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Updated List of Bryophytes from Cape Verde Archipelago

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Abstract: The aim of the present study is to update the list of bryophytes in the Cape Verde archipelago, with a focus on its distinctive terrestrial biota. The research was carried out through a combination of herbarium collections revision and fieldwork conducted from 2016 to 2019. The revised list includes 185 bryophyte taxa (175 species, 5 subspecies, and 5 varieties) from 93 genera and 42 families. Notably, 8 taxa are endemic, and the inclusion of 35 new taxa further enriches the bryophyte diversity of the archipelago. The distribution of bryophyte taxa varies across islands, with Santo Antão, São Nicolau, and Fogo exhibiting particularly high diversity. Acrocarpous mosses are the most common growth form (58.4%), followed by pleurocarpous mosses, thalloid liverworts (15.1% each), and leafy liverworts (11.4%). In conclusion, this study provides valuable insights into the bryophyte diversity of southern Macaronesia enhancing our understanding of its unique flora and emphasizing the imperative need for conservation efforts.

Keywords: mosses; liverworts; southern Macaronesia; oceanic islands; biodiversity

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1. Introduction

Oceanic islands are characterized by unique terrestrial biota with high proportions of endemic species that evolved in isolation from continental areas. The unique biota that makes island biodiversity special also leaves it particularly vulnerable to anthropogenic threats, such as invasive species, land use, and global warming.

In Europe, the Macaronesia archipelagos stand out as a hotspot of biodiversity with high numbers of endemic plant species [1]. The early land plant lineages, including bryophytes (liverworts, mosses, and hornworts), diversified less than vascular plants in Macaronesia. However, especially the northern Macaronesian archipelagos (Azores, Canaries, Madeira) still harbor a high bryophyte diversity that plays a vital role in ecosystem functioning [2]. The approximately 750 bryophyte taxa (including 56 endemics) of the northern Macaronesian islands correspond to ca. 40% of the European bryophyte species richness [3]. The southern Macaronesian Cape Verde archipelago harbors high botanical diversity as well [4]. During the past 15 years, there has been an impressive increase in the understanding of phylogenetic and phylogeographic relationships of bryophytes in northern Macaronesia. Although Laurisilva vegetation is absent [5], the Cape Verde islands provide an important refuge for vascular plants and bryophytes, particularly in communities at higher elevations. Furthermore, Cape Verde stands out due to its mixture of representatives of Afrotropical, Neotropical, Mediterranean, and Asian elements [6]. Comparisons of total bryophyte flora indicated the closest relationships with Sub-Saharan Africa and clear separation from the northern Macaronesian archipelagos [7].

The first Cape Verde list published by Patiño and González-Mancebo [8] enumerates 153 bryophyte taxa comprising 37 liverworts and hornworts and 116 mosses. More recent work by Garcia et al. [9] refers to approximately 185 taxa, including 7 endemics, and Martins et al. [10] add a new endemic to Cape Verde. However, further fieldwork and taxonomic revision of herbarium bryophyte material from Cape Verde enable us to clarify the total number of taxa for the archipelago. The aim of the present study was to update the list of bryophytes from Cabo Verde [8] based on thorough investigation of species records, information about regional distribution using previous publications, herbarium collections, and field observations by our group between 2016 and 2019. As a result, bryophyte composition, endemism, growth forms, and diversity comparisons among different islands are also reported. The results will contribute to improving our knowledge of bryophytes in Cape Verde, enhancing the understanding of its unique flora, and emphasizing the imperative need for conservation efforts.

2. Materials and Methods

2.1. Literature Review

This paper is based on published data on the current Cape Verde list [8], along with significant contributions from Frahm et al. [11], González-Mancebo et al. [12], Ellis et al. [13,14], Cano [15], Jiménez and Cano [16], Sérgio and Stow [17], Dirkse et al. [18], Sérgio and Melo [19], Sim-Sim et al. [20], and Ellis et al. [21], previously referred in Garcia et al. [9], and the more recently publication by Martins et al. [10]. The nomenclature for families and the majority of bryophyte taxa follows Hodgetts et al. [22], and Wigginton [23], for African liverwort and hornwort taxa (Classes Anthocerotopsida, Jungermanniopsida, and Marchantiopsida) and O'Shea [6] for the mosses (Class Bryopsida), with exceptions including Cano [15], for *Tortula solmsii*, Jiménez and Cano [16] for *Didymodon caboverdensis*, Luna [24], for *Hedwigidium integrifolium*, and Martins et al. [10] for *Exormotheca martins-loussaoae* Sim-Sim, A.Martins, J.Patiño & C.A.Garcia.

2.2. Field Sampling and Herbarium Material

Bryophyte sampling took place in the Cape Verde archipelago between 2016 and 2019 (Figure 1), with a total of 56 sites sampled on the islands of Santo Antão (31 sites), São Vicente (6 sites), and São Nicolau (19 sites). More sites were studied on Santo Antão due to its higher diversity of habitats favorable to the growth of bryophytes. In these three islands, a range of habitats was investigated, including soil, rocks, epiphytes, and aquatic communities [9]. Additionally, the selection of areas for fieldwork in Cape Verde was based on information provided by herbarium materials, as well as the fieldwork experience of bryologists from the MUHNAC (Museu Nacional de História Natural e da Ciência da Universidade de Lisboa) in the Macaronesian region [2,25]. Most of the fieldwork was conducted in the National Parks (e.g., Parque Natural de Cova-Ribeira da Torre-Paul, Santo Antão; Monte Gordo, São Nicolau; Monte Verde, São Vicente), above 500 m a.s.l. These areas host extensive bryophyte communities, consistent with the presence of rich vegetation [26]. In contrast, bryophyte communities are scarce in lower areas due to long periods of severe drought. Thus, our sampling sites (42 out of 56) were randomly located at elevations ranging from 500 m a.s.l. to 1580 m, using 0.5 m × 0.5 m plots. Within each 0.5 m × 0.5 m plot, representative samples of all bryophytes were collected, and information about elevation, geographic coordinates, substrate, and habitat were recorded in the field. The collected specimens are stored at the Herbarium LISU Herbarium (University of Lisbon, MUHNAC).

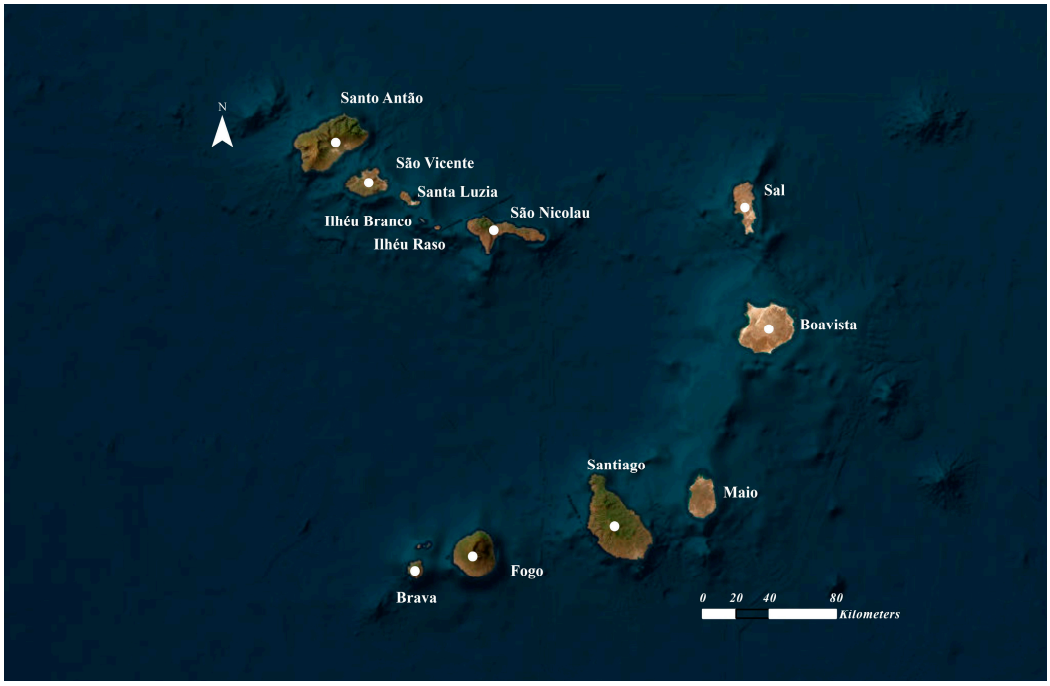

Figure 1. Location of the study islands. The islands marked with a white circle correspond to the islands where the fieldwork was conducted and/or herbarium material was reviewed.

2.3. Data Analysis

In the present study, for each taxon referred to Cape Verde or collected by us, its distribution in the archipelago, endemicity, and growth forms are presented in Appendix A. The distribution per island follows the order from north to south and from west to east: Santo Antão, São Vicente, Santa Luzia, São Nicolau, Sal, Boavista, Maio, Santiago, Fogo, and Brava. For some species, the islands are not indicated due to a lack of information about their distribution. Some taxa are annotated with numbers corresponding to notes, which are linked to certain aspects, such as taxonomy, nomenclature, distribution, or new taxa records after Patiño and González-Mancebo [8]. Additionally, a list of the primary synonyms for the bryoflora of Cabo Verde is provided. Furthermore, three taxa are excluded from the archipelago, and two are considered doubtful (Appendix A).

Bryophytes were categorized into the two major lineages of bryophytes: liverworts and mosses. Since the number of hornworts was limited to two species, this lineage was combined with liverworts for the subsequent analyses. Furthermore, liverworts and mosses were classified based on two different growth forms: leafy or thalloid liverworts and acrocarpous or pleurocarpous mosses, respectively. These four groups exhibit distinct tolerances to drought. Leafy liverworts and pleurocarpous mosses are globally better adapted to shaded and humid environments [27]. In contrast, thalloid liverworts and acrocarpous mosses typically exhibit broader ecological requirements, thriving in sunnier, drier, and more xeric habitats [27,28].

We employed a chi-square test to assess whether the observed distributions of bryophyte growth form groups (in Cape Verde and per island) significantly deviated from a uniform distribution. This analysis was performed using the "stats" R package version 4.5.0. [29].

3. Results

3.1. Updated List

This new list provides a comprehensive inventory of the bryophytes found in the Cape Verde archipelago, offering an overview of the acceptance of species and infraspecific names. We present a list of accepted names and report synonyms used in the bibliography to guide readers toward accepted names in this updated list (Appendix A).

There are 185 accepted bryophyte taxa in this list, comprising 175 species, 5 subspecies, and 5 varieties, totaling 49 liverworts (including 2 hornworts) and 136 mosses. This corresponds to 93 bryophyte genera (25 liverwort genera, including hornworts, and 68 moss genera) and 42 families (18 liverwort families, including hornworts, and 24 moss families) (Appendix A).

Three species are excluded from the flora of Cape Verde: *Exormotheca pustulosa* Mitt., *Ptychomitrium subcrispatum* Thér. & P. de la Varde, and *Barbula javanica* Dozy & Molk. (Appendix A).

In this study, 34 new taxa are added to the Cape Verde bryophyte list, namely 13 liverworts (*Aneura pinguis* (L.) Dumort.; *Cheilolejeunea rigidula* (Nees ex Mont.) R.M.Schust.; *Cheilolejeunea xanthocarpa* (Lehm. & Lindenb.) Malombe; *Exormotheca martins-loussaoae* Sim-Sim, A.Martins, J.Patiño & C.A.Garcia; *Pleurozia gigantea* (F.Weber) Lindb.; *Porella canariensis* (F.Weber) Underw.; *Riccia atromarginata* Levier; *Riccia atropurpurea* Sim; *Riccia congoana* Stephani; *Riccia crinita* Taylor; *Riccia macrocarpa* Levier; *Riccia trabutiana* Steph.; *Syzygiella manca* (Mont.) Steph), and 21 mosses (*Aloina ambigua* (Bruch & Schimp.) Limpr.; *Bartramia aprica* Müll. Hal. Brid.; *Bryoceuthospora aethiopica* (Welw. & Duby) R.H.Zander; *Bryum dichotomum* Hedw.; *Crossidium geheebii* (Broth.) Broth.; *Cryphaea heteromalla* (Hedw.) D.Mohr; *Didymodon caboverdeanus* J.A.Jiménez & M.J.Cano; *Didymodon revolutus* (Cardot) R.S.Williams; *Didymodon tophaceus* subsp. sicculus (M.J.Cano, Ros, García Zam. & J.Guerra) Jan Kučera; *Entosthodon kroonkurk* Dirkse & Brugués; *Grimmia incurva* Schwägr.; *Homalothecium aureum* (Spruce) H.Rob.; *Lewinskya acuminata* (H.Philib.) F.Lara, Garilleti & Goffinet; *Lindbergia patentifolia* Dixon; *Microbryum davallianum* (Sm.) R.H.Zander; *Microbryum starckeanum* (Hedw.) R.H.Zanderm; *Timmiella cameruniae* Broth.; Tortula bolanderi (Lesq. & James) M.Howe; *Tortula muralis* Hedw.; Tortula revolvens (Schimp.) G.Roth; *Tortula vahliana* (Schultz) Mont.). These new taxa are found, respectively, on the islands of Santo Antão (21), São Vicente (2), São Nicolau (2), Santiago (4), and Fogo (16) (Appendix A). In addition, one moss species (*Hydrogonium arcuatum* (Griff.) Wijk & Margad.) is newly recorded for Cape Verde (São Nicolau), and Africa. Some taxa previously reported for Cape Verde [8] were found on other islands of the archipelago, specifically Santo Antão (five), São Vicente (three), Santiago (nine), and Fogo (six).

3.2. Bryophyte Diversity

The largest liverworts family (i.e., taxa number > 5) is Ricciaceae (13 taxa, 1 genera) followed by Lejeuneaceae (10 taxa, 6 genera), and Frullaniaceae (5 taxa, 1 genera). Among mosses, Pottiaceae (58 taxa, 23 genera) is the largest family, followed by Bryaceae (13 taxa, 5 genera), Brachytheciaceae (10 taxa, 8 genera), Fissidentaceae (9 taxa, 1 genus), and Bartramiaceae (8 taxa, 2 genera), and Orthotrichaceae (5 taxa, 4 genera) stand out. For liverworts, *Riccia* leads with 13 taxa, followed by *Frullania* with 5 taxa. Prominent moss genera in Cape Verde include *Didymodon* (10 taxa), *Tortula* (10 taxa), *Fissidens* (9 taxa), *Philonotis* (6 taxa), and *Bryum* (5 taxa).

3.3. Comparing Bryophyte Diversity between Islands

Regarding the distribution of taxa by island, there are substantial differences between the Cape Verde islands in the number and proportion of taxa. The islands with the highest number of taxa are Santo Antão with 135 taxa (23 liverworts and 112 mosses), Fogo with 77 taxa (23 liverworts and 54 mosses), and São Nicolau with 76 taxa (16 liverworts and 60 mosses). Santiago totals 49 taxa (15 liverworts and 34 mosses), followed by São Vicente with 29 taxa (10 liverworts and 19 mosses) and Brava with 15 (2 liverworts and 13 mosses). No liverwort taxa are known for the islands of Sal and Boavista, with two moss taxa for Sal and one for Boavista. There are no known records of bryophytes for the islands of Santa Luzia and Maio (Figure 2). Additionally, the distribution by islands is unknown for 15 out of the 185 taxa.

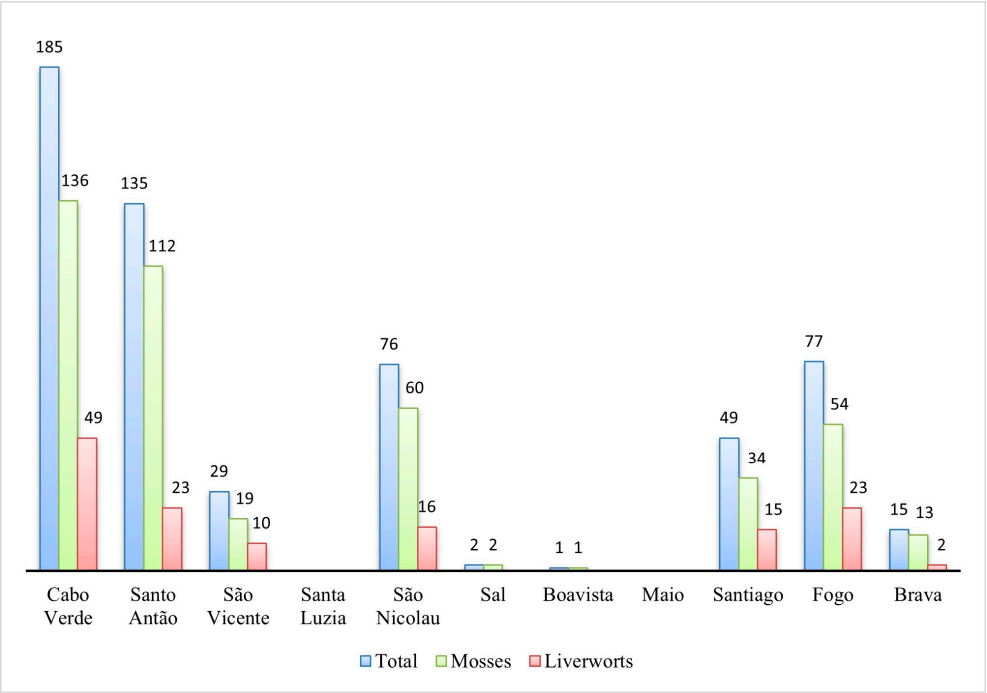

Figure 2. Distribution of bryophyte taxa across islands in Cape Verde.

3.4. Endemism

Eight bryophyte taxa are endemic to Cape Verde, including one liverwort (*Exormotheca martins-loussaoae* Sim-Sim, A.Martins, J.Patiño & C.A.Garcia) and seven mosses (*Bryum anomodon* Mont.; *Didymodon caboverdeanus* J.A.Jiménez & M.J.Cano; *Entodon pseudoseductrix* (Müll.Hal.) A.Jaeger; *Fissidens allorgei* P.de la Varde; *Funaria chevalieri* P.de la Varde; *Perssonia sanguinea* Bizot; *Pseudoleskeopsis bollei* (Broth. & Geh.) P.Rao. Santo Antão possesses the greatest abundance of endemics, with seven out of eight endemic taxa accounted for: *Exormotheca martins-loussaoae*, *Bryum anomodon*, *Didymodon caboverdeanus*, *Entodon pseudoseductrix*, *Fissidens allorgei*, *Perssonia sanguinea*, and *Pseudoleskeopsis bollei*. São Nicolau has five endemics: *Exormotheca martins-loussaoae*, *Entodon pseudoseductrix*, *Fissidens allorgei*, *Perssonia sanguinea*, and *Pseudoleskeopsis bollei*. Fogo also has five endemics: *Exormotheca martins-loussaoae*, *Bryum anomodon*, *Didymodon caboverdeanus*, *Entodon pseudoseductrix*, and *Funaria chevalieri*. Santiago has three endemic species: *Bryum anomodon*, *Didymodon caboverdeanus*, and *Perssonia sanguinea*. São Vicente and Sal islands each have one endemic taxa: *Pseudoleskeopsis bollei* and *Fissidens allorgei*, respectively.

3.5. Bryophyte Growth Forms

In Cape Verde, acrocarpous mosses (108 taxa, 58.4%) constitute the most common bryophyte growth form (Figure 3), followed by pleurocarpous mosses, thalloid liverworts (28 taxa, 15.1% each) and leafy liverworts (21 taxa, 11.4%). The observed distributions of bryophyte growth form groups in Cape Verde are not uniformly distributed and significantly differed from the uniform distribution ($\chi^2 = 110.63$, p-value < 0.0001). The proportion of acrocarpous mosses for each island, in descending order, is as follows: Brava (11 taxa, 73.3%), Santo Antão (90 taxa, 66.7%), Fogo (51 taxa, 66.2%), São Nicolau (49 taxa, 64.5%), Santiago (30 taxa, 61.2%), and São Vicente (13 taxa, 44.8%). The only moss taxa present in Sal (two taxa) and Boavista (one taxon) are acrocarpous mosses. Pleurocarpous mosses are more prevalent on São Vicente (6 taxa, 20.7%), followed by Santo Antão (22 taxa, 16.3%), São Nicolau (11 taxa, 14.5%), Brava (2 taxa, 13.3%), Santiago (4 taxa, 8.2%), and Fogo (3 taxa, 3.9%). Regarding liverworts, thalloid liverworts are more abundant on Fogo (16 taxa, 20.8%), followed by Santo Antão (17 taxa, 12.6%), Santiago (6 taxa, 12.2%), São Nicolau (9 taxa, 11.8%), Brava (1 taxon, 6.7%), and São Vicente (1 taxon, 3.4%). Leafy liverworts are

more prevalent on São Vicente (nine taxa, 31.0%), followed by Santiago (nine taxa, 18.4%), São Nicolau (seven taxa, 9.2%), Fogo (seven taxa, 9.1%), Brava (one taxon, 6.7%), and Santo Antão (six taxa, 4.4%). The distributions of bryophyte growth forms per island are not uniform and show significant deviation from a uniform distribution ($10.59 \leq \chi^2 \leq 128.97$, p-value < 0.014). Notably, São Vicente stands out as the island where the distribution most closely aligns with a uniform pattern ($\chi^2 = 10.59$, p-value = 0.014).

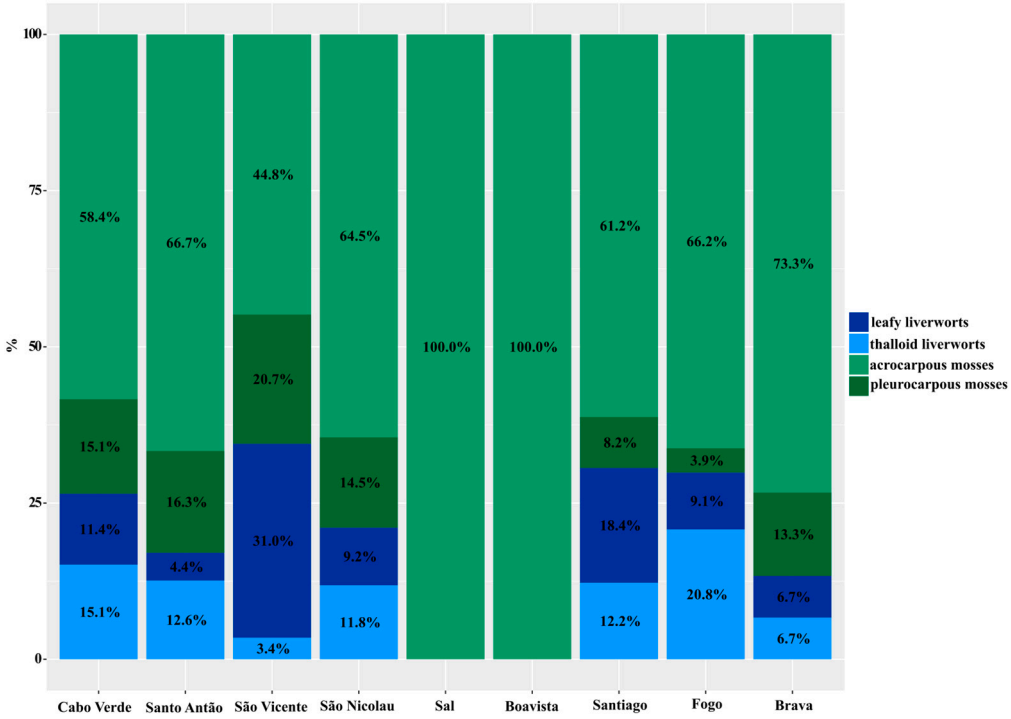

Figure 3. Proportion of bryophyte growth forms in the Cape Verde archipelago and across its islands.

4. Discussion

This list results from an extensive survey of the literature, incorporating personal taxonomic expertise. It represents the current understanding of taxa and recent information on species records. The total number of accepted bryophyte taxa in Cape Verde adds to 185, consisting of 175 species, 5 subspecies, and 5 varieties, encompassing 49 liverworts (including 2 hornworts) and 136 mosses. Santo Antão, São Nicolau, and Fogo exhibit high bryophyte diversity, with the largest number of genera and families found on these islands. The moss families with the highest number of genera are Pottiaceae, Brachytheciaceae, and Bryaceae, with 23, 8, and 5 genera, respectively. In liverworts, Lejeuneaceae, with six genera, is the most prominent, followed by Aytoniaceae with four genera.

Santo Antão has the highest number of endemic species (seven out of eight endemic species), followed by São Nicolau and Fogo, each with five endemics. Santiago has three endemics, while São Vicente and Sal islands each have one. Endemic occurrences in the remaining islands (Boavista, Brava, Maio, and Santa Luzia) are unknown.

In Cape Verde, acrocarpous mosses constitute the most common bryophyte growth form (58.4%), followed by pleurocarpous mosses, thalloid liverworts (15.1% each), and leafy liverworts (11.4%). This distribution of bryophytes by growth form differs compared to the northern Macaronesian archipelagos, particularly in the growth forms of liverworts. In northern Macaronesia, leafy liverworts represent about 22% of the total bryoflora, while thalloid liverworts are only 9% [30,31]. It is also important to highlight the absence of leafy liverworts in Cape Verde from families well represented in the northern Macaronesian archipelagos, such as Calypogeiaceae, Jungermanniaceae, Plagiochilaceae, and Scapaniaceae [2,30–33]. The higher percentage of leafy liverworts in northern Macaronesia, which are adapted to shaded and humid environments [27], is attributed to the extensive laurel

forest area, particularly on Madeira Island [2]. This unique forest is characterized by high levels of relative humidity (75–90%) nearly all year round [1,2]. The cloud layer resulting from the cooling of northeast trade winds is of vital importance for the maintenance of the bryophyte high diversity in the laurel forest [1].

In Cape Verde, São Vicente stands out as the island most similar to northern Macaronesia in terms of bryophyte composition based on growth forms. In fact, acrocarpous mosses are the predominant growth form, followed by leafy liverworts, pleurocarpous mosses, and thalloid liverworts, a pattern consistent with northern Macaronesian archipelagos [30,31]. Despite the generally low rainfall on São Vicente compared to other islands in the Barlavento group [34], the orography of this island favors the direct exposure to the prevailing trade winds. This influence is particularly evident in the Monte Verde area, where the largest bryophyte communities are found. The sloping surface of Monte Verde, facing northeast, creates an environment favorable to the incidence of humidity [34], explaining the higher percentage of leafy liverworts on São Vicente.

This study is an important contribution to our understanding of bryophyte biodiversity in Macaronesia, enhancing knowledge of biogeographic connections and the origin of the bryophyte flora in southern Macaronesia. Bryophytes are spore-producing plants with high vagility and dispersal capabilities, coupled with a remarkable variety of mechanisms of vegetative reproduction. Contrary to the classical explanation of (disjunct) distribution ranges of bryophytes by ancient vicariance (continental drift), these are nowadays assumed to be mainly shaped by long-distance dispersal events [35]. This is reflected, for example, in the postglacial history of several Macaronesian bryophyte populations, with a complex mixture of origins [7,35] and recent divergence times being incongruent with vicariance scenarios.

Unlike the northern Macaronesian archipelagos, Cape Verde's bryophyte flora includes 20% of tropical elements. Molecular studies on Cape Verde are emerging [36], but the lack of knowledge regarding phylogenomics, biogeographic affinities, and colonization patterns hinders inferences about the origin and evolutionary history of the southern Macaronesian flora. This knowledge is crucial for understanding the effects of climatic changes on future plant colonization in this region. The morphological and molecular analyses of the liverwort genus Exormotheca [36], indicate a complex evolutionary pattern, including an Africa–Cape Verde connection and a Rand Flora pattern [37]. *Exormotheca* probably originated in south-east Africa during the Oligocene. Climate-driven vicariance (due to aridification and orogenic movements in Africa) and long-distance dispersal events appear to have driven the current disjunction. While the northern Macaronesian archipelagos share the same lineage, Cape Verde was colonized by a distinct lineage. Consequently, the hypothesis that Cape Verde may have acted as a crossroads, linking northern Macaronesia and south-east Africa, is not supported. These results clearly indicate the need to trace past colonization events of Cape Verde bryophyte taxa.

Our work reflects the state of knowledge as of February 2024 and is likely to be updated. Progress in phylogenetics may alter the status of known taxa, and new species continue to be discovered. To preserve Cape Verde's biodiversity, efficient implementation of laws and regulations is essential, along with increased support in terms of human resources and financial endowment.

Author Contributions: Conceptualization, M.S.-S. and A.M.; methodology, M.S.-S. and A.M.; formal analysis, M.S.-S. and A.M.; resources, M.S.-S., A.M. and C.A.G.; writing—original draft preparation, M.S.-S.; writing—review and editing, M.S.-S., A.M. and C.A.G.; supervision, M.S.-S.; project administration, M.S.-S.; funding acquisition, M.S.-S. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A. Updated List of Bryophytes from Cape Verde Archipelago

The families in the list of taxa are alphabetically ordered first for liverworts and then for mosses. Within each family, genera, species, subspecies, and varieties are alphabetically listed. Their distribution in the archipelago and endemism are presented, with (non) indicating that the species is non-endemic, while (end) indicates that the species is endemic. In terms of growth form, (lea), (tha), (acr), (ple), indicate leafy liverworts, thalloid liverworts, acrocarpous mosses, and pleurocarpous mosses, respectively. Furthermore, excluded or doubtful taxa from the archipelago are also included. Some taxa are annotated with numbers corresponding to notes, which are linked to aspects, such as taxonomy, nomenclature, distribution, or new taxonomic records after Patiño and González-Mancebo [8]. Additionally, a list of the primary synonyms for the bryoflora of Cabo Verde is provided. The currently accepted names are highlighted in bold.

List of Taxa

Family	Genus	Taxon	Santo Antão	São Vicente	Santa Luzia	São Nicolau	Sal	Boavista	Maio	Santiago	Fogo	Brava	Endemism	Growth Form
Anthocerotaceae	*Anthoceros*	*Anthoceros punctatus* L.								1			non	tha
Notothyladaceae	*Phaeoceros*	*Phaeoceros carolinianus* (Michx.) Prosk.	1			1					1		non	tha
Adelanthaceae	*Syzygiella*	*Syzygiella manca* (Mont.) Steph. **(1*)**											non	fol
Aneuraceae	*Aneura*	*Aneura pinguis* (L.) Dumort. **(2*)**	1										non	tha
Aytoniaceae	*Mannia*	*Mannia androgyna* (L.) A.Evans	1			1				1	1		non	tha
Aytoniaceae	*Plagiochasma*	*Plagiochasma eximium* (Schiffn.) Steph.				1				1	1		non	tha
Aytoniaceae	*Plagiochasma*	*Plagiochasma rupestre* (J.R.Forst. et G.Forst.) Steph. var. *rupestre*	1	1		1				1	1	1	non	tha
Aytoniaceae	*Reboulia*	*Reboulia hemisphaerica* (L.) Raddi	1			1				1	1		non	tha
Cyathodiaceae	*Cyathodium*	*Cyathodium cavernarum* Kunze	1			1							non	tha
Exormothecaceae	*Exormotheca*	*Exormotheca martins-loussaoae* Sim-Sim, A.Martins, J.Patiño & C.A.Garcia **(3*)**	1			1					1		end	tha
Fossombroniaceae	*Fossombronia*	*Fossombronia angulosa* (Dicks.) Raddi	1								1		non	tha
Fossombroniaceae	*Fossombronia*	*Fossombronia pusilla* (L.) Nees	1								1		non	tha
Frullaniaceae	*Frullania*	*Frullania dilatata* (L.) Dumort.	1	1							1		non	fol
Frullaniaceae	*Frullania*	*Frullania ericoides* (Nees) Mont.	1	1		1				1	1		non	fol
Frullaniaceae	*Frullania*	*Frullania socotrana* Mitt.		1		1				1	1	1	non	fol
Frullaniaceae	*Frullania*	*Frullania spongiosa* Steph. **(4*)**	1	1		1				1			non	fol
Frullaniaceae	*Frullania*	*Frullania tamarisci* (L.) Dumort.	1	1		1				1	1		non	fol
Lejeuneaceae	*Acrolejeunea*	*Acrolejeunea emergens* (Mitt.) Steph.											non	fol
Lejeuneaceae	*Cheilolejeunea*	*Cheilolejeunea rigidula* (Nees ex Mont.) R.M.Schust. **(5*)**		1									non	fol

Family	Genus	Taxon	Santo Antão	São Vicente	Santa Luzia	São Nicolau	Sal	Boavista	Maio	Santiago	Fogo	Brava	Endemism	Growth Form
Lejeuneaceae	*Cheilolejeunea*	*Cheilolejeunea xanthocarpa* (Lehm. & Lindenb.) Malombe **(6*)**											non	fol
Lejeuneaceae	*Lejeunea*	*Lejeunea capensis* Gottsche								1			non	fol
Lejeuneaceae	*Lejeunea*	*Lejeunea eckloniana* Lindenb.									1		non	fol
Lejeuneaceae	*Lejeunea*	*Lejeunea flava* (Sw.) Nees								1			non	fol
Lejeuneaceae	*Lejeunea*	*Lejeunea lamacerina* (Steph.) Schiffn.								1			non	fol
Lejeuneaceae	*Marchesinia*	*Marchesinia mackaii* (Hook.) Gray											non	fol
Lejeuneaceae	*Microlejeunea*	*Microlejeunea ulicina* (Taylor) Steph.		1									non	fol
Lejeuneaceae	*Myriocoleopsis*	*Myriocoleopsis minutissima* (Sm.) R.L.Zhu, Y.Yu & Pócs				1				1	1		non	fol
Lophocoleaceae	*Lophocolea*	*Lophocolea bidentata* (L.) Dumort.									1		non	fol
Lunulariaceae	*Lunularia*	*Lunularia cruciata* (L.) Dumort. *ex* Lindb.	1			1							non	tha
Marchantiaceae	*Marchantia*	*Marchantia paleacea* Bertol.	1								1		non	tha
Marchantiaceae	*Marchantia*	*Marchantia pappeana* Lehm. subsp. *pappeana*											non	tha
Pleuroziaceae	*Pleurozia*	*Pleurozia gigantea* (F.Weber) Lindb. **(7*)**											non	fol
Porellaceae	*Porella*	*Porella arboris-vitae* (With.) Grolle		1		1							non	fol
Porellaceae	*Porella*	*Porella canariensis* (F.Weber) Underw. **(8*)**	1	1									non	fol
Radulaceae	*Radula*	*Radula lindenbergiana* Gottsche ex C.Hartm.	1			1				1			non	fol
Ricciaceae	*Riccia*	*Riccia atromarginata* Levier **(9*)**									1		non	tha
Ricciaceae	*Riccia*	*Riccia atropurpurea* Sim **(10*)**									1		non	tha
Ricciaceae	*Riccia*	*Riccia cavernosa* Hoffm.	1										non	tha
Ricciaceae	*Riccia*	*Riccia ciliata* Hoffm.									1		non	tha
Ricciaceae	*Riccia*	*Riccia congoana* Stephani **(11*)**									1		non	tha
Ricciaceae	*Riccia*	*Riccia crinita* Taylor **(12*)**									1		non	tha
Ricciaceae	*Riccia*	*Riccia crystallina* L. **(13*)**									1		non	tha
Ricciaceae	*Riccia*	*Riccia frostii* Austin											non	tha
Ricciaceae	*Riccia*	*Riccia gougetiana* Durieu & Mont.											non	tha
Ricciaceae	*Riccia*	*Riccia macrocarpa* Levier **(14*)**	1										non	tha
Ricciaceae	*Riccia*	*Riccia nigrella* DC. **(15*)**	1			1				1			non	tha
Ricciaceae	*Riccia*	*Riccia sorocarpa* Bisch. subsp. *sorocarpa*	1										non	tha
Ricciaceae	*Riccia*	*Riccia trabutiana* Steph. **(16*)**	1										non	tha
Targioniaceae	*Targionia*	*Targionia hypophylla* L.	1								1		non	tha
Amblystegiaceae	*Leptodictyum*	*Leptodictyum riparium* (Hedw.) Warns	1										non	ple
Bartramiaceae	*Bartramia*	*Bartramia laevisphaera* (Taylor) Müll.Hal.	1			1					1		non	acr
Bartramiaceae	*Bartramia*	*Bartramia aprica* Müll. Hal. Brid. **(17*)**	1										non	acr
Bartramiaceae	*Philonotis*	*Philonotis calcarea* (Bruch & Schimp.) Schimp.											non	acr
Bartramiaceae	*Philonotis*	*Philonotis fontana* (Hedw.) Brid.	1										non	acr
Bartramiaceae	*Philonotis*	*Philonotis hastata* (Duby) Wijk & Margad.	1			1							non	acr

Family	Genus	Taxon	Santo Antão	São Vicente	Santa Luzia	São Nicolau	Sal	Boavista	Maio	Santiago	Fogo	Brava	Endemism	Growth Form
Bartramiaceae	*Philonotis*	*Philonotis marchica* (Hedw.) Brid.	1								1		non	acr
Bartramiaceae	*Philonotis*	*Philonotis nanothecioidea* Paris & Broth.	1										non	acr
Bartramiaceae	*Philonotis*	*Philonotis rigida* Brid.	1	1							1		non	acr
Brachytheciaceae	*Homalothecium*	*Homalothecium aureum* (Spruce) H.Rob. **(18*)**	1										non	ple
Brachytheciaceae	*Homalothecium*	*Homalothecium sericeum* (Hedw.) Schimp.	1	1		1				1		1	non	ple
Brachytheciaceae	*Kindbergia*	*Kindbergia praelonga* (Hedw.) Ochyra	1										non	ple
Brachytheciaceae	*Oxyrrhynchium*	*Oxyrrhynchium speciosum* (Brid.) Warnst.	1										non	ple
Brachytheciaceae	*Palamocladium*	*Palamocladium leskeoides* (Hook.) E.Britton	1	1		1						1	non	ple
Brachytheciaceae	*Plasteurhynchium*	*Plasteurhynchium meridionale* (Schimp.) M.Fleisch.		1									non	ple
Brachytheciaceae	*Rhynchostegium*	*Rhynchostegium megapolitanum* (Blandow *ex* F.Weber & D.Mohr) Schimp.	1										non	ple
Brachytheciaceae	*Rhynchostegium*	*Rhynchostegium riparioides* (Hedw.) Cardot	1										non	ple
Brachytheciaceae	*Scleropodium*	*Scleropodium touretii* (Brid.) L.F.Koch	1										non	ple
Brachytheciaceae	*Scorpiurium*	*Scorpiurium circinatum* (Bruch) M.Fleisch. & Loeske	1	1		1				1			non	ple
Bryaceae	*Anomobryum*	*Anomobryum apiculatum* (Schwägr.) D.Bell & Holyoak	1										non	acr
Bryaceae	*Anomobryum*	*Anomobryum julaceum* (Schrad. ex P.Gaertn., E.Mey & Scherb.) Schimp.	1			1							non	acr
Bryaceae	*Anomobryum*	*Anomobryum notarisii* (Mitt.) D.Bell. & Holyoak	1										non	acr
Bryaceae	*Brachymenium*	*Brachymenium acuminatum* Harv.	1							1	1	1	non	acr
Bryaceae	*Brachymenium*	*Brachymenium exile* (Dozy & Molk.) Bosch. & Sande Lac.	1			1				1	1	1	non	acr
Bryaceae	*Bryum*	*Bryum anomodon* Mont.	1							1	1		end	acr
Bryaceae	*Bryum*	*Bryum argenteum* Hedw.	1			1					1		non	acr
Bryaceae	*Bryum*	*Bryum canariense* Brid.	1			1					1		non	acr
Bryaceae	*Bryum*	*Bryum dichotomum* Hedw. **(19*)**	1							1			non	acr
Bryaceae	*Bryum*	*Bryum kikuyuense* (Broth. & Thér.) N.Pedersen	1			1				1	1		non	acr
Bryaceae	*Perssonia*	*Perssonia sanguinea* Bizot	1			1				1			end	acr
Bryaceae	*Ptychostomum*	*Ptychostomum capillare* (Hedw.) Holyoak & N.Pedersen	1			1							non	acr
Bryaceae	*Ptychostomum*	*Ptychostomum cellulare* (Hook.) D.Bell & Holyoak	1										non	acr
Cryphaeaceae	*Cryphaea*	*Cryphaea heteromalla* (Hedw.) D.Mohr **(20*)**	1			1							non	ple
Entodontaceae	*Entodon*	*Entodon pseudoseductrix* (Müll.Hal.) A.Jaeger	1			1					1		end	ple
Entodontaceae	*Entodon*	*Entodon schleicheri* (Schimp.) Demet.	1										non	ple
Erpodiaceae	*Erpodium*	*Erpodium grossirete* Müll.Hal.											non	ple
Erpodiaceae	*Erpodium*	*Erpodium perrottetii* (Mont.) A.Jaeger & Sauerb.	1										non	ple
Fabroniaceae	*Fabronia*	*Fabronia leikipiae* Müll.Hal.	1			1							non	ple

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Fissidentaceae	*Fissidens*	*Fissidens allorgei* P.de la Varde	1			1	1						end	acr
Fissidentaceae	*Fissidens*	*Fissidens androgynus* Bruch ex C.Krauss											non	acr
Fissidentaceae	*Fissidens*	*Fissidens bogosicus* Müll.Hal.	1								1		non	acr
Fissidentaceae	*Fissidens*	*Fissidens crispus* Mont.	1										non	acr
Fissidentaceae	*Fissidens*	*Fissidens danckelmannii* Müll.Hal. **(21*)**	1			1	1						non	acr
Fissidentaceae	*Fissidens*	*Fissidens flaccidus* Mitt. **(22*)**	1							1		1	non	acr
Fissidentaceae	*Fissidens*	*Fissidens megalotis* subsp. *helictocaulos* (Müll.Hal.) Brugg.-Nann.	1			1					1		non	acr
Fissidentaceae	*Fissidens*	*Fissidens sciophyllus* Mitt. **(21*)**	1								1	1	non	acr
Fissidentaceae	*Fissidens*	*Fissidens usambaricus* Broth.											non	acr
Funariaceae	*Entosthodon*	*Entosthodon kroonkurk* Dirkse & Brugués **(23*)**									1		non	acr
Funariaceae	*Funaria*	*Funaria chevalieri* P.de la Varde									1		end	acr
Funariaceae	*Funaria*	*Funaria hygrometrica* Hedw.	1			1							non	acr
Grimmiaceae	*Grimmia*	*Grimmia incurva* Schwägr. **(24*)**	1										non	acr
Grimmiaceae	*Grimmia*	*Grimmia laevigata* (Brid.) Brid.	1								1		non	acr
Grimmiaceae	*Grimmia*	*Grimmia lisae* De Not.	1			1							non	acr
Grimmiaceae	*Grimmia*	*Grimmia trichophylla* Grev.	1			1							non	acr
Hedwigiaceae	*Braunia*	*Braunia alopecura* (Brid.) Limpr.	1			1							non	acr
Hedwigiaceae	*Hedwigia*	*Hedwigia ciliata* (Hedw.) P.Beauv.	1			1							non	acr
Hedwigiaceae	*Hedwigidium*	*Hedwigidium integrifolium* (P. Beauv.) C.E.O. Jensen **(25*)**											non	acr
Hypnaceae	*Hypnum*	*Hypnum cupressiforme* Hedw. var. *cupressiforme*	1										non	ple
Hypnaceae	*Platygyriella*	*Platygyriella densa* (Hook.) W.R.Buck								1	1		non	ple
Leskeaceae	*Lindbergia*	*Lindbergia patentifolia* Dixon **(26*)**	1										non	ple
Leskeaceae	*Pseudoleskeopsis*	*Pseudoleskeopsis pseudoattenuata* (Müll.Hal.) Thér.	1										non	ple
Leskeaceae	*Pseudoleskeopsis*	*Pseudoleskeopsis bollei* (Broth. & Geh.) P.Rao	1	1		1							end	ple
Leucobryaceae	*Campylopus*	*Campylopus pilifer* Brid.	1	1		1				1	1		non	acr
Leucobryaceae	*Campylopus*	*Campylopus pyriformis* (Schultz) Brid.											non	acr
Leucodontaceae	*Leucodon*	*Leucodon sciuroides* (Hedw.) Schwägr.	1			1							non	ple
Leucodontaceae	*Nogopterium*	*Nogopterium gracile* (Hedw.) Crosby & W.R.Buck	1			1							non	ple
Meesiaceae	*Leptobryum*	*Leptobryum pyriforme* (Hedw.) Wilson									1	1	non	acr
Mniaceae	*Epipterygium*	*Epipterygium tozeri* (Grev.) Lindb.	1										non	acr
Neckeraceae	*Leptodon*	*Leptodon longisetus* Mont. **(27*)**	1			1				1			non	ple
Neckeraceae	*Exsertotheca*	*Exsertotheca intermedia* (Brid.) S.Olsson, Enroth & D.Quandt				1							non	ple
Orthotrichaceae	*Groutiella*	*Groutiella tomentosa* (Hornsch.) Wijk & Marg.		1		1				1			non	acr
Orthotrichaceae	*Lewinskya*	*Lewinskya acuminata* (H.Philib.) F.Lara, Garilleti & Goffinet **(28*)**	1										non	acr
Orthotrichaceae	*Orthotrichum*	*Orthotrichum diaphanum* Brid. **(29*)**	1			1				1			non	acr

Family	Genus	Taxon	Santo Antão	São Vicente	Santa Luzia	São Nicolau	Sal	Boavista	Maio	Santiago	Fogo	Brava	Endemism	Growth Form
Orthotrichaceae	*Orthotrichum*	*Orthotrichum pumilum* Sw. ex anon.	1										non	acr
Orthotrichaceae	*Zygodon*	*Zygodon conoideus* (Dicks.) Hook. & Taylor	1										non	acr
Pottiaceae	*Aloina*	*Aloina ambigua* (Bruch & Schimp.) Limpr. **(30*)**	1							1	1		non	acr
Pottiaceae	*Aloina*	*Aloina rigida* (Hedw.) Limpr.	1										non	acr
Pottiaceae	*Anoectangium*	*Anoectangium aestivum* (Hedw.) Mitt.	1			1				1	1		non	acr
Pottiaceae	*Barbula*	*Barbula unguiculata* Hedw.	1										non	acr
Pottiaceae	*Bryoceuthospora*	*Bryoceuthospora aethiopica* (Welw. & Duby) R.H.Zander **(31*)**								1			non	acr
Pottiaceae	*Bryoerythrophyllum*	*Bryoerythrophyllum campylocarpum* (Müll.Hal.) H.A.Crum **(32*)**				1							non	acr
Pottiaceae	*Bryoerythrophyllum*	*Bryoerythrophyllum ferruginascens* (Stirt.) Giacom.	1										non	acr
Pottiaceae	*Bryoerythrophyllum*	*Bryoerythrophyllum inaequalifolium* (Taylor) R.H.Zander **(33*)**	1			1				1	1		non	acr
Pottiaceae	*Chenia*	*Chenia leptophylla* (Müll.Hal.) R.H.Zander **(34*)**	1	1		1							non	acr
Pottiaceae	*Chionoloma*	*Chionoloma tenuirostre* (Hook. & Taylor) M.Alonso, M.J.Cano & J.A.Jiménez var. *tenuirostre*	1										non	acr
Pottiaceae	*Crossidium*	*Crossidium crassinervium* (De Not.) Jur.	1			1					1		non	acr
Pottiaceae	*Crossidium*	*Crossidium geheebii* (Broth.) Broth. **(35*)**	1								1		non	acr
Pottiaceae	*Crossidium*	*Crossidium squamiferum* (Viv.) Jur.											non	acr
Pottiaceae	*Didymodon*	*Didymodon australasiae* (Hook. & Grev.) R.H.Zander	1								1		non	acr
Pottiaceae	*Didymodon*	*Didymodon caboverdeanus* J.A.Jiménez & M.J.Cano **(36*)**	1							1	1		end	acr
Pottiaceae	*Didymodon*	*Didymodon fallax* (Hedw.) R.H.Zander	1			1							non	acr
Pottiaceae	*Didymodon*	*Didymodon hastatus* (Mitt.) R.H. Zander **(37*)**	1			1					1		non	acr
Pottiaceae	*Didymodon*	*Didymodon insulanus* (De Not.) M.O.Hill	1			1							non	acr
Pottiaceae	*Didymodon*	*Didymodon revolutus* (Cardot) R.S.Williams **(38*)**	1								1		non	acr
Pottiaceae	*Didymodon*	*Didymodon rigidulus* Hedw.	1			1					1		non	acr
Pottiaceae	*Didymodon*	*Didymodon tophaceus* (Brid.) Lisa subsp. *tophaceus*	1			1					1		non	acr
Pottiaceae	*Didymodon*	*Didymodon tophaceus* subsp. *sicculus* (M.J.Cano, Ros, García Zam. & J.Guerra) Jan Kučera **(39*)**	1								1		non	acr
Pottiaceae	*Didymodon*	*Didymodon vinealis* (Brid.) R.H.Zander **(40*)**	1								1		non	acr
Pottiaceae	*Eucladium*	*Eucladium verticillatum* (With.) Bruch & Schimp.	1			1							non	acr
Pottiaceae	*Gymnostomiella*	*Gymnostomiella erosula* (Müll.Hal. ex Dusén) Arts	1							1			non	acr
Pottiaceae	*Gymnostomiella*	*Gymnostomiella vernicosa* (Hook. ex Harv.) M.Fleisch.	1							1			non	acr
Pottiaceae	*Gymnostomum*	*Gymnostomum aeruginosum* Sm.	1			1							non	acr
Pottiaceae	*Gymnostomum*	*Gymnostomum calcareum* Nees & Hornsch.	1								1		non	acr

Family	Genus	Taxon	Santo Antão	São Vicente	Santa Luzia	São Nicolau	Sal	Boavista	Maio	Santiago	Fogo	Brava	Endemism	Growth Form
Pottiaceae	*Hydrogonium*	*Hydrogonium arcuatum* (Griff.) Wijk & Margad. **(41*)**				1							non	acr
Pottiaceae	*Hydrogonium*	*Hydrogonium bolleanum* (Müll.Hal.) A.Jaeger	1			1				1	1	1	non	acr
Pottiaceae	*Hydrogonium*	*Hydrogonium consanguineum* (Thwaites & Mitt.) Hilp.										1	non	acr
Pottiaceae	*Hydrogonium*	*Hydrogonium orientale* (F.Weber) Jan Kučera **(42*)**	1	1		1				1	1	1	non	acr
Pottiaceae	*Hymenostylium*	*Hymenostylium congoanum* Dixon & Naveau	1	1						1			non	acr
Pottiaceae	*Hyophila*	*Hyophila involuta* (Hook.) A.Jaeger **(43*)**	1			1				1	1		non	acr
Pottiaceae	*Microbryum*	*Microbryum davallianum* (Sm.) R.H.Zander **(44*)**									1		non	acr
Pottiaceae	*Microbryum*	*Microbryum starckeanum* (Hedw.) R.H.Zanderm **(45*)**	1								1		non	acr
Pottiaceae	*Streblotrichum*	*Streblotrichum convolutum* (Hedw.) P.Beauv. var. *convolutum*	1	1		1		1			1	1	non	acr
Pottiaceae	*Syntrichia*	*Syntrichia amphidiacea* (Müll.Hal.) R.H.Zander **(46*)**	1			1				1			non	acr
Pottiaceae	*Syntrichia*	*Syntrichia fragilis* (Taylor) Ochyra **(47*)**	1								1		non	acr
Pottiaceae	*Syntrichia*	*Syntrichia laevipila* Brid.	1								1		non	acr
Pottiaceae	*Timmiella*	*Timmiella barbuloides* (Brid.) Mönk.	1			1				1	1		non	acr
Pottiaceae	*Timmiella*	*Timmiella cameruniae* Broth. **(48*)**	1										non	acr
Pottiaceae	*Tortella*	*Tortella nitida* (Lindb.) Broth. **(49*)**	1	1		1					1		non	acr
Pottiaceae	*Tortella*	*Tortella squarrosa* (Brid.) Limpr.	1			1				1			non	acr
Pottiaceae	*Tortula*	*Tortula atrovirens* (Sm.) Lindb. **(50*)**	1							1	1		non	acr
Pottiaceae	*Tortula*	*Tortula bogosica* (Müll.Hal.) R.H.Zander **(51*)**	1			1				1	1		non	acr
Pottiaceae	*Tortula*	*Tortula bolanderi* (Lesq. & James) M.Howe **(52*)**									1		non	acr
Pottiaceae	*Tortula*	*Tortula canescens* Mont. **(53*)**	1			1							non	acr
Pottiaceae	*Tortula*	*Tortula cuneifolia* (Dicks.) Turner	1										non	acr
Pottiaceae	*Tortula*	*Tortula muralis* Hedw. **(54*)**	1								1		non	acr
Pottiaceae	*Tortula*	*Tortula revolvens* (Schimp.) G.Roth **(55*)**									1		non	acr
Pottiaceae	*Tortula*	*Tortula solmsii* (Schimp.) Limpr. **(56*)**	1			1				1	1		non	acr
Pottiaceae	*Tortula*	*Tortula vahliana* (Schultz) Mont. **(57*)**	1										non	acr
Pottiaceae	*Trichostomum*	*Trichostomum brachydontium* Bruch	1	1		1				1	1	1	non	acr
Pottiaceae	*Trichostomum*	*Trichostomum crispulum* Bruch	1	1		1				1	1	1	non	acr
Pottiaceae	*Weissia*	*Weissia brachycarpa* (Nees & Hornsch.) Jur.		1									non	acr
Pottiaceae	*Weissia*	*Weissia condensa* (Voit) Lindb.	1			1							non	acr
Pottiaceae	*Weissia*	*Weissia controversa* Hedw. var. *controversa* **(58*)**	1	1		1				1	1		non	acr
Ptychomitriaceae	*Ptychomitrium*	*Ptychomitrium nigrescens* (Kunze) Wijk & Margad.	1	1		1					1		non	acr
Stereophyllaceae	*Entodontopsis*	*Entodontopsis leucostega* (Brid.) W.R.Buck & Ireland		1									non	ple

Family	Genus	Taxon	Santo Antão	São Vicente	Santa Luzia	São Nicolau	Sal	Boavista	Maio	Santiago	Fogo	Brava	Endemism	Growth Form
Thuidiaceae	*Herpetineuron*	*Herpetineuron toccoae* (Sull. & Lesq.) Cardot									1		non	ple
	Excluded taxa													
Exormothecaceae	*Exormotheca*	*Exormotheca pustulosa* Mitt. **(59*)**												
Ptychomitriaceae	*Ptychomitrium*	*Ptychomitrium subcrispatum* Thér. & P.de la Varde **(60*)**												
Pottiaceae	*Barbula javanica*	*Barbula javanica* Dozy & Molk. **(61*)**												
	Doubtful taxa													
Ditrichaceae	*Ditrichum*	*Ditrichum* sp. **(62*)**												
Ditrichaceae	*Pleuridium*	*Pleuridium pappeanum* (Müll.Hal.) A.Jaeger **(63*)**												

Annotations: **(1*)** *Syzygiella manca* was reported in Cape Verde in Hodgetts et al. [22]. **(2*)** *Aneura pinguis* was reported in Cape Verde for the first time by González-Mancebo et al. [12]. **(3*)** *Exormotheca martins-loussaoae* is a new endemic species from Cape Verde [10]. **(4*)** Garcia et al. [9] reported *Frullania spongiosa* for the island of Santo Antão. **(5*)** *Cheilolejeunea rigidula* was reported in Cape Verde for the first time by Garcia et al. [9]. **(6*)** *Cheilolejeunea xanthocarpa* was reported in Cape Verde in Hodgetts et al. [22]. **(7*)** *Pleurozia gigantea* was reported in Cape Verde in Hodgetts et al. [22]. **(8*)** *Porella canariensis* was reported in Cape Verde for the first time by Garcia et al. [9]. **(9*)** *Riccia atromarginata* was reported in Cape Verde for the first time by Ellis et al. [13]. **(10*)**, **(11*)** *Riccia atropurpurea* and *Riccia congoana* were reported in Cape Verde for the first time by Sérgio and Melo [19]. **(12*)** *Riccia crinita* was reported in Cape Verde for the first time by Ellis et al. [13]. **(13*)** According to Wigginton [23], it is uncertain whether some early records represent *Riccia crystallina* or *Riccia cavernosa*. **(14*)** *Riccia macrocarpa* was reported in Cape Verde for the first time by Ellis et al. [13]. **(15*)** Dirkse et al. [18] reported *Riccia nigrella* on the island of Santo Antão. **(16*)** *Riccia trabutiana* was reported in Cape Verde for the first time by Garcia et al. [9]. **(17*)** *Bartramia aprica* was referred to Cape verde by Garcia et al. [9] as *Batramia stricta* Brid., one of the species found associated with *Lindbergia patentifolia* populations in Santo Antão island. However, we confirmed that this specimen exhibits the characteristics of *Bartramia stricta* auct. eur., non Brid., which is now synonymous with *B. aprica* Müll.Hal. [22]. **(18*)** *Homalothecium aureum* was reported in Cape Verde for the first time by Dirkse et al. [18]. **(19*)** *Bryum dichotomum* was reported in Cape Verde for the island of Santiago by Dirkse et al. [18], and by Garcia et al. [9] on Santo Antão island. The reference to this species on the island of Fogo in Garcia et al. [9] is an error. **(20*)** *Cryphaea heteromalla* was reported in Cape Verde for the island of São Nicolau by Ellis et al. [14], and by Garcia et al. [9] on Santo Antão island. **(21*)** Specimens cited as *Fissidens danckelmannii* and as *Fissidens sciophyllus* appeared to be the same new, undescribed species in Cape Verde. Therefore, both species might be excluded from the flora of Cape Verde (Bruggeman-Nannenga, pers. comm.). **(22*)** *Fissidens flaccidus* was reported in Cape Verde for the island of São Nicolau by Sérgio and Stow [17], associated with *Gymnostomiella vernicosa* var. *monodii*. **(23*)** *Entosthodon kroonkurk* was reported in Cape Verde for the first time by Ellis et al. [14]. **(24*)** *Grimmia incurva* was reported in Cape Verde for the first time by Garcia et al. [9]. **(25*)** *Hedwigidium integrifolium* was reported in Cape Verde by Patino and González-Mancebo [12]. The same authors considered *Hedwigia integrifolia* and *Hedwigidium imberbe* as synonyms of *Hedwigidium integrifolium*. Luna [24] confirms that *H. integrifolium* = *H. integrifolia* but *Hedwigidium imberbe* is a distinct species not reported in Cape Verde by this author. **(26*)** *Lindbergia patentifolia* was reported in Cape Verde for the first time by Garcia et al. [9]. **(27*)** *Leptodon longisetus* was reported in Cape Verde for the island of Santo Antão by Garcia et al. [9]. **(28*)** *Lewinskya acuminata* was reported in Cape Verde for the first time by Garcia et al. [9]. **(29*)** *Orthotrichum diaphanum* was reported in Cape Verde for the island of Santo Antão by Garcia et al. [9]. **(30*)**, **(31*)** *Aloina ambigua* and *Bryoceuthospora aethiopica* were reported in Cape Verde for the first time by Cano [15]. **(32*)** *Hyophila machadoana* is now synonymous with *Bryoerythrophyllum campylocarpum* [38]. **(33*)** *Bryoerythrophyllum inaequalifolium* was reported in Cape Verde for the islands of Santiago and Fogo by Cano [15]. **(34*)** *Chenia leptophylla* was reported in Cape Verde for the island of São Vicente by Cano [15]. **(35*)** *Crossidium geheebii* was reported in Cape Verde for the first time by Cano [15]. **(36*)** *Didymodon caboverdeanus* is an endemic species described in Cape Verde by Jiménez and Cano [16]. **(37*)** Garcia et al. [9] reported *Didymodon hastatus* on the island of Santo Antão. **(38*)**, **(39*)** *Didymodon revolutus* and *Didymodon tophaceus* subsp. *sicculus* were reported in Cape Verde for the first time by Cano [15]. **(40*)** *Didymodon vinealis* was reported on the island of Fogo by Cano [15]. It has been previously reported in Cape Verde from Santo Antão by Frahm et al. [11]. **(41*)** *Hydrogonium arcuatum* is reported for the first time on Cape Verde in this study. This species was collected on the island of São Nicolau (Queimadas, 230 m a.s.l) by C.A. Garcia and M. Sim-Sim in 2017. This species grows in an artificial lake within a water line. This is also the first reference of *H. arcuatum* to Africa. **(42*)** *Hydrogonium orientale* was reported on the islands of São Vicente and Santiago by Cano [15]. However, Dirkse et al. [18] later reported *H. orientale* as new on Santiago. **(43*)** *Hyophila involuta* was reported on the islands of Santiago and Fogo by Cano [15]. **(44*)** *Microbryum davallianum* was reported in Cape Verde for the first time by Ellis et al. [21]. **(45*)** *Microbryum starckeanum* was reported in Cape Verde for the first time by Cano [15]. **(46*)** *Syntrichia amphidiacea* was reported on the island of Santiago by Cano [15]. **(47*)** *Syntrichia fragilis* was reported on the island of Fogo by Cano [15]. **(48*)** *Timmiella cameruniae* was reported in Cape Verde for the first time by Garcia et al. [9]. **(49*)** *Tortella nitida* was reported on the island of São Vicente by Cano [15]. **(50*)**, **(51*)** *Tortula atrovirens* was reported on the island of Santiago and *Tortula bogosica* was reported on the islands of Santiago and Fogo by Cano [15]. **(52*)** *Tortula bolanderi* was reported to Cape Verde for the first time by Cano [15]. **(53*)** *Tortula canescens* was reported on the island of Santo Antão by Cano [15]. **(54*)** *Tortula muralis* was reported in Cape Verde for the first time by Cano [15]. **(55*)** *Tortula revolvens* was reported in Cape Verde for the first time by Ellis et al. [14]. **(56*)** According to Cano [15] *Tortula marginata* (Bruch & Schimp.) Spruce subsp. *limbata* (Lindb.) Podp. is now synonymous with *Tortula solmsii* (Schimp.) Limpr. In addition, *T. solmsii* was reported on the island

of Santiago by Cano [15]. **(57*)** *Tortula vahliana* was reported in Cape Verde for the first time by Cano [15]. **(58*)** *Weissia controversa* was reported on the island of Fogo by Cano [15]. **(59*)** According to Martins et al. [10], *Exormotheca martins-loussaoae* is the sole species of the genus found on Cape Verde. **(60*)** *Ptychomitrium subcrispatum* was excluded from the bryoflora of Cape Verde by Sim-Sim et al. [20]. **(61*)** According to O'Shea [6] *Barbula javanica* does not occur in Africa and was excluded from Cape Verde. **(62*)** Frahm [11] refers to "*Pleuridium* spec. SA: Ribeira da Torre, on moist soil on a NE-exposed trail bank in pine forest, 1450 m (160)", indicating that *P. pappeanum* and *P. acuminatum* differ in spore size. However, according to this author, the capsules of the specimen from Santo Antão were not ripe when collected in February, so the likelihood of it being *P. pappeanum* is higher. **(63*)** Frahm [11] refers to "*Ditrichum* spec. SA: Ribeira da Torre, upper part, on loam over rocks, NE-exposed, 1360 m (204 with *Brachymenium acuminatum*, 205)". According to the author, the plants were sterile, and, thus, the species cannot be identified. Species of this genus have not yet been reported in the Cape Verde Islands, but its occurrence in Cape Verde is possible.

List of Synonyms

Acrolejeunea emergens (Mitt.) Steph. var. *emergens* = ***Acrolejeunea emergens* (Mitt.) Steph.**
Amblystegium riparium (Hedw.) Bruch, Schimp. & W.Gümbel = ***Leptodictyum riparium* (Hedw.) Warnst**
Anacolia laevisphaera (Taylor) Flowers = ***Bartramia laevisphaera* (Taylor) Müll.Hal.**
Anoectangium euchloron (Schwägr.) Mitt. = ***Anoectangium aestivum* (Hedw.) Mitt.**
Anomobryum julaceum (P.Gaertn., B.Mey. & Scherb.) Schimp. var. *julaceum* = ***Anomobryum julaceum* (Schrad. ex P.Gaertn., E.Mey & Scherb.) Schimp.**
Anomobryum juliforme Solms. = ***Anomobryum julaceum* (Schrad. ex P.Gaertn., E.Mey & Scherb.) Schimp.**
Barbula acuta (Brid.) Brid. = ***Didymodon rigidulus* Hedw.**
Barbula arcuata Griff. = ***Hydrogonium arcuatum* (Griff.) Wijk & Margad.**
Barbula bolleana (Müll.Hal.) Broth. = ***Hydrogonium bolleanum* (Müll.Hal.) A.Jaeger**
Barbula consanguinea (Thwaites & Mitt.) A.Jaeger = ***Hydrogonium consanguineum* (Thwaites & Mitt.) Hilp.**
Barbula convoluta Hedw. = ***Streblotrichum convolutum* (Hedw.) P.Beauv. var. *convolutum***
Barbula convoluta Hedw. var. *convoluta* = ***Streblotrichum convolutum* (Hedw.) P.Beauv. var. *convolutum***
Barbula cylindrica (Taylor) Schimp. = ***Streblotrichum convolutum* (Hedw.) P.Beauv. var. *convolutum***
Barbula fallax Hedw. = ***Didymodon fallax* (Hedw.) R.H.Zander**
Barbula indica (Hook.) Spreng. = ***Hydrogonium orientale* (F.Weber) Jan Kučera**
Barbula indica (Hook.) Spreng. var. *indica* = ***Hydrogonium orientale* (F.Weber) Jan Kučera**
Barbula lambarenensis P. de la Varde = ***Hydrogonium orientale* (F.Weber) Jan Kučera**
Barbula sulcata Geh. = ***Streblotrichum convolutum* (Hedw.) P.Beauv. var. *convolutum***
Bartramia stricta auct. eur., non Brid. = ***Bartramia aprica* Müll. Hal. Brid.**
Brachymenium borgenianum Hampe = ***Brachymenium acuminatum* Harv.**
Brachymenium notarisii (Mitt.) A.J.Shaw = ***Anomobryum notarisii* (Mitt.) D.Bell. & Holyoak**
Brachymenium philonotula Broth. = ***Bryum kikuyuense* (Broth. & Thér.) N.Pedersen**
Bryosedgwickia densa (Hook.) Bizot & P. de la Varde = ***Platygyriella densa* (Hook.) W.R.Buck**
Bryum apiculatum Schwägr. = ***Anomobryum apiculatum* (Schwägr.) D.Bell & Holyoak**
Bryum argenteum Hedw. var. *argenteum* = ***Bryum argenteum* Hedw.**
Bryum canariense Brid. var. *canariense* = ***Bryum canariense* Brid.**
Bryum capillare Hedw. = ***Ptychostomum capillare* (Hedw.) Holyoak & N.Pedersen**
Bryum capillare Hedw. var. *capillare* = ***Ptychostomum capillare* (Hedw.) Holyoak & N.Pedersen**
Bryum cellulare Hook. = ***Ptychostomum cellulare* (Hook.) D.Bell & Holyoak**
Campylopus pilifer Brid. subsp. *Pilifer* = ***Campylopus pilifer* Brid.**
Campylopus pyriformis (Schultz) Brid. var. *pyriformis* = ***Campylopus pyriformis* (Schultz) Brid.**
Cololejeunea minutissima (Sm.) Schiffn. = ***Myriocoleopsis minutissima* (Sm.) R.L.Zhu, Y.Yu & Pócs**
Crossidium chloronotus (Brid.) Limpr. = ***Crossidium squamiferum* (Viv.) Jur.**
Cryphaea bollei Broth. & Geh. = ***Pseudoleskeopsis bollei* (Broth. & Geh.) P.Rao**
Cryptoleptodon longisetus (Mont.) Enroth = ***Leptodon longisetus* Mont.**
Cyathodium africanum Mitt. = ***Cyathodium cavernarum* Kunze**
Desmatodon bogosicus Müll.Hal. = ***Tortula bogosica* (Müll.Hal.) R.H.Zander**
Desmatodon convolutus (Brid.) Grout = ***Tortula atrovirens* (Sm.) Lindb.**
Didymodon australasiae (Hook. & Grev.) R.H. Zander var. *australasiae* = ***Didymodon australasiae* (Hook. & Grev.) R.H.Zander**
Didymodon fallax (Hedw.) R.H.Zander var. *fallax* = ***Didymodon fallax* (Hedw.) R.H.Zander**
Didymodon maschalogena (Renauld & Cardot) Broth. = ***Didymodon hastatus* (Mitt.) R.H.Zander**
Didymodon rigidulus Hedw. var. *gracilis* (Schleich. ex Hook. & Grev.) R.H.Zander = ***Didymodon rigidulus* Hedw.**
Didymodon rigidulus Hedw. var. *rigidulus* = ***Didymodon rigidulus* Hedw.**
Didymodon sicculus M.J.Cano, Ros, García-Zam. & J.Guerra = ***Didymodon tophaceus* (Brid.) Lisa subsp. *sicculus* (M.J.Cano, Ros, García Zam. & J.Guerra) Jan Kučera**
Didymodon vinealis (Brid.) R.H.Zander var. *vinealis* = ***Didymodon vinealis* (Brid.) R.H.Zander**
Didymodon vinealis (Brid.) Zander var. *flaccidus* (B.S.G.) Zander = ***Streblotrichum convolutum* (Hedw.) P.Beauv. var. *convolutum***
Eurhynchium meridionale Bruch, Schimp. & W.Gümbel = ***Plasteurhynchium meridionale* (Schimp.) M.Fleisch.**
Eurhynchium praelongum (Hedw.) Schimp. = ***Kindbergia praelonga* (Hedw.) Ochyra**
Eurhynchium speciosum (Brid.) Jur. = ***Oxyrrhynchium speciosum* (Brid.) Warnst.**
Fissidens alatus P. de la Varde = ***Fissidens megalotis* subsp. *helictocaulos* (Müll.Hal.) Brugg.-Nann.**
Fissidens bocarangensis P. de la Varde = ***Fissidens flaccidus* Mitt.**
Fissidens helictocaulos Müll.Hal. = ***Fissidens megalotis* subsp. *helictocaulos* (Müll.Hal.) Brugg.-Nann.**
Fissidens minutulus Sull. = ***Fissidens crispus* Mont.**
Fissidens sciophyllus Mitt. fo. *Sciophyllus* = ***Fissidens sciophyllus* Mitt.**
Frullania bystroemii S.W.Arnell = ***Frullania spongiosa* Steph.**
Frullania nervosa Mont. = ***Frullania tamarisci* (L.) Dumort.**
Funaria calvescens Schwägr. = ***Funaria hygrometrica* Hedw.**
Funaria hygrometrica Hedw. var. *calvescens* (Schwägr.) Kindb. = ***Funaria hygrometrica* Hedw.**
Funaria hygrometrica Hedw. var. *hygrometrica* = ***Funaria hygrometrica* Hedw.**
Grimaldia dichotoma Raddi = ***Mannia androgyna* (L.) A.Evans**

Grimmia leucophaea Grev. = ***Grimmia laevigata* (Brid.) Brid.**
Grimmia trichophylla De Not. subsp. *lisae* (De Not.) Boulay = ***Grimmia lisae* De Not.**
Grimmia trichophylla Grev. var. *trichophylla* = ***Grimmia trichophylla* Grev.**
Groutiella laxotorquata (Besch.) Wijk & Margad. = ***Groutiella tomentosa* (Hornsch.) Wijk & Marg.**
Groutiella sarcotricha (Müll.Hal. ex Broth.) Wijk & Margad. = ***Groutiella tomentosa* (Hornsch.) Wijk & Marg.**
Gymnostomiella vernicosa (Hook. ex Harv.) M.Fleisch. var. *monodii* (P. de la Varde) Sérgio = ***Gymnostomiella vernicosa* (Hook. ex Harv.) M.Fleisch.**
Gymnostomiella vernicosa (Hook. ex Harv.) M.Fleisch. var. *vernicosa* = ***Gymnostomiella vernicosa* (Hook. ex Harv.) M.Fleisch.**
Gymnostomum rupestre Schleich. ex Schwägr. = ***Gymnostomum aeruginosum* Sm.**
Haplodontium notarisii (Mitt.) Broth. = ***Anomobryum notarisii* (Mitt.) D.Bell. & Holyoak**
Hedwigia albicans Lindb. = ***Hedwigia ciliata* (Hedw.) P.Beauv.**
Hedwigia ciliata (Hedw.) Ehrh. ex P.Beauv. var. *ciliata* = ***Hedwigia ciliata* (Hedw.) P.Beauv.**
Hedwigia integrifolia P.Beauv. = ***Hedwigidium integrifolium* (P. Beauv.) C.E.O. Jensen**
Homalothecium nilgheriense (Mont.) H.Rob. = ***Palamocladium leskeoides* (Hook.) E.Britton**
Hymenostomum tortile (Schwägr.) Bruch, Schimp. & W.Gümbel = ***Weissia condensa* (Voit) Lindb.**
Hyophila crenulata Müll. Hal. ex Dusén var. *brevifolia* Bizot = ***Hyophila involuta* (Hook.) A.Jaeger**
Hyophila crenulata Müll.Hal. ex Paris = ***Hyophila involuta* (Hook.) A.Jaeger**
Hyophila excurrentinervis Paris & Broth. = ***Trichostomum brachydontium* Bruch**
Hyophila machadoana Sérgio = ***Bryoerythrophyllum campylocarpum* (Müll.Hal.) H.A.Crum**
Kindbergia praelonga (Bruch, Schimp. & W.Gümbel) Ochyra var. *praelonga* = ***Kindbergia praelonga* (Hedw.) Ochyra**
Lejeunea caespitosa Lindenb. = ***Lejeunea capensis* Gottsche**
Lejeunea ulicina (Taylor) Gottsche, Lindenb. & Nees = ***Microlejeunea ulicina* (Taylor) Steph.**
Leptophascum leptophyllum (Müll.Hal.) J.Guerra & M.J.Cano = ***Chenia leptophylla* (Müll.Hal.) R.H.Zander**
Leucodon sciuroides (Hedw.) Schwägr. var. *morensis* (Schwägr.) De Not. = ***Leucodon sciuroides* (Hedw.) Schwägr.**
Lophocolea cuspidata (Nees) Limpr. = ***Lophocolea bidentata* (L.) Dumort.**
Meesia bolleana Müll.Hal. = ***Hydrogonium bolleanum* (Müll.Hal.) A.Jaeger**
Neckera cladorrhizans Hedw. = ***Entodon schleicheri* (Schimp.) Demet.**
Neckera intermedia Brid. = ***Exsertotheca intermedia* (Brid.) S.Olsson, Enroth & D.Quandt**
Neckera pseudoseductrix Müll.Hal = ***Entodon pseudoseductrix* (Müll.Hal.) A.Jaeger**
Orthotrichum diaphanum Schrad. ex Brid. var. *diaphanum* = ***Orthotrichum diaphanum* Brid.**
Orthotrichum schimperi Hammar = ***Orthotrichum pumilum* Sw. ex anon.**
Oxyrrhynchium praelongum (Hedw.) Warnst. = ***Kindbergia praelonga* (Hedw.) Ochyra**
Oxystegus cylindricus (Brid.) Hilp. = ***Chionoloma tenuirostre* (Hook. & Taylor) M.Alonso, M.J.Cano & J.A.Jiménez var. *tenuirostre***
Oxystegus tenuirostris (Hook. & Taylor) A.J.E.Smith = ***Chionoloma tenuirostre* (Hook. & Taylor) M.Alonso, M.J.Cano & J.A.Jiménez var. *tenuirostre***
Palamocladium nilgheriense (Mont.) Müll.Hal. = ***Palamocladium leskeoides* (Hook.) E.Britton**
Philonotis hastata (Duby) Wijk & Margad. var. *gemmiclada* P.de la Varde, nom. nud. = ***Philonotis hastata* (Duby) Wijk & Margad.**
Philonotis marchica (Hedw.) Brid. var. *marchica* = ***Philonotis marchica* (Hedw.) Brid.**
Philonotis obtusata Müll.Hal. ex Renauld & Cardot = ***Philonotis hastata* (Duby) Wijk & Margad.**
Pinnatella revoluta Bizot = ***Leptodon longisetus* Mont.**
Plagiochasma aitonia Lindenb. et Nees = ***Plagiochasma rupestre* (J.R.Forst. et G.Forst.) Steph. var. *rupestre***
Platyhypnidium riparioides (Hedw.) M.Fleisch. = ***Rhynchostegium riparioides* (Hedw.) Cardot**
Platyhypnidium rusciforme (Hedw.) Dixon = ***Rhynchostegium riparioides* (Hedw.) Cardot**
Pleurochaete squarrosa (Brid.) Lindb. = ***Tortella squarrosa* (Brid.) Limpr.**
Pleurochaete squarrosa (Brid.) Lindb. var. *squarrosa* = ***Tortella squarrosa* (Brid.) Limpr.**
Pseudoleskea pseudoattenuata (Müll.Hal.) Broth. = ***Pseudoleskeopsis pseudoattenuata* (Müll.Hal.) Thér.**
Pterogonium gracile (Hedw.) Sm. = ***Nogopterium gracile* (Hedw.) Crosby & W.R.Buck**
Ptychomitrium subcrispatum Thér. & P. de la Varde var. *obscurum* Bizot = ***Ptychomitrium nigrescens* (Kunze) Wijk & Margad.**
Rhynchostegium megapolitanum Bruch, Schimp. & W.Gümbel var. *megapolitanum* = ***Rhynchostegium megapolitanum* (Blandow ex F.Weber & D.Mohr) Schimp.**
Rhynchostegium megapolitanum Bruch, Schimp. & W.Gümbel var. *meridionale* Schimp. = ***Rhynchostegium megapolitanum* (Blandow ex F.Weber & D.Mohr) Schimp.**
Riccia minima L. = ***Riccia nigrella* DC.**
Riccia sorocarpa Bisch. var. *heegii* Schiffn. = ***Riccia sorocarpa* Bisch. subsp. *sorocarpa***
Scleropodium touretii (Brid.) L.Koch var. *touretii* = ***Scleropodium touretii* (Brid.) L.F.Koch**
Semibarbula lambarenensis (P.de la Varde) Hilp. = ***Hydrogonium orientale* (F.Weber) Jan Kučera**
Semibarbula orientalis (F.Weber) Wijk & Margad. = ***Hydrogonium orientale* (F.Weber) Jan Kučera**
Splachnobryum erosulum Müll.Hal. ex Dusén = ***Gymnostomiella erosula* (Müll.Hal. ex Dusén) Arts**
Stereophyllum auriculatum A.Gepp = ***Entodontopsis leucostega* (Brid.) W.R.Buck & Ireland**
Syntrichia laevipila Brid. var. *laevipila* = ***Syntrichia laevipila* Brid.**
Timmiella barbula Limpr. = ***Timmiella barbuloides* (Brid.) Mönk.**
Tortula amphidiacea (Müll.Hal.) Broth. = ***Syntrichia amphidiacea* (Müll.Hal.) R.H.Zander**
Tortula erubescens (Müll.Hal.) Broth., *hom.illeg.* = ***Syntrichia fragilis* (Taylor) Ochyra**
Tortula fragilis Taylor = ***Syntrichia fragilis* (Taylor) Ochyra**
Tortula hildebrandtii (Müll.Hal.) Broth. = ***Syntrichia fragilis* (Taylor) Ochyra**
Tortula laevipila (Brid.) Schwägr. var. *laevipila* = ***Syntrichia laevipila* Brid.**
Tortula marginata (Bruch & Schimp.) Spruce subsp. *limbata* (Lindb.) Podp. = ***Tortula solmsii* (Schimp.) Limpr.**
Tortula solmsii var. *minor* G.Roth = ***Tortula solmsii* (Schimp.) Limpr.**
Tortula squarrosa (Brid.) De Not. = ***Tortella squarrosa* (Brid.) Limpr.**
Tortula subcaroliniana Bizot = ***Syntrichia amphidiacea* (Müll.Hal.) R.H.Zander**
Trichostomum barbula Schwägr. = ***Timmiella barbuloides* (Brid.) Mönk.**
Trichostomum bolleanum (Müll.Hal.) Müll.Hal. = ***Hydrogonium bolleanum* (Müll.Hal.) A.Jaeger**
Trichostomum brachydontium Bruch var. *brachydontium* = ***Trichostomum brachydontium* Bruch**
Trichostomum crispulum Bruch var. *angustifolium* Bruch & Schimp. = ***Trichostomum crispulum* Bruch**
Trichostomum crispulum Bruch var. *crispulum* = ***Trichostomum crispulum* Bruch**
Trichostum tenuirostris (Hook. & Taylor) Lindb. = ***Chionoloma tenuirostre* (Hook. & Taylor) M.Alonso, M.J.Cano & J.A.Jiménez var. *tenuirostre***

Trichostum tenuirostris (Hook. & Taylor) Lindb. var. *tenuirostre* = ***Chionoloma tenuirostre* (Hook. & Taylor) M.Alonso, M.J.Cano & J.A.Jiménez var. *tenuirostre***
Weissia brachycarpa (Nees & Hornsch.) M.O.Hill var. *brachycarpa* = ***Weissia brachycarpa* (Nees & Hornsch.) Jur.**
Weissia microstoma (Hedw.) C. Müll. = ***Weissia brachycarpa* (Nees & Hornsch.) Jur.**
Weissia tortilis (Schwaegr.) C. Mull., *hom. Illeg* = ***Weissia condensa* (Voit) Lindb.**
Weissia vardei Bizot = ***Trichostomum crispulum* Bruch**
Zygodon bolleanus Müll.Hal. = ***Anoectangium aestivum* (Hedw.) Mitt.**

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