Garden of Padua, of which he was the director. Indeed, we also find in that work taxa that originate from the Americas (*Tecoma*, *Dictyanthus*) and tropical regions (*Phyllanthus*, *Begonia*). Referring to this taxon, there is one herbarium sheet preserved in PAD bearing two specimens, of which one is composed of two individuals (PAD-H0044649, mounted together on the top-left of the sheet), that were collected in June–July 1857. It must be acknowledged that, given the context, it is highly unlikely that this particular specimen originates from the locus classicus, as it was almost certainly cultivated in Padua from seeds that he received, as is the case with the other plants presented in that work (a fact that bears no nomenclatural relevance). The other specimen on the sheet (PAD-H0044650, on the bottom-right) is composed of three individual plants, and is associated to a label including the annotation ‘*Amaranthus hierichuntinus* Vis.’, without a date or locality of collection. Since we cannot be sure whether or not PAD-H0044650 is part of the original material, we avoid it a possible choice for a lectotype. The two plants on the top-left are instead certainly part of the original material, and almost certainly part of the same gathering. This specimen matches the protologue, and is here designated as

the lectotype of the name *Amaranthus hierichuntinus*. Concerning the identity of *A. hierichuntinus*, the lectotype shows the following characteristics: plants annual with stem erect or ascending, branched, glabrous, brownish; leaves lanceolate, the lower ones 1.0–2.4 × 5.7–8.8 mm (ratio length/width 3.1–4.7), the middle 3.4–5.7 × 14.1–17.6 mm (ratio length/width 3.4–3.7), the upper 1.0–1.7 × 3.7–9.9 mm (ratio length/width 3.3–4.1), all petioled, glabrous with margins entire, base cuneate, and apex obtuse-mucronate; synflorescence arranged in axillary glomerules, brownish; floral bracts 2, as long as the perianth; pistillate flowers with 3 tepals acute, shortly pointed; stigmas 3; fruit brownish subglobose, dehiscent, longer than the perianth; seed lenticular, dark, smooth. This morphological structure perfectly matches *A. graecizans* L. subsp. *graecizans*, according to the current concept (see e.g., Costea [377], Iamónico [378]). We here propose the synonymization of the two names (new synonymy). *Atriplex patula* L. var. *integrifolia*, *Atriplex patula* L. var. *hastifolia* Visiani [FD1: 237] had a broad concept of *Atriplex patula* L., recognizing three varieties: α . *integrifolia* Vis., β . *hastifolia* Vis. (a correction from the original ‘*hastaefolia*’ – see art. 60.8), and γ . *triangularis* Willd. He distinguished these three varieties on the basis of the shape of the leaves: ‘foliis indivisis, basi attenuatis’ (var. *integrifolia*), ‘foliis hastato-lanceolatis, basi attenuatis’ (var. *hastifolia*), and ‘foliis triangularis basi truncatis ...’ (var. *triangularis*). Visiani consistently used the letter α to indicate the nominal variety (see for instance his treatment of *Suaeda maritima* in Visiani [FD1: 243]), In the case of *A. patula* var. *integrifolia*, this is explicitated with the words ‘species Linnaeana ea est, quam sub var. α proposui’ (i.e. ‘the Linnaean species is that which I proposed under var. α ’). It is therefore an invalid name, not complying with the provisions of Art. 26.2. Concerning the var. *hastifolia*, two illustrations were listed in the protologue from Oeder & al. [379: t. 1285] and Scopoli [380]. t. 7], which are part of the original material. Only one specimen was found in Visiani’s collections in PAD (PAD-HD02188), bearing a label including the original annotation by Visiani: ‘*Atriplex patula* β . *hastaefolia* In cultis insulae Lusini’ (island of Lošinj, Croatia). Unfortunately, the date of collection is missing, and although we do know from a survey of Visiani’s collections that most of his plants from the island of Lošinj were collected precisely in 1842, we were not able to prove that this is the case also for this specimen. Since the doubts concerning the date, we avoid it for the purpose of lectotypification. Fortunately, the two images cited in the protologue are eligible as lectotypes, matching the diagnosis. As Scopoli’s illustration also displays the bract-like cover at fruiting stage, whose characteristics have high taxonomic value in *Atriplex* (see e.g., Castroviejo [381], Akeroyd [382], Sukhorukov [383]), we prefer to designate the image in *Deliciae Flora et Fauna Insubricae* as the lectotype for the name *Atriplex patula* var. *hastifolia*. According to the current concept (see e.g. Sukhorukov [384]), Visiani’s variety shows features that completely overlap those of the nominal variety.

***Chenopodium album* L. var. *oblongum*:** The variety *oblongum* was described by Visiani [FD1: 240] to distinguish forms of *Ch. album* with lanceolate leaf blades with subentire margins (‘foliis oblongo-lanceolatis subintegris’). The author cited a synonym from Vahl’s *Flora Danica* [385: 4], explicitly excluding *C. viride* L., and the illustration therein (‘t. 1150’). Therefore, the Vahl’s illustration is part of the original material for

the name *C. album* var. *oblongum*. We have not been able to trace specimens that are eligible as the lectotype, as all the *Chenopodium exsiccata* that we found lack collection dates and/or the locality, so the image in Flora Danica appears to be the only extant original material. Fortunately, it matches Visiani's diagnosis, and it can be here designated as the lectotype of the name *C. album* var. *oblongum*. Concerning the application of the name, the plant by Vahl (*l.c.*) can certainly be ascribed to one of the taxa that are currently recognized under the group of *C. album*, showing some leaves with margins not entire and \pm dentate (leaves with entire leaves are characteristic of *C. vulvaria* L.), and without a median lobe 2–3 longer than the lateral ones (this latter a characteristic of *C. ficifolium* Sm.) (see e.g., Castroviejo [381], Akeroyd [382]). Within the *C. album* group, the species *C. opulifolium* Schrad. and *C. strictum* Roth *s. lat.* can be excluded, being characterized by having the leaf blades 3-lobed with length/width ratio of about 1 (*C. opulifolium*, see e.g., Pignatti [93]), the blades not lobed, with parallel margins, and stem red with prominent dark-red ribs (*C. strictum s.lat.*, see e.g., Iamónico [386]). The other species belonging to the *C. album* group (*C. album* L. *s.lat.*, *C. probstii* Aellen, and *C. suecicum* Murr.) have many leaves (at least in the middle and lower parts), more or less 3-lobed with margins dentate, excepting for a form of *C. album s.str.*, named *C. lanceolatum* Muhl. ex Willd. that differs in having the proximal and middle cauline leaf blades elliptic to lanceolate, with margins often entire (see e.g., Clemants & Mosyakin [387]). Willdenow [376:291] described *C. lanceolatum* on the basis of a specimen collected by G. H. E. Muhlenberg in 'Pensylvania'. On the basis of the short diagnosis and description, and the whole circumscription of the other *Chenopodium* species in Enumeratio plantarum Horti Regii Botanici Berolinensis, it is clear that Willdenow [376:288–291] described the new species to distinguish a form with ovato-lanceolate leaves with entire margins and complex inflorescences not arranged in dichotomous cymes (as he indicated for the subsequent listed species, *C. aristatum* L.). There is one sheet in B (B-W-05365) including three specimens, of which one (B-W-05365-010) bears the annotation 'Muhlenberg W. [Willdenow]'. The specimen born on this sheet (a part of the terminal inflorescence) matches Willdenow's diagnosis, and is here designated as the lectotype of the name *Chenopodium lanceolatum*. According to the current concept and treatments (see e.g., Jonsell [388], Clemants & Mosyakin [387]), the features showed by *C. lanceolatum* and *C. album* var. *oblongum* completely overlap those of *C. album* subsp. *album*. Therefore, we here propose to synonymize this latter taxon with Visiani's variety (new synonymy).

The analysis of literature, herbarium investigations and comparison of the protologues allowed us to designate lectotypes for the names *Amaranthus hierihuntinus*, *Atriplex patula* var. *hastifolia*, and *C. album* var. *oblongum*, while the name *Amaranthus gangeticus* var. *cuspidatus* is a nomen nudum and thus invalid according to Art. 38.1a of ICN [3]. The identities of *Amaranthus hierichuntinus*, *Atriplex patula* var. *hastifolia*, and *C. album* var. *oblongum* were also clarified: these names can be considered heterotypic and later synonyms (new synonymies) of, respectively, *Amaranthus graecizans* subsp. *graezans*, *Atriplex patula* var. *patula*, and *C. album* subsp. *album*. With the aim to understand the concept of *C. album* var. *oblongum*, *C. lanceolatum* was also lectotypified and

synonymized with Visiani's variety. The accepted names are in bold.

Amaranthus hierichuntinus Vis. [H. Pat. 58: 139], *syn. nov.* Lectotype (designated in [375]): s.l., June-July 1857, s.coll. s.n. (PAD-H0044649!). = ***Amaranthus graecizans* L.** [38:990] **subsp. *graecizans*.** Lectotype (designated by Fernald [389: 139]): Clayton 442 (BM-000051563).

Atriplex patula L. var. *hastifolia* Vis. [FD1: 237], *syn. nov.* Lectotype (designated in [375]): Illustration in Scopoli [380: t. 7] = ***Atriplex patula* L.** [356: 1053] **var. *patula*.** Lectotype (designated by Taschereau [390: 1574]): no. 1221.19 (LINN!).

Chenopodium album L. var. *oblongum* Vis. [FD1: 240], *syn. nov.* Lectotype (designated in [375]): Illustration in Vahl [385: t. 1150] [MLC in original] = ***Chenopodium album* L.** [38: 219] **subsp. *album*** – Lectotype (designated by Brenan in Turrill & Milne-Redhead [391: 6: n. 313.8 (LINN!)]). = *Chenopodium lanceolatum* Muhl. ex Willd. – Lectotype (designated here): Pennsylvania, G. H. E. Muhlenberg s.n. (B-W-05365-010!).

6.3 Original Material for Names in Flora Dalmatica

This section presents a draft of a work (or series of works) on the names published in *FD*, which is still in need of substantial expansion and revision. In many cases, the choice of type should ideally be discussed with experts of the area and taxa involved before the eventual publication.

Specimens marked with an exclamation mark have been collected as digital files and checked, whereas for the others the data was taken directly from the database, so that the collector might still be guessed from the handwriting and some additional clues may have been missed. Illustration marked with an exclamation mark have already been collected as digital files. Some of the citations, especially of journals, could not yet be directly verified, in which case they are reported as given by our sources (which we cite whenever possible) and not added to the main bibliography of this thesis. The few notes on additional work yet to be done are *set in italics*.

In the following treatment, Visiani's names are written in bold for emphasis; this is a merely typographical choice, and does not indicate nomenclatural status or taxonomical acceptance.

6.3.1 Validly Published Species Names

***Cheilanthes fimbriata* Vis.** [FD1: 42]. Additional specimens examined:—A: CROATIA. In murorum interstitiis circa Ragusa [Dubrovnik], s.d., [*F. Neumayer*] s.n. (PAD-HD00137!). Note:— No original material is to be found in PAD. The name *Cheilanthes fimbriata* (A.R. Sm.) Mickel & Beitel [392: 112] is a later homonym of *C. fimbriata* Vis. The later homonym has long been in general use, but was recently transferred under *Myriopteris* [393: 148] by Grusz & Windham [394]; for this reason we do not select a replacement name here. Visiani later moved this taxon to the new genus *Oeosporangium*

[Cheil.].

Sesleria interrupta Vis. [FD1: 87]. Lectotype (des. Di Pietro & al. 2013 [395]):— A: CROATIA. Ad rupes prope Onaeum [Omiš], s.d., s.c. s.n. (PAD-H0023202!).

Lolium subulatum Vis. [FD1: 90]. Lectotype (des. Terrell 1968 [396:26]):—CROATIA. In arvo Bergato [Brgat], s.d., [F. Neumayer] s.n. (PAD-HD00754!). Note:— In his work, Terrell indicated the specimen in PAD as a holotype. The author himself indicates that a second specimen is available in HAL, namely HAL0134158. His designation is therefore to be changed to that of a lectotype, as provided by Art. 9.9.

Secale damaticum Vis. [FD1: 97]. Original material:—A: MONTENEGRO. Castello di Cattaro [Kotor], s.d., s.c. s.n. (PAD-HD00095!); B: MONTENEGRO. Cattaro [Kotor] in monte, s.d., s.c. s.n. (PAD-HD00946); C: MONTENEGRO. In Monte Sella supra Cattaro [Lovćen], s.d., s.c. s.n. (W-Rchb. 1889-0049480!). Note:— Specimen C was annotated as ‘typus probabiliter’ by Pignotti in 2011, and determined by S. Frederiksen as *S. strictum* (C.Presl) C.Presl. subsp. *strictum* [397:46] in 1997.

Crocus dalmaticus Vis. [FD1: 119]. Original material:—A: CROATIA. In ericetis apricis Bozanchae [Bosanka], s.d., [F. Neumayer] s.n. (PAD-HD01151!). Note:— Specimen A perfectly fits with the protologue.

Ophrys flavicans Vis. [FD1: 178]. Lectotype (designated here):—CROATIA. In saxosis M[on]tis Benistrovizza [Benistrovica] dit[ione] Traguriensis [Trogir], s.d., A. Andrich s.n. (PAD-HD01623!). Note:— Soca [398] intended to designate this specimen as type in his work, by including the phrase ‘typus: Dalmatia, in saxosis montis Bernistroviza prope Trau, ubi legit A. Andrich (PAD). lectotypus designatus par Romieg Soca in herb-arium PAD’, and by indicating a picture of the intended type as ‘Neotypus’. He failed, however, to include the phrase ‘hic designatus’ or an equivalent, as is required by Art. 7.10. Therefore, the type was not effectively designated. We correct his mistake here, adopting the same specimen that he chose, which may in fact be a holotype, as we have no knowledge of other original material.

Echinops neumayeri Vis. [FD2: 25]. Original material:— A: CROATIA. In M[ont]e Orien [Orjen], s.d., [F. Neumayer] s.n. (PAD-HD02730!); B: Illustration in Visiani [FD3: t. 10^{ter}]. Note:— In FD2 Visiani states he did not know the exact origin of this plant, and supposes it came from the Neretva river. It is entirely possible he knew the correct locality (Orjen) only later, although he did not correct it. Illustration B was already printed in 1847, as we learnt from a letter to Visiani by his editor Hofmeister [hfms-471 116].

Centaurea tuberosa Vis. [FD1: t. 12 f. 2]. Original material:— A: CROATIA. In coll[ibus] Dalm[atiae] montanae, Dernis [Drniš], Verlika [Vrlika] etc., s.d., sc. s.n. (PAD-HD02708); B: Illustration in Visiani [FD1: t. 12 f. 2]. Note:— This name was validated by an illustration with analysis; a full description was published in Visiani [FD2: 33]. The name appears in the manuscript list of plants sent to Reichenbach [b25123], so other original material may be available in W.

***Thymus subcordatus* Vis.** [FD2: t. 19]. Original material:— A: CROATIA. Pakleniza [Paklenica], s.d., s.c. s.n. (PAD-HD04841); B: Illustration in Visiani [FD1: t. 19]!

***Centaurea incompta* Vis.** [FD2: 38]. Original material:— A: CROATIA. In pratis circa Narenta [Neretva], s.d., s.c. s.n. (PAD-HD02651); B: Illustration in Visiani [FD2: t. 49 f. 1]!

***Centaurea friderici* Vis.** [FD2: 40]. Original material:— A: CROATIA. Ins[ulis] Pelagosa [Palagruža] et Pomo [Jabuka], [ante 1843] Julio, [*L. Stalio*] s.n. (PAD-HD2640); B: CROATIA. Pelagosa [Palagruža] et Pomo [Jabuka], [ante 1843], [*L. Stalio*] s.n. (PAD-HD2641); C: CROATIA. Dalm[atia] Pelagosa [Palagruža], s.d., s.c. s.n. (PAD-HD02642); D: CROATIA. Pelagosa [Palagruža], s.d., s.c. s.n. (PAD-HD02643); E: Illustration in Visiani [FD2: t. 48]!. Note:— Specimens A and B bear the number ‘1159’, and are indicated in the list of plants sent to Visiani by Stalio in 1843 [b25127], under the uncertain name of *Centaurea rupestris* Badarr.. They are therefore certainly part of the original material.

***Centaurea crithmifolia* Vis.** [FD2: 1847: 40]. Original material:— A: PAD-HD02640; B: PAD-HD02641; C: PAD-HD02642; D: PAD-HD02643. *Database records remain to be checked.*

***Carduus bicolor* Vis.** [FD2: 48]. Original material:— A: CROATIA. In Dalm[atia] mont[ana], [ante 1842], *F. Neumayer* s.n. (PAD-HD02778!); B: Illustration in [FD2: 49 f. 2]!. Note:— Since Neumayer died in 1842, specimen A must be part of the original material.

***Senecio visianianus* Vis.** [FD1: t. 8]. Original material:— A: CROATIA. [Orjen (?)], [ante 1842?], [*F. Neumayer* (?)] s.n. (PAD-HD03115!); B: MONTENEGRO. [In montosis prope Montenegro secus viam ad Cettigne (?)], s.d., *D. Pappafava* s.n. (PAD-HD03111!); C: Illustration in [FD2: t. 8]!. Note:— The name was published as an illustration with analysis; a full description was indicated in FD2: 72, there ascribed to Pappafava. Given the *loci classici* and collectors given by Visiani, as specimen B was collected by Pappafava, we can suppose it came from the location above cited, and that specimen A was instead collected by Neumayer on Mt. Orjen, before his death (1842).

***Anthemis pseudocota* Vis.** [FD2: 78], “*Pseudo-Cota*”. Original material:— A: Illustration in [FD1: t. 1]!; B: s.l., s.d., s.c. s.n. (PAD-HD03237); C: CROATIA. Ins[ula] Lissa [Vis], Lesina [Hvar], circa Dernis [Drniš] et Ragusa [Dubrovnik], nec non in Vallebith [Veletbit] et Dinara | In agris et in coll[ibus] et montibus in vineis | ad vias, in vineis etc., Junio, s.c. s.n. (PAD-HD03240). Note:— Visiani cites ‘*Anthemis Cota* Koch’, which is a citation of a treatment, not of a name (i.e. a chresonym), as the author of the name is Linnaeus [38], as Visiani himself acknowledged, having used also that name in FD.

***Ptarmica abrotanoides* Vis.** [FD1: t. 10 f. 1]. Original material:— A: CROATIA. In petrosis apricis Mons Orien [Orjen] alt. 5000 ped. [~1,600 m a.s.l.], Augusto [ante 1842], *F. Neumayer* s.n. (PAD-HD03132); B: CROATIA. Orjen, in fissuris montanis, s.d., s.c. s.n. (PAD-HD03133); C: CROATIA. Rupium fissuris juga summa Orien [Orjen], s.d., s.n. s.c.

(PAD-HD03134); D: Illustration in Visiani [FD1 t. 10 f. 1]!. Note:— Specimen A is certainly part of the original material, as its collector died before the publication of FD1.

***Chamaemelum uniglandulosum* Vis.** [FD2: 85]. Original material:— A: CROATIA. Valleb[ith] [Velebit], s.d., s.c. s.n. (PAD-HD03285); B: s.l., s.d., s.c. s.n. (PAD-HD03288); C: Illustration in Visiani [FD2: t. 51 f. 1]!. Note:— This name is legitimate, although it was placed under a genus that was an illegitimate later homonym. *Matricaria uniglandulosa* (Vis.) K.Koch [399:333] is sometimes [89] wrongly cited as a new taxon by Koch, while it is in fact just a new combination of Visiani's name.

***Scorzonera candollei* Vis.** [FD2: 106]. Original material:— A: Illustration in Buxbaum [400: t. 21], 'bona'!; B: CROATIA. In paludosis maritimis insula Pago [Pag], s.d., s.c. s.n., (PAD-HD03480). Note:— Visiani mentions in the synonyms *S. angustifolia* as treated by De Candolle and Gaudin, explicitly excluding Linnaeus and others. He also mentions as a synonym *S. angustifolia* var. *provincialis* Duby, which seems to have never been raised to the rank of species, thus not making Visiani's name illegitimate.

***Veronica saturejoides* Vis.** [FD2: 168]. Original material:— A: Illustration in Visiani [FD2: t. 33]!; B: CROATIA. In Dinara et Ragusa [Dubrovnik], s.d., s.c. s.n. (PAD-HD04517); C: CROATIA. In r_____ Dinara, s.d., s.c. s.n. (PAD-HD04521). Note:— *The type was apparently designated in Taxon 50: 547, but the publication has not yet been retrieved.*

***Cuscuta breviflora* Vis.** [FD2: 231]. Original material:— A: CROATIA. Spalato [Split], s.d., *L. Stalio* s.n. (PAD-HD05548!). Note:— The specimen bears a label by Stalio with the number '1173'. He is indicated in *FD* as the collector of the original material. In the list of plants he sent to Visiani in 1843 [b25 127], that number does not correspond to a *Cuscuta*, but rather to a *Ciconium*. Nevertheless, a second label by Visiani reading 'Cuscuta breviflora Vis. | in Ocymo Basilico | Stalio' ensures this specimen is part of the original material. Beyond that, the sheet also bears a label with some observations and drawings by Visiani, and another with observations by his assistant Clementi.

***Senecio dalmaticus* Vis.** [FD2: t. 7]. Original material:— A: s.l., s.d., s.c. s.n. (PAD-HD03093); B: CROATIA. Dernis [Drniš], s.d., s.c. s.n. (PAD-HD-HD03094).

***Seseli promonense* Vis.** [FD2: t. 29]. Original material:— A: Illustration in Visiani FD2: t. 29]!; B: [*a specimen by Visiani of this taxon exists in HEID, P. Sack pers. com.*].

***Alsine lancifolia* Vis.** [FD2: t. 34 f. 1]. Original material:— A: Illustration in Visiani [FD2: t. 34 f. 1]!. Note:— Visiani intended to name this taxon '*A. lamiifolia*', but his poor handwriting caused the printer to wrongly read his instructions and publish '*lancifolia*' instead. This we discovered from a letter sent to Visiani by his editor Hofmeister on the 2nd of July 1845 [hfms-450702], where he promised that the mistake would be corrected in the yet unprinted copies. The fact that the epithet '*lamiifolia*' is nowhere to be found in the literature, suggests that he probably did not keep his word. Visiani, later considering this name to be a synonym of *A. fasciculata* Maly [401:295], never corrected or even mentioned the mistake.

***Silene graminea* Vis.** [FD2: t. 34 f. 2]. Original material:— A: CROATIA. M[on]te Ghniat [Gnjat], [1840], G.C. *Clementi* s.n. (PAD-HD05217!); B: CROATIA. In loco aprico et saxoso M. Dinara, Julio, [*ŷ. Kargl*] s.n. (PAD-HD05218!); C: Illustration in Visiani [FD2: t. 34 f.2]!. Note:— Clementi visited Dalmatia in 1840, therefore specimen A must be part of the original material. The second specimen bears the letter ‘K’, which stands for the collector. In the full treatment of this taxon [FD3: 166], Visiani ascribes the name to Reichenbach [143:52], but his own illustration with analysis is earlier than his treatment. In FD3, Visiani indicates as the *locus classicus* ‘in saxosis apricis montium Dinara, Ghnjat et Prologh’. As far as we know, Kargl did not visit Dalmatia after 1845, while Clementi was there only in 1840, so both specimens are part of the original material.

***Asperula staliana* Vis.** [FD3-1: 11]. Original material:— A: CROATIA. In ins[ula] Lesina [Hvar] Dalmat[ia], s.d., s.c. s.n. (PAD-HD05933!); B: CROATIA. In rupestribus ins. Busi [Biševo] prope Lesina [Hvar], s.d., L. *Stalio* s.n. (PAD-HD05931!). Note:—Visiani indicates in his FD3-1 that the original material was collected by M. Botteri and sent by L. Stalio. Specimen B is therefore particularly suitable as a lectotype. A redetermination by F. Tammaro and E. Dal Col (1965) confirms its correspondence with the protologue.

***Lonicera glutinosa* Vis.** [FD3-1: 18]. Original material:— A: CROATIA. In petrosis cacuminis Orien [Orjen], Aug., s.c. s.n. (PAD-HDD06062), B: In petrosis cacuminis Orien [Orjen], s.d., s.c. s.n. (PAD-HD06064). Note:— The original material is by Neumayer.

***Bupleurum karglii* Vis.** [FD3-1: 35], ‘*kargli*’. Original material:— A: In Vallebit ad Vella Paklenija [Paklenica], s.d., *ŷ. Kargl* s.n. (PAD-HD06222!).

***Oenanthe marginata* Vis.** [FD3-1: 38]. Original material:— A: CROATIA. In pratis udis ad Cascata della Kerka [Skradinski Buk], s.d., s.c. s.n. (PAD-HD06359!).

***Libanotis nitida* Vis.** [FD2: t. 28]. Original material: A: HAL0098503; B: CROATIA. Valleb[it] [Velebit], s.d., J. Kargl s.n. (PAD-HD06161!). Note:— The place of collection of specimen B is the same indicated as the sole place of origin for *Athamanta libanotis* L. in Dalmatia, the name accepted by Visiani in FD3. In that description, Visiani used by mistake the invalid designation ‘*L. nitens*’ when citing FD2: t. 28. He later treated his *L. nitida* as a separate variety of *A. libanotis* [FD. Sup.: 109].

***Libanotis aurea* Vis.** [FD3-1: 44]. Original material:— A: CROATIA. Prologh [Prolog], [1843], G. Roich s.n., (PAD-HD06364!). Note:— Specimen A was collected at the *locus classicus* by Roich, the collector mentioned in the protologue. As far as we know, Roich only visited the mountains between Croatia and Bosnia in 1843. Visiani also cites in the protologue the invalid designation ‘*Athamanta aurea* Vis.’, as an unpublished synonym.

***Taeniopetalum neumayeri* Vis.** [FD3-2: 49]. Original material:— A: CROATIA. In Jakljan et Mt. Dinara, s.d., s.c. s.n. (PAD-HD06512!). Note:— The label on specimen A bears two locations; both correspond to the *locus classicus*.

***Chaerophyllum laevigatum* Vis.** [FD3-2: 65]. Original material:— A: CROATIA. Verlika [Vrlika], Mavize [Maovice], in sylvaticis, s.d., s.c. s.n. (PAD-HD06252!). Note:— Spe-

cimen A is fully compatible with the protologue. Its label bears an earlier determination as *C. glabrum*, which further suggests it was available to Visiani before he recognised *C. laevigatum* as a new species.

***Delphinium brevicorne* Vis.** [FD3-1: 90]. Original material:— A: CROATIA. Gelsa [Jelsa], s.d. *L. Stalio s.n.* (PAD-HD06268!). Additional material examined:— B: CROATIA. Hvar, s.d., *M. Botteri s.n.* (JE-00018576!). Note:— Specimen A is fully compatible with the protologue. Specimen B, though indicated as a potential type [402] is not part of the original material, as it was not collected by Stalio and we have no reason to believe it was seen by Visiani.

***Iberis serrulata* Vis.** [FD3-1: 111]. Original material:— A: CROATIA. In apricis saxosis apricis [sic] mont. Orien [Orjen], s.d., s.c. s.n., (PAD-HD07354); B: CROATIA. Orien [Orjen] in pratis apricis, [ante 1842], [*F. Neumayer*] s.n. (PAD-HD07355). Note:— Specimen B must have been collected before Neumayer's death (1842), and is perfectly compatible with the protologue.

***Alyssum latifolium* Vis.** [FD3-1: 118]. Original material:— A: CROATIA. In agris, cultis sterilibusque insulae Lesinae [Hvar], s.d. *L. Stalio s.n.* (PAD-HD06977). Note:— Specimen A is perfectly compatible with the protologue.

***Matthiola glandulosa* Vis.** [FD1: t. 22 f.1]. Original material:— A: MONTENEGRO. In arenosis littoris Budua [Budva], s.d., s.c. s.n. (PAD-HD07412); B: Illustration in Visiani FD1: t.22 f.1.

***Brassica botteri* Vis.** [FD3-1: 135]. Lectotypus (des. Snogerup & al. [403]):— CROATIA. [Palagruža], [June, 1843?], [*L. Stalio*] s.n. (PAD-HD07108). Note:— The type designated by Snogerup & al. perfectly fits with the protologue. A label on the sheet bears the number '1131'; the specimen corresponds to the plant listed under that number in the list of plants sent to Visiani by Stalio on 12th Aug. 1843 [b25127], under the provisional name *B. campestris*, and collected in June in Palagruža.

***Dianthus multinervis* Vis.** [FD3-1: 164]. Original material:— A: CROATIA. Pomo [Jabuka], [1843?], *M. Botteri s.n.* (PAD-HD05096!) Note:— This specimen clearly corresponds to the later illustration in Visiani [FD. Sup. t. 9 f. 2]. Its label bears three collectors: Kargl (deleted), Stalio, and Botteri. Botteri only sent specimens to Visiani via Stalio, so the error is not surprising. As far as we know, he only visited the remote islet of Jabuka in 1843.

***Silene remotiflora* Vis.** [FD3-1: 166]. Holotype (fide Greuter 1993):— CROATIA. Pakleniza [Paklenica], s.d., s.c. s.n. (PAD-HD05263). Note:— *Greuter's paper has not yet been found.*

***Silene reichenbachii* Vis.** [FD3-1: 169]. Original material:— A: MONTENEGRO. Mont. Biokovo, Lovcen [Lovćen], Cerkvizza [Crkvice] et Orien [Orjen], s.d., s.c. s.n. (PAD-HD05256!); B: CROATIA. In Biokovo, s.d., s.c. s.n. (PAD-HD05260). Note:— Visiani mentions as a synonym *S. picta* Reichenbach [153:816], explicitly excluding the earlier val-

idly published homonym by Desfontaines [404].

***Silene kitaibelii* Vis.** [FD3-1: 167]. Original material:— A: CROATIA. In rupestribus orientioribus Oriens [Orjen], Augusto, s.c. s.n. (PAD-HD05237); B: Illustration in Waldstein & Kitaibel [405: t. 163]!. Note:— Visiani cites *S. saxifraga* L. sensu Waldst. & Kit. and sensu Host [406: 535], explicitly excluding Linnaeus's type.

***Arenaria orbicularis* Vis.** [FD3-1: 180]. Original material:— A: CROATIA. Pakleniza [Paklenica], s.d., A. Alschinger s.n., (PAD-HD07840!). Note:— The specimen perfectly fits with the protologue.

***Euphorbia imperfoliata* Vis.** [FD3-2: 227]. Original material:— A: CROATIA. Ljubljana Mt. Mossor [Mosor], [1830], [F. Petter?] s.n. (PAD-HD08351!); B: CROATIA. In sylvat[icis] mt. Mossor [Mosor], et praesertim in vertice Ljubljana dicto, 1830, F. Petter s.n. (PAD-HD08352!). Note:— Since Visiani attributes all the specimens from Mt. Mosor, the sole locality indicated in FD3, to Petter, it seems very likely that specimen A was sent together with specimen B. Specimen B bears a note (25th Sep. 1830) with Petter's handwriting reading 'tell me please if this Euphorbia is truly the Euph[orbia] filicina of Portenschlag¹'. Visiani explicitly excludes the type of *E. filicina* Portenschlag [296: 15], synonymising this species with *E. filicina* Port. sensu Petter [165].

***Euphorbia dalmatica* Vis.** [FD3-2: 228]. Syntype:— A: Specimen named *E. terracina* in herb. Portenschlag (in W or Gjo?). Original material:— B: Specimen sent to E. Boissier to be included in De Candolle [361]; C: CROATIA. Inter Spalato [Split] et Almissa [Omiš] et in ins[ula] Lesina [Hvar] in satis, s.d., s.c. s.n. (PAD-HD08311!); D: CROATIA. The original list must still be checked, [?], [L. Stalio] s.n. (PAD-HD08312!); E: CROATIA. [Lesina ne' campi] [Hvar], [ante Jul. 1840], [L. Stalio] s.n., (PAD-HD08313!); F: CROATIA. Inter Spalato [Split] et Almissa [Omiš], s.d. F. Petter s.n. (PAD-HD08317!). Note:— Visiani mentioned specimen A in the protologue, which is therefore to be considered a syntype designated by him (Art. 9.5). The existence of specimen B was deduced from an 1861 letter sent by Visiani to Pančić [pncc-610 327-@], in which he states having sent all his specimens of *E. dalmatica* to Boissier. This was almost certainly not true, given the numerous specimens of this taxon to be found in HD. Visiani states in the protologue that this species was already published ex Maly [401: 322]. In fact, the name was not published validly there, lacking any description or diagnosis.

***Cytisus tommasinii* Vis.** [FD3-2: 265]. Syntype:— Specimen named *C. capitatus* in Tommasini's herbarium (in Tsm?). Original material:— B: Illustration in Ebel [300: f. 1]. Note:— Visiani mentions in the protologue having specimen A in Tommasini's herbarium. That specimen is, therefore, a syntype (Art. 9.5).

***Chamaecytisus dalmaticus* Vis.** (1851: 272, t. 60 f. 2). Original material:— A: Illustration in Visiani [FD2: t. 60 f. 2]!; B: s.l., s.d., s.c. s.n. (PAD-HD06392); C: s.l., s.d., s.c. s.n. (PAD-HD06393). Note:— This name is being studied by S. Bogdanović & al. (S. Bogdan-

1. «Mi dica, di grazia, se quest'Euphorbia è veramente l'Euph. filicina del Portenschlag».

ović, pers. com.).

***Ononis brachystachya* Vis.** [FD3-2: 274]. Original material:— A: CROATIA. In pratis humidis Ombla, [ante 1842], *F. Neumayer s.n.* (PAD-HD09336!); B: CROATIA. In silvaticis umbrosis Ossoniac [?], [ante 1842], [*F. Neumayer*] *s.n.* (PAD-HD09337!); C: CROATIA. In sylvestribus montis Ossoniac [?], [ante 1842], [*F. Neumayer*] *s.n.* (PAD-HD09338!). Note:— Specimens B and C were recognised as collected by F. Neumayer by his unmistakable handwriting. All three specimens are certainly part of the original material.

***Avena neumayeriana* Vis.** [FD3-2: 339]. Original material:— A: CROATIA. In graminosis apricibus rupestribus Orien [Orjen], [ante 1842], [*F. Neumayer*] *s.n.* (PAD-HD00482!). Additional specimens examined:— B: CROATIA. In M. Orien [Orjen], s.d., [*Visiani R. de*] *s.n.* (W18890243898). Note:— Specimen B was marked as ‘typus probabiliter’ by L. Pignotti (2011). Its stated collector is Visiani, and indeed this species appears in a manuscript list of plants sent to Reichenbach [b25 183]. Visiani almost certainly did not climb Mt. Orjen before 1858 (if ever) [§ 5.3.2], so unless it can be shown that said specimen was collected by Neumayer (the only collector mentioned in *FD3*), it is not part of the original material.

***Aegilops biuncialis* Vis.** [FD1: t1 f2]. Original material:— A: CROATIA. [Hvar], [Jun. ante 1840], [*L. Stalio*] *s.n.* (PAD-HD00390!); B: CROATIA. Lesina [Hvar], [Jun. ante 1840], *L. Stalio s.n.* (PAD-HD00391!); C: Illustration in Visiani [FD1: t.1 f.2]!. Note:— Both specimens bear the number ‘268’, which corresponds to an entry (‘*Aegilops ovata* A: *glauca*’) on the unpublished list of plants from Hvar sent by L. Stalio to Visiani in Jul. 1839. Visiani treated this species in full in *FD3* [FD3: 344].

***Aegilops uniaristata* Vis.** (1851: 345). Lectotype (des. Bogdanović & al. [374]):— A: CROATIA. Circa Zara [Zadar], s. d., *A. Alschinger s.n.* (PAD-H0028902!). Epitype (des. Bogdanović & al. [374]):— CROATIA. Circa Zara [Zadar], s. d., *s.c. s. n.* (W-Rchb.-1889-0251356!).

***Carex pharensis* Vis.** [FD3-2: 346]. Original material:— A: CROATIA. In sylvaricis insula Pharia (Lesina) [Hvar], s.d., *M. Botteri s.n.* (PAD-HD00254); B: CROATIA. In insula Pharia (Lesina) [Hvar], s.d., *s.c. s.n.* (PAD-HD00255!). Note:— Visiani recognised this taxon as a heterotypic synonym of *Carex illegitima* Ces. in *FD. Sup.*; both specimens are labelled with the latter name, Visiani’s own being indicated as a synonym.

***Ophrys tommasini* Vis.** [FD3-2: 354]. Original material:— A: CROATIA. Ex insula S. Pier di Nembi [Ilovik], 16th Apr. 1851, *M. Tommasini s.n.* (PAD-HD01630); B: CROATIA. ex ins. Quarnero [Kvarner], s.d., *M. Tommasini s.n.* (PAD-HD01628); C: Specimen in Fr. *A scan of the specimen has not yet been delivered.* Note:— Specimen A fits perfectly with the protologue and is more complete than specimen B.

***Brassica mollis* Vis.** [FD3-2: 350]. Lectotypus (des. Snogerup & al. [403]):— CROATIA. Curzola [Korčula], 1849, *M. Botteri s.n.* (PAD-HD07109).

6.3.2 Validly Published Varietal Names

Before starting our list, an in-depth analysis of Visiani's approach to the numbering of varietal names in *FD* is required in order to recognise whether the names that he published as 'variety α ' were intended to include the type of the adopted, legitimate name of the species to which they were assigned, and are therefore invalid, not repeating the specific epithet unaltered as their final epithet, as provided by the Code.

When Visiani created new varieties, he usually (in 210 cases out of 301) did not mention the first one using the letter α , but started from β instead. This suggests that he considered α not available. In doing so, he failed to mention the work where the supposed variety α was published, so that—had he truly intended variety α to represent a separate entity from the species—he would have committed an omission of a place of publication, which would have been inconsistent with the great attention that he gave to citations throughout the book [§ 3.4.4]. Moreover, in numerous instances he compared the 'species' with a variety of a given plant (see e.g. *Dipsacus laciniatus* L., *Allium intermedium* Lam. & DC., *Linaria cymbalaria* Mill., *Orobanche caryophyllacea* Sm., *Helleborus viridis* L., *Clypeola jonthlaspi* L., *Cerastium arvense* L., *Rhamnus frangula* L., *Tilia platyphyllos* Scop.), when in fact only a variety β is explicitly mentioned in his treatment. It is clear that by 'species', in this context, he meant in fact the typical variety, which should logically have borne the letter α . We can thus infer that, as a rule, he considered variety α as published and cited (but not named) along with the species itself. Consistently, in these cases he treated the synonymy and iconography separately between 'species' and variety. This approach was very common and often employed by Linnaeus himself [407], so much so that it had to be explicitly forbidden in the Code (Art. 25) for being confusing.

In a substantial minority of cases (91 out of 301), though, Visiani *did* separately mention a species and a variety α , apparently as he intended to give a new treatment of the whole species (or at least of its full range of diversity in Dalmatia). Consistently, in these cases he never mentioned any synonymy or iconography for the species as a whole, separate from those of the varieties¹. These cases are analytically discussed in the following paragraphs.

In fourteen cases (*Atriplex patula* L., *Pterocephalus palaestinus* (L.) Coult., *Senecio cacaliaster* Lam., *Linaria elatine* Mill., *Thymus serpyllum* L., *Teucrium montanum* L., *Vincetoxicum officinale* Moench, *Nasturtium sylvestre* R.Br., *Alsine tenuifolia* Wahl., *Althaea rosea* Cav., *Erodium cicutarium* L'Hér., *Olea europaea* L., *Delphinium consolida* L., *Clematis flammula* L.), there can be no doubts that variety α was still meant to include the type of the species, as Visiani cited the basynonym of the species under the synonyms of the varietal name or in the notes. This makes such names invalid according to Art. 26.2. In three cases, (*Clematis flammula* L., *Centaurea salonitana* Vis., *Delphinium consolida* L.) the citation is indirect. For example, in the first case, he lists *Clematis caes-*

1. There is one single exception: *Pterocephalus palaestinus* Coult., in whose treatment a synonym is given for the whole species, separate from the synonymies of the varieties. Incidentally, this name is invalid, as the basynonym *Knautia palaestina* L. is explicitly cited under var. α *indivisa*.

pitosa Scop. in the synonyms for his *Clematis flammula* var. α *vulgaris* and then states in the notes that *C. caespitosa* Scop. is not different from the species¹. In one other case (*Olea europaea* L.), the basionym is cited under variety β , thus making variety α *oleaster* undoubtedly valid. In four cases (*Medicago litoralis* Rhode, *Verbascum nigrum* L., *Origanum vulgare* L., *Aconitum anthora* L.), Visiani chose the epithet *genuinus*, which is purporting to indicate the taxon containing the type of the name of the next higher-ranked taxon, but as these names are not autonyms, they are undoubtedly invalid (Art. 24.3). In a few more cases, the names are invalid, without the need of further discussion, because their format does not comply with the provisions of the Code (e.g. *Orchis laxiflora* var. α 'labii lobo medio truncato subnullo').

The validity of the remaining forty-five names of varieties indicated as α is debatable. Although no strong case can be made that they were meant to include the type of the species, the simple choice of the letter α could generally be argued to mean exactly that, in the context of Visiani's approach. Since the Code does not explicitly provide for similar cases, these names are probably technically valid, although we believe that prudence suggests not to adopt them without great caution. We further discuss some of them in detail in the following paragraph.

In three cases (*Veronica agrestis* L., *Mentha aquatica* L., *Vicia grandiflora* Scop.) Visiani chose an epithet that quite clearly indicates that he intended the new variety to represent the concept chosen by the author for the species as a whole, necessarily including its type. For instance, he described a var. α *scopoliana* under *Vicia grandiflora* Scop.. He did not, however, declare this explicitly. In twenty-one cases (*Panicum crus-galli* L., *Triticum pinnatum* Moench, *Scirpus maritimus* L., *Allium montanum* Sibth. & Sm., *Allium intermedium* Lam. & DC., *Juniperus oxycedrus* L., *Quercus ilex* L., *Ulmus campestris* L., *Polygonum aviculare* L., *Salsola kali* L., *Centaurea montana* L., *Cynara scolymus* L., *Scorzonera austriaca* Willd., *Linaria cymbalaria* Mill., *Galeopsis ladanum* L., *Veronica chamaedrys*, *Alsine graminifolia* Gmel., *Tilia platyphyllos* Scop., *Euphorbia exigua* L., *Cotoneaster vulgaris* Lindl., *Cytisus sylvestris* Vis.) it can be deduced, although indirectly, that the treated varieties were intended to represent the whole variability of the species, so that one of those must include the type of the species as a whole. For instance, in his treatment of *Triticum pinnatum*, Visiani named var. α *glabrum*, and var. β *pubescens*. In this case, he probably did so to more clearly indicate that he considered *Bromus rupestris* Host a heterotypic synonym, having listed two homotypic synonyms under the 'species'. At any rate, as the plant can only be either glabrous or hairy, one of the two varieties must have been meant to include the type of the species. Consistently with our previous considerations, we could probably infer that he intended variety α as the typical one.

For the remaining forty-four names of taxa numbered α , nothing more specific can be said.

***Aspidium fragile* var. *pontederiae* Vis.** [FD1: 39]. Original material:— A: Illustration in Séguier [408: t. 1 f. 2]. Note:— Visiani explicitly excludes *A. pontederiae* Willd. in the pro-

1. «*C. caespitosa* Scop. [...] a specie non differt».

tologue.

***Asplenium adiantum-nigrum* var. *acutum* Vis.** [FD1: 41]. Original material:—A: PAD-HD00095!; B: Illustration in Pollini [409: t. 2 f. 2].

***Zea mays* var. *praecox* Vis.** [FD1: 46]. Note:— Visiani describes this variety with just one word (“*minor*”).

***Holcus avenaceus* var. *nodosus* Vis.** [FD1: 47]. Original material:—A: Illustration in Host [410: 30]; B: Illustration in Reichenbach [411]; C: Illustration in Reichenbach [412: t. 104 f. 1717]!; D: Illustrations in Scheuchzer [413: t. 4 f. 27, 28]; E: Illustration in Bauhin [414: 3, 1st from the left]. Note:— Visiani describes this variety with just one word (“*minor*”). It seems it was already described by Rchb. in the illustration to Agrostogr.

***Phleum echinatum* var. *elongatum* Vis.** [FD1: 64]. Original material:— A: PAD-HD00822.

***Koeleria cristata* var. *canescens* Vis.** [FD1: 71]. Holotypus?:—PAD-HD00708. Note:— The holotype is indicated as ‘exemplar unicum hujus var.’

***Bromus erectus* var. *villosus* Vis.** [FD1: 73]. Note:—Visiani included *Festuca hirta* Seenus as a synonym. This name is at another rank, and does not affect the legitimacy of *B. erectus* var. *villosus*.

***Festuca ciliata* var. *imberbis* Vis** [FD1: 75].

***Poa bulbosa* var. *prolifera* Vis.** [FD1: 79]. Original material:—A: Illustration in Host [415: t. 65 right f.]; B: Illustration in Reichenbach [412: t. 71 f. 81 (sphalm. 1620)]!; C: Illustration in Bauhin [414: 6]. Note:—Visiani cites this name as published in *St. Dalm.*, but there it is naked, so it is only validly published in *FD*.

***Poa pratensis* var. *angustifolia* Vis** [FD1: 81]. Note:—Visiani cites ‘*P. angustifolia* Pollich [...] non L.?’ and ‘*P. angustifolia* Leers [...] (excl. descr.) non L.?’ as potential synonyms.

***Sesleria elongata* var. *montana* Vis.** [FD1: 86]. Original material:—A: PAD-HD00968.

***Lolium perenne* var. *ramosum* Vis.** [FD1: 92]. Original material:— A: PAD-HD00095; B: Illustration in Leers [416] t. 12 f. 1 inf.].

***Triticum pinnatum* var. *glabrum* Vis.** [FD1: 95] Original material:— A: PAD-HD00095; B: Illustration in Host [410: t. 17]; C: Illustration in Reichenbach [411]; D: Illustration in Reichenbach [412: t. 16 f. 1376]!.

***Triticum pinnatum* var. *pubescens* Vis.** [FD1: 95]. Original material:— A: PAD-HD00095.

***Scirpus maritimus* var. *laxus* Vis.** [FD1: 109]. Original material:— A: PAD-HD00095; B: Illustration in Host [417: t. 67 right fig.]; C: Illustrations in Roemer [418]; D: Illustration in

tion in Sowerby [419]: t. 542]. Note:— This name is listed as var. α , but there is no indication that it contains the type of the species.

***Scirpus maritimus* var. *compactus* Vis.** [FD1: 109]. Original material:— A: PAD-HD00095; B: Illustration in Host [417: t. 67 left fig.]; C: Illustration in Krockner [420: t. 15].

***Luzula campestris* var. *congesta* Vis.** [FD1: 114]. Original material:— A: PAD-HD00095. Note:— Visiani expresses doubts on the identity of this taxon with *Luzula congesta* Thuill.

***Iris pumila* var. *lutescens* Vis.** [FD1: 116], *nom illeg.* Note:— Visiani explicitly excludes *Iris lutescens* Lam., but includes *I. pumila* var. *lutea* [421: t. 209], which seems to be the correct name for the taxon at the rank of variety. The name is superfluous and illegitimate.

***Allium roseum* var. *bulbilliferum* Vis.** [FD1: 135]. Original material:— A: Illustration in Tenore [151: t. 28]; B: Illustration in Sibthorp & Smith [152: t. 327]; C: Santi [422]; D: Illustration in Curtis [423: t. 978]!. Note:— Curtis, cited by Visiani, recognises a var. β ‘*scapo bulbifero*’. In the index to that publication (1883), it is listed as ‘var. *bulbiferum*’, but neither the name nor the concept are accepted by Curtis himself, who writes ‘the usual subdivision of this genus into *bulbiferous* and *capsuliferous* is by no means to be relied on’.

***Allium sphaerocephalon* var. *albiflorum* Vis.** [FD1: 141]. Original material: A: PAD-HD01310. Note:— This is the only specimen that was found completely compatible with the protologue. The type specimen seems to belong to *A. sphaerocephalon* subsp. *arvense* (Guss.) Arcang. Visiani’s name has priority over other varietal names for this taxon: *A. sphaerocephalon* var. *arvense* (Guss.) Parl. (1852), *A. sphaerocephalon* var. *viridialbum* (Tineo) Regel (1875). It is therefore the correct name for this taxon when treated as a variety of *A. sphaerocephalon*.

***Asphodeline cretica* (Lam.) Vis.** [FD1: 152], *comb. illeg. (?)*. Basionym:— *Asphodelus creticus* Lam. Note:— It is difficult to clearly establish priority between this name and the isonym *A. cretica* (Lam.) Endlicher [424: 142]. According to IPNI [89] Visiani’s work was published between the 31st of August and the 3rd of September, while Endlicher’s in July or August. If this is correct, then Visiani’s name is almost certainly the later homonym, if only by a few days. General consensus is to ascribe the name to Endlicher.

***Convallaria latifolia* var. *bracteata* Vis.** [FD1: 163]. Holotype: PAD-HD01540. Note:— Visiani states that he could not find any other difference from the single specimen that he had (‘specimen unicum, nec perfecte floridum legi’) to the nominal variety than the presence of bracts, that remind him of those of *C. latifolia* Mill..

***Platanthera bifolia* var. *clavata* Vis.** [FD1: 166]. Syntype:— B: Specimen named *Platanthera bifolia* in herb. Alschinger (in BASSA?). Original material:— A: PAD-HD01540; C: Illustration in Vaillant [425: t. 30 f. 7]. Note:— Visiani suspects that this might be *P.*

chlorantha (Custer) Rchb..

***Alisma plantago-aquatica* var. *angustifolium* Vis.** [FD1: 192], '*Alisma plantago* var. *angustifolia*'. *nom. illeg.* (?). Original material:— A: PAD-HD01954. Note:— No specimens are found in *HD* that bear this precise name, but as Visiani ascribed all the specimens he knew from Dalmatia to this variety, any one seen by him that is compatible with the protologue could be selected as lectotype. Visiani distinguished this variety for having narrow leaves attenuated on both sides (*foliis lanceolatis utrinque attenuatis*). This diagnosis suggests that the type specimen may belong to *A. lanceolatum* With., which, when considered a variety of *A. plantago-aquatica*, has the correct name of *A. plantago-aquatica* var. *lanceolatum* (With.) Lejeune [426]. Visiani states that some 'authors' cited the illustration in Barrelier [427] 'sub varietate nostra'. It is not clear if this name is a later homonym, as the name cannot be found in lists or search engines.

***Ulmus campestris* var. *nuda* Vis.** [FD1: 221], *nom. inval.* Original material:— A: Illustration in Nees von Esenbeck [159: f. 1–5, 10–16]; B: Illustration in Sowerby [419] t. 1886 (sphalm.1586); C: Illustration in [428: t. 682]; D: Illustrations in Lamarck [429: t. 115 f. 1 a, b, c, d, n, o (possibly wrongly numbered?)]. Note:— The validity of this name, indicated as α , is doubtful, although the type of the species is implicitly excluded, as Visiani cites only *U. campestris* Sm. (non L.) in synonyms.

***Chenopodium album* var. *oblongum* Vis.** [FD1: 240]. Lectotypus (designated in Iamónico & Clementi [375]):— Illustration in Vahl [385: t. 1150]!

***Asterocephalus columbaria* var. *muticus* Vis.** [FD2: 13], '*mutica*'. Note:— The protologue cites an illustration in Reichenbach 'l.c.' f. 194. The 'loco citato' might be either Reichenbach [153] or Reichenbach [411]. The first has no illustration numbered 194, while the second has a (text) paragraph on (p. 194) on the genus *Asterocephalus*. This is probably an error on Visiani's part, and there is no original material extant for this taxon.

***Pterocephalus palaestinus* var. *triphylla* Vis.** [FD2: 16]. *Illustrations remain to be checked.*

***Scabiosa arvensis* var. *indivisa* (Req.) Vis.** [FD2: 16], *nom. superfl.* Note:— This name is superfluous, since *S. arvensis* var. *integrifolia* Coult. is cited in the synonyms. It is not illegitimate, since it has a separate basionym, and is the correct name under *S. arvensis* if *S. integrifolia* and *S. invis*a are considered separate.

***Scabiosa integrifolia* var. *hybrida* (All.) Vis.** [FD2: 17].

***Calendula arvensis* var. *rugosa* Vis.** [FD2: 26]. Syntype:— Specimen named *Centaurea sublanata* in herb. Noë. Original material:— A: PAD-HD02588!, B: PAD-HD02594!.

***Xeranthemum inapertum* var. *oleifolium* Vis.** [FD2: 27], '*oleaefolia*'. Original material:— A: PAD-HD02738.

***Centaurea montana* var. *integrifolia* Vis.** [FD2: 33]. Original material:— A: PAD-HD02499; B: PAD-HD02500; C: PAD-HD02503; D: Illustration in Waldstein & Kitaibel [405:194]; E: Illustration in [430: t. 66]!; F: Illustration in L'Obel [431:584 f.1]!.

***Centaurea montana* var. *sinuata* Vis.** [FD2: 34]. Original material:— A: PAD-HD02680!; B: PAD-HD02681!; C: Illustration in Trionfetti [432:27]!; D: Illustration in Barrelier [427: n. 389]!.

***Centaurea salonitana* var. *lanceolata* Vis.** [FD2: 34]. Original material:— A: PAD-HD02695!. Note:— Visiani cites *Centaurea latissima* var. *taurica* DC. in the protologue, yet this synonymy is not definitely accepted, since he marked it with a question mark ('?'). Therefore, this name was not superfluous when published, as it did not definitely include the type of a name at the same rank.

***Centaurea divergens* Vis.** [FD2: 37]. Original material:— A: PAD-HD02637; B: Illustration in Visiani [FD2: t. 41 = 12b]!. Note:—Visiani also cites an illustration in Gmelin [433: t. 63], but marked it with a '?', so that it should be disregarded.

***Cynara scolymus* var. *pungens* Vis.** [FD2: 46]. Original material:— A: Illustration in L'Obel [431:3 f. 1] (= Clusius [434:153 f. 3]!).

***Cynara scolymus* var. *muticus* Vis.** [FD2: 46]. Original material:— A: Illustration in Mattioli [435:705]!; B: Illustration in Theodorus 'Tabernaemontanus' [436:695 f. 1]!.

***Cirsium acaule* var. *caulescens* Vis.** [FD2: 50]. Original material:— A: Illustration in Willdenow [437:6 f. 1]!. Note:— *Cnicus dubius* Willd. is cited in the synonyms. This does not preclude validity or legitimacy, since it is a name at another rank. Moreover, while Visiani cites it as a synonym, it clearly refers to an illustration, which is part of the original material.

***Eupatorium cannabinum* var. *indivisum* Vis.** [FD2: 53], '*indivisa*'. Original material:— A: PAD-HD02857!; B: PAD-HD02858!. Note:— The two specimens seem to correspond to the diagnosis ('*foliis lanceolatis serratis*') but are marked with the unpublished names '*Eupatorium syriaca*' and '*Eupatorium cannabinum* var. *syriaca*'. More investigations are needed.

***Solidago virgaurea* var. *integrifolia* Vis.** [FD2: 59]. Original material:— A: Illustration in Dodonaeus [438: t. 142]!; B: Illustration in Mattioli [435:1060]!; C: PAD-HD02902!.

***Inula britannica* var. *angustifolia* Vis.** [FD2: 63]. Original material:— A: Illustration in Dalechamp [439:1082]!; B: Illustration in Morison [440: sect. 7 t. 19 f. 8]!; C: Illustration in L'Obel [431:293 f. 1]!. Note:— Visiani cites as a synonym '*I. britannica* var. *β*' in Linnaeus [162:1237]. It was published without an epithet, and is therefore invalid.

***Senecio nebrodensis* var. *bipinnatifidus* Vis.** [FD2: 69]. Original material:— A: PAD-HD03097!; B: Illustration in Barrelier [427: t. 402]!. Note:— Visiani also notes that *S. multiangularis* Tausch is probably to be referred to this taxon.

***Senecio cacaliaster* var. *jacquinii* Vis.** [FD2: 71], '*jacquini*'. Original material:— A: Illustration in Jacquin [441: t. 65]!; B: Illustration in Jacquin [442: t. 184]!; C: PAD-HD03065!. Note: *S. nemorensis* L. is cited as a possible synonym, but is marked with a question mark (see Art. 52.2 Note 1); *S. jacquinianus* Rehb. is cited as a synonym, but is a name at another other rank, which does not impact validity.

***Senecio cacaliaster* var. *gmelinii* Vis** [FD2: 71], '*gmelini*'. Original material:— A: Illustration in Reichenbach [443: t. 466 (sphalm. 'Icon. pl. 3. p. 466')]!, 'optime'; B: Illustration in Fuchs [444: 728]!; C: PAD-HD03070!.

***Senecio doronicum* var. *latifolius* Vis.** [FD2: 71], '*latifolia*'. Original material:— A: Illustration in Gerard [445: 196 f. 7]!; B: Illustration in Jacquin [446: t. 45]!; C: PAD-HD03075!. Note:— This name is var. α , but it is not clear if it is intended to include the type of the species.

***Senecio doronicum* var. *angustifolius* Vis.** [FD2: 71], '*angustifolia*'. Original material:— A: Illustration in Clusius [434: lib. 4 pag. 17 f. 1]!; B: PAD-HD03076!.

***Filago germanica* var. *spicata* Vis.** [FD2: 75]. Original material:— A: PAD-HD02955.

***Filago germanica* var. *decumbens* Vis.** [FD2: 75]. Original material:— A: PAD-HD02960!.

***Achillea clavennae* var. *argentea* (Vis.) Vis.** [FD2: 81], '*Clavennae*'. Basionym:— *A. argentea* Visiani [Flora 29], non Lamarck [447: 29]. Note:— Visiani argues that this plant should be named '*clavennae*', as it was named after Nicola Clavena, not after Chiavenna, Italy, '*Clavenna*' in Latin. Present rules of nomenclature give priority to the wrong Linnaean spelling. *The material in HD is to be checked.*

Chamaemelum inodorum* var. *maritimum [FD2: 85]. Note:— Visiani cites '*Chrysanthemum inodorum* β ' as treated in Linnaeus [162: 1253]. There reads ' β *Chamaemelum maritimum*', which is not strictly valid. Linnaeus had, nonetheless, published the name *Matricaria maritima* already in [38: 891], and not adopted that epithet elsewhere in the second edition. It seems that Visiani knew all this, and intended to cite Linnaeus's name. Failing to cite that name, he inadvertently created a new taxon, which should probably nonetheless share the same type as Linnaeus's, or at least one that is clearly compatible.

***Chrysanthemum leucanthemum* var. *pratense* Vis.** [FD2: 86]. Original material:— A: PAD-HD03303; B: Illustration in Schrank [448: t. 194]; C: Illustration in Oeder & al. [428: t. 994]!; D: Illustration in Blackwell [430: t. 42]!; E: Illustration in Mattioli [435: 960]!. Note:— Despite being indicated as var. α , there is no specific proof that Visiani meant this to represent the type of the species, as treated by Linnaeus. None of his references were cited by Linnaeus. He cites *Leucanthemum vulgare* Lam. as a synonym, but that name is at another rank.

***Chrysanthemum leucanthemum* var. *laciniatum* Vis.** [FD2: 86]. Original material:

– A: PAD-HD03326!. Note:— Although there exists a *C. laciniatum* Gilibert [449], it is certainly not what Visiani intended to use as a basionym. He does not cite the name, and that is usually treated under *Glebonis segetum*, a homotypic synonym of *Chrysanthemum segetum* L., that Visiani accepts as separate. This is the name on which *C. visianii* Gjurašin [450: 84] and its homotypic synonym *Leucanthemum visianii* (Gjurašin) Greuter [180: 42] are based.

***Chrysanthemum leucanthemum* var. *nudicaule* Vis.** [FD2: 87]. Original material:— A: PAD-HD03317.

***Artemisia camphorata* var. *virens* Vis.** [FD2: 91]. Original material:— A: PAD-HD03259.

***Tanacetum vulgare* var. *crispum* Vis.** [FD2: 94]. Original material:— A: Illustration in Dodonaeus [438: t. 36]. Note:— There appears to exist an homonym by De Candolle, although the place of publication is nowhere to be found!

***Cichorium intybus* var. *sylvestre* Vis.** [FD1: 97]. Original material:— A: Illustration in Müller [428: t. 907; B: Illustration in Mattioli & *al.* [451: 293]; C: Illustration in Fuchs [444: 679]. Note:— This variety is numbered α , but there is no clear inclusion of the type of the whole species, which should be checked. If valid, this name would make *C. intybus* f. *sylvestre* Bischoff [452] an illegitimate later homonym. *The material in HD is to be checked.*

***Cichorium intybus* var. *indivisum* Vis.** [FD2: 97]. Original material:— A: PAD-HD03367!.

***Helminthia echioides* var. *glabra* Vis.** [FD2: 101]. Original material:— A: Illustration in Hermann [453: t. 185 f. 1]!; B: PAD-HD03388!. Note:— Visiani mentions '*Picris echioides* β L.', but the name had no epithet. There are two pictures numbered '185' in Hermann, we do not know which one Visiani refers to, but the second that may represent *H. echioides*.

***Picris hieracioides* var. *umbellata* Vis.** [FD2: 101], *nom. illeg.* Original material:— A: Illustration in Morison [440] sect. 7 t. 4 f. 45]!; B: PAD-HD03443!. Note:— Visiani makes no explicit or implicit mention of *Leontodon umbellatus* Schrank [454: 334]. which is also usually included here, although he probably did know of it. This name is an illegitimate later homonym of *P. hieracioides* subsp. *umbellata* Ces. in Cattaneo.

***Leontodon hastilis* var. *pratensis* Vis.** [FD2: 103], '*hastile*'. Original material:— A: Illustration in Jacquin [446: t. 164]!; B: Illustration in Gaertner [455: t. 159 f. 7]!; C: Illustration in Allioni [181: t. 70 f. 3]!; D: Illustration in Villars [354: t. 24 f. A, B, C, D]!. Note:— Visiani numbered this variety α , but apparently does not include the type of the species, mentioning *L. hasilis* only as treated by Reichenbach [153: 253], thus implicitly excluding Linnaeus. There exists a *Leontodon hispidus* var. *glabratus* F.W. Schultz, which is illegitimate [88], and should be checked.

***Leontodon saxatilis* var. *simplex* Vis.** [FD2: 104], ‘*saxatile*’. Syntype:—A: Specimen named *Apargia saxatilis* in herb. Host; B: Specimen named *A. tergestina* in herb. Hoppe Original material:— A: Illustration in Colonna [456:243]!. Note:— Visiani numbered this variety α , but apparently it did not include the type of the species. He mentions the treatment by Koch, implicitly excluding Reichenbach. He also mentions Scopoli’s treatment of *L. hispidum*, explicitly excluding Linnaeus.

***Leontodon saxatilis* var. *ramosus* Vis.** [FD2: 104], ‘*saxatile*’, ‘*ramosa*’. Original material:— A: Illustration in Tenore [151: t. 72]!; B: Illustration in Waldstein & Kitaibel [405] t. 110]!; C: Illustration in Cavanilles [457] t. 149]!; D: PAD-HD03432!. Note:— Again Visiani mentions Host, but not directly his herbarium, although he remarks that his treatment was *ex loco nat[urali]*. What this means is unclear. Visiani explicitly excludes Linnaeus, thus also the type of the species and the typical variety thereof.

***Leontodon saxatilis* var. *glabrus* Vis.** [FD2: 104], ‘*saxatile*’, ‘*glabra*’. Syntype:— A: PAD-HD03428!. Note:— Visiani mentions ‘*Apargia tenuifolia* Vis. pl. sicc.’, which cannot refer to any of his previous publications. We must infer that he in fact refers to a herbarium specimen filed and/or sent to others under that name. Nonetheless, the specimen in *HD* bears the published name.

***Scorzonera austriaca* var. *angustifolia* Vis.** [FD2: 106], *nom. illeg.* Note:— Visiani mentions *S. humilis* var. *austriaca* De Candolle [361:120], the name that he should have used. By explicitly excluding *S. angustifolia* L., he makes his name *not* a new status, therefore his name is not only superfluous, but is illegitimate as well.

***Scorzonera villosa* var. *dalmatica* Vis.** [FD2: 107]. Syntype:— A: Plant named *S. graminifolia* in herb. Portenschlag; B: Plant named *S. graminifolia* in herb. Host.

***Urospermum picroides* var. *laciniatum* Vis.** [FD2: 109], *nom. inval.* Note:— Visiani mentions as a synonym the name *Tragopogon picroides* L., which includes the type of the species as a whole. This variety (numbered α) should therefore be named var. *picroides*.

***Urospermum picroides* var. *indivisum* Vis.** [FD2: 109], *nom. superfl. illeg.* Note:— Visiani mentions in the protologue *Arnopogon picroides* var. *integrifolius* Vis. [St. Dalmat.: 26]. That name lacks a description or diagnosis, and is therefore naked and invalid. He also mentions the validly published *U. picroides* var. *asperum* DC. & Duby [458:295]. As his name has no basionym, it is superfluous and illegitimate.

***Prenanthes purpurea* var. *vulgaris* Vis.** [FD2: 112]. Original material:— A: Illustration in Clusius [434:147 f. 2]; B: Illustration in Morison [440: t. 3 f. 23]. Note:— Visiani numbered this variety α , but apparently does not include the type of the species. *The material in HD is to be checked.*

***Prenanthes purpurea* var. *major* Vis.** [FD2: 112]. Original material:— A: Illustration in Colonna [456:246]!; B: Illustration in Morison [440: t. 3 f. 22]!; C: PAD-HD03811. Note:— Visiani mentions an unnamed variety by Linnaeus [162:1121].

Prenanthes purpurea var. *latifolia* Vis. [FD2: 112]. Original material:— A: PAD-HD03814. Note:— Original material was collected by Kargl.

Hieracium pilosella var. *major* Vis. [FD2: 121]. Original material:— A: Illustration in Vahl [385: t. 1110]!; B: Illustration in Camerarius [451: 709]; C: Illustration in Fuchs [444: 605]!.

Hieracium villosum var. *glabratum* Vis. [FD2: 124]. Original material:— A: PAD-HD03756!; B: PAD-HD03855.

Picridium vulgare var. *scapigerum* Vis. [FD2: 126]. Original material:— A: PAD-HD03809. Note:— Legit Neumayer

Phyteuma orbiculare var. *columnae* Vis. [FD2: 128], ‘*orbicularis*’, *nom. illeg.* Original material:— A: Illustration in Colonna [456: 224]; B: Illustration in Barrelier [427] t. 525]; C: Illustration in Morison [440: sect. 5 t. 5 f. 47]. Note:— This name is a later homonym of A.DC. [459: 188].

Verbascum phoeniceum var. *lanuginosum* Vis. [FD2: 158]. Syntype:— Specimen in herb. Tommasini. Note:— Visiani makes it explicit that he only saw one specimen with the following words: ‘*var. circa Pastrovichio [Paštrovići] in ditione Butuensis, ubi unicum exemplar legit Consil. Tommasini, penes quem vidi*’ [at whose place I saw it]. It is likely that the type is conserved in Tommasini’s herbarium.

Linaria elatine var. *vulgaris* Vis. [FD2: 161], *nom. inval.* Note:— Visiani includes *Antirrhinum elatine* L., the type of the whole species.

Linaria elatine var. *commutata* (Bernh. ex Rchb.) Vis. [FD2: 161], *stat. nov.* Basionym:— *L. commutata* Bernh. ex Reichenbach [153: 373].

Linaria elatine var. *lasiopoda* Vis. [FD:2 161]. Original material:— A: PAD-HD04 224!.

Veronica anagallis-aquatica var. *ovalis* Vis. [FD2: 172], ‘*anagallis*’. Original material:— A: Illustration in Tabernaemontanus [436: 719 f.2]!; B: PAD-HD04459.

Veronica agrestis var. *linnaeana* Vis. [FD2: 172]. Original material:— A: Illustrations in Reichenbach [443: f. 440–441]!; B: Illustration in Fuchs [444: 22]!; D: PAD-HD04 454!. Note:— By using the epithet *linnaeana* and numbering it variety α , Visiani probably meant that he intended it to include the type of the species *V. agrestis* L.

Euphrasia officinalis var. *stricta* Vis. [FD2: 174]. Syntype:— A: Specimen named *E. stricta* Host in herb. Host; B: Specimen named *E. pectinata* in herb. Tenore. Original material:— Note:— Visiani intended this name as a new status for the illegitimate *E. stricta* Host non J.P.Wolff ex J.F.Lehm. (1809), nec Kunth (1818). He mentions two treatments, but marks them with an exclamation mark, which means that he saw an original specimen.

Orobanche minor var. *adenostyla* Vis. [FD2: 179]. Syntype:— A: Specimen named *O. livida* by Sendtner in herb. Tommasini.

***Phelypaea ramosa* var. *simplex* Vis.** [FD2: 180], '*phelipaea*'. Syntype:— A: Specimen named *Orobanche nana* by Noë in herb. Reichenbach. Note:— Visiani mentions a specimen. He does not, however, mark it with an exclamation mark, so that it is not sure that he saw that directly (which, at any rate, has no nomenclatural consequence).

***Mentha sylvestris* var. *ovalis* Vis.** [FD2: 184]. Original material:— A: Illustration in Fuchs [444: 289]!; B: PAD-HD04810. Note:— Visiani cites as synonyms *M. sylvestris* Sole non L. (an illegitimate later homonym) and Smith's treatment of *M. sylvestris*, implicitly excluding the type by Linnaeus.

***Mentha sylvestris* var. *polystachya* Vis.** [FD2: 184]. Original material:— A: PAD-HD04813; B: PAD-HD04811.

***Mentha aquatica* var. *calaminthifolia* Vis.** [FD2: 185], '*calaminthaefolia*'. Original material:— A: PAD-HD04794.

***Mentha pulegium* var. *tomentosa* Vis.** [FD2: 185]. Original material:— A: Illustration in Boccone [292: t. 20 f.11a]!; B: Illustration in Morison [440: sect. 11 t. 7 f. 5]!. Note:— Visiani includes *M. tomentella* Hoffmgg. & Link, which has another rank.

***Salvia verbenaca* var. *sinuata* Vis.** [FD2: 189]. Original material:— A: Illustration in Jacquin [460] t. 14]!; B: Illustration in Reichenbach [461: f. 717]!; C: Illustration in Reichenbach [461: f. 718]!; D: Illustration in Barrelier [427: 208]; E: Illustration in Rivinus [462: t. 38 f. 1]. Note:— This variety is numbered α . Visiani cited Smith, Host, Reichenbach and Petter's treatment of this species, implicitly excluding Linnaeus's. He cited also Reichenbach and Jacquin's treatment of *S. oblongata*, implicitly excluding Vahl's. *The material in HD is to be checked.*

***Thymus serpyllum* var. *vulgaris* Vis.** [FD2: 192]. Note:— Visiani cites three varieties (α , β , γ) from Linnaeus [162], which he took as the treatment for his species. It should be noted that no variety α is explicitly mentioned in Linnaeus's work. He excluded varieties δ and ϵ . He also included *T. chamaedrys* Fries [463: 197], which appears not to have names at the rank of variety. Visiani's name is indicated as α . It is very doubtful whether this name can be considered valid.

***Micromeria juliana* var. *angustifolia* Vis.** [FD2: 196]. Original material:— A: Illustration in Morison [440: sect. 11 t. 17 f. 4]!; B: PAD-HD04828; C: PAD-HD04831. Note:— Visiani intended this name as a new status and combination for '*Satureja juliana* var. *angustifolia*' Visiani [St. Dalm.: 46], which is an invalid naked name.

***Micromeria juliana* var. *latifolia* Vis.** [FD2: 196]. Original material:— A: Illustration in Tenore [464: t.151 f. 3]!; B: PAD-HD04833.

***Micromeria graeca* var. *pauciflora* Vis.** [FD2: 196]. Syntype (?):— A: PAD-HD04822. Note:— Visiani cites a name in sched. '*Micromeria pauciflora*', in *HD*.

***Acinos thymoides* var. *perennans* Vis.** [FD2: 200]. Original material:— A: PAD-HD04621; B: PAD-HD04622.

***Stachys palustris* var. *angustifolia* Vis.** [FD2: 207], *nom. illeg.* Syntype:— A: Specimens named *S. palustris* in herb. Alschinger. Note:— Visiani cites as a possible synonym Bentham's earlier homonym (which makes this name illegitimate). He notes, though, '*varietas nostra recedit quidquam ab illa cl. Bentham calycibus spinulosis ut in specie, nec muticis*'.

***Galeopsis tetrahit* var. *parviflora* Vis.** [FD2: 214]. Original material:—A: Illustration in Reichenbach [465: t. 877]; B: Illustration in L'Obel [431: 527 f. media]; C: Illustration in Gerard [466: 709 f. 1]; D: PAD-HD04718. Note:—This variety is numbered α .

***Galeopsis tetrahit* var. *major* Vis.** [FD2: 214]. Original material:—A: Illustration in Sowerby [419: t. 207]; B: Illustration in Rivinus [462: t. 31]; C: PAD-HD04720.

***Ballota nigra* var. *foetida* Vis.** [FD2: 215], '*Ballote*', *nom. illeg.* Original material:— A: Illustration in Nees von Esenbeck [467: n. 18 f. 1–7]; B: Illustration in Reichenbach [468: f. 1042]; C: Fuchs [444]: 154!; D: Illustration in Bulliard [469: t. 397]; E: Illustration in Sowerby [419: t. 46]. Note:— Visiani cites *B. foetida* Lam. [470: 381], which is illegitimate, as *B. nigra* L. is cited as a synonym. Visiani, therefore, could not have made a new status, and created a new variety, which should be typified on material representing Linnaeus's concept of *B. nigra* s.s. This is a later homonym of *Ballota nigra* var. *foetida* Boiss. in Kotschy (1843).

***Marrubium vulgare* var. *albolanatum* Vis.** [FD2: 217], '*albo-lanatum*'. Original material:— A: Illustration in Tenore [464: 154]!; B: PAD-HD04775. Note:— This name was corrected according to Art. 60.9. Visiani includes as a synonym *M. apulum* Ten. [471: 16], which had no names at the rank of variety in 1847. C.Koch moved it at the rank of variety in *Linnaea* 21: 696, 1849 (fide [89]).

***Ajuga chamaepitys* var. *grandiflora* Vis.** [FD2: 222]. Original material:— A: Illustration in Plenck [472: t. 473]; B: PAD-HD04626. Note:— Visiani cites this name as already published, in St, Dalm.: 24 (sphalm. 44). Nevertheless, although it is described in there, it is associated to no epithet.

***Teucrium chamaedrys* var. *scutilobum* Vis.** [FD2: 224] '*scutiloba*'. Original material:— A: PAD-HD05434; *Illustrations are to be checked*.

***Teucrium chamaedrys* var. *microphyllum* Vis.** [FD2: 224]. Syntypes:— Specimens named '*Teucrium nitidum* c. *microphyllum* Gingins' in herb. De Candolle. Note:— Visiani cites a name seen *in sched.*: '*Teucrium nitidum* c. *microphyllum* Gingins mss. in herb. DC! non Schreb.'. In the note to this taxon, he compares this variety with Schreber's name. Gingins's name seems unpublished [?]. [v. PAD-HD05435].

***Solanum dulcamara* var. *pubescens* Vis.** [FD2: 234]. Original material:— A: PAD-HD05579; B: PAD-HD05586. Note:— Visiani cites as a synonym *S. littorale* Raab in *Flora* 2: 414. 1819 (non '*litorale*').

***Cynoglossum officinale* var. *collinum* Vis.** [FD2: 240]. Note:— This variety is indic-

ated as α , so its validity is questionable.

***Cynoglossum officinale* var. *parvifolium* Vis.** [FD2: 240]. Original material:— A: PAD-HD05655!.

***Cerintho minor* var. *maculata* Vis.** [FD2: 243]. Syntype:— A: Specimen(s) from Dalmatia named *C. major* in herb. Host. Original material:— B: Illustration in Reichenbach [473: f. 482]. Note:— Visiani mentions many treatments, but only tentatively Linnaeus's. We believe, therefore, that this name was published as a new variety.

***Galium palustre* var. *hexaphyllum* Vis.** [FD3-1: 7]. Original material:—A: PAD-HD05977. Note:— The name 'G. palustre β Bertoloni [474: 99] is cited as a synonym. Bertoloni did not publish his subspecies in volume IV of his Flora Italica, but he did so in volume II. In any case, he provided no epithet for his variety, which makes it invalid (and did not cite in the treatment any other named variety, except '*Galium palustre album*' by Cupani [475: 83], but he was pre-Linnaean). Therefore, the variety provided by Visiani was validly published.

***Pimpinella saxifraga* L. var. *dissecta* Vis.** [FD3-1: 34]. Original material:— A: PAD-HD06448; B: Illustration in Rivinus [476: t. 81]; C: Illustration in Tragus [477: 466].

***Peucedanum oreoselinum* var. *latifolium* Vis.** [FD3-1: 52]. Original material:— A: PAD-HD06429!.

***Peucedanum oreoselinum* Moench var. *cordifolium* Vis.** [FD3-1: 52]. Original material:— A: PAD-HD06427!.

***Laserpitium siler* var. *latifolium* Vis.** [FD3-1: 56]. Original material:— A: PAD-HD06358; B: Illustration in Tenore [151: t. 24]!; C: Illustration in 'Till h. pis.'

***Daucus carota* var. *major* Vis.** [FD3-1: 57]. Original material:— A: PAD-HD06287; B: Illustration in Allioni [478: t. 61 f. 1]!; C: Illustration in Rivinus [476: t. 28].

***Daucus gingidium* var. *latilobus* Vis.** [FD3-1: 58]. Syntype:— A: specimen in DC. herbarium named *D. gingidium*; Original material:— B: Illustration in Sowerby [419: t. 2560]! 'bona'.

***Daucus gingidium* var. *angustilobus* Vis.** [FD3-1: 58]. Syntype:— Specimen named *D. gingidium* in herb. Host. Original material:— A: PAD-HD06276!. Note:— The invalid name *D. gingidium* δ Bertol. is cited as a synonym.

***Anthriscus fumarioides* var. *latiloba* Vis.** [FD3-1: 64]. Original material:— A: PAD-HD06139; *Illustrations are to be checked.*

***Paeonia corallina* var. *pubescens* Vis.** [FD3-1: 75]. Original material:— A: PAD-HD06571!. Note:—Visiani cites *P. russoi* ('*P. russi*') Bivona [479: 12], a name that was apparently never used at the rank of variety until Gürke (1903). He used that name in the herbarium label, nonetheless.

***Clematis flammula* var. *vulgaris* Vis.** [FD3-1: 76]. Note:— This is var. α , and the name might be invalid. Visiani cites *C. caespitosa* Scopoli [480:389] (non Linnaeus [162], page number incorrect) and *C. maritima* Petter, non L., but he does not explicitly include or exclude the type of *C. flammula*.

***Clematis flammula* var. *heterophylla* Vis.** [FD3-1: 76]. Syntype:— A: Specimens named *C. decumbens* by Noë. Original material:— B: PAD-HD06618!; C: PAD-HD06619, D: PAD-HD06620. Note:— Visiani cites Noë's specimens, two of which apparently are in HD.

***Thalictrum aquilegifolium* var. *indivisum* Vis.** [FD3-1: 77]. Original material:— A: PAD-HD06785!.

***Adonis aestivalis* var. *autumnalis* Vis.** [FD3-1: 81]. Original material:— A: Illustrations in Cosson & Germain [481: t. 3 f. 1–2]; B: Illustrations in Reichenbach [143: f. 4621]. Note:— Visiani cites as a synonym *A. autumnalis* Reichenbach [153:726]. Reichenbach cites Linnaeus [162:771]. That name is an illegitimate synonym of *A. annua*, so that Visiani could not use it as a basionym. Since the name is accompanied by a description, it was validly published as a new variety.

***Ranunculus montanus* var. *tenuifolius* Vis.** [FD3-1: 85], *nom. illeg.* Original material:— A: PAD-HD06733!; PAD-HD06732!. Note:— This is a later homonym of De Candolle [59:36].

***Delphinium consolida* var. *racemosum* Vis.** [FD3-1: 89], '*racemosa*'. Original material:— A: Illustration in Sibthorp & Smith [482: t. 504]; B: Illustration in Sowerby [419: t. 1839]; C: Illustration in Müller [428: t. 683]! 'optime'; D: Illustration in Reichenbach [483: f. 4669] 'optime'; E: Illustration in Clusius [434:5 t. 206 f. 1]; F: Illustration in Rivinus [476: t. 134 f. 1]; G: Illustration in L'Obel [431:739 f. 1]. Note:— Only pictures labelled with 'opt.' (i.e. 'optime') by Visiani have been considered.

***Fumaria officinalis* var. *tenuifolia* Vis.** [FD3-1: 98]. Original material:— A: Illustration in Reichenbach [143: f. 4453] 'optime'; B: PAD-HD06909. Note:— Syn. *F. media* Loisl.

***Bunias erucago* var. *vulgaris* Vis.** [FD3-1: 105]. Original material:— A: Illustration in Reichenbach [484: f. 4159]; B: Illustration in Jacquin [442:2: 223]; C: Illustration in Gaertner [455: t. 142 f. 5]; D: Illustration in Dalckh Hist. Lugd. 647 f. 1 [?]; E: Illustration in Bauhin [414:41]; *The material in HD is to be checked.* Note:— This is var. α , and is maybe to be considered invalid. Visiani cites *B. aspera* Retzius [485:21]. The only difference between the two varieties is the size of the silique, which was not stated by Linnaeus.

***Clypeola jonthlaspi* var. *lejocarpa* Vis.** [FD3-1: 107]. Note:— 'var. prope Traù'. Both Tropicos and WCSP list a '*C. jonthlaspi* var. *leiocarpa* Guss. Fl. Sicul. Prodr. 2: 197 1828.' [486]. In Gussone's work, this variety is not found. Instead, he described in that page a var. *lasiocarpa*, so that Visiani's name is fully legitimate. The two do not even represent

the same plant, as Gussone's has *fruct[us] [...] in margine integro, pilis rigidis hirsuto-canescents*, while Visiani's was *fructibus glaberrimis*.

***Capsella bursa-pastoris* var. *integrifolia* Vis.** [FD3-1: 109], *nom. illeg.* Original material:— A: PAD-HD07153; B: PAD-HD07155. Note:—This is a homonym of *C. bursa-pastoris* var. *integrifolia* DC. [487: 384].

***Capsella bursa-pastoris* var. *stylosa* Vis.** [FD3-1: 109]. Syntype:— Specimen named *Thlaspi noënaum* by Reichenbach in herb. Noë. Original material:— A: PAD-HD07154; B: PAD-HD07152 Note:— The given synonym *Thlaspi noëanum* Rchb. does not seem to have been validly published.

***Hutchinsia procumbens* var. *integrifolia* Vis.** [FD3-1: 110]. Original material:— A: PAD-HD07339.

***Iberis umbellata* var. *tenuifolia* Vis.** [FD3-1: 112]. Syntype:— Plant named *I. linifolia* in herb. Portenschlag. Original material:— A: PAD-HD07369!; B: PAD-HD07367! sub var. *linifolia* Note:— Visiani cites as a synonym *I. linifolia* Portenschlag in his herbarium. He explicitly expresses doubts that this might in fact be *I. linifolia* L., but only knowing it from an illustration in Reichenbach (n. 4,193), which he found slightly different, did not definitively join the two.

***Biscutella didyma* var. *lejocarpa* Vis.** [FD3-1: 113]. Original material:— A: PAD-HD07093. Note:— Leg. Nisiteo in Cittavecchia

***Alyssum argenteum* var. *pumilum* Vis.** [FD3-1: 116]. Original material:— A: PAD-HD06962 also sub nom. var. *contractum*.

***Alyssum campestre* var. *micropetalum* (Fisch. ex DC.) Vis.** [FD3-1: 117], *stat. nov.* Basionym:— *A. micropetalum* Fischer ex DC. [487: 313]. Note:— DC. does not really attribute the name to Fischer, but just lists his name yet unpublished as a synonym, so it is doubtful if the basionym is just De Candolle's, as in [88].

***Alyssum emarginatum* Zahlbr. ex Vis.** [FD3-1: 117]. Syntype:— A: Specimen named *A. emarginatum* in herb. Zahlbruckner, from Styria. Note:— *Alyssum emarginatum* (Boiss.) Rouy [488: t. 59]. is a later homonym. [v. PAD-HD06974, PAD-HD06975, PAD-HD06976]

***Matthiola glandulosa* var. *glabrata* Vis.** [FD3-1: 124]. Original material:— A: PAD-HD07411. Note:— Visiani doubtfully considers *M. sinuata* var. *glabrata* Gussone [489: 176] a synonym. Given his doubt he cannot be said to have based his name on Gussone's.

***Arabis hirsuta* var. *angustifolia* Vis.** [FD3-1: 127]. Original material:— A: PAD-HD07032.

Brassica oleracea* var. *asparagoides [FD3-1: 135], *nom. illeg.* Original material:— A: Illustration in Dalechamp [439: 522 f. 2]; B: Illustration in Chabrey [490: 269 f. 3]. Note:—

This name is a later homonym of DC. (1821).

Brassica oleracea* var. *frutescens [FD3-1: 135], *nom. illeg.* Note:— This name is a later homonym of Spach [491: 359].

Acinos thymoides* var. *perennans Vis. [FD2: 200]. Original material:— A: PAD-HD04621; B: PAD-HD04622.

Cucumis melo* var. *reticulatus Vis. [FD3-1: 140], *nom. illeg.* Original material:— A: Illustration in Blackwell [430: t. 329]; B: Illustration in ‘Sabbat. Hort. tom. 1 t. 65’ (?); C: Illustration in Mattioli [435: 545]. Note:— This taxon was named var. α . Moreover, the name is an illegitimate later homonym of Seringe in DC. [492: 300]!

***Cucumis melo* var. *cantalupo* (Haberle) Vis.** [FD3-1: 140], *stat. nov. illeg.* Basionym:— *C. cantalupo* Haberle ex Reichenbach [153: 295]. Note:—The basionym was newly published by Haberle, not as a new status, in Reichenbach. Visiani’s new status is illegitimate, as it is a later homonym of Seringe in DC [492: 300]!

Cucumis melo* var. *scandens Vis. [FD3-1: 140].

Cucumis melo* var. *hybernus Vis. [FD3-1: 140]. Note:— There might exist two homonyms by Pollich and ‘J. Müller’, which we were unable to verify. A var. *hibernus* was described by Filov in *Vestn. Sel’skoho. Nauki* 1: 130, 1960 (fide [89]).

Cucurbita pepo* var. *oblonga Vis. [FD3-1: 141], *stat. nov.* Original material:— A: Illustration in Bauhin [493: t. 218 f. 2] (= Illustration in Dodonaus [438: t. 666 f. 2]); B: Illustration in L’Obel [431: 641 f. 1]. Note:— Link published *C. oblonga* [494: 643]. The name at the varietal rank seems to exist, but we were unable to find the authorship, and so to verify priority.

Helianthemum vulgare* var. *glabratum Vis. [FD3-1: 145]. Original material:—A: PAD-HD07607!; B: PAD-HD07613!. Note:— Visiani apparently intended this variety as based on Clementi’s *H. nitidum* [116]: 517].

Helianthemum montanum* var. *reichenbachii Vis. [FD3-1: 146]. Original material:—A: PAD-HD07577! sub nom. *H. rhodax* var. *reichenbachii*, B: PAD-HD07575! sub nom. *H. italicum* var. *reichenbachii*; C: Illustration in Reichenbach [143: f. 4,532]!

Helianthemum montanum* var. *acutifolium Vis. [FD3-1: 146]. Original material:—A: PAD-HD07580! sub nom. *H. rhodax* var. *acutifolium*; B: PAD-HD07582 sub nom. *H. italicum* var. *acutifolium*; C: Illustration in Barrelier [427: t. 365]; D: Illustration in Clusius [434: 74 f. 1].

Viola tricolor* var. *hortensis Vis. [FD3-1: 151]. Original material:— A: Illustrations in Reichenbach [143: 21 f. e, f, g]; B: Illustration in Sowerby [419: t. 1287]; C: Illustration in Müller [428] t. 623]; E: Illustration in Camerarius [451: 913]. Note:— This is var. α

Viola tricolor* var. *angustifolia Vis. [FD3-1: 151]. Original material:— A: PAD-HD07678; B: Illustration in Barrelier [427: t. 757 f. 2–3].

***Dianthus ciliatus* var. *cymosus* Vis.** [FD3-1: 162]. Syntype:— A: Specimen named *D. litoralis* in herb. Host. Original material:— B: Illustration in Visiani [FD3: t. 35]. Note:— Note that the image that Visiani gave in his flora, which is named *D. racemosus*, belongs to this variety!

***Dianthus ciliatus* var. *brocchianus* Vis.** [FD3-1: 162]. Syntype:— A: Plant named *D. serrulatus* in herb. Brocchi.

***Dianthus integer* var. *grandiflorus* Vis.** [FD1: t. 36]. Original material:— A: Illustration in Visiani [FD1: 36]. Note:— The name *Dianthus integer* var. *bebius* [?] appears in the manuscript list of plants sent to Reichenbach. It is really not certain that the illustration qualifies as an ‘illustration with analysis’, as defined by the *Code*.

***Dianthus sanguineus* Vis.** [FD1: t. 36]. Original material:— A: Illustration in FD. *The material in HD is to be checked.*

***Dianthus ciliatus* var. *cymosus* Vis.** [FD3-1: 162]. Syntype:— A: Specimen named *D. litoralis* in herb. Host. Original material:— Illustration in Visiani [FD3: t. 35]!. Note:— Note that the image that Vis. gave in his flora, which is named *D. racemosus*, belongs to this variety!

***Dianthus ciliatus* var. *brocchianus* Vis.** [FD3-1: 162]. Syntype:— A: Plant named *D. serrulatus* in herb. Brocchi.

***Dianthus integer* var. *grandiflorus* Vis.** [FD1: t. 36]. Original material:— A: Illustration in Visiani [FD1: t. 36].

***Dianthus caryophyllus* var. *pubescens* Vis.** [FD3-1: 164]. Original material:— A: PAD-HD05061.

***Silene nocturna* var. *brachypetala* Vis.** [FD3-1: 165]. Syntypes:— A: Specimen named *S. apetala* in herb. Host; B: Specimen named *S. apetala* in herb. Portenschlag. Note:— Visiani cites as a synonym *S. nocturna* var. *apetala* Badarrò ex Reichenbach [495:813]!, but that name was not validly published, as Reichenbach described it as ‘num a paraec. diversa?’. Visiani also cites *S. brachypetala* Robillard d’Argentelle & Castagne ex De Candolle & Lamarck [496:607], but marked it with a question mark. He therefore published this name as a new variety.

***Dianthus caryophyllus* var. *pubescens* Vis.** [FD3-1: 164]. Original material:— A: PAD-HD05061.

***Alsine tenuifolia* var. *densiflora* Vis.** [FD3-1: 177]. Original material:— A: PAD-HD07806; B: Illustration in Reichenbach [497:27]! ‘optime’. Note:— Visiani cited as synonyms Maly’s and Reichenbach’s treatment of *Alsine mucronata* and *Sabulina mucronata* respectively. He explicitly excluded Linneus’s *A. mucronata*, therefore his name was published as a new variety.

***Alsine tenuifolia* var. *divaricata* Vis.** [FD3-1: 177]. Original material:— A: PAD-

HD07810!.

***Alsine graminifolia* var. *glaberrima* Vis.** [FD3-1: 178]. Original material:— A: PAD-HD07775! (sub *Arenaria*).

***Cerastium viscosum* var. *campanulatum* Vis.** [FD3-2: 183]. Original material:— A: Illustration in Reichenbach [498: f. 4,979]; B: Illustration in Sebastiani & Mauri [499: t. 3 f. 1.]; C: Illustration in Tenore [500: t. 140 f. 2] (excl. nom.); D: Illustrations in Cosson & Germain de Saint-Pierre [481: t. 5 f1–6]. Note:— Visiani cited *C. campanulatum* Viviani in [501: 171]!, which is an illegitimate superfluous name for Viviani's *C. ligusticum*. Being illegitimate, it cannot be a basionym. Visiani's description is therefore that of a new taxon.

***Cerastium arvense* var. *vulgare* Vis.** [FD3-2: 184]. Original material:— A: Illustration in Reichenbach [498: f. 4,980]; B: Illustration in Waldstein & Kitaibel [332: 250]; C: Illustration in Scopoli [480: t. 10]; D: Illustration in Vaillant & al. [425: t. 30 f. 4–5]. Note:— Var. α

***Cerastium arvense* var. *lanigerum* Vis.** [FD3-2: 184]. Original material:— A: PAD-HD07860. Note:— Visiani intended this name to be based on *C. lanigerum* Clementi [116: 520], an illegitimate later homonym of Desvaux [502: 228], which cannot be a basionym. Having provided a description, he published this name as that of a new taxon.

***Callitriche aquatica* var. *obovata* Vis.** [FD3-2: 196]. Original material:— A: Illustration in Reichenbach [465: t. 882]!. Note:— This is var. α

***Callitriche aquatica* var. *heterophylla* Vis.** [FD3-2: 196]. Original material:— A: Illustration in Reichenbach [465: t. 881, 883]; B: Illustration in Nees von Esenbeck [503: n. 14]; C: PAD-HD07982; D: PAD-HD07985, sub *C. platycarpa* Kütz. Note:— Visiani cited as synonyms numerous names which might have already existed at the rank of variety.

***Callitriche aquatica* var. *angustifolia* Vis.** [FD3-2: 196]. Original material:— A: Illustrations in Reichenbach [465: 891, 892, 894]!. Note:— Visiani cited as synonym *C. autumnalis* L. [162: 6] and *C. brutia* Petagna [504: 10] numerous names which might have already existed at the rank of variety.

***Lythrum salicaria* var. *canescens* Vis.** [FD3-2: 197]. Original material:— A: PAD-HD08001!. Note:— Visiani cited Maly's *L. tomentosum*, but only 'quoad pl. dalm.'

***Lythrum thymifolia* var. *hyssopifolia* Vis.** [FD3-2: 197]. Original material:— A: Illustration in Jacquin [442: t. 133]; B: Illustration in Sowerby [419: t. 292]; C: Illustration in Hall. in Ruppius [505: 147 t. 6 f. 3]; D: Illustration in Bauhin [414: 108]. Note:— Visiani cited *L. hyssopifolia* L. [38: 447] (via Linnaeus [162: 642]), but explicitly excluded its type by writing 'non herb!'. As far as we know, he only visited Linnaeus's herbarium in 1862, so we do not know how he could be so confident, nor why he indicated that he had seen his specimens, but the indication of exclusion of the material seems unequivocal.

***Epilobium angustifolium* var. *latifolium* Vis** [FD3-2: 198]. Original material:— A:

PAD-HD08015. Note:— Visiani cited as a synonym the naked *E. angustifolium* ‘var. β ’ [162:494]. By doing so, he implicitly excluded *E. latifolium* L. (published in [38:347] and also listed in [162] at the same page). His name cannot be considered to have been published at a new rank.

***Tilia platyphyllos* var. *costata* Vis.** [FD3-2: 202]. Original material:— A: Illustrations in Reichenbach [498:317, 319]!; B: Illustration in Sowerby [419] t. 2,720!; D: Illustration in Lamarck [506: t. 467]; E: Illustration in Bulliard [507: t. 176]. Note:— Visiani cited *T. europaea* L. [38:733] var. β , δ , ϵ ! which probably were not validly published. This is var. α , but the type by Linnaeus seems explicitly excluded.

***Malva nicaeensis* var. *obtusata* Vis.** [FD3-2: 204]. Original material:— A: PAD-HD08115; B: PAD-HD08116; C: Illustration in Reichenbach [497: f. 4838]!. Note:— Visiani cites as synonyms *M. rotundifolia* sensu Visiani [St. Dalm.] and *M. nicaeensis* sensu Reichenbach [495:772], thus excluding both types of *M. rotundifolia* L. and *M. nicaeensis* All.

***Malva moschata* var. *heterophylla* Vis.** [FD3-2: 207], *nom. illeg.* Original material:— A: Illustration in Reichenbach [497: f. 4,841]!; B: Illustration in Cavanilles *Monad. diss. 2 t. 18 f. 1* (fide [89]); C: Illustration in Colonna [456:147]!. Note:— This is later homonym of Lej. & Courtois *Comp. Fl. Belg. 3: 14, 1836* (fide [89]). This is var. α , and illustration C was cited also by Linnaeus when he described *M. moschata* [162:690]!

***Geranium molle* var. *grandiflorum* Vis.** [FD3-2: 212], ‘*grandiflora*’. Original material:— A: Illustration in Reichenbach [497: f. 4,880]!; B: PAD-HD08176.

***Erodium cicutarium* var. *petiolulatum* Vis.** [FD3-2: 214], ‘*petiolulata*’. Original material:— A: PAD-HD08146; B: PAD-HD08147.

***Euphorbia exigua* var. *acuta* Vis.** [FD3-2: 229]. Original material:— A: Illustration in Reichenbach [497: f. 4777]!; B: Illustration in Oeder [379: t. 592]; C: Illustration in Dalechamp *Hist. pl. 1656 f. 2* (fide [89]). Note:— This taxon is numbered var. α .

***Euphorbia exigua* var. *heterophylla* Vis.** [FD3-2: 229]. Original material:— A: Illustration in Magnol *Bot. monsp. 258* (fide [89]); B: PAD-HD08328!; C: PAD-HD08330!. Note:— Visiani mentions a naked variety γ from Linnaeus [162:654]!

***Rosa sempervirens* var. *glabriflora* Vis.** [FD3-2: 242]. Original material:— A: PAD-HD04445.

***Rubus fruticosus* var. *semiglaber* Vis.** [FD3-2: 248]. Note:— Visiani cites var. β Bertoloni [508:221], a naked name.

***Rubus caesius* var. *discolor* Vis.** [FD3-2: 249]. Original material:— A: Illustration in Tenore [471: t. 235 f2]!; B: PAD-HD08685.

***Potentilla hirta* var. *angustifolia* Vis.** [FD3-2: 250]. Syntype:— A: Specimen named *P. laeta* in herb. Reichenbach. Original material:— B: Illustration in Lehmann *Mon. pot.: 90*

(fide [89]). Note:— There exists an earlier homonym by (DC.) Ser.

***Amygdalus communis* var. *sativa* Vis.** [FD3-2: 257]. Original material:— A: Illustration in Lamarck [509: t. 430 f2]; B: Illustration in Gaertner [455: 2 t. 93]; C: Illustration in Duham. *Trait. des arbr. 1 t. 17* (fide [89]); D: Illustration in [430: t. 105]; E: Illustration in Mattioli [435: 393]. Note:— This is var. α , but Visiani cites *A. communis* var. β from Linnaeus [162: 677], excluding the type variety. That variety was named *Amygdalus vulgaris*, so it might have been validly published already.

***Cytisus germanica* var. *bracteosa* Vis.** [FD3-2: 268], ‘*germanicus*’. Original material:— A: PAD-HD08856. Note:— Visiani mentioned as a synonym *G. sylvestris* Aschinger [244], non L.

***Cytisus sylvestris* var. *pungens* Vis.** [FD3-2: 269]. Syntype:— A: Specimen named *Genista hispanica* in Host’s herbarium. Original material:— B: Illustration in Reichenbach *P. crit. cent. 4 t. 383 f. 562* (sphalm. t. 662)!. Note:— Visiani cited as a synonym *Genista dalmatica* Bartling [510: 74].

***Cytisus diffusa* Vis.** [FD3-2: 269], ‘*diffusus*’, *comb. nov. illeg. superfl. hom.* Note:— Visiani intended this name to be based on *Genista diffusa* Willd. Sp. pl. ed. 4 3(2): 942 (1802), a superfluous and illegitimate synonym of *Spartium decumbens* (‘Host Synopsis 388, Jacq. ic. rar. 3 t555’). Therefore, Visiani should have chosen the epithet *decumbens*, as he cited Jacquin’s name, who in his *Ic. rar. 3: 12* cited the basionym by Durande in *Fl. Bourgogne 1: 299, 1782* (fide [89]). Moreover, this name is an illegitimate later homonym of Jacquem. ex Jaub. & Spach *Ann. Sci. Nat., Bot. sér. 2, 19: 48, 1843* (fide [89]).

***Melilotus neapolitanus* var. *rostratus* Vis.** [FD3-2: 288], ‘*neapolitana, rostrata*’. Original material:— A: PAD-HD09293; B: PAD-HD09292.

***Trifolium arvense* var. *glabrum* Vis.** [FD3-2: 292]. Original material:— A: PAD-HD09459.

***Lotus crantzii* var. *argentea* Vis.** [FD3-2: 304]. Original material:— A: PAD-HD09115.

***Vicia sativa* var. *obovata* Vis.** [FD3-2: 319], *nom. illeg.* Original material:— A: Illustration in Rivinus [511: 52]; B: PAD-HD09805. Note:— This specimen is numbered var. α , and is a later homonym of Seringe ex DC. [512: 361].

***Vicia sativa* var. *minor* Vis.** [FD3-2: 319]. Original material:— A: PAD-HD09806!. Note:— There is no mention of any other name, incl. by Bertoloni.

***Vicia cordata* var. *canescens* Vis.** [FD3-2: 319]. Original material:— A: PAD-HD09693.

***Vicia lathyroides* var. *lejosperma* Vis.** [FD3-2: 320]. Original material:— A: Illustration in Jacquin *Misc. austr. 2* (fide [89]); B: Illustration in Roemer *Fl. Eur. fasc. 3 f. 6* (fide [89]); C: Illustration in Rivinus [511: t. 53 f. min].

***Vicia tenuifolia* var. *luxurians* Vis.** [FD3-2: 323]. Original material:— A: PAD-HD09826!.

Lathyrus sylvestris var. *dodonaei* Vis. [FD3-2: 329]. Original material:— A: PAD-HD09065; B: Illustration in Sowerby [419: t. 805]; C: Illustration in Oeder [379: t. 325 f. int.]; D: Illustration in Oeder [379: f. 785]; E: Illustrations in Rivinus [511: t. 38, 39]. Note:— This specimen was numbered var. α .

Bromus intermedius var. *polystachyus* Vis. [FD3-2: 341], '*polystachya*'. Original material:— A: Illustration in Bonann. in Cupani [513: t. 3]; B: Illustration in Barrelier [427: t. 24 f. 2].

Orchis mascula var. *speciosa* Vis. [FD3-2: 353], *nom. illeg.* Original material:— A: Illustration in Jacquin Ic. rar. 1: 17. Note:— This name was intended as a new status for the illegitimate *O. speciosa* Host [140: 527], non Heuff. ex Rochel [514: 67], nec Linnaeus f. [515: 401]! [88] has no mention of Linnaeus's name, Rochel's name is accepted instead. This is a later homonym of Mutel [516: 239].

6.3.3 Invalid Names and Other Nomenclatural Novelties

Chara hispida L. var. *dalmatica* Vis. [FD1: 32], *nom. inval.* Note:—Visiani stated in the protologue that he was not sure whether this should be regarded as a distinct species or a variety, since he lacked fruiting specimens, and marked the name with a question mark before the subspecific epithet (' $\beta?$ dalmatica'). The name was merely proposed as a provisional name, to be applied until the appropriate rank could be chosen. Therefore, according to article 36.1 of the ICN, it was not validly published in Visiani [FD1: 32].

Panicum crus-galli var. '*spiculis submuticis*' Vis. [FD1: 60], *nom. inval.*

Panicum crus-galli var. '*spiculis longe aristatis*' Vis. [FD1: 60], *nom. inval.*

Aira caryophyllea L. var. *capillaris* (Host) Vis. [FD1: 68], *stat. nov.* Basionym: *A. capillaris* Host [410: 20, t. 35], *nom. illeg.* Note:—This is the correct name for *A. capillaris* when treated as a variety of *A. caryophyllea*. This taxon is now generally regarded as a synonym of *A. elegantissima* Schur *Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt* 4: 85, 1853 (fide [89]).

Poa rigida var. *patens* Vis. [FD1: 82], *des. inval.* Intended basionym:—*Sclerochloa patens* C.Presl. [517]. Note:— Visiani cites the name *P. rigida* var. *patens* Guss., which makes his own a later isonym.

Triticum ramosum (L.) Vis. [FD1: 95], *comb. illeg.* Note:— Visiani cited as a synonym *Bromus ramosus* 'Host' and *B. ramosus* Sibth. In these books and all the books cited therein, the final basionym is always by Linnaeus [518: 34]. Visiani himself doubted whether Linnaeus's plant was his *T. ramosum* ('num huc quoque pertineat *Bromus ramosus* L. mant. 34 extricatu difficile'), but that's his Intended basionym anyway. Linnaeus's name is an illegitimate later homonym of *B. ramosus* Hudson [519], therefore it cannot be used as a basionym and Visiani's combination in *Triticum* is illegitimate.

Cyperus fuscus var. *virescens* Vis. [FD1: 105], *comb. illeg.* Basionym:—*C. virescens* Hoffmann [520] : 21]. Note:— The name is a later homonym of *C. fuscus* var. *virescens* (Hoffm.) Dumortier [521:145].

Scirpus maritimus var. *macrostachys* Vis. [FD1: 109], *stat. nov.* Basionym:— *Scirpus macrostachys* Willdenow [522:78].

Holoschoenus vulgaris var. *romanus* (L.) Vis. [FD1: 111], *stat. nov.* Basionym:— *Scirpus romanus* Linnaeus [38] 73].

Agave americana var. *marginata* Vis. [FD1: 124], *nom. illeg.* Note:— This name is a later homonym of *A. americana* var. *marginata* Trel. (1914).

Agave europaea Vis. [FD1: 125], *nom. inval.* Note:— In Visiani's time there was ongoing investigation about whether the *Agave* plants found in Europe were of the same or of a distinct species from the American *A. americana* L. At page 124-125 Visiani lists the differences some other scholars had described between the two and proposes that, if an author who directly knows both were to confirm that the two species were distinct, the Mediterranean be named *A. europaea*. As this name is 'merely proposed in anticipation of the future acceptance of the taxon concerned' (Art. 36.1), so it is not validly published.

Narcissus tazetta var. '*coronae margine denticulato aut lobato*' Vis. [FD1: 124], '*tazzetta*', *nom. inval.*

Narcissus niveus var. '*flore pleno*' Vis. [FD1: 128], *nom. inval.*

Fritillaria montana var. '*foliis longe linearibus, caule bifloro*' Vis. [FD1: 131], *nom. inval.*

Allium nigrum var. *atropurpureum* (Waldst. & Kit.) Vis. [FD1: 136]. Basionym:— *A. atropurpureum* Waldst. & Kit. [523:16]. Note:— This is the correct name for *A. atropurpureum* when treated as a variety of *A. nigrum*. The Basionym is now the generally accepted name.

Allium montanum var. '*umbella capsulifera*' Vis. [FD1: 137), *nom. inval.*

Allium montanum var. '*umbella bulbifera*' Vis. [FD1: 137), *nom. inval.*

Allium intermedium var. '*umbella capsulifera*' Vis. [FD1: 137), *nom. inval.*

Allium intermedium var. '*umbella bulbifera*' Vis. [FD1: 137), *nom. inval.*

Allium tenuiflorum var. '*umbella bulbifera*' Vis. [FD1: 138], *nom. inval.*

Allium vineale var. *compactum* Vis. [FD1: 142], *nom. illeg.* Note:— This name is a later homonym of *A. vineale* var. *compactum* (Thuill.) Lej. & Courtois (1831). Both refer to a variety in which flowers are completely replaced by bulbils, but as Visiani does not cite Thuillier, they are not isonyms.

Orchis laxiflora var. '*labii lobo medio truncato subnullo*' Vis. [FD1: 167], *nom. inval.*

Orchis laxiflora var. '*labii lobo medio productiore bifido*' Vis. [FD1: 168], *nom. inval.*

Orchis coriophora var. *fragrans* (Pollini) Vis. [FD1: 152], *stat. nov. illeg.?* Basionym:— *Orchis fragrans* Pollini. Note:— It is difficult to clearly establish priority between this name and the isonym *O. coriophora* var. *fragrans* (Pollini) Boiss. [524:593].

Orchis pyramidalis L. var. *condensata* (Desf.) Vis. [FD1: 152], *stat. nov.* Basionym:— *Orchis condensata* Desfontaines [525:316].

Zannichellia major var. *pedunculata* (Rchb.) Vis. [FD1: 188], *stat. nov.* Basionym:— *Zannichellia pedunculata* Rchb.

Butomus umbellatus L. var. '*foliis linearibus elongatis, canaliculato-triquetris acutis*' Vis. [FD1: 196], *nom. inval.*

Juniperus oxycedrus L. var. '*strobilis folio aequalibus longioribusve*' Vis. [FD1: 202], *nom. inval.*

Juniperus oxycedrus L. var. '*strobilis folio brevioribus*' Vis. [FD1: 202], *nom. inval.*

Quercus ilex var. *nuda* Vis. [FD1: 208], *nom. inval.* Note:— Visiani listed this variety and the following on the same line and proceeded to list synonymies and illustrations under both at the same time. It cannot be doubted, though, that he must have intended this variety (numbered α), and not the other, as referring to *Q. ilex* L s.s. We therefore consider this name invalid (Art. 26).

Quercus ilex var. *suberosa* Vis. [FD1: 208], *stat. nov.* Note:—Visiani listed this variety and the previous on the same line and proceeded to list synonymies and illustrations under both at the same time. It cannot be doubted, though, that he must have intended this variety, and not the other, as a new status for *Q. suber* L..

Salix alba var. *vitellina* (L.) Vis. [FD1: 212], *des. inval.* Note:— Visiani cites both his own *St. Dalm.* and Reichenbach's *Flora Germanica Excursoria* [153] as ascriptions of the name. In *St. Dalm.* the name is given without any indication of a basionym, direct or indirect, and is therefore naked. In Reichenbach's work, the variety is called with an invalid name phrase ('ramulis vitellinis'). Visiani's name is therefore validly published in [FD1: 212]. It is nevertheless an illegitimate later isonym of *S. alba* var. *vitellina* (L.) Stokes *Bot. Mat. Med.* 4: 506, 1812 (fide [89]).

Urtica glabrata Clementi ex Vis. [FD1: 217], *nom. illeg.* Note:—Visiani stated that this name was not published ('Clementi iter dalmat. ined.'). It was in fact published the previous year [116:518] as *U. glabrata* Clementi.

Ulmus campestris var. *suberosa* (Ehrh.) Vis. [FD1: 221], *stat. nov. illeg.* Basionym:— Visiani cites Ehrhart, but that name does not exist. It's by Moench. Note:— Illegitimate

later homonym (isonym?) for *U. campestris* var. *suberosa* (Moench.) Wahlenb. (1814)

***Polygonum amphibium* var. *terrestre* Vis.** [FD1: 227], *nom. illeg.* Note:— Visiani certainly knew that this name was already published (by Leers [526]), since it is found in the same publication that he cites for the typical variety (var. *natans*, *nom. inval.*). Despite this, he failed to make a reference to it in his work, thereby creating this later homonym.

***Polygonum bellardii* var. ‘*foliis floralibus flores superantibus*’ Vis.** [FD1: 229], ‘*bellardi*’ *nom. inval.*

***Polygonum bellardii* var. ‘*foliis floralibus flores minoribus angustissimis*’ Vis.** [FD1: 229], ‘*bellardi*’, *nom. inval.*

***Rumex acetosella* var. *angustifolius* Vis.** [FD1: 231], *nom. illeg.* Note:— The name is a later homonym of *R. acetosella* var. *angustifolius* W.D.J.Koch [527:613], a publication known to Visiani, but not cited.

***Rumex acetosella* var. *multifidus* (L.) Vis.** [FD1: 231], *des. inval.* Intended basionym:— *Rumex multifidus* L. Note:— Illegitimate later isonym of De Candolle [528:378].

***Rumex pulcher* var. *divaricatus* (L.) Vis.** [FD1: 232], *stat. nov.* Basionym:— *Rumex divaricatus* L. [162:478].

***Atriplex patula* var. *integrifolia* Vis.** [FD1: 231], *nom. inval.* Note:— As noted in Iamónico & Clementi [375], this name is invalid.

***Atriplex patula hastifolia* Vis.** [FD1: 237], ‘*hastaeifolia*’, *nom. inval.* Lectotype (designated in [375]): Illustration in Scopoli [380: t. 7]!

***Atriplex patula* var. *triangularis* (Willd.) Vis.** [FD1: 237], *stat. nov.* Basionym:— *Atriplex triangularis* Willd. Note:— *Atriplex patula* var. *triangularis* (Willd.) Thorne & S.L.Welsh in an illegitimate later homonym (1984).

***Atriplex laciniata* var. *diffusa* (Ten.) Vis.** [FD1: 238], *stat. nov.* Basionym:— *Atriplex diffusa* Ten.

***Suaeda maritima* var. *salsa* (L.) Vis.** [FD1: 243], *stat. nov.* Basionym:— *Chenopodium salsum* L. [38:221].

***Plantago maritima* var. *subulata* Vis.** [FD2: 4], *stat. nov.* Basionym:— *P. subulata* L. [162:166].

***Dipsacus laciniatus* var. *divaricatus* (C. Presl.) Vis.** [FD2: 11], *stat. nov.* Basionym:— *Dipsacus divaricatus* C. Presl *Delic. prag.* 117 (fide [89]).

***Asterocephalus columbaria* var. *columnae* (Ten.) Vis.** [FD2: 13], *stat. nov.* Basionym:— *Scabiosa columnae* Tenore [151:29].

***Asterocephalus columbaria* var. *gramontius* (Spreng.) Vis.** [FD2: 13], ‘*gramuntia*’,

stat. nov. Basionym:— *Scabiosa gramontia* L. Note:— Visiani cites Sprengel [128:383], which cites L. [162:143], which reads ‘*gramontia*’.

***Asterocephalus suaveolens* var. *silenifolius* (Waldst. & Kit.) Vis.** [FD2: 13], ‘*silenifolia*’, *stat. nov.* Basionym:— *Scabiosa silenifolia* Waldst. & Kit. [405:170].

***Pterocephalus palaestinus* var. *indivisus* Vis.** [FD2: 15], *nom. inval.* Note:— Visiani cites the basionym of the species as a whole: *Knautia palaestina* L. [529:197]. This name is therefore invalid, as it does not repeat the final epithet of the species unaltered.

***Pterocephalus palaestinus* var. *lyratus* Vis.** [FD2: 16], ‘*lyrata*’, *nom. illeg.* Note:—Visiani cites De Candolle [530:653], which has *P. palaestinus* var. *dalmaticus*, maybe based on *Scabiosa multiseta* Vis. [St. Dalm.: 13].

***Scabiosa arvensis* var. *collina* (Req.) Vis.** [FD2: 16], *stat. nov. illeg.* Basionym:— *Scabiosa collina* Requin in Guérin [531:248]. Note:— Don [532] has *Knautia arvensis* var. *collina* Duby Bot. Gall. 1 p. 257 [?]. Even if the reference is wrong, Don’s name would take precedence.

***Amphoricarpos neumayeri* Vis.** [FD1: 23], *nom. illeg.* Note:— See Caković & al. [533].

***Carlina acaulis* var. *simplex* (Waldst. & Kit.) Vis.** [FD2: 30], *stat. nov.* Basionym:— *Carlina simplex* Waldst. & Kit.

***Scorzonera latifolia* Vis.** [FD1: t. 5 f. 1], *nom. illeg.* Note:— This is a later homonym of *S. latifolia* (Fisch. & C.A.Mey.) DC [534:42]. It is not at all certain that the image qualifies as ‘with analysis’!

***Anthyllis aurea* Vis.** [FD2: t. 42], *nom. illeg.* Note:— This is a later homonym of *A. aurea* Welden ex Host [140:319]. Visiani might have not intended to establish a new taxon, but just to newly illustrate Welden’s plant. Nonetheless, this is formally to be considered the name of a new species.

***Centaurea alba* var. *genuina* Vis.** [FD2: 31], *nom. inval.* Note:— Having indicated this name as var. α , and used the epithet ‘*genuina*’ (see Art. 24.3) Visiani clearly referred to the type variety, which must be names var. *alba*.

***Centaurea alba* var. *splendens* (L.) Vis.** [FD2: 31], *stat. nov.* Basionym:— *Centaurea splendens* L. Note:— The Basionym for this variety is indirectly indicated by a citation of Host [140:515], who in turn cited Sprengel [535:397]. Sprengel does not indicate a specific author for this name, which means he attributed it to Linnaeus (as he did throughout the book). Visiani cited *Centaurea deusta* var. β Ten., which was not validly published, since no epithet was provided.

***Centaurea jacea* var. *amara* (L.) Vis.** [FD2: 32], *stat. nov.* Basionym:— *Centaurea amara* L.

***Centaurea jacea* var. *pratensis* (Thuill.) Vis.** [FD2: 32], *nom. illeg.* Basionym:— *Centaurea pratensis* Thuill. Note:— This name is a later homonym of *C. jacea* var. *pratensis*

Hampe (1836).

***Centaurea jacea* var. *nigrescens* (Willd.) Vis.** [FD2: 32], *stat. nov.* Basionym:— *Centaurea nigrescens* Willd.

***Centaurea salonitana* var. *obovata* Vis.** [FD2: 34], *nom. inval.* Note:— Visiani cites as a synonym *C. latisquama* var. *salonitana* Vis. in DC. [534: 589]. In that work, De Candolle cites the species as a whole, which was published in Flora 29. Therefore, it is clear that this name was intended to include the type of the species, and is therefore invalid.

***Crupina crupinastrum* (Moris) Vis.** [FD2: 42], *comb. nov.* Basionym:— *Centaurea crupinastrum* Moris (1842).

***Carduus candicans* Waldst. & Kit. var. *genuinus* Vis.** [FD2: 47], ‘*genuina*’, *nom. inval.* Note:— This name, having the epithet ‘*genuina*’ is invalid.

***Carduus candicans* Waldst. & Kit. var. *collinus* (Waldst. & Kit.) Vis.** [FD2: 47], ‘*collina*’, *stat. nov.* Basionym:— *Carduus collinus* Waldst. & Kit.

***Jurinea mollis* var. *moschata* (Ten.) Vis.** [FD2: 53], *stat. nov.* Basionym:— *Carduus moschatus* Gussone ‘Index Sem. Hort. Boccadifalco 1825: 3’ [not [536]?]. Note:— Visiani cites *Carduus mollis* var. *moschatus* Ten. [151: 48], which is a *nomen nudum*.

***Bellis perennis* var. *sylvestris* (Cirillo) Vis.** [FD2: 58], *stat. nov.* Basionym:— *Bellis sylvestris* Cirillo. Notes:— Visiani cites ‘*B. perennis* χ Bertol.’, which is an invalid name, having been published without any epithet. It seems that the name was not previously published as such.

***Bellis perennis* var. *pratensis* Vis.** [FD2: 58], *nom. inval.* Note:— Visiani cites as a synonym *B. perennis* as treated in numerous previous works. Since in all these works the name is attributed to Linnaeus [38], and Visiani did *not* explicitly exclude the type, the name is invalid.

***Bellis perennis* var. *annua* (L.) Vis.** [FD2: 58], *stat. nov.* Basionym: *B. annua* L.

***Senecio nebrodensis* var. *rupestris* (Waldst. & Kit.) Vis.** [FD2: 68]. Basionym:— *S. rupestris* Waldst. & Kit.

***Senecio nebrodensis* var. *genuinus* Vis.** [FD2: 68], *nom. inval.* Note:— As the name has the epithet ‘*genuinus*’ and is clearly intended to include the type of the species, the name is invalid.

***Senecio nebrodensis* var. *laciniatus* (Bertol.) Vis.** [FD2: 68]. Basionym:— *S. laciniatus* Bertol.

***Senecio cacaliaster* var. *linnaei* Vis.** [FD2: 71], *nom. inval.* Note:— When Lamarck [470: 132] moved *Cacalia saracenicica* under the genus *Senecio*, he correctly created the new name *S. cacaliaster*, *S. saracenicus* being unavailable because of *S. sarracenicus* L. (1753, which is spelt with two R’s but sufficiently similar to be confused and considered

homonym). The type of the species is therefore Linnaeus's. Visiani mentions *C. saracenic* as a synonym, thus including the type of the species and making his name invalid.

***Senecio doronicum* var. *lanatus* (Scop.) Vis.** [FD2: 71], '*lanatus*', *stat. nov.* Basionym: *S. lanatus* Scop., non L.f. Note:— Visiani cites in the synonymy *S. lanatus* 'Scop., non L.f.'. Scopoli's name was published independently from Linnaeus's (its correct name being the new name *Senecio scopolii* Hoppe & Hornsch.), so this is a new status.

***Senecio visianianus* Papaf. ex Vis.** [FD2: 72], *des. inval.* Note:— This name is a later isonym of the former.

***Filago germanica* var. *pyramidata* (L.) Vis.** [FD2: 75], *des. inval.* Intended basionym: — *F. pyramidata* L. Note:— This name is a later isonym of *F. germanica* var. *pyramidata* (L.) Gaudin [537:253]. It is therefore illegitimate.

***Achillea abrotanoides* (Vis) Vis.** [FD2: 81], *comb. nov.* Basionym:— *Ptarmica abrotanoides* Vis. Note:—Invenit Neumayer

***Achillea millefolium* var. *sylvatica* Vis.** [FD2: 82], *nom. illeg.* Original material:— A: Illustration in Oeder [379] 5: 737!; B: PAD-HD03174. Note:— Despite being indicated as var. α , there is no specific proof that Visiani meant this to represent the type of the species. He cites his treatment of *A. magna* L. in *St. Dalm.*, excluding the type. Later homonym of Becker ex Wirtgen [538: 101].

***Achillea millefolium* var. *collina* Vis.** [FD2: 82], *nom. illeg.* Original material:— A: PAD-HD03162; B: PAD-HD03164; C: PAD-HD03165; D: Illustration in Blackwell [430: t. 18]. Note:— This name is an illegitimate later homonym of Becker ex Wirtgen [538: 101]. Visiani might have known Wirtgen's work, but he never cited it. In fact, although the numbering of the varieties differs, with Wirtgen naming β *sylvatica* and γ *collina*, and Visiani naming α *sylvatica* and β *collina*, not only do the names correspond, but the descriptions are very similar as well (from Wirtgen: '*var. sylvatica*: Blätter breiter, oval, mit entfernteren Fiederchen und Läppchen; *var. collina*: Blätter schmaler, Fiederchen sehr schmal, discht gedrängt').

***Achillea millefolium* var. *lanata* (Lam.) Vis.** [FD2: 82], *stat. nov. illeg.* Basionym:— *A. lanata* Lamarck [528:640]? Note:— Visiani intends this as a new status for *A. lanata* 'Aucor. non Spr[engel]'. It is not possible to identify with any certainty Visiani's Intended basionym, but it is probably Lam. Nevertheless, this name is illegitimate, as it is a later homonym of W.D.J. Koch [527: 373].

***Chamaemelum* Vis., non Mill.** [FD2: 84], *nom. illeg.* Note:— Visiani knew that his name had been used before, as is confirmed by the fact that he titled the part of *Fl. Dalmat.* dealing with it '*Chamaemelum* Vis. | *Nec alior[um]*'. Under *C. uniglanulosum* he explains that *Matricaria inodora* L. is to be considered the type of this genus, which is based on a name by Bauhin, but not later accepted by anyone, save for a section of *Anthemis* by De Candolle [534:4], which he also considers not to be retained, as it was based on a very variable character (the pappus). He did not know, then, that Miller had

used this same name [539:315], which makes his own an illegitimate later homonym. This name and the following were in fact first published by Visiani in *Matric.*, although sometimes listed as published in *FD* and presented there as published anew. We discuss them here nonetheless.

***Chamaemelum inodorum* (L.) Vis.** [FD2: 85], *comb. nov.* Basionym:— *Matricaria inodora* L. Note:— Visiani cites a great number of synonyms, including the type of *M. inodora*, Linnaeus [540:297]. He cites the name as given by the pre-linnaean author Bauhin [39:135), who in fact only published it as ‘*Cotula non foetida*’, as is found in *Fl. Suec.* It is doubtful if, from the large list of synonyms, Visiani did not include the type of some other species. Nonetheless, this name is clearly to be referred to what is now known mostly as *Tripleurospermum inodorum* (L.) Sch.-Bip.. More investigation needed.

***Chamaemelum disciforme* (C.A.Mey.) Vis.** [FD2: 85], *comb. nov.* Basionym:— *Chrysanthemum disciforme* C.A.Mey.

***Chamaemelum praecox* (M.Bieb.) Vis.** [FD2: 86]. Basionym:— *Chrysanthemum praecox* M. Bieb.

***Chrysanthemum leucanthemum* var. *montanum* (L.) Vis.** [FD2: 86], *nom. illeg.* Basionym:— *Chrysanthemum montanum* L. Note:— This is a later homonym or isonym of *Chrysanthemum leucanthemum* L. var. *montanum* (L.) Heer *Mitth. Geb. Theor. Erdk.* 1: 436, 1836 (fide [89]).

***Chrysanthemum leucanthemum* var. *graminifolium* (L.) Vis.** [FD2: 87], *comb. & stat. nov.* Basionym:— *Chrysanthemum graminifolium* L. Note:— Visiani cites Schutz Bipontinus’s name *Phalacrodiscus montanus* subsp. *graminifolius* (L.) Sch.-Bip., which was based on the same basionym. This name is a valid and legitimate new combination at a new rank.

***Chrysanthemum cinerariifolium* (Trev.) Vis.** [FD2: 88], ‘*cinerariaefolium*’, *comb. nov.* Basionym:— *Pyrethrum cinerariifolium* Trev.

***Chrysanthemum tanacetum* Vis.** [FD2: 89], *nom. illeg.* Note:— Visiani mentions *Tanacetum balsamita* L. as a synonym. The combination *C. balsamita* was already published by L. in [162:1252]. Nevertheless, he also cites as synonyms *Balsamita major* Desf. (1729) and *B. vulgaris* Willd. (1802). While *C. vulgare* was unavailable because of *C. vulgare* (L.) Bernh. [541], *C. majus* was available (and was in fact published as a new combination by Ascherson [542:84], and is the epithet that Visiani should have adopted. It is not clear what was the Intended basionym, if any. Visiani might have known that *C. balsamita* was unavailable, or he might just have given priority, cross-rank, to the name *tanacetum*, which is of pre-Linnaean origin.

***Artemisia camphorata* var. *biasolettiana* (Vis.) Vis.** [FD2: 91], *stat. nov.* Basionym:— *A. biasolettiana* Visiani [IS. 36]. Note:—Visiani mentions as a synonym Tenore’s treatment of *A. columnae* [543:422]. There, Tenore mentions ‘*A. camphorata* B. *canescens* Pollini *Fl. Veron.*’ as a synonym. The name is probably to be interpreted as that of a sub-

species, so that Visiani's name appears legitimate.

***Rhagadiolus stellatus* var. *indivisus* Vis.** [FD2: 96], *nom. inval.* Note:— Visiani included *Lapsana stellata* L., the type of the species as a whole. The name should therefore be var. *stellatus*.

***Cichorium endivia* var. *pumilum* (Jacq.) Vis.** [FD2: 97], *stat. nov.* Basionym:— *C. pumilum* Jacquin *Obs. bot.* 4: 3 (fide [89]).

***Leontodon hastilis* var. *hirtus* Vis.** [FD2: 104], '*hastile*', '*hirta*', *nom. illeg.* Note:— Visiani explicitly excludes the types of *Apargia hirta* (whose author is doubtful), by mentioning these names as treated by Petter [165] and Alschinger [244] '*nec aliorum*'. Nonetheless, he mentions as a synonym *L. hispidum* L., thereby including var. *hispidus*, which was automatically established as Bischoff established var. *pseudocrispus* [452:60]. The name is therefore superfluous, and having no basionym which is explicitly excluded, illegitimate.

***Leontodon hastilis* var. *laciniatus* Vis.** [FD2: 104], '*hastile*', '*laciniata*', *nom. illeg.* Note:— Visiani cites *L. hastile* var. *hyoserioides* (Welw.) Koch [544:482]. The name is therefore superfluous and illegitimate.

***Podospermum laciniatum* var. *calcitrapifolium* (Vahl) Vis.** [FD2: 105]. Basionym:— *Scorzonera calcitrapifolia* Vahl [545:87].

***Scorzonera austriaca* var. *latifolia* (DC.) Vis.** [FD2: 106], *comb. nov.* Basionym: *S. humilis* var. *latifolia* DC. [361:120].

***Scorzonera austriaca* var. *oblongifolia* Vis.** [FD2: 106], *nom. illeg.* Note:— Visiani mentions *S. humilis* var. *austriaca* DC., the name that he should have used.

***Taraxacum officinale* (L.) Weber ex F.H.Wigg.** Note:— Visiani recognised for this taxon five 'variations' (*variationes*), which he named: '*I. foliis indivisis runcinatisque, laciniis latis acutis*', '*II. foliis interrupte runcinato-pinnatifidis, laciniis late lanceolatis, laciniulis interpositis linearibus*', '*III. foliis interrupte runcinato-pinnatipartitis, laciniis linearibus, dentibus lacinulisque setaceis*', '*IV. foliis interrupte runcinato-pinnatipartitis, laciniis linearibus, dentibus lacinulisque setaceis*', and '*V. foliis oblongo-linearibus sinuato runcinatis denticulatis integerrimisque*'. To the fifth variation he ascribed *Taraxacum palustre* DC. None of these designations is, of course, a validly published name, as their form does not comply with the provisions of the Code. It is, nonetheless, interesting to mention that this is one of the rare cases where Visiani recognised a rank lower than the varietal one. His own definition of *variatio* can be found in Visiani [Gen. Sp.], which he was writing in 1847 along with FD2. There he defines them as 'a modification of some character of the species, produced by external circumstances [...], which cannot be reproduced nor transmitted even by subdivision', which he confirms about these taxa by writing that their characters vary '*pro statione*' (i.e. 'according to the location').

***Crepis vesicaria* var. *scariosa* (Willd.) Vis.** [FD2: 117], *stat. nov.* Basionym:— *C. scari-*

osa Willdenow [546:1595].

***Hieracium florentinum* var. *praealtum* (?) Vis.** [FD2: 121]. Note:— It is not clear whence Visiani got his epithet. He mentions *H. praealtum* as treated in Villars [547:62], which we could not find. The species *H. praealtum* was validly published by Gochnat [548:17], and as an probably as an illegitimate later homonym by Reichenbach [549:45]. Visiani mentions an illustration from that book, but not the one carrying the name (he cites f. 114).

***Hieracium florentinum* var. *piloselloides* Vis.** [FD2: 122], *stat. nov.* Basionym:— *H. piloselloides* Villars [550:100 t. 27].

***Hieracium villosum* var. ‘*valde pilosum*’ Vis.** [FD2: 124], *nom. inval.* Note:— The epithet of this name does not comply with the provisions of the Code, and is therefore invalid.

***Hieracium villosum* var. *flexuosum* (Willd.) Vis.** [FD2: 124], *stat. nov.* Basionym:— *H. flexuosum* Willdenow [546:1581], non J.F. Gmelin [551:1179]. Note:— Visiani mentions the treatment of Waldstein & Kitaibel [332:231] (not online) and Host, who in turn cites the basionym by Willd., non Gmel.

***Campanula caudata* Vis.** [FD2: 136, t. 23 f. 1], *nom. superfl. illeg.* Note:— Visiani cites *Wahlenbergia dalmatica* A.DC. [459:134], thereby making his new name superfluous and illegitimate. De Candolle Jr. received his specimens for this species from Biasoletto, as he writes in his protologue.

***Campanula speculum-veneris* var. *hirta* (Ten.) Vis.** [FD2: 138], ‘*speculum*’, *stat. & comb. nov.* Basionym:— *Prismatocarpus hirtus* Tenore [151:16].

***Campanula speculum-veneris* var. *cordata* (Vis.) Vis.** [FD2: 158], ‘*speculum*’, *stat. nov.* Basionym:— *C. cordata* Visiani *St. Dalm.*: 5, t. 2.

***Campanula alpinii* var. *stylosa* (Lam.) Vis.** [FD2: 139], ‘*alpini*’. Basionym:— *C. styl-osa* Lamarck [552:580].

***Phyteuma orbiculare* var. *lanceolatum* (Vill.) Vis.** [FD2: 128], ‘*orbicularis*’, ‘*lanceolata*’, *nom. illeg.* Basionym:— *P. lanceolatum* Villars [553:517]. Note:— This name is a later homonym of Persoon [554:194]

***Anagallis arvensis* var. *phaenicea* (All.) Vis.** [FD2: 152], ‘*phaenicea*’, *stat. nov. illeg.* Note:— Visiani cites, probably as a basionym, *A. phaenicea* Allioni [181:87], non *A. arvensis* var. *phaenicea* Gouan [555:29] nec *A. phaenicea* (Gouan) Scopoli [556:139], which were probably both unknown to him. He implicitly excluded the type of *A. arvensis* L. [38:821]. He also cites Alschinger [244], who made a later homonym (*A. phaenicea* Alsch. nec alior.) by not citing previous works and Petter [165], who cites Lamarck (with no place of publication). His spelling is the classical one, which he might have considered a due correction from Allioni’s ‘*phaenicea*’. We consider this name is an illegitimate later homonym of *A. arvensis* var. *phaenicea* Scop., as the two are certainly similar

enough to be confused, as is *Anagallis arvensis* var. *phoenicea* (Scop.) Grenier & Godron [557:467].

***Anagallis arvensis* var. *coerulea* (Schreb.) Vis.** [FD2: 152], *stat. nov. superfl.* Note:— Visiani includes here also *A. monelli* L., and thus the type of its nominate subspecies, which was created as Curtis published var. *willmoreana* in *Bot. Magaz* 62: t. 3380, 1835 (fide [89]). That is the name that Visiani should have used, but as his name has a basionym, it is not illegitimate. *A. arvensis* var. *coerulea* (Schreb.) Gren. & Godr. (see [90]) is an illegitimate later homonym, published in [557:467].

***Verbascum thapsus* var. *elongatum* (Willd.) Vis.** [FD2: 154], *stat. nov.* Basionym:— *V. elongatum* Willdenow [522:223], non Moench [558:446]. Note:— Visiani mentions as a basionym an illegitimate later homonym.

***Verbascum densiflorum* var. *thapsiforme* (Schrad.) Vis.** [FD2: 154], *stat. nov.* Basionym:— *V. thapsiforme* Schrader [559:21].

***Verbascum phlomoides* var. *samniticum* (Ten.) Vis.** [FD2: 155], *stat. nov.* Basionym:— *V. samniticum* Tenore [560:54].

***Verbascum nigrum* var. *genuinum* Vis.** [FD2: 157], *nom. inval.* Note:— The epithet is invalid, as applied to the type variety.

***Verbascum nigrum* var. *lanatum* (Schrad.) Vis.** [FD2: 157], *stat. nov.* Basionym:— *V. lanatum* Schrader [561:28]. Note:— The *Flora Croatica Database* [58] has ‘*V. nigrum* var. *lanatum* (Schrad.) Bég.’, which must be a later homonym.

***Verbascum nigrum* var. *orientale* (M.Bieb.) Vis.** [FD2: 157], *stat. nov.* Basionym:— *V. orientale* Bieberstein [325:160] *nom. illeg.*, non (L.) All. [181]. Note:— Visiani mentions as synonyms *V. austriacum* Schrad., *V. virens* Host, *V. monspessulanus* Pers. They are all unresolved in PlantList, so it’s very hard to know if any of these had a name at the rank of subspecies 1847, so Visiani’s name might be superfluous (but not illegitimate).

***Scrophularia canina* var. *bicolor* (Sm.) Vis.** [FD2: 159], ‘*scrophularia*’, *stat. nov.* Basionym:— *S. bicolor* Smith [370:437].

***Linaria cymbalaria* var. *vulgaris* Vis.** [FD2: 160], *nom. inval.* Note:— Visiani cites *Antirrhinum cymbalaria* L., the type of the whole species.

***Linaria cymbalaria* var. *pilosa* (Jacq.) Vis.** [FD2: 160], *stat. & comb. nov.* Basionym:— *Antirrhinum pilosum* Jacquin [562:28]. Note:— Visiani cites as a synonym also *Linaria pubescens* C.Presl, which is an entirely different taxon. While *A. pilosum* is now considered a synonym of *Sibthorpia pilosa* L., *L. pubescens* is now treated as a separate species under *Cymbalaria*, *C. pubescens* (J.Presl & C.Presl) Cufod.. His diagnosis (‘*tota, vel solo caule pilosa*’) is not enough to discriminate between the two, so that his original material, including the illustration in Cupani [513: t. 24 f.1 (ed. Bonan.)], should be considered.

Veronica austriaca var. '*capsula orbiculata, levissime emarginata*' Vis. [FD2: 170], *nom. inval.* Note:— The form of this name does not follow the provisions of the Code.

Veronica austriaca var. '*capsula elliptica aut obosvato-elliptica*' Vis. [FD2: 170], *nom. inval.* Note:— The form of this name does not follow the provisions of the Code.

Veronica agrestis var. *tenoreana* Vis. [FD2: 172], *nom. illeg.* Note:— Visiani cites two species that are now considered synonyms. This name is an illegitimate later isonym of *Veronica agrestis* var. *polita* (Fr.) K. Koch in *Linnaea* 17: 288, 1843 (fide [89]).

Euphrasia officinalis var. *vulgaris* Vis. [FD2: 174], *nom. superfl. illeg.* Note:— As Visiani cites the validly published (!) *E. officinalis* var. *nemorosa* Persoon [563:149], this name is superfluous. Since it has no basionym, it is illegitimate.

Euphrasia officinalis var. *salisburgensis* (Funck ex Hoppe) Vis. [FD2: 174], *stat. nov.* Basionym:— *E. salisburgensis* Funck ex Hoppe [564:190].

Rhinanthus crista-galli var. *angustifolius* (G.Gmel.) Vis. [FD2: 177], *stat. nov.* Basionym:— *R. angustifolius* Gmelin [565:669].

Melampyrum arvense var. *barbatum* (Willd.) Vis. [FD2: 177], *stat. nov.* Basionym:— *M. barbatum* Willd. [546:198]. Note:— Visiani only indirectly cited Willdenow, by citing Waldstein & Kitaibel [523:89 (sphalm. '89')], which cites Willdenow.

Orobanche caryophyllacea var. *major* Vis. [FD2: 179], *nom. superfl. illeg.* Note:— There exists an *O. major* L. [38:632], which Visiani does not cite directly or indirectly. He also cited: *O. galii* Duby, *O. vulgaris* DC, *O. adenostemon* Rchb., *O. laxiflora* Rchb., *O. strobiligena* Rchb.. It is not sure if any of these had a name at the rank of variety before 1847. At least one, *Orobanche galii* var. *adenostemon* Rchb. [468:34, t. 663 f. 894] was published at the rank of variety before the publication of *FD*, which makes this name superfluous and illegitimate.

Phelypaea lavandulacea (Rchb.) Vis. [FD2: 180], *comb. nov.* Basionym:— *Orobanche lavandulacea* Reichenbach [468:48]. Note:— Visiani cites the place of publication of the basionym under his synonymy. It is not clear whether this name has priority over the isonym published by Reuter in Candolle [566:7].

Mentha aquatica var. *linnaeana* Vis. [FD2: 185]. Note:— By choosing the epithet '*linnaeana*' and numbering this variety with the letter α , Visiani seems to mean that the type of the whole species is included, therefore the validity of this name is in doubt. He does not, however, cite anything else than the illustration in Dalechamp [439:677].

Mentha aquatica var. *hirsuta* (L.) Vis. [FD2: 185], *des. inval.* Note:— This name is an illegitimate later isonym of Fries [567].

Salvia officinalis var. *grandiflora* (Etl.) Vis. [FD2: 187], *stat. nov.* Basionym: *S. grandiflora* Etlinger [568:17].

Salvia bertolonii Vis. [FD2: 189], *nom. nov.* Replaced synonym:— *S. scabrida* Bertol.

[569: 855], non Pohl [570: t. 195]. Note:— Visiani also mentions his treatment of *S. sylvestris* in St. Dalm., explicitly excluding Linnaeus's type.

***Salvia verbenaca* var. *multifida* (Sm.) Vis.** [FD2: 190], *stat. nov.* Basionym:— *S. multifida* Smith in Sibthorp & Smith [571: 17].

***Origanum vulgare* var. *genuinum* Vis.** [FD2: 191], *nom. inval.* Note:— The epithet 'genuinum' is not admissible, as this variety is probably intended to include the type of the species as a whole, being numbered α , although Visiani did not explicitly say that.

***Origanum vulgare* var. *prismaticum* Vis.** [FD2: 191], *nom. illeg.* Note:— Visiani cited, among many other names, *O. vulgare* β Bentham [572: 335]. Bentham in fact created there the variety *prismaticum* (Gaud.) Benth. from Gaudin's subsp. *prismaticum* [573: 79]. Therefore, Visiani's name is illegitimate both as it is superfluous (including the type of Bentham's variety, and not having a different basionym) and as it is a later homonym of Bentham's name.

***Origanum vulgare* var. *virens* (Hoffmanns. & Link) Vis.** [FD2: 191], *des. inval.* Intended basionym:— *O. virens* Hoffmannsegg & Link [574: 119]. Note:— This name is an illegitimate later isonym of K.Koch *Linnaea* 19: 24, 1846 (fide [89]).

***Origanum vulgare* var. *hirtum* (Link) Vis.** [FD2: 192]. Basionym:— *O. hirtum* Link [575: 114]. Note:— There seems to exist a later homonym: (Schur) Soó *Acta Botanica Academiae Scientiarum Hungaricae* 23: 382, 1977 (fide [89]). What the basionym of that name is, it was not possible to understand, as all sources give Link's name.

***Thymus serpyllum* var. *montanus* (Waldst. & Kit.) Vis.** [FD2: 192], *stat. nov.* Basionym:— *T. montanus* Waldstein & Kitaibel [523: 72], *nom. illeg.*, later homonym of Crantz [576: 278]. Note:— Visiani cites '*T. chamaedrys* var. *montanus* Reichenbach', but this name was not validly published, as it had no epithet in [153: 313]!

***Thymus serpyllum* var. *angustifolius* (Pers.) Vis.** [FD2: 192], *stat. nov.* Basionym:— *T. angustifolius* Persoon [563: 130] *nom. illeg.*, later homonym of Salisbury [577: 86].

***Thymus serpyllum* var. *pannonicus* (All.) Vis.** [FD2: 192], *stat. nov.* Basionym:— *T. pannonicus* Allioni [181: 20].

***Satureja montana* var. *communis* Vis.** [FD2: 194], *nom. illeg.* Note:— Visiani numbered this variety with α . He included in his synonymy the name *Micromeria montana* (L.) Rechb., which is based on *S. montana* L., thereby including its type and making his name illegitimate.

***Satureja montana* var. *variegata* (Host) Vis.** [FD2: 194], *stat. nov.* Basionym:— *S. variegata* Host [140: 134].

***Satureja montana* var. *subspicata* (Bartl. ex Vis.) Vis.** [FD2: 194], *stat. nov.* Basionym:— *S. subspicata* Bartling ex Visiani [St. Dalm.: 11].

***Micromeria graeca* var. *tenuifolia* (Ten.) Vis.** [FD2: 196], *stat. nov. superfl.* Basionym:

— *M. tenuifolia* Tenore [151]:33]. Note:— Visiani cites as a synonym *M. graeca* var. *densiflora* Benth. Lab. 373 (fide [89], calling it just ‘γ’). His name is therefore superfluous, but not illegitimate, as it has a basionym. It is the correct name at the rank of variety if *M. tenuifolia* Ten. and *M. graeca* var. *densiflora* Benth. are considered separate.

***Acinos thymoides* var. *villosus* (Benth.) Vis.** [FD2: 200], *comb. nov.* Basionym:— *Melissa acinos* Benth. [572: 389 (sphalm. 388)]. Note:— Benth. is generally interpreted as a new combination and status for *Acinos villosus* Persoon [563: 131]. Nevertheless, he indicated the synonymy with a ‘?’, which we take as a clear indication that he intended it as a separate new variety, on which Visiani’s name was based.

***Stachys subcrenata* var. *angustifolia* Vis.** [FD2: 208].

***Stachys subcrenata* var. *fragilis* (Vis.) Vis.** [FD2: 208], *stat. nov.* Basionym:— *S. fragilis* Visiani [Flora 29: 14].

***Stachys subcrenata* var. *labiosa* (Bertol.) Vis.** [FD2: 208], *stat. nov.* Basionym:— *S. labiosa* Bertoloni [578: 160]. Note:— Visiani cites as a synonym *S. recta* β Bertoloni [579], which is unnamed.

***Lamium bifidum* var. *cryptanthum* (Guss.) Vis.** [FD2: 211], *stat. nov.* Basionym:— *S. cryptanthum* Gussone [489: 97].

***Galeopsis ladanum* var. *latifolia* Vis.** [FD2: 214], *nom. inval.* Note:— Visiani wrote in the note to the species ‘*Variationes supra expositae nec qua varietates habendae cum una in alteram transeat, sed ideo distinguendae ut distinguantur synonyma [sic]*’. We conclude that he did not definitely accept any variety for this species, so that this name and two following are invalid.

***Galeopsis ladanum* var. *intermedia* Vis.** [FD2: 214], *nom. inval.* Note:— See our comment to *G. ladanum* var. *latifolia* Vis.

***Galeopsis ladanum* var. *angustifolia* Vis.** [FD2: 214], *nom. inval.* Note:— See our comment to *G. ladanum* var. *latifolia* Vis.

***Galeopsis tetrahit* var. *pubescens* (Besser) Vis.** [FD2: 214]. Basionym:— *G. pubescens* Besser [580: 27]. Note:— Visiani’s name has priority over Benth.’s isonym [88].

***Ballota nigra* var. *vulgaris* (Hoffmans. & Link) Vis.** [FD2: 215], ‘*Ballote*’, *stat. nov.* Basionym:— *B. vulgaris* Hoffmannsegg & Link [574: 113]. Note:— Visiani also cites Linnaeus’s treatment of *B. nigra* L. in [162], but having cited the first edition of the same book [38] for the species as a whole, he implicitly excluded the type of the species for this variety.

***Teucrium montanum* var. *majus* Vis.** [FD2: 225], *nom. inval.* Note:— Visiani cites as a synonym the name of the species as a whole (*T. montanum* L.), implicitly including its type. The name is therefore invalid.

***Teucrium montanum* var. *supinum* (L.) Vis.** [FD2: 225], *stat. nov.* Basionym:— *T. supinum* L. [38:566]. Note:— There seems to exist a homonym by '(Jacq.) Stražbenica', which is almost certainly later.

***Cuscuta* sect. *Cassutha* Vis.** [FD2: 231]. Note:— This name is based on a pre-linnaean name published in Fuchs [444]: 347]. Contains *C. europaea*, *C. major*, *C. epithimum* 'etc.', probably the type species is included and the section is illegitimate.

***Cuscuta* sect. *Epilinella* (Pfeiff.) Vis.** [FD2: 231], *stat. nov.* Basionym:— *Epilinella* Pfeiff. Bot. Zeit. 3: 673 (1845). Note:— Contains *C. epilinum* = *E. cuscutoides*

***Cuscuta* sect. *Engelmannia* (Pfeiff.) Vis.** [FD2: 231], *stat. nov.* Basionym:— *Engelmannia* Pfeiff. l.c. Note:— Contains *C. hassiaca*, = *E. migrans*

***Cuscuta* sect. *Ocimicida* Vis.** [FD2: 231]. Type:— *C. breviflora* Vis.

***Ocimicida* Vis.** [FD2: 231], *nom. inval.* Note:— Visiani only proposed this new genus in case *Cuscuta* were to be split into different genera according to his proposed new subdivisions. He did not accept this name, which is therefore invalid.

***Datura stramonium* var. *tatula* (L.) Vis.** [FD2: 232], *des. inval.* Intended basionym:— *D. tatula* Linnaeus 2: 257. Note:— This name is a later isonym of Torrey [581: 232].

***Cynoglossum officinale* var. *sylvaticum* (Haenke) Vis.** [FD2: 240], *stat. nov.* Basionym:— *C. sylvaticum* Haenke in Jacquin [582: 77].

***Onosma stellulata* var. *angustifolia* (Lehm.) Vis.** [FD2: 244]. Basionym:— *O. angustifolia* Lehmann [583: 361].

***Myosotis arvensis* var. *intermedia* (Link) Vis.** [FD2: 254]. Basionym:— *Myosotis intermedia* Link [584: 164].

***Erythraea centaurium* var. *ramosissima* (Vill.) Vis.** [FD2: 257]. Basionym:— *Gentiana ramosissima* Villars [553: 330]. Note:— Not a new combination (as already put under *E.* by Persoon), possibly a new status.

***Chlora perfoliata* var. *serotina* (W.D.J. Koch ex Rchb.) Vis.** [FD2: 261], *stat. nov. superfl.* Basionym:— *C. serotina* W.D.J. Koch ex Reichenbach [443: 6]. Note:— Visiani cites *C. perfoliata* var. *sessilifolia* Grisebach [585: 117] as a synonym. His name is superfluous, but not illegitimate (it is the correct name if the two varieties are considered separate).

***Vincetoxicum officinale* var. *albidum* Vis.** [FD3-1: 2], *nom. inval.* Note:— Visiani mentions in the synonymy the name *Asclepias vincetoxicum* L. [162: 314]. The name is invalid, as it includes the type of the species as a whole.

***Vincetoxicum officinale* var. *fuscatum* (Willd.) Vis.** [FD3-1: 16], *comb. & stat. nov.* Basionym:— *Asclepias fuscata* Willdenow [522: 13].

***Galium erectum* var. *lucidum* (All.) Vis.** [FD3-1: 6], *stat. nov. illeg.* Basionym:—

Galium lucidum All. [586: 5]. Note:— Visiani mentions in synonyms *G. erectum* var. *lucidum* and var. *scabridum*, both published in De Candolle [530: 596] (without mentioning them directly, but just by the letters β and γ). Although he changed the circumscription by joining together the two varieties by De Candolle, the name is a later homonym and superfluous, as the earliest epithet (*'lucidum'*) should have been chosen.

***Galium aureum* Vis.** [FD3-1: 6], *nom. nov.* Replaced synonym:— *Galium rupestre* DC., non Vis. nec (Gardn.) Walpers. Note:— Visiani cites his own 1842 publication H. Pat. 42: 134. Therein, Visiani explains that this species was already described by De Candolle in [530: 603], under the name '*G. rupestre* Visiani ex Biasoletto in litt.' (non Visiani [Flora 29] nec (Gardn.) Walpers [587: 17]). In FD, Visiani cites De Candolle's name in his synonymy, specifying that it was wrongly applied ('DC. [...] non Vis'), thereby effectively making a replacement name for De Candolle's.

***Galium parisiense* var. *divaricatum* (Pourr. ex Lam.) Vis.** [FD3-1: 8], *des. inval.* Intended basionym:— *Galium divaricatum* Pourr. ex Lam. Note:— An illegitimate later isonym of W.D.J.Koch [588].

***Asperula cynanchica* var. *longiflora* (Waldst. & Kit.) Vis.** [FD3-1: 11], *stat. nov.* Basionym:— *Asperula longiflora* Waldst. & Kit. Note:— Visiani also cites the older '*A. aristata* L.f. Suppl.:120' as a synonym. By doing so he cites also the name *A. cynanchica* var. *aristata* that was possibly established before his own (?).

***Asperula cynanchica* var. *canescens* (Vis.) Vis.** [FD3-1: 11], *stat. nov.* Basionym:— *Asperula canescens* Vis. Note:— There exists in the literature the name *A. cynanchica* var. *canescens* (Vis.) Fiori, which must be a later homonym, as Fiori was only born in 1865.

***Phillyrea latifolia* var. *laevis* (Willd.) Vis.** [FD3-1: 20], *des. inval.* Intended basionym:— *Phillyrea laevis* Willdenow *H. berol.*: 12 (fide [89]). Note:— A later isonym of Aiton [589].

***Phillyrea latifolia* var. *ilicifolia* (Willd.)** [FD3-1: 20], *stat. nov.* Basionym:— *Phillyrea ilicifolia* Willdenow [437: 13].

***Olea europaea* var. *oleaster* (Hoffmanns. & Link) Vis.** [FD3-1: 21], *stat. nov. illeg.* Basionym:— *Olea oleaster* Hoffmanns. & Link. Note:— Illegitimate as later homonym of DC. [229: 248].

***Olea europaea* L. var. *sativa* (Hoffmanns. & Link) Vis.** [FD3-1: 21], *var. nov. inval.* Note:— Despite being listed as variety β , Visiani clearly indicated in the synonyms that he ascribed *O. europaea* L. to this taxon. Therefore, it should be named var. *europaea*. Ten 'variations' are ascribed to this taxon, none of which is named.

***Pimpinella saxifraga* var. *nigra* (Willd.) Vis.** [FD3-1: 34], *stat. nov.* Basionym:— *Pimpinella nigra* Willdenow [38: 1471]. Note:— The Basionym is attributed to Miller 1768 (fide [89]), not to Willdenow. In fact, in Sp. Pl. the name is attributed to Willdenow.

***Libanotis nitens* Vis.** [FD3-1: 43] *pro syn., nom. inval.* Note:— This name is listed as a

synonym under *Athamanta libanotis* L., certainly because of confusion with *L. nitida* Vis.

***Athamanta aurea* Vis.** [FD3-1: 44], *pro syn., nom. inval.* Note:— This name is listed as an unpublished synonym under *Libanotis aurea* Vis.

***Portenschlagia* Vis.** non Trattinnick *Archiv der Gewächskunde* 5, 1818 (fide [89]), *nom. illeg.* Type:— *P. ramosissima* Vis. Note:— This is the only species attributed by Visiani to this genus, so that it can be considered its ‘holotype’. The new genus is illegitimate, a later homonym of *Portenschlagia* Tratt.. The replacement name *Portenschlagiella* was published by Tutin in *Feddes Repertorium* 74: 32, 1964 (fide [89]). Visiani knew that his name was a later homonym, but since he did not accept *Portenschlagia* Tratt., which he included in *Elaeodendron*, he created his new name. *Portenschlagia* Tratt. is now treated under *Cassine* L., while *Portenschlagiella* is generally accepted as a monotypic genus.

***Portenschlagia ramosissima* (Port.) Vis.** [FD3-1: 45], *gen. nov. illeg.* Basionym:— *Athamanta ramosissima* Port. in Roemer & Schultes [590: 496].

***Peucedanum chabraei* var. *selinoides* (Vis.) Vis.** [FD3-1: 51], *stat. nov.* Basionym:— *Pastinaca selinoides* Vis. [Flora 29: 10].

***Palimbia selinoides* (Vis.) Vis.** [FD3-1: 52], *nom. inval.* Note:— This name is merely listed as a synonym and is therefore invalid.

***Pastinaca sativa* var. *opaca* (Bernhardi ex Hornemann) Vis.** [FD3-1: 53], *stat. nov.* Basionym:— *Pastinaca opaca* Bernh. ex Hornemann [591: 961].

***Torilis infesta* var. *heterophylla* (Guss.) Vis.** [FD3-1], *stat. nov.* Basionym:— *Torilis heterophylla* Gussone [592: 326].

***Alschingera* Vis.** [FD3-1: 69]. Type:— *A. verticillata* (Waldst. & Kit.) Vis. Note:— This is the only species attributed to *Alschingera* by Visiani, so that it could be considered its ‘holotype’.

***Alschingera verticillata* (Waldst. & Kit.) Vis.** [FD3-1: 69], *comb. nov.* Basionym:— *Laserpitium verticillatum* Waldstein & Kitaibel [405: 186].

***Scaligeria cretica* (Mill.) Vis.** [FD3-1: 70], *comb. nov. illeg.* Basionym:— *Bunium creticum* Miller *Gard. Dict. ed. 8* 2 1768 (fide [89]). Note:— Visiani cites the basionym indirectly. He cites *Scaligeria tournefortii* Boissier *Ann. Sc. Nat. (3)* 2: 70 (fide [89], wrongly, as he in fact cites it as ‘3 Ser. II pag. 70’). Boissier’s name is superfluous and illegitimate, as he cites as a synonym *Bunium creticum* d’Urville [593: 311], who in fact cited Miller. Visiani also cites d’Urville, probably having read Boissier, but not d’Urville himself, which is also clear from his citation of *Pimpinella cretica* Hampe in herb., nec Poir., which also appears in Boissier. At any rate, this name is a later homonym of Boissier himself [594: 52], with no nomenclatural status, as Visiani himself recognised in FD. Sup.: 114.

***Clematis flammula* var. *lanceolata* Vis.** [FD3-1: 76], *nom. illeg.* Note:— Visiani cites *C. flammula* var. *caespitosa* Rchb. [153: 735] and *C. flammula* var. *maritima* Reichenbach

[483: 19]. He should have used the former (?), so the name is superfluous. Having no basionym, it is also illegitimate.

***Adonis aestivalis* var. *flammea* (Jacq.) Vis.** [FD3-1: 81]. Basionym:— *A. flammea* Jacquin [595: 29].

***Ranunculus aquatilis* var. *petiveri* (W.D.J. Koch) Vis.** [FD3-1: 81], *nom. superfl.* Basionym:— *R. petiveri* W.D.J. Koch [596: 13] or *Deutschl. Fl.* 18: 82 (1840). Note:— Visiani cites *R. tripartitus* var. *obtusiflorus* DC. [154: 234]. De Candolle cites pre-Linnaean author Petiver *Engl. Herb. t. 39 f. 1* (fide [89]). Visiani's name is therefore superfluous, as he should have chosen *obtusiflorus*, but not illegitimate.

***Ranunculus chaerophyllus* var. *flabellatus* (Desf.) Vis.** [FD3-1: 83], *des. inval.* Intended basionym: *R. flabellatus* Desfontaines [597: 438]. Note:— This is a later isonym of De Candolle [154: 255].

***Ranunculus acris* var. *stevenii* (Andrz. ex Besser) Vis.** [FD3-1: 85], *stat. nov.* Basionym:— *R. stevenii* Andrzejowski ex Besser [598: 22], 'steveni'. Note:— According to Euro+Med, this name has widely been misapplied, but it does indeed apply to *R. acris*. Isonyms have been made by Regel, and Lange. While it was not possible to find Regel's isonym, it is almost certainly later, since almost all of his works are later. Same for most of Lange's.

***Helleborus viridis* var. *multifidus* (Vis.) Vis.** [FD3-1: 83], *stat. nov.* Basionym:— *H. multifidus* Visiani [Flora 29].

***Delphinium consolida* var. *sparsiflora* Vis.** [FD3-1: 89], *nom. inval.* Note:— This name is numbered α . Although Visiani did not mention the type of the species in the synonymy, he mentioned *D. paniculatum* Host [140: 65]. In the note, he then writes it to be *forma elatior ramosissima luxurians varietatis sparsiflorae D. Consolidae, nec ulla bona nota differt a specie* and specifies that *varietas sparsiflora videtur [...] typus speciei Linnaeanae ex synonymis et iconibus a Linnaeo ipso suae plantae adscriptis, quorum omnia varietatem illam respiciunt*. The name is therefore certainly invalid, as the autonym var. *consolida* should have been adopted.

***Aconitum anthora* var. *genuinum* Vis.** [FD3-1: 92], *nom. inval.* Note:—The epithet 'genuinum' is not admissible, as this variety is probably intended to include the type of the species as a whole, being numbered α , although Visiani did not explicitly say that.

***Aconitum lycoctonum* var. *vulparia* (Rchb.) Vis.** [FD3-1: 92], *stat. nov.* Basionym:— *Aconitum vulparia* Reichenbach [599: 70]. Note:— Regel made an isonym, which is likely later, as almost all of his works were prepared after 1850. Note, nonetheless, that this is var. α , and its validity is questionable.

***Aconitum lycoctonum* var. *thelyphonum* (Rchb.) Vis.** [FD3-1: 92], *stat. nov.* Basionym:— *A. thelyphonum* Reichenbach [599: 73] (cited by Vis. from [495: 737]). Note:— The basionym is validated solely by a reference to Elwert's *A. lycoctonum* (non L.).

***Papaver hybridum* var. *argemonoides* (Ces.) Vis.** [FD3-1: 99], *stat. nov.* Basionym:— *P. argemonoides* Cesati *Bibliot. Ital. (Milan)* 91: 346, 1838 (fide [89]).

***Papaver dubium* var. *obtusifolium* (Desf.) Vis.** [FD3-1: 100], *des. inval.* Intended basionym:— *P. obtusifolium* Desfontaines [597:407]. Note:— This name is a later isonym of Elkan [600:25] (whose validity could not be checked). Moreover, it is superfluous, as Visiani mentions var. *brevicapsulare* Moris.

***Bunias erucago* var. *macroptera* (Rchb.) Vis.** [FD3-1: 105], *stat. nov.* Basionym:— *B. macroptera* Rchb. [153:654]. Note:— This is an earlier isonym of Rouy & Foucaud [601:166].

***Noccaea berengeriana* Vis.** [FD3-1: 110], *nom. inval.* Note:— This name was published as a synonym of the previous. It is therefore invalid.

***Biscutella didyma* var. *ciliata* (DC.) Vis.** [FD3-1: 113]. Basionym:— *B. ciliata* DC. *Ann. Mus. Hist. Nat.* 18: 297 (1811). Note:— This is var. α

***Thlaspi montanum* var. *praecox* (Wulfen) Vis.** [FD3-1: 114]. Basionym:— *T. praecox* Wulfen in Jacquin [582:124].

***Alyssum microcarpum* (Vis.) Vis.** [FD3-1: 115], *comb. nov.* Basionym:— *Vesicaria microcarpa* Vis. [*Flora* 29: 18]. Note:— There is also an illustration with diagnosis in FD 2: t. 32 f. 2.

***Cochlearia austriaca* (Crantz) Vis.** [FD3-1: 122], *des. inval.* Intended basionym:— *Nasturtium austriacum* Crantz [602:15]. Note:— This is a later isonym of Ledebour [603:160]!

***Nasturtium sylvestre* var. *dentatum* Vis.** [FD3-1: 123], *nom. inval.* Note:— Visiani explicitly cites *Sisymbrium sylvestre* L. [38:657], the type of the species as a whole. His name is therefore invalid.

***Barbarea vulgaris* var. *arcuata* (Opiz ex J.Presl & C.Presl) Bertol. ex Vis.** [FD3-1: 124], *des. inval.* Intended basionym:— *Erysimum arcuatum* Opiz ex J.Presl & C.Presl [604:138]. Note:— Visiani ascribes this new status to Bertoloni [605:76]. In that work, the name is naked, and is therefore only validly published by Visiani in FD3. The basionym is cited as *B. arcuata* Reichenbach *Flora 5 (1): 296* (fide [89]), but in there Reichenbach states that he used *Flora Čehica* to recognise his specimen. By doing so, he confirmed the implicit citation of the Presl brothers' name, which is the true basionym. There exists an isonym by Fries [567:205].

***Cheiranthus cheiri* var. *fruticulosus* (L.) Vis.** [FD3-1: 125], *des. inv.* Intended basionym:— *Cheiranthus fruticulosus* L. [38]. Note:— Visiani cites for the basionym Smith [606:203 (sphalm. pag. 203)]. Smith cites L. [518], which (presumably) refers to L. [38:662]. At any rate, this name is a later isonym of De Candolle [487:180].

***Arabis alpina* var. *crispata* (Willd.) Vis.** [FD3-1: 126], *stat. nov.* Basionym:—*A.*

crispata Willdenow *Enum. Pl. 2: 684* (fide [89]).

***Arabis hirsuta* var. *sagittata* (DC.) Vis.** [FD3-1: 127], *des. inval.* Intended basionym:— *Turritis sagittata* Bertoloni [607: 185]. Note:—Visiani must have known that this name was already published with an older isonym, by Reichenbach in *Deutsch. Fl. 48: t. 7, 1827* (fide [89]), as he cited Reichenbach [495: 680], where the name is cited in syn.

***Cardamine thalictroides* var. *maritima* (DC.) Vis.** [FD3-1: 128]. Basionym:— *C. maritima* De Candolle [487: 266].

***Hesperis laciniata* var. *glutinosa* (Vis.) Vis.** [FD3-1: 130]. Basionym:— *H. glutinosa* [Flora 29: 16].

***Diplotaxis tenuifolia* var. *muralis* (L.) Vis.** [FD3-1: 134], *stat. nov.* Basionym:— *Sisymbrium murale* L. [38: 658].

***Brassica oleracea* var. *acephala* Vis** [FD3-1: 135], *nom. illeg.* Note:— This name is superfluous and illegitimate, as Visiani cited *B. oleracea* var. *viridis* L. [162: 932] as a synonym.

Brassica oleracea* var. *bullata [FD3-1: 135], *nom. illeg.* Note:— This name is superfluous and illegitimate, as Visiani cited *B. oleracea* var. *sabauda* L. [38: 932] as a synonym.

Brassica oleracea* var. *caulo-rapa [FD3-1: 135], *nom. illeg.* Note:— This name is superfluous and illegitimate, as Visiani cited *B. oleracea* var. *caulorapum* Alschinger [244: 150] as a synonym.

***Brassica rapa* var. *campestris* Vis.** [FD3-1: 136], *nom. inval.* Note:— This name is invalid, as Visiani included the type of the species as a whole: *B. rapa* L. [162: 931].

***Brassica sinapis* Vis.** [FD3-1: 136], *nom. nov. illeg.* Replaced synonym:— *Sinapis arvensis* L. [38: 668]. Note:— Visiani, wanting to move *S. arvensis* to the genus *Brassica*, could not adopt the combination *B. arvensis*, unavailable because of *B. arvensis* L. [518: 95]. He created a new name, which is a later homonym of the illegitimate Noulet [608] 32]!, who used it for another taxon: *S. nigra* L. Noulet should have adopted *B. nigra*, which was already published, in K. Koch *Deutschl. Fl. ed. 3, 4: 713, 1833* (fide [89]). Visiani's name is, still, itself illegitimate.

***Capparis rupestris* var. *ovata* (Desf.) Vis.** [FD3-1: 137]. Basionym:— *C. ovata* Desfontaines [597: 404]!

***Cucurbita pepo* var. *maxima* (Douchesne) Vis.** [FD3-1: 141], *des. inval.* Intended basionym:— *C. maxima* Douchesne *Ess. Hist. Nat. Courges 7, 1786* (fide [89]). Note:— This is a later isonym of Delile [609: 76], also var. α .

***Cucurbita pepo* var. *clodiensis* (Naccari) Vis.** [FD3-1: 141], *stat. nov.* Basionym:— *C. clodiensis* Naccari [610: 52]. Note:— The basionym certainly lacks a type, wrongly ascribed to 'Nocca' [89].

***Opuntia nana* (DC.) Vis.** [FD3-1: 143], *stat. nov.* Basionym:— *Cactus opuntia* var. *nana* DC. *Histoire des plantes grasses* 3: 138 (fide [89]). Note:— This name is generally ascribed to Vis. as a new species: the validity of DC's name and the formation of this name as a new status is to be better checked. Illustrations from 'DC 138' and 'Miller Fig. Pl. 191' are cited.

Helianthemum vulgare* var. *virescens [FD3-1: 145], *nom. inval.* Note:— Visiani cites *Cistus helianthemum* L. [162:744]!, which was unaltered from the place of publication of that name, in [38:528]!. When Gaertner made the name *H. vulgare*, he based it on the description by Linnaeus, thus including the type, and making the replacement name *H. vulgare* to replace the unavailable tautonym. By citing the Linnaean name, Visiani explicitly includes the type of the species, thereby making his name invalid (also, var. α).

***Helianthemum vulgare* var. *hirtum* (L.) Vis.** [FD3-1: 145], *stat. nov.* Basionym:— *Cistus hirtus* L. [38:528]! Note:—Visiani cites as a basionym [162:744]!, which verbatim cites ed. 1. There appears to be a (superfluous) later isonym.

***Helianthemum vulgare* var. *angustifolium* (Jacq.) Vis.** [FD3-1: 145], *stat. nov.* Basionym:— *Cistus angustifolius* Jacquin [611:29]. Note:— Visiani also cites as a synonym *H. angustifolium* Pers., which is later than Jacquin's.

***Helianthemum montanum* (Spach) Vis.** [FD3-1: 146], *comb. nov.* Basionym:— *Rhodax montanus* Spach *Ann. Hist. Nat. Bot.* 2, 6: 364, 1836 (fide [89])! Note:— This name is usually incorrectly listed as published as a new species by Visiani.

***Helianthemum montanum* var. *oelandicum* (L.) Vis.** [FD3-1: 146], *stat. nov. illeg. superfl.* Basionym:— *Cistus oelandicus* L. [38:526] (cited via [162:741]). Note:— The Linnaean type already had a legitimate name at the rank of variety: the one imposed by Spach himself: var. *virescens* l.c.

***Helianthemum montanum* var. *italicum* (Pers.) Vis.** [FD3-1: 146]. Basionym:— *Cistus italicus* L. [356:1078] (via [162:740]). Note:— Spach did not attribute just one varietal name to this taxon, but divided into varr. *canus* p.p. and *virescens* p.p.

***Helianthemum montanum* var. *tomentosum* Vis.** [FD3-1: 146], *nom. illeg. superfl.* Note:— Visiani cites *H. vineale* Pers. *Syn. pl.* 2: 77, *H. canum* (L.) Dunal in DC. [612:277]! = *Cistus canus* L. (which Vis. possibly excludes 'an *C. canus* L.') also cited as such by Reichenbach [495:713]!, *Cistus canus* Jacq. an L.. The Linnaean name must be excluded, but the name by Persoon was based on *C. vineale* Willdenow *Sp. Pl.* 2: 1195, 1799 (fide [89]). The taxon already had a name at the rank of variety: *Cistus marifolius* var. *vinealis* (Willd.) Steudel [132], so Visiani's name is superfluous and, having no basionym, illegitimate.

***Helianthemum fumana* var. *major* (Spach) Vis.** [FD3-1: 147], *comb. nov.* Basionym:— *Fumana vulgaris* var. *major* Spach *Ann. Sc. Nat. Bot.* 2(6): 359 (fide [89])!

***Helianthemum thymifolium* var. *laeve* (Cav.) Vis.** [FD3-1: 147], *stat. nov. inval.* Ba-

sionym:— *Cistus laevis* Cavanilles [457:85]. Note:— The name *H. laeve* Persoon [563:78]! is usually regarded as published independently, but Persoon in fact cited Cavanilles. Visiani cites the name (and type) of the species as a whole: *Cistus thymifolius* L. [38:528] (via [162:743]).

***Helianthemum thymifolium* var. *glutinosum* (L.) Vis.** [FD3-1: 147]. Basionym:— *Cistus glutinosus* Linnaeus [529:246]. Note:— Although *H. glutinosum* Persoon [563:79]! is usually regarded as published independently, Persoon cites Linnaeus, presumably *Cistus glutinosus* L., as Visiani does.

***Viola odorata* var. *hirta* (L.) Vis.** [FD3-1: 149]. Basionym:— *V. hirta* L. [38:934] (via [613:1324]). Note:— Since *V. hirta* and *V. odorata* were published simultaneously, the first to choose one between these two names must be followed. Fiori united these two taxa in *Fl. Italia* 1: 404, giving to *V. odorata* the rank of subspecies of *V. odorata* (and creating the var. *odorata* as well, at p. 405). In doing so, he disregarded Visiani's priority choice. His name is therefore incorrect.

***Viola tricolor* var. *parvula* (Tineo) Vis.** [FD3-1: 151], *nom. illeg. superfl.* Basionym:— *V. parvula* Tineo *Pl. rar. Sicil.* 1: 5 (fide [89]). Note:— This name is superfluous, as *V. tricolor* var. *bellioides* DC. [612:304]! is cited as a synonym. Although the name has a basionym, it is still illegitimate, as the same variety by DC. is applied to the same plant by Tineo, so that Visiani should have chosen that epithet instead.

***Hypericum perforatum* var. *angustifolium* Vis.** [FD3-1: 158], *nom. illeg. superfl.* Note:— Visiani cited '*H. veronense* Schrank *Neues Bot. Taschenb. Anfänger Wiss. Apothekerkunst* 22: 95 (1811)' as a synonym. That name already existed at the rank of variety, published by Cesati in *Not. Nat. Civ. Lombardia* 291, 1844 (fide [89]).

***Dianthus saxifragus* var. *aggregatus* Vis.** [FD3-1: 159], *nom. illeg. superfl.* Note:— Visiani cited as a synonym *Gypsophila saxifraga* var. *aggregata* (L.) DC. *Fl. Fr. suppl.* 600 (fide [89]). His should therefore have chosen the final epithet *aggragatus*, so his name is illegitimate.

***Dianthus ciliatus* var. *racemosus* (Vis.) Vis.** [FD3-1: 162], *stat. nov. superfl.* Basionym:— *Dianthus racemosus* Visiani [Flora 29: 12]. Note:— Visiani cited *D. ciliatus* var. *litoralis* Reichenbach 'Ic. fl. germ. n. 5047' as a synonym. His name is therefore superfluous, but not illegitimate, having a basionym.

***Dianthus strictus* var. *grandiflorus* (Vis.) Vis.** [FD3-1: 163], *comb. nov.* Basionym:— *D. integer* var. *grandiflorus* Vis. [FD1: t. 36].

***Dianthus caryophyllus* var. *sylvestris* (Wulfen) Vis.** [FD3-1: 164], *stat. nov.* Basionym:— *D. sylvestris* Wulfen in Jacquin [320:237]. Note:— This is var. α .

***Dianthus caryophyllus* var. *virgineus* (L.) Vis.** [FD3-1: 164], *stat. nov.* Basionym:— *D. virgineus* L. [38:412]! via [162:15] excl. var. β . Note:— The Linnaean name itself appears to be poorly understood.

***Silene saxifraga* var. *petraea* (Waldst. & Kit.) Vis.** [FD3-1: 167], *stat. nov.* Basionym:— *S. petraea* Waldstein & Kitaibel [405:178].

***Silene inflata* var. *vulgaris* Vis.** [FD3-1: 168], *nom. illeg. superfl.* Note:— Visiani mentioned *S. inflata* var. *vesicaria* Rchb. [495:823]. His name is therefore superfluous and, having no basionym, illegitimate. It is also var. α .

***Silene inflata* var. *alpina* (?) Vis.** [FD3-1: 168], *nom. superfl.* Note:— Visiani cited *S. inflata* var. *glauca* Rchb. [153:823]. His name is therefore superfluous. He also cited ‘*S. uniflora* var. β and var. γ ’ from ‘Fl. Fr. 4: 747’, which may provide a validating basionym.

***Silene otites* var. *pseudo-otites* (Besser) Vis.** [FD3-1: 170]. Basionym:— *S. pseudo-otites* Besser in Rchb. [153:819].

***Heliosperma pusillum* (Waldst. & Kit.) Vis.** [FD3-1: 171], *des. inv.* Intended basionym:— *Silene pusilla* Waldstein & Kitaibel [332:235]. Note:— This is a later isonym of Reichenbach [498:78].

***Heliosperma tommasinii* (Vis.) Vis.** [FD3-1: 171], *des. inv.* Intended basionym:— *Silene tommasinii* [Flora 29: 12].

***Sagina apetala* var. *glabra* Vis.** [FD3-1: 176], *nom. illeg. superfl.* Note:— Visiani cited as a synonym ‘*S. apetala* var. *imberbis* Fenzl’.

***Alsine tenuifolia* var. *glabra* Vis.** [FD3-1: 176], *nom. inval.* Note:— Visiani cited *Arenaria tenuifolia* L. [38:424], via [162:607], the type of the whole species. His name is therefore invalid.

***Alsine tenuifolia* var. *viscidula* (Thuill.) Vis.** [FD3-1: 176]. Basionym:— *Arenaria viscidula* Thuillier *Fl. Par. ed. 2: 219* (fide [89]).

***Alsine divaricata* Vis.** [FD3-1: 177], *nom. inval.* Note:— Published under the following, *pro syn.*

***Alsine graminifolia* var. *hirsuta* Vis.** [FD3-1: 178], *nom. inval.* Note:— Visiani cited *Arenaria graminifolia* Arduino as a synonym, thus including the type of the species as a whole, in this var. α .

***Alsine graminifolia* var. *semiglabra* Vis.** [FD3-1: 178], *nom. illeg. superfl.* Note:— Visiani cited *A. arduini* var. *arduini* and var. *clandestina* from St. Dalm.: 8. The name is therefore superfluous and illegitimate, as he should have chosen one of the two epithets.

***Alsine liniflora* (L.) Vis.** (1850: 178). Basionym:— *Arenaria liniflora* L. [162:607] (fide [89], via ‘L.f. Suppl. 241’).

***Holosteum umbellatum* var. *glandulosum* Vis.** [FD3-1: 181], *nom. illeg. superfl.* Note:— Visiani cited this name as published by himself in *St. Dalm.*: 37, where it is naked, and therefore invalid. He also cited *H. umbellatum* var. *heuffelii* Rchb. [497:34], so that his name is superfluous and, having no (valid) basionym, illegitimate.

***Cerastium viscosum* var. *triviale* (Link) Vis.** [FD3-2: 183]. Basionym:— *C. triviale* Link *Enum. Hort. Berol. Alt. 1: 433, 1821* (fide [89]). Note:— This taxon was numbered var. α .

***Cerastium viscosum* var. *semidecandrum* (L.) Vis.** [FD3-2: 183], *stat. nov. superfl.* Basionym:— *C. semidecandrum* L. [38: 438]. Note:—Visiani cited *C. varians* var. *pellucidum* Coss. & Germ. as a synonym. The name is therefore superfluous, but not illegitimate, having a basionym.

***Cerastium arvense* var. *laricifolium* (Vill.) Vis.** [FD3-2: 184]. Basionym:— *C. laricifolium* Villars [553:644]. Note:— There exists a later isonym: Cariot & St.-Lag. *Étude Fl., éd. 8, 2: 129, 1889* (fide [89]).

***Sedum acre* var. *neglectum* (Ten.) Vis.** [FD3-2: 189]. Basionym:— *S. neglectum* Tenore *Index Seminum 1830: 12, 1830* (fide [89]).

***Saxifraga tridactylites* var. *controversa* (Sternb.) Vis.** [FD3-2: 194], *stat. nov.* Basionym:— *S. controversa* Sternberg *Revis. Saxifrag. 43, 1810* (fide [89]). Note:— Visiani cited as a synonym *S. adscendens* L. as well, which might already have had a name at the rank of variety.

***Myriophyllum verticillatum* var. *pectinatum* (DC.) Vis.** [FD3-2: 195], *des. inv.* Intended basionym:— *M. pectinatum* De Candolle [496:529]. Note:— This name is a later isonym of Wallr. 1822 (fide [89]), and has no nomenclatural status.

***Malva thuringiaca* (L.) Vis.** [FD3-2: 207], *comb. nov.* Basionym:— *Lavatera thuringiaca* Linnaeus [38: 691 (via [162: 973])].

***Malva cyrillii* Vis.** [FD3-2: 207], *nom. illeg. superfl.* Note:— Visiani cited as a synonym *Lavatera ambigua* DC. [612, p. 1: 340]. He should have adopted the epithet *ambigua*, therefore his name is superfluous. Having no basionym, it is also illegitimate, despite being listed as legitimate by some sources (e.g. [88]).

***Althaea rosea* var. *hortensis* Vis.** [FD3-2: 208], *nom. inval.* Note:— Visiani cited *Alcea rosea* L. [38: 687] (via [162: 966]), the name of the species as a whole. He should therefore have adopted the epithet *rosea*, and his name is illegitimate.

***Althaea rosea* var. *pallida* (Willd.) Vis.** [FD3-2: 209], *comb. & stat. nov.* Basionym:— *Alcea pallida* Willdenow *Sp. pl: 773, 1800* (fide [89]). Note:— Visiani cited as a basionym ‘*A pallida*’ Waldstein & Kitaibel [523: 46]!, which reads ‘*Alcea pallida*’. That name was based on the basionym by Willd. that we write here.

***Althaea rosea* var. *ficifolia* (L.) Vis.** [FD3-2: 209], *comb. & stat. nov.* Basionym:— *Alcea ficifolia* Linnaeus [38: 687] (via [162: 966]).

***Geranium robertianum* var. *purpureum* (Vill.) Vis.** [FD3-2: 213], ‘*purpurea*’, *des. inval.* Intended basionym:— *G. purpureum* Villars *Syst. Pl. Eur. 1: 72, 1786* (fide [89]). Note:— This is a later isonym of DC. in Lam. & DC. 1805 (fide [89]), with no nomenclatural

status.

***Erodium cicutarium* var. *pimpinellifolium* (Moench) Vis.** [FD3-2: 213], '*pimpinellifolia*', *nom. inval.* Intended basionym:— *Geranium pimpinellifolium* Moench [558:282] (presumed: Art. 41.4). Note:— Visiani cited as a synonym the basionym of the name of the species as a whole: *Geranium cicutarium* L. [38:680] (via [162:951]).

***Erodium cicutarium* var. *chaerophyllum* (Cav.) Vis.** [FD3-2: 213], '*chaerophylla*', *des. inval.* Intended basionym:— *Geranium chaerophyllum* Cavanilles *Diss. 4: 226, 1787* (fide [89]). Note:— This is a later isonym of DC. *Prodr.* (fide [89]).

***Linum austriacum* var. *montanum* (Schleich. ex DC.) Vis.** [FD3-2: 215], '*montana*', *comb. nov.* Basionym:— *L. montanum* Schleicher ex De Candolle *Prodr. 1: 427 1812.* Note:— This name is a new combination, but not a new status, as Visiani himself cites this name at the rank of variety in W.D.J. Koch [527:140].

***Linum austriacum* var. *alpinum* (Jacq.) Vis.** [FD3-2: 215] '*alpina*', *stat. nov.* Basionym:— *L. alpinum* Jacquin [613:229].

***Linum strictum* var. *spicatum* (Rchb.) Vis.** [FD3-2: 218], *comb. nov.* Basionym:— *Cathartolinum strictum* var. *spicatum* Reichenbach [498:62]!

***Acer opulifolium* var. *obtusatum* (Waldst. & Kit. ex Willd.) Vis.** [FD3-2: 221], *stat. nov.* Basionym:— *Acer obtusatum* Waldstein & Kitaibel ex Willdenow [352:984]. Note:— There exists a later isonym by Gams *Fl. Algérie Battandier & Trabut: 1(1): 172, 1888* (fide [89]).

***Euphorbia chamaesyce* var. *canescens* (L.) Vis.** [FD3-2: 223], *nom. superfl.* Basionym:— *E. canescens* L. [162:652]. Note:— Visiani cited '*E. chamaesyce* var. *pilosa* Roep. *En. Euph. 58*'. His name is not illegitimate, as it has a basionym.

***Euphorbia soliflora* Vis.** [FD3-2: 224], *nom. inval.* Note:— This name was listed pro syn. *E. capitulata* Rchb.. It was validly published by Vis. ex Boissier in *Prodr. 15(2): 133 1862* (fide [89]).

***Euphorbia peplus* var. *peploides* (Gouan) Vis.** [FD3-2: 229], *stat. nov.* Basionym:— *E. peploides* Gouan *Fl. Monsp. 174, 1764* (fide [89]).

***Euphorbia exigua* var. *retusa* L. sensu Vis.** [FD3-2: 229]. Note:— Visiani mentions '*E. retusa* Cav. *Ic. et descr. pl. 1: 21*' as an intended basionym. He apparently did not realise that Cavanilles's name was itself based on a variety, by Linnaeus himself, published in [38:456]!, which was simply, unknowingly, reinstated by Visiani.

***Mercurialis annua* var. *ambigua* (L.) Vis.** [FD3-2: 230], *des. inv.* Intended basionym:— *M. ambigua* L.f. *Dec. Pl. Horti Upsal. 1: 15, 1762* (fide [89]). Note:— There exists a *Mercurialis annua* var. *ambigua* (L.f.) Duby [458].

***Mercurialis perennis* var. *ovata* (Sternb. & Hoppe) Vis.** [FD3-2: 230], *stat. nov.* Basionym:— *M. ovata* Sternberg & Hoppe *Denkschr. Bayer. Bot. Ges. Regensburg 1: 170 1815*

(fide [89]). Note:— There is a later isonym by Müller *Argoviensis Prodrromus Systematis Naturalis Regni Vegetabilis* 15(2): 796, 1866 (fide [89]).

***Rhamnus frangula* var. *pumila* (Turra) Vis.** [FD3-2: 233], *stat. nov.* Basionym:— *R. pumila* Turra *Giorn. Italia Sci. Nat.* 1: 120, 1764 (fide [89]), via Linnaeus [518:49].

***Rosa alpina* var. *rubella* (Sm.) Vis.** [FD3-2: 240], *des. inv.* Intended basionym:— *R. rubella* Smith *English botany: t. 2521, 1814* (fide [89]). Note:— *Cf. isonym by Sér. in DC. Prodr.*

***Rosa rubiginosa* var. *sepium* (Thuill.) Vis.** [FD3-2: 241], *stat. nov.* Basionym:— *R. sepium* Thuillier *Flore des environs de Paris* 1799: 252, 1799 (fide [89]). Note:— Probably a later isonym, as there exist the same by Seringe. Visiani also cites a ‘*R. rubiginosa sepium* Sav. fl. ital. 1:103’, which we were unable to confirm.

***Cotoneaster vulgaris* var. *glabra* Vis.** [FD3-2: 243], *nom. inval.* Note:— Visiani cited *Mespilus cotoneaster* L., including the type of the species as a whole, as treated by Lindler *Trans. L. Soc.* 13: 101 (fide [89]).

***Cotoneaster vulgaris* var. *tomentosa* (Aiton) Vis.** Basionym:— *Mespilus tomentosa* Aiton [589:174] (Art. 41.4, probably cited via Lindler and Willdenow).

***Rubus fruticosus* var. *discolor* (Weihe & Nees) Vis.** [FD3-2: 248]. Basionym:— *R. discolor* Weihe & Nees *Rubi Germ.: 46, t. 20, 1825* (fide [89]). Note:— This is var. α

***Rubus fruticosus* var. *amoenus* (Griseb.) Vis.** [FD3-2: 248], *nom. superfl.* Basionym:— *R. fruticosus* var. *amoenus* Grisebach [171:103]. Note:— Visiani ascribes this name to Portenclag in sched., but he also mentions as a synonym *R. tomentosus* var. *amoenus* Griseb. and *R. fruticosus* var. *dalmatinus* Trattinnick *Rosac. monogr. 1: 33* (fide [89]). His name is therefore not that of a new name, but a new combination, and a superfluous one (but not illegitimate).

***Rubus fruticosus* var. *tomentosus* (Borkh.) Vis.** [FD3-2: 248]. Basionym:— *R. tomentosus* Borkhaus in *Roem. Neues Mag. Bot. i. 1794* (fide [89]).

***Potentilla hirta* var. *pedata* (Willd.) Vis.** [FD3-2: 250]. Basionym:— *P. pedata* Willdenow *En. pl. h. berol. suppl. 38* (fide [89]). Note:— *It was not yet possible to confirm the basionym.*

***Potentilla hirta* var. *laciniosa* Vis.** [FD3-2: 250], *des. inv.* Intended basionym:— *P. laciniosa* Waldstein & Kitaibel ex Nestler *Monogr. pot., 1816: 45* (fide [89]). Note:— There exists an earlier homonym by (Waldst. & Kit.) Ser.; Visiani did not know that the name by Waldst. & Kit. had been published ex Nestl., he believed it ined., nevertheless he certainly meant the same thing (Art. 41.4).

***Potentilla verna* var. *opaca* (L.) Vis.** [FD3-2: 252], *stat. nov.* Basionym:— Linnaeus *Amoenitates academicae, 1749: 274* (fide [89]), via [162:713].

***Potentilla fragariastrum* var. *breviscapa* (Vest) Vis.** [FD3-2: 252], *stat. nov. illeg.* Ba-

sionym:— Vest Flora 4(1): 158. 1821. Note:— Visiani cites *P. micrantha* Ramond ex DC. *Fl. Fr. 4: 468* (fide [89]), which was already taken to the rank of variety by Nestler as *Potentilla fragaria* var. *micrantha* (Ramond ex DC.) Nestl. (fide [89]).

***Alchemilla vulgaris* var. *montana* Vis.** [FD3-2: 254], *nom. superfl.(illeg?)* Basionym:— *A. montana* Willd. *En. pl. h. Ber. 170*. Note:— Visiani cited *A. vulgaris* var. *hybrida* Willdenow [38:698]. There are also no less than three homonyms: *Alchemilla vulgaris* var. *montana* (F.W.Schmidt) Asch. & Graebn., *Alchemilla vulgaris* var. *montana* F.W.Schmidt, *Alchemilla vulgaris* var. *montana* Hagenb. (fide [89]).

***Poterium sanguisorba* var. *polygamum* (Waldst. & Kit.) Vis.** [FD3-2: 255], *stat. nov.* Basionym:— *Poterium polygamum* Waldstein & Kitaibel [405:217].

***Amygdalus communis* var. *amara* Vis.** [FD3-2: 257]. Basionym:— *A. amara* Hayne *Getreue Darstell. Gew. 4: t. 39, 1816* (fide [89]), apparently based on some name by C. F. Ludw. [88]. It seems that Hayne did *not* publish *A. amara* in that publication. Note:— This seems to be a later homonym of (DC.) Ser. or Ludwig ex DC. 1805 (fide [89]).

***Prunus cerasus* var. *marasca* (Host) Vis.** [FD3-2: 258], *stat. & comb. nov.* Basionym:— *Cerasus marasca* Host [140:6].

***Amygdalus communis* var. *fragilis* (Borkh.) Vis.** [FD3-2: 257], *des. inv.* Intended basionym:— *A. fragilis* Borkhaus *Versuch einer forstbotanischen Beschreibung, 1790: 201* (fide [89]). Note:— Visiani cited Borkhaus indirectly, via Reichenbach [153:647]. This is a later isonym of (Duhamel) DC.

***Cytisus tinctoria* (L.) Vis.** [FD3-2: 268], ‘*tinctorius*’, *comb. nov.* Basionym:— *Genista tinctoria* Linnaeus [38:710] (via [162:998]).

***Cytisus triangularis* (Willd.) Vis.** [FD3-2: 268], *comb. nov.* Basionym:— *Genista triangularis* Willdenow *Sp. Pl. 3: 938, 1800* (fide [89]).

***Cytisus germanica* (L.) Vis.** [FD3-2: 268], ‘*germanicus*’, *comb. nov.* Basionym:— *Genista germanica* Linnaeus [38:710] (via [162:999]).

***Cytisus germanica* var. *inermis* (W.D.J Koch) Vis.** [FD3-2: 268], ‘*germanicus*’, *comb. nov.* Basionym:— *Genista germanica* var. *inermis* W.D.J. Koch [544:168]!

***Cytisus sylvestris* (Scop.) Vis.** [FD3-2: 268], *comb. nov.* Basionym:— *Genista sylvestris* Scopoli [556], 2: 53].

***Cytisus sylvestris* var. *innocua* Vis.** [FD3-2: 269], ‘*innocuus*’, *nom. inval.* Note:— Visiani cited the type of the species as a whole under this name (var. α).

***Cytisus kitaibelii* Vis.** [FD3-2: 269], *nom. nov. illeg. superfl.* Replaced synonym:— *Genista procumbens* Waldstein & Kitaibel [405:197]. Note:— Visiani published this as a replacement name for *C. procumbens* (Waldst. & Kit.) Sprengl *Syst. veg. 3: 224* (fide [89]), based on *Genista procumbens* Waldstein & Kitaibel [405:197]. He believed that this name was unavailable under *Cytisus* for having been published before by ‘Arrab’. He probably

meant Francisco Antonio de Arrábida, but we were unable to confirm any name by him, and Visiani does not give any reference. Anyway, he also mentioned *G. halleri* Reyn. 'Act. Laus. 1 p. 211' (i.e. *Mémoires pour servir à l'histoire physique et naturelle de la Suisse - T. 1: 211*, fide [89]), which is the position mentioned in DC. [512: 152]!. Therein, the name was first validly published, by L. Reynier ex DC., as the former memoir had reference to a previous name-phrase, but no description nor valid name. Visiani should have chosen that epithet.

***Cytisus sericea* (Wulfen) Vis.** [FD3-2: 269], 'sericeus', *comb. nov. illeg.* Basionym:— *Genista sericea* Wulfen in Jacquin [582: 167]. Note:— This is a later homonym of Willdenow [352: 1121]!, which Visiani considered available, as a synonym of *Tephrosia suberosa* DC.

***Cytisus pulchella* (Vis.) Vis.** [FD3-2: 270], 'pulchellus', *comb. nov.* Basionym:— *Genista pulchella* Vis. [Flora 30: 51].

***Cytisus villarsii* (Clementi) Vis.** [FD3-2: 270]. Basionym:— *Genista villarsii* Clementi [116: 517].

***Anthyllis vulneraria* var. *coccinea* Vis.** [FD3-2: 277], *nom. illeg. superfl.* Note:— Visiani cited as a synonym *O. vulneraria* var. *rubriflora* DC. [512: 170].

***Medicago denticulata* var. *histris* (Ten.) Vis.** [FD3-2: 281]. Basionym:— Tenore [151: 45]. Note:— The basionym by Tenore is validly published and widely neglected.

***Medicago obscura* var. *microdon* (Ehrenb.) Vis.** [FD3-2: 283]. Basionym:— *M. microdon* Ehrenberg *Cat. sem. H. Berol. 1827* (fide [89]).

***Medicago littoralis* var. *genuina* Vis.** [FD3-2: 284], 'littoralis', *nom. inval.* Note:— The epithet *genuina*, used to refer to the type of the species, is invalid (see Art. 24.3).

***Medicago littoralis* var. *arenaria* (Ten.) Vis.** [FD3-2: 284], 'littoralis', *nom. superfl.* Basionym:— *M. arenaria* Tenore *Cat. H. Neap., 1819* (fide [89], = *M. littoralis* Ten. [151] 45)! *nom. nov.*, non *M. littoralis* Loiseleur *Not. Fl. France: 118, 1810* fide [89]). Note:— This name is superfluous, as Visiani mentions as a synonym *M. littoralis* var. *longiaculeata* Moris *Fl. Sard.: 440* (fide [89]) 'littoralis, longiaculeata'. Despite choosing a new name for *M. littoralis*, Visiani did not include the type of the species, as he considered *M. littoralis* Loisl. and *M. littoralis* Ten. to be distinct.

***Trifolium leucanthum* var. *obscurum* (Savi) Vis.** [FD3-2: 291], *stat. nov.* Basionym:— *T. obscurum* Savi *Obs. Trif.: 31, 1810* (fide [89])

***Lotus corniculatus* var. *ciliatus* Vis.** [FD3-2: 302]. Original material:— A: *The material in HD is to be checked.* Note:— Visiani's specimens are marked as '*Lotus ciliatus*'. This cannot be the same plant described by Tenore [151: 44], as that one has *foliis glabris margine*, while Visiani's has *foliolis [...] ciliatis*. Visiani knew Tenore's work, and would have cited it if the two had been meant to coincide.

***Lotus corniculatus* var. *hirsutus* Vis.** [FD3-2: 302], *nom. illeg. superfl.* Note:— Visiani mentions *L. corniculatus* var. *crassifolius* Persoon [614:354].

***Lotus crantzii* Vis.** [FD3-2: 304], *nom. illeg. superfl.* Note:— Visiani includes here specimens named *L. dorycnium* sensu Crantz (non L.). As *Dorycnium herbaceum* Villars [550:417] is cited as a synonym, he should have adopted that epithet.

***Hippocrepis comosa* var. *glauca* (Ten.) Vis.** [FD3-2: 315]. Basionym:— *Hippocrepis glauca* Tenore [151:43] (via [615:165]). Note:— There is a later isonym by Bolòs & Vigo *Fl. Països Catalans* 2: 825, 1990 (fide [89]).

***Hippocrepis unisiliquosa* var. *biflora* (Spr.) Vis.** [FD3-2: 315]. Basionym:— *H. biflora* Springer *Pl. Min. Cogn. Pug.* 2: 73, 1815 (fide [89]).

***Vicia lutea* var. *hirta* (Balb. ex Pers.) Vis.** [FD3-2: 318]. Basionym:— *V. hirta* Balbis ex Persoon [614:308]. Note:— *There might exist an earlier isonym by Loiseleur.*

***Vicia sativa* var. *segetalis* (Thuill.) Vis.** [FD3-2: 319], *stat. nov. inval.* Intended basionym:— *Vicia segetalis* Thuillier *Fl. Env. Paris, ed. 2.* 367, 1799 (fide [89]). Note:— There is an earlier isonym by Seringe ex DC [512:361], and possibly by WDJ Koch, too.

***Vicia sativa* var. *angustifolia* (Roth) Vis.** [FD3-2: 315], *des. inv.* Intended basionym:— *V. angustifolia* Roth *Tentamen Fl. germ.* 1: 310 (fide [89]). Note:— A later isonym of Seringe ex DC [512:361].

***Vicia sativa* var. *intermedia* (Viv.) Vis.** [FD3-2: 319], *stat. nov.* Basionym:— *V. intermedia* Viviani *Fl. Libyc. Spec.* 42. t. 19. f. 1, 1824 (fide [89]).

***Vicia hirsuta* var. *leiocarpa* (Ten.) Vis.** [FD3-2: 521] '*lejocarpa*', *comb. nov.* Basionym:— *Ervum pubescens* var. *leiocarpum* Tenore [543:364].

***Vicia lanata* Vis.** [FD3-2: 324], *nom. inval.* Note:— This name was invalidly published pro syn. *V. atropurpurea* Desf.

***Lathyrus inconspicuus* var. *stans* (Vis.) Vis.** [FD3-2: 328]. Basionym:— *L. stans* Visiani [Flora 29: 19].

***Lathyrus sylvestris* var. *ensifolius* (Badarò) Vis.** [FD3-2: 329], '*ensifolia*'. Basionym:— *L. ensifolius* Badarò in Moretti *Giornale di fisica, chimica, storia naturale, medicina ed arti.* 7, 7, 1824 (fide [89]).

***Lathyrus sylvestris* var. *latifolius* (L.) Vis.** [FD3-2: 329], *nom. superfl.* Basionym:— *L. latifolius* Linnaeus [38:733] (via [162:1033]). Note:— Visiani cites (without mentioning the name, but only the letter γ) as a synonym *L. sylvestris* var. *grandiflorus* (Lang.) Rchb. [153:535], as well as two other unnamed varieties by Reichenbach.

***Lathyrus saxatilis* (Vent.) Vis.** [FD3-2: 330], *comb. nov.* Basionym:— *Orobis saxatilis* Ventenat *Descr. pl. nouv. fasc. 10: t. 94* (fide [89]).

***Lathyrus variegatus* (Ten.) Vis.** [FD3-2: 330], *des. inv.* Intended basionym:— *Orobis variegatus* Tenore *Fl. Neap. prodr. sup. 1: 62* (fide [89]). Note:— This is a later isonym of Gren. & Godr. *Fl. Fr.: 485, 1849* (fide [89]). That name in itself seems an illegitimate later homonym of both Host [140:327] and Gilibert *Flora Lituanica Inchoata 2: 99, 1781* (fide [89]).

***Agrostis stolonifera* var. *maritima* (Lam.) Vis.** [FD3-2: 386], *des. inv.* Intended basionym:— *A. maritima* Lamarck [447]:61. Note:— This name is a later isonym of W.D.J. Koch [527:781].

***Bromus maximus* var. *gussonei* (Parl.) Vis.** [FD3-2: 341], ‘*gussonii*’. Basionym:— *B. gussonei* Parlatores *Pl. rar. Sic. fasc. 2: 8* (fide [89]). Note:— Some sources give that *B. maximus* var. *gussonei* (Parl.) Parl. *Pl. rar. sic. fasc. 2: 8*, quite probably by mistake.

***Molinia caerulea* var. *arundinacea* (Schrank) Vis.** [FD3-2: 343]. Basionym:— *Molinia arundinacea* Schrank *Baier. Fl. 1: 336, 1789* (fide [89]). Note:— There appears to be a later isonym by Ascherson.

***Triticum durum* var. *villosum* (Host) Vis.** [FD3-2: 345], ‘*villosa*’, *stat. nov.* Basionym:— *T. villosum* Host [410:4].

***Tinea maculata* (Desf.) Vis.** [FD3-2: 353]. Basionym:— *Satyrium maculatum* Desfontaines [525:319]. Note:— Visiani cited numerous names as synonyms, all with later epithets. The genus is illegitimate, and was replaced by *Neotinea* Rchb. f. *De Pollin. Orchid.: 29, 1852* (fide [89]).

***Potamogeton lucens* var. *longifolius* (J.Gay ex Poiret) Vis.** [FD3-2: 355], ‘*longifolia*’. Basionym:— *P. longifolius* J. Gay ex Poiret *Encycl. Suppl. 4: 535, 1816* (fide [89]). Note:— There are later isonyms by A. Bennett and Cépín *Notes Pl. Rar. Belgique 3: 27, 1863* (fide [89]).

***Brassica adpressa* (Moench) Vis** [FD3-2: 360], *comb. nov. illeg. superfl.* Basionym:— *Hirschfeldia adpressa* Moench [558]. Note:— Visiani cited *Myagrum hispanicum* L. [38:640] (via [162:893]) as a synonym. He would have formed a correct combination choosing that epithet, as it was never used under *Brassica*. Moreover, his name is an illegitimate later homonym of Boissier *Voy. Bot. Espagne 1: 38, 1839* (fide [89]).

6.4 Original Material for Names in Other Publications

This section presents the drafts of two works dealing with original material found for names published in *Pl. Aeg.*, *Pl. Aeg.-2*, and *St. Dalm.*. The same caveats as for § 6.3 apply also here.

6.4.1 Names in *Pl. Aeg.* and *Pl. Aeg.-2*

Asterocephalus arenarius (Forsskål) Visiani [Pl. Aeg.: 64]. Basionym:— *Scabiosa arenaria* Forsskål [616: LXI]. Note:— This name is generally wrongly considered as published by Visiani as a new taxon. It must be noted, though, that the description by Forsskål is hardly diagnostic, since it consists only of the phrase ‘Flore albo; calyce longiore’, as was noted by Visiani himself [Pl. Aeg.-2: 7]. For this reason, Visiani puts a question mark on his name ‘?’. The name is treated in full in [Pl. Aeg.-2: 6].

Heliotropium brocchianum Visiani [Pl. Aeg.: 65]. Neotype (to be designated):—SUDAN. Chartum in Sennaar [Khartoum], [ante 1831], [*G. B. Brocchi*] s.n. (G00147133!) [NB: Nothing in BASSA; PI]. Note:— The specimen in G was sent by Acerbi to Geneva in 1831. As he never visited Sennār, we must assume it was originally collected by Brocchi. The specimen bear the annotation ‘*Corolla infudibulif[ormis] limbo 5-fido. Faux pervia, et pili 5-stellatim dispositis instructa (alba fauce luteola). Planta prostrata*’, which almost perfectly corresponds with the original annotation on this species by Brocchi that Visiani mentions in Pl. Aeg.-2: 8. This specimen was almost certainly not seen by Visiani, but as it clearly is a duplicate of his original material, we consider it particularly suitable as a neotype. The neotype was later recognised as belonging to *H. kunzei* Lehmann [617:19], which in turn is now treated as a synonym of *Euploca ovalifolia* (Forssk.) Diane & Hilger *Bot. Jahrb. Syst.* 125: 48, 2003 (fide [88]).

Lithospermum obtusum Visiani [Pl. Aeg.: 65]. Type (to be designated):—EGYPT. s.l., s.d., *Brocchi* s.n. (unnumbered in P1!). Note:— The specimen selected as type bears a label with Visiani’s handwriting, and is the only specimen that we were able to find. This name is currently not understood. The name is treated in full in [Pl. Aeg.-2: 10].

Convolvulus lasiospermus Visiani [Pl. Aeg.: 66]. Neotype (to be designated):—SUDAN. Sennaar [Sennār], [ante 1831], [*G.B. Brocchi*] s.n. (G00135590!). Note:—This taxon Unresolved, possibly *Ipomoea rumicifolia* Choisy [618:447]. A syntype of Choisy’s name is in G. The original material was collected by Brocchi. The name is treated in full in [Pl. Aeg.-2: 13].

Trianthema sedifolia Visiani [Pl. Aeg.: 66]. Specimens examined:—EGYPT. s.l., s.d. *Brocchi* s.n. (unnumbered in P1!). — Note:— The additional specimen examined, which bears Visiani’s handwriting and signature, originated from Egypt, while the *locus classicus* is “Chatum [Khartoum] in regno Sennaar [Sannār]”, a city in present day Sudan, then Nubia. This name is now considered a synonym of *T. triquetra* Rottler & Willdeow 1803: 181 (fide [89]). The name is treated in full in [Pl. Aeg.-2: 19].

Corchorus fruticulosus Visiani [Pl. Aeg.: 66]. Note:— Synonym of *C. trilocularis* L. Legit Brocchi with notes from ms. The name is treated in full in [Pl. Aeg.-2: 21].

Volkameria acerbiana Visiani [Pl. Aeg.: 66], “*Volkamera*”. Specimens examined:— SUDAN. Berber Mograd, in insula, 1841, *C.G.T.Kotschy* 359 (P-00442333!). Note:— The specimen by Kotschy in P is labelled as “Type”, nonetheless, we could find no evidence of it

having been effectively designated as such. Even if it were, Visiani described this species on specimens by Acerbi, so that the designation would be that of a neotype, and would be unwarranted, given that the illustration in [Pl. Aeg.-2] is part of the original material. This name is presently accepted, and is treated in full in [Pl. Aeg.-2: 23].

Zilla microcarpa (DC.) Visiani [Pl. Aeg.: 67]. Basionym:— *Zilla myagroides* var. *microcarpa* De Candolle Syst. Nat. 2: 247. Note:— Synonym of *Z. spinosa* (L.) Prantl. The name is treated in full in [Pl. Aeg.-2: 24].

Trigonella dura Visiani [Pl. Aeg.: 67]. Note:— Synonym of *T. maritima* Poir. [or *Delile* in Poir.]. The name is treated in full in [Pl. Aeg.-2: 32].

Trigonella arguta Visiani [Pl. Aeg.: 68]. Lectotype (to be designated):—EGYPT. s.l., s.d., *Acerbi s.n.* (PI-unnumbered!). Note:— The specimen here selected as lectotype bears a label with Visiani's handwriting and signature. This taxon is poorly understood. The name is treated in full in [Pl. Aeg.-2: 33].

Brocchia Visiani [Pl. Aeg.: 68]. Type:— *B. cinerea* Visiani (Pl. Aeg.: 35). Note:— The species indicated as type is the only one included by the Author, so that it could be considered the 'holotype' of the genus (see Art. 10.1 Note 1, [3]). The name is treated in full in [Pl. Aeg.-2: 35].

Brocchia cinerea (Delile) Visiani [Pl. Aeg.: 68]. Basionym:— *Cotula cinerea* Delile (1813: 275). Note:— This name is currently accepted (e.g. [88]). The name is treated in full in [Pl. Aeg.-2: 35].

Anthemis cairica Visiani [Pl. Aeg.: 69], *nom. illeg. superfl.* Note:— Visiani mentioned as a synonym *Anthemis retusa* Delile (1813, fide [89]), explicitly excluding the later homonym *A. retusa* Link ex Sprenger (1826, fide [89]). Since Delile's name takes priority, Visiani's name is superfluous and, having no basionym, illegitimate. Its type is therefore that of *A. retusa* Delile (Art. 7.5). The name is treated in full in [Pl. Aeg.-2: 36].

Apargia annua Visiani [Pl. Aeg.: 69]. Type (to be designated):— Note:— Synonym of *Scorzoneroides hispidula* (Delile) Greuter & Talavera, basionym *Crepis hispidula* Delile 1813 (fide [89]). The name is treated in full in [Pl. Aeg.-2: 38].

Chrozophora brocchiana Visiani [Pl. Aeg.: 69], "*Crozophora*". Specimens examined:— SUDAN. Sennaar [Sannār], s.d., *Brocchi s.n.* (unnumbered in Pr!). Note:— The additional specimen could not be chosen as lectotype, since Sannār is a separate and much more southern locality from the *locus lassicus*, which is "*in deserto prope Nedi [Nadi] in regno Berber*". This name is sometimes incorrectly reported as published by Visiani under the genus *Croton* (e.g. [88]), and wrongly ascribed under *Crozophora* Necker ex A. Jussieu 1824: 27 (fide [89]) to Schweinfurth 1862: 9, (fide [89]). The name is treated in full in [Pl. Aeg.-2: 39]. The original material is by Brocchi.

Croton obliquifolium Visiani [Pl. Aeg.: 70]. Specimens examined:—EGYPT. s.l., s.d., *Acerbi s.n.* (PI!); EGYPT. In argine Nili, s.d., *Brocchi s.n.* (BASSA-BR-112!); EGYPT. Siut*

In argine qui ad ripas Nili duit* ad urbem copiose crescit Juxta Monieh* samal* reperta; EGYPT. In valle El-Miah [?] in deserto super Erdesiam [?], [ante 1831] G. Acerbi s.n. (G-00313730!); EGYPT. Prope Zabara [?], [ante 1831] G. Acerbi s.n. (G-00313729!). Note:— The specimen chosen as type bears a label written and signed by Visiani. This name is now considered a synonym of *Chrozophora plicata* (Vahl.) A. Jussieu ex Sprengel [535:850] [88], as already noted in [619:747]. Visiani himself evaluated the similarities between this two plants, but concluded that that his new taxon was different from Jussieu's 'because of the genus, the infructescence, the leaves, and the pendulous capsules' ('*genere, frutescentia, foliis, capsulis pendulis*'). The name is treated in full in [Pl. Aeg.-2: 39].

Poa pilosa* var. *aegyptiaca Visiani [Pl. Aeg.-2: 6]. Locus classicus:—s.l. Type:— Note:— Earlier homonym of Willd. B.Fedtsch. *Izv. Imp. Bot. Sada Petra Velikago 14 (Suppl. 2): 69 1915* (fide [89]).

Plantago lagopus* var. *eristachya (Tenore) Visiani [Pl. Aeg.-2: 8]. Basionym:—. Note:— Synonym of *P. lagopus* Ten.

Potentilla supina* var. *aegyptiaca Visiani [Pl. Aeg.-2: 21]. Locus classicus:—s.l. Type:— BASSA-BR-207!. Note:— Basionym of *P. supina* subsp. *aegyptiaca* (Vis.) Sojk 1993: 128, 1993 (fide [89]).

Sida spinosa* var. *sennaariensis Visiani [Pl. Aeg.-2: 27].

6.4.2 Names in *St. Dalm.*

The following draft was prepared before most of the information collected for this thesis was available, and is therefore to be substantially reviewed.

***Scabiosa multiseta* Vis.** [St. Dalm.: 1, t. 1]. Note:— *S. sibthorpiana* Sm. is cited as a potential synonym in the protologue, but not definitely accepted as such. Visiani, having later been able to see a copy of *Flora Graeca* [135], confirmed his suspicion and listed this name as a synonym of Smith's name in *Flora Dalmatica* [FD2: 16], under the name *Pterocephalus palaestinus* Coult. var. *lyrata* Vis. The generally accepted name for this taxon is *Lomelosia brachiata* (Sm.) Greuter & Burdet. According to Mayer [134]: *S. sibthorpiana* Sm., and Visiani also was convinced of this after he saw Sibthorp and Smith's book in the library of the Graduke of Tuscany [135].

***Cephalaria leucantha* var. *scopolii* Vis.** [St. Dalm.: 3]. Lectotypus (to be designated): — 'Scabiosa leucantha γ. Scopolii / Ceph. leucantha δ. Scopolii DC / mihi / E rimis rupium montis Biokovo / 16 7mbris [septembris] 1824', in Visiani's handwriting (PAD-HD02465!). Note:— The selected specimen is the only one that corresponds to the locality and time given in the protologue ('*in rimis rupium montis Albii (Biokovo). Florebat ibidem mense Septembris*'). This is one of the very rare specimens by Visiani with a collection date. The phrase 'Ceph. leucantha δ. Scopolii DC' was added after the first name in a later moment, as is confirmed by the use of a different pen and ink colour. In his

treatment Visiani argues that this taxon corresponds to Scopoli's concept of *Scabiosa leucantha* and cites *S. leucantha* Scop. non L. as a synonym. From his wording it is clear that he does so merely on the basis of the description of that taxon in *Flora Carniolica* ed. 2 [556], having seen no original material by Scopoli. For this reason the type was to be selected solely from Visiani's collections. The combination *Scabiosa leucantha* var. *scopolii* is an older name which was never published.

***Campanula cordata* Vis.** [St. Dalm.: 5, t. 2]. Lectotypus (to be designated):— '*Campanula cordata* / mihi / In cultis vulg. in Dalm. / mr. De Visiani 1827', in Visiani's handwriting, except the phrase 'mr. De Visiani', in De Candolle's handwriting. (G-DC, G00321896!). Original material:— CROATIA. Campi della Dalmazia, s.d., s.c. s.n. BOLO! Note:— A specimen in G was identified as type, but not formally designated as such. It was collected by Visiani and later sent to De Candolle, who received it in 1827. Visiani published *St. Dalm.* in late 1826, and was in Dalmatia collecting plants for most part of 1827 [H. Pat. 42], therefore there is no way to definitely confirm or exclude that this specimen is part of the original material, based only on the date. Another specimen in PAD ('*Campanula cordata* / nob. / In cultis Dalm. / Visiani', PAD-H0023205!) is probably a duplicate, with no indication of date whatsoever. I choose the specimen in G as it is larger and better fits Visiani's description. In fact, he describes the plant as having the calyx as long as the corolla, as in the selected specimen, while in the only flower in the PAD specimen it is much shorter. Visiani also mentions a variety 'macrior multicaulis' in his protologue, and a specimen named *C. cordata* var. *macrior* is available in PAD (PAD-HD04010!). This is not to be regarded as a species name, as it 'consisting of a generic name followed by two or more adjectival words in the nominative case' (ICN Art. 23.6 [c]). From a letter by Bertoloni (brtn-250503) we learnt it was him to choose the epithet '*cordata*'. This name is now considered a synonym of *Legousia speculum-veneris* L. [58].

***Campanula cordata* var. *albiflora* Vis.** [St. Dalm.: 5]. Note:— No potential type specimens for this name were found. From Visiani's work, it appears that the only difference from this variety to the type is the colour of the flowers: white instead of purple. White flowered plants are not uncommon in *L. speculum-veneris*, so the application of this name is clear even without a type, which we shall not try to designate.

***Seseli tomentosum* Vis.** [St. Dalm.: 6, t. 3 f. 1]. Lectotypus (to be designated):— '*da restituirs* / *Seseli tomentosum* / Sp. praealta / in umbrosis Dalm. / species nova Seseleos', in Visiani's handwriting, except for the words 'species nova Seseleos'. (PAD-HD06493!). Note:— Three specimens were previously identified as type of this name, the selected specimen, one from HAL ('*Seseli tomentosum* Vis.! / In saxosis Dalm. / Vis!', HAL-098517!) and one from M ('*Seseli tomentosum* nob. / e coll. Dalmatiae / Visiani ipse', M-0172916!), but neither of those was formally designated as such. The history of the selected specimen can be deduced from the different handwritings on the label. It was originally named just '*Seseli* / Sp. praealta' and then sent for review to an expert, with the note '*da restituirs*' (i.e. 'to be returned'), by Visiani. The handwriting of the reviewer points to Antonio Bertoloni, whom Visiani thanks for his advice in the introduction of his work. Bertoloni informed Visiani that this was, in his opinion, a new species

(‘species nova Seseleos’), which only then was given the epithet. The word ‘tomentosum’ was written by Visiani with a different pen and ink colour, which confirms that it was added later. In light of this, we can be certain that Visiani had this specimen before definitely establishing the name *S. tomentosum* and must have regarded it as typical. Therefore, this specimen is without doubt part of the original material and so suitable as lectotype, despite the fact that the protologue indicates a different habitat: ‘in collibus saxosis mare spectantibus prope Sibenicum in Dalmatia’. The name is still in use [58].

***Arenaria arduinii* Vis.** [St. Dalm.: 8, t 3 f. 2] ‘*arduini*’. Note:— As Conti & Santangelo [620] already explained, there used to be two *Arenaria* specimens by Arduino conserved in the town of Vicenza, which were seen by Visiani before the publication of Stirp. Dalmat., under concession of Arduino’s son. After studying these, Visiani concluded that some specimens of *Arenaria* that he had collected from Dalmatia were to be included in this species, as Bertoloni had suggested him, although in a different variety. Having seen Portenschlag’s original material, he argues also that *A. clandestina* Port. should be included as well, apparently as a more minute variety. For this expanded circumscription of the taxon, Visiani proposes a new species name: *A. arduinii* because, in his opinion, the epithet *graminifolia* was to be retained to the then well-known *A. graminifolia* Schrad. non Ard., an illegitimate later homonym. He also rejects the epithet *clandestina*, which he finds inappropriate because it would give a wrong idea of the plant. At the beginning of the protologue, Visiani lays out the general characters of his species and then proceeds to differentiate two varieties. The first is var. *italica*, which is numbered with the Greek letter β , it is indicated as synonym to *A. graminifolia* Ard. and has ‘major, pubescens’ as a brief diagnosis and a reference to Arduino’s iconography. The second is var. *dalmatica*, which is numbered γ , is synonym to *A. clandestina* Port., with a diagnosis that can only be applied to that concept (‘minor, uniflora, inaperta’) and references to iconography related to Portenschlag’s concept. At first, it seems that Visiani, confusingly enough, intended the specimens collected by himself in Dalmatia to be included not in var. *dalmatica*, but in the typical variety (‘var. α ’), which he doesn’t explicitly establish and that, according to the ICN, should be automatically named var. *arduinii*. By following this interpretation, Conti [620] designated a specimen in G as lectotype for *A. arduinii* var. *arduinii*: ‘*Arenaria arduini* Vis. pl. Dalm. Specim. p. 8 table 3 f. 2 / *Arenaria graminifolia* Arduini ex Visiani / *Arenaria Rosani* Tenore / (?) M. Biokovo in Dalmatia: Septembris/Visiani’ (G-00227040, middle of the three specimens). Nonetheless, if we go on reading the protologue, we find out that Visiani seems to contradict himself. In the observations in the protologue, he strongly argues that Portenschlag’s *A. clandestina* is in fact just an underdeveloped specimen of the species (i.e. of the typical variety) that he is describing. In other words, he is stating that *A. arduinii* var. *dalmatica* is not to be considered of a different taxon from the type of the species. It could be argued, then, that the name *A. arduinii* var. *dalmatica* was not validly published, as it was not accepted as distinct by its author, in the protologue itself. By following this line of reasoning, one could also state that Visiani is implying that he believes that the type of *A. clandestina* Port. should be included in var. *arduinii*. If so,

then, the type of *A. clandestina* was included in the subordinate taxon that includes the type of the whole species, which should be automatically typified by the type of *A. clandestina*, and not by the specimen selected by Conti. It is not clear if *A. arduinii* var. *arduinii* ‘definitely include[s] the type’ of *A. clandestina* or it is ‘included in a subordinate taxon that does not include the evidently intended type’. All Visiani’s reviewers (Mayer [134], Configliacchi [130]), and crucially Da Rio [135], who know him personally, state that *A. arduini* and *A. clandestina* were intended to be the same species. Configliacchi [130] believed *A. clandestina* and *A. arduinii* to be separate, and names the former (illegitimately) *A. visianii* and the latter *A. graminifolia* Ard.

***A. arduinii* var. *italica* Vis.** [St. Dalm.: 8, t. 3 f. 2], ‘*arduini*’, *nom. illeg. superfl.* Note:— Being a later homotypic synonym of *A. graminifolia*, it is superfluous and automatically typified by the type of *A. graminifolia*, i.e. LINN n. 585.81, middle specimen (Conti & Santangelo [620]).

***A. arduinii* var. *dalmatica* Vis.** [St. Dalm.: 8, t. 3 f. 2], ‘*arduini*’, *nom. illeg. superfl.* Note:—*A. clandestina* Port. is cited as a synonym. This name is therefore superfluous and automatically typified by the type of that name.

***Satureja subspicata* Bartl. ex Vis.** [St. Dalm.: 11, t. 4]. Lectotypus (to be designated): — ‘*Satureja subspicata* Bartling / *pygmaea* Sieber / In alp. Carniae, Tergesti, et Dalmatiae. Sept.’, in Visiani’s handwriting (W-Jacq.-0027357!). Note:— Visiani cites two synonyms in the protologue: *S. subspicata* Bartl. and *S. pygmaea* Sieber. Neither of these names was validly published, as he found them in ‘Pl. exsicc.’. Accepting *S. subspicata*, Visiani is the validating author for that name. He cites gatherings by himself, Siebert (sub *S. pygmaea*), Bartling, Moretti and Biasoletto, that must be regarded as syntypes. There is no certain original material for this name in PAD, but four specimens in W were identified as syntypes by L. Pignotti (W 1889-0070511, W 1889-0208182, W 1889-0070511, W 1889-0208182), who also recognised three more syntypes as *typus probabiliter* (W-Putterlick 0027288, W-0027358, W-Jacq.-0027357). Another syntype, in HAL, was listed as *specimen originale* by C. Bräuchler (HAL-0104676). These specimens were all collected either by Visiani or Siebert and none has a collection date. Most of Siebert’s material was later identified as *S. subspicata* subsp. *liburnica* Šilić by Šilić himself and is therefore undesirable as type. Among Visiani’s material, the selected specimen is the one that most closely matches the protologue (‘legi Dalmatiae loco citato [in saxosis humilioribus montis *Biokovi*] mense septembris anno MDCCCIIIIV’), as only for this we have at least the month of collection. We also know from Visiani’s work that he was in contact with Jacquin before publishing *St. Dalm.*, in whose herbarium this specimen is found. Moreover, in his later works Visiani attributed the name *S. subspicata* to Bartling and himself and no longer to Bartling alone, which also is a dim suggestion that this specimen predates the publication of *St. Dalm.* The name is still in use [58]. According to Configliacchi [130], a variety of Scopoli’s *S. montana*.

***Satureja pygmaea* Sieber ex Vis.** [St. Dalm.: 11, t. 4], *nom. inval.* Note:— A description for this name was first provided when Visiani cited it along with *S. subspicata* Bartl. ex

Vis.. By accepting Bartling's name, which was also a *nomen nudum*, he validated that name, but not this one. *S. pygmaea* Sieber ex Vis. is still invalid, as it was not accepted by his validating author (Art. 33).

***Biscutella dilatata* Vis.** [St. Dalm.: 14, t. 5]. Lectotypus (to be designated):— CROATIA. Nei boschi (unnumbered in BOLO)! Note:— In the protologue Visiani cites the name *Biscutella hispida* as a synonym, but explicitly excludes its type ('non De C.'). According to Mayer [134], this taxon may be a synonym of *B. hispida* Sims. From a letter by Bertoloni to Visiani conserved in Padova (15th Feb. 1825) we know that a specimen should be found in BOLO, but we were unable to locate it. We also learnt that it was Bertoloni, and not Visiani, to choose the epithet '*dilatata*'.

***Crepis incarnata* Vis.** [St. Dalm.: 17, t. 6 f. 2]. Lectotypus (to be designated): — 'da restituirsi / Crepis / nova species (Bertoloni) / fl. pallide rubri / Caulis nunc simplex nunc ramosus / ad vias agrorum', in Visiani's handwriting, except for the words 'nova species' (PAD-HD03606!). Note:— This specimen is analogous in his history to the lectotype of *Seseli tomentosum* Vis.. From an analysis of the handwritings on the label, it becomes clear that it was first identified just at the genus level, then sent for revision to Bertoloni and, after receiving his opinion, was given the epithet by Visiani. We can conclude that this specimen is certainly part of the original material and considered typical by the author, therefore it is particularly suitable as lectotype. The name is now treated as a synonym of *Crepis rubra* L. (see also [brtn-240 502]).

***Trichocrepis* Vis.** [St. Dalm.: 18]. Note:— This newly introduced genus is to be typified by *Trichocrepis bifida* Vis., the only species cited in the protologue.

***Trichocrepis bifida* Vis.** [St. Dalm.: 19, t. 7]. Note:— No secure original material for this name was found. Given that Visiani's specimens are spread into many collections and that the taxonomy and nomenclature of this group is complex, it is quite possible that a good type candidate is extant in some herbarium, possibly filed under an obscure name. Considering that this name was the base for many new combinations (under *Crepis*, *Pterotheca*, *Lagoseris*) and long accepted by many authors, I refrain from designating any type here. If no better specimen is found in the meantime and typification of this name is required or desirable, the illustration in the protologue is available and one specimen in PAD could serve as epitype: 'Trichocrepis bifida / In asperis et insulis / tot. Dalmatiae', in Visiani's handwriting (PAD-HD03847!). The locality is cited in this way in Fl. Dalm. (1847) and so it is unlikely to be part of the original material. This name is now treated as a synonym of *Crepis sancta* (L.) Bornm., of which it has been considered a subspecies, under the name *Crepis sancta* subsp. *bifida* (Vis.) Babc..

***Chrysanthemum turreanum* Vis.** [St. Dalm.: 19, t. 8]. Note:— According to Mayer [134] and Da Rio [135]: *Pyrethrum cinerariifolium* Trevir.

***Lecidea bovina* Vis.** [St. Dalm.: 21, t. 2 f. 2]. Lectotypus (to be designated): — [illustration in St. Dalm.: t. 2 f. 2]. Epitypus (to be designated): — 'Poronia punctata / Lecidea bovina Vis. / [...] / 1830 / Dalmat. / Vis.', in Saccardo's handwriting (PAD-MS00000!).

Note:— Visiani considered this to be a lichen, but it is in fact a non-lichenised fungus. De Candolle and Contarini suspected this species not to be distinct from Linnaeus's *Peziza punctata* [135]. This identity was later confirmed by Saccardo [239], who lists *L. bovina* as a synonym of *P. punctata* in his *Sylloge Fungorum*, under the combination *Poronia puntata* (L.) Fr., that is still in use. One specimen by Visiani under this name was seen by Pier Andrea Saccardo and was cited in his work [239]. It is now conserved in his mycological collection in PAD in an envelope that he wrote, but the original label by Visiani is missing. This or other specimens were also seen by De Candolle and by N. Contarini [135], but it was not possible to locate any other original material. The date on the label is later than the publication of this name, and therefore this specimen is unsuitable as lectotype. Nevertheless, this is the only available specimen and as this name was always considered wrong, further efforts to find original material would be irrelevant. For this reason I don't hesitate to designate the illustration in the protologue as lectotype and the only available specimen as epitype.

7. Conclusions

With this research project, the works, collections, and unpublished documents of botanist Roberto de Visiani were studied following a widely cross-disciplinary approach: scientific, historical, and geographical issues, which are intimately intertwined, were considered together. Our results filled as many as possible of the gaps in our knowledge of Visiani's life and work, and demonstrated the feasibility and efficacy of an author- and collection-centric approach in solving questions of nomenclature and historical botany.

Visiani's published contributions are to be considered of particular value in the context of systematic botany in 19th century Europe. His clear, short, and accurate descriptions were widely praised by his contemporaries [§ 3.6] and are still to be appreciated. His refusal to create new species and varieties to name minor deviations from the type, which starkly contrasts with the ways of the many extreme splitters of his time and area, coupled with his admirable resolve to only treat plants of which he had direct, secure knowledge from wild specimens, from cultivation, or from dry materials he could examine [§ 3.6], is such that a great proportion of the taxa he described are still generally accepted [§ 6].

Visiani attributed a great importance to the availability of original material, in a sense anticipating the role that types have come to play in modern botany. Coherently with this attitude, his *HD* was shown to contain an almost complete material record of his botanical knowledge of the Western Balkans [§ 2.1.3] [§ 3.6] [§ 5.4]. This fact highlights the value of the heritage he left in Padova, encourages our effort to catalogue, digitise, and make it available to the community, and sustains our proposal for a more collection-centric approach for the typification of his *names*, which remains to be completed.

Unpublished material was essential to recognise the collector of many herbarium specimens, and allowed us to precisely locate them in space and time, which is necessary for the typification of *names* [§ 6].

During our work, we identified 987 nomenclatural novelties published by Visiani [§ 6.1] [§ II], of which 920 refer to non-fossil plants; a number far greater than we originally expected. We shall contact the administrators of the many publicly available nomenclatural databases in order to contribute the missing information and to correct the numerous errors we discovered. The status of each of Visiani's *names* was tentatively determined; further studies covering their synonymies would offer the chance to eventually publish a full *Nomenclator Visianianus*.

Our research led to the publication of seven scientific papers of nomenclatural and taxonomical subject [§ 6.2]. In these, a lectotype was designated for the following names: *Acer macropterum* Vis., *Aegilops uniaristata* Vis., *Allium serbicum* Vis. & Pančić, *Amaranthus hierichuntinus* Vis., *Atriplex patula* var. *hastifolia* Vis., *Campanula secundiflora* Vis. & Pančić, *Centaurea chrysolepis* Vis., *Centaurea derventana* Vis. & Pančić, *Cen-*

taurea myriotoma Vis. & Pančić, *Chenopodium album* var. *oblongum* Vis., *Chenopodium lanceolatum* Willd., *Dianthus moesiacus* Vis. & Pančić, *Dianthus papillosus* Vis. & Pančić, *Euphorbia glabriflora* Vis. & Pančić, *Euphorbia subhastata* Vis. & Pančić, *Geum molle* Vis. & Pančić, *Goniolimon serbicum* Vis. & Pančić, *Gypsophila spergulifolia* f. *serbica* Griseb., *Haplophyllum boissierianum* Vis. & Pančić, *Heliosperma monachorum* Vis. & Pančić, *Hieracium marmoreum* Vis. & Pančić, *Hieracium schultzeanum* Pančić & Vis. ex Sch.Bip., *Lactucopsis aurea* Sch.Bip., *Lactucopsis* Sch.Bip., *Lactucopsis* sect. *Mulgediopsis* Sch.Bip., *Lactucopsis* sect. *Prenanthopsis* Sch.Bip., *Mulgedium aureum* Sch.Bip. ex Vis. & Pančić, *Mulgedium pancicii* Vis., *Mulgedium sonchifolium* Vis. & Pančić, *Pancicia serbica* Vis., *Potentilla lejocarpa* Vis. & Pančić, *Potentilla visianii* Pančić, *Ranunculus serbicus* Vis., *Scabiosa achaeta* Vis. & Pančić, *Scabiosa fumariifolia* Pančić, *Scabiosa fumarioides* Vis. & Pančić, *Stachys anisochila* Vis. & Pančić, *Triticum petraeum* Vis. & Pančić, *Verbascum pannosum* Vis. & Pančić. An epitype was designated for: *Aegilops uniaristata* Vis., *Goniolimon serbicum* Vis. & Pančić. A neotype was designated for: *Knautia macedonica* var. *lyrophylla* Pančić. The following names were thoroughly discussed: *Amaranthus gangesicus* var. *cuspidatus* Vis., *Gypsophila boissieri* Vis., *Gypsophila spergulifolia* f. *albanica* Griseb., *Gypsophila spergulifolia* Griseb., *Hieracium* [unranked] *Chlorocarpa* Sch.Bip., *Hieracium* [unranked] *Melanocarpa* Sch.Bip., *Lactucopsis brevirostris* Fenzl ex Sch.Bip., *Lactucopsis deltoidea* (M.Bieb.) Sch.Bip., *Lactucopsis mulgedioides* Sch.Bip., *Lactucopsis* sect. *Eulactucopsis* Sch.Bip., *Mulgedium* sect. *Chrysomulgedium* Sch.Bip., *Nasturtium proliferum* Heuffl., *Picridium macrophyllum* Vis. & Pančić, *Potentilla poteriifolia* Vis. & Pančić, *Scabiosa macedonica* var. *indivisa* Vis., *Scabiosa macedonica* var. *lyrata* Vis., *Scabiosa macedonica* var. *lyrophylla* (Pančić) Vis. & Pančić. A draft treatment of the 275 names published in *FD* and of those published in two other yet unpublished papers are also presented in this thesis. The study of Visiani's correspondence with Josif Pančić, coupled with a morphological analysis of the only two available specimens, led us to suggest that *Scabiosa achaeta* Vis. & Pančić, which is usually considered an extinct taxon, should instead be regarded as a heterotypic synonym of *S. fumariifolia* Vis. & Pančić, unless and until more solid evidence for its former existence as a separate entity can be produced, for instance by means of molecular analyses. This experience suggests that the study of unpublished documents is not only useful for botanical nomenclature, but can occasionally be a tool to sustain novel taxonomical hypotheses.

Visiani's work can generally be described as that of a phytographer who worked in continuity with the Linnaean tradition, rather than that of an all-round taxonomist in the modern sense [§ 3.6]. His traditional approach served as a strong example for his disciples, some of whom equalled or surpassed their master, and his influence on the school of botany in Padova was felt for many decades after his death [§ 3.7.2]. His scientific rigour was grounded in the philosophy of the enlightenment first and in positivism later, with no concession to romantic influences [§ 3.6]. He put great emphasis especially in experimental cultivation, which led him to transform the Botanical Garden into a true laboratory [§ 3.6.2]. Although we confirm Visiani's opposition to the unripe pre-Darwinian evolutionary hypotheses, we argue that he should not be presented as a

dogmatic fixist, and pose he may even have converted to evolutionism late in his life [§ 3.6.6].

Visiani was amongst the first to envision a Botanical Garden open to the public and intended to inspire marvel and curiosity for plants and botany, in which he was more modern than many of his successors [§ 3.2]. His work as its director could be reconstructed largely thanks to the analysis of unpublished materials. His efforts to popularise the discipline include the flower shows he organised, the society he formed, and is confirmed as well by his will to publish a journal of practical botany and a textbook for high schools. As a practical man, Visiani firmly believed in the role that botany had to play in the betterment of human condition; his discoveries in applied botany, though often overlooked, were in fact quite remarkable [§ 3.4.9].

Visiani's origins, studies, professional life, travels, character, religion, political ideas and material legacy could be clarified and discussed in detail mainly on the basis of unpublished sources [§ 3.1]. As for his stance towards the process of unification of Italy, his position was discovered to have been cautiously anti-Austrian. We argue this may be explained partly with his own ambiguous national identity, and partly with his prioritising the safety of his academic position [§ 3.1.7].

The lack of detailed sources documenting Visiani's travels was an unexpected setback to our work. The history of the botanical exploration of the Western Balkans during his lifetime could nonetheless be clarified by putting together data from numerous published and unpublished sources, including herbarium specimens, and was summarised in a detailed chronology [§ 5.3] which was of great use to identify his original material. Visiani's own contributions to the study of the geography of his area of interest were found to have been minor.

Visiani's network of relationships and exchanges, mainly centred in Italy, Dalmatia, and Austria, was wide and unbiased by political differences. Thanks mainly to unpublished materials, we could clarify his relationship with many of the assistants, gardeners, colleagues, friends, and co-authors in his life, and with the main plant collectors that provided him with specimens, many of whom were minor figures about whom little to nothing was known from literature [§ 4]. Particularly interesting were the role played by Antonio Bertoloni at the start of Visiani's career, the contribution by Muzio Tommasini to the publication of *Flora Dalmatica*, Visiani's troubled relationship with its editor Friedrich Hofmeister, and his very close friendship with Massalongo.

The pictures of the letters received by Visiani that were collected during our work are being uploaded to the new online platform of the University's Libraries, PHAIDRA, where they will soon be freely available. The rest of the unpublished material will hopefully follow. Contacts have already been established to publish the entire correspondence with Massalongo and Pančić as two commented books.

The data from the herbarium and Visiani's published works, now integrated in a geodatabase [§ 5.1] managed through *QGIS*, should eventually be made available to the Herbarium of Padova. The tool we developed, although still far from perfect, has already proved to be effective to produce simple outputs such as tables and basic maps. We believe it could serve very well to catalogue and manage all the collections in PAD. Its con-

tents could easily be made available to the wider scientific community by integrating it with an expanded version of our previous experimental platform or with an entirely new one, a development that we believe would very positively impact on the scientific stance of the Herbarium of Padova and offer the opportunity to create new cooperation networks both between structures within the University and with other institutions.

We conclude that a cross-disciplinary, author- and collection-centric approach to solve questions of nomenclature and historical botany is highly effective, and would argue that it holds the potential to ease the work of taxonomists and to play a role in the sound development of molecular identification techniques, while at the same time providing a vast amount of data on the history of the discipline and the people who practised it.

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I. Abbreviations

General Abbreviations

A list of all abbreviations used in this thesis is given hereunder:

§	chapter or section (within this thesis)
	(‘in a new paragraph’, for quotations), (‘in a separate label’, for specimens)
₣	Italian liras
₰	Austrian liras
<i>Acc. Pad.</i>	Imperial Regia Accademia di Scienze, Lettere ed Arti in Padova
ante	before (of the date of collection of a specimen)
a.s.l.	above sea level
<i>Att. Ist.</i>	Atti delle Adunanze dell’Imperial Regio Istituto Veneto di Scienze, Lettere ed Arti; Atti delle Adunanze del Reale Istituto...
fide	(‘according to’, for reported information that we could not or did not check directly)
ft.	Austrian florints
<i>HD</i>	Herbarium Dalmaticum
<i>HG</i>	Herbarium Generale
<i>HV</i>	Herbarium Venetum
<i>Ist. Ven.</i>	Imperial Regio Istituto Veneto di Scienze, Lettere ed Arti; Reale Istituto Veneto...
<i>Lib. HB.</i>	Biblioteca Antica dell’Orto Botanico di Padova
<i>Mem. Ist.</i>	Memorie dell’Imperial Regio Istituto Veneto di Scienze Lettere ed Arti; Memorie del Reale...
post	after (of the date of collection of a specimen)
s.c.	<i>sine collectore</i> (‘without a collector’, of a specimen)
s.d.	<i>sine die</i> (‘without a date’, of a specimen)
s.l.	<i>sensu lato</i> (of a taxon); <i>sine loco</i> (‘without a location’, of a specimen)
s.n.	<i>sine numero</i> (‘without a number’, of a collector)
s.s.	<i>sensu stricto</i> (of a taxon)
<i>Sag. Acc.</i>	Nuovi Saggi dell’Imperial Regia Accademia di Scienze, Lettere ed Arti in Padova
sphalm.	sphalmate (‘by mistake’, of a wrong citation)

Dates are always given as the ordinal number for the day, a three letter abbreviation for the month, and the year. So ‘13th Oct. 1856’ is ‘the thirteenth of October 1856’.

Citations of herbarium material are given, whenever possible, as the code of the specimen, preceded by the official abbreviation of the Herbarium and a hyphen, when that is not already a part of the code itself. For instance, the specimen numbered 1684 at the Herbarium of the University of Belgrade (BEOU) is given as ‘BEOU-1684’.

Abbreviations of Visiani’s Works

Visiani’s works are cited very frequently in this thesis. Citing them with a simple reference number, as we have chosen to do for all other works, or even more in full with Visiani’s surname plus the year of publication, would have negatively affected the legibility of the text. Therefore, we have adopted the following table of abbreviations, which sometimes differ from those given by Stafleu & Cowan [60]:

Abbreviation	Year	Title
<i>Avved.</i>	1866	Degli avvedimenti da usarsi nella pubblicazioni dei testi...
<i>Bacio</i>	1825	Il bacio.
<i>Bertol.</i>	1840	Memoria concernente l’osservazione del Prof. Bertoloni...
<i>Bromel.</i>	1853	Di due piante nuove dell’ordine delle Bromeliacee.
<i>Bromel.-S</i>	1853	Sopra un nuovo genere ed una nuova specie di Bromeliacee.
<i>Cat. Sacc.</i>	1869	Catalogo delle piante vascolari del Veneto e di quelle più...
<i>Cat. V.-1</i>	1858	Catalogo delle piante indigene delle provincie venete...
<i>Cat. V.-2</i>	1859	Catalogo delle piante indigene delle provincie venete...
<i>Cheil.</i>	1867	Illustrazione della <i>Chilanthus Szovitsii</i> F. et M.
<i>Codic.</i>	1862	Di alcuni Codici della Biblioteca dell’Orto botanico di Padova.
<i>Cyperus</i>	1854	Sulla natura, sugli usi, e sulla salubrità di una pianta osservata...
<i>Dante</i>	1865	Accenni alle scienze botaniche nella Divina Commedia.
<i>Decas 1</i>	1862	Plantae Serbicae rariores aut novae – Decas 1
<i>Decas 2</i>	1865	Plantae Serbicae rariores aut novae – Decas 2.
<i>Decas 3</i>	1870	Plantae Serbicae rariores aut novae – Decas 3
<i>Due F.</i>	1869	Di due nuovi generi di piante fossili.
<i>Due P.</i>	1863	Due nuove piante dell’Orto Botanico di Padova.
<i>Eleg.</i>	1849	In memoria di Francesco Sartori, elegia indirizzata alla madre.
<i>FD. Sup.</i>	1872	Florae Dalmaticae Supplementum.
<i>FD1</i>	1842	Flora Dalmatica 1
<i>FD2</i>	1847	Flora Dalmatica 2.
<i>FD3-1</i>	1850	Flora Dalmatica 3 (1).
<i>FD3-2</i>	1851	Flora Dalmatica 3 (2).
<i>Felci</i>	1867	Di due felci arboree australiane donate all’Orto botanico...
<i>Ferri</i>	1823	Elegia per la morte di Francesco de’ Conti Ferri.
<i>Flora 29</i>	1829	Plantae rariores in Dalmatia recens detectae...

<i>Flora 30</i>	1830	Plantae dalmaticae nunc primum editae.
<i>Fos. Dalm.</i>	1858	Piante fossili della Dalmazia.
<i>Garof.</i>	1865	Le Nozze del Garofano (di J. Selgas y Carrasco, versioe libera).
<i>Gast.</i>	1841	Sopra la <i>Gastonia palmata</i> di W. Roxburgh proposta...
<i>Gast.-2</i>	1841	Sopra la <i>Gastonia palmata</i> del Roxburgh proposta qual tipo...
<i>Genov.</i>	1846	Cenni monografici del genere <i>Trevirania</i> di Willd., o <i>Achimenes</i> ...
<i>Gen. F.</i>	1875	Di alcuni generi di piante fossili.
<i>Gen. Sp.</i>	1847	Considerazioni intorno al genere ed alla specie in botanica.
<i>Gr. AM.</i>	1845	Illustrazione di alcune piante della Grecia e dell'Asia Minore...
<i>H. Pat. 40</i>	1840	Illustrazione delle piante nuove o rare dell'Orto Botanico...
<i>H. Pat. 42</i>	1842	L'Orto Botanico di Padova nell'anno MDCCCXLII.
<i>H. pat. 44</i>	1844	Illustrazione delle piante nuove o rare dell'Orto Botanico...
<i>H. Pat. 55</i>	1855	Revisio plantarum minus cognitarum quas Hortus patavinus...
<i>H. Pat. 56</i>	1856	Illustrazione delle piante nuove o rare dell'Orto Botanico...
<i>H. Pat. 58</i>	1858	Recensio altera plantarum minus cognitarum quas Hortus...
<i>H. Pat. 73</i>	1873	Orto Botanico.
<i>Insett.</i>	1854	Di due piante insettifughe, <i>Pyrethrum roseum</i> Bieb. e...
<i>Intr. Veg.</i>	1826	Introduzione allo studio dei vegetabili.
<i>IS. 36</i>	1836	Semina rariora in Horto Patavino collecta...
<i>IS. 38</i>	1839	Semina rariora Horti Patavini quae cum illis praecedenti...
<i>IS. 40</i>	1841	Semina Horti Patavini anno MDCCCXL collecta...
<i>IS. 41</i>	1842	Semina Horti Patavini quae cum illis praecedenti anno...
<i>IS. 44</i>	1845	Ad seminum rariorum indicem in Horto Patavino lectorum...
<i>IS. 46</i>	1846	Semina rariora in Horto Patavino collecta anno MDCCCXLV...
<i>IS. 46</i>	1847	Semina rariora in Horto Patavino collecta anno MDCCCXLVI...
<i>IS. 47</i>	1848	Semina rariora in Horto Patavino collecta anno MDCCCXLVII...
<i>IS. 48</i>	1850	Semina Horti Patavini annis MDCCCXLVIII et MDCCCXLIX...
<i>IS. 55</i>	1856	Semina in horto botanico Patavino lecta, anno MDCCCLV.
<i>IS. 58</i>	1859	Ad catalogum seminum in Horto Botanico Patavino lectorum...
<i>Koussou</i>	1852	Illustrazione botanica del Cusso vermifugo o <i>Hagenia</i> ...
<i>L. Parl.</i>	1846	Al Prof. Filippo Parlatore.
<i>Labiata.</i>	1857	Proposta di una nuova distribuzione delle Labiate europee.
<i>Lacr.</i>	1863	Sulla vegetazione e sul clima dell'isola di Lacroma in Dalmazia.
<i>Latan.</i>	1867	Sopra una nuova specie di palma fossile.
<i>Linn.</i>	1870	Osservazioni sull'erbario di Linneo.
<i>Manna</i>	1865	Di una pioggia di sostanza vegetabile alimentare caduta...
<i>Matric.</i>	1845	Osservazioni sopra alcune specie di <i>Matricaria</i> , e proposta...
<i>Noval.</i>	1854	Synopsis plantarum Florae Tertiariae Novalensis.

<i>Noval.-2</i>	1856	Flora de' terreni terziarii di Novale nel Vicentino.
<i>Orig.</i>	1839	Della origine ed anzianità dell'orto botanico di Padova
<i>P. Stor.</i>	1857	Di alcune piante storiche del Giardino di Padova.
<i>Palm.</i>	1863	Le palme pennate terziarie delle provincie Venete.
<i>Palm. V.</i>	1864	Palmae pinnatae tertiariae agri Veneti illustratae.
<i>Pempt.</i>	1860	Plantarum serbicularum pemptas; ossia descrizione di cinque...
<i>Perini</i>	1855	Sulla Flora dell'Italia settentrionale rappresentata colla...
<i>Pesci</i>	1866	Di un vivajo di pesci marini nel lago dolce di Arquà.
<i>Pesci App.</i>	1867	Appendice alla nota Di un vivajo di pesci marini nel lago...
<i>Pietr.</i>	1869	Esposizione di agricoltura di Pietroburgo.
<i>Pl. Aeg.</i>	1836	Plantæ quædam novæ vel minus cognitæ in Ægypto...
<i>Pl. Aeg.-2</i>	1836	Plantæ quaedam Aegypti ac Nubiae enumeratae...
<i>Pl. Aeg.-3</i>	1837	Plantæ quædam novæ vel minus cognitæ in Ægypto...
<i>R. Fl. Ver.</i>	1825	Recensione della Flora Veronensis del Pollini.
<i>R. Freyl.</i>	1825	Recensione sul genere Freylinia del Colla.
<i>R. Mass.</i>	1852	Relazione critica di un'opera Sopra le piante fossili dei terreni...
<i>Salic.</i>	1827	Il salice.
<i>Satur.</i>	1841	Intorno alla controversia sulla nuova specie <i>Satureja</i> ...
<i>Scr. It.</i>	1854	Lettere di XII illustri scrittori italiani.
<i>St. Dalm.</i>	1826	Stirpium Dalmaticarum Specimen.
<i>Stor. It.</i>	1859	Brano di storia italiana, tratto da un codice scritto nel buon...
<i>Sup. Al. 1</i>	1877	Florae Dalmaticae supplementum alterum, adjectis plantis...
<i>Sup. Al. 2</i>	1881	Florae Dalmaticae supplementum alterum, adjectis plantis...
<i>Tesor.</i>	1860	Di un nuovo codice del <i>Tesoro</i> di Brunetto Latini volgarizzato...
<i>Tesor. 2</i>	1869	Del <i>Tesoro</i> volgarizzato di Brunetto Latini, edito sul...
<i>Util.</i>	1837	Della utilità ed amenità delle piante.
<i>Uva 1</i>	1853	Relazione intorno alla malattia dell'uva o bianco dei grappoli.
<i>Uva 2</i>	1854	Seconda relazione intorno alla malattia dell'uva.
<i>Uva 3</i>	1855	Terza relazione intorno alla malattia dell'uva.
<i>Uva R.</i>	1853	Sulla rettificazione al Rapporto della Commissione per lo...
<i>V. Ard.</i>	1857	Notizie intorno alla vita e agli scritti di Pietro Arduino.
<i>V. Bonaf.</i>	1845	Della vita e degli scritti di Francesco Bonafede.
<i>V. Mart.</i>	1856	Della vita e degli studii del dott. Domenico Martinati.
<i>V. Mass.</i>	1861	Della vita scientifica del dott. Abramo Bartolommeo...
<i>V. Par.</i>	1867	Della vita scientifica del cav. Alberto Parolini.
<i>Val. Max.</i>	1867	De'fatti e detti degni di memoria.
<i>Vanig.</i>	1844	Del metodo e delle avvertenze che si usano nell'Orto Botanico...
<i>Venet.</i>	1854	Delle benemerienze de' veneti nella botanica.

<i>Vienna</i>	1856	Sulla riunione scieintifica di Vienna, lettera al Professore...
<i>Virt. Mor.</i>	1865	Trattato di virtù morali.
<i>Xeranth.</i>	1844	Di un nuovo genere della tribù delle Xeranthemee.

Abbreviations for Unpublished Materials

Citations of material from the General Archive of the University of Padova are given as explained in the note in § 2.3.2, while Saccardo's chronicles are abbreviated as explained in § 2.3.5.

Citations of unpublished material in *Lib. HB.* are given, in lowercase, as the filename of the relative picture (see § 2.3.2), without the initial letter, the sequential picture number, and the file extension. For instance, the letter whose file is named 'PNCC-730724-@.jpg' is given as 'pncc-730 724-@', while the manuscript whose files are numbered from 'B26012G-1.jpg' onwards is cited as 'b26012g'.

The list of all author codes mentioned in § 2.3.2 is given hereunder. A few irregularities and errors, e.g. HDGN for 'Heidinger', were not corrected when discovered, to ensure consistency.

ACRB	Acerbi, Giuseppe	BRNG	Bérenger, Giuseppe	BRDN	Burdin, F.
ALXN	Alexander, R.C.		Adolfo de	BRZZ	Brizzi
ALSC	Alschinger, Andreas	BRLS	Berlese	BYLB	Byle-Barelle
ALTH	Althammer, L.	BRNH	Bernhardi, Johann	CBNC	Cabianca, Jacopo
AMIC	Amici, Giovanni		Jacob	CLDN	Caldani, F.
	Battista	BRTN	Bertoloni, Antonio	CLDS	Caldesi, Lodovico
ANDR	Andrè, L.	BERT	Bertoloni, Giuseppe	CMRT	Camerata, Napoleone
ANTN	Antinori, Vincenzo	BIAG	Biagi, Clodoveo		
ARMN	Armano	BSLT	Biasoletto, Bartolomeo	CNSS	Canossa, Luigi
ASCH	Ascherson, Paul			CNTR	Cantori, Giovanni
ASCR	Aschieri	BNDL	Biondelli, B.	CRRR	Carrara, F.
BCCC	Baciocchi, Elisa	BIZI	Bizio, G.	CARL	Caruel, Teodoro
BALB	Balbi, Adriano	BLAU	Blau, Otto	CRSC	crusca, Accademia della
BLFR	Balfour, John Hutton	BSSR	Boissier, Edmond		
BALL	Ball, John	BONT	Bonato, Giuseppe	CSRT	Casaretto, Giovanni
BLSM	Balsamo-Crivelli, Giuseppe		Antonio	CASN	Casoni, G.
		BNJN	Bonjean, Jean Louis	CSPR	Caspari, Roberto
BRBR	Barbieri, Paolo	BRBS	Borbás, Vincze	CTTN	Cattaneo, Gottardo
BARL	Barla, Jean-Baptiste	BTTC	Bottacin, N.	CELI	Celi, Ettore
BARN	Baroni, Giuseppe	BTTR	Botteri, Matteo	CELS	Cels, Jacques
BRTL	Bartling, Friedrich Gottlieb	BTRL	Bouturlin, Pietro di		Philippe Martin
		BRCH	Bracht, Adalbert von	CRNZ	Cernazai, Giuseppe
BRTS	Bartsch, Francesco	BRAN	Braun, Alex	CRVT	Cervetto, G.
BSGG	Baseggio, G.B.	BRER	Brera, L.	CEST	Cesati, Vincenzo de
BASI	Basi, Casimiro	BRGS	Breugsmas, Arnold Jakob	CEVT	Cevato, Attilio
BASS	Bassi, Casimiro			CHRT	Charters, J.
BATK	Batka, Johann	BRGN	Brignoli, Giovanni de	CCGN	Cicogna, Emmanuele
	Battista				
BYLB	Bayle-Barelli	BRCC	Brocchi, Domenico	CIMN	Cimino, G.J.
BCCR	Beccari, Odoardo	BRNN	Brongniart, Adolphe	CNDR	Cindro, Benevento de
BGGT	Beggiato, Secondo	BRSN	Brusina		
BLTR	Beltramini de Casati, Francesco	BUBN	Bubani, Pietro	CTTD	Cittadella, Giovanni
		BCHN	Buchenau, Franz Georg Philipp	CTTL	Cittadella- Vigodarzere,
BNTH	Bentham, George				

	Andrea	GART	Gar, T.	KPPS	Kippst, Richard
COLL	Colla, Luigi	GRVG	Garovaglio, Santo	KOCH	Koch, Karl
CLLR	Colloredo- Manusfeld	GSPR	Gasparini, G.	KCHJ	Koch, Wilhelm Daniel Joseph
CNFG	Configliacchi, Pietro	GDGR	Gaudoger, M.	KLWR	Kolowrat
CNSL	Consoli, Pietro	GAYG	Gay, Jaques Étienne	KSTL	Kosteletzky, Vincenz Franz
CRRD	Corradi, Alfonso	GMLL	Gemmellaro, G.	KTSC	Kotschy, Theodor
CRRN	Corradini, Francesco	GERG	Georg	KRAS	Krause, A.
CORR	Corridi, Filippo	GERA	Gera, F.	KBCK	Kübeck, C.
DANC	D'Ancona, Alessandro	GERR	Gerré	KUNZ	Kunz, G.
DBTT	De Betta, Edoardo	GCML	Giacomelli, A.	LNGR	Languer, H.
DCND	De Candolle, Antoine Pyrame	GNNN	Giannini, C.	LNSC	Lansac
DCNL	De Candolle, Augustin Pyrame	GIUL	Giuli, G.	LANZ	Lanza, F.
DCST	De Castro, V.	GPPR	Göppert, Heinrich	LAZR	Lazari, V.
DNTR	De Notaris, G.	GRIN	Grion, G.	LBRN	Le Brun, A.
DSRP	De Serpa Brandas, B. J.	GRSB	Grisebach, August Heinrich Rudolf	LHMN	Lehmann, Friedrich Carl
DCSN	Decaisne, Joseph	GRNL	Grönlands, G.	LCHT	Leichtlin, Max
DLCH	Del Chiappa, Giuseppe	GUST	Guasti, C.	LNDN	Linden, Jean Jules
DELL	Delile, Alire Raffenau	GSCR	Guiscard, G.	LNDL	Lindley, John
DLG	Della Gherardesca	GMPR	Gumpert, A.E.	LNGB	Lingbauer
DRRG	Derrington, E.	GSSN	Gussone, Giovanni	LIOY	Lioy, Paolo
DLPN	Delpino, Federico	HDGN	Haidinger, Wilhelm	LCTL	Locatelli, T.
DGVN	Di Giovanni, Filippo	HFMS	Hofmeister, Friedrich	LMBR	Lombardi, Andrea
DFFB	Dieffenbach, Johann Karl Ernst	HYNL	Haynald, Lajos	MLLR	Malloire, G.
DRRG	Dorrington, M.E.	HLDR	Heldreich, Theodor von	MALY	Maly, Franz
DREG	Drège, Johann Franz	HRBR	Herbert, William	MALJ	Maly, Joseph Karl
ECKR	Eckart	HLFR	Heufler, Ludwig Joseph von	MNTT	Manetti, Giuseppe
ENDL	Endlicher, Staphan	HLDB	Hildebrand, Friedrich	MNGN	Manganotti, Antonio
ENGL	Engelmann, George	HOKR	Hooker, Joseph Dalton	MNZZ	Manuzzi
FCHL	Fachelli, D.	HRNS	Hornschuh, Christian Friedrich	MRCH	Marchesetti, Carlo
FNFN	Fanfani, Pietro	HOST	Host, Nicolaus Thomas	MRTN	Martens, Georg Matthias von
FSST	Fassiotti	HUGL	Hügel, Charles von	MRTS	Martias, F. de
FCHN	Fauchini, Fr.	HGNN	Huguenin, Auguste	MRTT	Martinati, P.P.
FDRC	Federico Augusto di Sassonia	HZRD	Huzard	MART	Martius, Carl Friedrich Philipp von
FEEA	Fée, Antoine Laurent Apollinaire	JCQN	Jacquin, Joseph Franz von	MRZL	Marzialetti, D.
FNZL	Fenzl, Eduard	JANG	Jan, Giorgio	MASE	Masè, F.
FRRJ	Ferrajoli, Gaetano	JANK	Jan, Viktor von	MSSL	Massalongo, Abramo Bartolommeo
FRRZ	Ferrazzi, Jacopo	JDRL	Jederlinich, T.	MSSN	Massani, G.M.
FIGR	Figari, Antonio	LJOL	Le Jolis, Auguste François	MAYR	Mayer, F.
FSCH	Fischer	JRDN	Jordan	MZZR	Mazzarosa, A.
FLRR	Flarer, Francesco	JRTZ	Juratzka, F.	MAZZ	Mazzi, G.
FNTN	Fontana, Francesco	JUSS	Jussieu, Antoine Laurent de	MNGH	Meneghelli, A.
FRLN	Forlani	KRGL	Kargl, Georg	MENG	Meneghini, Giuseppe Giovanni Antonio
FRSC	Freschi, G.	KRKH	Kerkhoven, Augustus	MERL	Merli, A.
FRYR	Freyer, Heinrich	KSSL	Kesselmeyer, Paul August	MEYR	Meyer, Ernst
FRYN	Frey, Josef Franz			MILD	Milde, F.
GLTT	Galeotti, Henri Guillaume			MRBL	Mirbel, Chales François Brisseau de

MONC	Monico, J.	REGL	Regel, Eduard		Gottlieb
MNTG	Montagni, C.		August von	SULK	Šulek, Bogoslav
MNTN	Montini, G.	RCHR	Reichardt, H.W.	TBRR	Tabarrini, M.
MORT	Moretti, Giuseppe	RCHB	Reichenbach, Ludwig von	TGLB	Tagliabue, L.
MRCN	Moricand, S.			TRGN	Targioni-Tozzetti, Adolfo
MORS	Moris, Giuseppe Giacinto	RNRD	Renard	TASS	Tassi, Attilio
MRRN	Morren, E.	REQN	Requin, S.	TVRN	Taverna, C.J.
MRTV	Martinovich	RETR	Reuter, Edmond	TENR	Tenore, Michele
MULL	Müller, F.	REUT	Reuter, George François	TRRC	Terracciano, Nicola
MNTR	Müntner	RCSL	Ricasoli, V.	TSSR	Tessier, A.
MSSF	Mussafia, Adolf	RDLF	Ridolfi, C.	THLN	Thielens, Armand
MUTI	Muti, P.	RISS	Riess, C.	THUN	Thuen, M.
NAGL	Naegeli, Carl Wilhelm von	ROLL	Rolli, E.	TINE	Tineo, Vincenzo
NAMT	Namias, Giacinto	RNDT	Rondot, N.	TIPLD	Tipaldo, E. de
NARD	Nardi, F.	RSMN	Rosmini, Antonio	TITS	Titius, Pius
NRDO	Nardo, Giovanni Domenico	RSTN	Rostan, Edoardo	TODR	Todaro, Agostino
NRDC	Narducci, E.	SDLR	Sadler, József	TMMS	Tommaseo, Niccolò
NEES	Nees	SNGN	Sanguinetti, Pietro	TMMN	Tommasini, G.
NEGR	Negri, C.	SNTN	Santini, G.	TOMM	Tommasini, Muzio
NMYR	Neumayer, Franz	SPRT	Saporta, Gaston de	TONN	Tonini, F.
NIST	Nisiteo, Pietro	SRDG	Sardagna, Michele de	TOST	Torelli, L.
NOAL	Noale, A.	SNDR	Saunders, E.	TRTR	Tortori, Egisto
NODR	Nodari, P.	SAVI	Savi, Gaetano	TSTT	Tosti, L.
NOEW	Noë, Wilhelm	SAVP	Savi, Pietro	TRTV	Trautvetter, Ernst Rudolf von
PLCP	Paleocapa, Pietro	SVGN	Savignone, Francesco	TRVR	Treviranus, Ludolph Christian
PNCC	Pančić, Josif	SCNN	Scannagatta, G.	TRVS	Trevisan, Vittore Benedetto Antonio
PNTC	Pantocsek, József	SCRB	Scarabelli, L.	TSLN	Tuslane, Edmond
PPPF	Papafava, Domenico	SCHR	Schauer, Johann Conrad	UBCN	Ubicini, A.
PRLT	Parlatore, Filippo	SCHB	Scheibler, J.F.	UNGR	Unger, Franz
PRDR	Parolari, G.C.	SCHL	Schiele, G.	VLNT	Valentinelli, G.
PRLN	Parolini, Alberto and Elisa	SCHD	Schlechtendal, C.	VLRN	Valeriani, D.
PSQL	Pasquale, Giuseppe Antonio	SCHT	Schott, E.	VNHT	Van Houtte, Louis Benoit
PSSR	Passerini, Giovanni	SCHW	Schow	VEDV	Vedovi, T.
PELS	Peluso, F.	SCHO	Schrötter, A.	VELD	Veludo, G.
PERN	Perini, Carlo	SCHH	Schuehardt	VNNZ	Venenzio, D.
PTRM	Peterman, Wilhelm Ludwig	SCHY	Schychowsky, Iwan Osipowich	VNTR	Venturi, A.
PTTR	Petter, Franz	SCPL	Scopoli, Giovanni Antonio (letters to Bonato!)	VRSC	Verschaffelt, Ambroise
PCHL	Pichler, Theodor			VLMR	Vilmorin-Andrieux, seed company
PIRN	Pirona, Giulio Andrea	SLVT	Selvatico, P.	VIVN	Viviani, Domenico
PLLN	Pollini, Ciro	SNNR	Senoner, Adolf	VKTN	Vukotinić, Ljudevit
PRAT	Prato, G.	SRNG	Seringe, Nicholas Charles	WAWR	Wawra, Heirich
PRSL	Presl, Carl Borivoj	SNNN	Sinning, Wilhelm	WEBB	Barker-Webb, Philip
PRCC	Procaccini Ricci, Vito	SSMN	Sismonda, E.	WESS	Weiss
PCCN	Puccinelli, B.	SGRF	Sografi, P.	WLDN	Welden, Franz Ludwig von
PUTT	Putti, A.	SORI	Sorio, P.B.	ZHLB	Zahlbruckner, G.
RANR	Rainer, M. de	SPGN	Spigno, S. de	ZMBR	Zambrini, F.
RAIN	Raineri, A.	SPRN	Spruner, Wihlelm von	ZNRD	Zanardini, Giovanni
RNRS	Raineri-Simoni	STAL	Stalio, Luigi	ZIGN	Zigno, Achille de
RFLP	Re Filippo	STDL	Steudel, Ernst		

ZOLD Zould, G.
ZCCR Zuccarini, Joseph
Gerhardt

II. Nomenclatural Novelties

The following list, extracted from table 1 et of our geodatabase [§ 5.1], includes all the nomenclatural novelties published by Visiani, alone or in collaboration with others. All *names* and name-like designations are included. The publications are given according to the short abbreviations in § I, the number after ‘n.’ is the number given by the author to the taxon in question within the publication.

A: *Acacia henetorum* Vis. & A.Massal. (Noval.: 124, n. 72), sp. nov. — *Acacia undulata* var. *longispina* Vis. (H.Pat. 42: 131, n. 1), var. nov. — *Acer macropterum* Vis. (Pempt.: 175, n. 5), sp. nov. illeg. — *Acer opulifolium* var. *obtusatum* (Waldst. & Kit. ex Willd.) Vis. (FD3: 221, n. 1656,1), stat. nov. — *Achillea abrotanoides* (Vis.) Vis. (FD2: 81, n. 687), stat. nov. — *Achillea argentea* Vis. (Flora 29: 33, n. 33), sp. nov. — *Achillea clavennae* var. *argentea* (Vis.) Vis. (FD2: 81, n. 686,1), stat. nov. — *Achillea millefolium* var. *collina* Vis. (FD2: 82, n. 688,2), var. nov. illeg. — *Achillea millefolium* var. *lanata* (Lam.) Vis. (FD2: 82, n. 688,3), var. nov. illeg. — *Achillea millefolium* var. *setacea* (Waldst. & Kit.) Vis. (Sup. Al. 2: 515), stat. nov. — *Achillea millefolium* var. *sylvatica* Vis. (FD2: 82, n. 688,1), comb. nov. — *Acinos thymoides* var. *perennis* Vis. (FD2: 200, n. 958,2), var. nov. — *Acinos thymoides* var. *villosus* (Benth.) Vis. (FD2: 92, n. 958,1), comb. nov. — *Aconitum anthora* var. *genuinum* Vis. (FD3: 92, n. 1319,1), var. nov. inval. — *Aconitum lycoctonum* var. *thelyphonum* (Rchb.) Vis. (FD3: 92, n. 1320,2), stat. nov. — *Aconitum lycoctonum* var. *vulparia* (Rchb.) Vis. (FD3: 92, n. 1320,1), stat. nov. — *Adonis aestivalis* var. *autumnalis* Vis. (FD3: 92, n. 1287,1), var. nov. — *Adonis aestivalis* var. *flammea* (Jacq.) Vis. (FD3: 81, n. 1287,2), stat. nov. — *Aegilops biuncialis* Vis. (FD3: 81), sp. nov. — *Aegilops uniaristata* Vis. (FD3: 345), sp. nov. — *Agave americana* var. *marginata* Vis. (FD1: 124, n. 226,1), var. nov. illeg. — *Agave europaea* Vis. (FD1: 125), sp. nov. inval. — *Agavites* Vis. (Gen. Fos.), gen. nov. — *Agavites italica* Vis. (Gen. Fos.), sp. nov. — *Agrostis stolonifera* var. *maritima* (Lam.) Vis. (FD3: 386), stat. nov. inval. — *Agrostis vulgaris* var. *stolonifera* (L.) Vis. (Sup. Al. 1: 129), stat. nov. — *Aira caryophylla* var. *capillaris* (Host) Vis. (FD1: 68, n. 90,1), stat. nov. — *Ajuga chamaepitys* var. *glabra* (Presl.) Vis. (FD. Sup.: 91), stat. nov. — *Ajuga chamaepitys* var. *grandiflora* Vis. (FD2: 222, n. 1011,1), stat. nov. — *Alchemilla vulgaris* var. *montana* Vis. (FD3: 254, n. 1745,1), var. nov. — *Alisma plantago* var. *angustifolium* Vis. (FD1: 192, n. 375,1), var. nov. — *Allium intermedium* var. ‘*umbella bulbillifera*’ Vis. (FD1: 137, n. 252,2), var. nov. inval. — *Allium intermedium* var. ‘*umbella capsulifera*’ Vis. (FD1: 137, n. 252,1), var. nov. inval. — *Allium montanum* var. ‘*umbella bulbillifera*’ Vis. (FD1: 137, n. 251,2), var. nov. inval. — *Allium montanum* var. ‘*umbella capsulifera*’ Vis. (FD1: 137, n. 251,1), var. nov. inval. — *Allium nigrum* var. *atropurpureum* (Waldst. & Kit.) Vis. (FD1: 136, n. 250,1), stat. nov. — *Allium roseum* var. *bulbilliferum* Vis. (FD1: 135, n. 246,1), var. nov. — *Allium serbicum* Vis. & Pančić (Decas 2: 479, n. 20), sp. nov. — *Allium sphaerocephalon* var. *albiflorum* Vis. (FD1: 141, n. 264,1), var. nov. — *Allium tenuifolium* var. ‘*umbella bulbillifera*’ Vis. (FD1: 138, n. 253,1), var. nov. inval. — *Allium vineale* var. *compactum* Vis. (FD1: 142, n. 266,1), var. nov. illeg. — *Aloë obscurivirens* Martinati ex Vis. (H.Pat. 42: 132, n. 5), sp. nov. — *Aloë punctata* Martinati ex Vis. (H.Pat. 42: 132, n. 6), sp. nov. illeg. — *Aloites* Vis. (Gen. Fos.), gen. nov. — *Aloites prisca* Vis. (Gen. Fos.), sp. nov. — *Alschingera verticillata* Vis. (FD3: 69, n.

1260), comb. nov. — *Alsingeria* Vis. (FD3: 69), gen. nov. — *Alsine divaricata* Vis. (FD3: 177), sp. nov. inval. — *Alsine graminifolia* var. *glaberrima* Vis. (FD3: 178, n. 1539,3), var. nov. illeg. — *Alsine graminifolia* var. *hirsuta* Vis. (FD3: 178, n. 1539,1), var. nov. inval. — *Alsine graminifolia* var. *semiglabra* Vis. (FD3: 178, n. 1539,2), var. nov. illeg. — *Alsine lancifolia* Vis. (FD2: t. 34 f. 1), sp. nov. — *Alsine liniflora* (L.) Vis. (FD3: 178, n. 1540), stat. nov. — *Alsine nodosa* var. '*viscido pubescens*' Vis. (Gr. AM.: 180), var. nov. inval. — *Alsine nodosa* var. *glaberrima* Vis. (Gr. AM.-2: 56, n. 14,1), var. nov. — *Alsine nodosa* Vis. (Gr. AM.: 180, n. 13), sp. nov. — *Alsine tenuifolia* var. *densiflora* Vis. (FD3: 177, n. 1535,3), var. nov. — *Alsine tenuifolia* var. *divaricata* Vis. (FD3: 177, n. 1535,4), stat. nov. — *Alsine tenuifolia* var. *glabra* Vis. (FD3: 176, n. 1535,1), stat. nov. inval. — *Alsine tenuifolia* var. *viscidula* (Thuill.) Vis. (FD3: 176, n. 1535,2), stat. nov. — *Althaea cannabina* var. *narbonensis* (Willd.) Vis. (FD. Sup.: 136), stat. nov. — *Althaea rosea* var. *ficifolia* (L.) Vis. (FD3: 209, n. 1619,3), stat. & comb. nov. — *Althaea rosea* var. *hortensis* Vis. (FD3: 208, n. 1619,1), var. nov. inval. — *Althaea rosea* var. *pallida* (Willd.) Vis. (FD3: 209, n. 1619,2), stat. & comb. nov. — *Althaea speciosa* Vis. (H.Pat. 42: 132, n. 8), sp. nov. — *Alyssum argenteum* var. *pumilum* Vis. (FD3: 116, n. 1377,1), var. nov. — *Alyssum campestre* var. *micropetalum* (Fisch. ex DC.) Vis. (FD3: 117, n. 1380,1), stat. nov. — *Alyssum emarginatum* Zahlbr. ex Vis. (FD3: 117, n. 1381), sp. nov. — *Alyssum latifolium* Vis. (FD3: 118, n. 1383), sp. nov. — *Alyssum microcarpum* (Vis.) Vis. (FD3: 115, n. 1375), comb. nov. — *Amaranthus hierichuntinus* Vis. (H.Pat. 58: 139, n. 22), sp. nov. — *Amphoricarpos neumayeri* Vis. (FD2: 23, n. 560), sp. nov. illeg. — *Amphoricarpos* Vis. (Xeranth.: 196), gen. nov. — *Amporicarpos neumayeri* (Vis.) Vis. (Xeranth.: 196), sp. nov. illeg. — *Amygdalus communis* var. *amara* Vis. (FD3: 257, n. 1754,2), var. nov. — *Amygdalus communis* var. *fragilis* (Borkh.) Vis. (FD3: 257, n. 1754,3), stat. nov. inval. — *Amygdalus communis* var. *sativa* Vis. (FD3: 257, n. 1754,1), var. nov. — *Anagallis arvensis* var. *coerulea* (Schreb.) Vis. (FD2: 152, n. 845,2), stat. nov. — *Anagallis arvensis* var. *phoenicea* (All.) Vis. (FD2: 152, n. 845,1), stat. nov. illeg. — *Anchusa microcalyx* Vis. (Flora 29: 8, n. 8), sp. nov. — *Anchusa obliqua* Vis. (IS. 36: 2, n. 1), sp. nov. — *Andropogon hirtum* var. *pubescens* (Vis.) Vis. (FD. Sup.: 14), stat. nov. — *Andropogon pubescens* Vis. (Flora 29: 3, n. 1), sp. nov. — *Anthemis cairica* Vis. (Pl. Aeg.: 69, n. 13), sp. nov. — *Anthemis pseudocota* Vis. (FD2: 78, n. 680), sp. nov. — *Anthriscus cerefolium* Vis. (Flora 29: 9, n. 11), sp. nov. — *Anthriscus fumarioides* var. *latiloba* Vis. (FD3: 64, n. 1245,1), var. nov. — *Anthyllis aurea* Vis. (FD2: t. 42), sp. nov. illeg. — *Anthyllis vulneraria* var. *coccinea* Vis. (FD3: 277, n. 1798,1), var. nov. illeg. — *Anthyllis vulneraria* var. *pulchella* Vis. (FD. Sup.: 141), var. nov. — *Apargia annua* Vis. (Pl. Aeg.: 69, n. 14), sp. nov. — *Arabis alpina* var. *crispata* (Willd.) Vis. (FD3: 126, n. 1406,1), stat. nov. — *Arabis hirsuta* var. *angustifolia* Vis. (FD3: 127, n. 1408,2), var. nov. — *Arabis hirsuta* var. *sagittata* (DC.) Vis. (FD3: 127, n. 1408,1), stat. & comb. nov. inval. — *Araujia undulata* Vis. (H.Pat. 42: 134, n. 14), sp. nov. — *Arenaria arduinii* var. *dalmatica* Vis. (St. Dalm.: 8, n. 5,2), var. nov. — *Arenaria arduinii* var. *italica* Vis. (St. Dalm.: 8, n. 5,1), var. nov. — *Arenaria arduinii* Vis. (St. Dalm.: 8, n. 5), sp. nov. — *Arenaria orbicularis* Vis. (FD3: 180, n. 1544), sp. nov. — *Arenaria serpyllifolia* var. *viscida* (Lois.) Vis. (St. Dalm.: 26), stat. nov. — *Artemisia biasoletiana* Vis. (IS. 36: 2, n. 2), sp. nov. — *Artemisia camphorata* var. *biasoletiana* (Vis.) Vis. (FD2: 91, n. 706,1), stat. nov. — *Artemisia camphorata* var. *virens* Vis. (FD2: 91, n. 706,2), var. nov. — *Artemisia gallica* var. *vallesiaca* (All.) Vis. (FD. Sup.: 63), stat. nov. — *Artemisia naronitana* Vis. (Flora 30: 52, n. 6), sp. nov. — *Asperula canescens* Vis. (Flora 29: 4, n. 3), sp. nov. — *Asperula cynanchica* var. *canescens* (Vis.) Vis. (FD3: 11, n. 1123,2), stat. nov. — *Asperula cynanchica* var. *longiflora* (Waldst. & Kit.) Vis. (FD3: 11, n. 1123,1), stat. nov. — *Asperula scutellaris* Vis. (IS. 36: 2, n. 3), sp. nov. — *Asperula staliana* Vis. (FD3: 11, n. 1124), sp. nov. — *Asphodeline cretica* (Lam.) Vis. (FD1: 152, n. 290), comb. nov. illeg. — *Aspidium fragile* var. *cynapiifolium* (Hoffm.) Vis. (Sup. Al. 1: 125), stat. nov. — *Aspidium fragile* var. *pontederæ* Vis. (FD1: 39, n. 19,1), var. nov. — *Asplenium adiantum-nigrum* var. *acutum* Vis. (FD1: 41, n. 26,1), stat. nov. — *Asterocephalus arenarius* (Forsk.) Vis. (Pl. Aeg.: 64, n. 1), comb. nov. — *Asterocephalus columbaria*

var. *columnnae* (Ten.) Vis. (FD2: 13, n. 534,2), stat. nov. — *Asterocephalus columbaria* var. *gramuntia* (Spreng.) Vis. (FD2: 13, n. 534,3), stat. nov. — *Asterocephalus columbaria* var. *muticus* Vis. (FD2: 13, n. 534,1), var. nov. — *Asterocephalus fumariifolius* (Vis. & Pančić) Vis. (Sup. Al. 2: 482), comb. nov. — *Asterocephalus suaveolens* var. *silenifolius* (Waldst. & Kit.) Vis. (FD2: 13, n. 535,1), stat. nov. — *Asterocephalus triniifolius* Vis. (Sup. Al. 2: 482), sp. nov. — *Astragalus argenteus* Bertol. ex Vis. (Flora 29: 18, n. 27), sp. nov. — *Athamanta aurea* Vis. (FD3: 44), nom. inval. — *Athamanta flavescens* Vis. (IS. 36: 2, n. 4), sp. nov. — *Athamanta libanotis* var. *nitida* (Rchb.) Vis. (FD. Sup.: 109), stat. nov. — *Atriplex laciniata* var. *diffusa* (Ten.) Vis. (FD1: 238, n. 481,1), stat. nov. — *Atriplex patula* var. *hastifolia* Vis. (FD1: 237, n. 479,2), var. nov. inval. — *Atriplex patula* var. *integrifolia* Vis. (FD1: 231, n. 479,1), var. nov. inval. — *Atriplex patula* var. *triangularis* (Willd.) Vis. (FD1: 237, n. 479,3), stat. nov. — *Avena neumayeriana* Vis. (FD3: 339), sp. nov.

B: *Ballota nigra* var. *foetida* Vis. (FD2: 215, n. 997,1), var. nov. illeg. — *Ballota nigra* var. *vulgaris* (Hoffmans. & Link) Vis. (FD2: 215, n. 997,2), stat. nov. — *Barbarea vulgaris* var. *arcuata* (Opiz ex J.Presl & C.Presl) Bertol. ex Vis. (FD3: 124, n. 1398,1), stat. nov. inval. — *Begonia eriocaulis* H.Lovan. ex Vis. (H.Pat. 42: 135, n. 20), sp. nov. — *Begonia macrotis* Vis. (H.Pat. 58: 138, n. 20), sp. nov. — *Begonia manicata* Cels. ex Vis. (H.Pat. 42: 135, n. 19), sp. nov. inval. — *Begonia peponifolia* Vis. (IS. 47: 4, n. 1), sp. nov. illeg. — *Bellevalia pallens* (Bieb.) Vis. (FD. Sup.: 35), stat. nov. — *perennis* var. *annua* (L.) Vis. (FD2: 58, n. 631,3), stat. nov. — *Bellis perennis* var. *pratensis* Vis. (FD2: 58, n. 631,2), stat. nov. inval. — *Bellis perennis* var. *sylvestris* (Cirillo) Vis. (FD2: 58, n. 631,1), stat. nov. — *Bidens paleacea* Vis. (H.Pat. 40: 18, n. 7), sp. nov. — *Biscutella didyma* var. *ciliata* (DC.) Vis. (FD3: 113, n. 1368,1), stat. nov. — *Biscutella didyma* var. *lejocarpa* Vis. (FD3: 113, n. 1368,2), var. nov. — *Biscutella dilatata* Vis. (St. Dalm.: 14, n. 7), sp. nov. — *Brassica adpressa* (Moench) Vis. (FD3: 360), comb. nov. illeg. — *Brassica botteri* Vis. (FD3: 135, n. 1434), sp. nov. — *Brassica mollis* Vis. (FD3: 350), sp. nov. — *Brassica oleracea* var. *acephala* Vis. (FD3: 135, n. 1433,1), var. nov. illeg. — *Brassica oleracea* var. *asparagoides* Vis. (FD3: 135, n. 1433,7), var. nov. illeg. — *Brassica oleracea* var. *bullata* Vis. (FD3: 135, n. 1433,3), var. nov. illeg. — *Brassica oleracea* var. *caulo-rapa* Vis. (FD3: 135, n. 1433,5), var. nov. illeg. — *Brassica oleracea* var. *frutescens* Vis. (FD3: 135, n. 1433,8), var. nov. illeg. — *Brassica rapa* var. *campestris* Vis. (FD3: 135, n. 1435,1), var. nov. inval. — *Brocchia cinerea* (Delile) Vis. (Pl. Aeg.: 68, n. 12), comb. nov. — *Brocchia* Vis. (Pl. Aeg.: 68), gen. nov. — *Bromus erectus* var. *villosus* Vis. (FD1: 73, n. 103,1), var. nov. — *Bromus intermedius* var. *polystachyus* Vis. (FD3: 341), var. nov. — *Bromus maximus* var. *gussonei* (Parl.) Vis. (FD3: 341), stat. nov. — *Bunium erucago* var. *macroptera* (Rchb.) Vis. (FD3: 105, n. 1348,2), stat. nov. — *Bunias erucago* var. *macroptera* (Rchb.) Vis. (FD3: 105, n. 1348,1), var. nov. — *Bupleurum aristatum* Bartl. ex Vis. (St. Dalm.: 28), sp. nov. — *Bupleurum aristatum* var. *contractum* Vis. (FD. Sup.: 106), var. nov. — *Bupleurum karglii* var. *longepetiolatum* (Weiss.) Vis. (FD. Sup.: 106), stat. nov. — *Bupleurum karglii* Vis. (FD3: 35, n. 1179), sp. nov. — *Butomus umbellatus* var. 'foliis linearibus elongatis, canaliculato-triquetris acutis' (FD1: 196, n. 377,1), var. nov. inval.

C: *Calamintha fenzlii* Vis. (H.Pat. 55: 257, n. 10), nom. nov. — *Calandrinia amoena* Vis. (H. Pat. 44: 22, n. 11), sp. nov. — *Calendula arvensis* var. *rugosa* Vis. (FD2: 26, n. 558,1), var. nov. — *Callitriche aquatica* var. *angustifolia* Vis. (FD3: 196, n. 1589,3), var. nov. — *Callitriche aquatica* var. *heterophylla* Vis. (FD3: 196, n. 1589,2), var. nov. — *Callitriche aquatica* var. *obovata* Vis. (FD3: 196, n. 1589,1), var. nov. — *Calycites lythroides* Vis. & A.Massal. (Noval.: 124, n. 73), sp. nov. — *Campanula alpinii* var. *stylosa* (?) Vis. (FD2: 139, n. 818,1), stat. nov. — *Campanula caudata* Vis. (FD2: 136, n. 812), sp. nov. illeg. — *Campanula cordata* var. *albiflora* Vis. (St. Dalm.: 5, n. 3,1), var. nov. — *Campanula cordata* Vis. (St. Dalm.: 5, n. 3), sp. nov. — *Campanula pichleri* Vis. (FD. Sup.: 740), sp. nov. — *Campanula secundiflora* Vis. & Pančić (Decas 1: 442, n. 8), sp. nov. — *Campanula serpyllifolia* Vis. (Flora 29: 6, n. 6), sp. nov. — *Campanula speculum-veneris* var. *cordata* (Vis.) Vis. (FD2:

158, n. 815,2), stat. nov. — *Campanula speculum-veneris* var. *hirta* (Ten.) Vis. (FD2: 138, n. 815,1), stat. & comb. nov. — *Capparis rupestris* var. *ovata* (Desf.) Vis. (FD3: 137, n. 1439,1), stat. nov. — *Capsella bursa-pastoris* var. *integrifolia* Vis. (FD3: 109, n. 1357,1), var. nov. illeg. — *Capsella bursa-pastoris* var. *stylosa* Vis. (FD3: 109, n. 1357,2), var. nov. — *Cardamine thalictroides* var. *maritima* (DC.) Vis. (FD3: 128, n. 1411,1), stat. nov. — *Carduus bicolor* Vis. (FD2: 48, n. 605), sp. nov. — *Carduus candicans* var. *collinus* (Waldst. & Kit.) Vis. (FD2: 47, n. 602,2), stat. nov. — *Carduus candicans* var. *genuinus* Vis. (FD2: 47, n. 602,1), stat. nov. inval. — *Carex digitata* var. *ornithopoda* (Willd.) Vis. (Sup. Al. 1: 152), stat. nov. — *Carex pharensis* Vis. (FD3: 346), sp. nov. — *Carex sempervirens* var. *laevis* (Kit.) Vis. (FD. Sup.: 250), stat. nov. — *Carlina acaulis* var. *simplex* (Waldst. & Kit.) Vis. (FD2: 30, n. 566,1), stat. nov. — *Cassia dimidiata* Vis. & A.Massal. (Noval.: 124, n. 71), sp. nov. — *Cecropia argentea* Vis. (H.Pat. 42: 136, n. 23), sp. nov. — *Celastrus pachyphyllus* Vis. & A.Massal. (Noval.: 120, n. 43), sp. nov. — *Centaurea alba* var. *genuina* Vis. (FD2: 31, n. 568,1), var. nov. inval. — *Centaurea calocephala* var. *subspinoso* Vis? (Sup. Al. 2: 491), var. nov. — *Centaurea chrysolepis* Vis. (Pempt.: 172, n. 3), sp. nov. — *Centaurea crithmifolia* Vis. (FD2: 31, n. 586), sp. nov. — *Centaurea cuspidata* Vis. (Flora 29: 22, n. 34), sp. nov. — *Centaurea cyanus* var. *marginata* Vis. (Sup. Al. 2: 489), var. nov. — *Centaurea derventana* Vis. & Pančić (Decas 2: 472, n. 16), sp. nov. — *Centaurea divergens* Vis. (FD2: 40, n. 580), sp. nov. — *Centaurea friderici* Vis. (FD2: 38, n. 585), sp. nov. — *Centaurea hellenica* var. *caulescens* Vis. (FD. Sup.: 53), var. nov. — *Centaurea incompta* var. *velutina* Vis. (FD. Sup.: 54), var. nov. — *Centaurea incompta* Vis. (FD2: 32, n. 583), sp. nov. — *Centaurea jacea* var. *amara* (L.) Vis. (FD2: 32, n. 569,1), stat. nov. — *Centaurea jacea* var. *nigrescens* (Willd.) Vis. (FD2: 32, n. 569,3), stat. nov. — *Centaurea jacea* var. *pratensis* (Thuill.) Vis. (FD2: 32, n. 569,2), stat. nov. illeg. — *Centaurea montana* var. *integrifolia* Vis. (FD2: 32, n. 572,1), var. nov. — *Centaurea montana* var. *sinuata* Vis. (FD2: 33, n. 572,2), var. nov. — *Centaurea myriotoma* Vis. & Pančić (Decas 2: 470, n. 15), sp. nov. — *Centaurea phrygia* var. *sinuata* (Griseb. in Pant.) Vis. (Sup. Al. 2: 492), stat. nov. — *Centaurea punctata* Vis. (Flora 29: 23, n. 35), sp. nov. — *Centaurea salonitana* var. *elliptica* Vis. (FD. Sup.: 53), var. nov. — *Centaurea salonitana* var. *lanceolata* Vis. (FD2: 34, n. 577,2), var. nov. — *Centaurea salonitana* var. *obovata* Vis. (FD2: 34, n. 577,1), var. nov. inval. — *Centaurea salonitana* Vis. (Flora 29: 23, n. 36), sp. nov. — *Centaurea sordida* var. *lanuginosa* Vis. (FD. Sup.: 55), var. nov. — *Centaurea tuberosa* Vis. (FD2: t. 12 f. 2, n. 571), sp. nov. — *Cephalaria leucantha* var. *scopolii* Vis. (St. Dalm.: 3, n. 2), var. nov. — *Cerastium arvense* var. *lanigerum* Vis. (FD3: 184, n. 1557,3), var. nov. — *Cerastium arvense* var. *laricifolium* (Vill.) Vis. (FD3: 184, n. 1557,2), stat. nov. — *Cerastium arvense* var. *vulgare* Vis. (FD3: 184, n. 1557,1), var. nov. — *Cerastium viscosum* var. *apetalum* Vis. (FD. Sup.: 131), var. nov. — *Cerastium viscosum* var. *campanulatum* Vis. (FD3: 183, n. 1555,2), var. nov. — *Cerastium viscosum* var. *semidecandrum* (L.) Vis. (FD3: 183, n. 1555,3), stat. nov. — *Cerastium viscosum* var. *triviale* (Link) Vis. (FD3: 183, n. 1555,1), stat. nov. — *Cerintho minor* var. *maculata* Vis. (FD2: 243, n. 1056,1), var. nov. — *Cerintho purpurea* Vis. (Flora 29: 8, n. 9), sp. nov. — *Chaerophyllum laevigatum* Vis. (FD3: 65, n. 1251), sp. nov. — *Chamaecytisus dalmaticus* Vis. (FD3: 272, n. 1784), sp. nov. — *Chamaemelum confusum* (Fisch. & Avé-Lall.) Vis. (IS. 46: 4, n. 17), comb. nov. — *Chamaemelum disciforme* (C.A.Mey.) Vis. (FD2: 85, n. 694,7), comb. nov. — *Chamaemelum discoideum* (DC.) Vis. (IS. 46: 4, n. 14), comb. nov. — *Chamaemelum inodorum* (L.) Vis. (Matric.: 31, n. 1), comb. nov. — *Chamaemelum inodorum* var. *maritimum* Vis. (FD2: 85, n. 694,8), var. nov. — *Chamaemelum maritimum* (L.) Vis. (IS. 46: 4, n. 12), comb. nov. — *Chamaemelum praecox* (M.Bieb.) Vis. (Matric.: 31, n. 2), comb. nov. — *Chamaemelum unigladosum* Vis. (Matric.: 35, n. 3), sp. nov. — *Chamaemelum* Vis. (Matric.: 33), gen. nov. — *Chara hispida* var. *dalmatica* Vis. (FD1: 32, n. 1), var. nov. inval. — *Cheilanthes fimbriata* Vis. (FD1: 42, n. 31), sp. nov. — *Cheiranthus cheiri* var. *fruticulosus* (L.) Vis. (FD3: 125, n. 1403,1), stat. nov. inval. — *Cheiranthus linariaefolius* Vis. (H.Pat. 40: 19, n. 8), sp. nov. — *Chenopodium album* var. *oblongum* Vis. (FD1: 240, n. 486,1), var. nov. — *Chlora perfoliata* var. *serotina*

(Koch) Vis. (FD2: 88, n. 1099,1), stat. nov. — *Chrysanthemum cinerariifolium* (Trev.) Vis. (FD2: 87, n. 697), comb. nov. — *Chrysanthemum leucanthemum* var. *graminifolium* (L.) Vis. (FD2: 86, n. 695,5), stat. & comb. nov. — *Chrysanthemum leucanthemum* var. *laciniatum* Vis. (FD2: 86, n. 695,2), var. nov. — *Chrysanthemum leucanthemum* var. *montanum* (L.) Vis. (FD2: 86, n. 695,3), var. nov. illeg. — *Chrysanthemum leucanthemum* var. *nudicaule* Vis. (FD2: 87, n. 695,4), var. nov. — *Chrysanthemum leucanthemum* var. *pratense* Vis. (FD2: 86, n. 695,1), var. nov. — *Chrysanthemum tanacetum* Vis. (FD2: 89, n. 701), nom. illeg. — *Chrysanthemum turreanum* Vis. (St. Dalm.: 19, n. 11), sp. nov. — *Cichorium endivia* var. *pumilum* (Jacq.) Vis. (FD2: 97, n. 719,1), stat. nov. — *Cichorium intybus* var. *indivisum* Vis. (FD2: 97, n. 718,2), var. nov. — *Cichorium intybus* var. *sylvestre* Vis. (FD2: 97, n. 718,1), var. nov. — *Cirsium acaule* var. *caulescens* Vis. (FD2: 50, n. 611,1), var. nov. — *Cistus quinquevulnerus* Vis. (H.Pat. 58: 138, n. 21), sp. nov. — *Clematis flammula* var. *heterophylla* Vis. (FD3: 76, n. 1271,3), var. nov. — *Clematis flammula* var. *lanceolata* Vis. (FD3: 76, n. 1271,2), var. nov. illeg. — *Clematis flammula* var. *vulgaris* Vis. (FD3: 76, n. 1271,1), var. nov. — *Clerodendron triflorum* Vis. (H.Pat. 42: 137, n. 24), sp. nov. — *Clerodendrum manettii* Vis. (IS. 48: 2), sp. nov. — *Clypeola jonthlaspi* var. *lejocarpa* Vis. (FD3: 107, n. 1352,1), var. nov. — *Cochlearia austriaca* (Crantz) Vis. (FD3: 122, n. 1394), comb. nov. inval. — *Coccolobites massalongiana* Vis. (Foss. Dalm.: 440, n. 18), sp. nov. — *Cochiliocarpus scorpiuroides* Vis. (Foss. Dalm.: 441, n. 21), sp. nov. — *Colutea arborescens* var. *microphylla* Vis. (FD. Sup.: 145), var. nov. — *Convallaria latifolia* var. *bracteata* Vis. (FD1: 163, n. 311), var. nov. — *Convolvulus lasiospermus* Vis. (Pl. Aeg.: 66, n. 4), sp. nov. — *Corchorus fruticulosus* Vis. (Pl. Aeg.: 66, n. 6), sp. nov. — *Cotoneaster vulgaris* var. *glabra* Vis. (FD3: 243, n. 1715,1), var. nov. inval. — *Cotoneaster vulgaris* var. *tomentosa* (Aiton) Vis. (FD3: n. 1715,2), stat. nov. — *Cotyledon horizontalis* var. *laxiflorum* Vis. (FD. Sup.: 132), var. nov. — *Crepis adenantha* Vis. (Flora 30: 53, n. 7), sp. nov. — *Crepis incarnata* Vis. (St. Dalm.: 17, n. 9), sp. nov. — *Crepis jacquinii* var. *integrifolia* (Froel.) Vis. (FD. Sup.: 67), stat. nov. — *Crepis vesicaria* var. *scariosa* (Willd.) Vis. (FD2: 117, n. 762,1), stat. nov. — *Crocus dalmaticus* Vis. (FD1: 119, n. 217), sp. nov. — *Crocus malyi* (FD. Sup.: 181) — *Crocus vernus* var. *albiflorus* Vis. (FD. Sup.: 28), var. nov. — *Croton casarettianum* Vis. (H.Pat. 42: 137, n. 26), sp. nov. — *Croton lacerum* var. *palmatum* Vis. (H.Pat. 42: 137, n. 25), var. nov. — *Croton obliquifolium* Vis. (Pl. Aeg.: 70, n. 16), sp. nov. — *Crozophora brocchiana* Vis. (Pl. Aeg.: 69, n. 15), sp. nov. — *Crupina crupinastrum* (Moris) Vis. (FD2: 42, n. 591), comb. nov. — *Cryptanthus zonatus* (Vis.) Vis. (Bromel.: 343), comb. nov. — *Cryptanthus zonatus* var. *fuscus* (Vis.) Vis. (Bromel.: 343), comb. nov. — *Cucumis melo* var. *cantalupo* (Haberle) Vis. (FD3: 140, n. 1445,2), stat. nov. illeg. — *Cucumis melo* var. *hybernus* Vis. (FD3: 140, n. 1445,4), var. nov. — *Cucumis melo* var. *reticulatus* Vis. (FD3: 140, n. 1445,1), var. nov. illeg. — *Cucumis melo* var. *scandens* Vis. (FD3: 140, n. 1445,3), var. nov. — *Cucurbita pepo* var. *clodiensis* (Naccari) Vis. (FD3: 141, n. 1446,3), stat. nov. — *Cucurbita pepo* var. *maxima* (Douchesne) Vis. (FD3: 141, n. 1446,1), stat. nov. — *Cucurbita pepo* var. *oblonga* Vis. (FD3: 141, n. 1446,2), stat. nov. — *Cuscuta breviflora* Vis. (FD2: 231, n. 1034), sp. nov. — *Cuscuta* sect. *Cassutha* Vis. (FD2: 231), sect. nov. — *Cuscuta* sect. *Engelmannia* (Pfeiff.) Vis. (FD2: 231), sect. nov. — *Cuscuta* sect. *Epilinella* (Pfeiff.) Vis. (FD2: 231), sect. nov.) — *Cuscuta* sect. *Ocimicida* Vis. (FD2: 231), sect. nov. — *Cynara scolymus* var. *muticus* Vis. (FD2: 231, n. 598,2), var. nov. — *Cynara scolymus* var. *pungens* Vis. (FD2: 46, n. 598,1), var. nov. — *Cynoglossum officinale* var. *collinum* Vis. (FD2: 240, n. 1050,1), var. nov. — *Cynoglossum officinale* var. *parvifolium* Vis. (FD2: 240, n. 1050,3), var. nov. — *Cynoglossum officinale* var. *sylvaticum* (Haenke) Vis. (FD2: 240, n. 1050,2), stat. nov. — *Cyperus fuscus* var. *virescens* Vis. (FD1: 105, n. 187,1), comb. nov. illeg. — *Cytisus alschingeri* Vis. (IS. 40: 9, n. 1), sp. nov. — *Cytisus diffusa* Vis. (FD3: 269, n. 1779), comb. nov. illeg. — *Cytisus germanica* (L.) Vis. (FD3: 268, n. 1777), comb. nov. — *Cytisus germanica* var. *bracteosa* Vis. (FD3: 268, n. 1777,1), comb. nov. — *Cytisus germanica* var. *inermis* (W.D.J Koch) Vis. (FD3: 268, n. 1777,2), comb. nov. — *Cytisus kitaibelii* Vis. (FD3: 269, n. 1780), nom. nov. illeg. — *Cytisus pulchella* (Vis.) Vis. (FD3: 270, n. 1782), comb.

nov. — *Cytisus sericea* (Wulfen) Vis. (FD3: 269, n. 1781), comb. nov. illeg. — *Cytisus sylvestris* var. *innocua* Vis. (FD3: 269, n. 1778,1), var. nov. inval. — *Cytisus sylvestris* var. *pungens* Vis. (FD3: 269, n. 1778,2), var. nov. — *Cytisus sylvestris* (Scop.) Vis. (FD3: 268, n. 1778), comb. nov. — *Cytisus tinctoria* (L.) Vis. (FD3: 268, n. 1775), comb. nov. — *Cytisus tommasinii* Vis. (FD3: 265, n. 1768), sp. nov. — *Cytisus triangularis* (Willd.) Vis. (FD3: 268, n. 1776), comb. nov. — *Cytisus villarsii* (Clementi) Vis. (FD3: 270, n. 1783), comb. nov. — *Cytisus weldenii* Vis. (Flora 30: 52, n. 5), sp. nov.

D: — *Dactylis glomerata* var. *villosa* Vis. (FD. Sup.: 19), var. nov. — *Dahlia minor* Vis. (IS. 39: 3, n. 1), sp. nov. — *Dalbergia caslinii* Vis. & A.Massal. (Noval.: 123, n. 67), sp. nov. — *Daphne elisae* Vis. (H.Pat. 55: 247, n. 4), sp. nov. — *Daphnogene novalensis* Vis. & A.Massal. (Noval.: 118, n. 34), sp. nov. — *Datura stramonium* var. *tatula* (L.) Vis. (FD2: 232, n. 1035,1), stat. nov. inval. — *Daucus carota* var. *major* Vis. (FD3: 57, n. 1228,1), var. nov. — *Daucus gingidium* var. *angustilobus* Vis. (FD3: 58, n. 1231,2), var. nov. — *Daucus gingidium* var. *latilobus* Vis. (FD3: 58, n. 1231,1), var. nov. — *Delphinium brevicorne* Vis. (FD3: 90, n. 1315), sp. nov. — *Delphinium consolida* var. *racemosum* Vis. (FD3: 89, n. 1313,2), var. nov. — *Delphinium consolida* var. *sparsiflorum* Vis. (FD3: 89, n. 1313,1), var. nov. inval. — *Dianthus caryophyllus* var. *pubescens* Vis. (FD3: 164, n. 1501,3), var. nov. — *Dianthus caryophyllus* var. *sylvestris* (Wulfen) Vis. (FD3: 164, n. 1501,1), stat. nov. — *Dianthus caryophyllus* var. *virginicus* (L.) Vis. (FD3: 164, n. 1501,2), stat. nov. — *Dianthus ciliatus* var. *brochianus* Vis. (FD3: 162, n. 1498,3), var. nov. — *Dianthus ciliatus* var. *cymosus* Vis. (FD3: 162, n. 1498,2), var. nov. — *Dianthus ciliatus* var. *racemosus* (Vis.) Vis. (FD3: 162, n. 1498,1), stat. nov. — *Dianthus integer* var. *grandiflorus* Vis. (FD1: t. 36), var. nov. — *Dianthus integer* Vis. (Flora 29: 11, n. 15), sp. nov. — *Dianthus moesiacus* Vis. & Pančić (Decas 3: 17, n. 28), sp. nov. — *Dianthus multinervis* Vis. (FD3: 164, n. 1502), sp. nov. — *Dianthus papillosus* Vis. & Pančić (Decas 1: 436, n. 4), sp. nov. — *Dianthus racemosus* Vis. (Flora 29: 12, n. 16), sp. nov. — *Dianthus saxifragus* var. *aggregatus* Vis. (FD3: 159, n. 1489,1), var. nov. illeg. — *Dianthus strictus* var. *grandiflorus* (Vis.) Vis. (FD3: 163, n. 1500,1), comb. nov. — *Dianthus webbianus* Parol. ex Vis. (Gr. AM. 180, n. 14) — *Diclyanthes stapeliiflorus* Vis. (H.Pat. 58: 135, n. 16), sp. nov. — *Diosma huegeliana* Vis. (H.Pat. 42: 139, n. 32), sp. nov. illeg. — *Diplotaxis tenuifolia* var. *muralis* (L.) Vis. (FD3: 134, n. 1431,1), stat. nov. — *Dipsacus laciniatus* var. *divaricatus* (C. Presl.) Vis. (FD2: 11, n. 529,1), stat. nov. — *Dombeyopsis beggiatii* Vis. & A.Massal. (Noval.: 119, n. 39), sp. nov. — *Dombeyopsis vitifolia* A.Massal. & Vis. (Noval.: 119, n. 40), sp. nov. — *Draba aizoon* var. *longirostra* (Schott) Vis. (FD. Sup.: 121), stat. nov. — *Dryandra chironis* Vis. & A.Massal. (Noval.: 119, n. 35), sp. nov. — *Dryandra panacifolia* Vis. (Foss. Dalm.: 437, n. 12), sp. nov.

E: *Echinops neumayeri* Vis. (FD2: 25, n. 556), sp. nov. — *Echinops ritro* var. *elegans* Vis. (St. Dalm.: 34), var. nov. — *Epilobium angustifolium* var. *latifolium* Vis. (FD3: 198, n. 1592,1), var. nov. — *Erodium cicutarium* var. *chaerophyllum* (Cav.) Vis. (FD3: 213, n. 1635,2), stat. nov. inval. — *Erodium cicutarium* var. *petiolatum* Vis. (FD3: 214, n. 1635,3), var. nov. — *Erodium cicutarium* var. *pimpinellifolium* (Moench) Vis. (FD3: 213, n. 1635,1), stat. nov. inval. — *Eryngium palmatum* Pančić & Vis. (Decas 3: 20, n. 30), sp. nov. — *Erythraea centaurium* var. *ramosissima* (Pers.) Vis. (FD2: 257, n. 1087,1), stat. nov. — *Euonymus effusus* Vis. (H.Pat. 58: 140, n. 25), sp. nov. — *Euonymus rosmarinifolius* Vis. (H.Pat. 58: 140, n. 25), sp. nov. — *Eupatorium cannabinum* var. *indivisum* Vis. (FD2: 53, n. 620,1), var. nov. — *Eupatorium cannabinum* var. *syriacum* (Jacq.) Vis. (Sup. Al. 2: 498), stat. nov. — *Eupatorium morisii* Vis. (H.Pat. 55: 249, n. 5), sp. nov. — *Euphorbia chamaesyce* var. *canescens* (L.) Vis. (FD3: 223, n. 1659,1), stat. nov. — *Euphorbia dalmatica* Vis. (FD3: 228, n. 1678), sp. nov. — *Euphorbia exigua* var. *acuta* Vis. (FD3: 229, n. 1681,1), var. nov. — *Euphorbia exigua* var. *heterophylla* Vis. (FD3: 229, n. 1681,3), var. nov. — *Euphorbia glabriflora* Vis. (Decas 2: 477, n. 19), sp. nov. — *Euphorbia imperfoliata* Vis. (FD3: 227, n. 1673), sp. nov. — *Euphorbia nicaeensis* var. *baselicis* (Ten.) Vis. (FD. Sup.: 137), stat. nov. — *Euphorbia peplus* var. *peplodes*

(Gouan) Vis. (FD3: 229, n. 1679,1), stat. nov. — *Euphorbia pilosa* var. *literata* (Jacq.) Vis. (FD. Sup.: 137), stat. nov. — *Euphorbia soliflora* Vis. (FD1: 224), nom. inval. — *Euphorbia spinosa* L. var. *inermis* Vis. (FD. Sup.: 137), var. nov. — *Euphorbia spinosa* var. *spinosa* (FD. Sup.: 137), var. nov. — *Euphorbia subhastata* Vis. & Pančić (Decas 1: 444, n. 9), sp. nov. — *Euphrasia officinalis* var. *salisburgensis* (Funck ex Hoppe) Vis. (FD2: 174, n. 901,3), stat. nov. — *Euphrasia officinalis* var. *stricta* Vis. (FD2: 174, n. 901,2), var. nov. — *Euphrasia officinalis* var. *vulgaris* Vis. (FD2: 174, n. 901,1), var. nov. illeg.

F: *Farsetia dalmatica* Vis. (Flora 29: 15, n. 23), sp. nov. — *Ferula lobeliana* Vis. (Linn: 215), nom. nov. illeg. — *Festuca ciliata* var. *imberbis* Vis. (FD1: 75, n. 110,1), var. nov. — *Festuca duriuscula* var. *ovina* (L.) Vis. (FD. Sup.: 18), stat. nov. — *Festuca pratensis* var. *bosniaca* (Kummer & Sendt.) Vis. (FD. Sup.: 19), stat. nov. — *Festuca pratensis* var. *flavescens* (Host) Vis. (FD. Sup.: 19), stat. nov. — *Ficus affinis* Vis. & A.Massal. (Noval.: 117, n. 27), sp. nov. — *Ficus infernalis* A.Massal. & Vis. (Noval.: 117, n. 28), sp. nov. — *Ficus rhombifolia* Vis. & A.Massal. (Noval.: 117, n. 25), sp. nov. — *Filago germanica* var. *decumbens* Vis. (FD2: 75, n. 674,3), var. nov. — *Filago germanica* var. *pyramidata* (L.) Vis. (FD2: 75, n. 674,1), var. nov. inval. — *Filago germanica* var. *spathulata* (Presl.) Vis. (Sup. Al. 2: 512), stat. nov. — *Filago germanica* var. *spicata* Vis. (FD2: 75, n. 674,2), var. nov. — *Fortisia haidingeriana* Vis. (Foss. Dalm.: 430, n. 2), sp. nov. — *Fortisia lanzaeana* Vis. (Foss. Dalm.: 431, n. 3), sp. nov. — *Fortisia* Vis. (Foss. Dalm.: 430), gen. nov. — *Franca corymbosa* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca ericifolia* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca fruticulosa* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca hispida* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca laevis* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca microphylla* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca mollis* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca nodiflora* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca nothria* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca pauciflora* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca pulverulenta* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca revoluta* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca tetrapetala* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca thymifolia* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Franca velutina* (L.) Vis. (FD. Sup.: 126), comb. nov. — *Fritillaria montana* var. 'foliis longe linearibus, caule bifloro' (FD1: 131, n. 237,1), var. nov. inval. — *Fumaria officinalis* var. *tenuifolia* Vis. (FD3: 98, n. 1334,1), var. nov.

G: *Galeopsis ladanum* var. *angustifolia* Vis. (FD2: 214, n. 994,3), var. nov. inval. — *Galeopsis ladanum* var. *intermedia* Vis. (FD2: 214, n. 994,2), var. nov. inval. — *Galeopsis ladanum* var. *latifolia* Vis. (FD2: 214, n. 994,1), var. nov. inval. — *Galeopsis tetrahit* var. *major* Vis. (FD2: 214, n. 995,2), var. nov. — *Galeopsis tetrahit* var. *parviflora* Vis. (FD2: 214, n. 995,1), var. nov. — *Galeopsis tetrahit* var. *pubescens* (Besser) Vis. (FD2: 214, n. 995,3), stat. nov. — *Galium aureum* Vis. (FD3: 6, n. 1109), nom. nov. — *Galium erectum* var. *lucidum* (All.) Vis. (FD3: 6, n. 1108,1), stat. nov. illeg. — *Galium palustre* var. *hexaphyllum* Vis. (FD3: 7, n. 1113,1), var. nov. — *Galium parisiense* var. *divaricatum* (Pourr. ex Lam.) Vis. (FD3: 8, n. 1115,3), stat. nov. inval. — *Galium rupestre* Vis. (Flora 29: 5, n. 4), sp. nov. — *Galium sylvaticum* var. *laevigatum* (L.) Vis. (FD. Sup.: 102), stat. nov. — *Gaytona pantocsekii* Vis. (Sup. Al. 2: 512), sp. nov. — *Genista pulchella* Vis. (Flora 30: 51, n. 4), sp. nov. — *Gentiana crispata* var. *flavescens* Vis. (Flora 30: 50, n. 1,1), var. nov. inval. — *Gentiana crispata* Vis. (Flora 30: 50, n. 1), sp. nov. — *Geonomites saturnia* (Massal. & Vis.) Vis. (Palm. T.: 456, n. 14), comb. nov. — *Geonomites* Vis. (Palm. T.: 456, n. 98), gen. nov. — *Geranium molle* var. *grandiflorum* Vis. (FD3: 212, n. 1632,1), stat. nov. — *Geranium robertianum* var. *purpureum* (Vill.) Vis. (FD3: 213, n. 1634,1), stat. nov. inval. — *Geum molle* Vis. & Pančić (Decas 1: 429, n. 1), sp. nov. — *Glossopteris apocynophylla* Vis. & A.Massal. (Noval.: 114, n. 2), nom. nov. — *Gloxinia picta* Vis. (Genov. 46: 559), sp. nov. — *Goniolimon serbicum* Vis. (Decas 1: 440, n. 7), sp. nov. — *Gypsophila boissieri* Vis. (Decas 3: 16), nom. nov.

H: *Haplophyllum boissierianum* Vis. & Pančić (Decas 3: 14, n. 26), sp. nov. — *Helianthemum fumanum* var. *major* (Spach) Vis. (FD3: 147, n. 1460,1), comb. nov. — *Helianthemum montanum* (Spach.) Vis. (FD3: 146, n. 1459), comb. nov. — *Helianthemum montanum* var. *acutifolium* Vis. (FD3: 146, n. 1459,4), var. nov. — *Helianthemum montanum* var. *italicum* (Pers.) Vis. (FD3: 146, n. 1459,2), stat. nov. — *Helianthemum montanum* var. *oelandicum* (L.) Vis. (FD3: 146, n. 1459,1), stat. nov. illeg. — *Helianthemum montanum* var. *reichenbachii* Vis. (FD3: 146, n. 1459,3), var. nov. — *Helianthemum montanum* var. *tomentosum* Vis. (FD3: 146, n. 1459,5), var. nov. illeg. — *Helianthemum thymifolium* var. *glutinosum* (L.) Vis. (FD3: 147, n. 1461,2), stat. nov. — *Helianthemum thymifolium* var. *laeve* (Cav.) Vis. (FD3: 147, n. 1461,1), stat. nov. inval. — *Helianthemum vulgare* var. *angustifolium* (Jacq.) Vis. (FD3: 145, n. 1458,4), stat. nov. — *Helianthemum vulgare* var. *glabratum* Vis. (FD3: 145, n. 1458,2), var. nov. — *Helianthemum vulgare* var. *hirtum* (L.) Vis. (FD3: 145, n. 1458,3), stat. nov. — *Helianthemum vulgare* var. *virescens* Vis. (FD3: 145, n. 1458,1), var. nov. inval. — *Heliosperma chromodontum* var. *tommasinii* (Griseb.) Vis. (FD. Sup.: 130), stat. nov. — *Heliosperma monachorum* Vis. & Pančić (Decas 2: 463, n. 11), sp. nov. — *Heliosperma pusillum* (Waldst. & Kit.) Vis. (FD3: 171, n. 1522), comb. nov. inval. — *Heliosperma tommasinii* (Vis.) Vis. (1851 (FD3: 171, n. 1523), stat. nov. inval. — *Heliotropium brocchianum* Vis. (Pl. Aeg.: 65, n. 23), sp. nov. — *Helleborus multifidus* Vis. (Flora 29: 13, n. 18), sp. nov. — *Helleborus viridis* var. *multifidus* (Vis.) Vis. (FD3: 83, n. 1310,1), stat. nov. — *Helminthia echioides* var. *glabra* Vis. (FD2: 101, n. 727,1), var. nov. — *Hemiphoenicitis dantesiana* Vis. (Palm. T.: 451, n. 10), sp. nov. illeg. — *Hemiphoenicitis flabellarioides* (Vis. & Massal.) Vis. (Palm. T.: 453, n. 12), comb. nov. — *Hemiphoenicitis veronensis* Vis. (Palm. T.: 454, n. 13), sp. nov. — *Hemiphoenicitis* Vis. (Palm. T.: 451, n. 99), gen. nov. — *Hemiphoenicitis wettinioides* (Massal.) Vis. (Palm. T.: 452, n. 11), comb. nov. — *Heracleum hypoleucum* Vis. (H. Pat. 44: 25, n. 13), sp. nov. — *Herniaria rotundifolia* Vis. (Flora 29: 9, n. 10), sp. nov. — *Hesperidophyllum dalmaticum* Vis. (Foss. Dalm.: 437, n. 14), sp. nov. — *Hesperis glutinosa* Vis. (Flora 29: 16, n. 24), sp. nov. — *Hesperis laciniata* var. *glutinosa* (Vis.) Vis. (FD3: 130, n. 1418,1), stat. nov. — *Hibiscus rainerianus* Vis. (IS. 41: 3, n. 2), sp. nov. — *Hieracium florentinum* var. *piloselloides* Vis. (FD2: 122, n. 776,2), var. nov. — *Hieracium florentinum* var. *praealtum* (?) Vis. (FD2: 121, n. 776,1), stat. nov. — *Hieracium lanatum* var. *flexuosum* (Waldst. & Kit.) Vis. (Sup. Al. 2: 535), stat. nov. — *Hieracium lanatum* var. *scapigerum* Vis. (FD. Sup.: 69), var. nov. — *Hieracium lanatum* var. *schlosseri* (Rchb.) Vis. (Sup. Al. 2: 535), stat. nov. — *Hieracium lanatum* var. *waldsteinii* (Tausch) Vis. (FD. Sup.: 69), stat. nov. — *Hieracium marmoreum* Pančić & Vis. (Decas 2: 468, n. 14), sp. nov. — *Hieracium murorum* var. *alpestre* Vis. (Sup. Al. 2: 534), var. nov. — *Hieracium murorum* var. *plumbeum* Vis. (Sup. Al. 2: 534), var. nov. — *Hieracium pilosella* var. *major* Vis. (FD2: 121, n. 773,1), var. nov. — *Hieracium pilosella* var. *pilosissima* Vis. (Sup. Al. 2: 532), var. nov. — *Hieracium schultzianum* Pančić & Vis. ex Sch. Bip. (Decas 3: 9, n. 23), sp. nov. — *Hieracium villosum* var. *'valde pilosum'* Vis. (FD2: 124, n. 784,1), var. nov. inval. — *Hieracium villosum* var. *flexuosum* (Willd.) Vis. (FD2: 124, n. 784,2), stat. nov. — *Hieracium villosum* var. *glabratum* Vis. (FD2: 124, n. 784,3), var. nov. — *Hippocrepis comosa* var. *glaucula* (Ten.) Vis. (FD3: 315, n. 1917,1), stat. nov. — *Hippocrepis unisiliquosa* var. *biflora* (Spr.) Vis. (FD3: 315, n. 1918,1), stat. nov. — *Holcus avenaceus* var. *nodosus* Vis. (FD1: 47, n. 36,1), var. nov. — *Holoschoenus vulgaris* var. *romanus* (L.) Vis. (FD1: 111, n. 201,1), stat. nov. — *Holosteum umbellatum* var. *glandulosum* Vis. (FD3: 181, n. 1548,1), var. nov. illeg. — *Hutchinsisa procumbens* var. *integrifolia* Vis. (FD3: 110, n. 1361,1), var. nov. — *Hyosciamus varians* Vis. (Flora 29: 7, n. 7), sp. nov. — *Hypericum montanum* var. *scabrum* Vis. (FD. Sup.: 125), var. nov. — *Hypericum perforatum* var. *angustifolium* Vis. (FD3: 158, n. 1475,1), var. nov. illeg. — *Hypericum supinum* Vis. (Gr. AM.: 179, n. 12), sp. nov.

I: *Iberis serrulata* Vis. (FD3: 111, n. 1363), sp. nov. — *Iberis umbellata* var. *tenuifolia* Vis. (FD3: 112, n. 1365,1), var. nov. — *Iberis zanardinii* Vis. (FD. Sup.: 119), sp. nov. — *Inula britannica* var. *angus-*

tifolia Vis. (FD2: 63, n. 645,1), var. nov. — *Inula semiamplexicaulis* var. *adriatica* (Borb.) Vis. (Sup. Al. 2: 503), stat. nov. — *Ipomoea schlechtendalii* Vis. (H.Pat. 42: 141, n. 42), sp. nov. — *Iris illyrica* Tomm. ex Vis. (Sup. Al. 1: 169), sp. nov. — *Iris pumila* var. *lutescens* Vis. (FD1: 116, n. 210,1), var. nov.

J: *Jasminum bidwillii* Vis. (H.Pat. 58: 136, n. 17), sp. nov. — *Jasminum dianthifolium* Vis. (H.Pat. 58: 137, n. 18), sp. nov. — *Juglans cardiospermum* Vis. & A.Massal. (Noval.: 121, n. 52), sp. nov. — *Juglans novalensis* A.Massal. & Vis. (Noval.: 121, n. 50), sp. nov. — *Juglans stygia* Vis. & A.Massal. (Noval.: 121, n. 47), sp. nov. — *Juncus bufonius* var. *hybridum* (Viv.) Vis. (Sup. Al. 1: 164), stat. nov. — *Juniperus bonatiana* Vis. (H.Pat. 55: 245, n. 2), sp. nov. — *Juniperus cabiancae* Vis. (H.Pat. 55: 246, n. 3), sp. nov. — *Juniperus oxycedrus* var. '*strobilis folio aequalibus longioribusve*' Vis. (FD1: 202, n. 395,1), var. nov. inval. — *Juniperus oxycedrus* var. '*strobilis folio brevioribus*' Vis. (FD1: 202, n. 395,2), var. nov. inval. — *Jurinea mollis* var. *moschata* (Ten.) Vis. (FD2: 53, n. 619,1), stat. nov. — *Jurinea neumayeriana* Vis. (FD1: t. 10 f. 2), sp. nov. — *Justicia longiflora* Vis. (IS. 39: 3, n. 2), sp. nov. — *Justicia riviniifolia* Vis. (IS. 39: 3, n. 3), sp. nov.

K: *Kleinia carnosia* Vis. (H.Pat. 42: 142, n. 45), sp. nov. — *Koeleria cristata* var. *canescens* Vis. (FD1: 71, n. 96,1), var. nov. — *Koeleria grandiflora* var. *subaristata* Vis. (Sup. Al. 1: 138), var. nov.

L: *Lamium bifidum* var. *cryptanthum* (Guss.) Vis. (FD2: 211, n. 987,1), stat. nov. — *Laserpitium siler* var. *latifolium* Vis. (FD3: 56, n. 1227,1), var. nov. — *Lastrea polypodioides* (Ettingsh.) Vis. (Foss. Dalm.: 433, n. 4), comb. nov. — *Latanites maximiliani* Vis. (Latan.: 8), sp. nov. — *Lathyrus aristatus* Vis. (IS. 25: 2), sp. nov. — *Lathyrus inconspicuus* var. *stans* (Vis.) Vis. (FD3: 328, n. 1969,1), stat. nov. — *Lathyrus saxatilis* (Vent.) Vis. (FD3: 330, n. 1973), comb. nov. — *Lathyrus stans* Vis. (Flora 29: 19, n. 29), sp. nov. — *Lathyrus sylvestris* var. *dodonaei* (FD3: 329, n. 1972,1), var. nov. — *Lathyrus sylvestris* var. *ensifolius* (Badarò) Vis. (FD3: 329, n. 1972,2), stat. nov. — *Lathyrus sylvestris* var. *latifolius* (L.) Vis. (FD3: 329, n. 1972,3), stat. nov. — *Lathyrus variegatus* (Ten.) Vis. (FD3: 330, n. 1977), stat. nov. inval. — *Lecidea bovina* Vis. (St. Dalm.: 21, n. 12), sp. nov. — *Leontotis raineriana* Vis. (H.Pat. 42: 142, n. 47), sp. nov. — *Leontodon hastilis* var. *hirtus* Vis. (FD2: 104, n. 733,2), var. nov. illeg. — *Leontodon hastilis* var. *laciniatus* Vis. (FD2: 104, n. 733,3), var. nov. illeg. — *Leontodon hastilis* var. *pratensis* Vis. (FD2: 103, n. 733,1), var. nov. — *Leontodon saxatilis* var. *glaber* Vis. (FD2: 104, n. 734,3), var. nov. — *Leontodon saxatilis* var. *ramosus* Vis. (FD2: 104, n. 734,2), var. nov. — *Leontodon saxatilis* var. *simplex* Vis. (FD2: 104, n. 734,1), var. nov. — *Libanotis aurea* Vis. (FD3: 44, n. 1201), sp. nov. — *Libanotis nitens* Vis. (FD3: 43), nom. inval. — *Libanotis nitida* Vis. (FD2: t. 28), sp. nov. — *Ligustrum kellerianum* Vis. (H.Pat. 55: 258, n. 11), sp. nov. — *Ligustrum massalongianum* Vis. (H.Pat. 55: 259, n. 12), sp. nov. — *Ligustrum parviflorum* Vis. (H.Pat. 58: 137, n. 19), sp. nov. — *Lilium cattaniae* (Vis.) Vis. (FD. Sup.: 32), stat. nov. — *Linaria cymbalaria* var. *pilosa* (Jacq.) Vis. (FD2: 160, n. 863,2), stat. & comb. nov. — *Linaria cymbalaria* var. *vulgaris* Vis. (FD2: 160, n. 863,1), var. nov. inval. — *Linaria elatine* var. *commutata* (Bernh. ex Rchb.) Vis. (FD2: 161, n. 864,2), stat. nov. — *Linaria elatine* var. *lasiopoda* Vis. (FD2: 161, n. 864,3), var. nov. — *Linaria elatine* var. *vulagris* Vis. (FD2: 161, n. 864,1), var. nov. inval. — *Linaria rubioides* Vis. & Pančić (Decas 2: 473, n. 17), sp. nov. — *Linaria webbiana* Vis. (H.Pat. 42: 142, n. 48), sp. nov. — *Linum austriacum* var. *alpinum* (Jacq.) Vis. (FD3: 215, n. 1640,2), stat. nov. — *Linum austriacum* var. *montanum* (Schleich. ex DC.) Vis. (FD3: 215, n. 1640,1), comb. nov. — *Linum strictum* var. *spicatum* (Rchb.) Vis. (FD3: 218, n. 1650,1), comb. nov. — *Lithospermum obtusum* Vis. (Pl. Aeg.: 65, n. 3), sp. nov. — *Lolium perenne* var. *ramosum* Vis. (FD1: 92, n. 153,1), var. nov. — *Lolium rigidum* var. *subcaulis* Vis. (FD. Sup.: 22), var. nov. — *Lolium subulatum* Vis. (FD1: 90, n. 150), sp. nov. — *Lonicera glutinosa* Vis. (FD3: 18, n. 1141), sp. nov. — *Lotus corniculatus* var. *ciliatus* Vis. (FD3: 302, n. 1882,1), stat. nov. — *Lotus corniculatus* var. *hirsutus* Vis. (FD3: 302, n.

1882,2), stat. nov. illeg. — *Lotus crantzii* var. *argentea* Vis. (FD3: 304, n. 1887,1), var. nov. — *Lotus crantzii* Vis. (FD3: 304, n. 1887), nom. nov. illeg. — *Luzula campestris* var. *congesta* Vis. (FD1: 114, n. 209), var. nov. — *Lycopsis mollis* Vis. (Gr. AM.: 179, n. 10), sp. nov. — *Lythrum salicaria* var. *canescens* Vis. (FD3: 197, n. 1590,1), var. nov. — *Lythrum thymifolia* var. *hyssopifolia* Vis. (FD3: 197, n. 1591,1), var. nov.

M: *Malpighiastrum macrophyllum* Vis. & A.Massal. (Noval.: 120, n. 42), sp. nov. — *Malpighiastrum rotundifolium* Vis. & A.Massal. (Noval.: 120, n. 41), sp. nov. — *Malva cyrilli* Vis. (FD3: 207, n. 1615), sp. nov. illeg. — *Malva moschata* var. *heterophylla* Vis. (FD3: 207, n. 1613,1), stat. nov. — *Malva nicaeensis* var. *obtusata* Vis. (FD3: 204, n. 1607,1), var. nov. — *Malva thuringiaca* (L.) Vis. (FD3: 207, n. 1614), comb. nov. — *Marrubium vulgare* var. *albolanatum* Vis. (FD2: 217, n. 999,1), var. nov. — *Matthiola glandulosa* var. *glabrata* Vis. (FD3: 124, n. 1401,1), var. nov. — *Matthiola glandulosa* Vis. (FD3: 124, n. 1401), sp. nov. — *Medicago crassispina* Vis. (Flora 29: 20, n. 30), sp. nov. — *Medicago denticulata* var. *histris* (Ten.) Vis. (FD3: 281, n. 1809,3), stat. nov. — *Medicago littoralis* var. *arenaria* (Ten.) Vis. (FD3: 284, n. 1822,2), stat. nov. — *Medicago littoralis* var. *genuina* Vis. (FD3: 284, n. 1822,1), var. nov. inval. — *Medicago obscura* var. *microdon* Vis. (FD3: 283, n. 1819), stat. nov. — *Medicago pironae* Vis. (IS. 55: 4, n. 2), sp. nov. — *Melampyrum arvense* var. *barbatum* (Willd.) Vis. (FD2: 177, n. 909,1), stat. nov. — *Melhania macrophylla* (Vis.) Vis. (IS. 55: 4, n. 4), comb. nov. — *Melilotus neapolitana* var. *rostratus* Vis. (FD3: 288, n. 1833,1), var. nov. — *Meneghinia alba* (Walp.) Vis. (Genov. 46: 560), comb. nov. — *Meneghinia* Vis. (Genov. 46: 559), gen. nov. illeg. — *Mentha aquatica* var. *calaminthifolia* Vis. (FD2: 185, n. 926,3), var. nov. — *Mentha aquatica* var. *hirsuta* (L.) Vis. (FD2: 185, n. 926,2), stat. nov. inval. — *Mentha aquatica* var. *linnaeana* Vis. (FD2: 185, n. 926,1), stat. nov. — *Mentha pulegium* var. *tomentosa* Vis. (FD2: 185, n. 927,1), stat. nov. — *Mentha sylvestris* var. *ovalis* Vis. (FD2: 184, n. 924,1), var. nov. — *Mentha sylvestris* var. *polystachya* Vis. (FD2: 184, n. 924,2), var. nov. — *Mercurialis annua* var. *ambigua* (L.) Vis. (FD3: 230, n. 1683,1), stat. nov. inval. — *Mercurialis perennis* var. *ovata* (Sternb. & Hoppe) Vis. (FD3: 230, n. 1684,1), stat. nov. — *Micromeria graeca* var. *pauciflora* Vis. (FD2: 296, n. 949,2), var. nov. — *Micromeria graeca* var. *tenuifolia* (Ten.) Vis. (FD2: 296, n. 949,1), stat. nov. — *Micromeria juliana* var. *angustifolia* Vis. (FD2: 196, n. 948,1), var. nov. — *Micromeria juliana* var. *latifolia* Vis. (FD2: 196, n. 948,2), var. nov. — *Molinia caerulea* var. *arundinacea* (Schrank) Vis. (FD3: 343), var. nov. — *Mulgedium pancicii* Vis. (Pempt.: 173, n. 4), sp. nov. — *Mulgedium* sect. *Chrysomulgedium* Sch.Bip. ex Vis. & Pančić (Decas 3: 7), sect. nov. inval. — *Mulgedium sonchifolium* Vis. & Pančić (Decas 3: 5, n. 22), sp. nov. — *Myosotis arvensis* var. *intermedia* (Link) Vis. (FD2: 254, n. 1081,1), stat. nov. — *Myrica berica* Vis. & A.Massal. (Noval.: 116, n. 17), sp. nov. — *Myriophyllites radiformis* Vis. (Foss. Dalm.: 440, n. 19), sp. nov. — *Myriophyllum verticillatum* var. *pectinatum* (DC.) Vis. (FD3: 195, n. 1586,1), stat. nov.

N: *Narcissus niveus* var. *'flore pleno'* Vis. (FD1: 128, n. 233,1), var. nov. inval. — *Narcissus tazetta* var. *'coronae margine denticulato aut lobato'* Vis. (FD1: 124, n. 232,1), var. nov. inval. — *Nasturtium sylvestre* var. *dentatum* Vis. (FD3: 123, n. 1396,1), var. nov. inval. — *Nevropteris schleanii* Vis. (Foss. Dalm.: 429, n. 1), sp. nov. — *Noccaea berengeriana* Vis. (FD3: 110), nom. inval. — *Noeggerathia decurrens* Vis. (Gen. Fos. 2: 463, n. 4) sp. nov. — *Noeggerathia haidingeri* Vis. (Gen. Fos. 2: 462, n. 2), sp. nov. — *Noeggerathia imbricata* Vis. (Gen. Fos. 2: 463, n.7), sp. nov. — *Noeggerathia rhomboidalis* Vis. (Gen. Fos. 2: 463, n. 6), sp. nov. — *Noeggerathia senoneri* Vis. (Gen. Fos. 2: 463, n. 3), sp. nov. — *Noeggerathia triangularis* Vis. (Gen. Fos. 2: 463, n. 5), sp. nov. — *Nymphaea alba* var. *minor* Vis. (FD. Sup.: 43), var. nov.

O: *Ocimicida* Vis. (FD3: 231), gen. nov. inval. — *Ocimum citriodorum* Vis. (IS. 40: 9, n. 3), sp. nov. — *Oenanthe marginata* Vis. (FD3: 38, n. 1189), sp. nov. — *Oeosporangium persicum* (Bory) Vis. (FD.

Sup.: 12), comb. nov. — *Oeosporangium szovitsii* (Fisch.) Vis. (Cheil.: 663), comb. nov. — *Oeosporangium* Vis. (Cheil.: 663), gen. nov. — *Olea europaea* var. *oleaster* (Hoffmanns. & Link) Vis. (FD3: 21, n. 1147,1), stat. nov. il leg. — *Olea europaea* var. *sativa* (Hoffmanns. & Link) Vis. (FD3: 21, n. 1147,2), var. nov. inval. — *Ononis bernhardii* Vis. (H.Pat. 42: 143, n. 51), nom. nov. — *Ononis brachystachya* Vis. (FD3: 274, n. 1790), sp. nov. — *Onosma stellulata* var. *angustifolia* (Lehm.) Vis. (FD2: 244, n. 1058,1), stat. nov. — *Onosma visianii* Clementi ex Vis. (H.Pat. 42: 143, n. 52), sp. nov. — *Ophrys flavicans* Vis. (FD1: 178, n. 341), sp. nov. — *Ophrys tommasini* Vis. (FD3: 354), sp. nov. — *Opuntia nana* (DC.) Vis. (FD3: 143, n. 1451), stat. nov. — *Orchis coriophora* var. *fragrans* (Pollini) Vis. (FD1: 152, n. 323), stat. nov. illeg. — *Orchis laxiflora* var. 'labii lobo medio productiore bifido' Vis. (FD1: 168, n. 316,2), var. nov. inval. — *Orchis laxiflora* var. 'labii lobo medio truncato subnullo' Vis. (FD1: 167, n. 316,1), var. nov. inval. — *Orchis mascula* var. *speciosa* (Host) Vis. (FD3: 353), var. nov. illeg. — *Orchis morio* var. *picta* (Lois.) Vis. (FD. Sup.: 37), stat. nov. — *Orchis provincialis* var. *pauciflora* (Ten.) Vis. (FD. Sup.: 37), stat. nov. — *Orchis pyramidalis* var. *condensata* (Desf.) Vis. (FD1: 152, n. 329,1), stat. nov. — *Origanum vulgare* var. *genuinum* Vis. (FD2: 191, n. 940,1), var. nov. inval. — *Origanum vulgare* var. *hirtum* (Link) Vis. (FD2: 192, n. 940,4), stat. nov. — *Origanum vulgare* var. *prismaticum* Vis. (FD2: 191, n. 940,2), var. nov. illeg. — *Origanum vulgare* var. *virens* (Hoffmanns. & Link) Vis. (FD2: 191, n. 940,3), stat. nov. inval. — *Ornithogalum saxatile* Vis. (Flora 29: 10, n. 13), sp. nov. — *Orobanche caryophyllacea* var. *major* Vis. (FD2: 179, n. 913,1), var. nov. illeg. — *Orobanche minor* var. *adenostyla* Vis. (FD2: 179, n. 915,1), var. nov. — *Orobanche speciosa* var. *tommasinii* (Rchb.) Vis. (FD. Sup.: 82), stat. nov.

P: *Paeonia corallina* var. *pubescens* Vis. (FD3: 75, n. 1270,1), var. nov. — *Palaeolobium novalense* Vis. & A.Massal. (Noval.: 123, n. 66), sp. nov. — *Palaeospathe bolcensis* Vis. (Palm. T.: 458, n. 15), sp. nov. — *Palmacites promonensis* Vis. (Foss. Dalm.: 435, n. 9), sp. nov. — *Panax margaritifera* Vis. (IS. 55: 4, n. 3), nom. nov. — *Pancicia serbica* Vis. (IS. 57: 9), sp. nov. — *Pancicia* Vis. (IS. 57: 9), gen. nov. — *Panicum crus-galli* var. 'spiculis longe aristatis' Vis. (FD1: 60, n. 68,2), var. nov. inval. — *Panicum crus-galli* var. 'spiculis submuticis' Vis. (FD1: 60, n. 68,1), var. nov. inval. — *Papaver dubium* var. *obtusifolium* (Desf.) Vis. (FD3: 100, n. 1337,1), stat. nov. inval. — *Papaver hybridum* var. *argemonoides* (Ces.) Vis. (FD3: 99, n. 1336,1), stat. nov. — *Pastinaca sativa* var. *opaca* (Bernhardi ex Hornemann) Vis. (FD3: 53, n. 1218,1), stat. nov. — *Pastinaca selinoides* Vis. (Flora 29: 10, n. 12), sp. nov. — *Peucedanum chabraei* var. *selinoides* (Vis.) Vis. (FD3: 51, n. 1215), var. nov. — *Peucedanum neumayeri* (Vis.) Rchb. (FD. Sup.: 110), stat. nov. — *Peucedanum oreoselinum* var. *cordifolium* Vis. (FD3: 52, n. 1217,2), var. nov. — *Peucedanum oreoselinum* var. *latifolium* Vis. (FD3: 52, n. 1217,1), var. nov. — *Phelypaea lavandulacea* (Rchb.) Vis. (FD2: 180, n. 918), comb. nov. — *Phelypaea ramosa* var. *simplex* Vis. (FD2: 180, n. 917,1), var. nov. — *Phillyraea divaricata* Vis. (H.Pat. 42: 144, n. 56), sp. nov. — *Phillyrea latifolia* var. *ilicifolia* (Willd.) Vis. (FD3: 20, n. 1145,2), stat. nov. — *Phillyrea latifolia* var. *laevis* (Willd.) Vis. (FD3: 20, n. 1145,1), stat. nov. inval. — *Phleum echinatum* var. *elongatum* Vis. (FD1: 64, n. 79,1), var. nov. — *Phleum echinatum* var. *villosum* Vis. (FD. Sup.: 16), var. nov. — *Phoenicites densifolia* Vis. (Palm. T.: 448, n. 7), sp. nov. — *Phoenicites magnipes* Vis. (Palm. T.: 449, n. 8), sp. nov. — *Phoenicites massalongiana* Vis. (Palm. T.: 447, n. 6), sp. nov. — *Phoenicites rarifolia* Vis. (Palm. T.: 445, n. 3), sp. nov. — *Phoenicites zignana* Vis. (Palm. T.: 450, n. 9), sp. nov. — *Pholidophyllum* Vis. (IS. 47: 4), gen. nov. — *Pholidophyllum zonatum* var. *fuscum* Vis. (IS. 47: 4), var. nov. — *Pholidophyllum zonatum* Vis. (IS. 47: 4), sp. nov. — *Phyllanthus bicolor* Vis. (H.Pat. 58: 139, n. 23), sp. nov. — *Physospermum verticillatum* (Waldst. & Kit.) Vis. (FD. Sup.: 113), stat. nov. — *Phytarrhiza duratii* (Vis.) Vis. (Bromel.: 341), comb. nov. — *Phytarrhiza* Vis. (Bromel.: 340), gen. nov. — *Phyteuma orbicularis* var. *columnae* Vis. (FD2: 128, n. 793,2), var. nov. illeg. — *Phyteuma orbiculare* var. *lanceolatum* (Vill.) Vis. (FD2: 128, n. 793,1), stat. nov. illeg. — *Picridium macrophyllum* Vis. & Pančić (Decas 3: 3, n. 21), sp. nov. — *Picridium vulgare* var. *sospigerum* Vis.

(FD2: 126, n. 789,1), var. nov. — *Picris hieracioides* var. *umbellata* Vis. (FD2: 101, n. 728,1), var. nov. illeg. — *Picris hieracioides* var. *uniflora* Vis. (Sup. Al. 2: 522), nom. nov. — *Picris laciniata* Vis. (Flora 29: 24, n. 37), sp. nov. — *Pimpinella napiformis* Vis. (IS. 47: 4, n. 2), sp. nov. — *Pimpinella saxifraga* var. *dissecta* Vis. (FD3: 34, n. 1174,2), var. nov. — *Pimpinella saxifraga* var. *nigra* (Willd.) Vis. (FD3: 34, n. 1174,1), stat. nov. — *Pinites dalmatica* Vis. (Foss. Dalm.: 436, n. 10), sp. nov. — *Pinites lepidostrobis* Vis. & A.Massal. (Noval.: 115, n. 14), sp. nov. — *Pinus parolinii* Vis. (H.Pat. 55: 243, n. 1), sp. nov. — *Plantago lagopus* var. *eristachya* (Ten.) Vis. (Pl. Aeg.-2: 8, n. 19), var. nov. — *Plantago maritima* var. *subulata* Vis. (FD2: 4, n. 512,1), var. nov. — *Plantago media* var. *plicata* (Schott.) Vis. (Sup. Al. 2: 477), stat. nov. — *Platanthera bifolia* var. *clavata* Vis. (FD1: 166, n. 313,1), var. nov. — *Poa bulbosa* var. *prolifera* Vis. (FD1: 79, n. 119,1), var. nov. — *Poa pilosa* var. *aegyptiaca* Vis. (Pl. Aeg.-2: 6, n. 15), var. nov. — *Poa pratensis* var. *angustifolia* Vis. (FD1: 81, n. 124,1), var. nov. — *Poa rigida* var. *hemipoa* (Parlat.) Vis. (Sup. Al. 1: 142), stat. nov. — *Poa rigida* var. *patens* Vis. (FD1: 82, n. 128,1), var. nov. inval. — *Poacites lanzaeana* (Foss. Dalm.: 434, n. 8), sp. nov. — *Poacites novalensis* Vis. & A.Massal. (Noval.: 114, n. 6), sp. nov. — *Podospermum laciniatum* var. *calcitrapifolium* (Vahl) Vis. (FD2: 105, n. 736,1), stat. nov. — *Polygonum amphibium* var. *terrestre* Vis. (FD1: 227, n. 449,2), var. nov. illeg. — *Polygonum bellardii* var. 'foliis floralibus flore minoribus angustissimis' Vis. (FD1: 229, n. 454,2), var. nov. inval. — *Polygonum bellardii* var. 'foliis floralibus flores superantibus' Vis. (FD1: 229, n. 454,1), var. nov. inval. — *Polypodium vulgare* var. *serratum* Vis. (FD. Sup.: 9), var. nov. — *Portenschlagia ramosissima* (Port.) Vis. (FD3: 45, n. 1202), comb. nov. — *Portenschlagia* Vis. (FD3: 45), gen. nov. illeg. — *Potamogeton luents* var. *longifolius* (J.Gay ex Poiret) Vis. (FD3: 355), stat. nov. — *Potentilla fragariastrum* var. *breviscapa* (Vest) Vis. (FD3: 252, n. 1740,1), stat. nov. illeg. — *Potentilla hirta* var. *angustifolia* Vis. (FD3: 250, n. 1733,2), var. nov. — *Potentilla hirta* var. *laciniosa* Vis. (FD3: 250, n. 1733,3), var. nov. inval. — *Potentilla hirta* var. *pedata* (Willd.) Vis. (FD3: 250, n. 1733,1), stat. nov. — *Potentilla lejocarpa* Vis. & Pančić (Decas 1: 431, n. 2), sp. nov. — *Potentilla poteriifolia* Vis. (Decas 1: 433, n. 3), sp. nov. illeg. — *Potentilla supina* var. *aegyptiaca* Vis. (Pl. Aeg.-2: 21, n. 89), var. nov. — *Potentilla verna* var. *opaca* (L.) Vis. (FD3: 252, n. 1738,2), stat. nov. — *Poterium sanguisorba* var. *polygamum* (Waldst. & Kit.) Vis. (FD3: 255, n. 1748,1), stat. nov. — *Prenanthes purpurea* var. *latifolia* Vis. (FD2: 112, n. 751,3), var. nov. — *Prenanthes purpurea* var. *major* Vis. (FD2: 112, n. 751,2), var. nov. — *Prenanthes purpurea* var. *vulgaris* Vis. (FD2: 112, n. 751,1), var. nov. — *Prunus cerasus* var. *marasca* (Host) Vis. (FD3: 258), stat. & comb. nov. — *Prunus marasca* (Host) Vis. (H.Pat. 42: 144, n. 58), stat. nov. illeg. — *Pterocephalus palaestinus* var. *indivisus* Vis. (FD2: 15, n. 539,1), var. nov. inval. — *Pterocephalus palaestinus* var. *lyrata* Vis. (FD2: 16, n. 539,3), var. nov. illeg. — *Pterocephalus palaestinus* var. *triphylla* Vis. (FD2: 16, n. 539,4), var. nov. — *Pteroneurum dalmaticum* Vis. (Flora 29: 17, n. 25), sp. nov. — *Pyrus ambigua* Vis. & A.Massal. (Noval.: 122, n. 57), sp. nov. — *Pyrus coriacea* Vis. & A.Massal. (Noval.: 123, n. 59), sp. nov.

Q: *Quercus agni* Vis. & A.Massal. (Noval.: 116, n. 19), sp. nov. — *Quercus ilex* var. *nuda* (FD1: 208, n. 406,1), stat. nov. inval. — *Quercus ilex* var. *suberosa* (FD1: 208, n. 406,2), stat. nov. — *Quercus pubescens* var. *intermedia* (Berang.) Vis. (FD. Sup.: 45), stat. nov.

R: *Ranunculus acris* var. *stevenii* (Andrz. ex Besser) Vis. (FD3: 85, n. 1301,1), stat. nov. — *Ranunculus aquatilis* var. *petiveri* (W.D.J. Koch) Vis. (FD3: 81, n. 1288,2), stat. nov. — *Ranunculus chaerophyllus* var. *flabellatus* (Desf.) Vis. (FD3: 83, n. 1295,1), stat. nov. inval. — *Ranunculus montanus* var. *tenuifolius* Vis. (FD3: 85, n. 1300,1), var. nov. illeg. — *Ranunculus parviflorus* var. *chius* (DC.) Vis. (FD. Sup.: 115), stat. nov. — *Ranunculus serbicus* Vis. (Pempt.: 170, n. 2), sp. nov. — *Reichardia macrophylla* (Vis. & Pančić) Vis. (Sup. Al. 2: 539), sp. nov. — *Rhagadiolus stellatus* var. *indivisus* Vis. (FD2: 96, n. 717,1), var. nov. inval. — *Rhamnus frangula* var. *pumila* (Turra) Vis. (FD3: 233, n. 1692,1), stat. nov. — *Rhinantus crista-galli* var. *angustifolius* (G.Gmel.) Vis. (FD2: 177, n. 908,1),

stat. nov. — *Romulea coelestina* (W.Bartram) Vis. (H.Pat. 42: 145, n. 61), comb. nov. — *Romulea crocifolia* Vis. (FD. Sup.: 30), sp. nov. — *Rosa alpina* var. *rubella* (Sm.) Vis. (FD3: 240, n. 1706,1), stat. nov. inval. — *Rosa rubiginosa* var. *sepium* (Thuill.) Vis. (FD3: 241, n. 1710,1), stat. nov. — *Rosa sempervirens* var. *glabriflora* Vis. (FD3: 242, n. 1712,1), var. nov. — *Rubus caesius* var. *discolor* Vis. (FD3: 249, n. 1728,1), var. nov. — *Rubus fruticosus* var. *amoenus* (Griseb.) Vis. (FD3: 248, n. 1727,2), stat. nov. — *Rubus fruticosus* var. *discolor* (Weihe & Nees) Vis. (FD3: 248, n. 1727,1), stat. nov. — *Rubus fruticosus* var. *semiglaber* Vis. (FD3: 248, n. 1727,4), var. nov. — *Rubus fruticosus* var. *tomentosus* (Borkh.) Vis. (FD3: 248, n. 1727,3), stat. nov. — *Ruellia undulata* Vis. (IS. 47: 4, n. 3), sp. nov. — *Rumex acetosella* var. *angustifolius* Vis. (FD1: 231, n. 463,1), var. nov. illeg. — *Rumex acetosella* var. *multifidus* (L.) Vis. (FD1: 231, n. 463,2), stat. nov. inval. — *Rumex pulcher* var. *divaricatus* (L.) Vis. (FD1: 232, n. 465,1), stat. nov.

S: *Sagina apetala* var. *glabra* Vis. (FD3: 176, n. 1533,1), var. nov. illeg. — *Salicornia donatiana* Vis. & A.Massal. (Noval.: 118, n. 29), sp. nov. — *Salix alba* var. *vitellina* (L.) Vis. (FD1: 212, n. 411,1), stat. nov. inval. — *Salvia leucanthera* Vis. (IS. 39: 3, n. 4), sp. nov. — *Salvia officinalis* var. *auriculata* Vis. (FD. Sup.: 85), var. nov. — *Salvia officinalis* var. *grandiflora* (Etl.) Vis. (FD2: 187, n. 930,1), stat. nov. — *Salvia littae* Vis. (H. Pat. 44: 15, n. 4), sp. nov. — *Salvia rectiflora* Vis. (IS. 39: 3, n. 5), sp. nov. — *Salvia rotundifolia* Vis. (Gr. AM.: 175, n. 1), sp. nov. illeg. — *Salvia verbenaca* var. *multifida* (Sm.) Vis. (FD2: 1900, n. 937,2), stat. nov. — *Salvia verbenaca* var. *sinuata* Vis. (FD2: 189, n. 937,1), var. nov. — *Sapindus dalmaticus* Vis. (Foss. Dalm.: 438, n. 16), sp. nov. — *Sapindus ephialtae* (Ettingsh.) Vis. (Foss. Dalm.: 439, n. 18), comb. nov. — *Satureja montana* var. *communis* Vis. (FD2: 194, n. 946,1), var. nov. illeg. — *Satureja montana* var. *subspicata* (Bartl. ex Vis.) Vis. (FD2: 194, n. 946,3), stat. nov. — *Satureja montana* var. *variegata* (Host) Vis. (FD2: 194, n. 946,2), stat. nov. — *Satureja parviflora* Vis. (Flora 29: 13, n. 19), sp. nov. — *Satureja pygmaea* Sieb. ex Vis. (St. Dalm.: 11), sp. nov. inval. — *Satureja subspicata* Bartl. ex Vis. (St. Dalm.: 11, n. 6), sp. nov. — *Saxifraga tri-dactylites* var. *controversa* (Sternb.) Vis. (FD3: 194, n. 1584,1), stat. nov. — *Scabiosa achaeta* Vis. & Pančić (Decas 2: 465, n. 12), sp. nov. — *Scabiosa arvensis* var. *collina* (Req.) Vis. (FD2: 16, n. 540,1), stat. nov. illeg. — *Scabiosa arvensis* var. *indivisa* (Req.) Vis. (FD2: 16, n. 540,2), stat. nov. — *Scabiosa fumarioides* Vis. & Pančić (Decas 2: 466, n. 13), sp. nov. — *Scabiosa integrifolia* var. *hybrida* (All.) Vis. (FD2: 17, n. 541,1), stat. nov. — *Scabiosa lyrophylla* Vis. & Pančić (Decas 3: t. 19 f. 1), sp. nov. inval. — *Scabiosa macedonica* var. *indivisa* Vis. (Decas 3: 12), var. nov. inval. — *Scabiosa macedonica* var. *lyrophylla* (Pančić) Vis. & Pančić (Decas 3: 11, n. 24), var. nov. — *Scabiosa multiseta* Vis. (St. Dalm.: 1, n. 1), sp. nov. — *Scaligeria cretica* (Mill.) Vis. (FD3: 70, n. 1261), comb. nov. illeg. — *Scaligeria cretica* Vis. (IS. 48: 3), sp. nov. inval. — *Scilla amethystina* Vis. (Flora 29: 11, n. 14), sp. nov. — *Scirpus maritimus* var. *compactus* Vis. (FD1: 109, n. 199,2), stat. nov. — *Scirpus maritimus* var. *laxus* Vis. (FD1: 109, n. 199,1), var. nov. — *Scirpus maritimus* var. *macrostachys* Vis. (FD1: 109, n. 199,3), stat. nov. — *Scleranthus ascrivensis* Vis. (Sup. Al. 1: 218), nom. nov. illeg. — *Scorzonera austriaca* var. *angustifolia* Vis. (FD2: 106, n. 739,3), var. nov. illeg. — *Scorzonera austriaca* var. *latifolia* (DC.) Vis. (FD2: 106, n. 739,1), comb. nov. — *Scorzonera austriaca* var. *oblongifolia* Vis. (FD2: 106, n. 739,2), var. nov. illeg. — *Scorzonera candollei* Vis. (FD2: 106, n. 738), sp. nov. — *Scorzonera latifolia* Vis. (FD1: t. 5 f. 1), sp. nov. illeg. — *Scorzonera villosa* var. *dalmatica* Vis. (FD2: 107, n. 740,1), var. nov. — *Scrophularia canina* var. *bicolor* (Sm.) Vis. (FD2: 159, n. 861,1), stat. nov. — *Secale dalmaticum* Vis. (FD1: 97, n. 167), sp. nov. — *Sedum acre* var. *neglectum* (Ten.) Vis. (FD3: 189, n. 1569,1), stat. nov. — *Sedum listoniae* (Gr. AM.: 181, n. 15), sp. nov. — *Sempervivum molle* Vis. (IS. 41: 3, n. 3), sp. nov. — *Senecio cacaliaster* var. *linnaei* Vis. (FD2: 71, n. 664,1), var. nov. inval. — *Senecio cacaliaster* var. *gmelinii* Vis. (FD2: 71, n. 664,3), var. nov. — *Senecio cacaliaster* var. *jacquinii* Vis. (FD2: 71, n. 664,2), var. nov. — *Senecio cordatus* var. *auriculatus* (Rchb.) Vis. (Sup. Al. 2: 507), stat. nov. — *Sene-*

cio dalmaticus Vis. (FD1: t. 7), sp. nov. — *Senecio doronicum* var. *angustifolius* Vis. (FD2: 71, n. 665,2), var. nov. — *Senecio doronicum* var. *lanatus* (Scop.) Vis. (FD2: 71, n. 665,3), stat. nov. — *Senecio doronicum* var. *latifolius* Vis. (FD2: 71, n. 665,1), var. nov. — *Senecio nebrodensis* var. *bipinnatifidus* Vis. (FD2: 69, n. 657,4), var. nov. — *Senecio nebrodensis* var. *geuinius* Vis. (FD2: 68, n. 657,1), var. nov. inval. — *Senecio nebrodensis* var. *laciniatus* (Bertol.) Vis. (FD2: 68, n. 657,3), stat. nov. — *Senecio nebrodensis* var. *rupestris* (Waldst. & Kit.) Vis. (FD2: 68, n. 657,2), stat. nov. — *Senecio tenuifolius* var. *luxurians* Vis. (St. Dalm.: 56), var. nov. — *Senecio visianianus* Papaf. ex Vis. (FD1: 72), sp. nov. inval. — *Seseli globiferum* Vis. (Flora 30: 50, n. 2), sp. nov. — *Seseli tomentosum* Vis. (St. Dalm.: 6, n. 4), sp. nov. — *Sesleria argentea* var. *nitida* (Ten.) Vis. (FD. Sup.: 20), stat. nov. — *Sesleria elongata* var. *montana* Vis. (FD1: 86, n. 140,1), var. nov. — *Sesleria interrupta* Vis. (FD1: 87, n. 142), sp. nov. — *Seseli promonense* Vis. (FD2: t. 29), sp. nov. — *Setaria glauca* var. *longiseta* Vis. (Sup. Al. 1: 130), var. nov. — *Sida heterosperma* Vis. (IS. 41: 3, n. 4), sp. nov. — *Sida spinosa* var. *sennaariensis* Vis. (Pl. Aeg.-2: 27, n. 109), var. nov. — *Silene fortunei* Vis. (IS. 47: 4, n. 4), sp. nov. — *Silene graminea* Vis. (FD2: t. 34 f. 2), sp. nov. — *Silene inflata* var. *alpina* (?) Vis. (FD3: 168, n. 1512,3), var. nov. — *Silene inflata* var. *vulgaris* Vis. (FD3: 168, n. 1512,1), var. nov. illeg. — *Silene kitaibelii* Vis. (FD3: 167, n. 1511), sp. nov. — *Silene nocturna* var. *brachypetala* Vis. (FD3: 165, n. 1505,1), var. nov. — *Silene otites* var. *pseudo-otites* (Besser) Vis. (FD3: 170, n. 1520,1), stat. nov. — *Silene reichenbachii* Vis. (FD3: 169, n. 1515), sp. nov. — *Silene remotiflora* Vis. (FD3: 166, n. 1507), sp. nov. — *Silene saxifraga* var. *petraea* (Waldst. & Kit.) Vis. (FD3: 167, n. 1510,1), stat. nov. — *Silene tommasinii* Vis. (Flora 29: 12, n. 17), sp. nov. — *Smilacites novalensis* Vis. & A.Massal. (Noval.: 114, n. 7), sp. nov. — *Smilax pseudosarsa* Vis. (IS. 39: 3, n. 6), sp. nov. — *Solanum dulcamara* var. *pubescens* Vis. (FD2: 234, n. 1039,1), var. nov. — *Solanum monodynamum* Vis. (IS. 41: 3, n. 5), sp. nov. — *Solidago virgaurea* var. *alpestris* (Walst. & Kit.) Vis. (Sup. Al. 2: 502), stat. nov. — *Solidago virgaurea* var. *integrifolia* Vis. (FD2: 59, n. 632,1), var. nov. — *Sphaeroclinium ettingshausenii* Vis. (Foss. Dalm.: 434, n. 8), sp. nov. illeg. — *Sphaeroclinium nigellifolium* (DC.) Sch.-Bip. (IS. 46: 4, n. 50), comb. nov. inval. — *Sphaeroclinium* Vis. (IS. 46: 4), gen. nov. inval. — *Stachys anisochila* Vis. & Pančić (Decas 3: 13, n. 25), sp. nov. — *Stachys fragilis* Vis. (Flora 29: 14, n. 20), sp. nov. — *Stachys imbricata* Vis. (Flora 29: 15, n. 22), sp. nov. — *Stachys menthifolia* Vis. (Flora 29: 14, n. 21), sp. nov. — *Stachys palustris* var. *angustifolia* (FD2: 207, n. 974,1), var. nov. — *Stachys parolinii* Vis. (Gr. AM.: 177, n. 6), sp. nov. — *Stachys pauciflora* Vis. (Gr. AM.: 177, n. 5), sp. nov. — *Stachys subcrenata* var. *angustifolia* Vis. (FD2: 208, n. 980,1), var. nov. — *Stachys subcrenata* var. *fragilis* (Vis.) Vis. (FD2: 208, n. 980,2), stat. nov. — *Stachys subcrenata* var. *labiosa* (Bertol.) Vis. (FD2: 208, n. 980,3), stat. nov. — *Stachys subcrenata* Vis. (Flora 29: 15, 22), sp. nov. — *Suaeda maritima* var. *salsa* (L.) Vis. (FD1: 243, n. 494,1), stat. nov.

T: *Taeniopetalum neumayeri* Vis. (FD3: 49, n. 1211), sp. nov. — *Taeniopteris affinis* A.Massal. & Vis. (Noval.: 114, n. 3), sp. nov. — *Taeniopteris crassicosta* A.Massal. & Vis. (Noval.: 114, n. 4), sp. nov. — *Tanacetum vulgare* var. *crispum* Vis. (FD2: 94, n. 712,1), var. nov. — *Taraxacum officinale* var. *alpinum* Vis. (Sup. Al. 2: 526), var. nov. inval. — *Taraxacum officinale* var. *lividum* (Waldst. & Kit.) Vis. (Sup. Al. 2: 526), stat. nov. inval. — *Tecoma tagliabuana* Vis. (H.Pat. 58: 135, n. 15), sp. nov. — *Teucrium chamaedrys* var. *microphyllum* Vis. (FD2: 224, n. 1016,2), var. nov. — *Teucrium chamaedrys* var. *scutilobum* Vis. (FD2: 224, n. 1016,1), var. nov. — *Teucrium densiflorum* Vis. (IS. 47: 4, n. 5), sp. nov. — *Teucrium montanum* var. *majus* Vis. (FD2: 225, n. 1020,1), var. nov. inval. — *Teucrium montanum* var. *supinum* (L.) Vis. (FD2: 225, n. 1020,2), stat. nov. — *Thalictrum aquilegifolium* var. *indivisum* Vis. (FD3: 77, n. 1274,1), var. nov. — *Thesium linophyllum* var. *'foliis linearisubulatis, crassiusculi'* Vis. (St. Dalm.: 49), var. nov. inval. — *Thlaspi montanum* var. *praecoex* (Wulfen) Vis. (FD3: 114, n. 1372,1), stat. nov. — *Thymus affinis* Vis. (L. Parl.: 4), nom. nov. illeg. — *Thymus cherlerioides* Vis. (Gr. AM.: 176, n. 2), sp. nov. — *Thymus organifolius* Vis. (Flora 30: 51, n.

3), sp. nov. — *Thymus punctatus* Vis. (Gr. AM.: 176, n. 3), sp. nov. illeg. — *Thymus serpyllum* var. *angustifolius* (Pers.) Vis. (FD2: 192, n. 941,3), stat. nov. — *Thymus serpyllum* var. *montanus* (Waldst. & Kit.) Vis. (FD2: 192, n. 941,2), stat. nov. — *Thymus serpyllum* var. *pannonicus* (All.) Vis. (FD2: 192, n. 941,4), stat. nov. — *Thymus serpyllum* var. *vulgaris* Vis. (FD2: 192, n. 941,1), var. nov. — *Thymus subcordatus* Vis. (FD1: t. 19), sp. nov. — *Tilia platyphyllos* var. *costata* Vis. (FD3: 202, n. 1604,1), var. nov. — *Tillandsia duratii* Vis. (H.Pat. 40: 21, n. 10), sp. nov. — *Tinea maculata* (Desf.) Vis. (FD3: 353), comb. nov. illeg. — *Torilis infesta* var. *heterophylla* (Guss.) Vis. (FD3: 61, n. 1239,1), stat. nov. — *Trevesia palmata* (Roxb. ex Lindl.) Vis. (Gast. P.: 262), comb. nov. — *Trevesia* Vis. (Gast. P.: 262), gen. nov. — *Trianthema sedifolia* Vis. (Pl. Aeg.: 66, n. 5), sp. nov. — *Trichocrepis bifida* Vis. (St. Dalm.: 19, n. 10), sp. nov. — *Trichocrepis* Vis. (St. Dalm.: 19), gen. nov. — *Trifolium arvense* var. *glabrum* Vis. (FD3: 292, n. 1846,1), var. nov. — *Trifolium dalmaticum* Vis. (Flora 29: 21, n. 31), sp. nov. — *Trifolium leucanthum* var. *obscurum* (Savi) Vis. (FD3: 291, n. 1843,1), stat. nov. — *Trifolium succinctum* Vis. (Flora 29: 32, n. 32), sp. nov. — *Trigonella arguta* Vis. (Pl. Aeg.: 68, n. 11), sp. nov. — *Trigonella dura* Vis. (Pl. Aeg.: 67, n. 10), sp. nov. — *Triticum durum* var. *villosum* (Host) Vis. (FD3: 345), stat. nov. — *Triticum petraeum* Vis. & Pančić (Decas 1: 446, n. 10), sp. nov. — *Triticum pinnatum* var. *glabrum* Vis. (FD1: 95, n. 164,1), var. nov. — *Triticum pinnatum* var. *pubescens* Vis. (FD1: 95, n. 164,2), var. nov. — *Triticum ramosum* (L.) Vis. (FD1: 95, n. 165), comb. nov. — *Triticum repens* var. *glaucum* (Desf.) Vis. (FD. Sup.: 22), stat. nov. — *Triticum repens* var. *virescens* (Asch.) Vis. (FD. Sup.: 23), stat. nov. — *Tulipa odoratissima* Vis. (H.Pat. 42: 149, n. 75), sp. nov. — *Tupa atropurpurea* Vis. (H. Pat. 44: 23, n. 12), sp. nov.

U: *Ulmis campestris* var. *nuda* Vis. (FD1: 221, n. 436,1), var. nov. inval. — *Ulmus campestris* var. *suberosa* (Ehrh.) Vis. (FD1: 221, n. 436,2), stat. nov. illeg. — *Urospermum picroides* var. *indivisum* Vis. (FD2: 109, n. 747,2), var. nov. illeg. — *Urospermum picroides* var. *laciniatum* Vis. (FD2: 109, n. 747,1), var. nov. inval. — *Urtica dioica* var. *glabrata* (Clementi) Vis. (FD. Sup.: 46), stat. nov. — *Urtica glabrata* Clementi ex Vis. (FD1: 217, n. 426), sp. nov. illeg.

V: *Verbascum densiflorum thapsiforme* (Schrad.) Vis. (FD2: 154, n. 848,1), stat. nov. — *Verbascum nigrum* var. *genuinum* Vis. (FD2: 157, n. 855,1), var. nov. inval. — *Verbascum nigrum* var. *lanatum* (Schrad.) Vis. (FD2: 157, n. 855,2), stat. nov. — *Verbascum nigrum* var. *orientale* (M.Bieb.) Vis. (FD2: 157, n. 855,3), stat. nov. — *Verbascum pannosum* Vis. (Decas 2: 475, n. 18), sp. nov. — *Verbascum phlomoides samniticum* (Ten.) Vis. (FD2: 155, n. 850,1), stat. nov. — *Verbascum phoeniceum* var. *lanuginosum* Vis. (FD2: 158, n. 856,1), var. nov. — *Verbascum thapsus* var. *elongatum* (Willd.) Vis. (FD2: 154, n. 847,1), stat. nov. — *Verbena dentata* Vis. (IS. 46: 4, n. 70), sp. nov. — *Verbesina triplinervia* Vis. (IS. 39: 3, n. 7), sp. nov. — *Veronica agrestis* var. *linnaeana* Vis. (FD2: 172, n. 897,1), var. nov. illeg. — *Veronica agrestis* var. *tenoreana* Vis. (FD2: 172, n. 897,2), var. nov. illeg. — *Veronica anagallis-aquatica* var. *ovalis* Vis. (FD2: 172, n. 895,1), var. nov. — *Veronica austriaca* var. 'capsula elliptica aut obovato-elliptica biloba' Vis. (FD2: 170, n. 893,2), var. nov. inval. — *Veronica austriaca* var. 'capsula orbiculata, levissime emarginata' Vis. (FD2: 170, n. 893,1), var. nov. inval. — *Veronica linariifolia* Vis. (H.Pat. 58: 134, n. 13), sp. nov. — *Veronica saturejoides* Vis. (FD2: 168, n. 886), sp. nov. — *Veronica versicolor* Vis. (H.Pat. 58: 134, n. 14), sp. nov. — *Vesicaria microcarpa* Vis. (Flora 29: 18, n. 26), sp. nov. — *Veslingia scabra* Vis. (IS. 40: 9, n. 4), sp. nov. — *Veslingia* Vis. (IS. 40: 9), gen. nov. — *Vialia macrophylla* Vis. (IS. 40: 9, n. 5), sp. nov. — *Vialia* Vis. (IS. 40: 9), gen. nov. — *Vicia cordata* car. *canescens* Vis. (FD3: 319, n. 1935,1), var. nov. — *Vicia hirsuta* var. *leiocarpa* (Ten.) Vis. (FD3: 521, n. 1943,1), comb. nov. — *Vicia lanata* Vis. (FD3: 324), nom. inval. — *Vicia lathyroides* var. *lejosperma* Vis. (FD3: 521, n. 1936), var. nov. — *Vicia lutea* var. *hirta* (Balb. ex Pers.) Vis. (FD3: 318, n. 1930,1), stat. nov. — *Vicia sativa* var. *angustifolia* (Roth) Vis. (FD3: 315, n. 1934,4), stat. nov. inval. — *Vicia sativa* var. *intermedia* (Viv.) Vis. (FD3: 319, n. 1934,5), stat. nov. — *Vicia sativa* var. *minor* Vis. (FD3: 319, n. 1934,2), var. nov. — *Vicia sativa* var. *obovata* Vis. (FD3:

319, n. 1934,1), var. nov. — *Vicia sativa* var. *segetalis* (Thuill.) Vis. (FD3: 319, n. 1934,3), stat. nov. inval. — *Vicia tenuifolia* var. *luxurians* Vis. (FD3: 323, n. 1950,2), var. nov. — *Vincetoxicum huteri* Vis. & Asch. (Oest. B.Z. 69: 67), sp. nov. — *Vincetoxicum officinale* var. *albidum* Vis. (FD3: 2, n. 1102,1), stat. & comb. nov. — *Vincetoxicum officinale* var. *fuscatum* (Willd.) Vis. (FD3: 16, n. 1102,2), stat. nov. illeg. — *Viola grisebachiana* Vis. (Decas 1: 433, n. 5), sp. nov. — *Viola odorata* var. *hirta* (L.) Vis. (FD3: 149, n. 1467,1), stat. nov. — *Viola tricolor* var. *angustifolia* Vis. (FD3: 151, n. 1472,3), var. nov. — *Viola tricolor* var. *hortensis* Vis. (FD3: 151, n. 1472,1), var. nov. — *Viola tricolor* var. *parvula* (Tineo) Vis. (FD3: 151, n. 1472,4), stat. nov. illeg. — *Volkameria acerbiana* Vis. (Pl. Aeg.: 66, n. 7), sp. nov.

X: *Xeranthemum inapertum* var. *olaeifolium* Vis. (FD2: 27, n. 559,1), var. nov.

Z: *Zannichellia major* var. *pedunculata* (Rchb.) Vis. (FD1: 188, n. 363,1), stat. nov. — *Zea mays* var. *praecox* Vis. (FD1: 46, n. 34,1), var. nov. — *Zilla microcarpa* Vis. (Pl. Aeg.: 67, n. 8), sp. nov. — *Zosterites exilis* Vis. & A.Massal. (Noval.: 115, n. 12), sp. nov. — *Zosterites latissimus* Vis. & A.Massal. (Noval.: 115, n. 10), sp. nov. — *Zosterites vicentinus* Vis. & A.Massal. (Noval.: 115, n. 9), sp. nov.

III. Societies and Honours

All the societies of which Visiani was member, the prizes he won, and the titles he earned are presented here in chronological order with the original title appearing in the document and (only once) in translation. 'I. R.' always stands for 'Imperial Royal'.

Beyond these, he received, according to P. Mazzoleni [10], a golden medal from the kings of Saxony, the king of Greece, and from the Granduke of Tuscany, and a gold and diamond ring by Emperor Ferdinand of Austria.

1820s: 1827, Ateneo Veneto (*Venetian Athenaeum*), regular member — 1827, I. R. Accademia Economico-Agraria dei Georgofili di Firenze (*I. R. Economical-Agrarian Society of the 'Georgofili' of Florence*), corresponding member — 1827, Königliche Botanische Gesellschaft in Regensburg (*Royal Botanical Society in Regensburg*), member — 1828 Regia Taurinensis Academia (*Royal Academy of Turin*), member — 1828 to 1836, I. R. Accademia di Scienze, Lettere ed Arti di Padova (*I. R. Academy of Sciences, Letters and Arts in Padova*), corresponding member — 1828, Societas Medico-Botanica Londinensis (*Medical-Botanical Society of London*), corresponding member

1830s: 1833, Kaiserliche Koenigliche Landwirtschafts-Gesellschaft in Wien (*I. R. Agricultural Society in Vienna*), regular member — 1836 to 1837, I. R. Accademia di Scienze, Lettere ed Arti in Padova, national member — 1837 to 1870, I. R. Accademia di Scienze, Lettere ed Arti in Padova, active member — 1838, Accademia d'Agricoltura Commercio ed Arti di Verona (*Agriculture, Commerce and Arts' Academy in Verona*), honorary member — 1838, Accademia Scientifico-letteraria dei Concordi in Rovigo (*Scientific-literary Society of the 'Concordi' in Rovigo*), honorary academic — 1838, Kaiserliche Königliche Gesellschaft der Aertze in Wien (*I. R. Society of Physicians in Vienna*), corresponding member — 1838, Societas Cæsarea Naturæ Curiosorum Mosquiensis (*Imperial Society of the Curious about Nature*), regular member — 1838, Российское Общество любителей Садоводства¹ (*Russian Society of the Lovers of Agriculture*), member — 1839 I. R. Ateneo Italiano (*I. R. Italian Athenaeum*), corresponding member — 1839 to 1845, Accademia Valdarnese del Poggio (*Accademy of the 'Poggio' in Valdarno*), honorary member — 1839, Gesellschaft für Natur- und Heilkunde zu Dresden (*Society for Natural History and Medicine in Dresden*), corresponding member

1840s: 1840 to 1844, I. R. Istituto Veneto di Scienze, Lettere ed Arti (*I. R. Venetian Institute of Sciences, Letters and Arts*), effective member without allowance — 1840, Gesellschaft naturforschender Freunde zu Berlin (*Society of the naturalist Friends in Berlin*), foreign member — 1840, Società Economico-Agraria di Perugia (*Economic-Agrarian Society in Perugia*), corresponding member — 1842, I. e R. Società Aretina di Scienze, Lettere, ed Arti (*I. R. Society of Sciences, Letters, and Arts in Arezzo*), corresponding member — 1842, I. R. Accademia di Scienze Lettere ed Arti della Valle Tiberina Toscana (*Academy of Sciences, Literature and Arts of the Tiber Valley in*

1. 'Rossijskoe Obšestvo ljubitelej Sadovodstva'.

Tuscany), corresponding member – 1843, Kaiseliche Königliche Gartenbau-Gesellschaft in Wien (*I. R. Society for Gardening*), great golden medal – 1843, Kaiserliche königliche Landwirtschaft Gesellschaft in Krain (*I. R. Society of Agriculture in Krain*), member – 1844, I.R. Istituto Veneto di Scienze, Lettere ed Arti, effective member with allowance – 1844, Kaiseliche Königliche Gartenbau-Gesellschaft in Wien, corresponding member – 1844, Caesarea Leopoldino-Carolina Academia Naturae Curiosorum (*Imperial Leopoldino-Carolina Academy of the Curious for Nature*), member – 1844, Reale Accademia Lucchese (*Royal Academy in Lucca*), corresponding member – 1846, Accademia Pontaniana (*'Pontaniana' academy*), member – 1845, Accademia Valdarnese del Poggio, corresponding member – 1846 to 1872, Ateneo di Scienze, Lettere ed Arti Belle in Bassano (*Athenaeum of Sciences, Letters and Fine Arts in Bassano*), corresponding member – 1846, Société du Muséum d'Histoire Naturelle de Strasbourg (*Society of the Natural History Museum in Strasbourg*), corresponding member

1850s: 1852, Société Impériale des Sciences de Cherbourg (*Imperial Society of Natural Sciences of Cherbourg*), corresponding member – 1855, Società Reale Borbonica Accademia delle Scienze (*Royal Bourbon Society Academy of Sciences*), corresponding member – 1855, Società Toscana d'Orticoltura (*Tuscan Society of Horticulture*), honorary member – 1856, Pollichia, honorary member – 1857, Académie d'Archéologie de Belgique (*Belgian Archaeological Society*), member – 1859, Società d'Orticoltura del Litorale (*Horticultural Society of the Litoral*), honorary member – Société Impériale des Naturalistes de Moscou (*Imperial Society of the Naturalists in Moscow*), member

1860s: 1862, Regia Commissione per la Pubblicazione dei Testi di Lingua nelle provincie [sic] dell'Emilia (*Royal Commission for the Publication of Texts on Language in the Provinces of Emilia*), member – 1863, Accademia Agraria di Pesaro (*Agrarian Academy in Pesaro*), honorary member – 1864, Società Ligure di Storia Patria (*Ligurian Society of Homeland History*), honorary member – 1865, Imperial Orden de Guadalupe (*Imperial Order of Guadalupe*) – 1865, Reale Accademia Virgiliana di Scienze, Belle Lettere ed Arti (*Royal Virgilian Academy of Sciences, Fine Letters and Arts*), effective academic – 1865, Società Reale di Napoli Accademia delle Scienze Fisiche e Matematiche (*Royal Society of Naples Academy of Physical and Mathematical Sciences*), corresponding member – 1865, Ateneo di Treviso (*Athenaeum of Treviso*), honorary member – 1866, Victoriae Britannicorum Reginae Societas Botanica (*Botanical Society Victoria Queen of the British*), foreign member – 1867, Srpsko Učeno Društvo (*Serbian Society of Science*), member – Kaiserlich königliche zoologisch botanische Gesellschaft in Wien (*I. R. zoological botanical Society in Vienna*), member – 1869, Accademia del Progresso (*Progress Academy*), corresponding member – 1869 Кавалеры Умиераторскаго Царскаго Ордена Нашега Святаго и Станислава третьей степени¹ (*Knight of the I. R. Order of our Saint Stanislav third grade*) – 1869, Ufficiale dell'Ordine della Corona d'Italia (*Officer of the Order of the Crown of Italy*) –

1870s: 1870, Accademia di Scienze, Lettere ed Arti in Padova, emeritus member – 1870, Societas Linneana Londinensis (*Linnean Society in London*), foreign member – 1871 to 1876, Cavaliere dell'Ordine dei SS. Maurizio e Lazzaro (*Knight of the Order of St. Maurice and Lazarus*) – 1872, Ateneo di Scienze, Lettere ed Arti Belle di Bassano, honorary member – 1876, Società Adriatica di Scienze Naturali (*Adriatic Society of Natural Sciences*), honorary member – 1876, Jugoslavenska Akademija Znanosti i Umjetnosti (*Yugoslavian Academy of Science and Art*), member – 1876 to 1877, Ufficiale dell'Ordine dei SS. Maurizio e Lazzaro (*Officer of the Order of St. Maurice and Lazarus*) – 1877, Commendatore dell'Ordine dei SS. Maurizio e Lazzaro (*Commander*

1. 'Kavalery Umieratorskago Carskago Ordena Našego Svâtago i Stanislava tret'ej stepeni'.

of the Order of St. Maurice and Lazarus) — 1879 Circolo Promotore Partenopeo Giambattista Vico (Neapolitan Promoter Club 'Giambattista Vico'), promoter member with silver medal

IV. Index of Place Names

The following table contains translations from Italian or Latin to the modern form of the localities mentioned in Visiani's works; some of the most notable misspellings (or non-standard spellings) are also corrected here.

A: Aenona, Nin – Albium, Biokovo – Almissa, Omiš – Aloep, Silba – Apsyrtium, Lošinj – Arba, Rab – Arbe, Rab – Argyruntum, Obrovac – Arxanò, Aržano – Ascrivium, Kotor

B: Babbindub, Babindub – Babbino Polje – Bacili, Hridi Lukavci – Badia, Badija – Balkari, Paklarevo – Ballina Glavizza, Balina Glavica – Beliak, Debeljak – Bellafusa, Belafuza – Benistrovizza, Benistrovica – Benkovaz, Benkovac – Bergatto, Brgat – Besca Nuova, Baška – Besca Vecchia, Stara Baška – Betina, Betina – Bianca, Bijela – Billeki, Bileća – Biokovo, Biokovo – Bjele Carini, Bilo od Carina – Blandona, Biograd na Moru – Blatta, Blato – Boccagnazzo, Bokanjac – Bodgassich, Bogdašići – Boljavich, Boljevici – Boroviza, Borovica – Bossanca, Bosanka – Bossoglina, Marina – Botticelle, Bačvice – Braichi, Brajići – Brattia, Brač – Brazza, Brač – Breno, Srebreno – Bua, Čiovo – Buccari, Bakar – Bucovizza, Bukovica – Budua, Budva – Busi, Biševo – Buttisniza, Butišnica – Butua, Budva

C: Calamotta, Koločep – Calogerà, Ošljak – Campo Grande, Plisko Polje – Canale di Stagno, Malostonski Kanal – Canidole, Vele Srakane – Canidole Piccola, Male Srakane – Capocesto, Primošten – Caprie, Kaprije – Carina, Karin – Cascata di Scardona, Skradinski Buk – Cassion, Košljun – Castagnizza, Kostanjica – Castel Cambio, Kaštel Kambelovac – Castel Lastua, Petrovac na Moru – Castel Nuovo, Kaštel Novi – Castel San Stefano, Sveti Stefan – Castel Staffileo, Kaštel Štafilic – Castel Sussuraz, Kaštel Sućurac – Castel Vecchio, Kaštel Stari – Castel Vitturi, Kaštel Lukšić – Castell'Andreis, Jadrtovac – Castelli, Kašteli – Castelmuschio, Omišalj – Castelnovo (di Cattaro), Herceg Novi – Castrum Novum, Herceg Novi – Cattaro, Kotor – Cerkvize, Crkvice – Cettigne, Cetinje – Cettina, Cetina – Cherca, Krka – Cherso, Cres – Chiunchi, Čunski – Ciaikovich, Čajkovići – Cicola, Čikola – Cigale, Čikat – Cittavecchia, Stari Grad – Clia, Jakljan – Clissa, Klis – Colentum, Murter – Colludraz, Koludarc – Comissa, Komiža – Corcyria Nigra, Korčula – Corinium, Karin – Coritti, Korita – Crappano, Krapanj – Crexa, Cres – Cruppa, Krupa – Curzola, Korčula – Curzola (città), Vela Luka – Czerno, Crno – Czernopac, Veliki Crnopac

D: Dance, Danče – Dernis, Drniš – Diclo, Diklo – Dismo, Dicmo – Divulje, Divulje – Drača, Dračevo – Draceviza, Dračevica – Dragalj, Dragaljane – Duare, Zadvarje –

E: Eso, Iž

F: Fiume, Rijeka – Foinizza, Fojnica – Fort'Opus, Opuzen – Forte S. Niccolò, Žlijebi

G: Gelsa, Jelsa – Ghnjat, Gnjat – Gionchetto, Šumet – Gissa, Pag – Giuppana, Šipan – Glavasc, Glavaš – Gliva, Gljiva – Grabovaz, Grabovac – Gradaz, Gradac – Gradaz, Gradac (Drniš) – Gravosa, Gruž – Grebe, Grbe – Grossa, Dugi Otok – Guozd, Gvozd

H: Huma, Humac

I: Imoschi, Imotski – Imotha, Imotski – Incoronata, Kornat – Issa, Vis – Isto, Ist

J: Jadera, Zadar – Jadora, Zadar

K: Kakagn, Kakan – Kamesniza, Kamešnica – Kistagne, Kistanje – Kliake, Kljake – Kljuc, Ključ – Kninskopolje, Kninsko Polje – Koinsko, Konjsko – Koloxun, Koložun – Kovčice, Kovčica – Koziak, Veliki Kozjak – Krivoscie, Krivošije

L: Lacroma, Lokrum – Lacum Scodranum, Skadarsko Jezero – Ladesta, Lastovo – Lago di Scutari, Skadarsko Jezero – Lago di Vrana, Vransko Jezero – Lagosta, Lastovo – Lastua, Lastva (Croatia) – Lastva, Lastva (Bosnia-Herzegovina) – Lemess, Lemeš – Lepetane, Lepetani – Lesina, Hvar – Leutor, Leotar – Levvera, Zeča – Lissa (in Italian), Vis – Lissa (in Latin), Uljan – Lissa (village), Vis – Lubičko Bardo, Ljubičko Brdo – Lumbricata, Vrgada – Lossino (island), Lošinj – Lossingrande, Veli Lošinj – Lossinpiccolo, Mali Lošinj – Lussino (island), Lošinj – Lussingrande, Veli Lošinj – Lussinpiccolo, Mali Lošinj

M: Macarsca, Makarska – Malfi, Zaton (Dubrovnik) – Mandetrium, Klis – Maon, Olib – Maranovich, Maranovići – Martinici, Martinići – Mavize, Maovice – Megline, Meljine – Melada, Molat – Meleda, Mljet – Melita, Mljet – Metkovich, Metković – Mezzo, Lopud – Milievzi, Miljevci – Milnà, Milna – Miocich, Miočić – Monte d’Ossero, Osorščica – Monte Santo, Sveto Brdo – Monte Sella, Lovćen – Morter, Murter – Mossech, Moseć – Mossor, Mosor – Mucarum, Makarska – Much, Muć – Mulla, Muo – Murvizza, Murvica

N: Narenta, Neretva – Narona, Neretva – Neresi, Nerežišća – Neresine, Nerezine – Njeguss, Njeguši – Nona, Nin – Novegradi, Novigrad

O: Obrovazzo, Obrovac – Ogorie, Ogorje – Onaeum, Omiš – Orebich, Orebić – Organ, Vrska Glava – Orien, Orjen – Orlovaz, Orlovac – Ossero, Lošinj – Ossoje, Osoje – Ostrovizza, Ostrovica

P: Pago, Pag – Pakovosello, Pakovo Selo – Palmodon, Premuda – Panighe, Ponikve – Pasman, Pašman – Pastrovichio, Paštrovići – Pelagosa, Palagruža – Perasto, Perast – Permuda, Premuda – Perzagno, Prcanj – Petrovopolje, Petrovo Polje – Petrovosello, Petrovo Selo – Pharia, Hvar – Pharia, Hvar – Ploce, Ploče – Podgliva, Podgljivlje – Poglize, Poljica – Pokrovnik, Pokrovnik – Pola, Pula – Polazza, Polača – Pomo, Jabuka – Porporella, Porporela – Povia, Povija – Pravlaka, Prevlaka – Pregasnik, Pregaznik – Pridvorce, Pridvorci – Priko, Preko – Prologh, Prolog – Promina, Promina – Promona, Promina – Provicchio, Prvić – Pucischie, Pučišća – Punt’Amica, Puntamika – Punta Gerilla?, Punta Gerilla – Puticanje, Putičanje

R: Radigne, Radinje – Ragusa (di Dalmazia)¹, Dubrovnik – Ragusa Vecchia, Cavtat – Ragusium, Dubrovnik – Raschiane, Rašćane – Rillich, Rilić – Risano, Risan – Rjeka, Rijeka Crnojevića – Rogosnizza, Rogoznica – Rosario, Viganj – Rovigno, Rovinj

1. The name ‘Ragusa di Dalmazia’ is sometimes used in modern Italian for Dubrovnik to clearly distinguish it from the Sicilian town of Ragusa; it was never used in that form in Visiani’s time. The two towns have distinct demonyms in Italian: ‘raguseo’ is used for the Dalmatian locality and ‘ragusano’ for the Sicilian one.

S: Sabbioncello, Pelješac – Salona, Solin – San Caio, Sveti Kajo – San Clemente, Sveti Klement – San Filippo, Sveti Filip – San Giorgio (mountain), Sveti Jure – San Giorgio (village), Sućuraj – San Giovanni, Sustivan – San Marco, Sveto Marko – San Niccolò, Sveti Nikola – San Pier di Nemb, Ilovik – San Pietro, Supetar – San Stefano, Sustipan – Sansego, Susak – Sant'Andrea, Svetac – Santa Maria, Rasopasno – Scagliari, Škaljari – Scardona, Skradin – Scrada, Škrada – Sebenico, Šibenik – Selve, Silba – Sestrunj, Sestrunj – Setonia, Sinj – Sibenicum, Šibenik – Sign, Sinj – Sindžon, Šinđon – Sinnjavina, Sinjajevina – Skodjegra, Skučigrm – Slivnizza, Slivnica – Slosella, Pirovac – Smarska, Smrka – Smergo, Merag – Smilcich, Smilčić – Sniesniza, Sniježnica – Solentum, Šolta – Solta, Šolta – Spalato, Split – Spigliari, Špiljari – Spionizza, Špionica – Srebrenik, Srebrenica – Stagno, Ston – Stagno Piccolo, Mali Ston – Stagnum, Ston – Stermiza, Strmica – Sticovo, Štikovo – Stipansko, Uvala Stipanska – Stobrez, Stobreč – Stolivo, Stoliv – Stravcia, Stravča – Stretto di Morter, Tisno – Studenze, Studenci – Stulac, Mali Stuoc – Suiza, Šujica – Surium, Žirje – Sutturina, Sutorina – Sutynska, Kraljeva Sutjeska

T: Tarstenizza, Tribanj Sv. Marija Magdalena – Tedanius, Zrmanja – Teodo, Tivat – Tihat, Tijat – Tinnium, Knin – Titium, Krka – Torcola, Šćedro – Torre di Norin, Kula Norinska – Torrette, Turanj – Tragurium, Trogir – Traù, Trogir – Trebocconi, Tribunj – Trigl, Trilj – Triscavaz, Velji Verh – Troiza, Trojica – Tučepi, Tučepi – Tulove Grede, Tulove Grede

U: Ughljane, Ugljane – Uglian, Uljan – Ulbo, Olib – Umljanovich, Umljanović – Unessich, Unešić – Unie, Unije – Uniste, Uništa

V: Val dei Canali, Konavle – Valebith, Velebit – Varesh, Vareš – Vegium, Krk – Veglia, Krk – Veglia, Krk – Vellebith, Velebit – Vellivehr, Velji Vrh – Verbosca, Vrboska – Vergada, Vrgada – VergorazVrgorac – Verlicca, Vrlika – Vermaz, Vrmac – Verpolie, Vrpolje – Vir, Virpazar – Viruša Dol, Veruša Dol – Vissosnizza, Visočnica – Vissovaz, Visovac – Vlassich, Vlašić – Vlastizza, Vlastica – Vodizze, Vodice – Vragizza, Vranjica – Vratnik, Olipa – Vrullia, Vrulja

X: Xerava, Žerava – Xuppa, Župa

Z: Zabljak, Žabljak – Zagorie, Zagora – Zaguozd, Zagvozd – Zamonico, Zemunik – Zara, Zadar – Zaravecchia, Biograd na Moru – Zarina, Carina – Zermagna, Zrmanja – Zerquize, Crkvice – Zirona, Drvenik Veli – Zirona, Drvenik Veli – Zirona Minor, Dvernik Mali – Zirona Piccola, Dvernik Mali – Zuppa, Župa – Zuppagne, Županje – Zuri, Žirjev – Zut, Žut – Zvirinaz, Zverinac.

V. Illustrations in Visiani's Works

This section comprises a list of all published botanical plates in Visiani's works (in alphabetical order by abbreviation, see § II). For each, we give first its number (as in the original), followed by the number of the illustration itself within each plate, and the scientific name of the plant represented, corrected in its form as is prescribed by the *Code*. As for the ascription of said *names*, we have omitted to indicate it, as in the rest of the thesis, whenever they already appear in § II, while we have left it as given by Visiani in the other cases: beware that Visiani was often citing chresonyms (see note in § 3.4.4).

In the column 'Note', we first give the number of parts in which the main illustration is divided, then the number of additional drawings representing fine details, followed by the abbreviation 'an.' (for 'analysis'). For illustrations that refer to plants described in the same work where they appeared, and that are therefore to be considered part of the protologue, we add the abbreviation 'ibid.', whereas for illustrations with analysis that are themselves the place of effective publication of a *name*, we add the abbreviation 'in tab.'. In the last column, we give the illustrator and the lithographer, separated by a semi-colon, only for the plates where their name is explicitly indicated.

Illustration in *Bromel.*

Taxon	Note	Illustr. & Lith.
<i>Phytarrhiza duratii</i>	1 + 12 an., ibid.	Kier (Mar. 1853)

Illustrations in *Decas 1.*

N.	Taxa	Note	Illustr. & Lith.
I	1. <i>Geum molle</i> 2. <i>Viola grisebachiana</i>	2 + 6 an., ibid. 3, ibid.	G.B. Lago; —
II	1. <i>Potentilla lejocarpa</i> 2. <i>Potentilla poteriifolia</i>	1 + 3 an., ibid. 2 + 5 an., ibid.	G.B. Lago; —
III	<i>Eryngium serbicum</i>	1 + 4 an.	G.B. Lago; —
IV	<i>Goniolimon serbicum</i>	1 + 6 an., ibid.	—
V	1. <i>Triticum petraeum</i> 2. <i>Dianthus papillosus</i>	2 + 4 an., ibid. 1 + 10 an., ibid.	G.B. Lago; —
VI	<i>Campanula secundiflora</i>	3 + 5 an., ibid.	G.B. Lago; —
VII	<i>Euphorbia subhastata</i>	2 + 9 an., ibid.	G.B. Lago; M. Moro ¹

1. Lithographer M. Moro, who almost certainly prepared all the tables, worked for Kirchmayr, in Venice.

Illustrations in *Decas 2.*

N.	Taxa	Note	Illustr. & Lith.
VIII	1. <i>Allium serbicum</i> 2. <i>Heliosperma monachorum</i>	1 + 4 an., ibid. 1 + 5 an., ibid.	G.B. Lago; B. Kirchmayr
IX	<i>Scabiosa achaeta</i>	2 + 4 an., ibid.	—; B. Kirchmayr
X	<i>Scabiosa fumarioides</i>	1 + 4 an., in tab.	—; B. Kirchmayr
XI	<i>Hieracium marmoreum</i>	2 + 7 an., ibid.	G.B. Lago; B. Kirchmayr
XII	<i>Centaurea myriotoma</i>	2 + 7 an., ibid.	G.B. Lago; B. Kirchmayr
XIII	1. <i>Centaurea derventana</i> 2. <i>Euphorbia glabriflora</i>	1 + 7 an., ibid. 1 + 4 an., ibid.	—; B. Kirchmayr
XIV	<i>Verbascum pannosum</i>	2 + 3 an., ibid.	—; B. Kirchmayr
XV	<i>Linaria rubioides</i>	2 + 2 an., ibid.	G.B. Lago; B. Kirchmayr

Illustrations in *Decas 3.*

N.	Taxa	Note	Illustr. & Lith.
XVI	<i>Picridium macrophyllum</i>	2 + 3 an., ibid.	G. B. Lago; M. Moro
XVII	<i>Mulgedium sonchifolium</i>	3 + 4 an., ibid.	G. B. Lago
XVIII	1–2. <i>Hieracium schultzeianum</i> 3. <i>Eryngium palmatum</i>	3 + 3 an., ibid. 2 + 2 an., ibid.	G. B. Lago; M. Moro
XIX	1. <i>Scabiosa lyrophylla</i> 2. <i>Dianthus moesiacus</i>	2 + 2 an., in tab. 2 + 4 an., ibid.	G.B. Lago; B. Kirchmayr
XX	1. <i>Stachys anisochila</i> 2. <i>Haplophyllum boissierianum</i> 3. <i>Gypsophila spergulifolia</i> Griseb.	2 + 5 an., ibid. 1 + 2 an., ibid. 1 + 5 an.	—

Illustration in *Gast.*

Taxon	Note	Illustr. & Lith.
<i>Trevesia palmata</i>	1 + 9 an.	Botta

Illustrations in *Gen. Foss.*

N.	Taxa	Note	Illustr. & Lith.
XIX	<i>Noeggerathia haidingeri</i>	1 + 1 an., ibid.	G. Kirchmayr
XX	<i>Noeggerathia senoneri</i>	1 + 1 an., ibid.	G. Kirchmayr
XXI	<i>Noeggerathia decurrens</i>	1 + 1 an., ibid.	G. Kirchmayr
XXII	<i>Noeggerathia triangularis</i>	1 + 1 an., ibid.	G. Kirchmayr
XXIII	<i>Noeggerathia rhomboidalis</i>	1 + 1 an., ibid.	G. Kirchmayr

XXIV	<i>Noeggerathia imbricata</i>	1 + 1 an., ibid.	G. Kirchmayr
XXV	<i>Agavites persica</i>	1	
XXVI	<i>Aloites italica</i>	1	

Illustrations in Gr. AM.-2

N.	Taxa	Note	Illustr. & Lith.
I	<i>Salvia rotundifolia</i>	1 + 3 an., ibid.	Patella, Conte ¹
II	1. <i>Thymus punctatus</i> 2. <i>Stachys pauciflora</i>	2 + 4 an., ibid. 2 + 3 an., ibid.	Patella, Conte
III	1. <i>Stachys swainsonii</i> Benth. 2. <i>Dianthus webbianus</i> Parolini	1 + 3 an. 2 + 5 an.	Patella, Conte
IV	<i>Stachys parolinii</i>	2 + 3 an., ibid.	Patella, Conte
V	<i>Anchusa obliqua</i>	3 + 6 an.	Patella, Conte
VI	1. <i>Lycopsis mollis</i> 2. <i>Sedum listoniae</i>	1 + 7 an., ibid. 1 + 2 an., ibid.	Patella, Conte

Illustrations in FD1

The illustrations were apparently made in Venice by Jacopo Acqua [FD1].

N.	Taxa	Note	Illustr. & Lith.
I	1. <i>Cheilanthes fimbriata</i> 2. <i>Aegilops biuncialis</i>	1 + 4 an., ibid. 1 + 3 an., in tab.	—
II	1. <i>Sesleria interrupta</i> 2. <i>Andropogon pubescens</i>	2 + 4 an., ibid. 2 + 4 an., ibid.	—, Ch. Schnor
III	1. <i>Lolium subulatum</i> 2. <i>Armeria vulgaris</i> Willd.	2 + 3 an., ibid. 3 + 5 an.	—, A. Harzer
IV	1. <i>Ornithogalum saxatile</i> 2. <i>Scilla amethystina</i>	2 + 3 an. 3 + 4 an.	—, Alboth
V	1. <i>Crepis adenantha</i> 2. <i>Scorzonera latifolia</i>	2 1, in tab.?	—, A. Weidenbach
VI	<i>Picris laciniata</i>	2 + 5 an.	—, A. Weidenbach
VII	<i>Senecio dalmaticus</i>	3 + 4 an., in tab.	—, A. Weidenbach
VIII	<i>Senecio visianianus</i> Papafava	4 + 6, in tab.	—
IX	1. <i>Artemisia biasoletiana</i> 2. <i>Achillea argentea</i>	1 + 3 an. 1	—, A. Weidenbach
X	1. <i>Ptarmica abrotanoides</i> 2. <i>Jurinea neumayeriana</i>	1 + 5 an., in tab. 2 + 2 an., in tab.	—, G. Langer
X ^{bis}	<i>Amphoricarpos neumayeri</i>	0 + 27 an. [sic]	
XI	<i>Centaurea punctata</i>	2 + 4 an.	—, A. Harzer

1. Luigi Patella, Domenico Conte

XII	1. <i>Centaurea cuspidata</i> 2. <i>Centaurea tuberosa</i>	2 + 5 an. 2 + 5 an., in tab.	—, Alboth
XIII	<i>Centaurea salonitana</i>	2 + 6 an.	—, A. Harzer
XIV	<i>Campanula garganica</i> Tenore	1 + 2 an.	—, Alboth
XV	<i>Campanula serpyllifolia</i>	1 + 1 an.	—, Hartig
XVI	1. <i>Stachys fragilis</i> 2. <i>Stachys subcrenata</i>	2 + 3 an. 2 + 1 an.	—, G. Alboth
XVII	<i>Stachys menthifolia</i>	2 + 2 an.	—
XVIII	1. <i>Satureja parviflora</i> 2. <i>Satureja virgata</i>	1 + 4 an. 1 + 3 an.	—
XIX	<i>Thymus subcordatus</i>	1 + 2 an.	—, G. Alboth
XX	<i>Thymus bracteosus</i>	1 + 4 an.	—
XXI	<i>Cerintho purpurea</i>	2 + 4 an.	—
XXII	1. <i>Matthiola glandulosa</i> 2. <i>Dianthus obcordatus</i> Reut.	1 + 4 an., ibid. 2 + 3 an.	—
XXIII	1. <i>Anchusa microcalyx</i> 2. <i>Lithospermum incrassatum</i> Guss.	2 + 3 an. 1 + 4 an.	—
XXIV	1. <i>Gentiana crispata</i> 2. <i>Hyosciamus varians</i>	1 + 4 an. 1	—
XXV	1. <i>Asperula scutellaris</i> 2. <i>Asperula canescens</i>	1 + 4 an. 2 + 5 an.	—

Illustrations in FD2

N.	Taxa	Note	Illustr. & Lith.
XXVI	<i>Anthriscus trichosperma</i> Schult.	2 + 4 an.	—, A. Weidenbach
XXVII	<i>Anthriscus sicula</i> DC.	1 + 3 an.	—, A. Weidenbach
XXVII	<i>Libanotis nitida</i>	2 + 3 an., in tab.	—
XXIX	<i>Seseli promonense</i>	3 + 5 an., in tab.	—, G. Alboth
XXX	<i>Seseli globiferum</i>	3 + 4 an.	—, G. Alboth
XXXI	<i>Helleborus multifidus</i>	2	—, G. Alboth
XXXII	1. <i>Draba elongata</i> Host 2. <i>Vesicaria microcarpa</i> 3. <i>Farsetia dalmatica</i>	1 + 4 an. 2 + 7 an. 1 + 4 an.	—, G. Alboth
XXXIII	1. <i>Campanula caudata</i> 2. <i>Veronica saturejoides</i>	1 + 3 an., ibid. 1 + 5 an., ibid.	—
XXXIV	1. <i>Alsine lancifolia</i> 2. <i>Silene graminea</i>	1 + 9, in tab. 1 + 4, in tab.	—, G. Langer
XXXV	1. <i>Dianthus racemosus</i> 2. <i>Silene tommasinii</i>	3 1 + 3	—, A. Weidenbach
XXXVI	1. <i>Dianthus sanguineus</i> 2. <i>Dianthus integer</i> var. <i>grandiflorus</i> 3. <i>Dianthus integer</i>	1 + 3 an., in tab. 1, in tab.? 1	—, A. Weidenbach

XXXVII	<i>Rhamnus infectoria</i> L.	1 + 4 an.	—, A. Weidenbach
XXXVII	<i>Pyrus cuneifolia</i> Guss.	2 + 1 an.	—, A. Weidenbach
XXXIX	<i>Cytisus weldenii</i>	2 + 7 an.	—, G. alboth
XL	1. <i>Cytisus spinescens</i> Sieb. 2. <i>Genista pulchella</i>	1 + 2 an. 2 + 2 an.	—, A. Weidenbach
XLI = XIIb	<i>Centaurea divergens</i>	1 + 6 an., ibid.	—
XLII	<i>Anthyllis aurea</i>	1 + 5 an., in tab.	—
XLIII	<i>Medicago crassispina</i>	1 + 4 an.	—, A. Weidenbach
XLIV	<i>Trifolium succinctum</i>	1 + 7 an.	—
XLV	<i>Trifolium dalmaticum</i>	1 + 5 an.	—
XLVI	<i>Astragalus argenteus</i>	1 + 3 an.	—
XLVII	<i>Lathyrus aristatus</i>	1 + 2 an.	—, A. Weidenbach
XLVIII = XIIc	<i>Centaurea friderici</i>	2 + 6 an., ibid.	—
XLIX = XIII ^{bis}	1. <i>Centaurea incompta</i> 2. <i>Carduus bicolor</i>	2 + 5 an., ibid. 1 + 3 an., ibid.	J. Clementi, Lumpe
L	1. <i>Anthemis pseudocota</i> 2. <i>Pterotheca nemausensis</i> Cass. 3. <i>Trichocrepis bifida</i>	1 + 5 an., ibid. 0 + 2 an. [sic] 0 + 2 an. [sic]	J. Clementi, Lumpe
LI	1. <i>Chamaemelum uniglandulosum</i> 2. <i>Crupina vulgaris</i> Cassin. 3. <i>Crupina crupinastrum</i>	2 + 4 an., ibid. 0 + 3 an. [sic] 0 + 1 an. [sic]	J. Clementi, Lumpe

Illustrations in FD3

All illustrations for FD3 were already printed in November 1847 [hfms-471 116], just as FD2 was being printed.

N.	Taxa	Note	Illustr. & Lith.
X ^{ter}	<i>Echinops neumayeri</i>	2 + 9 an.	—, Ch. Schorr
LII	1. <i>Brassica botterii</i> 2. <i>Asperula staliana</i>	2 + 1 an., ibid. 1 + 3 an., ibid.	—, Ch. Schorr
LIII	1. <i>Silene remotiflora</i> 2. <i>Dianthus viridescens</i>	2 + an., ibid. 2 + 6 an., ibid.	—, Ch. Schorr
LIV	<i>Cytisus alschingeri</i>	1 + 10 an., ibid.	—, Ch. Schorr
LV	1. <i>Cytisus villarsii</i> 2. <i>Chamaecytisus dalmaticus</i>	1 + 3 an. 1 + 2 an., ibid.	—, Ch. Schorr

Illustrations in FD. Sup.

N.	Taxa	Note	Illustr. & Lith.
I	1. <i>Aegilops uniaristata</i> 2. <i>Secale dalmaticum</i>	1 + 3 an. 2 + 1 an.	B. Belzoni; G. Kirchmayr

II	1. <i>Crocus dalmaticus</i> 2. <i>Romulea crocifolia</i>	1 + 2 an. 1 + 5 an., ibid.	B. Belzoni; G. Kirchmayr
III	<i>Lilium cattaniae</i>	2 + 2 an., ibid.	G.B. Lago; G. Kirchmayr
IV	1. <i>Thesium parnassi</i> A.DC. 2. <i>Lonicera glutinosa</i>	1 + 2 an. 1 + 3 an.	B. Belzoni; G. Kirchmayr
V	1. <i>Centaurea crithmifolia</i> 2. <i>Arenaria orbicularis</i>	2 + 2 an. 1 + 3 an.	G.B. Lago; G. Kirchmayr
VI	1. <i>Campanula pichleri</i> 2. <i>Delphinium brevicorne</i>	1 + 1 an., ibid. 1	B. Belzoni; G. Kirchmayr
VII	1. <i>Vincetoxicum huteri</i> 2. <i>Iberis zanardinii</i>	1 + 7 an. 1 + 3 an., ibid.	B. Belzoni; G. Kirchmayr
VIII	1. <i>Iberis serrulata</i> 2. <i>Silene reichenbachii</i>	2 + 3 an. 1 + 5 an.	B. Belzoni; G. Kirchmayr
IX	1. <i>Arabis neglecta</i> Schult. 2. <i>Dianthus multinervis</i>	2 + 3 an. 1 + 2 an.	B. Belzoni; G. Kirchmayr
X	1. <i>Carex illegitima</i> Ces. 2. <i>Avena compacta</i> Boiss. 3. <i>Cirsium siculum</i> Spr.	2 1 + 2 an. 2 + 2 an.	B. Belzoni; G. Kirchmayr

Illustrations in *Fos. Dalm.*

N.	Taxa	Note	Illustr. & Lith.
I	1–4. <i>Fortisia haidingeriana</i> 5. <i>Blechnum braunii</i> Ettings. 6. <i>Palmacites promonensis</i> 7. <i>Sphaenophora ettingshausenii</i> 8. <i>Fortisia lanzaeana</i>	1, ibid. 1 + 1 an. 1 + 1 an., ibid. 1, ibid. 1, ibid.	G. Prosdocimi, Kirchmayr
II	1. <i>Fortisia lanzaeana</i> 2. <i>Nevropteris schleanii</i> 3. <i>Sphaenophora ettingshausenii</i> 4. <i>Poacites lanzaeana</i> 5. <i>Fortisia lanzaeana</i> 6. <i>Cochliophora scorpiuroides</i> 7. <i>Lastrea polypodioides</i> 8. <i>Lastrea polypodioides</i>	1 + 2 an., ibid. 1 + 1 an., ibid. 1, ibid. 1, ibid. 1 + 1 an., ibid. 1 + 2 an. 1 + 1 an. 1	G. Prosdocimi, Kirchmayr
III	1. <i>Hircea hernius</i> Ung. 2. <i>Myriophyllites radiciformis</i> 3. <i>Ephedrites sotszkiana</i> Ung. 4. <i>Ephedrites sotszkiana</i> Ung. 5. <i>Bambusium sepultum</i> Ung. 6. <i>Pinites dalmatica</i> 7. <i>Squama? Fructus?</i>	1 1, ibid. 1 + 1 an. 1 + 1 an. 1 + 1 an. 1, ibid. 1 + 1 an.	G. Prosdocimi, Kirchmayr
IV	<i>Coccolobites massalongianum</i>	1 + 1 an., ibid.	G. Prosdocimi, Kirchmayr
V	1. <i>Sapindus dalmaticus</i> 2. <i>Sapindus dalmaticus</i> 3. <i>Phaseolites orbicularis</i> Ung. 4. <i>Andromeda protogea</i> Ung. 5. <i>Bambusium sepultum</i> Ung.	1, ibid. 1, ibid. 1 1 1	G. Prosdocimi, Kirchmayr

VI	1. <i>Sapindus</i>	1	G. Prosdocimi, Kirchmayr
	2. <i>Hesperidophyllum dalmaticum</i>	1 + 1	
	3. <i>Sapindus ephialtae</i>	1, ibid.	
	4. <i>Dryandra panacifolia</i>	1, ibid.	
	5. <i>Citrus australis</i> Hort.	1	
	6. <i>Citrus sinensis</i> Pers.	1	

Illustrations in *H. Pat.* 56.

N.	Taxa	Note	Illustr. & Lith.
I	<i>Pinus parolinii</i>	1 + 20 an., ibid.	—, Kier (Feb. 1856)
I*	<i>Juniperus bonatiana</i>	1 + 6 an., ibid.	—, Prosperini (1856)
I**	<i>Juniperus cabiancae</i>	1 + 3 an., ibid.	—, Prosperini (1856)
II	<i>Daphne elisae</i>	1 + 5 an., ibid.	—, Kier
III	<i>Eupatorium morisii</i>	1 + 2 an., ibid.	—, Kier (Feb. 1856)
	<i>Clerodendron manettii</i>	1 + 3 an.	
IV	<i>Ligustrum massalongianum</i>	1 + 2 an., ibid.	—, Kier (1855)
	<i>Ruellia undulata</i>	1 + 4 an.	

Illustrations in *Noval.*-2

N.	Taxa	Note	Illusr. & Lith.
I	1. <i>Glossopteris apocynophylla</i>	1	—
	2. <i>Taeniopteris affinis</i>	1	
	3–4. <i>Poacites novalensis</i>	2	
	5. <i>Sphaerites excipulooides</i> A.Massal.	1	
II	1. <i>Taeniopteris crassicosta</i>	1	—
	2. <i>Poacites novalensis</i>	1	
	3. <i>Zosterites vicentina</i>	1	
	4. <i>Majanthemophyllum rajaniifolium</i> A.Massal.	1	
III	1. <i>Smilacites novalensis</i>	1	—
	2–5. <i>Zosterites vicentina</i>	4	
IV	1–2. <i>Pinites lepidostrobos</i>	2	—
	3. <i>Myrica berica</i>	1	
	4. <i>Myrica aloysiifolia</i> A.Massal.	1	
	5. <i>Zosterites exilis</i>	1	
	6. <i>Zosterites latissima</i>	1	
V	<i>Ficus infernalis</i>	1	—
VI	1. <i>Ficus affinis</i>	1	—
	2. <i>Salicornia donatiana</i>	1	
	3. <i>Quercus agni</i>	1	
	4. <i>Ficus rhombifolia</i>	1	
	5. <i>Dryandra chironis</i>	1	
	6. <i>Daphnogene novalensis</i>	1	
VII	1–2. <i>Dryandra chironis</i>	2	—
	3. <i>Dombeyopsis vitifolia</i>	1	
	4. <i>Malpighiastrum rotundifolium</i>	1	

VIII	1. <i>Malpighiastrum macrophyllum</i>	1	—
	2. <i>Dombeyopsis beggiatii</i>	1	
	3. <i>Celastrus pachyphyllus</i>	1	
	4–5. <i>Juglans stygia</i>	2	
IX	1–3. <i>Juglans stygia</i>	3	—
	4. <i>Juglans novalensis</i>	1	
X	1–4. <i>Juglans novalensis</i>	4	—
XI	1–4. <i>Juglans novalensis</i>	4	—
	5. <i>Juglans cardiospermum</i>	1	
XII	1. <i>Palaeolobium novalense</i>	1	—
	2. <i>Eugenia laziseana</i>	1	
	3. <i>Pyrus coriacea</i>	1	
	4. <i>Pyrus ambigua</i>	1	
XIII	1. <i>Cassia dimidiata</i>	1	—
	2. <i>Palaeolobium novalense</i>	1	
	3–5. <i>Acacia henetorum</i>	3	
	6. <i>Dalbergia caslinii</i>	1	
	7. <i>Halimodendron tetraphyllum</i> A.Massal.	1	
8. <i>Calycites lythroides</i>	1		

Illustrations in *Pempt.*

N.	Taxa	Note	Illustr. & Lith.
VIII	<i>Pancicia serbica</i>	3 + 8 an.	A. Hesse, M. Fontana
IX	<i>Ranunculus serbicus</i>	4 + 4 an., ibid.	A. Hesse, M. Fontana
X	<i>Centaurea chrysolepis</i>	2 + 4 an., ibid.	A. Hesse, M. Fontana
XI	<i>Mulgedium pancicii</i>	2 + 6 an., ibid.	A. Hesse, M. Fontana
XII	<i>Mulgedium pancicii</i>	1 + 0 an., ibid.	A. Hesse, M. Fontana
XIII	<i>Acer macropterum</i>	1 + 1 an., ibid.	A. Hesse, M. Fontana

Illustrations in *Pl. Aeg.*

N.	Taxa	Note	Illustr. & Lith.
I	1. <i>Astrocephalus arenarius</i>	1 + 5 an., ibid.	—
	2. <i>Convolvulus lasiospermus</i>	1 + 0, ibid.	
II	1. <i>Heliotropium brocchianum</i>	1 + 3 an., ibid.	—
	2. <i>Lithospermum obtusum</i>	1 + 3 an., ibid.	
III	1. <i>Trianthema sedifolia</i>	1 + 5 an., ibid.	—
	2. <i>Corchorus fruticosus</i>	1 + 5 an., ibid.	
	3. <i>Matthiola acaulis</i>	2 + 3 an., ibid.	
IV	1. <i>Volkameria acerbiana</i>	1 + 4 an., ibid.	—
	2. <i>Malcomia aegyptiaca</i> Spr.	1 + 4 an.	
V	<i>Lupinus digitatus</i> Forssk.	1 + 8 an.	—
VI	1. <i>Anthemis cairica</i>	1 + 4 an., ibid.	—
	2. <i>Apargia annua</i>	1 + 3 an., ibid.	
VII	1. <i>Trigonella dura</i>	1 + 3 an., ibid.	—

	2. <i>Croton obliquifolium</i>	1 + 5 an., ibid.	
VIII	1. <i>Trigonella arguta</i>	1 + 5 an., ibid.	—, Martire
	2. <i>Crozophora brocchiana</i>	1 + 3 an., ibid.	

Illustrations in *St. Dalm.*

N.	Taxa	Note	Illustr. & Lith.
I	<i>Scabiosa multisetata</i>	2 + 1 an., ibid.	—
II	1. <i>Campanula cordata</i>	1, ibid.	—
	2. <i>Lecidea bovina</i>	1, ibid.	
III	1. <i>Seseli tomentosum</i>	2 + 3 an., ibid.	—
	2. <i>Arenaria arduinii</i>	1 + 2 an., ibid.	
IV	<i>Satureja subspicata</i>	1 + 2 an., ibid.	—
V	<i>Biscutella dilatata</i>	2, ibid.	—
VI	1. <i>Colchicum montanum</i> L.	1	—
	2. <i>Crepis incarnata</i>	1, ibid.	
VII	<i>Trichocrepis bifida</i>	1 + 1 an., ibid.	—
VIII	<i>Chrysanthemum turreanum</i>	1, ibid.	—

Illustrations in *Sup. Al. 1*

N.	Taxa	Note	Illustr. & Lith.
I	I. <i>Ornithogalum visianicum</i> Tomm.	2 + 13 an.	Botta
	II. <i>Orchis grisebachii</i> Pant.	1 + 4 an.	

Illustrations in *Sup. Al. 2*

N.	Taxa	Note	Illustr. & Lith.
I	<i>Valeriana bertisceae</i> Pančić	1 + 3 an.	—
II	<i>Cirsium decussatum</i> Janka	1	—
III	<i>Cirsium appendiculatum</i> Griseb.	2 + 2 an.	—
IV	<i>Chrysanthemum larvatum</i> Griseb.	1 + 2 an.	—
V	<i>Gaytona pantocsekii</i>	2 + 1 an.	—
VI	<i>Hieracium thapsiforme</i> Uechtr.	1 + 2 an.	—
VII	1. <i>Hieracium adriaticum</i> Nägeli	1	—
	2. <i>Hieracium adriaticum</i> Nägeli	1 + 1 an.	
	3. <i>Campanula monanthos</i> Pant.	1	
	4. <i>Campanula hirsuta</i> Pant.	1	

VI. Classification in Flora Dalmatica

The following represents the suprageneric classification system adopted by Visiani in *FD*. For this list, we did not apply any of the corrections required by Art. 18–19. *Names* that may have been newly published by Visiani are in *italic*.

Classis

1 Cryptogamae

Ordo

1 Characeae, 2 Equisetaceae, 3 Lycopodiaceae,
4 Filices

Tribus

1 Polypodiaceae, 2 Ophioglosseae

2 Phanerogamae Monocotyledones

5 Gramina, 6 Cyperoideae, 7 Junceae, 8 Irideae (Irides),
9 Amaryllideae, 10 Liliaceae, 11 Colchicaceae, 12 Smilacaceae,
13 Dioscoreae, 14 Orchideae, 15 Callaceae, 16 Typhaceae,
17 Najadeae, 18 Alismaceae, 19 Butomeae
20 Hydrocharideae

3 Phanerogamae Dicotyledones

Subclassis

1 Chlamydoxylales

21 Asarinae, 22 Cytineae, 23 Nymphaeaceae (Nymphaeae)

2 Gymnoblastae

Legio

1 Monochlamydeae

24 Coniferae

Tribus

1 Abietinae, 2 Cupressinae, 3 Ephedrinae,
4 Taxineae

25 Amentaceae (Betulinae et Cupuliferae Rich.)

Tribus

1 Cupuliferae, 2 Betulinae

26 Salicinae, 27 Juglandae

28 Urticaceae

Tribus

1 Urticeae, 2 Cannabinae, 3 Moreae, 4 Celtideae,
5 Ulmeae

29 Santalaceae, 30 Thymelaeae, 31 Laurineae, 32 Polygoneae

33 Phytolacceae,

34 Chenopodieae

Subordo

1 Cyclolobeae

Tribus

1 Salicornieae, 2 Atripliceae, 3 Anserineae

- 2 Spirolobeae
 - 4 Salsoleae
- 35 Amaranthaceae, 36 Scleranthaeae
- 2 Dichlamydeae
 - Cohors**
 - 1 Monopetalae
 - 37 Plantagineae, 38 Plumbagineae (Plumbagines),
 - 39 Globularieae, 40 Dipsaceae, 41 Valerianeae
 - 42 Compositae
 - Subordo**
 - 1 Cynarocephalae
 - Tribus**
 - 1 Echinopsidae, 2 Calendulaceae,
 - 3 Xeranthemeae, 4 Carlineae,
 - 5 Centaureaceae (nom. emend)
 - 6 Carthameae, 7 Silybeae, 8 Carduineae,
 - 9 Serratuleae
 - 2 Corymbifera
 - 10 Eupatoriaceae
 - 11 Asterinae
 - Sectio**
 - 1 Astereae, 2 Solidagineae, 3 Coyzeae
 - 12 *Tarhonantheae*, 13 Inuleae, 14 Bupthalmiae
 - 15 Senecioneae, 16 Gnaphalieae,
 - 17 Anthemideae
 - Sectio**
 - 1 Euanthemideae, 2 Chrysanthemeae,
 - 3 Artemisieae
 - 18 Heliantheae
 - 3 Cichoriaceae
 - 19 Scolymaeae, 20 Lampsaneae, 21 Hyoserideae,
 - 22 Hypochoerideae, 23 Scorzoneae, 24 Lactuceae
 - 42bis Ambrosiaceae, 43 Campanulaceae, 44 Vaccinieae
 - 45 Ericaceae
 - Tribus**
 - 1 Arbuteae, 2 Ericineae, 3 Rhodoreae, 4 Pyrolaceae
 - 46 Styraceae, 47 Ebenaceae, 48 Samolineae, 49 Primulaceae,
 - 50 Lentibulariaceae,
 - 51 Scrophularinae
 - Subordo**
 - 1 Verbasceae, 2 Antirrhineae, 3 Rhinanthaceae
 - 52 Orobancheae, 53 Verbenaceae
 - 54 Labiatae
 - Tribus**
 - 1 Ocimoideae, 2 Menthoideae, 3 Salviae, 4 Satureineae,
 - 5 Melissineae,
 - 6 *Stachydeae*,
 - Subtribus**
 - 1 *Nepeteae*, 2 *Lamioideae*
 - 7 *Galeopsidae*, 8 *Marrubiaceae*, 9 *Leonureae*,
 - 10 *Scutellarineae*, 11 *Prasieae*, 12 *Ajugoideae*
 - 55 Acanthaceae, 56 Convolvulaceae, 57 Cuscutaeae,

- 58 Solaneae
Tribus
 1 Capsulares dehiscentes, 2 Baccatae
- 59 Borragineae
Tribus
 1 Heliotropeae, 2 Cynoglosseae, 3 Anchuseae
- 60 Gentianeae, 61 Asclepiadieae, 62 Apocynae, 63 Rubiaceae
- 64 Caprifoliaceae
Tribus
 1 Sambucineae, 2 Lonicereae
- 65 Jasmineae, 65bis Oleineae
- 2 Polypetalae
- 66 Loranthaceae,
 67 Umbellatae
Tribus
 1 Hydrocotyleae, 2 Saniculeae, 3 Ammineae,
 4 Seselinaceae, 5 Angeliceae, 6 Peucedaneae,
 7 Thapsieae, 8 Daucineae, 9 Caucalineae,
 10 Scandicineae, 11 Smyrneae, 12 Coriandreae
- 68 Hederaceae, 69 Berberideae, 70 Paeoniaceae,
 71 Ranunculaceae
Tribus
 1 Clematideae, 2 Anemoneae, 3 Helleboreae
- 72 Polygaleae, 73 Resedaceae, 74 Resedaceae, 75 Papaveraceae,
- 76 Cruciferae
Tribus
 1 Lomentaceae, 2 Nucamentaceae, 3 Angustiseptae,
 4 Latiseptae, 5 Siliquosae
- 77 Capparideae, 78 Cucurbitaceae, 79 Grossularieae,
 80 Cactoideae, 80bis Mesembryanthemeae, 81 Cistineae,
 82 Violarieae, 83 Tamariscineae, 84 Hypericineae,
 85 Paronychieae, 86 Portulaceae,
 87 Caryophylleae
Tribus
 1 Sileneae, 2 Alsineae
- 88 Crassulaceae, 89 Saxifrageae
- 90 Halorageae
Tribus
 1 Myriophylleae, 2 Trapeae, 3 Hyppurideae,
 4 Callitrichineae
- 91 Lythrarieae, 92 Onagrariae, 92bis Circeaceae, 93 Granateae,
 94 Myrteae, 95 Tiliaceae, 96 Malvaceae, 97 Geraniaceae,
 98 Lineae, 99 Oxalideae, 100 Sarmentaceae, 101 Meliaceae,
 102 Acerineae, 103 Euphorbiaceae, 104 Rhamneae,
 105 Aquifoliaceae, 106 Celastrineae, 107 Dictamneae,
 108 Ruteae, 109 Zygophylleae, 110 Cassuvieae, 111 Rosaceae,
 112 Pomaceae, 113 Dryadeae, 114 Spiraeaceae,
 115 Amygdaleae
- 116 Leguminosae
Tribus
 1 Sophoreae
 2 Loteae

Subtribus

1 Genisteae, 2 Anthyllideae, 3 Trifolieae,
4 Galegeae, 5 Astragaleae

3 Hedysareae

Subtribus

1 Coronilleae, 2 Euhedysareae
4 Viciae, 4 [sic] Caesalpinieae

VII. Geodatabase Fields

In this appendix, all the tables and fields in our database [§ 5.1] are explained. Note that the goal of this section is *not* to provide a user guide, but rather simply to better illustrate what sort of data are available. We shall not, therefore, describe in minute detail all the possible values for each field, nor describe the ambiguous or complicated cases that were encountered, how they were discussed, and how they were solved.

Some general rules were followed: (1) Data to be included should correspond exactly to the original label or publication, and be written in the same language; (2) illegible single letters are substituted by an underscore ('_'), dubious words are followed by a one as an apex ('¹'), whole illegible or unimportant words or sentences are substituted by a note in square brackets ('[note]'); (3) dates are in the YYYY-MM-DD format, zeroes can be used when part of the date is not known, for intervals, YYYY-MM-DD/YYYY-MM-DD is used.

Table ogg

id_ogg: The primary key of the table.

CB: The barcode of the specimen, assigned according to the herbarium's guidelines.

Col: The collection in PAD of which the specimen is part.

Pos: Data on the position of the specimen, useful to find it. This field is different for every single collection.

Tipol: The kind of specimen, with one or more of the following abbreviations: *fh* for a herbarium sheet, *bs* for an envelope, *vt* for a microscope slide.

Cons: The conservation state, as for the parts that are present: *b* for 'good' (the specimen is useful for morphological studies, with no clear sign of damage mishandling or parasites), *m* for 'medium' (the specimen is recognisable, but hard to interpret morphologically), *c* for 'bad' (the specimen is unrecognisable and not useful for morphological studies).

NCamp: The number of parts in which the specimen is divided. Single plants mounted together are counted, fragments are counted for larger ones, if the specimen was presumably subdivided intentionally. The possible values are: 1, 2, 3, 4, 5, *n* (used when the parts are more than five or when it is impossible to determine their precise number, e.g. because the specimen includes many intertwined plants).

Rac: The gathering of which the specimen is part. Generally, the printed title of the label is transcribed here verbatim.

Inhp0: The accepted name, as a reference to inhp: id_inhp.

LgS: The level of certainty with which the collector is known: *o* for specimens whose label is explicitly signed, *ι* for specimen whose collector was inferred by the person cataloguing.

Lg: The collector, as a reference to *per:id_per*.

LgD: The date of collection.

MntS: The level of certainty with which the person who mounted the specimen is known. Same value as for LgS.

Mnt: The person who mounted the specimen, as a reference to *per:id_per*.

MntD: The date the specimen was mounted.

Dig: The person who catalogued the specimen in the database.

DigD: The date the specimen was catalogued.

GeoO: A reference to *geo:id_geo*, indicated by the person cataloguing on the basis of Loc.

Loc: All the geographical information associated to the specimen.

Hab: The habitat and other ecological information associated to the specimen.

Subs: The substrate where the specimen grows (especially useful for lichens).

Osp: The host of a parasite or epiphytic plant.

Fen: Notes on the phenology of the specimen, e.g. 'flowering', 'sterile'.

Fos: *ι* for fossil specimens, *o* for non-fossil specimens (especially useful for diatoms).

NoteOr: Other notes written on the original label.

Note: Other observations by the person cataloguing, kept as limited as possible.

Table geo

id_geo: The primary key of the table.

Geo: The name in the modern language.

GeoIt: The name in Italian, or a second name mentioned in historical literature.

GeoLa: The name in Latin, or a third name mentioned in historical literature.

Cat: A field used to categorise data.

Spaz: The spatial field, automatically filled by the GIS.

Table det

id_det: The primary key of the table.

CBD: The specimen to which the determination refers, as a reference to *ogg:id_ogg*.

DetN: The number of the determination: *o* for determinations certainly made by the collector, the following integers for successive ones. The same number can be repeated for each CBD, for instance as a botanist might have indicated synonyms along with his preferred *name* for the determination.

DetT: The kind of determination: *d* for a (re)determination proper, *s* for an indication of a synonym, *c* for a determination not indicated, but inferred by the person cataloguing from the context of the specimen.

NomD: The *name* attributed with the determination, corrected as provided by the *Code*, followed by the author abbreviation as given in the original.

OrthEm: The *name* precisely as given in the original, if different from that in NomD.
DetS: The level of certainty with which the person who determined the specimen is known. Same values as for ogg: LgS.
Det: The person who determined the specimen, as a reference to per: id_per.
DetD: The date of the determination.
NoteD: Other notes by the person who determined the specimen, including marks of uncertainty.

Table inhp

id_inhp: The primary key of the table.
Inhp: The complete *name*.
Gen: The genus.
Sp: The specific epithet. For every genus, the abbreviation 'sp.' is also added, to be used for specimens that can be determined only down to the rank of genus.
ASp: The author of the *name*, abbreviated according to IPNI [89].
SspL: The abbreviavion for the subspecific level, if any: *subsp.* for 'subspecies', *var.* for 'variety' and so on. The abbreviation *s.l.* ('sensu lato') is used, somewhat improperly, to indicate specimens that can be recognised just down to the rank of species.
Ssp: The infraspecific epithet.
ASsp: The author of the infraspecific epithet, if any, abbreviated according to IPNI.
Fam: The family.
BibL: The bibliographical reference from which the *name* was taken, as a reference to bib: id_bib.
T: An abbreviation indicating the kind of organism: *H* for vascular plants, *L* for lichens, *D* for diatoms, and so on.

Table per

id_per: The primary key of the table.
Per: The surname of the person person, followed by an abbreviation of his name. For groups of more than one person, they are written as in the original.
PerN: The full name of the person in question.

Table let

id_let: The primary key of the table.
BibL: The work in which the observation appears, as a reference to Bib: id_bib.
Pag: The page.
Num: The serial number of the observation as given the work where it appears.
NomL: The *name* being cited, corrected as provided by the *Code*, followed by the author abbreviation as given in the original
Stat: The value of the observation as a nomenclatural act: *sp. nov.*, *var. nov.*, *stat. nov.*, and so on.

LocC: All the geographical information associated to the observation (which, for newly described taxa, is the *locus classicus*).

Table letgeo

id_letgeo: The primary key of the table.

Geol: The geographical location mentioned in the observation, as a reference to geo:id_geo.

LetG: The observation, as a reference to let:id_let.

Table img

id_img: The primary key of the table.

CBi: The specimen depicted in the picture, as a reference to ogg:id_ogg.

Img: The name of the image file.

Table bib

id_bib: The primary key of the table.

Bib: The name of the book or other work.

Table cit

id_cit: The primary key of the table.

NomDC: The name being cited

TypC: The type status as cited in the work.

Typ: The present type status.

BibC: The work where the name is cited, as a reference to bib.id_bib.

VIII. Loci Classici

The following list was extracted from table 1 et of our geodatabase [§ 5.1].

A: *Acer macropterum* ‘in monte Javor circ. Užice et in monte Jastrebac in Serbia’ – *Achillea argentea* ‘In devexitatibus rupestribus jugi Troglav in Biokovo’ – *Achillea millefolium* var. *collina* ‘in pratis, pascuis, ad vias et colles totius Dalmatiae frequens’ – *Achillea millefolium* var. *lanata* ‘locis saxosis apricis siccis’ – *Acinos thymoides* var. *perennis* ‘ad moenia arcis urbe Knin’ – *Adonis aestivalis* var. *autumnalis* ‘inter segetes totius Dalmatiae’ – *Aegilops biuncialis* ‘ad margines agorum insulae Lesina’ – *Aegilops uniaristata* ‘in herbis circa Zara’ – *Agave americana* var. *marginata* ‘in insula Lesina prope Comisa’ – *Alchemilla vulgaris* var. *montana* ‘in monte Prologh’ – *Alisma plantago* var. *angustifolia* ‘in aquis circa Zara, Dernis, Knin, Salona, Almissa, Narenta, Ragusa et Cattaro’ – *Allium roseum* var. *bulbilliferum* ‘copiose in vineis, dumetis et fruticetis circa Zara, Sebenico, Spalato, Salona, Macarsca, Ragusa, nec non in insulis Pago et Lesina, promiscue cum varietate’ – *Allium serbicum* ‘in rupestribus calcareis ad Užice, Mokra gora, et Derventa circuli Užicensis’ – *Allium sphaerocephalon* var. *albiflorum* ‘ex agro Spalatensi’ – *Allium vineale* var. *compactum* ‘in cultis, et herbis circa Zara, Macarsca, Pastrovichio, cum varietate’ – *Alsine graminifolia* var. *glaberrima* ‘in cacuminibus saxosis rupiumque fissuris montium Biokovo et Orien’ – *Alsine graminifolia* var. *semiglabra* ‘in cacuminibus saxosis rupiumque fissuris montium Biokovo et Orien’ – *Alsine nodosa* var. *glaberrima* ‘circa Angora’ – *Alsine nodosa* ‘circa Angora’ – *Alsine tenuifolia* var. *densiflora* ‘in arenosis agris, ad muros totius Dalmatiae’ – *Alyssum argenteum* var. *pumilum* ‘ad moenia arcis Knin’ – *Alyssum emarginatum* ‘in collibus circa Sebenico’ – *Alyssum latifolium* ‘in agris cultis sterilibusque insulae Lesina’ – *Amaranthus hierichuntinus* ‘in herbis circa Hiericho’ – *Amporicarpos neumayeri* ‘mons Orien in Krivoscie supra Risano’ – *Amygdalus communis* var. *amara* ‘in tota Dalmatia’ – *Amygdalus communis* var. *sativa* ‘sponte in collibus incultis, et culta in tota Dalmatia’ – *Anchusa microcalyx* ‘Circa pagum Verlika ad margines agrorum’ – *Anchusa obliqua* ‘ex Dalmatia’ – *Andropogon pubescens* ‘in graminosis maritimis loco Dobrace dicto prope Vvrullin [Vrullia?] inter Onaeum et Mucarum’ – *Anthemis cairica* ‘Kahiræ in Ægypto’ – *Anthemis pseudocota* ‘in agris siccis circa Gelsa in insula Lesina, locis collinis circa Dernis, etiam in montibus Vellebith et Dinara’ – *Anthriscus cerefolium* ‘in monte Sella supra Ascrivium’ – *Anthriscus fumarioides* var. *latiloba* ‘in monte Sella’ – *Anthyllis vulneraria* var. *coccinea* ‘in herbis totius Dalmatiae [...] in apricis asperis’ – *Anthyllis vulneraria* var. *pulchella* ‘in monte Orien, et Montenegro in monte Lovçen ad alt. ped. 6000’ – *Apargia annua* ‘in Ægypto’ – *Arabis hirsuta* var. *angustifolia* ‘in collibus, sepibus locisque saxosis herbis circa Zara, Torrette, Traù, Spalato, Ragusa, in montibus Prologh et Sella, et in insulis Brazza et Lesina’ – *Araujia undulata* ‘dal Cairo’ – *Arenaria arduinii* ‘in rupibus altissimorum montium Vette nuncupatorum agri Feltrini’ – *Arenaria orbicularis* ‘in monte Vellebith loco Pakleniza dicto’ – *Artemisia biasoletiana* ‘Ex Europaeo Bosphori litore’ – *Artemisia camphorata* var. *virens* ‘locis elatioribus, vel minus apricis litoris vel insularum’ – *Artemisia naronitana* ‘circa Metkovich prope veterem Naronam in agris’ – *Asperula canescens* ‘in colle S. Georgii in agro Sibenicensi’ – *Asperula staliana* ‘in saxosis vallis Porto scopuli Busi prope Lesina’ – *Aspidium fragile* var. *pontederæ* ‘species cum varietate in umbrosis monte Biokovo’ – *Asterocephalus*

columbaria var. *mutica* 'loca montana editoria in Krivoscie, et Orien' — *Asterocephalus triniifolius* 'in rupestribus Crvena Stijena sub monte Durmitor (M. N.)' — *Astragalus argenteus* 'in saxosis apricis agri Scardonitani, Sibenicensis, in monte aureo' — *Avena neumayeriana* 'in graminosis apricis rupestribus montis Orien'

B: *Ballota nigra* var. *foetida* 'circa Zara et Sebenico' — *Bidens paleacea* 'in Nubia' — *Biscutella didyma* var. *lejocarpa* 'in agris scopulorum circa Lesina, var. [lejocarpa] iisdem locis prope Cittavecchia' — *Biscutella dilatata* 'in cretosis agri Spalatensi' — *Brassica botteri* 'in maritimis insulae Pelagosae' — *Brassica mollis* 'ad rupes scopulorum insulam Curzola circumstantium' — *Bromus erectus* var. *villosus* 'locis saxosis apricis prope Sebenico' — *Bromus intermedius* var. *polystachyus* 'in herbis apricis insulae Lesina' — *Bunium erucago* var. *vulgare* 'in satis et agris totius Dalmatiae' — *Bupleurum aristatum* var. *contractum* 'in monte Mossor Dalmatiae' — *Bupleurum karglii* 'in sterilibus montium Vellebith ad Vella Paklenija [sic]'

C: *Calendula arvensis* var. *rugosa* 'in insula Lesina, et circa Ragusa' — *Callitriche aquatica* var. *angustifolia* 'in aquis stagnantibus et fluentibus circa Zara, Scardona, Traù, Salona' — *Callitriche aquatica* var. *heterophylla* 'in aquis stagnantibus et fluentibus circa Zara, Scardona, Traù, Salona' — *Callitriche aquatica* var. *obovata* 'in aquis stagnantibus et fluentibus circa Zara, Scardona, Traù, Salona' — *Campanula caudata* 'in apricis montosis circa Salona et Clissa' — *Campanula cordata* 'in agro Sibenicensi' — *Campanula pichleri* 'in fagetis montis Orien ad Krivoscie, alt. 4000' — *Campanula secundiflora* 'in fissuris rupium calcarearum ad rivum Panjska in circ. Užicensis' — *Campanula serpyllifolia* 'in Biokovi jugo excelsiori, S. Georgii nuncupato' — *Capsella bursa-pastoris* var. *stylosa* 'ad vias prope Castel Muschio in insula Veglia' — *Carduus bicolor* 'in Dalmatia, unde sine loci specialis indicatione communicavit Neumayer probabiliter tamen oritur in monte Orien' — *Carex pharensis* 'in sylvaticis insulae Phariae (Lesina)' — *Cecropia argentea* 'in Nubia loco Reseres Tumad dicto' — *Centaurea calocephala* var. *subspinosa* 'in monte Vlassich in regione Bosniae septentrionali occidentali supra Oreschaz (Bosnia)' — *Centaurea chrysolepis* 'in saxosis calcareis apricis montis Oul in circ. Gurgusovac' — *Centaurea crithmifolia* 'in saxosis parvae insulae Pomo' — *Centaurea cuspidata* 'in rimis rupium montis Biokovo' — *Centaurea derventana* 'ad rupes calcareas ad rivum Derventa circuli Užicensis in Serbia meridionali' — *Centaurea divergens* 'in saxosis collium, et montium circa Lesina' — *Centaurea friderici* 'in apricis saxosis insularum Pelagosa, et Pomo' — *Centaurea hellenica* var. *caulescens* 'in apricis saxosis insulae Veglia' — *Centaurea incompta* var. *velutina* 'circa Risano prope Cattaro' — *Centaurea incompta* 'in pratis circa Narenta' — *Centaurea montana* var. *integrifolia* 'in pascuis montanis totius Dalmatiae' — *Centaurea montana* var. *sinuata* 'in pascuis montanis totius Dalmatiae' — *Centaurea myriotoma* 'in prae-ruptis calcareis montis Vukan circ. Požarevacensis in Serbia centrali' — *Centaurea punctata* 'In agris sterilibus Dalmatiae montanae prope Duare' — *Centaurea salonitana* var. *elliptica* 'ad Podprat' — *Centaurea salonitana* var. *lanceolata* 'in arvis sterilibus, et lapidosis circa Ragusa' — *Centaurea salonitana* 'prope Salonas ad viam quae Iragurium [Tragurium] ducit, et ad sacellum D. Caji' — *Centaurea sordida* var. *lanuginosa* 'Promiscue cum specie [Locis saxosis apricis circa Koinso]' — *Centaurea tuberosa* 'in montosis sylvaticis Mioçich, at Mavize inter Dernis, et Verlika, nec non circa Pavkovosello, Balke, et Umljanovich prope Dernis' — *Cephalaria leucantha* var. *scopolii* 'in rimis rupium montis Albii (Biokovo)' — *Cerastium arvense* var. *lanigerum* 'in apricis saxosis montium [...], var. [lanigarum] iisdem locis in Prologh et in monte Ghnjat' — *Cerastium arvense* var. *vulgare* 'in apricis saxosis montium Dinara' — *Cerastium viscosum* var. *apetalum* 'in arenosis ins. Sansego' — *Cerastium viscosum* var. *campanulatum* 'in arvis et pascuis totius Dalmatiae' — *Cerintho minor* var. *maculata* 'ad sepes et in herbis circa novegradi, inter Zara et Obbrovazzo, prope Clissa, Almissa, Narenta, et in monte Sella supra Cattaro' — *Cerintho purpurea* 'In sylvaticis Boraja inter Sibenicum et Tragurium' — *Chaerophyllum laevigatum* 'in

umbrosis circa Verlika et Mavicze' – *Chamaecytisus dalmaticus* 'in saxosis apricis montis Beljak prope Prùgovo, ditionis Sign' – *Chamaemelum inodorum* var. *maritimum* 'in Europae arvis et satis' – *Chamaemelum unigladulosum* 'in cultis montium Vellebith ad confinia inter Dalmatiam et Croatiam alt. 3000 ped.' – *Cheilanthes fimbriata* 'in murorum fissuris insulae Giuppanae' – *Cheiranthus linariaefolius* 'in Sennaar' – *Chenopodium album* var. *oblongum* 'in cultis circa Zara, Sebenico, Spalato et in insula Lesina' – *Chrysanthemum leucanthemum* var. *laciniatum* 'in pratis et pascuis' – *Chrysanthemum leucanthemum* var. *montanum* 'in sylvaticis montium Vellebith, Promina, Dinara, Biokovo, nec non supra Narenta et Ragusa' – *Chrysanthemum leucanthemum* var. *nudicaule* 'in saxosis insulae Pago' – *Chrysanthemum turreanum* 'in collibus saxosis agri Sibenicensis, nec non in monte Kremik prope Capocesto ditionis ejusdem' – *Cirsium acaule* var. *caulescens* 'in pascuis siccis montium Vellebith, Promina, Lemess, Svilaja, Biokovo et in collibus circa Dernis' – *Clematis flammula* var. *heterophylla* 'in saxosis ad sepes totius Dalmatiae, [...] praecipue litorali' – *Clematis flammula* var. *lanceolata* 'in saxosis ad sepes totius Dalmatiae' – *Clematis flammula* var. *vulgaris* 'in saxosis ad sepes totius Dalmatiae' – *Clerodendron triflorum* 'in Nubia loco Reseres Tumad dicto' – *Clypeola jonthlaspi* var. *lejocarpa* 'prope Traù' – *Colutea arborescens* var. *microphylla* 'in arenosis ins. Sansego prope Deputazione di sanità' – *Convallaria latifolia* var. *bracteata* 'in sylvaticis montis Svilaja mixta cum C. multiflora' – *Convolvulus lasiospermus* 'circa Chartum in Sennaar' – *Corchorus fruticulosus* 'circa Chartum in Sennaar' – *Cotyledon horizontalis* var. *laxiflorum* 'ad rupes et saxa ad Cittavecchia in ins. Lesina' – *Crepis adenantha* 'in montibus ditionis Ascrivensis' – *Crepis incarnata* 'in agro Sibenicensi misit etiam ex agro Traguriensi D. Andreas Andrich' – *Crocus dalmaticus* 'in ericetis apricis montis Bossanka in ditione Ragusina' – *Crocus malyi* 'In montibus Vellebit' – *Crocus vernus* var. *albiflorus* 'in montibus Vellebit' – *Croton casarettianum* 'circa Bahiam' – *Croton obliquifolium* 'in Ægypto' – *Crotophora brocchiana* 'in deserto prope Nedi in regno Berber Nubiæ' – *Cuscuta breviflora* 'supra Ocimum basilicum in insula Lesina' – *Cynara scolymus* var. *muticus* 'Colitur [...] in tota Dalmatia stirpem spontaneam a cl. Host in insula Lesina, Scoglio, Busi' – *Cynara scolymus* var. *pungens* 'Colitur [...] in tota Dalmatia stirpem spontaneam a cl. Host in insula Lesina, Scoglio, Busi' – *Cynoglossum officinale* var. *collinum* 'locis saxosis sylvaticis in Dalmatia montana supra Dernis, prope Verlika' – *Cynoglossum officinale* var. *parvifolium* 'in montibus Vellebith' – *Cytisus alschingeri* 'In sylvaticis mont. Vellebith in Dalmatia' – *Cytisus sylvestris* var. *pungens* 'in apricis, circa Sebenico, Spalato, Ragusa, Pastrovichio, in insulis Cherso, Ossero, Veglia, Pago, Lesina' – *Cytisus tommasinii* 'in sylvaticis montium Krivoscie supra Risano, in monte Pastrovichio, in collibus ultra Castel Lastva et Blokhaus' – *Cytisus weldenii* 'in sylvaticis montis Grab prope Imotham circa Zaguosd, et in monte Krivoscie, prope Ascrivium'

D: *Dahlia minor* 'in Mexico' – *Daphne elisae* 'in Mexico' – *Daucus carota* var. *major* 'in insula Lesina' – *Daucus gingidium* var. *angustilobus* 'in ins. Lissa' – *Daucus gingidium* var. *latilobus* 'in saxosis maritimis scopulorum circa Lesina' – *Delphinium brevicorne* 'in agris circa Gelsa insulae Lesina' – *Delphinium consolida* var. *racemosum* 'in agris et satis totius Dalmatiae' – *Dianthus caryophyllus* var. *pubescens* 'in insula Lesina' – *Dianthus ciliatus* var. *brocchianus* 'circa Ragusa' – *Dianthus ciliatus* var. *cymosus* 'circa Ragusa et Cattaro' – *Dianthus integer* 'saxa Biokovi obvestit ac hilarat prope jugum Troglav' – *Dianthus moesiacus* 'in declivibus saxosis calcareis montis Vrška Cuka in Serbia australi' – *Dianthus multinervis* 'in rupestribus saxosis insulae Pomo' – *Dianthus papillosus* 'in glareosis serpentinnaceis ad Raška circ. Čačkensis, in rupestribus calcareis ad Mokra Gora et Derventa circ. Užicensis' – *Dianthus racemosus* 'In agri Sibenicensis collibus humilioribus asperis alle Torrette, S. Giorgio et Jaderae' – *Dianthus saxifragus* var. *aggregatus* 'in saxosis apricis totius Dalmatiae vulgaris'

E: *Echinops neumayeri* 'in Dalmatia, unde absque loci speciali indicatione, sed probabiliter ex Narenta communicavit Neumayer' — *Epilobium angustifolium* var. *latifolium* 'in sylvaticis montis Biokovo' — *Erodium cicutarium* var. *petiolatum* 'in agris, culti, arenosis, ad vias et rudera circa Zara, Sebenico, Traù, Castelli, Spalato, Ragusa et in insulis' — *Eryngium palmatum* 'in saxosis calcareis prope Ravanica, Sv. Petka in circ. Cupria, ad Banja circ. Aleksinac, Uljarevo circ. Kragujevac, et mont. Ogradjenak Serbiae meridionalis' — *Eupatorium cannabinum* var. *indivisum* 'in aquosis et fossis totius Dalmatiae vulgare' — *Eupatorium morisii* 'in Chili' — *Euphorbia dalmatica* 'in satis inter Spalato et Almissa, nec non insulae Lesina et circa Ragusa' — *Euphorbia exigua* var. *acuta* 'in agris, locis cultis et herbidis etiam collium totius Dalmatiae' — *Euphorbia exigua* var. *heterophylla* 'in agris, locis cultis et herbidis etiam collium totius Dalmatiae' — *Euphorbia glabriflora* 'in rupestribus serpentinnaceis montis Stol circuli Čačkensis, et montis Zlatibor, et ad Kremna circuli Užicensis Serbiae meridionalis' — *Euphorbia imperfoliata* 'in sylvaticis montium Mossor et praesertim in eorundem vertice Lubljan dicto' — *Euphorbia spinosa* var. *inermis* 'In tota Dalmatia insulari et litorali' — *Euphorbia spinosa* var. *spinosa* 'In tota Dalmatia insulari et litorali' — *Euphorbia subhastata* 'in rupestribus calcareis montis Ovčar circ. Rudnikensis, montis Stenck circ. Čačkensis, prope Užice et ad Mokra Gora circ. Užicensis' — *Euphrasia officinalis* var. *stircta* 'in saxosis subalpinis montium Dinara et Biokovo' — *Euphrasia officinalis* var. *vulgaris* 'in pascuis graminosis montium Beljak et Prologh'

F: *Farsetia dalmatica* 'in rupestribus Mandetree et Onaei' — *Festuca ciliata* var. *imberbis* 'circa Gradaz prope Dernis, et Mavize prope Verlika' — *Filago germanica* var. *decumbens* 'in apricis insulae Curzola' — *Filago germanica* var. *spicata* 'in saxosis circa Duare' — *Fumaria officinalis* var. *tenuifolia* 'praecipue in umbrosis, dumetis'

G: *Galeopsis tetrahit* var. *major* 'in agris et ad fossas circa Sign, in montibus Vellebith, in Krivoscie, et in insula Lesina' — *Galeopsis tetrahit* var. *parviflora* 'in agris et ad fossas circa Sign, in montibus Vellebith, in Krivoscie, et in insula Lesina' — *Galium palustre* var. *hexaphyllum* 'circa Spalato et prope Gelsa in ins. Lesina' — *Galium rupestre* 'In rupestribus Onaei, Vvullia [Vrullia], mont. Biokovo, Turrie' — *Gaytona pantocsekii* 'in graminosis sylvaticis circa Dubovac prope Orahovac in Bjelagora' — *Genista pulchella* 'in apricis insulae Gissae (Pago)' — *Gentiana crispata* 'in Biokovi jugis demissioribus' — *Geum molle* 'in apricis montis Javor circuli Užicensis ad 3000'' — *Goniolimon serbicum* 'in glareosis ad Raška circuli Čačkensis, ad Kremna circ. Užicensis et in saxosis serpentinnaceis ad Brdanje et Klekovi sub Brusnica in circ. Rudnikensi'

H: *Haplophyllum boissierianum* 'in asperis apricis montis Panjak et m. Zlatibor Serbiae meridionalis in substrato serpentino; parcius ad Mokragora circuli Užicensis' — *Helianthemum montanum* var. *acutifolium* 'in apricis saxosis totius Dalmatiae' — *Helianthemum montanum* var. *reichenbachii* 'in apricis saxosis totius Dalmatiae' — *Helianthemum montanum* var. *tomentosum* 'in apricis saxosis totius Dalmatiae' — *Helianthemum vulgare* var. *glabratum* 'in editioribus montium Dinara et Biokovo' — *Heliosperma monachorum* 'in saxosis umbrosis sub rupe Krstaca ad rivum supra Monasterium Raca Serbiae occidentalis, ad Perutac et in confragosis ad rivum Derventa circuli Užicensis, in substrato calcareo' — *Heliotropium brocchianum* 'circa Chartum in regno Sennaar Nubiae' — *Helleborus multifidus* 'In tota Dalmatia montana' — *Helminthia echinoides* var. *glabra* 'circa Ragusa Vecchia' — *Heracleum hypoleucum* 'in Nepaulia' — *Herniaria rotundifolia* 'In maritimis graminosis ins. Apsyrtidis prope Lossin piccolo in portu Cigale' — *Hesperis glutinosa* 'In sterilibus Zaton Verpolje. Mandetree, Onaei, Brattiae.' — *Hibiscus rainerianus* 'in Africa, loco Reseres-Tumad' — *Hieracium florentinum* var. *piloselloide* 'in pascuis siccis, locis, arenosis, saxosis, collinis totius Dalmatiae frequens' — *Hieracium lanatum* var. *scapigerum* 'ad Lubičko brdo in montibus Vellebit' — *Hieracium marmoreum* Pančić & 'in rupestribus marmoreis

ad Gornjak et in monte Vulkan circuli Požarevacensis, et ad Ravanica et Manassja circuli Cupariensis, montis Starica circuli Krajinensis, montis Stol circ. Crnarekensis, montis Rtanj circuli Aleksinacensis Serbiae orientalis' — *Hieracium murorum* var. *alpestre* 'in Peručica Dol' — *Hieracium murorum* var. *plumbeum* 'in monte Kom, Crna Planina, et Medvo Dol infra Jastrebica (M. N.)' — *Hieracium pilosella* var. *major* 'in pascuis siccis, collibus, ad vias in tota Dalmatia vulgare' — *Hieracium pilosella* var. *pilosissima* 'in ins. Veglia (Dalmat.)' — *Hieracium schultzeanum* 'in saxosis mont. Leljina et Kopaonik, et supra Bedjirovac in circulo Krusevacensi Serbiae australis' — *Hieracium villosum* var. *glabratum* 'in saxosis elatioribus montium Vellebith, Dinara, et Prologh' — *Holcus avenaceus* var. *nodosus* 'species passim cum varietate in pratis agri Petrovopolje dicti prope Dernis, circa Castell'Andreis prope Sebenico, et in agro Spalatensi' — *Holosteum umbellatum* var. *glandulosum* 'in cultis incultisque totius Dalmatiae' — *Hutchinsia procumbens* var. *integriifolia* 'in arenosis scopuli Levrera prope Cherso et insulae Sansego' — *Hyoscyamus varians* 'ad muros et in ruderalis totius Dalmatiae litoralis' — *Hypericum montanum* var. *scabrum* 'in sylvaticis prope urbem Veglia' — *Hypericum perforatum* var. *angustifolium* 'communissime in siccis apricis saxosis' — *Hypericum supinum* 'circa Antandro ad sinum Golfo d'Adramitti dictum'

I: *Iberis serrulata* 'in petrosis apricis montis Orien' — *Iberis umbellata* var. *tenuifolia* 'in locis incultis, apricis, saxosis, rupestribus circa Sign, Traù, Almissa, Duare, Macarsca, Sabbioncello, Ragusa, Cattaro; secus viam regiam in monte Vellebith, in Dinara, Krivoscie, in insulis Lesina et Mezzo' — *Iberis zanardinii* 'in saxosis apricis ins. Lesina' — *Inula britannica* var. *angustifolia* 'ad torrentium ripas in insula Lesina' — *Ipomoea schlechtendalii* 'nativa del Messico' — *Iris illyrica* 'in locis rupestribus Cassione, Besca nuova, Scoglio S. Marco, et montis Triskavaz in ins. Veglia' — *Iris pumila* var. *lutescens* 'in asperis apricis agri Sibenicensis loco Rasine dicto; varietas iisdem locis circa Zara frequens'

K: *Koeleria cristata* var. *canescens* 'in collibus saxosis apricis loco Poljizze prope Sebenico' — *Koeleria grandiflora* var. *subaristata* 'in declivibus herbis m. Kom'

L: *Laserpitium siler* var. *latifolium* 'in sylvaticis montium Vellebith ad Vella Pakleniza, et circa Ragusa' — *Lathyrus aristatus* 'Ex Dalmatia' — *Lathyrus stans* 'in vineis, satis agri Sibenicensis' — *Lathyrus sylvestris* var. *dodonaei* 'in dumetis, ad sepes totius Dalmatiae frequens' — *Lecidea bovina* 'in agro Sibenicensi' — *Leonotis raineriana* 'in Africa circa Kassan' — *Leontodon hastile* var. *hirta* 'in pratis et pascuis, nec non in montibus totius Dalmatiae frequens' — *Leontodon hastile* var. *laciniata* 'in pratis et pascuis, nec non in montibus totius Dalmatiae frequens' — *Leontodon hastile* var. *pratensis* 'in pratis et pascuis, nec non in montibus totius Dalmatiae frequens' — *Leontodon saxatile* var. *glabra* 'in Pakleniza ad pedem Vellebith, et in collibus Miočich prope Dernis' — *Leontodon saxatile* var. *ramosa* 'in Biokovo' — *Leontodon saxatile* var. *simplex* 'in collibus locisque saxosis circa Sebenico, Ragusa, in insula Lesina et in monte Vellebith' — *Libanotis aurea* 'in apricis saxosis montis Prologh' — *Linaria elatine* var. *lasiopoda* 'in arvis, satisque argillosis tum continentis tum insularum' — *Linaria rubioides* 'in glareosis, saxosis, serpentinaceis montis Sargan, et supra Krsanje ad Ratište in monte Jvica circuli Užicensis in Serbia meridionali' — *Linaria webbiana* 'in ins. Lacerota maris Canariensis' — *Lithospermum obtusum* 'in Ægypto' — *Lolium perenne* var. *ramosum* 'species ubique in pratis, agris, et locis herbis, varietas locis iisdem pinguioribus circa lacum Morinje prope Sebenico' — *Lolium rigidum* var. *subacaulis* 'in herbis secus vias ad Perčanjo in Canale di Cattaro' — *Lolium subulatum* 'in satis circa Bergato prope Ragusa' — *Lonicera glutinosa* 'in petrosi summi verticis montis Orien supra Risano' — *Lotus crantzii* var. *argentea* 'in apricis sterilibus circa Dernis' — *Luzula campestris* var. *congesta* 'in monte Biokovo' — *Lycopsis mollis* 'circa Angora' — *Lythrum salicaria* var. *canescens* 'ad fossas et ripas locaque paludosa circa Zara, Verlika, Salona, Narenta, Cattaro, et in insula Pago' — *Ly-*

thrum thymifolia var. *hyssopifolia* ‘in humidis inundatis, nec non in palustribus salsis circa Zara, Spalato, Narenta, et in insula Lissa’

M: *Malva cyrilli* ‘ad sepes et vineas ad Bossanka et Bergato circa Ragusam’ — *Malva nicaeensis* var. *obtusata* ‘circa Sebenico et in ins. Lesina’ — *Marrubium vulgare* var. *albolanatum* ‘locis magis apricis’ — *Matthiola glandulosa* var. *glabrata* ‘in arena maris circa Budua’ — *Matthiola glandulosa* ‘in arena maris circa Budua’ — *Medicago crassispina* ‘In insula Crappano, et in illa cui superstructa est arx maritima D. Nicolai ante portum Sibenicensem’ — *Medicago pironae* ‘in rupestribus subalpinis montis Matajura in Forojulio’ — *Melilotus neapolitana* var. *rostrata* ‘in ins. Sànsègo’ — *Mentha aquatica* var. *calaminthifolia* ‘ad sepes, ripas, fossas in tota Dalmatia litorali et insulari’ — *Mentha sylvestris* var. *ovalis* ‘ad sepes insulae Lesina circa Gelsa’ — *Mentha sylvestris* var. *polystachya* ‘in agro Spalatensi’ — *Micromeria graeca* var. *pauciflora* ‘ad rupes maritimas scopuli S. Andrea prope Lesina’ — *Micromeria juliana* var. *angustifolia* ‘in asperis siccis apricis totius Dalmatiae litoralis et insularis, var. [angustifolia] iisdem locis in insuli Ossero et Lesina’ — *Micromeria juliana* var. *latifolia* ‘in asperis siccis apricis totius Dalmatiae litoralis et insularis’ — *Molinia caerulea* var. *arundinacea* ‘circa Traù’ — *Mulgedium pancicii* ‘in aquosis loco dicto Bela reka circ. Crnareka in Serbia meridionali’ — *Mulgedium sonchifolium* ‘in sylvis abiegnis, locis saxosis montis Klanj circ. Crnarekensis Serbiae australis, m. Ozren circ. Alexinacensis, m. Pleš, Rasovaz et Kamen circ. Knsaževacensis, sub cacumine m. Starica prope Majdanpek circ. Krajenensis, m. Kukutnica et Zlatibor circ. Uzicensis, et m. Beljanica Serbiae centralis’

O: *Ocimum citriodorum* ‘in Nubia’ — *Oenanthe marginata* ‘in pratis udis ad Cascata della Kerka supra Scardona’ — *Ononis brachystachya* ‘in sylvaticis umbrosis montium Ossoniak et in pratis humidis Ombla prope Ragusa’ — *Onosma visianii* Clementi ‘faggete orientali del monte Biokovo’ — *Ophrys flavicans* ‘in saxosis montis Bernistroviza prope Traù’ — *Ophrys tommasini* ‘in apricis saxosis insulae San Pier di Nembo prope Lossin’ — *Orchis mascula* var. *speciosa* ‘in pratis aquosis palustribus circa Zara, et in sylvaticis circa Ragusa’ — *Origanum vulgare* var. *prismaticum* ‘in locis incultis totius Dalmatiae’ — *Ornithogalum saxatile* ‘In saxosis agri Scardonitani et Sibenicensis’ — *Orobanche caryophyllacea* var. *major* ‘locis incultis [...], var. major iisdem locis insulae Veglia, et Lesina, et circa Ragusa parasitica supra Galia’ — *Orobanche minor* var. *adenostyla* ‘in sylvaticis et apricis insularum Veglia, Cherso, Ossero, Lesina, nec non in monte Dinara supra radices Elichrysi angustifolii, varietas iisdem locis, et circa Sebenico supra Medicaginem lupulinam’

P: *Paeonia corallina* var. *pubescens* ‘in pascuis elatioribus et sylvaticis montium Vellebith ad Jùlove stine, et in latere occidentali montis Snjesniza’ — *Pancicia serbica* ‘in monte Javor in Serbia’ — *Pastinaca selinoides* ‘Circa pagum Vertika in herbis, pratis.’ — *Peucedanum chabraei* var. *selinoides* ‘in pascuis et graminosis circa Zara, Dernis, Verlika, Arxano’ — *Peucedanum oreoselinum* var. *cordifolium* ‘in pascuis montis Dinara’ — *Peucedanum oreoselinum* var. *latifolium* ‘in vineis paninsulae Sabbioncello’ — *Phleum echinatum* var. *elongatum* ‘frequentissime in asperis, graminosis, apricis totius Dalmatiae’ — *Phleum echinatum* var. *villosum* ‘in apricis saxosis insulae Lesina’ — *Phyteuma orbicularis* var. *columnae* ‘in sylvaticis et pascuis montium Vellebith, Prologh, Biokovo’ — *Picridium macrophyllum* ‘in rupestribus ad Mokragora Serbiae occidentalis’ — *Picridium vulgare* var. *sospigerum* ‘in rupium fissuris montis Orien’ — *Picris hieracioides* var. *umbellata* ‘ad agrorum margines, locisque incultis totius Dalmatiae’ — *Picris laciniata* ‘Onaei et Ascrivii in rupestribus’ — *Pimpinella saxifraga* var. *dissecta* ‘in Pakleniza et Prologh’ — *Pinus parolinii* ‘in devexitaticis vallibusque montis Idae in Bithynia’ — *Plantago maritima* var. *subulata* ‘locis sterilibus siccis arenosis totius Dalmatiae tum litoralis tum montana’ — *Platanthera bifolia* var. *clavata* ‘in pratis circa Xerava prope Zara’ — *Poa bulbosa* var. *prolifera* ‘in geminosis, collibus,

pascuis apricis, ad vias et muros cum varietate' — *Poa pratensis* var. *angustifolia* 'in pratis circa Dernis, Knin, Sebenico, et alibi' — *Polygonum amphibium* var. *terrestre* 'in pratis udis ad Xerava prope Zara' — *Polypodium vulgare* var. *serratum* 'in umbrosis Ćiakovic ad flumen Ombla' — *Potentilla hirta* var. *angustifolia* 'in apricis saxosis collinis totius Dalmatiae' — *Potentilla lejoearpa* 'in rupestribus syeniticis montis Crnivrh Serbiae australis' — *Potentilla poterifolia* 'in rupestribus et glareosis serpentinceis ad Raška circuli Čačkensis, in rupestribus calcareis ad Brdanje circ. Rudnikensis, prope Vilovo in circ. Čačkensi sub monte Stol, et in m. Borova Strana, et ad Kremma circ. Užicensis' — *Prenanthes purpurea* var. *latifolia* 'in sylvaticis montium Vellebith et Biokovo; var. *latifolia* iisdem locis in Pakleniza ad pedem Vellebith' — *Prenanthes purpurea* var. *major* 'in sylvaticis montium Vellebith et Biokovo' — *Prenanthes purpurea* var. *vulgaris* 'in sylvaticis montium Vellebith et Biokovo' — *Pterocephalus palaestinus* var. *lyrata* 'species cum varietatibus promiscue ad margines agrorum, et in arvis argillosis siccis, locis apricis circa Slap, Sebenico, Traù, Spalato, Salona, Clissa, Almissa, et in insula Lesina' — *Pterocephalus palaestinus* var. *triphyllo* 'species cum varietatibus promiscue ad margines agrorum, et in arvis argillosis siccis, locis apricis circa Slap, Sebenico, Traù, Spalato, Salona, Clissa, Almissa, et in insula Lesina' — *Pteroneurum dalmaticum* 'inter saxa mobilia circa Peguntium, in rupestribus circa Duare, in monte Rillich prope Vergoraz, in monte Vermaz circa Ascrivium'

R: *Ranunculus montanus* var. *tenuifolius* 'in pascuis montium Vellebith, Svilaja, Prologh et Biokovo' — *Ranunculus serbicus* 'in monte Kopaonik in Serbia' — *Romulea crocifolia* 'in apricis montis Vermac prope Cattaro' — *Rosa sempervirens* var. *glabriflora* 'in ins. Lissa' — *Rubus caesius* var. *discolor* 'circa Ragusa' — *Rubus fruticosus* var. *semiglaber* 'in insula Lesina' — *Rumex acetosella* var. *angustifolius* 'in pascuis, et locis arenosis circa Much, Ragusa, Cattaro, in insula Lesina, etima in montibus Vellebith, Rådigne, Lubljan, Vlastiza, Sella, specie promiscue com varietatibus'

S: *Sagina apetala* var. *glabra* 'in arenosis circa Zara, Ragusa et in insula Lesina' — *Salvia officinalis* var. *auriculata* 'In monte Shaba et aliis locis ditionis Ragusinae' — *Salvia rotundifolia* 'in monte Ida Bithyniae' — *Salvia verbenaca* var. *sinuata* 'in agris et pascuis circa Spalato, Ragusa, et in insula Lesina' — *Satureja montana* var. *communis* 'in totius dalmatiae litoralis saxosis apricis' — *Satureja parviflora* 'In montibus Pastrovich in extremo Dalmatiae confinio prope Albaniam' — *Satureja subspicata* Bartl. ex 'in saxosis humilioribus montis Biokovi in Dalmatia [...] in alpinis Carniae cll. Sieber et Bartling, prope Duinum in ditione Tergestina cl. Prof. Moretti, in monte Spaccato ditione ejusdem egr. Dr. Biasoletto' — *Scabiosa achaeta* 'in saxosis arenaceis ad Trnava circuli Čačkensis in Serbia meridionali' — *Scabiosa fumarioides* 'in glareosis et saxosis, serpentinceis ad Raška circuli Čačkensis Serbiae meridionalis' — *Scabiosa macedonica* var. *lyrophylla* 'In apricis mont. Plés Serbiae australis, et m. Kurilovo in circ. Gurgusovacensi ad 2000 ped. alt.' — *Scabiosa multiseta* 'in agro Sibenicensi' — *Scilla amethystina* 'in pratis udis circa salonas' — *Scirpus maritimus* var. *laxus* 'in pratis udis, inundatis, maritimis ubique frequens' — *Scorzonera austriaca* var. *angustifolia* 'in asperis saxosis insulae Pago, in pratis prope Nona, in herbis montium Vellebith, et circa Traù et Ragusa' — *Scorzonera austriaca* var. *oblongifolia* 'in asperis saxosis insulae Pago, in pratis prope Nona, in herbis montium Vellebith, et circa Traù et Ragusa' — *Scorzonera candollei* 'in paludosis maritimis insulae Pago' — *Scorzonera villosa* var. *dalmatica* 'in asperis saxosis insulae Pago, in pratis prope Nona, in herbis montium Vellebith, et circa Traù et Ragusa' — *Secale dalmaticum* 'in dumetis montis Vellebith, nec non montis illius cui superstructa est arx St. Johannis cupra Cattaro' — *Sedum listoniae* 'circa Angora' — *Sempervivum molle* 'in Nubia' — *Senecio cacaliaster* var. *gmelinii* 'in sylvaticis montium Vellebith, Biokovo, Orien' — *Senecio cacaliaster* var. *jacquinii* 'in sylvaticis montium Vellebith, Biokovo, Orien' — *Senecio doronicum* var. *angustifolius* 'in sylvaticis et lapidosis montium Vellebith, Dinara et Biokovo' — *Senecio doronicum* var. *latifolia* 'in sylvaticis et lapidosis montium Vellebith, Dinara et Biokovo' — *Sene-*

cio nebrodensis var. *bipinnatifidus* 'in montibus calcareis totius Dalmatiae frequentissimus, etiam intra urbem Cattaro' — *Seseli globiferum* 'Ascrivii ad muros et rupes' — *Seseli tomentosum* 'in collibus saxosis mare spectantibus prope Sibenicum in Dalmatia' — *Sesleria elongata* var. *montana* 'oritur in saxosis montis Biokovo' — *Sesleria interrupta* 'in rupestribus loco Turnasa dicto secus flumen Cettina prope Almissa' — *Setaria glauca* var. *longiseta* 'Circa Cettinje' — *Sida heterosperma* 'in Africa loco Reseres-Tumad' — *Sida spinosa* var. *sennaariensis* 'circa Chartum in regno Sennaar' — *Silene inflata* var. *alpina* 'in alpestribus Vellebith' — *Silene inflata* var. *vulgaris* 'in pratis siccis, locis incultis saxosis vel arenosis' — *Silene kitaibelii* 'in rupestribus elatioribus montium Vellebith, Biokovo et Orien' — *Silene nocturna* var. *brachypetala* 'in arenosis et apricis circa Traù, Ragusa, et in insula Lesina' — *Silene reichenbachii* 'in rupestribus montis Biokovo' — *Silene remotiflora* 'ad vineas circa Gelsa' — *Silene tommasinii* 'Mte. Sella supra Ascrivium' — *Solanum dulcamara* var. *pubescens* 'circa Ragusa ad rivos' — *Solanum monodynamum* 'in Mexico' — *Solidago virgaurea* var. *integrifolia* 'in collibus, montibus, locisque sylvaticis totius Dalmatiae frequens' — *Stachys anisochila* 'in rupestribus calcareis montis Medvednik circuli Valjevensis Serbiae centralis, ad Koslie et Občinske Stene circ. Podrinensis, ad Mokragora circ. Užicensis Serbiae meridionalis, et ad Krilje Serbiae occidentalis' — *Stachys fragilis* 'inter Onaeum et Peguntium ad viam, et in montibus Biokovo et Sella' — *Stachys imbricata* 'in collibus Dalmatiae montanae' — *Stachys menthifolia* 'Ascrivii' — *Stachys palustris* var. *angustifolia* 'in Boccagnazzo prope Zara' — *Stachys parolinii* 'circa Lepanto' — *Stachys pauciflora* 'in Troade' — *Stachys subcrenata* var. *angustifolia* 'in apricis saxosis collium Dalmatiae montane, nec non in montibus Mossor, Dinara, Biokovo, Sella, Orien' — *Stachys subcrenata* 'In collibus Dalmatiae montanae'

T: *Taeniopetalum neumayeri* 'in vineis rupestribus insulae Jaklian prope Ragusa' — *Tanacetum vulgare* var. *crispum* 'in sylvaticis, et ad agrorum margines in Dalmatia montana' — *Teucrium chamaedrys* var. *microphylla* 'in [Lesina] prope Gelsa' — *Teucrium chamaedrys* var. *scutiloba* 'circa Lesina' — *Thalictrum aquilegifolium* var. *indivisum* 'in sylvaticis pratisque [...], var. [indivisum] iisdem locis in montibus Pastrovich' — *Thymus cherlerioides* 'in monte Ida in Bithynia' — *Thymus organifolius* 'circa Ascrivium in saxosis' — *Thymus punctatus* 'circa Angora prope Mare nigrum' — *Thymus serpyllum* var. *vulgaris* 'in collibus, locisque saxosis apricis totius Dalmatiae, in montibus locisque herbis ver sylvaticis' — *Tilia platyphyllos* var. *costata* 'in sylvaticis montium Vellebith et inter Vergoraz et Fort'Opus' — *Trianthema sedifolia* 'circa Chartum in Sennaar' — *Trichocrepis bifida* 'in agro Sibenicensi' — *Trifolium arvense* var. *glabrum* 'circa Ragusa' — *Trifolium dalmaticum* 'In herbis totius Dalmatiae' — *Trifolium succinctum* 'In pratis et herbis agri Sibenicensis et Salonitani' — *Trigonella arguta* 'in Aegypto' — *Trigonella dura* 'in Aegypto' — *Triticum petraeum* 'in saxosis calcareis Montis Dževrin circuli Krajnensis' — *Triticum pinnatum* var. *glabrum* 'in dumetis, ad sepes, locis sylvaticis prope Dernis, Verlika, Clissa, Salona' — *Triticum pinnatum* var. *pubescens* 'in dumetis, ad sepes, locis sylvaticis prope Dernis, Verlika, Clissa, Salona'

U: *Urospermum picroides* var. *indivisum* 'in locis cultis et vineis tum in insulis tum in tota Dalmatia litorali' — *Urtica glabrata* 'frequens in nemorosis lateris orientalis montis Biokovo'

V: *Verbascum pannosum* 'in pascuis montis Ivanova livada circuli Knjaževacensis Serbiae australis' — *Verbascum phoeniceum* var. *lanuginosum* 'circa Pastrovichio in ditone Butuensi' — *Verbesina triplinervia* 'in Mexico' — *Veronica agrestis* var. *linnaeana* 'in agris et cultis totius Dalmatiae, etiam in insulis' — *Veronica agrestis* var. *tenoreana* 'in agris et cultis totius Dalmatiae, etiam in insulis' — *Veronica anagallis* var. *ovalis* 'in aquosis [...], var. ovalis iisdem locis ad Cascata della Kerka' — *Veronica saturojoides* 'in saxosis summi verticis montis Dinara et in Kamesnizza montis Prologh, alt. a 4800 ad 5500 ped. paris.' — *Vesicaria microcarpa* 'in monte Biokovo' —

Veslingia scabra 'in Africa locis Tumad et Cassan' — *Vicia cordata* var. *canescens* 'in sylvaticis insulae Lesina, var. in locis apricis' — *Vicia lathyroides* var. *lejosperma* 'in pascuis circa Zara, et in insulia Veglia, Cherso, Lesina— *Vicia sativa* var. *minor* 'in agris et satis totius Dalmatiae' — *Vicia sativa* var. *obovata* 'in agris et satis totius Dalmatiae' — *Vicia tenuifolia* var. *luxurians* 'in umbrosis prope Ragusa' — *Vincetoxicum huteri* 'am Wege von Risano nach Crkvica' — *Viola grisebachiana* 'in rupestribus calcareis montis Rtanj circuli Aleksinacensis' — *Viola tricolor* var. *angustifolia* 'in apricis et cultis' — *Viola tricolor* var. *hortensis* 'in montibus Svilaja, Prologh, Biokovo' — *Volkameria acerbiana* 'in Ægypto'

X: *Xeranthemum inapertum* var. *oleifolium* 'locis sterilibus siccis circa Ragusa; varietas iidem locis circa Sebenico'

Z: *Zea mays* var. *praecox* 'in America meridionali, colitur vero ad oeconomicos usus in Dalmatia' — *Zilla microcarpa* 'in Ægypto'.

IX. Illustrations

Fig. 1: Borders of Dalmatia, Croatia-Slavonia, and the Austrian Littoral in 1918 (unchanged since 1878), projected over modern administrative subdivisions. More information in § 2.4.3.

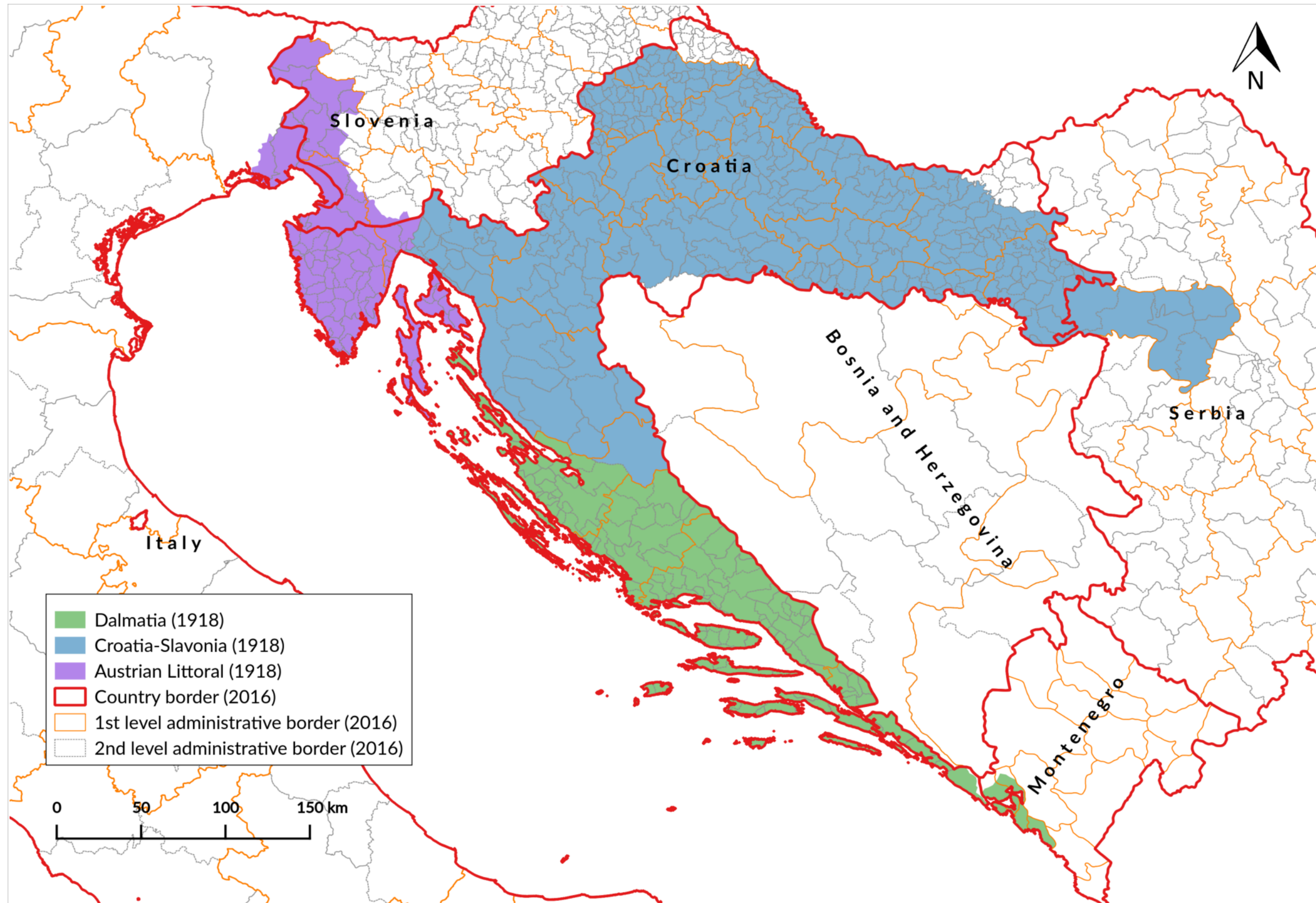


Fig. 2: Roads, main settlements, and main physical features mentioned by Visiani and/or in this thesis. More information in § 2.4.

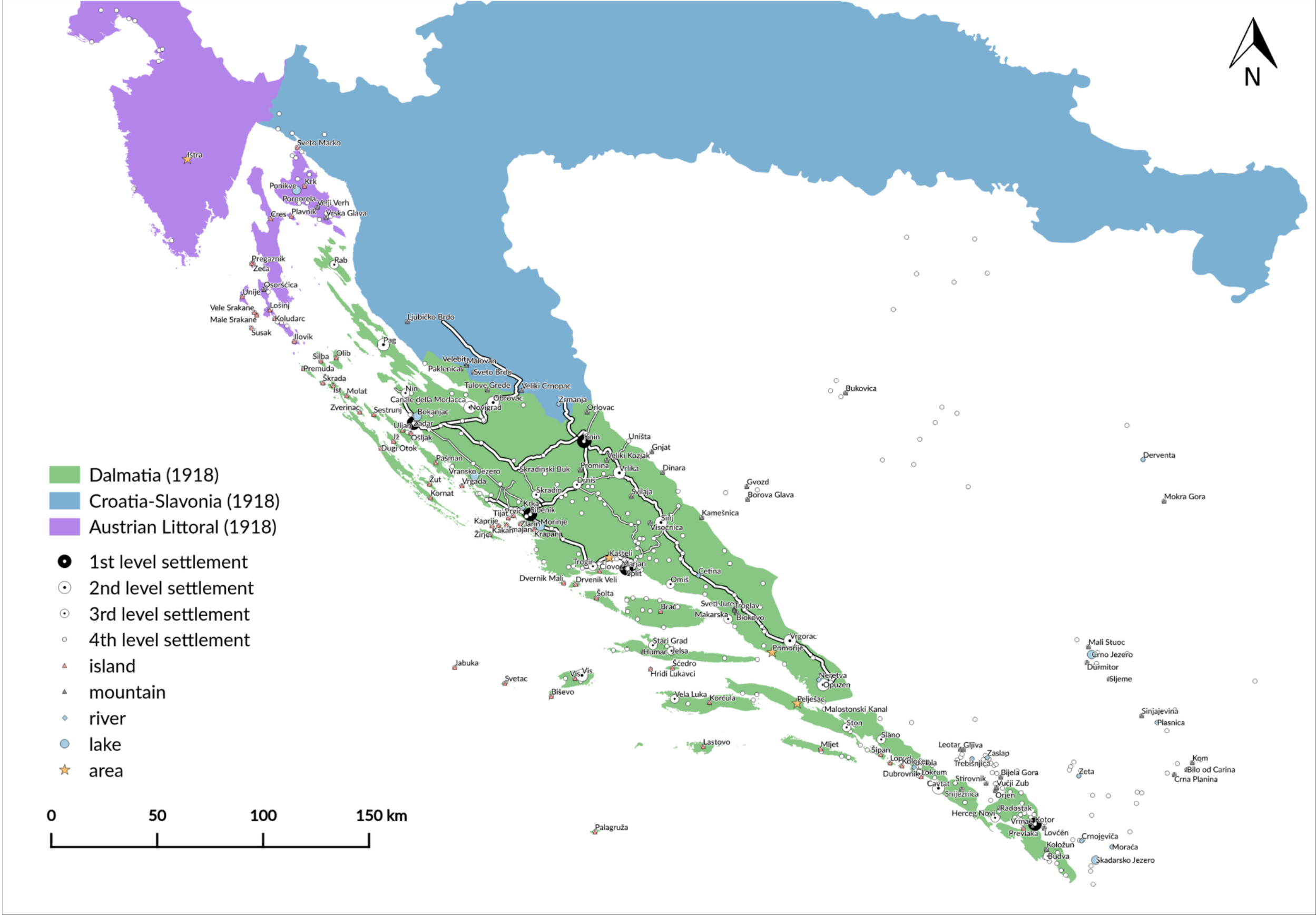


Fig. 5: The size of the circles is proportional to the number of species of plants recorded by Visiani in any given place in his *St. Dalm.* Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

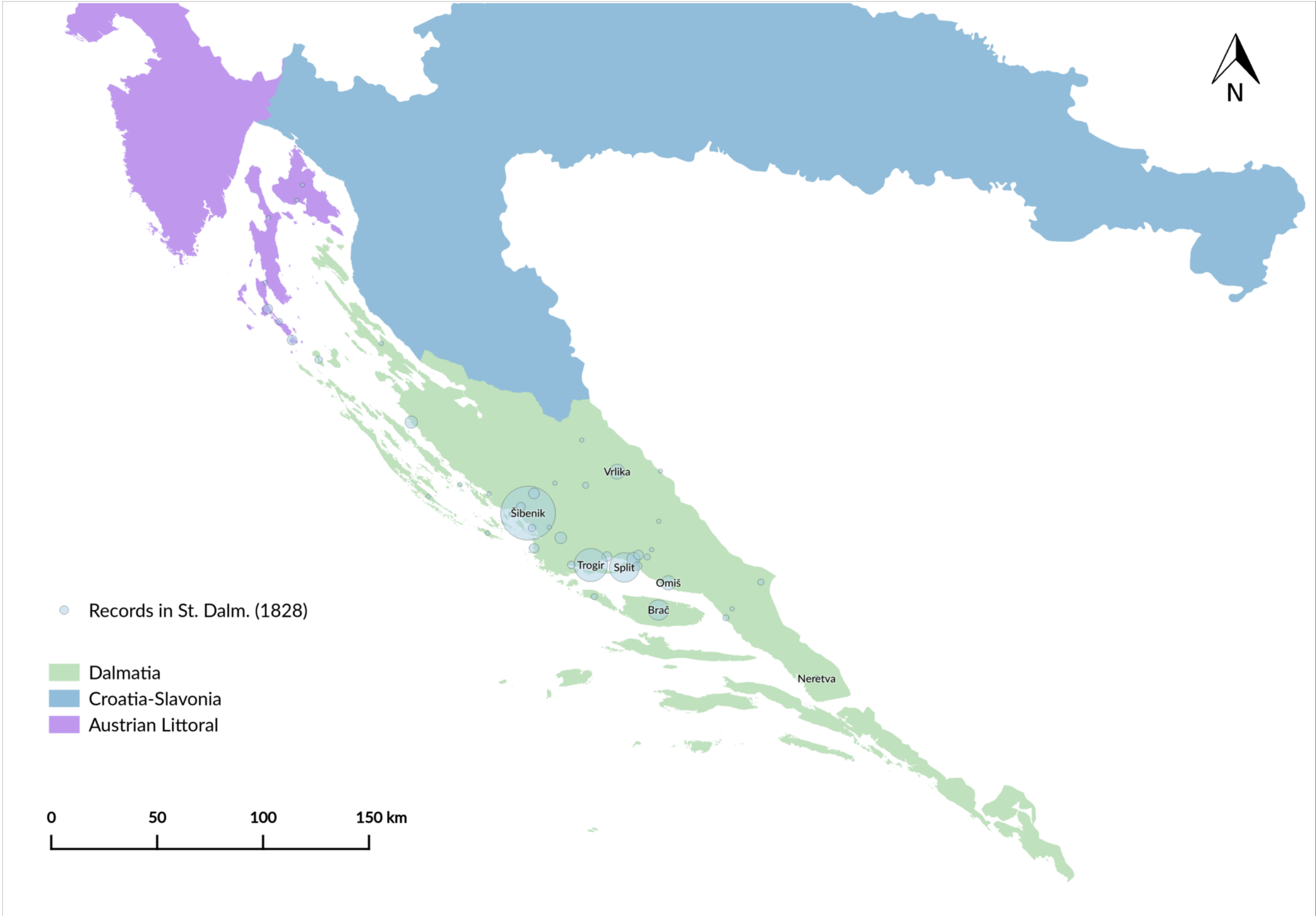


Fig. 6: The size of the circles is proportional to the number of species of plants recorded by Visiani in any given place in his *FD1*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

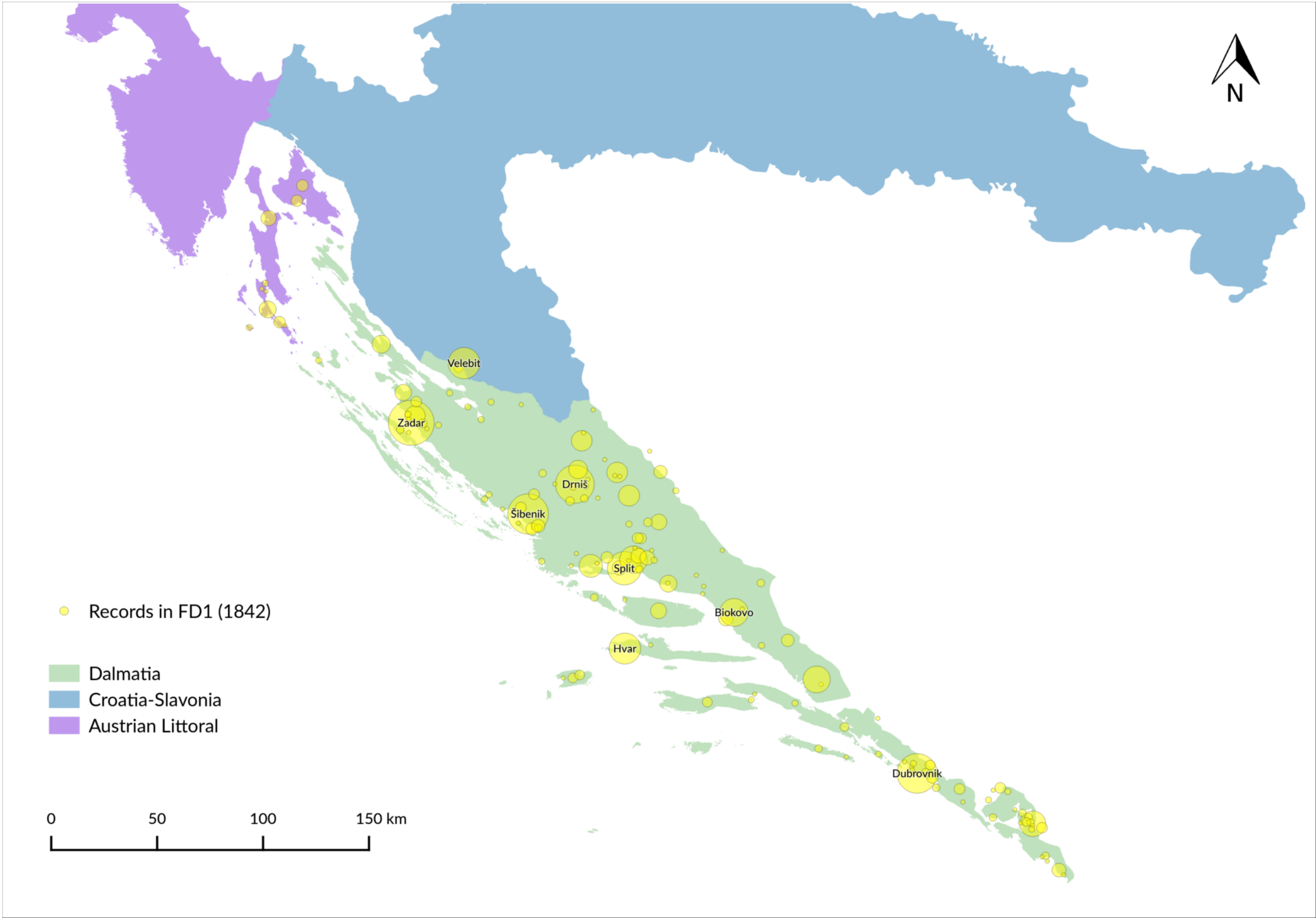


Fig. 7: The size of the white circles is proportional to the number of species of plants recorded by Visiani in any given place in his *St. Dalm.* The size of the yellow circles, depicted under the white ones but sharing the same centre, is proportional to the sum of the number of species of plants recorded by Visiani in *St. Dalm.* and *FD1*, so that the width of the visible yellow annulus-shaped region is proportional to the increment in records between the two publications. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

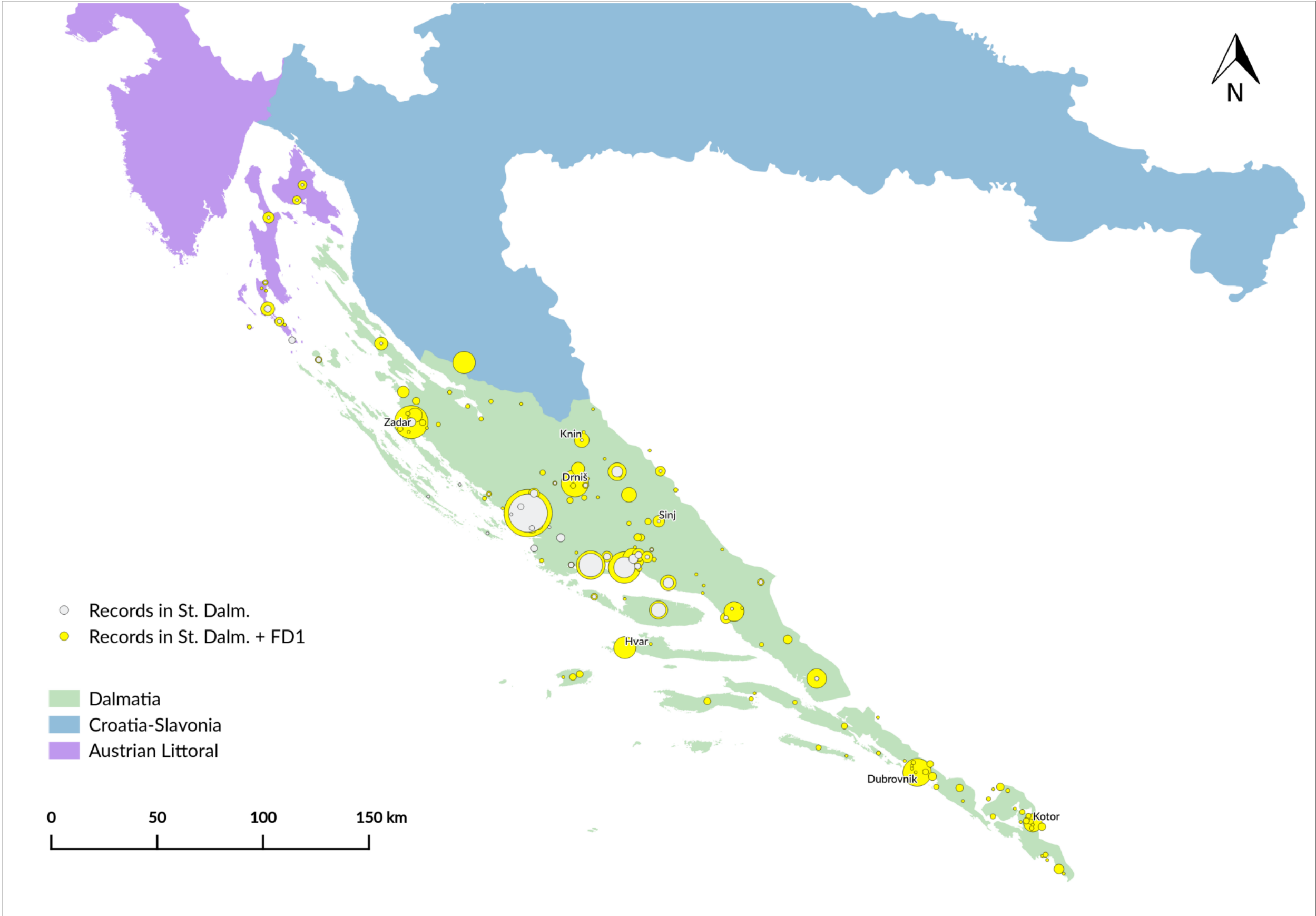


Fig. 8: The size of the circles is proportional to the number of species of plants recorded by Visiani in any given place in his *FD2*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

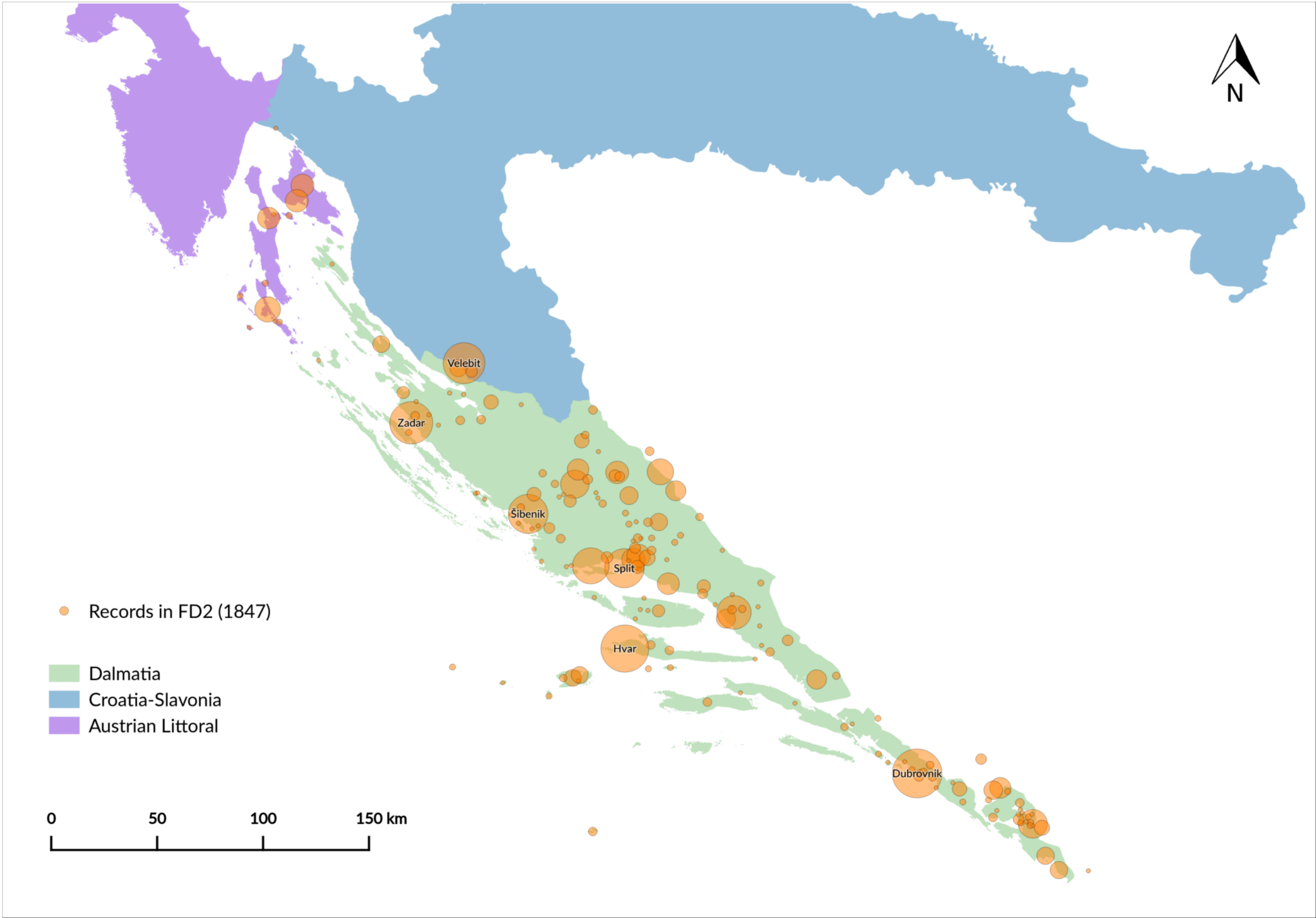


Fig. 9: The size of the yellow circles is proportional to the number of species of plants recorded by Visiani in any given place up to the publication of his *FD1*. The size of the orange circles, depicted under the yellow ones but sharing the same centre, is proportional to the sum of the number of species of plants recorded by Visiani up to the publication of his *FD2*, so that the width of the visible orange annulus-shaped region is roughly proportional to the increment in records between the publication of *FD1* and *FD2*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

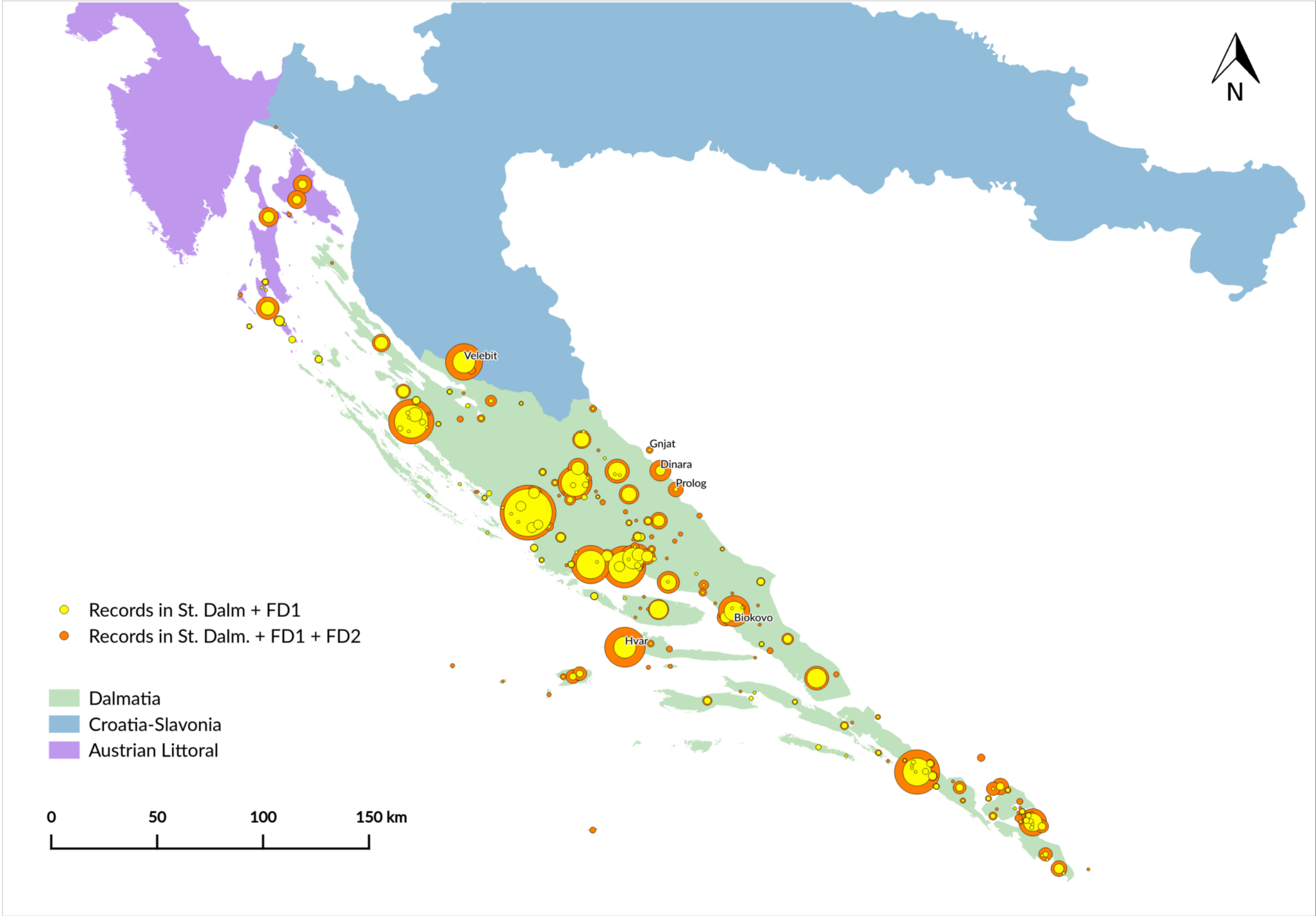


Fig. 10: The size of the circles is proportional to the number of species of plants recorded by Visiani in any given place in his *FD3*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

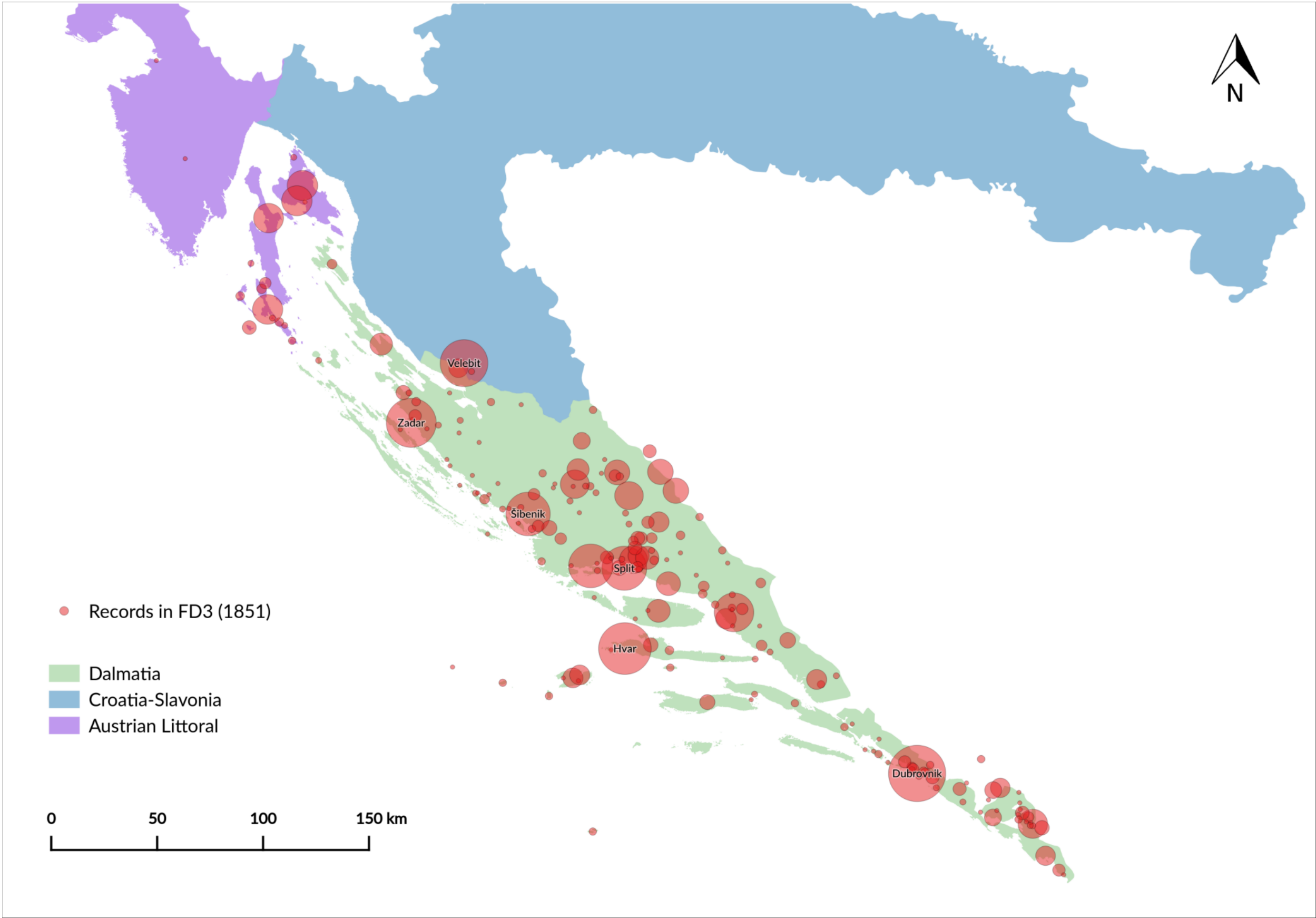


Fig. 11: The size of the orange circles is proportional to the number of species of plants recorded by Visiani in any given place up to the publication of his *FD2*. The size of the red circles, depicted under the orange ones but sharing the same centre, is proportional to the sum of the number of species of plants recorded by Visiani up to the publication of his *FD3*, so that the width of the visible red annulus-shaped region is roughly proportional to the increment in records between the publication of *FD2* and *FD3*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

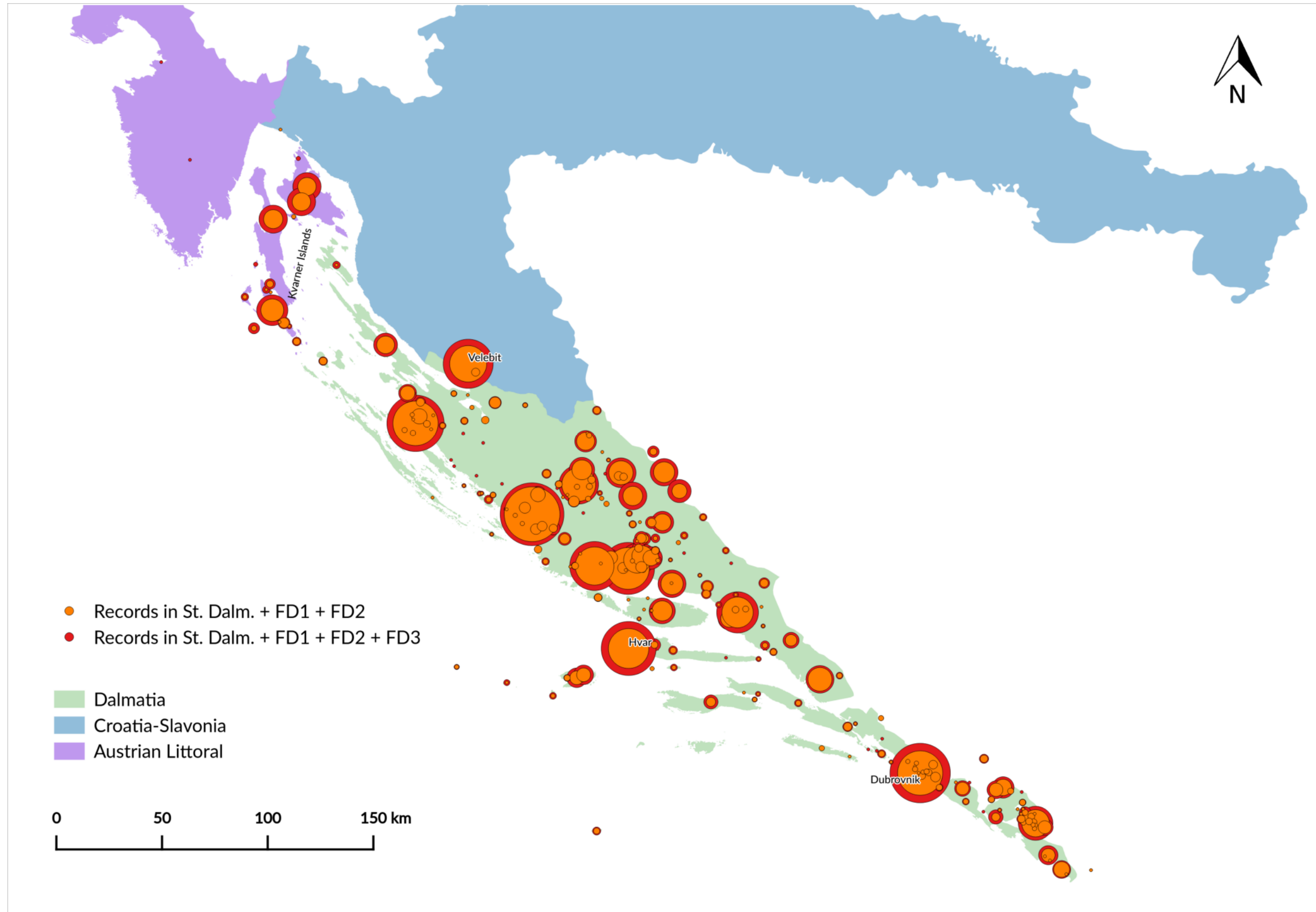


Fig. 12: The size of the circles is proportional to the number of species of plants recorded by Visiani in any given place in his *FD. Sup.*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

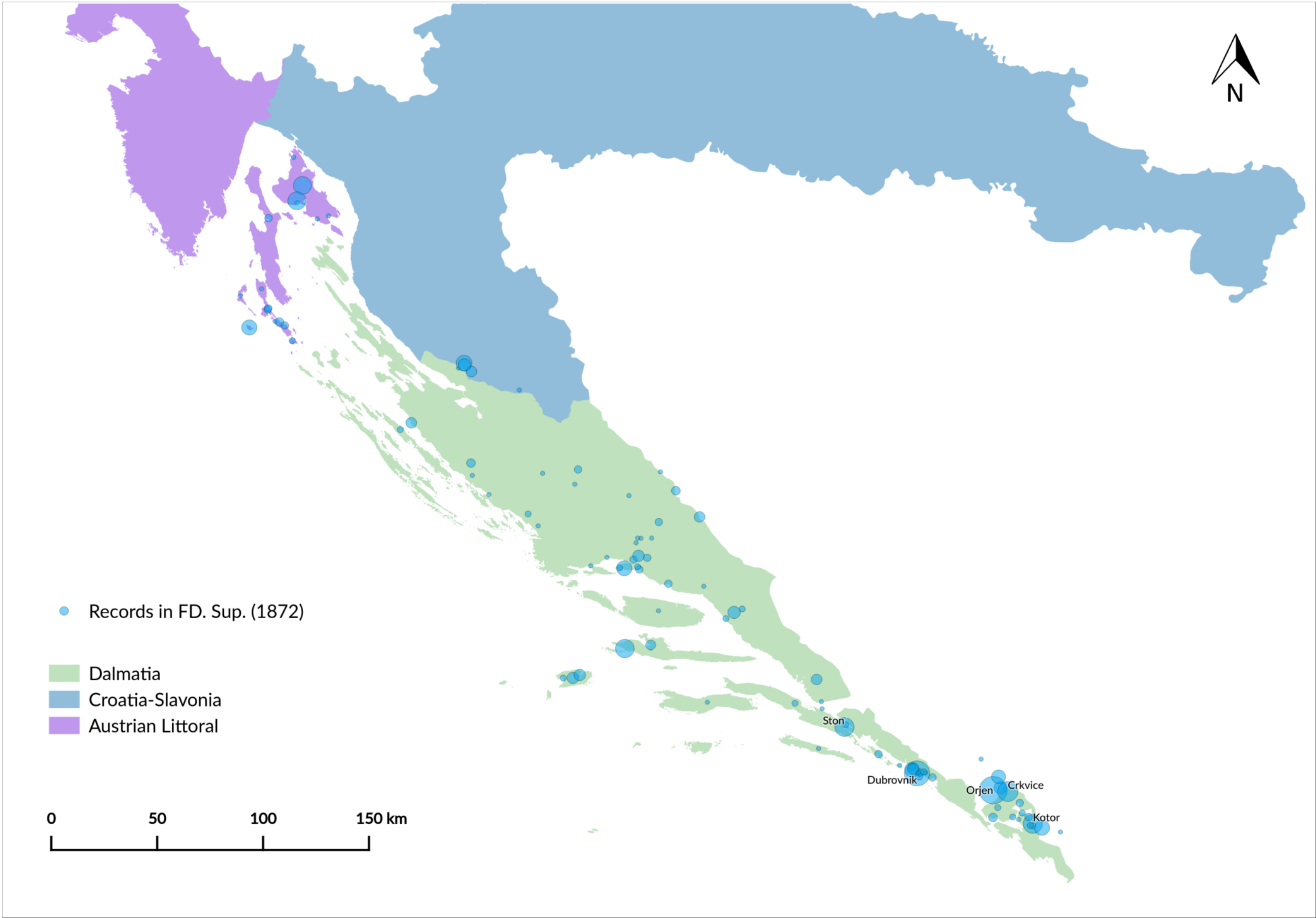


Fig. 13: The size of the red circles is proportional to the number of species of plants recorded by Visiani in any given place up to the publication of his *FD3*. The size of the blue circles, depicted under the red ones but sharing the same centre, is proportional to the sum of the number of species of plants recorded by Visiani up to the publication of his *FD. Sup.*, so that the width of the visible blue annulus-shaped region is roughly proportional to the increment in records between the publication of *FD3* and *FD. Sup.*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

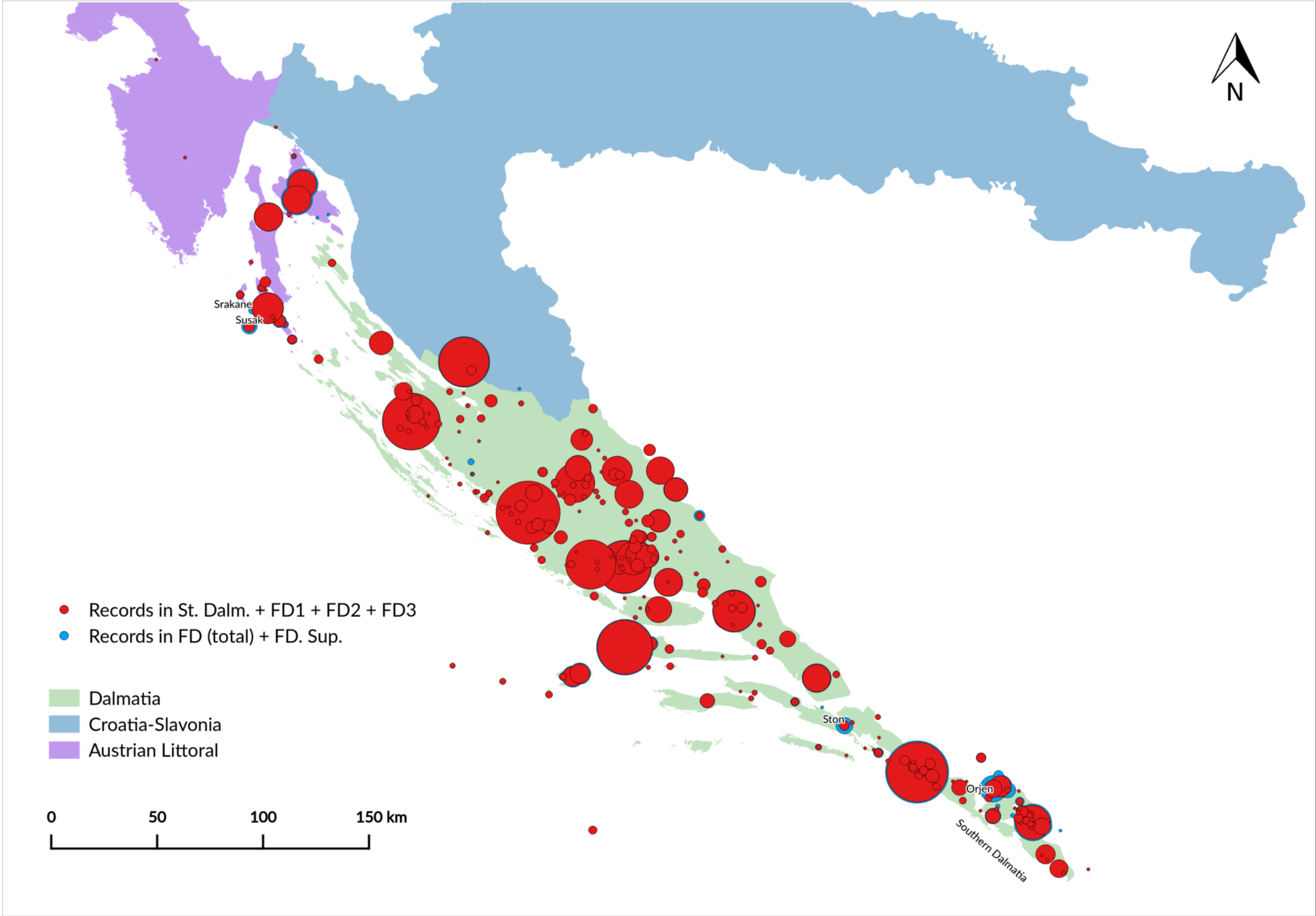


Fig. 14: The size of the circles is proportional to the number of species of plants recorded by Visiani in any given place in his *Sup. Al.-1*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

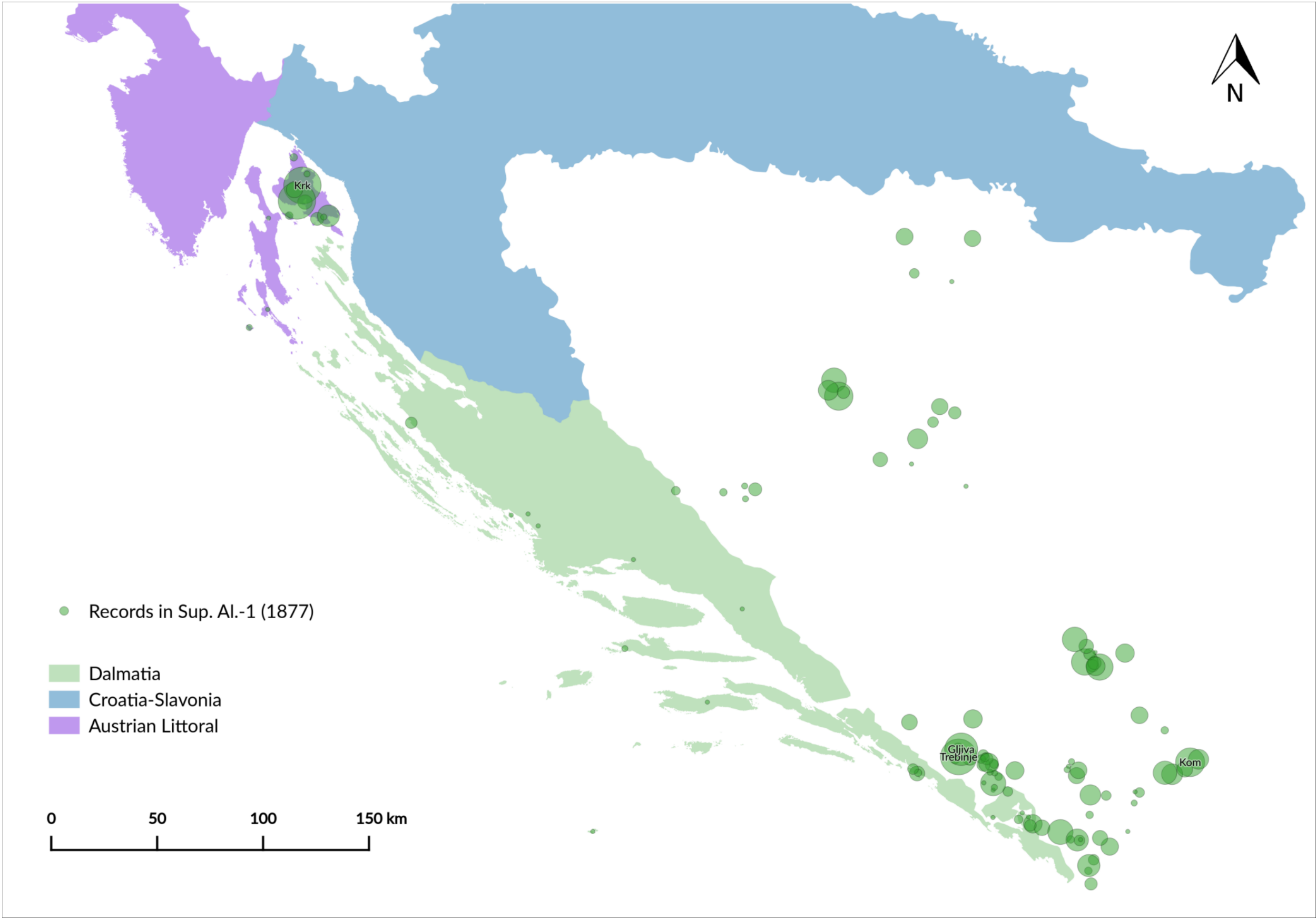


Fig. 15: The size of the blue circles is proportional to the number of species of plants recorded by Visiani in any given place up to the publication of his *FD. Sup.*. The size of the green circles, depicted under the blue ones but sharing the same centre, is proportional to the sum of the number of species of plants recorded by Visiani up to the publication of his *Sup. Al.-1*, so that the width of the visible green annulus-shaped region is proportional to the increment in records between the publication of *FD. Sup.* and *Sup. Al.-1*. Information on the construction of this map is available in § 2.4.6; a short comment on the data shown here is in § 5.2. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

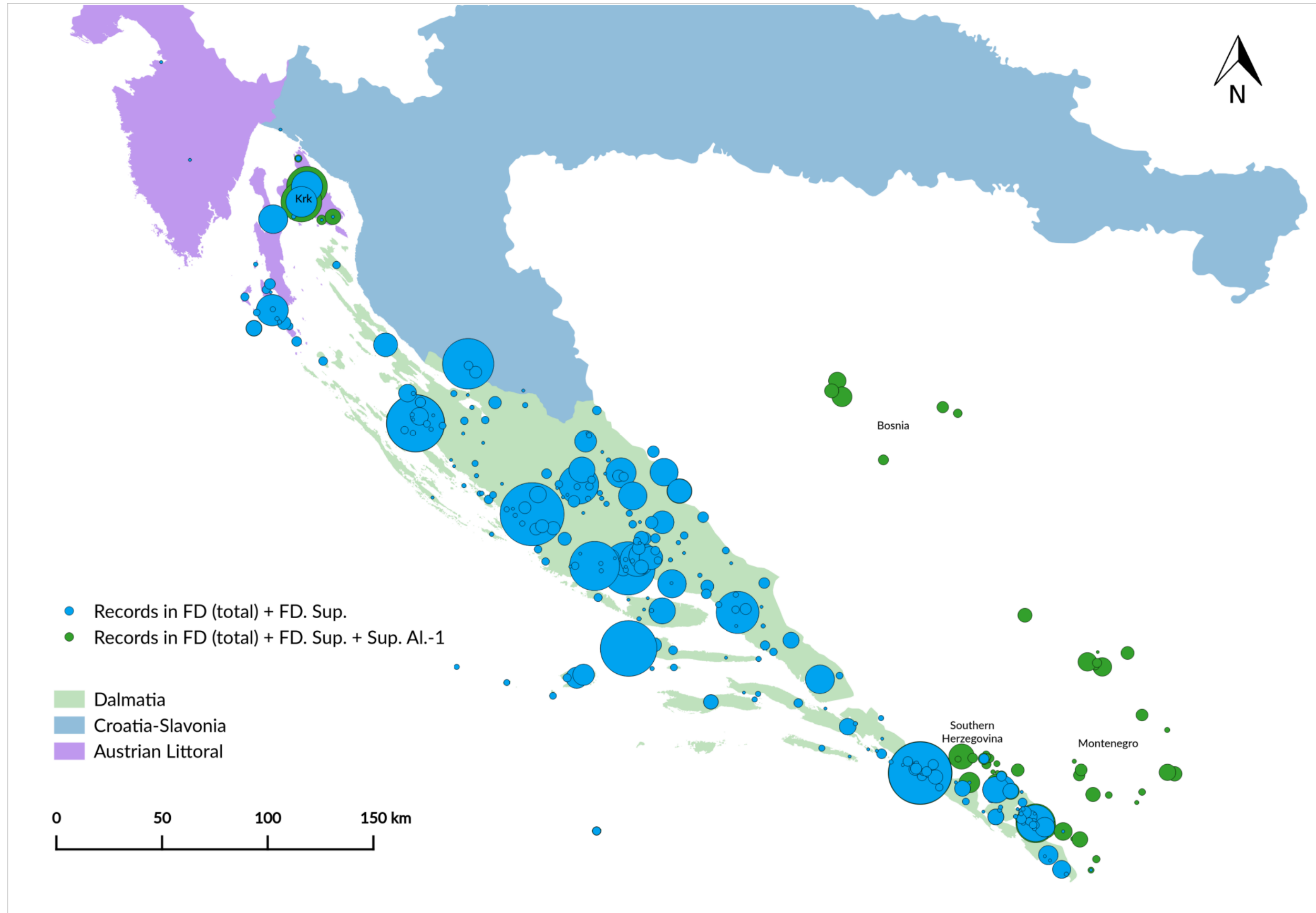


Fig. 16: The picture depicts all the data from Fig.7, Fig. 9, Fig. 11, and Fig. 13 at once.

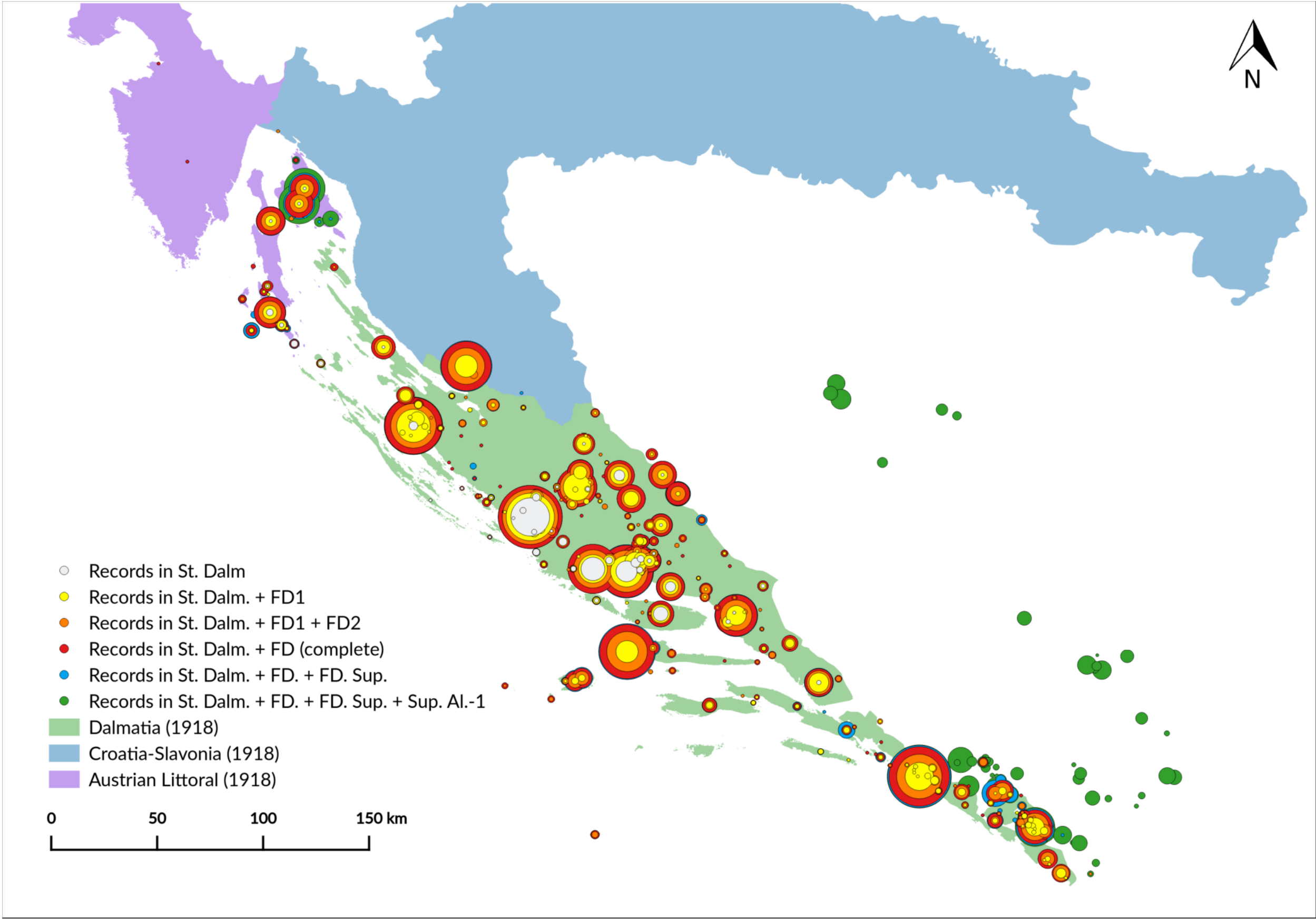


Fig. 17: The size of the circles is proportional to the number of specimens of plants available from Visiani's *HD* collected from any given place, as recorded in our geodatabase. Refer to Fig. 3 and Fig. 4 for a more detailed geographical context.

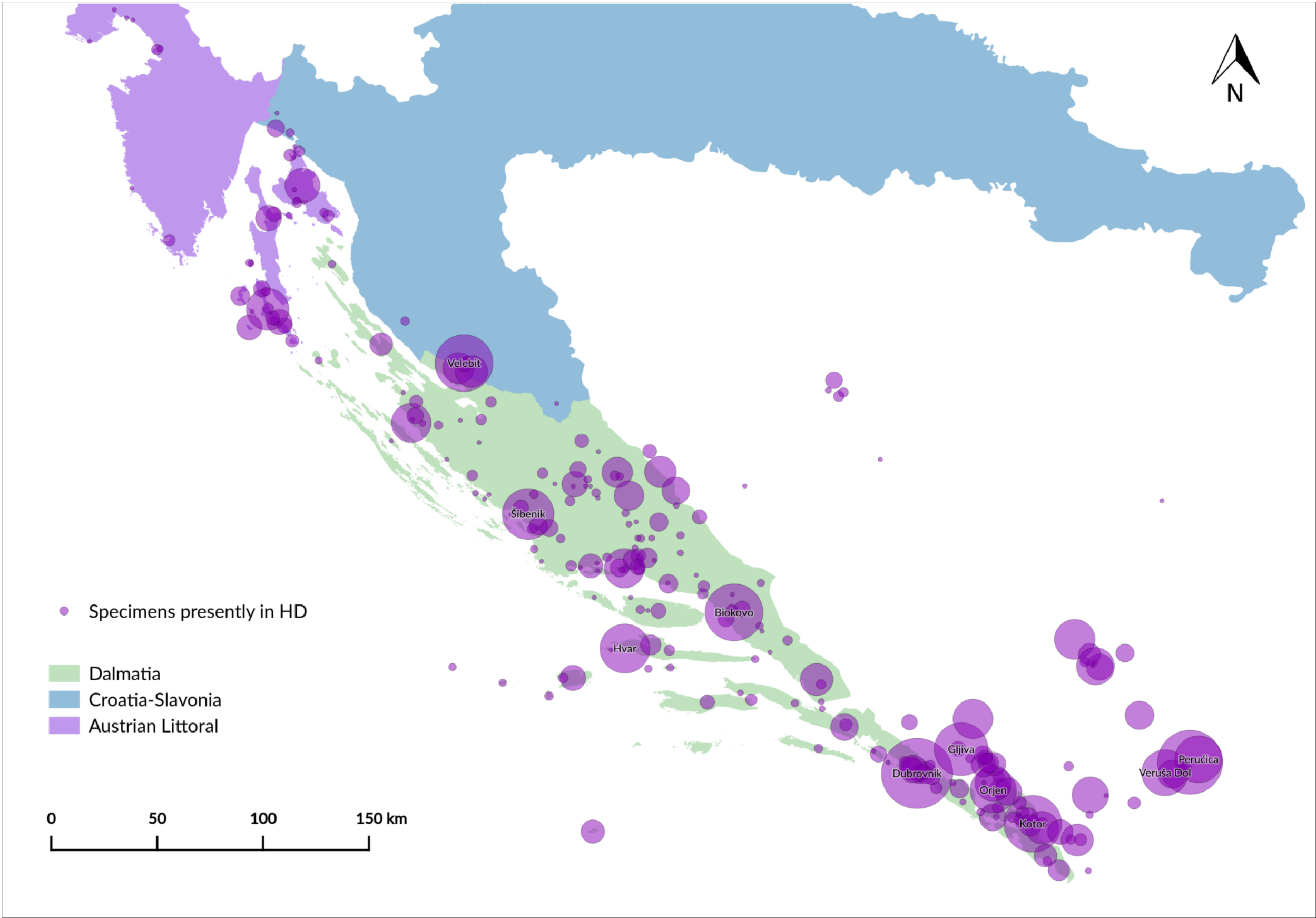


Fig. 18: The map shows, for each location, the difference in number of species between the records in Visiani's corpus and his *HD*. The graph superimposed on the map show the distribution of the same data: the difference is plotted on the horizontal axis, while the locations are plotted on the vertical axis (both are in absolute number). For more explanation and comments, see § 5.4.

