

A close-up photograph of a dragonfly perched on a thin, dark branch. The dragonfly's body is dark with yellowish-brown markings. Its four transparent wings are spread out, showing intricate vein patterns. Below the dragonfly, a small, light-colored snail shell is visible on the branch. The background is a soft, out-of-focus mix of green and yellow, suggesting a natural outdoor setting.

**IDF**

**International Dragonfly  
Fund - Report**

**Journal of the International Dragonfly Fund**

1-145

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The scientific names of Ris' odonate taxa

*published: 09.03.2021*

**155**

ISSN 1435-3393

The International Dragonfly Fund (IDF) is a scientific society founded in 1996 for the improvement of odonatological knowledge and the protection of species.

Internet: <http://www.dragonflyfund.org/>

This series intends to publish studies promoted by IDF and to facilitate cost-efficient and rapid dissemination of odonatological data.

Verlag Natur in Buch und Kunst, Dieter Prestel  
Beierr 11a, 53809 Ruppichteroth, Germany  
Email: [nibuk@nibuk.de](mailto:nibuk@nibuk.de)

**ISBN: 978-3-931921-33-0**

Editorial Work: Martin Schorr, Milen Marinov, Rory A. Dow  
Layout: Martin Schorr  
IDF-home page: Holger Hunger  
Printing: Colour Connection GmbH, Frankfurt  
Impressum: Publisher: International Dragonfly Fund e.V., Schulstr. 7B,  
54314 Zerf, Germany. E-mail: [oestlap@online.de](mailto:oestlap@online.de)  
Responsible editor: Martin Schorr

Cover picture: ***Selysiotthemis nigra*** juvenile male. 02.vii.2012 Techniti Limni Faneromenis,  
Kreta  
Photographer: Jürgen Ruddek

The first odonate taxon Ris ever described was *Selysiotthemis* named in honor of his odonatological mentor. It was based on specimens of a species at the Zoologisches Museum Hamburg, the validity of which had been doubted by many scientists. These had been collected in Central Asia.

## **The scientific names of Ris' odonate taxa**

Heinrich Fliedner

Louis Seegelken Str. 106, 28717 Bremen, Germany

Email: H.Fliedner@t-online

**To Ian Endersby in celebration of his 80th birthday.**

### **Abstract**

An explanation is presented for each of the more than 300 scientific names given to odonate taxa by the Swiss odonatologist Friedrich Ris (1867-1931), likewise for the names by other authors, into which taxa named (or mistaken) by Ris are now classified. But prior to that part, information is given about the life and work of this scientist. Finally his preferences in odonatological nomenclature are analysed and his importance for the taxonomy of Odonata is appraised.

### **Zusammenfassung**

In dieser Arbeit werden alle der über 300 wissenschaftlichen Namen erklärt, unter denen der Schweizer Odonatologe Friedrich Ris (1867-1931) Libellentaxa neu beschrieben hat, ebenso die der Genera anderer Autoren, in die von Ris benannte (oder fehlgedeutete) Taxa heute eingeordnet sind. Vorher aber werden Leben und Werk dieses Wissenschaftlers skizziert. Im Anschluss an die Namensklärungen werden seine Präferenzen bei der Namengebung herausgestellt und seine Bedeutung für die Taxonomie der Odonaten gewürdigt.

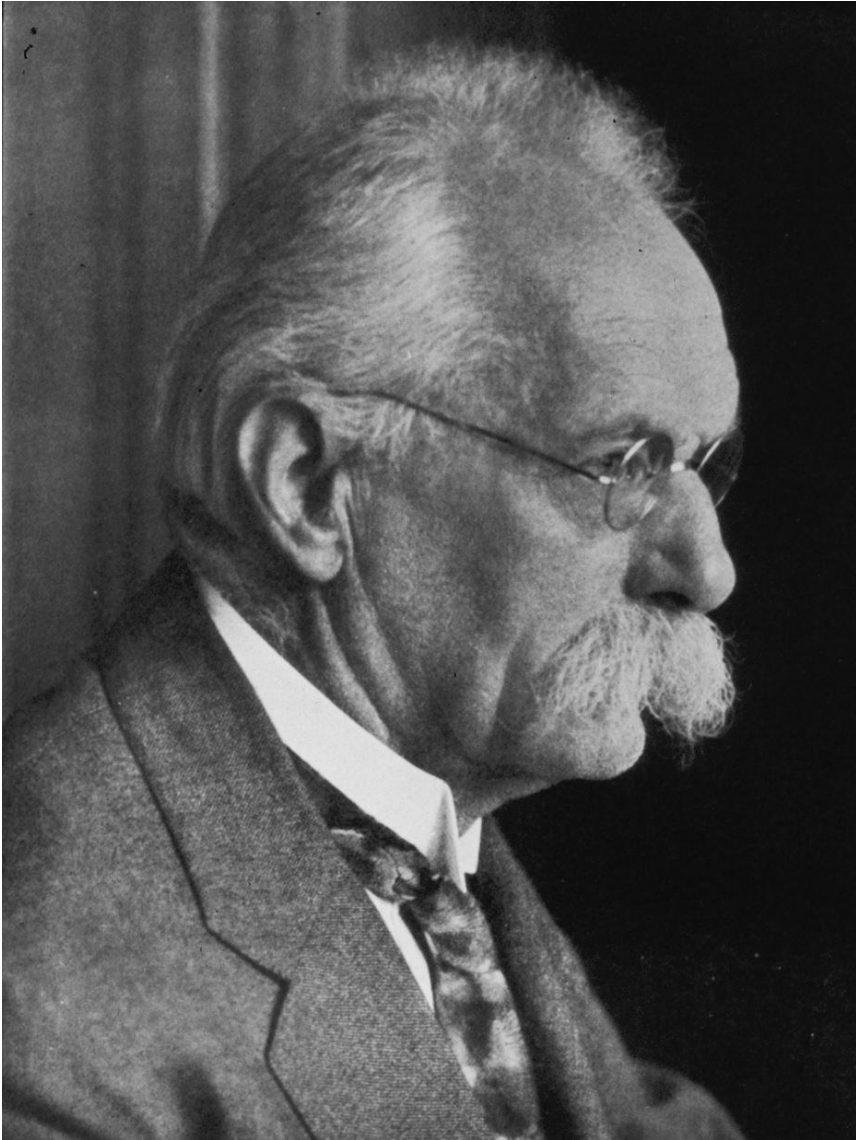
**Keywords:** Odonata, Friedrich Ris, Switzerland, nomenclature, taxonomy

### **Preface**

Scientific names are indispensable in taxonomy for labeling organisms unmistakably. For this purpose even an arbitrary combination of letters is admissible, provided that it is euphonious. But authors normally want to give additional information by their names, which may among others concern morphology, colour, pattern, size, similarities, behaviour, places, biotopes, or, when dedicated to persons, may refer to the history of entomology. And certainly it is worth-while to understand what an author had in mind when naming a taxon. Nowadays the etymology of a scientific name normally is explained when it is published. But that was not customary in former times, and certainly does not apply to Friedrich Ris (1867-1931), who was one of the most significant odonatologists of his age and wrote "the largest taxonomic text ever published on Odonata" (Corbet 1991: 28). He is author of more than 300 scientific names for dragonflies. These shall be dealt with in this treatise.

### **Material and methods**

Ris' scientific names for Odonata have been extracted from Bridges (1994) and have been checked by means of Paulson & Schorr (2020) to ensure that taxonomic changes since then have been followed up. The first descriptions of the taxa have been accessed



**Fig. 1: Portrait of Friedrich Ris; with permission of the Stadtarchiv Schaffhausen.**

(mostly in BHL), the Greek and Latin words which are at the base of the names have been listed, the probable meaning of the names has been explained resorting to the first description, if possible, if not conjectures have been made as how they might apply.

The names have been listed in alphabetical order to facilitate how to find the respective explanations in their chapters. Ris' genus names have been treated first, then the species names, after that his species group names which are now considered to be synonyms, then the names of species misidentified by Ris, subsequently the actual genera, into which Ris species now are sorted, as they are an essential part of the scientific names. Finally there will be some considerations about Ris' preferences in nomenclature and his role in odonatology. But first some biographical information will be given.

### **Life and work**

For biographical information one has to resort to the obituaries (Anonymous 1931; Calvert 1931a; Kummer 1931; Morton 1931; Rifkin 1932; Schneider-Orelli 1931; Uehlinger 1931) and to Balmer (2010). Additional information is found in the handwritten entomological diaries, transcribed by Heinrich Schiess. Even more information one might find in the odonatological correspondence kept in the Senckenberg Museum in Frankfurt (Main), which presently is scanned for publication by M. Seehausen. But as the focus of this paper is on the scientific names this potential source had to be omitted here.

Friedrich Ris (short form 'Fritz') was born in 1867 as the second child of four to a merchant also called Friedrich from a family of good standing, and his wife in the rural canton of Glarus. Already as a boy he was interested in nature and was lucky that a female taxidermist showed him how to spread insects and prepare them, and lent him her books on zoology. So when the family moved to Zürich in 1881 and Ris attended the Gymnasium, because of his interest he attracted the attention of his teacher of natural history Gustav Schoch (1833-1899), who at that time also was director of the entomological museum of the Polytechnikum (now Eidgenössische Technische Hochschule ≈ Swiss Federal Institute of Technology). Schoch invited him to the 'Zoologisches Kränzchen' [not 'Entomologisches Kränzchen' as Calvert 1931a: 183 erroneously writes; that circle existed in Königsberg at Hagen's time there, cf. Ris 1899: 215], a small society of enthusiasts founded in the 1850s. He directed Ris' interest, which had been focused on Lepidoptera and Coleoptera before, to Neuroptera in the former sense. Due to the suggestion by Schoch, Ris prepared his first publication which appeared in late 1885 and was to be an entomological milestone: the first ever nationwide compendium of Odonata for Switzerland. At the same time Ris, having graduated from the gymnasium successfully, enrolled for the study of medicine at the University of Zürich, which he completed in the shortest possible time with best marks in 1890, achieving also a doctorate by a surgical publication. With the objective to see something of the world before settling down, in the same year he signed on as a ship's surgeon with the 'Norddeutscher Lloyd' at Bremen. His voyages led him to North and South America and to East Asia as far as Shanghai, and he used his free time onshore for entomological collecting trips, which in his usual manner he documented with thorough notes (cf. *calamorum* p. 30). Back home in 1892 he worked as an assistant at the surgical department of the University Hospital Zürich, but when asked by a university friend to come to Hamburg to study the cholera epidemic there he was granted time off for that. He also used this time to get in touch with the natural history museums at Hamburg and Berlin and to study their entomological collections.

We will now have a look at Ris' further medical career before we describe his entomological life's work.

In 1895 he decided that the surgical practice did not meet his requirements any longer. So he moved to psychiatry taking up employment as assistant physician at the largest asylum of the canton Zürich in Rheinau and for some time also working at the psychiatric clinic of the University of Zürich to become better acquainted with the requirements of this field of medicine. In 1897 he followed a call to become director of an asylum at Mendrisio, canton Ticino, that was still under construction. There were no residents yet and the supervision of the construction works did not require his presence permanently. So with permission he went to Padua to do anatomical studies concerning the brain and nervous system at the laboratory of the famous pathologist Camillo Golgi (1843-1925). But in 1898 the director of the Rheinau asylum Eugen Bleuler (1857-1939) accepted the psychiatric chair at the University of Zürich and Ris was elected as his successor. There he remained until his death in January 1931.



**Fig. 2: Patients of Rheinau at harvest, photo by F.Ris; (© Stadtarchiv Schaffhausen).**

In his psychiatric attitude and work Ris was ahead of the times. In his clientele he did not see dangerous madmen, from whom the public had to be safeguarded by locking them up, but individuals who were unable to cope with the requirements of society and needed patronage, stimulation of their interests and sparing from excessive demands. So he arranged for them accommodation in families outside his institution and possibilities of working in the agriculture of adjacent domains. Furthermore, he organised events like corporate festivities, for instance harvest festivals, Christmas pageants, dances, sometimes arranging for a carousel on the clinic's premises, but also slide presentations on natural history or lectures on literature. One special example was that he arranged for a young

uneducated weaver from Grisons, who suffered from hallucinations, to learn Latin and Greek and provided him with appropriate reading. That means Ris tried to get his ward to feel well. For the appreciation which Ris met among experts we have the testimony of the famous psychiatrist Carl Gustav Jung, who in a letter to Sigmund Freud in 1912 discusses the rumour that Eugen Bleuler might change from Zürich to a German university. In this case, he says, no successor would bring an improvement unless Ris would be appointed (McGuire & Sauerländer 1974: 555).

At Rheinau Ris continued his investigations on cerebral anatomy and psychiatry, which led to several publications.

It should be mentioned that also the surgical abilities of Ris were needed at Rheinau in his first years. As hospitals were far from the place, in cases of emergency at the asylum or in the village he successfully performed operations like the repair of an inguinal hernia, appendectomy, amputations.

Among the achievements of Ris during his time at Rheinau were the addition of new buildings and the refurbishment of the old ones, which tasks had to be planned and the funds for them obtained from the cantonal authorities by good reasoning for the expenditure. Thus, the institute was enlarged from 650 to 1150 beds and modernised by the necessary rooms and facilities.

His death on January 30th 1931 was unexpected. The evening before he had been preparing a slide presentation for the inhabitants of his institution until late. When he did not come for breakfast next morning, he was found in his bed sleeping forever.

A former assistant eulogised the deceased at the grave with the following words (in translation): "He led us on the path of duty and exemplified by his own life that we be interested in all that exists, not only intellectually, but compassionately" (Müller-Schürch 1932).

After we have followed Ris' professional career, attention shall be directed to those of his entomological activities that focused on Switzerland. From his list of publications (Uehlinger 1931: 102-113) it is to be seen that he concentrated his efforts in different periods on single orders.

Having completed his publication on the Odonata of Switzerland, which was printed twice, the second time in 1886 in an annexe to the journal 'Mittheilungen der Schweizerischen entomologischen Gesellschaft' with a different pagination (cf. Fliedner-Kalies & Fliedner 2011: 27), he turned to a second field within the Neuroptera in the old sense, the Trichoptera, generating also for this order a compendium for the Swiss fauna in 1889. For this task he had contacted the best specialist for this group, R. McLachlan (1837-1904), who not only had provided advice but also specimens of several species (Ris 1889: 104) and later placed material for the description of a new species at his disposal (Ris 1897b: 435-440). The aforementioned survey was based on Ris' own observations around Zürich, near St. Gallen and from the Alps, but also on material of other collectors concerning other regions from several museums adding up to more than 220 species. It has to be mentioned that at the same time he completed his medical studies and prepared his doctoral thesis. In the following year, before he started his voyages as a ship's surgeon, he updated both former publications with observations of known species from new localities and species which were new to the Swiss fauna. From that we learn, that he

Terrinische Phryganiden. 18. 96.

- Limnophilus rhombicus (12. Luzzago, meist R. Ris f. V. 18. 96.)  
 (larviparous [Torbione di Cuggio am Lago di Varese häufig, aber eben  
 zu spät 13. 12. 96, wahrscheinlich auch auf Schwärzschwaben])
- Trissogramma styriacum (All. Jona - Bedretto, 6. 12. 96, n. 2. 18. 96, m. 2.)  
Stenophylax latipennis (M. häufig am Luzzago, aber auch an allen andern beständigen  
 Wäldern um Jussurico, ebenso bei Bellinzona, (P. 18. 96))
- Halimor rubicollis (Tal Turicane 15. 10. 96, Predalp, 17. 10. (16. 10. 96), Bedrettothal von St. Orso  
 bei All. Jona häufig 6. 12.)  
halivivus (häufig im Bedrettothal unmittelbar unterhalb & oberhalb all. Jona  
 6. 12., noch früher typ. Jura am Klamm, in den Tälchen)
- Metanoea flavipes (sehr häufig im Bedretto von All. Jona bis Orso, besonders  
 am Hauptthal)
- Stenomacrus bicolor (Predalp 12. 10. - 4. 11. Bedretto v. Orso bis all. Jona 6. 12. häufig)  
dryocelus (Tal Cullino ca. 2200 m. 16. 12. 3. 18. 96)
- Cryptotrix nebulicola (massenhaft von Jura bis all. Jona besonders im Haupt-  
 thal, aber auch in den Tälchen nicht fehlend 6. 12., häufig  
 auch 17. 10. in Predalp)
- Potamogeton bipunctatus (häufig 17. 10. Predalp, ebenso 6. 12. all. Jona tiefer spärlich.)  
curvicauda pedunculata (verschiedentlich an Wäldern & Quellen um Jussurico nicht  
 grade häufig, den Zürichern gleich, 18. 96)
- Pilo pallipes (häufig in Bellinzona heute fehlend in den Tälchen 13. 10. 96)  
nitidicornis (häufig am Luzzago sowie am Luganese; erste Generation im  
 Juli, zweite [sic] im Zürich wie gesehen im Sept., etwas spärlicher)
- Emmocete strigata (Bellinzona - Solothurnerthalen 13. 12. 18. 96, spärlich)  
epidrotoma hirticornis (nicht selten am Luganese b. R. Ris f. V. 18. 96)  
Dontocrum albicornis (eine der häufigsten Phryganiden der Region von Jussurico,  
 am Luzzago und allen andern Wäldern in Jura & Luganese (P. 18. 96) ebenso  
 am Luganese [P. 18. 96] häufig auch in Predalp 17. 10. & Bedretto  
 bei All. Jona 6. 12.)
- Lepidocneme cinerea (am Luganese in grosser Schwärme wie bei Zürich, Sept.)  
hypocneme apurata (ebenso)  
torvicornis (ebenso, vereinzelt, Sept.)
- Decidia fuscata [Torbione di Cuggio, häufig, aber abgeflurgt 13. 10. 96]  
testacea (vereinzelt am Luganese b. R. Ris f. V. 18. 96)
- Pictodes argentipunctella (ebenso, ebenso)
- Hypopygma insubricum (Bellinzona - Solothurnerthalen, spärlich 13. 10. 96)  
Phryganamma latipennis (häufig überall, Luzzago & alle Wälder um Jussurico,  
 Tal Luzzago, Bellinzona - Solothurnerthalen, Predalp, Bedretto bis All. Jona)  
aurifrons (Meride, 18. 96, nicht selten; Bellinzona - Solothurnerthalen, v. 18. 96)  
progenitor (am Luzzago, vereinzelt  
 Juli)

Fig. 3: List of Trichoptera in the canton Ticino 1896. Ris' notes in his personal copy of Ris (1885)





**Fig. 4: Ris' bicycle with net, photo by himself; (© Stadtarchiv Schaffhausen).**

was in contact with the French entomologist René Martin and had obtained specimens of *Crocothemis erythraea* from him, and which species he had observed in 1889 near Zürich (Ris 1890: 197). Another four publications on Trichoptera follow until 1899, an additional one nearly two decades later in 1918 on a single species. These publications include the first descriptions of one genus and ten species one of which later turned out to be a younger synonym.

The conditions in the third order of the 'Neuroptera' in the former sense, the Plecoptera, differed a little, as his teacher Gustav Schoch in 1886 already had published a compendium of the Swiss taxa. So beginning in 1896 Ris published on single genera or on findings from one or the other region of Switzerland in close cooperation with the Scottish specialist K.J. Morton (cf. p. 11; 61), while in 1904(b) and 1913(f) he also dealt with problems of morphology. Complementary observations from a single region of the canton Zürich on Trichoptera and Plecoptera finally followed in 1923(a).

Ris' study of stoneflies should not be underestimated. It resulted in the descriptions of two genera and eleven species, that represents 8.5 % of the Swiss fauna. One of these species he dedicated to Morton; two species were dedicated to himself, one of these by Morton (see Ravizza et al. 2020).

The sightings on which he based his publications he made on entomological excursions in his free time, a habit from childhood up to his final years. For the first years after his earliest publication we can see that from supplementary notes in his interleaved private copy of Ris (1885), which is preserved in the entomological department of the Eidgenössische Technische Hochschule. The last of these are on phryganeids from the cantons St Gallen in 1887 and Ticino in September 1896. Later information is to be seen from his entomological diary comprising the years from 1917 onward. As to be seen from this, he often used a bicycle to reach places of interest, at times even in combination with a trip by train to enlarge his range (e.g. 2-vi-1927, diary p. 368). But Ris used also other bicycle rides for his investigations as to be seen from his diary (10-vi-1919, p.56): That day a conference of psychiatrists was held at Wil, about 45 kilometres from Rheinau. Ris went there by bike and remarked in his diary that this trip had been not interesting entomologically due to the hours of arrival at (7 a.m.) and departure from the meeting (5 p.m.). So the rumour probably is true, that —if possible— he preferred to go by bicycle on professional occasions as for instance when called to court as an official expert, to have an opportunity to look for butterflies or dragonflies on his way as well.

That Ris was not interested in publishing on Trichoptera and Plecoptera from other than the Swiss fauna is well to be seen from the following incident (cf. Weidner 1964: 158): The German collector Georg Böttcher (1890-1920) had been sent to the Philippines, then a colony of the US, shortly before World War I; so he had to stay there until 1919. To finance his homeward journey he had to pawn his collections. Soon after his return he died. The redemption of the deposit was a little complicated, because it had to be in US \$, which were not available for German money because it was nearly worthless due to hyperinflation. So help from outside Germany was needed, in which Ris seems to have been involved. Finally Ris purchased the 'Neuroptera' adding the Odonata to his collection, but with the Trichoptera he endowed Georg Ulmer (1877-1963) at Hamburg, a specialist, who had described this order from the Selys collection in 1907-08; the Plecoptera were

given to a Belgian specialist, the Neuroptera in modern sense to P. Esben-Petersen (1869-1942), by whose mediation Ris had been able to study Odonata brought together by two Danish collectors in South America (see p. 66). By this we can see Ris' generosity, but also his endeavour to make collected exotic material available for scientific research as well.

There is another order of insects found in Ris' publications: the Lepidoptera, which he had been collecting from his boyhood. As this order was fairly well investigated at his time, Ris in 1895 and 1896 just gave a report on the lepidopterological experiments and a review of the manual of butterflies of his friend and mentor Max Standfuss (1854-1917), who from 1885 to 1898 had been conservator, later director of the Entomological Collection and professor of zoology at the Polytechnikum Zürich. From 1918 Ris published accounts on rare species, the first one from his boyhood at Glarus, or on own observations of seasonal forms substantiated with experiments, which publication was printed after his death. That he had resumed looking for butterflies, is attributed to his desire to see something different from writing desk and microscope, where odonatological demands from around the world increasingly tended to constrain him (Kummer 1931).

We will now return to Ris' publications on Odonata in Switzerland or Europe: Among his papers we find treatises concerning observations of single species [*Aeshna caerulea* (1915f), *Sympetrum striolatum* and *S. meridionale* (1922), *Aeshna cyanea* (1923b), *Aeshna subarctica* (1927a)] and on larvae [corduliids (1911f); lestids (1920)], but also on oviposition in *Cordulegaster* (1905) or on copulation marks (1910c). Moreover he published the fascicle on Odonata in a series of guides on the freshwater fauna of Germany (1909b), in which descriptions of the larvae were included, which he himself had worked out for this publication (see Ris 1911f: 36). General issues were the alimentary organ of dragonflies and their larvae (1896), varieties of coloration (1906; 1929b), the respiratory system in anisopteran larvae (1913g) and the ontogenesis of wing venation (1915g).

More important than these are Ris' contributions to the taxonomy of Odonata, especially his catalogue of the libellulids of Selys' collection. This work is called 'Libellulinen' according to the taxonomical state at that time, which conceived the family of Libellulidae comprising the subfamilies Libellulinae and Corduliinae. These are now treated as families in their own right, not to mention the related Macromiidae and Synthemistidae.

In his diaries Selys mentioned Ris for the first time in December 1885, when the first publication of the juvenile Swiss had been delivered. This seems to have been the origin of their contact. In November 1891 they first met in person, when Ris after his ship voyages came from Berlin to Liège to study the Selys' collection there on two days and was invited to Longchamps on the second day of the visit, before he travelled home the next day. Apparently Ris sought to amplify his knowledge of exotic Odonata after successfully collecting on his episodes of shore leave. Ris (1909a: 11-12) tells that during this visit he had asked the master, whether a synopsis of the libellulines might be expected from him; Selys however had answered that he because of his age would not compile one; Ris rather might tackle that task himself. Which suggestion he (Ris) later had seen as a kind of legacy.

In his testamentary will Selys had assigned his sons to ensure that a catalogue of his collections would be prepared. As McLachlan had declined to engage in this task due to health problems, Ris accepted the scientific direction of it and took the responsibility for describ-

ing the libellulids in modern sense, the most difficult group to be treated, the only one that never had been worked up by the master himself (Wasscher & Dumont 2013: 393). That was the origin of the 'Libellulinen' (Ris 1909-1919). Essential studies on this group had been performed before by Brauer (1868b+c, cf. Fliedner 2020), Kirby (1889), Karsch (esp. 1889 and 1890), regional ones by Förster for Africa (1906b) and Calvert for Central America (1901-1908). Kirby's 'Synonymic Catalogue' (1890) had supplied a sound basis for a first survey of the species in question and their synonymy. But Ris developed a distinct systematic approach to this group and he did not confine himself to the specimens in Selys' collection, but asked for material from many museums and private collections to encompass as much of the world's libellulid fauna as possible. It is admirable that, being occupied by a demanding full time profession, he managed to write his work in seven years [1902-1909; printed 1909-1913, but fascicles 15 and 16a (parts 7 and 8) not delivered until the end of World War I] along with other publications, the supplementary half fascicle [16b = part 9] delivered in March 1919. It seems to be worth-while to learn how Ris himself ranked his magnum opus: "Wenn ich nun diese grosse Arbeit aus der Hand gebe bin ich mir wohl bewusst – besser als zu Beginn – dass sie nicht ein Ende und einen Abschluss bedeutet, sondern vielmehr einen Anfang, eine Grundlage auf der weitergebaut werden kann, leichter und sicherer als früher, ehe das umfangreiche Material aus seiner Zerstreung gesammelt und gesichtet war [Now handing over this large publication, I am well aware – even more than in the beginning – that it does not represent an end, nor a conclusion, but in fact a beginning, a basis, on which further work may be founded, more easily and reliably than previously before the extensive material had been collected from its widespread locations and been reviewed]" (1919: 1044).

It should be added that the accomplishment of this grand opus for some time had been at stake, for in spring 1907 Ris had lost the eyesight of his left eye due to a violent attack by one of his patients, and he had considered giving up this demanding task: "Formerly I had sometimes thought of giving up entomology, at least temporarily, as being in contrast [conflict] with my duties; but now I feel I owe too much to that science to give way at any time to such a thought". But fortunately Ris' conscientiousness had won and the insight "that the best way to forget and not to haunt after regrets for the past and better days was to give way to a certain working fever that from time to time came over me" (letter from Ris in February 1909, cited Calvert 1931a: 186).

Aside from this great work there are nearly 50 publications on extra-European species, most of them analyses of the collected specimens from various expeditions or collectors with which Ris had been entrusted, partly with an addition of further material. Not all of these are listed in Bridges (1994), because new taxa are not described in each of them. Fourteen of Ris' publications refer to the Indo-Pacific region (Indonesia, New Guinea and islands of that region like Maluku islands or the Bismarck Archipelago), twelve to Africa, ten to South America, six to East Asia. This summary only can give a rough impression of Ris' work, as in their importance the publications differ, whereas they all show the diligence of the author. But some of them study only minor regions, others give a survey of the complete known odonate fauna of major areas, like Ris (1915c) of the New Guinea region or (Ris 1921) of Southern Africa.

In his last years Ris turned to the systematics of single genera. Of these studies he only finished an evaluation of the genus *Perithemis* (Ris 1930b); another one on African

*Pseudagrions* was completed after his death by Erich Schmidt (Ris & Schmidt 1936). Also other fairly extensive pieces of taxonomic research were still in his hands when he passed away: *Orthemis*, Neotropical *Trameas* with new material and beyond that a survey of Chinese and Philippine odonatological collections (see Calvert 1931a: 188).

It is to be seen that although Ris' publications encompass a great part of the world, that does not mean that he did not know the dragonfly fauna of the other regions; at that time by Hagen, Calvert, Williamson and others, North America in this respect had been explored fairly well and in Australia Tillyard contributed extensively to the knowledge of the odonate fauna (ca. 25 %), of which in 1900 approximately one third already was known. Thus new descriptions of taxa from there rather were to be expected from specialists of these regions.

Ris' ambition to be familiar with the whole world's odonate fauna is seen from his last letter to P.P. Calvert in 1930: "there should be at least one representative of the older generation, who tries to be able to give (with due allowance for time and otherwise limited possibilities) an answer to any single question that might be put to him on dragonflies of any part of the world – thus continuing (perhaps as a kind of 'glacial relic') the traditions of Selys and McLachlan" (Calvert 1931a: 190).

Planned for the time of his retirement that he never reached Ris had two projects: The first is referred to in an obituary from Ann Arbor: "Dr. Ris had been invited to visit Ann Arbor as a guest of the University and he was planning to come here in 1932 to work with E. B. Williamson on a large and difficult South American genus of dragonflies of which Dr. Ris and the Museum each had large collections of unidentified material" (Anonymous 1931). The genus referred to must have been *Argia*, the systematics of which was elucidated much later.

About his second project we are informed by a letter to Calvert in 1929: "Regarding catalogs: My idea is not to put Kirby's Cat. up to date, but to make an entirely new thing. It is very questionable if I ever arrive to do that; the possibilities fully depend on the condition in which I may eventually retire from my office; the date would be 1932" (Calvert 1931a: 189). In the same letter he mentions an extensive card index of all taxa known to him and literature on these already assembled by him in preparation.

Both projects however were precluded by his sudden death.

The esteem Ris has won by his odonatological merits is to be seen from the following numbers: To him dedicated were 31 odonate taxa (9 synonyms included) by 20 authors, of these 17 posthumously, the last one in 1997, more than half a century after his death; that are more than to Selys (25 taxa, incl. 5 synonyms, by 14 authors) and to Williamson (23 taxa, incl. 4 synonyms, by 17 authors), who take the next positions [numbers according to Hämäläinen 2016]. By this is also to be seen how widely connected Ris was.

We cannot follow up all his connections to other odonatologists here. Of the older generation these he met in person were E. de Selys and R. Martin, who also gave him access to their collections; with R. McLachlan he had letter contact and also received material for his Trichoptera studies. A not too successful visit to Karsch in Berlin is mentioned in his diary for end of April 1927 (p. 366). With K.J. Morton he was in contact from 1893 on the introduction of McLachlan; later from this contact grew a friendship, which not only led to mutual visits at Rheinau in 1904 (cf. Morton 1905) and Edinburgh in 1906, but also to



a shared collecting trip, which they undertook together in 1911 in Southern France and Spain, and shorter meetings in Switzerland in 1925 and 1928 (Morton 1931: 66). Later odonatological visitors to Rheinau from his own generation were R.J. Tillyard in 1926, E.M. Walker in 1928 and P.P. Calvert in 1929; but Ris exercised hospitality also to the younger generation. Of those who later became famous internationally M.A. Liefstinck (1904-1985) on his way to his post in Buitenzorg (today Bogor, Java), in 1929 paid a visit to Rheinau to study Ris' collection. In 1930 Er. Schmidt (1890-1969) was welcomed, whom in 1918 Ris had chosen as eponym of a species in appreciation of his doctoral thesis (see p. 73) and who completed and edited posthumously Ris' notes on African *Pseudagrions* (Ris & Schmidt 1936). Of those who became noted in the European context the painter and later investigator of the larval development of the European dragonflies P.A. Robert (1901-1977) is to be mentioned, who was welcomed and given advice in 1920 (diary p. 115; Robert et al. 2018), and A. Rosenbohm (1892-1968), a doctor and entomologist, who after his studies at Freiburg in Breisgau had settled at Hamburg. He contributed in several publications to the local odonate fauna of the upper Rhine valley and of Hamburg and the surrounding area. He came to Rheinau for several visits from 1926 to 1930 and was himself visited at Hamburg in 1927 (diary pp. 352, 380, 412, 434, 450; 367). He was involved in the first evidence for *Aeshna subarctica* in Central Europe by capturing a pair in copula on advice by Ris not far from Hamburg in 1926. Also Liefstinck had participated in that discovery by sending a female for determination in 1924, which then had been misidentified (Ris 1927a: 99-100).

One regular agenda item of these visits by odonatologists was the search for *Onychogomphus uncatatus*, which then had an isolated occurrence near Rheinau (Martens et al. 2008).

The ample hospitality Ris granted his visitors was made possible by his ability to delegate important tasks to his assistants (Rifkin 1932: 15) and by the support from his sister Elisabeth "by housekeeping for the family and assistance at the mental hospital of Rheinau, thus disburdening her brother as director of the hospital and supporting him in his entomological studies" (Wildermuth & Weibel 2018: 31).

It was also Elisabeth, who after Ris' death ensured that according to Ris will, which he thoroughly had deliberated, his dragonfly collection with that part of his library referring to the Odonata and his entomological correspondence went to the Senckenberg Museum in Frankfurt (Main), the Trichoptera and the other "Neuroptera" and pertinent literature to the 'Entomologisches Institut der schweizerischen technischen Hochschule' in Zürich, his Swiss butterflies and the entomological diary together with his personal copy of the 'Libellulinen' to the 'Naturforschender Verein in Schaffhausen' and his entomological periodicals to the 'Schweizerische entomologische Gesellschaft' at Bern. By this arrangement Ris had intended his legacy to be of the greatest possible advantage for the entomological community (cf. Wildermuth & Weibel 2018: 34; Schneider-Orelli 1931: 502).

## Ris' Genera

(Underlined vowels or diphthongs in the names bear the accent)

Before the respective genus names are explained it might be worthwhile to have a look at the history of naming odonate genera. Linnaeus (1758: 543) had introduced the name *Libellula* for all Odonata (cf. Fliedner 2012), which might have been sufficient for his 19 species,

but his disciple Fabricius (1775: 424+425) saw the need to add the genus *Agrion* for all damselflies and *Aeshna* for the more slender dragonflies, but defining them according to the form of their labium. Until the middle of the 19th century ca 50 genus names were added by diverse authors, which mostly reflected diagnostic features like in *Ischnura* Charpentier (= thin abdomen). Newman (1833) had already designed names with an identifiable second element, like *Orthetrum* (= straight abdomen) or *Sympetrum* (compressed abdomen), which regrettably were overlooked for almost half a century, but were taken as a model by Hagen in 1861 (see Hagen 1888) when establishing names ending in *-themis* (cf. below s.v. *Argyrothemis* p. 14). Ris formed half of his genus names after this model (obsolete ones included). Selys (1854b) introduced a new type of genus names in odonatology, forming compound names which have as the second element the name of the genus, from which the new ones are separated, e.g. *Austrogomphus* (= southern *Gomphus*) to indicate its occurrence in Australia, *Ophiogomphus* (= snake *Gomphus*) as a reference to the taxon *Aeschna serpentina* Charpentier (= serpent *Aeshna*; now *O. cecilia* Fourcroy), transforming the Latin of the species name to Greek, or adding a preposition like in *Progomphus* (= prior in order *G.* probably meaning 'preceding *Gomphus* phylogenetically', see Fliedner & Endersby 2019: 207). A different type of name came about later referring to another genus substituting the first part of its name by an element similar in meaning, like *Erpetogomphus* (= reptile *Gomphus*) as an indication of the close relationship to *Ophiogomphus*. Later on occasionally merely parts of compound names were used in new genus names like in *Disparocypha* Ris, combined from *Disparoneura* Selys and *Rhinocypa* Rambur (see p. 17).

### **Antiagrion**

1904a: 7

Gr. ἀντι- = instead of, in place of/ like a + *Agrion*

*Agrion* (Gr. ἄγριος –α –ον = living in the fields) was the genus name chosen by Fabricius in 1775 to comprise all damselflies (probably because damselflies, unlike house flies, usually do not live in the domestic area). Later on new zygopteran genera were established, which were excised from that genus, like *Calopteryx* Leach. So in the 19th century *Agrion* was widely accepted as a genus name for all non-Calopterygid damselflies which had not been transferred to different genera. But Kirby (1890: 148) for this taxon created the name *Coenagrion* (= common *Agrion*), as controversies had arisen. Kirby (if not other scientists as well) had the opinion that in Latreille 1802 (p. 287) *Libellula virgo* Linnaeus had been named as the only species of the genus *Agrion* therefore being elected as type of that genus. This rendered *Calopteryx* Leach into being a junior synonym. Therefore the practice of regarding all non-Calopterygid zygopteran species not attributed to a different genus as pertaining to the genus *Agrion* was wrong. This amendment later was accepted by ICZN. So *Agrion* is found only as an element in compound names as in this case.

*Antiagrion* was the first zygopteran genus created by Ris for two Chilean species, which did not fit in any coenagrionid genus already described, neither in *Erythromma*, where Selys had placed them doubtfully nor in *Chromagrion*, nor in *Acanthagrion*, nor in *Teleagrion*, with which it shared some features. „So fand ich für diese Arten {*Agrion gayi* and *A. blanchardi* Selys} keine andere Möglichkeit als die der Errichtung einer eigenen Gattung [So I did not find any possibility for these species but to erect a distinct genus]“



(p.8). So the name might be understood as 'in place of other (inadequate) coenagrionid genera'.

***Archaeophlebia*** 1909a: 17&56

Gr. ἀρχαῖος –α –ον = from the beginning or origin + φλέψ (stem φλεβ–) = artery, vein + feminine form of the adjectival suffix –ιος –ία –ιον = related to, associated with *-phlebia* is an element in odonate genus names introduced by Selys in 1854 (b: 81) as a reference to a special feature of wing venation in the respective genus. *Archaeophlebia* is the first new genus introduced by Ris in his treatise on the 'Libellulinen'. On p. 13 he declares that the taxa are arranged in an ascending order "von den primitiven zu den differenzierten Formen [from the primordial to the differentiated forms]." So he deems the wing venation in this genus to be of a highly archaic type.

***Argyrothemis*** 1909a: 26 & 1911a: 389

Gr. ἄργυρος = silver + θέμις = law as established by custom / the goddess of order *Themis* was never a dragonfly name by its own. It was established as an element in libellulid genus names by Hagen (1861), when he had to name many new North American genera. His model was the names in *-etrum* suggested for new libellulid genera by Newman (1833) (e.g. *Orthetrum* see p. 113). But as adjectival species names if transferred from *Libellula* to a genus in *-etrum* would have to be changed in gender to neuter, Hagen studied to avoid such changes by choosing the feminine element *-themis* as



**Fig. 6: *Argyrothemis argentea* ♂ ; The thorax of the specimen shows well, why the genus name and species name refer to silver (© Dan Bárta, Aleš Dolný, Robert Lízler).**

second part of the new names instead (see Hagen 1888), just meaning 'libellulid dragonfly genus'. Probably he was inspired in his choice by names of divine beings in nomenclature like *Nehalennia* or *Cora*. This habit was followed by many other taxonomists. Later on however the element *-themis* was also employed for corduliid and synthemistid dragonflies, but that does not apply to the names created by Ris.

*Argyrothemis* got its name because of its type species *A. argentea* (L. the silver one, see p. 26).

***Austrothemis*** 1909a: 31 & 1912a: 738

L. *auster* (stem *austro-*) = south wind, hence south + *-themis* (see above: *Argyrothemis*)

The type species of the genus *A. nigrescens* (Martin) is from Victoria and New South Wales in Australia.

***Celebthemis*** 1909a: 33 & 1912a: 829

L. (and other European languages) *Celebes* = outdated name of Sulawesi + *-themis* (see above: *Argyrothemis*).

This name is a reference to the provenance of the type species *C. delectollei* (see p. 37) from Sulawesi.

***Cyanothemis*** 1915a: 217-219

Gr. κύανος = dark-blue enamel; lapis lazuli & *-themis* (see above: *Argyrothemis*)

In the description of the single species of the new genus Ris explains: "the colour system is, perhaps, still more extraordinary {than features of wing venation}: a very common pattern in Libellulinae, sky-blue and black, is obtained, not as in all other known cases by pruinosity, but by pigmentation, like the scarlet red of so many other forms, or the blue and black of Aeschninae and Agrioninae. In fact, *C. simpsoni* might be called a blue rendering of *Rhodothemis rufa*" (p. 221).

***Cyclophaea*** 1930c: 78 & 80

Gr. κύκλος = ring, circle + *-phaea* as a reference to the genus *Euphaea*

Ris states that the genus in both sexes shows "den Habitus einer kleinen und schmalflügeligen *Euphaea* [the habitus of a small and narrow winged *Euphaea*]" (p. 80) except for a peculiarity of the second tergite of the males which is at the base of the name. That feature is described thus: "In der Mitte des 2. Tergits, jederseits nahe dem Ventralrande, je ein nach ventral-hinten geneigter, schmaler, zylindrischer Fortsatz, länger als die Segmentbreite, in der Seitenansicht fast gerade, in der Frontalansicht die Fortsätze beider Seiten zu einer fast kreisförmigen Zange zusammengebogen [In the middle of the 2nd tergite on each side near the ventral edge a narrow cylindrical process directed ventrally rearwards, longer than the breadth of the segment, in lateral view almost straight, in frontal view the processes of both sides inflected circularly like a forceps]" (p. 81). The name *Euphaea* is probably derived from the Greek adjective εὐφάης -ής -έξ = very bright (cf. p. 105).

***Disparocypha*** 1916b: 313

“Die Gattung wiederholt in sehr merkwürdiger Weise Aderverhältnisse der „Légion“ *Protoneura* der *Agrioniden*, erinnert besonders an die Gattung *Disparoneura*. Der Name ist aus Bestandteilen von *Disparoneura* und *Rhinocypha* zusammengesetzt. [This genus replicates in a very remarkable way the relationships of venation in the agrionids „légion“ *Protoneura*, reminding us in particular of the genus *Disparoneura*. The name is combined from elements of *Disparoneura* and *Rhinocypha*]. It might be added that the genus *Disparoneura* (L. *disparo* = to separate + Gr. νεῦρον= in entomology used for wing veins) got its name because of this: “Secteurs de l’arcus naissant séparés [Sectors of the arcus originating separately]” (Selys 1860: 443), and that *Rhinocypha* (Gr. ῥίς (stem ῥιϛ-) = nose + κυφός = bent forwards, hunchbacked) is a reference to the protruding clypeus: “... epistome fortement renflé et saillant” [Clypeus strongly swollen and protruding]” (Rambur, 1842: 232).

***Eleuthemis*** 1910b: 382

Gr. ἐλεύθερος –α –ον = free + –*themis* (see above: *Argyrothemis*)

This is a replacement name for *Eleutho*, either an alternative name of Eileithya, the goddess of obstetrics, or an epithet of the goddess Demeter at Eleusis, which name Ris had planned first for the genus, but had been informed by Muttkowski, that that name was preoccupied in Cerambycidae. So he created this name instead, being a reference, that in this genus “Alle t, ti im Vorderflügel und ht frei [All t(triangles), the ti (intern triangle = subtriangle) in the fore wing and the ht (supertriangular space) are free].” (Etymologically *Eleutho* and *eleutheros* are not related, but Ris seems to have thought so).

***Elga*** 1909a: 27 & 1911a: 398

*Elga* is a Nordic female name, a variant of Helga. Why he chose it, Ris does not say, but he might have been inspired by literature. In 1896 the German dramatist Gerhart Hauptmann published a play “*Elga*”, which had its premiere 1905 in Berlin. This play was based on the novella “Das Kloster bei Sendomir [The monastery near Sendomir]” by the Austrian writer Franz Grillparzer published in 1828.

***Hylaeothemis*** 1909a: 19 & 63

Gr. ὑλαῖος –α –ον = belonging to the wood + –*themis* (see above: *Argyrothemis*)

The genus description itself does not contain any explanation of the name, but the meaning is to be seen from a remark after the description of the new species *H. clementia* (p. 64): “Wahrscheinlich sind aus der Gruppe dieser archaischen, zartgebauten, schwarzgelben Waldformen noch manche heute unbekannte Vertreter aus den Tropen der alten Welt zu erwarten [Probably a number of so far unknown representatives from this group of archaic delicately built black and yellow forest dwelling dragonflies are to be expected from the Old World’s tropics].”

***Indothemis*** 1909a: 29 & 1911c: 529

*Indus* – a –um = of or belonging to India, Indian + –*themis* (see above: *Argyrothemis*)

The genus was based on the species *I. caesia* (Rambur) from Bombay and *I. limbata* (Selys) from Malaysia and Singapore.

***Lanthanusa***

1909a: 32 &amp; 1912a: 746

Gr. λανθάνουσα = escaping notice, being unseen (singular feminine form of the present participle active of λανθάνω)

The name refers to a feature of the single female specimen known to Ris: "Valvula vulvae nur angedeutet durch den sehr schmal verdickten Rand der 8. Bauchplatte mit einer kleinen Kerbe in der Mitte und vor dieser einem ganz kleinen Kiel. [The vulvar scale only to be recognised from the very narrowly thickened margin of the 8th abdominal sternite with a slight median notch and before that a very small ridge.]"

***Notiothemis***

1919: 1053

Gr. νοτιος –α –ον = southern + –themis (see above: *Argyrothemis*)

Ris' specimens of the type species (*N. jonesi*) were from the Usambara mountains, Tanzania and from the Zulu territory in South Africa; so from his European point of view it was a southern genus.

***Oxythemis***

1909a: 22

Gr. ὀξύς –εῖα –ύ = sharp, whether of a point or an edge + –themis (see above: *Argyrothemis*)

In his key Ris states for the males (females unknown then): "Abdomen von Segment 3 an sehr dünn [Abdomen from segment 3 on very thin]."

***Papuagrion***

1913e: 482

*Papua* = name of the indigenous people of New Guinea + –agrion see *Antiagrion* p. 14

This genus was founded on two species from New Guinea.

***Philosina***

1917b: 185

Gr. φιλο– = loving, fond of + L. *Sinae* = China

Ris explained the name of this genus based on the species *P. buchi*, which he had received from Ningbo, Eastern China, thus: "Die Habitusähnlichkeit ist grösser mit Calopterygiden wie *Bayadera*, *Euphaea* und besonders der merkwürdigen, aus Südchina auch nachgewiesenen *Philoganga*, an die der Name anklingen soll, als mit irgendwelchen *Agrioniden* [The resemblance in habitus is more pronounced to calopterygids like *Bayadera*, *Euphaea* and especially to the remarkable *Philoganga* also found in southern China, of which the name is to be a reminder, than to other agrionids]."

***Pseudagrionoptera***

1909a: 32 &amp; 1912a: 748

Gr. ψευδ– = false, pretending to be + *Agrionoptera* (see below p. 97)

"Die äussere Aehnlichkeit der hier eingereichten Art {*P. diotima* see p. 38} mit *Agrionoptera* ist eine beträchtliche. Doch ist es, besonders nach der Bildung der Genitalstrukturen beider Geschlechter, wahrscheinlich richtiger, ihre Verwandtschaft bei Formen wie *Huonia* etc. zu suchen, die archaische Glieder in einer Reihe darstellen dürfen, welche aus unserer Gruppe I zu *Zygonyx* etc. führt [The resemblance to *Agrionoptera* is considerable. But it is, especially after the formation of the genital structures of both sexes, probably more correct, to search for their relationship in forms like *Huonia* etc. to search for the archaic members in a series to represent, which from our group I leads to *Zygonyx* etc.]"

*ptera* of the species placed here is very striking. But probably it is more appropriate to look for relations among taxa like *Huonia* etc. which well might be archaic links in a line leading from our group I to *Zygonyx* etc.].“

***Rhipidolestes*** 1912d: 57-58

Gr. ῥιπίς = fan + *Lestes* (see below p. 108)

The name refers to a feature of wing venation: “Die regelmäßige Disposition der Schaltsektoren und der strahlenförmig divergente Verlauf aller Hauptsektoren gibt der Aderung (Taf. IV, Fig. 4) eine eigenartig regelmäßige Fächerform [The even divergence of the principal sectors like rays and the even disposition of the intermediate sectors between them is why the venation forms the specific regular feature of a fan (translation by D.A.L. Davies in Davies & Fliedner 1999)].“

***Rhodthemis*** 1909a: 29 & 1911c: 591

Gr. ῥοδό- = rosy, roseate + *-themis* (see above: *Argyrothemis*)

By this new taxon Ris split the species *R. rufa* (Rambur) from Java out of the genus *Erythemis* Hagen [= red *Themis*], which was confined to species from the Americas, by substituting the element meaning red by another one of similar meaning.

***Selysiothemis*** 1897a: 47-48

*-themis* = libellulid dragonfly (see above: *Argyrothemis*)

As the reasoning for naming this taxon after the ‘father of Odonatology’ provides some insight into the history of odonatological research, it will be cited here in full. Ris had seen in the Hamburg Museum of Natural history some specimens from Central Asia, which pertained to a species found in Europe only twice, described by Vander Linden in 1825 from Southern Italy and by Selys in 1878 (d: lxiv) under a different name from Catalonia: “Je tenais à rappeler le nom de M. de Selys-Longchamps pour cette Libellule *européenne*, si intéressante et toujours entourée d’un certain mystère. C’est uniquement grâce à lui qu’elle n’est pas retombée dans l’oubli presque aussitôt après avoir été découverté par Vander Linden; si M. de Selys n’avait réussi à sauver ce type précieux, il aurait été bien difficile de défendre l’espèce contre ceux qui voulerent, comme Rambur, n’y voir qu’un synonyme de la *Dipl. scotica*.

L’heureuse découverte de Hambourg nous permettant enfin d’examiner des matériaux suffisants, y compris la ♀, inconnue jusqu’à présent, il me semble utile d’en donner une nouvelle description détaillée [I am glad to refer to the name of Mr. de Selys-Longchamps for this highly interesting European dragonfly still associated with some mystery. Only thanks to him this species was not buried in oblivion immediately after being detected by Vander Linden; if M. de Selys had not succeeded in saving that precious type, it would have been difficult to defend this species against those, who – like Rambur – would see nothing in it but a synonym of *Diplax scotica* (= *Sympetrum danae*).

As the fortunate detection at Hamburg finally provides us with sufficient material, including the ♀ unknown so far, it seems useful to me to give a detailed new description].“



Fig. 7 a-c. *Selysiothemis nigra* a+b. ♂ + ♀ specimen from the series on which Ris based this genus. c. labels from another specimen. The right label reads: “Abgegeben an Dr. Ris: 2♂ 1♀, welcher 1♂ an Coll. de Selys abtrat. Letztere erhielt von hier außerdem 1♂ 1♀ Weitere Stücke sollten nach Ansicht von Ris nicht abgegeben werden. cfr. Ris 8. II. 06 [Given to Dr. Ris: 2♂ 1♀, who ceded 1♂ to Coll. de Selys. The latter received from here as well as that 1♂ 1♀. More specimens from Ris’ point of view should not be given away, cf. Ris 8. ii. 06].” (© Zoologisches Museum Hamburg, T. Dalsgaard).

***Thalassothemis***

1909a: 29 & 1912a: 752

Gr. θάλασσα = sea + *-themis* (see above: *Argyrothemis*)

Ris does not explain his choice of the name, but his only species classified in the new genus {*T. marchali*} is from Mauritius and Réunion, which islands certainly are surrounded by sea.

***Trineuragrion***

1915d: 63

Gr. τρι- = three + νεῦρον= any linear feature in an organism, so sinew, tendon, vein, nerve, fibre in plants; in entomology used for wing veins + *Agrion* (see above s.v. *Antiagrion* p. 14)

The name refers to one of the distinctive features of the genus: "im Costalfeld regelmässig eine dritte Antenodalquerader, von der zweiten etwa gleichweit entfernt wie diese von der ersten, an der zweiten der arculus [in the costal space regularly a third antenodal cross-vein, approximately equally distant from the second one as that one from the first, at the second one there is the arculus]."

It might be of use also to have a look at the five genus names by Ris being now obsolete by taxonomic changes, as they may be found in older publications. But it also should be noted, that three of them have been reclassified after the new millenium:

***Egthemis***

1909a: 70-71

= *Micromacromia* Karsch, 1890

Gr. ἠώς = dawn, daybreak/ goddess of dawn + *-themis* (see above: *Argyrothemis*)

Ris introduced this genus for a single species, which seemed to him most archaic: Von allen mir bekannten Libellulinen zeigt diese die geringste Differenzierung der Vorderflügel und Hinterflügel... so müssen wir wohl in der Aderung dieser Libelle den am meisten archaischen Typus aller uns bekannten Libellulinen sehen [Of all libellulines known to me fore and hind wings show the least differences at all ... so we probably should in this dragonfly's venation recognise the most archaic type of all libellulines known to us].“ It should be added, that Ris also spoke of an "evidenten Verwandtschaft mit *Micromacromia* [evident affinity to *Micromacromia*]“ (For the synonymy see Dijkstra & Vick 2006).

***Lokia***

1919: 1071

= *Aethiothemis* Martin, 1908

Ris states: „Der Gattungsname *Apatelia* (pp. 21, 157) ist praeoccupiert bei den Trichopteren (Wallengren 1886) und daher zu ersetzen. Den Nachweis der Praeoccupation verdanke ich Herrn Richard A. Muttkowski, der auch den neuen Namen vorgeschlagen hat [The name of the genus *Apatelia* is preoccupied within Trichoptera (Wallengren 1886), and therefore is to be replaced. For this information I am indebted to Mr. Richard A. Muttkowski, who also proposed the new name].“ The genus *Apatelia* [Latinised from Gr. = deceitful] had been introduced by Karsch 1893 for the species *A. incongruens* [L. = *incongruous*], which shows a striking resemblance to *Orthetrum chryso stigma* (Burmeister), but agrees with *Orthetrum* in only a single main generic character. So probably the replacement name by Muttkowski is thought as a reference to Loki, the deceitful god in Norse mythology. (About Muttkowski see Fliedner & Endersby

2019: 58; for *Aethiothemis* see below p. 96, for the synonymy Dijkstra & Clausnitzer 2014: 157).

**Oda** 1909a: 18 & 61 = *Risiophlebia* Cowley, 1934b

Oda is a Germanic female name, meaning something like owner or heiress of property. Why Ris chose this name he does not say, but his genus *Elga* (see p. 17) is another Germanic name. Oda was replaced by Cowley because of preoccupation in mollusca, combining the name of the author, who had died not long before, with the element *-phlebia* frequently used in odonate genus names (cf. above s.v. *Archaeophlebia* p. 15). This element he might have chosen, because the species *R. dohrni*, on which Ris had based his new genus, had been transferred from the genus *Nannophlebia* (for which name see below p. 111)

**Oreagrion** 1913e: 480 = *Ischnura* Charpentier, 1840

Gr. ὄρος (stem ὄρε-) = mountain + *Agrion* (see above s.v. *Antiagrion* p. 14)

Ris chose the name, because his specimen of the species *O. lorentzi* had been captured at 3000 metres high in the mountains. The synonymy with *Ischnura* is mentioned in Kalkman & Orr 2013: 26.

**Pod em |is** 1909a: 27 & 1911a: 407 = *Oligoclada* Karsch, 1890

Gr. πούς (stem ποδ-) = foot; leg with the foot + *-themis* (see above: *Argyrothemis*)

Ris' name is a reference to the long, thin legs of the single species *P. nemesis* placed in this genus. When the taxon was transferred to the genus *Oligoclada* Karsch (see p. 112) by Dias dos Santos (1945) the Risian genus became obsolete.

## Ris' species

( ) The genus was changed after the first description

**aculeatus** [*Rhipidolestes* 1912d: 59]

L. *aculeatus* –a –um = with a sting (or stings), thorny

The name refers to a "sehr eigenartige [very peculiar]" feature of the males: "(♂) Auf dem Dorsum von Sgm. 9 an der Basis ein kräftiger, caudalwärts gerichteter Dorn [On segment 9 at the base dorsally a strong thorn, directed caudally]."

**acutum** [(*Oreiallagma*) 1918: 120-121]

L. *acutus* –a –um = sharpened, pointed, cutting

The special shape of the male appendages has led to the name: "Appendices superiores länger als das 10. Sgm., parallel nach hinten gerichtet, gerade, schmal, fast spitz; auf dem proximalen Drittel ein medial-ventraler schmaler, spitzer Fortsatz, proximal-medialwärts gekrümmt. Appendices inferiores sehr klein, der dorsale Fortsatz spitz und gerade nach hinten gerichtet [Superior appendages longer than the 10th segment, parallel, directed distally, straight, narrow, nearly pointed; on the proximal third a medio-ventral narrow pointed process, curved proximally to the middle. Inferior appendages very small, the dorsal process pointed and directed straight backwards]."



***aethra*** [*Aethriamanta* 1912c: 166]

Gr. αἴθρα = the bright sky; in Greek mythology the mother of Helios (the sun), Eos (the dawn) and Selene (the moon).

Ris does not explain his choice of name, except by the remark in his "Libellulinen" (fasc. 9, 1909a: 41): "Für die wenigen neuen Namen habe ich mit einer gewissen Vorliebe das Beispiel des alten Drury befolgt und solche unter den Frauennamen der antiken Welt geholt [For the few new names with some preference I have followed the example of Drury choosing them from among the female names from the ancient world.]" This time it may have been inspired by the genus name, as it seems to have been in the case of *Antiagrion antigone* (see p. 25).

***afra*** [(*Neodythemis*) 1909a: 73]

L. *afer*, *-fra -frum* = African

The species was described on the basis of specimens from Cameroon and Old Calabar in Nigeria.

***agricola*** [(*Trigomphus*) 1916a: 53]

L. *agricola* = farmer, ploughman, countryman

The first description gives no direct explanation, but Ris mentions the similarity to two Selysian species, *Gomphus melampus* (Gr. black-footed) and *G. nigripes* (L. black-footed) and in his description of the new species says: "Beine braunschwarz [legs brownish black]. So the thought of peasants working barefooted on their fields may have induced the name.

***agrioides*** [(*Proplatycnemis*) 1915e: 138]

For *Agrion* see *Antiagrion* p. 14; Gr. -(ο)ειδής = looking like (suffix indicating resemblance)

"Das ♂ mit blau und schwarzem, *Agrion*-ähnlichen Zeichnungsmuster und damit sehr an die ähnlich gefärbten *Disparoneura*- und *Caconeura*- Arten erinnernd [The ♂ is marked with a blue and black, *Agrion*-like pattern reminiscent of the similarly coloured species of *Disparoneura* and *Caconeura*]." It should be noted that this species first was placed in the genus *Platycnemis* so that which is called "*Agrion*" in the text is actually today's *Coenagrion*.

***albifrons*** [*Heteragrion* 1918: 89]

L. *albus -a -um* = white + *frons* = the forehead, brow, front

In the key (pp. 87-88) the white frons is described thus: "Oberlippe, Anteclypeus, Postclypeus, der vordere Teil der Stirn in der Mitte bis an den vordern Ocellus, seitlich bis an die Fühlerbasen weiß mit schwach gelblicher Nuance; darin ein schwarzes Querstreifen unmittelbar an der queren Vorderkante der Stirn; der Rest des Vertex scharf begrenzt schwarz [Labrum, anteclypeus, postclypeus, the anterior part of the frons in the middle up to the forward ocellus, laterally as far as the bases of the antennae white with a slight yellowish shade; a little black transverse stripe directly at the transverse leading edge of the frons; the remaining vertex sharply bounded black]."

**albula** [Teig**u**basis 1915c: 83]

L. *albulus* –a –um = whitish

The name describes a pruinose spot on the thorax: "Ein zusammenhängender Fleck dichter kreideweisser Bereifung umfasst die ventralen zwei Drittel der Mesepisterna mit einem Fortsatz an der Schulternat bis nahe zum dorsalen Ende, die mittleren zwei Viertel der Mesepimera und eine kleine Zone in der Mitte der Metepisterna [A continuous area of dense chalky pruinosity covers the ventral two thirds of the metepisterna with an extension at the humeral suture nearly to its dorsal end, the central two fourths of the mesepimera and a small zone in the middle of the metepisterna]."

**ambiguum** [(Argent**a**grion) 1904a: 13]

L. *ambiguus* –a –um = going two ways, wavering, uncertain

Ris chose this name, as he wavered a little in which genus he should classify it: "Die systematische Stellung dieser Art bleibt ein wenig zweifelhaft, doch wird sie bei *Acanthagrion* am besten untergebracht sein nach folgenden Merkmalen: ... [The position of this species in systematics remains a little doubtful, but it will best be placed in *Acanthagrion* in accordance with the following characteristics: ...]." The difficulties Ris had had in placing the species taxonomically induced Fraser to create its own genus for it.

**amoenum** [(Morton**a**grion) 1915b : 10]

L. *amoenus* –a –um = pleasant, delightful, charming

This is one of the names which evoke the charming character of damselflies. In the description of the taxon there is no explanation why the name was chosen, but it is a somewhat colourful species.

**amphicyana** [*Euphaea* 1930c: 88]

Gr. ἀμφί = on both sides + κύανος –η –ον = dark-blue enamel; lapis lazuli

Ris described this species in a group resembling *E. tricolor* Selys. A common feature of these species is that the dark coloured areas in their hindwings have zones of blue metallic reflections, the placement and extensions of which differ among the species. For *E. amphicyana* they are presented thus: "Die dunkle Farbe beginnt etwa am distalen Ende des Vierecks, oder subhyalin schon an der Basis. Hyalin oder sybhyalin 3,5, dunkel 24,5 mm. Darin auf der U{nter}seite blaumetallisch bis zum Nodus an der Costa, 4-5 Zellen weiter distal am analen Rand, schwarz bis zum Pterostigma, blau die Flügelspitze. Auf der O{ber}seite blau bis zur Mitte Nodus-Pterostigma, distal mit diffusem Abschluss, schwarz der Rest ohne blaue Spitze [The dark colour begins about the distal end of the quadrilateral, or partially hyaline at the base. The hyaline or subhyaline areas are 3.5, dark coloured 24.5 mm. Within that {area} on the underside blue metallic to the nodus, at the costa, 4 to 5 cells farther distally at the anal margin, black up to the pterostigma, the apex blue. On the upper side blue to the middle between nodus and pterostigma, distally terminated diffusely, the rear black without a blue apex]."

So the name describes that in this species the blue metallic zones of the hind wings are on the upper and the underside, which feature is not mentioned for the other four species in the key.

***amphinome*** [*Oligoclada* 1919: 1133]

Gr. Ἀμφινόμη is the name of several female persons in Greek mythology, among whom was the mother of Jason, chief of the Argonauts, who fetched the Golden Fleece from Colchis (cf. <https://en.wikipedia.org/wiki/Amphinome>). According to Ris this was a manuscript name by Selys.

***angusticlavia*** [*Teinobasis* 1913d: 522]

L. *angusticlavius* –a –um = wearing a narrow stripe (In Roman antiquity a narrow purple stripe on tunica and toga was a distinguishing mark of equestrian rank)

A characteristic of the males in this taxon, which Ris described as a subspecies of *T. metallica*, is: "♂. Thorax orange; an der Mediannaht eine schmale, glänzend grün metallische Binde, jederseits etwa ein Drittel der Breite bis zur Schulternaht einnehmend ... [♂. Thorax orange; at the median suture a narrow, shining green metallic stripe, on each side covering approximately one third of the width to the humeral suture ...]."

***antigone*** [*Antiagrion* 1928a: 165]

Antigone [Gr. Ἀντιγόνη] is one of Ris' names from ancient mythology. She is best known from three plays of the tragedian Sophocles (c. 497 – 406 BC), where she is one of the four children, that Oedipus has unknowingly fathered with his own mother Jocasta. As a dutiful daughter she accompanied him into his self-chosen exile after the incest has been detected, and later against the edicts of king Creon, her uncle, she - piously risking the death penalty - arranged the burial of her brother Polynices,



**Fig. 8: *Argyrothemis argentea* ♂, Venezuela, Estado Amazonas, km 2, road from San Carlos de Río Negro to Solano 4 -13 March 1984. The silvery hue of the thorax which led to the name is to be seen well (© J. De Marmels).**

who had died together with his opponent in a duel against his brother Eteocles, who had tried to prevent him from taking rule over Thebes in rotation as previously had been agreed. The species name certainly is intended as a pun with the genus name (cf. *aethra* p. 23).

**arachne** [Planiplax 1912a: 732]

Arachne [Gr. ἀράχνη = spider] is also a female figure from ancient mythology. She was an excellent weaver and dared to challenge the goddess Athene. But she lost and was metamorphosed into a spider. Ris might have chosen the name due to this arachnoid feature: "Beine ... dünn, außerordentlich lang [Legs ... thin, extraordinarily long]."

**argentea** [Argyrothemis 1911a: 389]

L. *argenteus* –a –um = of silver, made of silver / adorned with silver, silvery

This type species of *Argyragrion* (p. 15) got its name because of a character of the males (females were unknown then): "Thoraxrücken und Zwischenflügelraum hell blausilber-metallisch [Dorsum of the thorax and interalar space light blue silvery metallic]."

**armatus** [Epigomphus 1918: 148]

L. *armatus* –a –um = armed, equipped, in arms

The name refers to teeth at the inferior appendage of the males mentioned in the key (p. 144): "Appendix inferior mit den vorspringenden lateralen Fortsätzen divergent; auf der dorsalen Fläche die Mitte als tiefe Grube eingesenkt, die Kante, welche diese Grube lateralwärts begrenzt, geht nahe dem distalen Ende jederseits in einen starken, dorsalwärts gerichteten Zahn aus [Inferior appendage with its protruding lateral processes divergent; middle of the dorsal area sunk as a deep cavity, the edge by which this cavity is bordered laterally ends near the distal apex on both sides into a strong tooth which is directed dorsally]."

**artemis** [Micrathyria 1911a: 437]

Artemis [Gr. Ἄρτεμις] in ancient Greek mythology was the goddess of the hunt and wilderness, also of the moon. Ris says the name is from: "(Selys mss. {manuscripts})."

**asclepiades** [(Libellago) 1916b: 309]

Gr. Ἀσκληπιιάδης = descendant of Asclepius, the Greek god of medicine

The species first was classified in the genus *Micromerus* Rambur (junior synonym of *Libellago* Selys), which is masculine. So Ris chose this time a male name from antiquity, but which of the several bearers of the name the author had in mind he does not say.

**atalanta** ssp. [Neurothemis intermedia 1919: 1168]

Atalanta [Gr. Ἀταλάντη] according to a Greek myth was a swift-footed huntress who, to avoid marriage, set as condition that she would only marry someone who would

outrun her in a race. After many suitors had failed, Hippomenes, a grandson of Poseidon, the god of the seas, asked Aphrodite, the goddess of love, for help. She gave him three golden apples, which were irresistible. Those he should throw one after another during the run. So Atalanta compelled to collect these was defeated (for other myths concerning Atalanta see <https://en.wikipedia.org/wiki/Atalanta>).

***atroterminata*** [Erythrodiplax 1911a: 501]

L. *ater* –tra –trum = black, dark, gloomy + *terminatus* –a –um = terminated

A distinctive feature of this taxon is: "Alle Flügelspitzen scharf abgesetzt dunkelbraun, meist bis zum proximalen Drittel des Pterostigma, einzelne Exemplare etwas weiter oder weniger weit [Apex in all wings sharply bounded blackish brown, usually up to the proximal third of the pterostigma, in some specimens somewhat more or less far]."

***aurantiacum*** [(Metagrion) 1898: 324]

L. *aurantiacus* –a –um = orange

There are several orange body parts mentioned in the first description of the males (females were unknown then): "Prothorax gelbbraun (im Leben wahrscheinlich orange), hinten mit schmalem schwarzem Saum [Prothorax yellowish brown (in life probably orange), at the rear with a narrow black edge].

Thorax gelbbraun (orange), oben dunkelbraun, die dunkle Farbe von der Mediannath auswärts allmählig etwas an Intensität abnehmend und die Schulternath nicht völlig erreichend. Seiten- und Unterfläche einfarbig orange [Thorax yellowish brown (orange), dorsally dark brown, the dark colour from the median suture gradually of lesser intensity does not altogether reach the humeral suture. Lateral and ventral areas unicoloured orange].

Beine lebhaft orange, stark und lang mit zahlreichen Dornen [Legs vividly orange, strong and long with numerous spines]."

***aurea*** [(Miohora) 1918: 24]

L. *aureus* –a –um = golden

The name describes the main colour of the male's wings: "Flügelbasen licht goldgelb, die Spitzen mehr graulich; die breiten dunklen Binden ... braunschwarz, im Vfl. etwas mehr als die proximale Hälfte, im Hfl. die proximalen vier Fünftel sehr glänzend goldrot, auf Ober- und Unterseite des Flügels fast gleich [Wing bases light golden yellow, the wing tips more greyish; the broad dark bands brownish black, in the fore wing a little more than the proximal half, in the hind wing the proximal four fifths very shining golden red, on the upper and the lower sides nearly alike]."

***auropictus*** [Progomphus 1912b: 109]

L. *auro* (ablative case) = with gold + *pictus* –a –um = painted, coloured, variegated

As in the foregoing lemma the name is a reference to the pattern of the wings: "Flügel beider Geschlechter fast gleich gefärbt: diffus graugelb mit etwas dunklern Adersäumen; unter dem Pterostigma eine kleine goldgelbe Wolke, etwas distal von der Basis des-

selben beginnend und etwas distal von seinem Ende abschliessend, analwärts etwa bis Rs. [Wings in both sexes nearly of the same coloration: diffusely greyish yellow with somewhat darker seams of the veins; beneath the pterostigma a small golden yellow patch, beginning a little distally of its base and ending a little distally of its end, analwards nearly reaching Rsp] (p. 110)."

***bacillus*** [*Selysioneura* 1915c: 93]

L. *bacillus* = a small staff, a wand

The name is a reference to the rod-shaped elongate abdomen of the males by which they differ from the species *S. cervicornu* Förster: „Abdomen Sgm. 1-2 von gewöhnlicher Form, 3-7 enorm verlängert (Sgm. 5 11mm.!) [Abdominal segments 1-2 of usual shape, 3-7 elongated enormously (segment 5 of 11 millimetres)].“

***basistictus*** [*Progomphus* 1912b: 117]

Gr. βάσις = (inter alia) base, pedestal + στικτός = spotted, tattooed

A dark spot at the wing base has evoked this name, of which at the time of description only males were known: “Flügel hyalin, später diffus graugelb. Sehr dunkel schwarzbrauner Basisfleck aller Flügel in c und sc nicht ganz bis Anq 1, Spur in m [Wings hyaline, later becoming diffusely greyish yellow. A very dark blackish brown basal spot in the costal and subcostal space of all wings not quite up to antenodal 1, a trace {of it} in the median space] (p. 118-119).“

***basitincta*** [*Trithemis* 1912a: 784]

L. *basis* (from Greek) = base, support, pedestal + *tinctus* –a –um = dyed, tinged, coloured

The dark colour of the hind wing base is referred to: “Basis der Hinterflügel mit kräftigem, tiefbraunem bis schwärzlichem Fleck [Base of the hind wings with a deeply coloured dark brown to blackish spot] (key p. 760).“

***batesi*** [(*Idiataphe*) 1913c: 1015]

Eponym of this species is the English explorer and scientist Henry Walter Bates (1825-1892), renowned for the detection of mimicry. In the years 1848-1859 he explored the Amazon region bringing home a large collection (for more see Beolens 2018: 37). Selys had received several specimens of Odonata from him (see *Zenitoptera* p. 119) and had dedicated three species to him. Ris described this species from two specimens in the collection of Selys and a third from the British Museum of Natural History, which Kirby (1889: 331) erroneously had included into his taxon *I. amazonica*.

***bequaerti*** [*Aethiothemis* 1919: 1127]

Ris explains why he named the species after the collector of his single specimen: “Dr. Bequaert gewidmet, dessen Bemühungen wir so grosse Bereicherung unserer Kenntnis der Congo-Fauna verdanken [dedicated to Dr. Bequaert, to whose efforts we owe such a great gain of knowledge on the Congolese fauna].“ Dr Joseph Charles Cornaille Bequaert (1886-1892 was a Belgian biologist who from 1910 to 1915 worked

for the government in Belgian Congo. Later he emigrated to the USA, where for some time he taught at Harvard (for more see Beolens 1918: 43).

***biedermanni*** [*Disparocypha* 1916b: 314]

“Diese morphologisch sehr interessante Art ist meinem Jugendfreunde, Prof. Richard Biedermann-Imhoof in Eutin gewidmet [This morphologically very interesting species is dedicated to my friend from adolescence Professor Richard Biedermann at Eutin].” Biedermann had studied medicine at the Zürich University at the same time as Ris (for more see Beolens 1918: 46).

***bonariense*** [(*Cyanallagma*) 1913b: 67]

L. *Bonariensis* –is –e = from Buenos Aires

The species was described from specimens caught by Ris himself in January 1891 at St. Isidor near Buenos Aires, and in February 1909 by the Danish collector P. Jørgensen at Buenos Aires.

***borneense*** [*Aciagrion* 1911b: 234]

L. *Borneensis* –is –e = from Borneo

The species was described from a single male from Sintang, Borneo, a place in the lowlands in the interior of Borneo.



Fig. 9: *Coelliccia brachysticta* ♀ lectoparatype. The typical form of the pterostigma probably is at the base of the name (© Senckenberg Gesellschaft für Naturforschung, Massimo Terragni).

***brachysticta*** [Coel<sup>i</sup>ccia 1912d: 63]

Gr.βραχύς = short + σπικτός = spotted, tattooed (in Odonata often used in reference to the pterostigma)

The name probably refers to a characteristic of the pterostigma, which in the key (p. 61) is described thus: " Costale Seite des Pterostigma ziemlich viel, annähernd ein Drittel, kürzer als die anale [Costal side of the pterostigma substantially, about one third, shorter than the anal one]".

***buchi*** [Philos<sup>i</sup>na 1917b: 189]

„Durch grosse Gefälligkeit von Herrn P.A. Buch, S.J. von der katholischen Mission in Ningpo, erhielt ich im Sommer 1916 eine interessante Sammlung Libellen aus der Gegend von Ningpo, von der Insel Tschusan und aus der Provinz Fokien [By a big favour of Father A. Buch, S.J. of the Catholic mission at Ningbo in summer 1916 I received an interesting collection of Odonata from the region of Ningbo, from the island Zhoushan and from the province Fujian {these localities are on the eastern coast of China}] (p. 185).“ According to Beolens (2018: 60) Pater Buch (\*1865) was a French Catholic missionary, who collected Lepidoptera specimens and sent them to many museums. Ris described the species from “16 ♂, 1 ♀, aus der Provinz Fokien, im Sommer 1916 von einem einheimischen Sammler an Pater A. Buch gesandt, dem ich die Art widme [16 ♂, 1 ♀, from the province Fujian, in summer 1916 by a native collector sent to Father A Buch, to whom I dedicate the species].“

***buettikoferi*** [Ele<sup>u</sup>themis 1910b: 384]

The only indication for the choice of the name is: “Mus. Leyden: 1 ♂ Bavia, Liberia (März 1880 leg. Büttikofer) [(March 1880, collected by Büttikofer)].“ Johan Büttikofer (1850-1929) was a Swiss zoologist, who after collecting trips to Liberia (1879-1882, 1886-1887, 1888) and to Borneo (1893-1894) became director of the Rotterdam Zoo (1897-1924) (Beolens 2018: 63).

***calamorum*** [(Parac<sup>e</sup>rcion ) 1916a: 32]

*L. calamorum* = of the reeds

The description of the species does not give a clue for the choice of the name; but its explanation is to be deduced from the preface of the paper: the name refers to a special kind of reed, that is to say *Acorus calamus* (= Sweet flag). On his journey as a surgeon in 1891 Ris had stayed at Shanghai from the end of April to the first days of May, where he went on collection trips. In the flat region near the town the fields were crossed by numerous ditches to a great part overgrown with *A. calamus*. About these Ris reports: “Die Gräben mit dem Kalmus bewohnten in großer Zahl *Ischnura asiatica* und *Agrion hieroglyphicum*, spärlich *Agrion calamorum*, dessen Habitusähnlichkeit mit *Erythromma* auffiel [The ditches with calamus were inhabited in great numbers by *Ischnura asiatica* and *Paracercion hieroglyphicum*, sparsely by *Paracercion calamorum*, the resemblance in habitus of which to *Erythromma* was conspicuous] (p. 3).“



**calliope** [Macromia 1916a: 70]

Gr. Καλλιόπη = the beautiful-voiced, is one of the nine Muses, patroness of eloquence and epic poetry

There are several *Macromia* named after Muses. The first one was *M. terpsichore* Förster 1900 (= dance-enjoying), followed by *M. melpomene* Ris, 1913 (see p. 58), *M. clio*, Ris 1916 (see p. 34) and *M. urania* Ris, 1916 (see p. 78).

More such names were established by M. Lieftinck (*euterpe* 1915, *polyhymnia* 1929, *mnemosyne* 1935, *erato* 1950).

**calliste** [(*Macrothemis*) 1913a: 899]

Gr. κάλλιστος –η –ον = most beautiful, fairest

Ris informs us that it is a manuscript name of Selys, from whose collection the single specimen came.

It certainly is one of the names referring to female charm and beauty.

**calypso** [*Gynacantha* 1915c: 108]

According to Greek mythology Καλυψώ was a nymph living on a lonely island. She rescued the shipwrecked Odysseus, hoping he would stay and marry her, but he refused and finally on order of Zeus he got leave to return home. In the same publication Ris named two more species of that genus after females from Homer's Odyssey: *G. nausicaa* (see p. 61) and *G. penelope* (see p. 64).

**campioni** [(*Neodythemis*) 1915a: 214]

"The interesting species is named after Mr. Herbert Campion, who first observed its peculiar features." Herbert Campion (1869-1924) in 1911 had joined the Imperial Bureau of Entomology and ten years later transferred to the entomological department of the British Museum of Natural History (for more see Endersby & Fliedner 2015: 71). In the preface of his paper Ris thanks him: "By the kindness of Mr. Herbert Campion I was enabled to examine a great number of very interesting Libellulinae, collected for the Imperial Bureau of Entomology ... in Nigeria, Sierra Leone, and British East Africa (1915a: 213-214).

**carmelita** [*Palaemnema* 1918: 100]

Span. *el / la Carmelita* = Carmelite monk / nun (proper name of the order: Order of the Brothers of the Blessed Virgin Mary of Mount Carmel)

The provenance of three of Ris' specimens is: „Columbia: 3 ♂ Carmen, Ob. Rio Dagua [Upper Rio D'agua] 1400 m. 17. VI. 1908." El Carmen de Viboral is a township on the Pacific side of the Western Cordillera; in 1887 a picture of the Blessed Virgin Mary of Mount Carmel was established there. So probably this led to the scientific name.

**celebensis** [*Onychothemis* 1912a: 836]

L. *Celebensis* –is –e = from Celebes (outdated name for Sulawesi)

The provenance of the taxon is specified thus: "Coll. Selys: 1 ♂, Süd Celebes, Lompa

Battau 3000' (Ill. 1896, Fruhstorfer)", that means the single specimen is from Lompa Battau, southern Sulawesi, collected at a height of 3000 feet in March 1896 by the explorer and insect trader Hans Fruhstorfer (1866-1922) (about him see Beolens 2018: 143).

***ceylanica*** ssp. [*Onychothemis tonkinensis* 1912a: 835]

L. *Ceylanicus* –a –um = from Ceylon (outdated name for Sri Lanka)

Ris introduced this subspecies for specimens from Sri Lanka, which pertained to a species only known from the northernmost province of Vietnam. According to Steinmann (1997: 519) Ris' taxon ranges from India and Sri Lanka to the Maldive Islands.

***chalcogchiton*** ssp. [*Agrionoptera insignis* 1915b: 15]

Gr. χαλκοχίτων = bronze-clad

"Die Form ist sehr ausgezeichnet durch den vollständig zeichnungslos blaugrün metallischen, stark glänzenden Thorax [The taxon is very remarkable by its thorax, which is bluish metallic green, brightly glistening without any markings]."

***chloromelas*** [*Anax* 1911d: 321]

Gr. χλωρομέλας –μέλαινα –μέλαν = dark green

The green colour of the thorax of the males probably has led to the name: "Thorax grün, zeichnungslos [Thorax green without markings]." (The basal spots of segment 4-6, which Ris surmised to be green in life are blue).

***chrysobaphes*** [*(Zygonyx)* 1915a: 221]

Gr. χρυσοβαφής –ής –ές = tinged with gold

The name describes the coloration of the wing bases in both sexes:

♂ "Wings stained with light greyish yellow throughout; minute golden-yellow vestige at base."

♀ "Wings light yellow, deep and rich golden yellow at base, in forewings to Anq. 2 {= Ax 2} and almost to arculus, in hind wing to Anq.3 {= Ax3}, t. {= triangle} and a little beyond apex of membranule; lighter golden-yellow zone at nodus in costal half of front wing, over entire breadth in hind wing, and extended proximally to anal loop in anal half; tips golden brown to three cells width, proximally, from pterostigma" (p.223).

***ciliata*** [*(Plagulibasis)* 1913e: 485]

L. *ciliatus* –a –um = ciliate

In this species the male's tenth segment has a fringe of setae at the rear: "Der dorsale Rand des 10. Sgm. in etwa dreieckiger Fläche schräg abfallend; die diese schräge Fläche dorsal begrenzende Kante jederseits mit einer Reihe dicht gestellter, ziemlich langer, gelblich glänzender, steifer Borstchen besetzt; welche Reihe das mediale Ende der Kante nicht ganz erreicht [The dorsal edge of the 10th segment sloping as a nearly triangular area; the dorsal edge of this area on both sides fringed with a row of dense, rather long rigid yellow shining setae; which fringe barely reaches the medial end of the edge]."

***circe*** [(*Aethiothemis*) 1910a: 160]

Circe [Gr. Κίρκη] in Greek mythology was the daughter of the sun god Helios; she was a powerful sorceress living on a lonely island where she lured arriving men to be her lovers and transformed them into animals. Odysseus' companions had been converted into pigs, but he was warned in time by the god Hermes, who told him how to defeat her and win her help for his way home. Ris does not explain his choice of name, but it fits well with the (outdated) genus *Apatelia* [= deceitful] (see p. 21 s.v. *Lokia*), into which he placed this species.

***clara* ssp.** [*Dasythemis mincki* 1908b: 528]

*L. clarus* –a –um = clear, bright, shining, brilliant

This subspecies is lighter than the nominal taxon: „ Die argentinischen Exemplare {= *D. m. clara*} unterscheiden sich von südbrazilischen {= *D. m. mincki*} (von denen ich etwa 60 untersucht habe) so konstant durch eine grössere Ausbreitung der gelben Zeichnungen des Thorax und ausserdem Aufhellung der dunklen Teile, dass ich ihre Aufstellung als geographische Subspezies für gerechtfertigt halte [The Argentine specimens differ from those of southern Brazil (of which I have examined about sixty) so very constantly by a greater extension of the yellow markings of the thorax and aside from that by the brightened darker parts, that I think it to be justified to establish them as a geographical subspecies.“

***claudia*** [*Idionyx* 1912d: 83]

Ris does not give an explanation for his choice of this female name. There was an *I. yolanda* Selys, 1871, which Kirby (1890: 56) made the type species of that genus, and in the same paper Ris named another *Idionyx philippa*. So he probably in this case followed again the paradigm of Drury to choose a female name from antiquity. The Claudii were one of the leading families in ancient Rome, but there is no female member of that clan so particularly well-known that she might be considered to be the eponym of this species.

***clementia*** [*Hylaeothemis* 1909a: 64]

This species is not named for the Latin goddess of clemency, who was worshipped since the time of Augustus. In the first publication the provenance of the specimen is indicated thus: “Coll. Selys: 1 ♂ juv. Borneo W.K. {West-Küste = western coast(?)} (Clément).” Beolens (2018: 87) informs us that the person mentioned was Armand Lucien Clément (1848-1920), a French artist and natural historian, who in 1919 became president of the Zoological Society of France. But he adds that there is no evidence that this person ever has been in Borneo. So either it was through him that Selys got the specimen, or another one named Clément was the collector. Ian Endersby (in litt.) suggests that a vague possibility might be Emile Louis Bruno Clement (1844–1928) (born in Germany) principally making ethnographic collection in Australia but also botanical specimens; that however would not explain the accent in Ris publication, but at least two of the forenames of this scientist are French. So that might point to Huguenot descent and the omission of the accent in other sources might be due to his life outside the French language area.

**cleopatra** [Erythrodiplax 1911a: 501]

This is a manuscript name by Selys. The most prominent Cleopatra [Gr. Κλεοπάτρα = glory of her father] was the last queen of Egypt in antiquity (\*69, †30 BC). The Roman commanders Julius Caesar and Marcus Antonius were her lovers and had children with her. Finally in the Roman civil war after the defeat of M. Antonius she could not win over Gaius Octavius, Caesar's heir and later emperor Augustus, and probably she committed suicide to avoid to be carried in triumph through the streets of Rome.

**clio** [Macromia 1916a: 67]

Clio [Gr. Κλειώ] in Greek mythology was the muse of history. (For other muses in the genus *Macromia* see *M. calliope* p. 31).

**concolor** [Orthemis 1919: 1106]

L. concolor = of the same color

The monochrome rust-coloured thorax of the males is at the base of the name: "♂ (ad). Thorax braunrot, ohne Zeichnung [Thorax reddish brown, without any marking]."

**constrictor** [Erpetogomphus 1917a: 154]

L. *constrictor* = one who exercises constriction (first used as a species name in snakes by Linnaeus)

After the genus *Erpetogomphus* had been established, the species often were named after serpent taxa. Ris followed this tradition with his choice of name.

**cora** [Euphaea 1930c: 86]

The name refers to the similarity of this species with some of the genus *Cora* (see p. 103).

"Die kleine Art ist dadurch interessant, dass bei ihrem ♂ die Farbenauszeichnung von den Flügeln weg ganz auf das schwarz-blaue Thoraxmuster verlegt ist, womit sie gewissen *Cora*-Arten (besonders *chirippa* und *irene*) habituell recht ähnlich wird. Dies soll durch den Namen angedeutet sein [This small species is interesting because in its ♂ the distinction by colours is completely shifted from the wings to the black and blue pattern of the thorax; by this it habitually resembles certain species of *Cora* a lot (especially *chirippa* und *irene*)."

**cornelia** [Perithemis 1910b: 343]

L. *Cornelia* = female from the clan of the Cornelii, one of the most influential families in ancient Rome

Ris does not explain his choice of name, but it is most likely another female from antiquity. Probably the best known Cornelia from antiquity was the daughter of Scipio Africanus and mother of the social reformers Tiberius and Gaius Gracchus. She was painted by many artists in the 18th century because of the anecdote that, when asked why she wore hardly any jewellery, she answered pointing to her sons "These are my ornaments". In antiquity she was renowned for her chastity, because after the death of her husband she refused to remarry, even when Ptolemy VIII offered marriage to her.

**cornuta**

[*Bradinyga* 1911c: 547]

*L. cornutus* –a –um = horned

The name refers to horn-like processes of the frons in both sexes: ♂ “Die Stirnwinkel in sehr spitze Hörnchen verlängert. Scheitelblase niedrig, tief ausgerandet, und ebenfalls in zwei spitze Hörnchen auslaufend [♂ The corners of the frons are extended into very sharp little horns, vertex low, deeply emarginate and ending in two sharp little horns].” ♀ “Die Struktur der Stirn und Scheitelblase des ♂ ist in nur wenig abgeschwächtem Masse auch beim ♀ ausgebildet [the structure of the frons and the vertex of the ♂ is less pronounced than that present in the ♀]“ (cf. fig. 26 p. 101).

**coronata**

[(*Castoraeschna*) 1918: 172]

*L. coronatus* –a –um = furnished with a garland, crowned, wreathed

Probably the yellow markings around the vertex have led to the name: “Occiput hellgelb, ... Anteclypeus und Postclypeus hellgelb mit schwach grünlicher Nuance, Stirn oben und seitlich ebenso; auf der Stirnkante ein glänzend schwarzer Fleck, von dem oberhalb der Kante nur ein schmaler Saum zur Dorsalkante gehört, der größte Teil die dorsalen zwei Drittel der Oberhälfte einnimmt [Occiput light yellow, ... anteclypeus and postclypeus light yellow tinged slightly green, frons above and laterally likewise; on the edge of the frons a shining black spot, of which above the edge only a narrow fringe pertains to the dorsal edge, the largest part covers the dorsal two thirds of the upper half].“

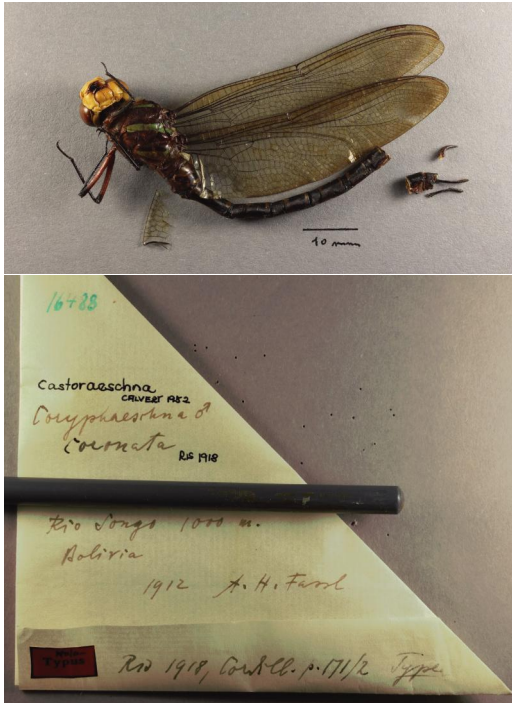


Fig. 10: *Castoraeschna coronata* ♂, a. holotype from Ris' collection. b. storage paper with inscriptions concerning classification. In 1913 Ris wrote to Calvert about his collection: "I made up my mind to renounce the setting of specimens altogether; the whole collection is papered, and I find that for working purposes this condition is even preferable to a set collection" (Calvert 1931a: 189). (© Senckenberg Gesellschaft für Naturforschung, Massimo Teragni).

***croconota*** [(*Prodasineura*) 1916a: 18]

Latinised from Gr. κρόκος = saffron + -νωτος -ος -ov = -backed

The colour of the dorsal part of the male thorax is referred to: "Thoraxdorsum leuchtend orange [The back of the thorax is shining orange]."

***crocosema*** ssp. [*Brechmorhoga rapax* 1913a: 860]

Latinised from Gr. κρόκος = saffron + -σημος -ος -ov = signed, marked

The distinguishing feature of this subspecies is explained in the key (p. 859) thus: „Dorsum von Segment 7 völlig hell, bis auf einen schmalen, etwas diffusen, terminalen schwärzlichen Ring; die Nuance dieser Zeichnung orange [dorsum of segment 7 completely light except a narrow somewhat diffuse blackish terminal ring; the shading of this mark orange].“

***cyanifrons*** [*Cyclophaga* 1930c: 81]

L. *cyanos* = lapis lazuli [borrowed from Gr.] + -frons = -fronted

The name refers to the frons of the males: ♂ "Oberlippe, Anteclypeus, Postclypeus, Mandibelbasis, Genae, Stirn bis zur Mitte sehr licht grünlichblau bis seegrün [Labrum, anteclypeus, postclypeus, base of the mandibles, genae, frons up to the middle greenish blue to sea-green].“

***cyanomelas*** [*Coeljccia* 1912d: 66]

Gr. κύανος = dark-blue enamel; lapis lazuli + μέλας μέλαινα μέλαν = black, dark

In this species the males are black with blue markings. It would take too long to enumerate them all, but concerned are head, prothorax, thorax and abdomen, especially segments eight to ten and the upper appendages.

***cyclopica*** [*Lanthanusa* 1912a: 747]

Gr. Κύκλωψ = Cyclops (one eyed giant savage; properly: round-eyed) + -ικός = belonging to, appropriate to

The provenance of the single female specimen was: "(Cyclopengebirge) [Cyclops-Mountains]" of New Guinea.

***cynthia*** [*Macrothemis* 1913a: 891]

Cynthia was the pseudonym, by which the Latin elegiac poet Sextus Propertius, who wrote his poetry in the times of the emperor Augustus, worshipped his beloved woman. The name properly means "from mount Cynthus", the place on the Greek isle of Delos, where, according to mythology, Leto had given birth to the twin gods Artemis, the virgin goddess of hunt (and the moon) and Apollo, the god of poetry and the art of healing (and the sun). The intention of that pseudonym was to connect the beloved with the god of poetry and to place her in the sphere of the Muses as a source of inspiration. So this is another female name from antiquity established by Ris in Odonata.

***dahli*** ssp. [*Nesoxenia mysis* 1898: 322] 1910a: 125

This taxon is dedicated to the man who had procured the material on which Ris based

his paper: "Hr. Prof. Friedrich Dahl brachte von seinem Aufenthalte auf dem Bismarck-Archipel eine interessante Odonaten-Ausbeute mit, die, Eigenthum des Kgl. Museums für Naturkunde in Berlin, mir gegenwärtig zum Studium vorliegt [Professor Friedrich Dahl brought from his stay on the Bismarck Archipelago an interesting collection of Odonata, which – being the property of the Royal Museum of Natural History at Berlin – presently are at my disposition for examination]." Karl Friedrich Theodor Dahl (1856-1929) was a German zoologist. His collecting trip to the Bismarck Archipelago and New Guinea took place in 1896-1997. He became curator of arachnids at the Berlin Museum in 1898, where he stayed until retirement (Beolens 2018: 98).

***delecollei*** [Celeb<sup>o</sup>themis 1912a: 830]

Ris dedicated this species to a staff member of the museum at Brussels: „Benannt habe ich sie nach dem fleissigen taubstummen Präparator des Brüsseler Museums [I have named {the species} after the diligent deaf-mute preparator at the Brussels Museum].“ The information “that a Mr. Delecolle, based in Brussels, collected for Ris in Celebes at the appropriate time” (Beolens 2018: 105) is not recorded in Ris 1912a.

***delia*** [Macrothemis 1913a: 892]

Under the pseudonym *Delia* [= the Delian] the Roman elegiac poet Albius Tibullus, who wrote his poetry at the time of the emperor Augustus, celebrated his beloved woman. Also this name is a reference to the birth of Artemis and Apollo on the isle of Delos in Greek mythology, and its intention is again to place the beloved in the Apollonian sphere among the Muses. That Ris took his inspiration for this name from Roman literature is to be seen by the fact, that he chose the name *cynthia* for another species from the genus *Macrothemis* immediately before (see p. 36).

***demeter*** [Gynacantha 1911b: 245]

The Greek goddess Demeter (Δημήτηρ might mean “Mother Earth”) was one of the Olympian gods, responsible for agriculture. Ris does not explain the choice of the name, but certainly it is another female figure from antiquity. Paulson & Schorr 2020 tag this species as “doubtful”.

***dictynna*** [Micrathyrina 1919: 1146]

*Dictynna* [Gr. Δίκτυννα] is a figure from ancient mythology not easy to define; she was said to be a Cretan goddess (or a nymph), whose name was connected with the Dicte mountains, where young Zeus was fostered by her, or with δίκτυον (= fishing-net, hunting-net), for she seems to have been a goddess of hunting, and sometimes was identified with Artemis. It is to be noted that in 1911 Ris had named a *Micrathyrina artemis* with a manuscript name from Selys, which is semantically very close.

***dido*** [Micrathyrina 1911a: 432]

Dido in ancient mythology was the founder of Carthage and first queen of the town. In Vergil's Aeneid she gave shelter to the shipwrecked Trojans led by Aeneas and fell in love with him. But Aeneas was ordered by Jupiter to leave her and continue

his odyssey. Disappointed Dido committed suicide having sworn eternal enmity to Aeneas and the descendants of the Trojans.

***diotima*** [Pseudagrionoptera 1912a: 748]

Diotima [Gr. Διοτίμα = honouring (or) honoured by Zeus] is a figure from Plato's Symposium. She is said to be a philosopher and a seer, who teaches about the character of love. Whether she was a real person or only a literary one is not possible to differentiate.

***diplosema*** [Brechmorhoga 1913a: 860]

Latinised from Gr. διπλοῦς –ῆ –οὔν = double + –σημος –ος –ον = signed, marked

The name refers to a characteristic double stripe on the abdomen: "Abdomensegment 4-7 ausser dem der Dorsalkante genäherten jederseits noch mit einem dem Lateralrand nahe liegenden hellen Streifen [Abdominal segment 4-7, apart from the light stripe near the dorsal edge, on each side another one close to the lateral edge]" (key p. 851).

***dives* ssp.** [Tetrathemis irregularis 1913e: 505]

L. *dives* = rich

The name refers to the rich colour especially of the wing basis in this taxon compared with the nominate species: "Flügelbasisfleck des ♂ tief goldgelb mit dunklern Strahlen in sc und cu bis 1. Anq und 1. Cuq, des ♀ reich goldbraun mit längern und diffusen dunkeln Strahlen an gleicher Stelle (bei 1 ♀ nur sehr licht gelb wie bei der typischen Form, aber gerade bei diesem Expl. der Streif an der hintern Seitennaht besonders breit und dunkel) [the spot at the wing base of the ♂ deeply golden yellow with dark rays to 1st antenodal and 1st cubital anal crossvein, that of the ♀ rich golden brown with longer and diffuse rays at the same location (in 1 ♀ only very light yellow like in the typical taxon, but in this very specimen the stripe at the posterior lateral suture is particularly broad and dark)]."

***electra*** [Perithemis 1930b: 33]

In Greek literature and mythology there are several Electras [Gr. Ἠλέκτρα = the beaming]; the best known of them is the daughter of king Agamemnon and his wife Clytemnestra. When Agamemnon came back from Trojan war, he was killed by his wife and her lover Aegisthus. Later on Electra helped her brother Orestes to avenge the murder by killing their mother and her lover, but was pursued by the Furies for this deed. This theme was dealt with by several dramatists from antiquity to modern times (photo see fig. 28 p. 114).

***elgneri*** [Zyxomma 1913a: 905]

"Die schöne und sehr distinkte Art ist Herrn Hermann Elgner gewidmet ... [The pretty and very distinct species is dedicated to Mr. Hermann Elgner ...]" (p. 906). H. Elgner (c. 1856-1913) was a German lepidopterologist, who collected from 1900 to 1913 mainly on the Torres Strait Islands and later on the islands near New Guinea, which then belonged to the German colony (Beolens 2018: 120). Another acknowledgement we find in Ris 1919 (p. 1044): "Ich bin besonders verpflichtet ... {Herrn} Hermann Elgner für um-



fangreiche Ausbeuten von Nord Australien, den Aru-Inseln, West Neuguinea und Ceram. Die letzte dieser Sammlungen erhielt ich erst nach dem im April 1913 in Amboina erfolgten Tode des trefflichen Forschers durch dessen letztwillige Verfügung [I am particularly obliged to ... Hermann Elgner for copious collections from Northern Australia, the Aru-Islands, Western New Guinea and Ceram. The last of these I received finally after the death of this excellent scientist, which occurred in April 1913 in Amboina, according to his will and testament.]“

***elpidius*** [(*Paragomphus*) 1921: 346]

Latinised from Gr. ἐλπῖς (stem ἐλπιδ-) = hope + suffix -ιος -ια -ιον = pertaining to

Ris does not explain his choice of name, but it might be a reference to the Cape of Good Hope, whereas his male specimen was from Zululand and the female from Catanga.

***erinyes*** [(*Allopodagrion*) 1913b: 60]

Gr. Ἐρινύς = the Erinys, an avenging deity

This seems to be one of the female names from antiquity after Drury's paradigm (cf. p. 23 s.v. *aethra*).

***erythromelas*** [(*Aethiothemis*) 1910a: 159]

Gr. ἐρυθρός - ά - όν = red + μέλας μέλαινα μέλαν = black

“Thorax schwarz, an den Seiten sehr dünn bläulich bereift ... Abdominalsegmente 1-2 schwarz, 3 blutrot (der Rest fehlt) [Thorax black, laterally very thin bluish pruinose ... Abdominal segments 1-2 black, 3 blood-red (the remainder is missing)].“

***esmeralda*** [(*Dasythemis* 1910b: 301) Span. esmeralda = emerald

Two of Ris' specimens in the Collection of Selys were from Esmeralda in Ecuador. But also a feature of the species may have been conducive to the choice of the name: “Stirn oben und Scheitelblase metallisch grün [frons above and vertex metallic green].“

***essequiiba*** [(*Dasythemis* 1919: 1108)]

Ris' specimen had been collected by E.B. Williamson and B.J. Rainey in Rockstone, a town in (formerly: British) Guyana at the Essequibo river. The territory west of this river, Guyana Esequiba, is governed by Guyana, but claimed by Venezuela.

***eurydice*** [(*Lyriothemis* 1909a: 105)]

*Eurydice* [Gr. Εὐρυδίκη] according to Greek mythology, was the wife of Orpheus, the musical genius. When she died by being bitten by a viper, Orpheus dared to enter the netherworld and by his singing and lyre playing so enchanted Persephone and Pluto, the rulers there, that they allowed Eurydice to return to life, if Orpheus would not look back to her when ascending to the upper world. But Orpheus failed because not hearing any step behind himself he feared that he had been deceived by the gods. That Ris chose this name for a species pertaining to the genus *Lyriothemis*, which has its name from Orpheus' favourite instrument, shows his good knowledge of ancient mythology.



**Fig. 11:** *Dasythemis esmeralda*, juvenile and mature ♂. Ris might have chosen the name not only because of the provenance of some of his specimens from Esmeralda, Ecuador, but also as a reference to the green metallic colour of the frons and the vertex, which according to Ris' descriptions differs from that of the other species in this genus. (© Dan Bárta, Aleš Dolný, Robert Lizler).

***eurysema* ssp.** [*Brechmorhoga pertinax* 1913a: 858]

Latinised from Gr. εὐρύς εὐρέϊα εὐρύ = wide, broad + – σημος –ος –ον = signed, marked

This taxon differs from the nominate species by the extent of the dorsal markings on segment 7: "Helle Dorsalflecken von Segment 7 sehr gross,  $\frac{3}{4}$  -  $\frac{4}{5}$  der Segmentlänge und meist die ganze Breite einnehmend [Light dorsal spots on segment 7 very large, occupying  $\frac{3}{4}$  -  $\frac{4}{5}$  of the length of the segment and usually its entire breadth (key p. 856).“ In the nominate form the spot takes only about  $\frac{2}{3}$  of the length.

***eusebia*** [(*Zygonyx*) 1912a: 814]

Gr. εὐσέβεια = reverence towards the gods or parents, piety or filial respect, also a female name. Bearers of the name were an empress of the Byzantine empire († 360 AD) or several Saints.

But none of these is eponym of the species. Ris declares: "Ich habe diese wundervolle Libelle aus dem tiefsten Innern Afrikas Frau Baronin Raphael de Selys Longchamps gewidmet [I have dedicated this wonderful dragonfly from the deepest interior of Africa to the Baroness Raphael de Selys Longchamps].“ The eldest son of the "Father of Odonatology", Raphael de Selys (1841-1911), in 1872 had married Eusébie de Brigode de Kemlandt (1850-1935).

***exilis*** [*Diplacodes* 1911a: 464]

L. *exilis* –is –e = small, thin, slender, lank, meager [≠ L. *exul* = one who is banished from his native soil]

Ris wanted this to be a new name for *Diplax exul* Selys, 1883: "Ein Exemplar, das mit Sicherheit oder nur grosser Wahrscheinlichkeit als die Type der ganz fragmentarisch beschriebenen *Diplax exul* angesprochen werden könnte, ist leider in Coll. Selys nicht nachweisbar. Ich hielt es darum für richtiger, die mir aus Madagascar bekannte Form neu zu benennen [A specimen that might with certainty or at least great probability be addressed as the type of the species *Diplax exul* which is described only fragmentarily, and unfortunately cannot be traced in the Selys collection: I therefore deemed it to be more correct to give a new name to the taxon known to me from Madagascar].“

The new name refers to the stature of the taxon: "♂ juv. „Abdomen dünn, fast cylindrisch, sehr wenig spindelförmig [Abdomen thin, nearly cylindrical, very little fusiform].“

***extensa*** [*Macrothemis* 1913a: 877]

L. *extensus* –a –um = stretched, extended

This is a manuscript name of the explorer H.W. Bates (see p. 34 s.v. *batesi*), who had collected two of the specimens from which Ris described the species at Pará (Brazil). The name is appropriate, as Ris states: "Von allen Arten zeigt diese, besonders das ♂, das relativ längste Abdomen [Of all species {in that genus} this one, especially its ♂, shows the relatively longest abdomen].“

***exul* ssp.** [(*Rhythemis regia*) 1913a: 951]

L. *exul* = one who is banished from his native soil

Ris describes this subspecies from the Kei Islands and Sumba, while he gives as the location for the nominate taxon New Guinea, the Maluku Islands (formerly Moluccas), Sulawesi and the Philippines, and for the subspecies *R. r. chalcoptilon* Samoa and Queensland: So the name might mean, that the distribution is somewhat at a distance from that of the other subspecies. This taxon is treated as a synonym in Paulson & Schorr 2020.

**fallax** [Ceriagrion 1914a: 47]

L. *fallax* = deceitful, deceptive, fallacious

The reason for this name is to be seen from the preface of Ris 1914a: 44. There he states that in a publication of the previous year {Ris 1913d: 519-520} he erroneously had described a taxon as *Ceriagrion melanurum* (= black tailed C.) Selys, which therefore was "eine neu zu benennende Art. Sehr wahrscheinlich sind die Formen dort nicht zum ersten Mal verwechselt. [a species which must be given a new name. Most probably these species have been mistaken for each other there not for the first time]". Ris continues stating that the coloration of the Selysian species is very peculiar: "um so merkwürdiger erscheint es, daß zwei in der Struktur ziemlich weit verschiedene Arten in diesem ganz ungewöhnlichen Kleide als Doppelgänger auftreten [it appears so more remarkable that two species differing rather much in their structures act as doppelgängers in this very particular attire]".

That means, a species which is mistaken by an accomplished odonatologist like Ris, certainly might be called 'deceitful'.

**fassli** [Euthore 1914b: 282]

"Die außerordentlich schöne Art ist Herrn A.H. Fassl in Teplitz gewidmet, dessen Bemühungen ich sehr interessantes und reiches Odonatenmaterial aus den von ihm bereisten Gebieten verdanke [this extraordinarily beautiful species is dedicated to Mr. A.H. Fassl at Teplitz, to whose endeavours I owe very rich and interesting Odonata material from the regions he has travelled in]." Anton Heinrich Hermann Fassl (1876-1922) was a German professional collector mainly specialising in Lepidoptera and Coleoptera. He collected in several regions of South America (see Beolens 2018: 131).

**filiformis** [(Tanymecosticta) 1898: 325]

L. *filum* = thread, string + *-formis -is -e* (in compounds) = having the form of

In his description Ris states: "Thorax und Abdomen sehr dünn, ...[Thorax and abdomen very thin, ...]" and at the end of it he emphasises: „sehr auffallend durch die äußerst schlanke Statur...[very remarkable by its extremely slim figure].“

**flavicauda** [Coelipccia 1912d: 64]

L. *flavus -a -um* = golden yellow, reddish yellow, blonde + *cauda* = tail (in entomology abdomen or appendages)

In his key Ris says p. 62): "(♂) Sgm. 9-10 orange, oder teilweise oder ganz schwarz. Appendices orange [(♂) segments 9-10 orange or partially or totally black, appendages orange]; (♀) Sgm. 9 und teilweise 10 und 8 orange [(♀) segment 9 and partially 10 and 8 orange]."

***flavovittata*** ssp. [*Brachydiplax chalybea* 1911b: 253]

L. *flavus* –a –um = golden yellow, reddish yellow, flaxen-coloured, blonde +*vittatus* –a –um = bound with a fillet, wreathed

The name refers to the pattern of the thorax: "Seiten mit zwei breiten, schwefelgelben Bändern, die vordere bis nahe zum Stigma reichend, die hintere den größten Teil des Metepimeron einnehmend; dazwischen ein bronzeglänzender schwarzer Streif [its sides with two broad sulphur yellow bands, the anterior one reaching near the stigma, the posterior one covering most of the metepimeron; between these a shining bronze black stripe]."

***foreli*** [*Metaleptobasis* 1918: 130]

The explanation of the name is found in the preface of the paper (p. 4): "Im Jahre 1896 machten meine verehrten Freunde Prof. Aug. Forel und Prof. Ed. Bugnion eine Amerika-reise, die sie nach den Antillen und der kolumbischen Küste führte, an dieser entlang der Sierra Nevada von Sta. Marta. Die Libellenausbeute, die mir überlassen wurde, ist in der Libellulinen-Monographie aufgenommen ... [In 1896 my venerated friends professor A. Forel and professor Ed. Bugnion travelled to America. Their journey led them to the Antilles and the coast of Columbia, and then along the Sierra Nevada of Santa Marta. Their pickings of Odonata, which were given to me, are included into the monography of Libellulines ...]." Auguste-Henri Forel (1848-1931) from 1879 was Professor of Psychiatry at the university of Zürich, but at the same time interested in entomology, mainly myrmecology (for more see Beolens 2018: 137).

***fractum*** [(*Africallagma*) 1921: 329]

L. *fractus* –a –um = broken

The name refers to the superior appendages of the males: "Superior appendages broken on side view, the basal part spinulose, directed ventrally, the apical part directed caudal, obtuse (key p. 318)."

***fulgens*** [*Diplacina* 1898: 323]

L. *fulgens* = flashing, glittering, gleaming, glaring, glistening, shining

In this species, the similarity of which to *Diplacina smaragdina* Selys is referred to, many parts of the body are shining metallic: "♂: ... Stirn und Scheitelblase glänzend blaugrün metallisch ... Vorder- und Unterseite des Thorax ganz metallisch grün ... Hinterleib schwarz, etwas grün metallglänzend ... ♀. Der Metallganz etwas weniger lebhaft... [♂: ... frons and vertex glistening bluish green metallic ... front side and underside of the thorax completely metallic green ... abdomen black, shining somewhat green metallic ... ♀. Metallic sheen a little less vivid]."

***garleppi*** [*Telebasis* 1918: 129]

Ris explains his choice of name in the preface of the paper (p. 4): „Endlich vermittelte mir Herr Fassel Sammlungen, die der in Lepidopterenkreisen sehr bekannte Tropensammler Otto Garlepp für ihn in Panama und Costarica in denselben Jahren 1912-13 zusammenbrachte [Finally Mr. Fassel {see p. 42} placed collections at my disposition

which Otto Garlepp, well-known collector in the tropics, captured for him in Panama and Costa Rica in the years 1912-13]." (For more about O.Garlepp (1864-1918) see Beolens 2018: 148).

**grisea** [(*Mnesarete*) 1918: 41]

L. *griseus* –a –um = grey

The coloration of the species is referred to: "Hauptfärbung schwarz, durch dünne Beifärbung grau [Main colour black, grey from a fine pruinosity]."

**guineense** [(*Orthetrum*) 1910a: 207]

L. *Guineensis* –is –e = from Guinea

Guinea in this name does not mean the modern state Guinea, but the region about the Gulf of Guinea, as Ris bases his description on specimens from Gabon and names also Angola or Sierra Leone as provenance of other specimens.

**haarupi** [(*Rhionaeschna*) 1908b: 523]

The eponym of this species is mentioned in the preface of the paper (p. 518): "Seither hatte ich Gelegenheit bekommen, durch die gütige Vermittlung des Herrn Esben-Petersen in Silkeborg, die Libellenausbeute der Herren A.C. Jensen-Haarup und P. Joergensen zu studieren. Die beiden Herren sammelten in der Provinz Mendoça, einer Region, aus der bis jetzt Odonaten noch gar nicht bekannt waren [Since then {the publication of Ris 1904a} I had the opportunity through the kind mediation of Mr. Esben-Petersen at Silkeborg to study the odonate collections of Mr. A.C. Jensen-Haarup and P. Joergensen. These gentlemen collected in the province of Mendoça, from where Odonata had not been known so far]." (For more about the Danish collector Anders Christian Jensen-Haarup (1863-1934) see Beolens 2018: 168)

**hahneli** [(*Macrothemis*) 1913a: 876]

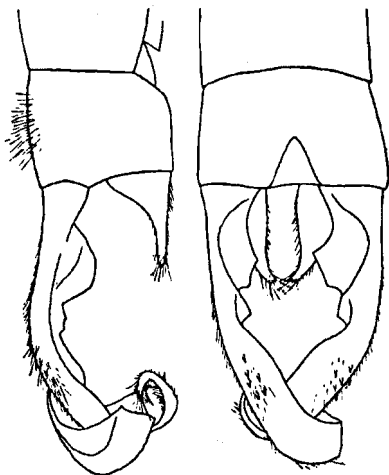
"Die durch Bildung der Appendices und Hamuli des  $\sigma^7$  gut charakterisierte, durch den grossen hellen Dorsalfleck des 7. Segments auffallende Art ist dem Andenken Dr. Hahnels gewidmet, dessen Sammlerfleiss die Coll. Selys vieles schöne Material verdankt [This species, well distinguished by the shape of appendages and hamuli of the  $\sigma^7$  and conspicuous by the large light dorsal spot of segment 7, is dedicated to the memory of Dr. Hahnel, to whose diligent collecting the Collection Selys owes much fine material]." The German entomologist Paul Hahnel (1843-1887) collected in South America, where he died of amoebic dysentery (see Beolens 2018: 170; Staudinger 1890).

**hecate** [(*Trithemis*) 1912a: 787]

*Hecate* [Gr. Ἑκάτη] in ancient Greece was a goddess of crossroads, but also of magic and witchcraft and is associated with the netherworld. Ris does not explain why he chose the name, but perhaps the dark coloration of the species (cf. key p. 761) and the relation of the deity to the netherworld have led to his choice.

**helix** [(*Lestes*) 1918: 63]

Gr. ἑλιξ = twisted, curved



**Fig. 12: Male appendages of *Lestes helix* (from Ris 1918: 63).**

The name refers to the spectacular superior appendages of the males (♀ unknown then): "Appendices superiores sehr robust und lang, schwärzlich, ihr spitzes Ende spiralgig ventralwärts eingerollt; am medial-ventralen Rand nahe der Basis eine breite, trapezoide, am freien Rand gerade abgeschnittene Erweiterung, der unmittelbar ein kleiner dreieckiger Zahn folgt; weiter distalwärts springt der medio-dorsale Rand in zwei Wellen vor, vor der spiralgigen Umbiegung der Spitze. [Superior appendages very

robust and long, blackish, their pointed end curled up spirally directed ventrally; at the medial-ventral margin near the base a broad, trapezoid extension, cut straight at the free margin, directly followed by a small triangular tooth; further distally the mediodorsal margin protruding in two corrugations anterior to the spiral curve of the tip."

***hesperis***

[*Micrathyria* 1911a: 447]

Gr. Ἑσπερίς = one of the Hesperides, daughters of Night, who dwelt in an island in the west, and guarded a garden with golden apples

This is another name from Greek mythology the choice of which is not explained by Ris.

***hippolyte***

[*Micrathyria* 1911a: 441]

In ancient mythology Hippolyte [Gr. Ἴππολύτη] was a daughter of Ares, the god of war, and queen of the Amazons. One myth says, that Heracles as his ninth task had to obtain her girdle, a gift of her father. Another myth says that she fell in love with Theseus and married him. It is to be noted that for all four species of *Micrathyria* named by Ris in the same publication names from Greek mythology were chosen (*artemis*, *dido*, *hesperis* and this one). In 1919 another one was named according to this practice (*dictynna*).

***hirundo***

[*Lyriothemis* 1913e: 509]

L. *hirundo* = swallow

Probably the long wings reminded Ris of a swallow: "Ausgezeichnet durch die schmalen und ausserordentlich langen Flügel [Distinguished by its narrow and extraordinarily long wings]."

***hylaëus***

[*Epigomphus* 1918: 153]

Gr. ὑλαῖος = belonging to the wood

Ris' specimen is from: "Brasilien, 1 ♂ Matto Grosso (ohne nähere Angabe) [Brazil,

1 ♂ Mato Grosso (without particulars).” At that time Mato Grosso [Portuguese = thick bushes] was among the most densely wooded regions of the country, but there is more to it, as Ris deems the genus *Epigomphus* to be a forest taxon: “Gestalt und Färbung der sehr eigenartigen in dieser Gattung vereinigten Formen läßt in ihnen Waldtiere vermuten und die Herkunft des immerhin noch spärlichen Materials spricht im selben Sinne [Shape and coloration of the very peculiar taxa incorporated in this genus give reason to conjecture these to be forest insects and the provenance of the sparse material speaks in favour of this]”.

***icteromelas*** [Orthetrum 1910a: 197]

Gr. ἰκτερος = jaundice + μέλας μέλαινα μέλαν = black, dark

Ris refers to this taxon as “in Färbungsmerkmalen gut, in Strukturmerkmalen wie bei dieser ganzen Gruppe nur schwer definierbare Art [a species to be well distinguished by characters of coloration, by characters of structure only with difficulties].” So the name must be due to the coloration of the juvenile males and of the females. The particulars shall not be listed here, but head, thorax and abdomen show black and yellow markings, of which among others the black middle of the yellow labium allows separation of pruinose adult males from those of the very similar *O. chryso stigma*. Another distinguishing feature is the yellow spots of the wingbases, those of the males in the hindwings, those of the females being larger and found in both wings (key p. 179).

***idalia*** [Macrothemis 1919: 1217]

L. *Idalia* = in poetry used as name for Venus, the goddess of love (from the Idalian Mountains on Cyprus, the island of the goddess)

There is no explanation why this species from British Guyana got this name, but certainly it denotes a female figure from antiquity.

***ilia*** [Zygonyx 1912a: 817]

In the older version of the Roman legend Ilia, a daughter of Aeneas, king of the fugitive Trojans, was the mother of the twins Romulus and Remus, the founders of Rome (in the later legend the mother of the twins was R(h)ea Silvia, daughter of Numitor, king of Latium, seven generations after Aeneas).

[L. *Ilius* –a –um = belonging to Ilium (another name of Troy)]. The only other species placed in the genus *Zygonyx* in Ris' 'Libellulinen' are the Selysian species *Z. ida* and *Z. iris*, that means female names in 'I'. (In Ris' publication the other older species now pertaining to *Zygonyx* are placed in the genus *Pseudomacromia*).

***imitans*** [Nannophlebia 1900: 189]

L. *imitans* = imitating

Ris begins his description: “(Vielleicht Race von *N. Lorquini* Selys.) [Perhaps a subspecies of *N. lorquini* Selys].” Then he explains that he had thought that a couple caught in copula on the Bismarck Archipelago were *N. lorquini* Selys; but after having read the original description of that species during his visit to the ‘Father of Odonatology’ he had seen differences from his notes which he had made when he had the specimens of



the Berlin Museum available to him in Rheinau. So he established this taxon, which certainly differed from the Selysian species, but only slightly. So he was not certain, if it might not be a subspecies.

***inconspicuum*** [*Pseudagrion* 1931: 98]

L. *inconspicuus* –a –um = not conspicuous, not remarkable

There is no explanation why this species is not conspicuous. Ris begins his description: "Zwei unter sich ganz gleiche Exemplare, die nichts von dem entsprechen, was ich bei umfassenden Untersuchungen der afrikanischen *Pseudagrion* an natürlichem Material und in der Literatur bisher gesehen habe [Two specimens completely looking alike, which do not correspond with anything I have seen when examining African *Pseudagrions* extensively by means of material from nature or in literature]." So the species should be remarkable. But then he enumerates which body parts of the new species are smaller than those of other species of *Pseudagrion*; so perhaps that is meant by the name.

***indivisa*** [(*Ischnura*) 1918: 134]

L. *indivisus* –a –um = undivided, not split/cloven

"Appendix inferior nicht bifid, nur mit dem ventralen Fortsatz, der etwas robuster und weniger ventralwärts gekrümmt ist als bei *capreola* [Inferior appendage not bifid, only with the ventral process which is a little more robust and less curved ventrally than with *capreola* {Hagen}]."

***inermis*** [*Raphismia* 1910b:370]

L. *inermis* –is –e = unarmed, without weapons

The genus was established for a species with two spines on the metasternum. However the choice of the species name becomes apparent from the key p. 368: "Die Bewaffnung der Unterseite des Metathorax fehlt dem ♂ [The armament of the underside of the metathorax of the ♂ is missing]."

***ines*** [*Erythrodiplax* 1911a: 510]

The given name *Ines* with different accentuation in French, Spanish and Portuguese is the version of the name *Agnes* in these languages, derived from Greek ἀγνός [= chaste, pure], but often connected with Latin *agnus* [= lamb]. There are several saints named *Agnes*, the first being a virgin martyr at Rome in 304 AD. The species is described from "1 ♂, 1 ♀ Ecuador, Santa Inéz, östl. der Anden, 1250 m [1 ♂, 1 ♀ Ecuador, Santa Inéz, east of the Andes, 1250 m]."

***infans*** [(*Archaeogomphus*) 1913b: 72]

L. *infans* = a young or little child, an infant, babe [properly: not speaking, speechless]

This species was classified by Ris in the genus *Agriogomphus* Selys, the wing venation of which Selys says to be extremely simple (= archaic) and whose wings show a similarity to that of some *Agrionines*. The name shows, that Ris assessed this species as being early in evolution like an infant in human growth: "seine Flügel sind früher von mir (20, Fig. 1) abgebildet als Paradigma einer sehr primitiven Aderung [its wings {those of

one of his two specimens} have been pictured by me earlier (= Ris 1909a: 10) as a paradigm of a very primitive venation]." Williamson (1919: 5) transferred Ris' species to his new genus *Archaegomphus* (see p. 99).

***interposita*** [Calophleb<sup>ia</sup> 1909: 68]

L. *interpositus* –a –um = put between, placed among

Ris says this to be a manuscript name by Selys. The new species is described between *C. karschi* Selys and another new one, *C. mayanga* from the Selys collection. So probably the manuscript name is a reference to the taxonomic location planned by Selys.

***irene*** [Cora 1918: 18]

The name Irene is derived from Gr. Εἰρήνη, the personification and goddess of peace. Ris does not explain if he had the goddess from Greek antiquity in mind when choosing the name or some female of his own times.

***januaria*** [Anatya 1911a: 423]

L. *ianuarius* –a –um = pertaining to January

The relation of this name to the month of January is only an indirect one, for it refers to the provenance of Ris' specimens from Rio de Janeiro: "Das Exemplar der Coll. Selys, dem unsere Figur entnommen ist, war lange Zeit unser einziges dieser Form und seine Herkunft unsicher. Die später erworbene Serie aus der Provinz Rio de Janeiro ist völlig homogen und weist der Form eine sicher bekannte Heimat an [The specimen from the Selys Collection from which our figure is taken for a long time was our sole one of this taxon, and its provenance was uncertain. The series later acquired from the province Rio de Janeiro is completely homogeneous and allocates an undoubtable country to this taxon]." It is to be added that the Portuguese captain Gaspar de Lemos, who was the first European to enter the Bay, where the town is now situated, with his ship on January 1st AD 1502, thought it to be the vast mouth of a river and named it 'Rio de Janeiro' (= January River).

***joergenseni*** [Progomphus] 1908b: 521

Peter Jørgensen (1870-1937) was a Danish entomologist, who together with A.C. Jensen-Haarup (see *haarupi* p. 44) collected in Argentina from 1904-1911. Ris gained access to the material collected by them through P. Esben-Petersen (see *peterseni* p. 66) (more information on Jørgensen: Beolens 2018: 206).

***joergenseni*** [Argia] 1913b: 62

This species is also dedicated to P. Jørgensen (see foregoing lemma). In the preface Ris explains: "Herr P. Joergensen, zur Zeit Beamter beim Ackerbauministerium in Buenos Aires, hat in den letzten Jahren reiche und interessante Sammlungen argentinischer Libellen nach Europa gesandt. Durch Vermittlung von Herrn Esben-Petersen in Silkeborg, Dänemark, ging dieses Material an mich zur Bestimmung und Bearbeitung [Mr. P. Joergensen, presently an officer in the Department of Agriculture at Buenos

Aires, in the last years has sent copious and interesting collections of Argentinean Odonata to Europe. Procured by Mr. Esben-Petersen at Silkeborg, Denmark, I received this material for determining and editing]" (p. 55).

***jonesi*** [Notithemis 1919: 1054]

W.E. Jones (ca 1868-1950) was an Australian businessman and naturalist, who on the news of gold strikes settled at Mfongosi (then Colony of Natal), where he collected two of Ris' specimens in 1911 (More information on Jones: Beolens 2018: 205).

***jujuya*** [Argia 1913b: 64]

L. *jujuyus* –a –um = from Jujuy (the northwesternmost province of Argentina, bordering on Bolivia and Chile)

The name refers to the provenance of Ris' sole specimen: "1 ♂ San Lorenzo, Jujuy, Bergfluss [mountain river] 900 m."

***juliana*** [Erythrodiplax 1911a: 513]

This is a manuscript name by Selys. In Roman antiquity the name originally meant "belonging to the Julii" (one of the leading clans in Rome. Well known members of that were Julius Caesar, the dictator, and the emperor Augustus). There are several Saints called Juliana, among which is Saint Juliana of Liège (ca 1192-1258). As demonstrated by Hämäläinen 2020, Selys named some species after Saints to whom he had a special relation. So this Saint from his home region might be the eponym of the taxon in question.

***kordofanicum*** [Ceriagrion 1924: 279]

L. *Kordofanicus* –a –um = from Kordofan, a region in central Sudan

The type locality is: "1 ♂ Tonga 11. IV. {1914}". As explained in the preface, Tonga is a place at the northern shore of the western sinuosity of the White Nile, south of the Kordofan provinces of Sudan.

***kraepelini*** [Orthetrum cancellatum 1897a: 45]

It is not clear, if this taxon is really a subspecies of *O. cancellatum*, or just a synonym (see Verspui & Wasscher 2020). Ris explains his choice of name: "... j'ai le plaisir de la dédier à M. le professeur Ch. Kraepelin, directeur du Musée d'Histoire naturelle de Hambourg [I have the pleasure to dedicate the species to Professor Ch. Kraepelin, director of the Natural History Museum at Hamburg] ." In the preface he says: "à l'occasion d'une visite au beau Musée d'Histoire naturelle de Hambourg , j'y trouvai une série d'Odonates de l'Asie centrale qui m'a paru très intéressante [On the occasion of a visit to the beautiful Museum of Natural history at Hamburg I have found a series of Odonata from Central Asia, which seemed very interesting to me]." For more about K. M. F. M. Kraepelin see Beolens 2018: 227.

***kristenseni*** [Orthetrum 1911e: 126]

Ris informs: „Ich widme diese schöne Art Herrn Gunnar Kristensen, Naturalist, zur Zeit in Harrar, der sich die nur wissenschaftlich aber nicht materiell dankbare Aufgabe

stellt, auch die weniger populären Insektengattungen in Abissinien (*sic*) zu sammeln [I dedicate this beautiful species to Mr. Gunnar Kristensen, naturalist, presently at Harrar, who adressed himself to the task, which only scientifically but not materially is profitable, to collect also the less popular genera of insects in Abyssinia](p. 127).” For more about G. Kristensen (\*1870) see Beolens 2018: 229.

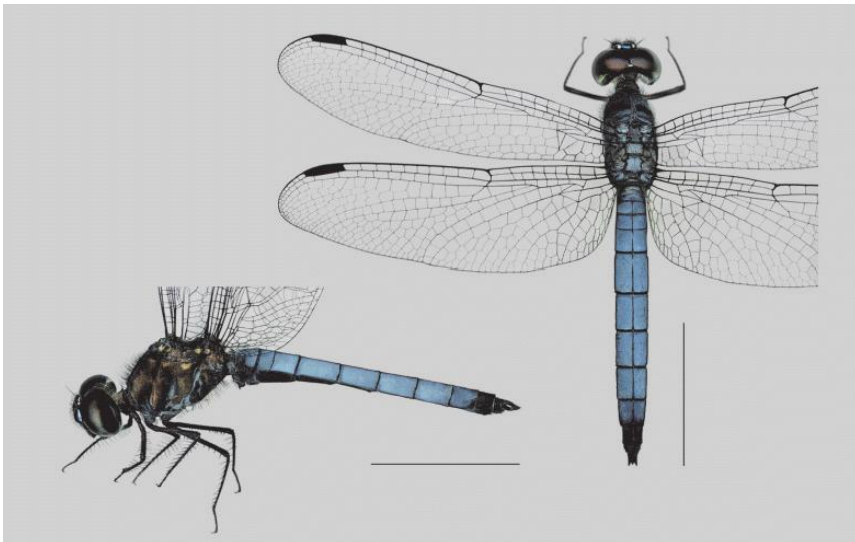
***lachesis*** [(*Zygonojdes*) 1912a: 828]

In Greek mythology Lachesis [Gr. Λάχεσις = "disposer of lots"] is one of the three Moirai or Fates, who decide the destiny and how long life for each being will be. There is no explanation why this name was chosen, but certainly it is a female name from antiquity.

***laetitia*** [*Oligoclada* 1911a: 404]

*L. laetitia* = joy, exultation, rejoicing, but also a given female name in the Netherlands, Germany, Switzerland, England and France

Ris does not explain his choice of name. Most probably he did not have in mind the personification of this abstract word found on coins of the Roman emperor Gallienus (ruled 253-260 AD as partner of his father, 260-268 as Augustus) to show the blessing of his rule together with similar personifications like Salus (= Welfare) or Uberitas (= Abundance) (cf. German Wikipedia s.v. Laetitia). The English Wikipedia mentions a Saint Lezizia (L. Laetitia) who is especially venerated in southwestern Europe, but for that virgin martyr also there is no evidence that she is intended as eponym. So the interpretation of the name remains uncertain, however some unknown female person familiar to Ris might be at the base of the name.



**Fig. 13: *Tyriobapta laidlawi* ♂.** The picture shows that Ris' assumption (1919: 1122) that adult males of the species would be blue pruinose was correct (© Dan Bárta, Aleš Dolný, Robert Lízler).

***laidlawi*** [Tyriobapta 1919: 1121]

The specimen in the Selys collection was a gift from Laidlaw: "Coll. Ris: 1 ♂ Sarawak (2.IX.1909, ded. [= dedit ≈ given by] F.F. Laidlaw)." Frank Fortescue Laidlaw (1876-1963) after an impressive study of zoology at Cambridge in 1899 joined the Cambridge University Expedition to Malaya as zoologist. After that he spent a time as Lecturer and Assistant Demonstrator in Zoology at Manchester. In 1903 he returned to the study of medicine and began to practice at Devon in 1911, which he did until his retirement in 1945, except three years during World War I in the Royal Army Medical Corps. His odonatological and malacological studies were performed in his free time from professional duties (cf. Endersby & Fliedner 2015: 69; Beolens 2018: 233).

***latimaculata*** [Erythrodiplax 1911a: 495]

L. *latus* –a –um =wide, broad + *maculatus* –a –um = spotted, stained

The name refers to the dark spots at the base of the hind wings: "Hinterflügel mit schwarzbrauner Basis bis 4-6 Anq und 2-3 Zellen distal vom t über die ganze Breite des Flügels [Hind wings with a deeply blackish brown base up to the 4th to 6th antenodal crossvein and 2-3 cells distally from the triangle covering the complete width of the wing]."

***lauriana*** [Macrothemis 1913a: 882]

Ris informs that *lauriana* is a manuscript name of H.W. Bates (see *batesi* p. 28), from whom four of the five specimens in the Selys collection were received. This female name is not from antiquity, even though it is formed with the Latin suffix –(i)anus –a –um = pertaining to, the former part possibly being *laurus* = laurel or the female name *Laura* which also is derived from *laurus*.

***lemur*** [Orthetrum 1910a: 219]

L. *lemur* = one of the lemurs (malevolent ghosts of the dead, spectres, shades)

The name does not refer to the shades of the dead directly; Ris wants to characterise the taxon as endemic to Madagascar: "Die durch das grosse, hellbraune Pterostigma mit sehr fein dunkeln Randadern ausgezeichnete Madagascarform ist noch nirgends beschrieben [The Madagascan taxon distinguished by its large, light brown pterostigma with very fine dark veins at the margins is so far not described anywhere]." For this he used the name of the endemic prosimians.

***lepidus*** [Progomphus 1912b: 111]

L. *lepidus* –a –um = agreeable, charming, delightful, nice

Ris does not explain his choice of name, but he states: "Dem *P. gracilis* sehr nahestehend, doch verschieden durch die Thoraxzeichnung und besonders die Appendices [Very close to *P. gracilis*, but distinguished by the markings of the thorax and especially by the appendages]." It should be added, that *gracilis* in some contexts might come near to 'graceful' in meaning. According to Bridges the species described by Ris directly before *P. lepidus* under the name *P. gracilis* Selys really was a different species, which not was described until 1973 as *P. adaptatus* by Belle (see p. 92).

***leptostyla***

[Elga 1911a: 398]

Gr. λεπτός -ή -όν = thin, fine, delicate + L. feminine adjective form derived from *stilus* = a stake, a pointed instrument used by the Romans for writing upon wax tablets. In late antiquity and later on y often was written for i, and the terminus styli in entomology refers to the anal appendages.

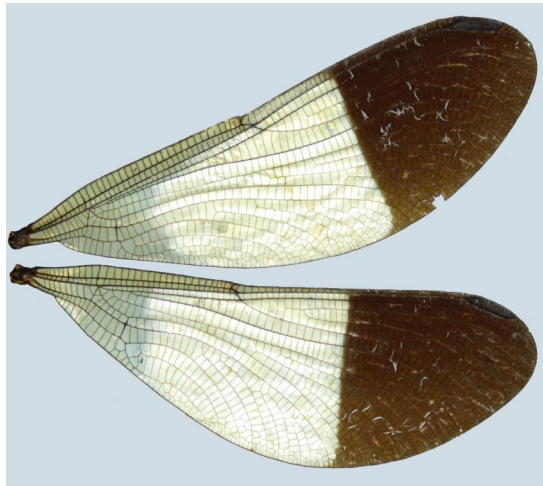
The appendages of the species are described thus: "Appendices superiores so lang wie Segment 9 + 10, sehr dünn, parallel, von der Seite gesehen schwach gekrümmt. ... Appendix inferior fast von gleicher Länge, sehr schmal und spitz, mässig nach aufwärts gebogen [Superior appendages as long as segments 9 + 10, very thin, parallel, in lateral view slightly curved. ... Inferior appendage nearly of the same length, very narrow and pointed, moderately curved upwards]."

***leroi***

[Euthore 1918: 28]

Otto Le Roi (1878-1916) was a German zoologist, first specialising in ornithology, but later also expert in other disciplines, from about 1908 gradually also in odonatology, so that he was entrusted with the publication of the odonatological results of the second German expedition to Inner Africa (1910-12). He became assistant to Alexander Koenig and participated in his Spitsbergen expedition (1907-08) and two to the Sudan (1910 + 1913). In 1915 he joined the Prussian army as a volunteer and was killed in autumn 1916 in the Carpathian Mountains. Ris explains his dedication: "Die schöne, in schwarzweiss geschmückte Art widme ich Otto leRoi, der für das Vaterland gefallen ist, in treuem Gedenken [This beautiful species, adorned in black and white, I dedicate to Otto Le Roi, who was killed for his home country, in pious memory]." It might be added that the colours black and white are of symbolic value, as they were the heraldic tinctures of Prussia. Ris had helped Le Roi earlier to determine Odonata from Africa and later in 1924 completed the publication of the odonatological results of an Austrian expedition to Sudan, which Le Roi had not been able to finish. For more about Le Roi see Geyr von Schweppenburg 1917; Beolens 2020: 244).

**Fig. 14: *Euthore leroii* syntype ♂ wings. It is obvious why Ris in his description called the species "beautiful" and "adorned in black and white". Whether the heraldic meaning of the wing colours was decisive for the choice of this species for the dedication remains uncertain (© R.W. Garrison).**



***leucozona* ssp.** [*Macrothemis imitans* 1913a: 887]

Gr. λευκός = white + –ζώνος = –girded

The name refers to the lateral white spots of the thorax, which in the nominate taxon are three, two mesepimeral, one metepimeral, while in this subspecies: "Die mesepimeralen Flecken sind zu einer vollständigen breiten weisslichen Binde vereinigt [the mesepimeral spots are united to each other in an entire broad whitish band]."

***lindneri*** [(*Homeoura*) 1928c: 41]

"Herrn Dr. Lindner in Hochschätzung gewidmet [Dedicated to Dr. Lindner in high esteem]." Erwin Lindner (1888-1988) was a German entomologist. From 1913 he was employed at the Naturhistorisches Museum Stuttgart, where he mainly reorganised the Diptera-Collection, and by the difficulties he met in that project, he was induced to join forces with other dipterologists to edit a handbook "Die Fliegen der palaearktischen Region [The flies of the palearctic realm]", the last volume of which was published in 1993. In 1925-26 he participated in the German Chaco Expedition, the odonatological results of which were published by Ris (1928c). Other expeditions led him to East and South Africa (1951-52; 1958-59; 1970), the last one, when he was over 80 years old. (For more see Schnell 1988; Beolens 2018: 249).

***longistigma*** [*Progomphus* 1918: 139]

L. *longus* –a –um = long, extended + στίγμα = mark, spot (in odonatology usually for pterostigma)

The name refers to the pterostigma of the species: "Pterostigma enorm lang und ziemlich schmal, gelbbraun, die Ränder breit und diffus dunkler [Pterostigma extraordinarily long and rather narrow, the margins broad and diffusely darker]."

***longitudinalis*** [(*Erythrodiplax*) 1919: 1140]

L. *longitudinalis* –is –e = longitudinal

The name refers to the marking of the thorax: "Die Art ist ausgezeichnet durch die longitudinale hellgelbe Binde der Thoraxseiten, sehr ähnlich dem Zeichnungstypus der *Erythrodiplax erratica* [The species is distinguished by the longitudinal light yellow band on the sides of the thorax, very similar to the type of design in *Erythrodiplax erratica*]." Originally Ris had placed the species in the genus *Anatya* on the base of characteristics of wing venation.

***lorentzi*** [(*Ischnura*) 1913e: 480]

Ris does not explain his choice of name, but he must have thought it to be selfevident, as the species was described from material from one of the Dutch expeditions to Southern New Guinea, which was led by Hendrikus Albertus Lorentz (1871-1944). This scientist later having entered the Dutch consular services became ambassador in Pretoria, South Africa (see Beolens 2018: 253).

***lugubre*** [*Orthetrum* 1915e: 142]

L. *lugubris* –is –e = belonging to mourning, mourning

The taxon was described as a subspecies of the Malagasy *Orthetrum azureum* Rambur, from which it is distinguished by: "Habitus stark verschieden durch die viel dunklere Färbung und das Fehlen von gelber Zeichnung an der Flügelbasis [habitus very different by the much darker coloration and the lack of yellow marks at the wing base]". That means: the dark coloration and the missing light markings are compared with human mourning garments.

**lygaea**[*Erythrodiplax* 1911a: 515]

Gr. λυγαῖος –α –ον = shadowy, murky, gloomy

The name refers to the coloration of the adult ♂: "Thorax und Abdomen gleichmässig trüb schwarzbraun, durch dünne Bereifung trüb violettlich [Thorax and abdomen evenly murky blackish brown, murky violet due to thin pruinescence]."

**macrostylis**[*Argiolestes* 1913e: 475]

Gr. μακρός –ά, –όν = long + *styli* in entomology refers to the anal appendages.

The males of this species are "Von allen beschriebenen Arten der Neu-Guinea-Region verschieden durch die langen Appendices inferiores [different from all described species from the New Guinea region by the long inferior appendages]." The ending *-is* in this case does not quite conform to the practice of the ancient languages (cf. p. 52 s.v. *leptostyla*).

**maja**[*Trithemis* 1915e: 145]

Whereas in Greek mythology a Maia [Gr. Μαῖα] is known as one of the Pleiads and mother of Hermes, the god of travelers, merchants and thieves and messenger of the gods, she is not at the base of the name. Ris describes the provenance of his specimens: "7 ♂ ♂, 1 ♀. Mayotte 9. 19. und 21. Mai, 3. 9. u. 11. Juni", that means: all his specimens were from Mayotte, and a number of them were captured in May. And that month in Roman religion was in divine custody of Maia, a goddess of growth. But in later times she was confused with the figure from Greek myth. So by his choice of the name Ris made a pun with the place and month of the provenance of the species.



Fig. 15a: *Rhyothemis phyllis marginata*, type Coll. Selys. a. specimen. The yellow or light brown coloured anterior margin of the wings has led to the name (© M. Seehausen).





**Fig. 15b: *Rhyothemis phyllis marginata*, type Coll. Selys. b. label. (© M. Seehausen).**

***marginata* ssp.** [*Rhyothemis phyllis* 1913a: 945]

*L. marginatus* –a –um = bordered, provided with borders

The name describes that in this taxon the anterior margin of both wings is bordered yellow or light brown about two cells deep exceeding the apex (Ris' complete description would be a little long to quote).

***marina*** [(*Nososticta*) 1913d: 513]

*L. marinus* –a –um = of the sea, seaborne, marine

As the species is described from the Aru-Islands, it is certainly surrounded by the sea.

***mariposa*** [*Rhyothemis* 1913a: 961]

Span. mariposa = butterfly

Probably the typical style of flying in that genus which led to the name 'Flutterers' has led to the name. Certainly Ris never saw this species in life, but he knew other species of that genus from his travels as a surgeon.

***marshalli*** [(*Allocnemis*) 1921: 291]

The species is dedicated to the collector of Ris' specimens and other material, as pointed out in the preface of the paper: "Mr. E.B. Williamson, of Bluffton, Indiana, U.S.A. forwarded a large collection, consisting of various lots sent him ... by Mr. G.A.K. Marshall, when this gentleman was a resident of Salisbury, Mashonaland. Other specimens from the Marshall collections were also included in the British Museum lots as well as in the material sent by the Swedish Imperial Museum at Stockholm."

Sir Guy Anstruther Knox Marshall (1871-1959) was a prominent Indian born British entomologist. After his education in England he was sent by his father to South Africa, where he settled near Salisbury, Mashonaland (now Harare, Zimbabwe) and exercised several professions, at the same time collecting. In 1906 he returned to England where in 1916 he became the first director of the Commonwealth Institute of Entomology (for more see Beolens 2018: 272-273).

***martini*** [*Amphicnemis*] 1911b: 237

„Herr Hofrath D' Martin in Diessen am Ammersee hatte die grosse Gefälligkeit, mir eine Sammlung von Libellen zu überlassen, die er im Jahre 1910 von Borneo mitbrachte [Court counsellor Dr Martin at Diessen at Lake Ammer had the great courtesy to commit a collection of Odonata to me which he had brought from Borneo in 1910]" (p. 231). "Herrn

Hofrath Dr L. Martin dankbar gewidmet [With gratitude dedicated to court counsellor Dr Martin]" (p. 238). Ludwig Martin (1858-1924) was a German physician, who for some time lived and practiced in Palu, Sulawesi, and collected insects, mainly Lepidoptera, on several islands of Indonesia (then Dutch East Indies), but at the time of Ris' paper he was back in Germany (Beolens 2018: 274).

***martini*** [(*Mortonagrion*) 1900: 199]

"Meinem verehrten Freunde René Martin in Le Blanc gewidmet, dem ich vieles von dem Vergleichsmaterial verdanke, das mir diese Studie möglich machte [Dedicated to my venerated friend René Martin at Le Blanc, to whom I owe much of the material for comparison, that rendered this survey possible]." René Martin (1845-1925) after having studied law in 1872 settled with his wife at Le Blanc (department Indre, France) as a solicitor, where he practised until 1907. At the same time he dedicated himself to the study of nature, especially of Neuroptera *sensu* Linné and in particular of Odonata. He augmented his collection by exchange with odonatologists from other countries and gradually it became the most important in France. He was in contact with Selys at least 1894, when he paid a visit of three days to him at Liège to study the collections. Probably through this connection Ris came into contact with him. After Selys' death in 1900 Martin agreed to produce the catalogues of the Collection Selys for the Aeshnidae and the Corduliidae, as Ris did for the Libellulidae. Later Martin also completed a catalogue of the Calopterygidae, but that was never printed due to lack of paper during World War I. In the preface of Ris 1909a (p.4) he is acknowledged among those who helped: "endlich am ausgiebigsten und trotz vieler Ansprüche meinerseits mit unermüdlicher Gefälligkeit mein lieber Freund René Martin, Paris [finally most extensively and in spite of many requirements on my part with undefatigable helpfulness my friend René Martin, Paris]". During his last years Martin lived in Chile with his daughter. More about him Fliedner & Endersby 2019: 53; Beolens 2018: 274-75.

***matutinum*** ssp. [(*Sympetrum baccha* 1911c: 666]

L. *matutinus* –a –um = of the (early) morning

Ris, who described this taxon as a species, gives no information for his choice of name. Probably a semantic error has led to the name. All specimens in the first description are from Japan, nearly the easternmost provenance in the Old World. In German the word der Morgen (= morning) also may mean 'the East' (= land of the *rising* sun), and the orient may be called "Morgenland" (= morning's land), but not so the Latin word.

***mayanga*** [(*Malgassophlebia*) 1909: 69]

The name probably refers to Mahajanga, a town and the former province at the north eastern coast of Madagascar. Ris' sole specimen however is from "Coll. Selys 1 ♂ Nossi-bé". Nossi Be (Malagasy = Big Island) is an island situated east of the northernmost part of Madagascar. The specimens of the Selysian species *Calophlebia karschi* described by Ris two pages before are said to be from: "6 ♂ Nossi-bé, Rumena Valley-Mayanga". But the latter is a place on Madagascar itself as to be seen from Ris 1909a: 56 in connection with *Archaeophlebia martini* (Selys).

***mediofasciata*** [Aethiis 1931: 106]

L. *medius* –a *um* = in the middle, in the midst, mid + *fascia* = band, girth, fillet + –*atus*  
–a –*um* = equipped with, marked with

The species is described from two females. A dorsal band on the abdomen has led to the name: "Abdomen mässig breit, depress ... Rötlich gelbbraun, über die dorsal Mitte eine vollständige schwärzliche Längsbinde von Segment 2-10, an den Segmentenden jeweils etwas seitlich erweitert, nach hinten allmählich breiter, auf Segment 5 jederseits etwas mehr als ein Drittel der Segmenthälfte [Abdomen moderately broad, depressed ... reddish tawny, on the middle of the dorsum a complete blackish longitudinal band from segment 2 to 10, at the end of each segment a little extended laterally, backwards gradually broader, on segment 5 slightly more than a third of the segment's half on each side]."

***melanopteryx*** [Bayad~~e~~ra 1912d: 49]

Gr. μέλας μέλαινα μέλαν = black, dark + –πτερυξ = –winged

In the key Ris describes the coloration of the wings: "Distaler Teil der Flügel tief schwarzbraun, beim ♂ bis 2-3 Zellen distal vom Nodus mit etwas diffusem Abschluss, beim ♀ bis halbwegs vom Nodus zur Basis, ebenfalls diffus abschließend [Distal part of the wings deeply blackish brown, in the ♂ reaching 2 to 3 cells distally of the nodus with a somewhat diffuse termination, in the ♀ female reaching halfway from nodus to the base, likewise terminated diffusely]."

***melanota*** [Palaemne~~m~~ma 1918: 99]

Latinised from Gr. μέλας, μέλαινα, μέλαν = black, dark + –νωτος –ος –ον = –backed

The name refers to the dorsum of the thorax: "Thoraxdorsum schwarzgrünbronze ohne Zeichnung; diese Färbung reicht seitlich etwas mehr als die Hälfte des Mesepimeron und ist nur am dorsalen Ende ein wenig unregelmäßig nach vorne eingebuchtet [Dorsum of the thorax blackish green bronze without markings; this coloration laterally covers a little more than half of the mesepimeron and only at the dorsal end is somewhat erratic] ."

***melli*** [(Atrocalopteryx) 1912d: 55]

In the preface of the paper Ris states: "Dieses Material wurde von Herrn C. Mell, Canton, in der Provinz Kwang -Tung gesammelt [This material was collected by Mr. C. Mell, Canton {now: Guangzhou}, collected in the province Guangdong]." Rudolf Emil Mell (1878-1970) [Ris probably has mistaken the first name] was a German naturalist who, after a training as teacher and engagement in several places in 1907, applied for a position abroad, and after a short study of Chinese at Berlin in 1908 was sent to Canton, China, by the foreign office to establish and lead a German-Chinese school there, which he did with good effort. Impressed by the richness of nature there he began to study it and collect animals and plants, hiring native collectors for good effect. At the same time he established some kind of zoo, where also living insects were displayed. During the last years of World War I he suffered some restrictions and after that he was threatened with deportation, but in 1921 diplomatic relations between China and Germany were re-established, and he decided to leave for a vacation in Germany in Berlin, where he want-

ed to promote the publication of the first volumes of his 'Fauna Sinica'. But due to the hyperinflation (at its end 1 US \$ was worth  $4.2 \times 10^{12}$  Mark in Germany) the foreign office no longer was able to maintain the School at Canton. So Mell had to stay in Germany. As he never had completed a scientific education he could not get a learned job at a museum. In 1936 the Cantonese School Authorities offered Mell a post as Counsellor, but due to the Japanese war against China that did not eventuate. So Mell stayed in Germany, where he lived in poverty up to old age (for more see Tillack 2018; Beolens 2018: 284).

***melpomene*** [Macromia 1913e: 496]

Melpomene [Gr. Μελπομένη = the one who is melodious] originally was the Muse of Chorus, then the Muse of Tragedy. This is another Muse chosen as an eponym in the genus *Macromia* by Ris (cf. calliope p. 31).

***mengeri*** [*Micrathyria* 1919: 1149]

In his dedication Ris says: "Die Art ist nach dem trefflichen Künstler benannt, der so grossen Anteil an der Illustration dieser Monographie hat [The species is named after the excellent artist, who takes such a great part in the illustration of this monograph]." Which part he took is explained on p. 3 of the 'Libellulinen' (Ris 1909a): "Herr E. Menger (Brüssel) zeichnete die farbigen Tafeln, welche in dem lithographischen Institut L. Goffart, Brüssel, gedruckt wurden [Mr. E. Menger (Brussels) drew the coloured plates, which were printed in the lithographic institute L. Goffart, Brussels]." According to Beolens (2018: 285) he worked at the Institut Royal des Sciences Naturelles de Belgique 1866-1880, but the catalogue of the Selys collection was produced much later.

***mertoni*** [*diocnemis* 1913d: 507]

The elucidation of the specimens begins: "1 ♀ Aru-Inseln, Kobroor, Manumbai, 13. III. 1908, [egit] Merton" and at the end of the description it reads: „Als typisch für die Beschreibung hat die Aru-Serie zu gelten, speziell das Männchen, nach welchem Fig. 4 gezeichnet ist und das Weibchen der Sammlung Merton [As typical is to be regarded the series from the Aru-Islands, especially the male, from which figure 4 is drawn and the female from the Merton collection]." Hugo Merton (1879-1940) was a German zoologist. After his studies at Bonn, Berlin and Heidelberg and a year at the Stazione Zoologica Anton Dohrn at Naples in 1907-08 on behalf of the Senckenbergische Naturforschend Gesellschaft he undertook an expedition to the Molluccas (now: Maluku Islands), where the material was collected, which is described in Ris 1913d. After a time as Deputy Director of the Senckenberg Museum at Frankfurt/Main and military service in World War I he became professor at the University of Heidelberg. When the Nazis came to power he was not allowed to continue due to his Jewish ancestry. He was invited to teach at the Institute of Animal Genetics at Edinburgh in 1937, but when he returned to Germany a year later, he was abducted to the Dachau concentration camp, where his health was damaged lastingly by mistreatment. When finally allowed to emigrate he took a post at Edinburgh again, but died not soon after in 1940 (see Beolens 2018: 286).



Fig. 16: Plate VIII from Selys 1919 (behind p. 1042). This is one of the plates in the 'Libellulines' designed by E. Menger.

**microstigma**

[*Orthetrum* 1911e: 128]

Gr. μικρός –ά –όν = small + στίγμα = mark, spot (in odonatology usually for pterostigma)

“♂ ... Pterostigma sehr klein und schmal, gelbbraun bis dunkelbraun, mit dicken

schwarzen Randadern [Pterostigma very small and narrow, yellowish brown up to dark brown, with thick black marginal veins (p. 129) ... ♀ Pterostigma wie beim ♂ oder ganz wenig größer [Pterostigma like that of ♂ or very little larger (p. 130)] .“

**militaris**[*Diplacina* 1909: 99]

*Diplacina militaris* was published by Selys 1889: 466 as a nomen nudum, but he mentioned its striking similarity to, perhaps even being identical with '*D. bolivarii*' [named after the Spanish naturalist Ignazio Bolívar y Urrutia (1850-1944), from whom Selys hoped for an entomological fauna of the Philippine islands (then a Spanish colony); it is not named after the South American fighter for independence, see Beolens 2018: 50]. That species Selys had described some years before on the basis of a single male from Luzon (1882: 14). Ris in his description of the taxon *militaris* based on specimens from Sulawesi and the Maluku Islands in the Selys Collection classified it as a subspecies of *D. bolivarii*. Davies & Tobin (1985: 95) elevated it to specific rank. Van Tol 1987 provided a new description of the taxon calling it a "medium-sized, black and creamish-white to yellowish coloured libellulid with slender abdomen" (p. 161) and for his new subspecies *D. m. dumogae* he mentioned the third abdominal segment of the male as "in living specimens dark red-brown, in preserved material ochreous" and "Female also with red coloured abdominal segment 3" (p. 165). As Ris mentions the red abdominal segment for his taxon too (p. 99) the three national colours of Belgium are present in the coloration of the species, which certainly also will have adorned military emblems. So this might have led to the name.

**mneme**[*Mnais* 1916a: 11]

In Greek mythology *Mneme* [Gr. Μνήμη] was one of the elder Muses, the Muse of memory. So she is a female divinity from antiquity. Ris does not explain why he chose this very name for the species, but it seems evident, that the alliteration to the genus name played a role in his decision.

**modesta**[*(Aethiis) 1910a: 161]*

L. *modestus* –a –um = moderate, modest

Perhaps this feature has led to the name: "♂ „Flügel ... an der Basis eine geringe Spur gelb [Wings at the base with a minor vestige of yellow]", while the other 3 species of the (outdated) genus *Apatelia* have larger yellow patches at the wing base.

**monardi**[*Triis 1931: 108]*

"Es gereicht mir zur Befriedigung diese Art Herrn Dr. Monard widmen zu können [It is to my satisfaction to be able to dedicate this species to Dr Monard]. More information is from the preface of the paper: "Die kleine Sammlung von Odonaten, die Herr Dr. Monard aus Angola mitbrachte, umfasst 27 Arten [The small collection of Odonata brought by Dr. Monard from Angola comprises 27 species]" (p. 109). The Swiss naturalist Albert Monard (1886-1952) having achieved a doctorate in science at the University of Neuchâtel was a teacher at a secondary school at La Chaux-de-Fonds, where he also acted as Curator at the Natural History Museum. He also undertook six expeditions to various

parts of Africa, from the first of which in 1928 to Angola came the material described by Ris in that paper (cf. Beolens 2018: 293).

***mortoni*** [Macrothemis] 1913a: 884

“Ich widme sie meinem lieben Freund Kenneth J. Morton in Edinburgh. [I dedicate it {the species} to my dear friend K. J. Morton at Edinburgh].” Ris described this species, which was not in the Selys collection, from four specimens from Morton’s collection and two specimens given to him by Morton.

Kenneth John Morton (1858-1940) was a Scottish amateur entomologist of high renown and world wide connections. From 1874 to 1897 he worked for the British Linen Bank first in Glasgow, then in Edinburgh until his retirement in 1922. His main interest was the Neuroptera *sensu* Linné. After being introduced to Ris by R. Mc Lachlan in 1893 a close friendship with Ris developed, whom he visited several times at Rheinau and with whom he made a collecting tour to the Iberian peninsula in 1911. A similar expedition planned for 1914 was prevented by the World War I. So their contact mainly was by letters which, when becoming accessible, might add to the history of odonatology. (cf. Morton 1931; Endersby & Fliedner 2015: 70).

***mortoni*** [Lyriothemis] 1919: 1066

This species also, missing in the Selys collection, was described from a specimen in Morton’s collection. The species is found among the additions and corrections in the ‘Libellulinen’, where Ris under the new name described a single male from lower Burma, which he formerly (in Ris 1909a: 118-119 + fig. 86) had taken to be *L. acigastra* and also represented its wing (More on Morton see foregoing lemma).

***natalense* ssp.** [Pseudagrion *spernatum* 1921: 307]

*natalensis* –is –e = from Natal

This taxon is now deemed to be a subspecies of *P. spernatum* Selys 1881, which according to Selys, was a manuscript name by Hagen for a specimen at the Berlin Museum from the Cape Province, adopted by Selys for a number of specimens from Shewa, the central region of Ethiopia, and two females in his own collection from Natal. Of the 16 specimens, on which Ris based his taxon, most are from Zululand, one from The Cape Colony and only one pair is from Natal: “British Museum: 1 ♂ 1 ♀ Willow Grange, Mooi River, Natal.” (The name *spernatum* is somewhat enigmatic, as it is not correct Latin. The past participle of *sperno*, which may mean ‘separate’, correctly is *spretum*. One might guess that Hagen wanted by this name to distinguish the Berlin specimen from other *Pseudagrion* species).

***nausicaa*** [Gynacantha 1915c: 109]

In Homer’s Odyssey Nausicaa [Gr. Ναυσικάα] was the comely daughter of the king of the Phaeacians, who met the shipwrecked Odysseus on the beach of her home island, while she and her maids were washing the garments of the people of the royal court, clad him and sent him to her father’s residence, from where he was sent home to Ithaca in one of the fast ships the Phaeacians were famous for. This is one of three females close-

ly connected with Odysseus chosen as eponyms in the genus *Gynacantha* in the same publication (besides *Calypso* and *Penelope*).

***nemesis*** [(*Oligoclada*) 1911a: 407]

In Greek mythology *Nemesis* [Gr. Νέμεισις ≈ giving what is due] is the goddess who enacts retribution. This is another female name from antiquity.

***nesaea*** [(*Neurothemis*) 1911c: 565]

Gr. νησαῖος –α –ον = insular

Ris' specimens are from Sulawesi, so the provenance certainly is insular.

***nigrifrons*** [(*Nososticta*) 1913e: 479]

L. *niger* –*gra* –*grum* = black, dark, dusky + –*frons* = –fronted

“♂ ... Kopf ganz schwarz ausser dem trüb weisslichen Mentum [Head totally black except the dingy whitish mentum]”. By this the taxon is distinguished from *N. pseud-exul* described directly before, of which the ♂ has a white band on the frons, the ♀ an orange one.

***nodisticta*** [(*Gomphomacromia*) 1928a: 169]

L. *nodus* = knot + –*stictus* –*a* –*um* = Latinised from Gr. σπικτός = spotted, tattooed

This is a distinguishing feature of the species in the key: “♂ und ♀ mit einem gelben Fleckchen am Nodus in der distalen Zelle [♂ and ♀ with a little yellow spot at the nodus in the distal cell].”

***notoxantha*** [(*Miccora*) 1918: 20]

Latinised from Gr. νότον = back + ξανθός –ή –όν = yellow of various shades, freq. with a tinge of red, brown, auburn

The name refers to a feature of the male: “Thoraxdorsum licht gelborange, die Seiten etwas trüber, mehr nach ockergelb [Thorax dorsally light yellow orange, laterally somewhat dingy, more like yellow ochre].”

***obscura*** [(*Miccora*) 1918: 21]

L. *obscurus* –*a* –*um* = dark, dusky, shady, obscure

This species is described directly after *M. notoxantha* from three males. The part which is described as light yellow orange in the former species in this one is: “Thoraxdorsum mattschwarz [Thorax dorsally dull black]”. Also other dark parts of the thorax are mentioned: “Mesepisterna ganz schwarz, Mesepimera ebenso, oder sehr dunkel braun [Mesepisterna totally black, mesepimera likewise or very dark brown]” (key p. 15).

***occidentis*** [(*Zygonojdes*) 1912a: 826]

L. *occidens* = the sunset, west, occident

Ris described this taxon from places in Congo and Nigeria as a subspecies of *Z. fuelleborni*, which was known from East and South Africa: “Die Form stimmt in den Strukturmerkmalen mit den Exemplaren aus Ostafrika völlig überein. Die beträchtliche Grössen-,



Zeichnungs- und Habitusunterschiede berechtigen aber jedenfalls zu einer Benennung [In features of structure the taxon completely accords with the specimens from East Africa. But the considerable differences in size, pattern and habitus by all means allow for giving a name to it].“

**occultum** [(*Mesamphiagrion*) 1918: 119]

L. *occultus* –a –um = covered up, hidden, concealed, secret

First words of the description are: “Eigentümlich durch das sehr kleine Pterostigma; die fahle (und wohl kryptische) Färbung aus oliv und sehr dunkel und trüb rotbraun ... [Peculiar by its small pterostigma; the sallow (and probably cryptic) coloration consisting of olive and very dark and dull reddish brown (further peculiarities are mentioned)].” So the name refers to the coloration.

**olivacea** [*Teinobasis* 1915c: 102]

L. *olivaceus* –a –um = olive

As distinguishing feature in the key is mentioned (p. 101): “♂ und ♀ Thorax zeichnungslos oliv [“♂ and ♀ thorax olive without markings].”

**ophelia** [*Brachygonia* 1910b: 354]

Ophelia is a character in Shakespeare's drama Hamlet. The name might be derived from Gr. ὠφέλεια = benefit. The choice of the name is not explained, but it is to be noted, that the only other species in that genus was *B. oculata* (Brauer); so as in other cases the alliteration of names within a genus might be the reason (cf. *ilia* p. 46).

**oreas** [(*Oreialagma*) 1918: 138]

Gr. Ὀρειάς = Oread, mountain-nymph

Ris does not explain why he chose the name for the species, but it might be assumed from the provenance of his specimen from high altitude: “Columbia: 1 ♂ Monte Socorro 2300 m, VII. 1909.”

**pallidifrons** [*Rhinocypha* Ris 1927c: 9]

L. *pallidus* –a –um = pale, pallid, colorless + –frons = –fronted

Ris remarks at the beginning of the description of his sole specimen: “Nach der Flügel-färbung wäre in ihr das ♀ zu einer der Arten mit hyalinen Vfl. und dunkeln Hfl. zu vermuten, doch stimmt zu keiner von ihnen die Zeichnung, insbesondere nicht die fast ganz lichte Kopfoberseite [From the coloration of the wings one should assume that it is the ♀ of one of the species with hyaline forewings and dark hindwings, but its pattern suits to none of them, specifically not the nearly totally light upper side of the head].”

**papilio** [*Chlorogomphus* 1927b: 104]

L. *papilio* = butterfly, moth

The name is explained thus: the single female specimen is: “Ausgezeichnet durch die riesige Größe und die dem weiblichen *Chl. magnificus* ähnliche bunte Flügelzeich-

nung. Der Name wurde gewählt, da das Tier im Farbenbild an große schwarzgelbe *Papilio*-Arten erinnert [Remarkable by its huge size and the varicoloured pattern of the wings similar to that of *Chl. magnificus*. The name was chosen, because the insect in its coloration reminds us of black and yellow species of *Papilio*].“

**paula** [Diplacina 1919: 1059]

L. *paulus* –a –um = little, small

Not the female given name Paula, common in many European languages derived from the Latin word, is at the base of the name, but the smallness of the species, for in his key for the *Diplacina* species Ris remarks: “Kleinste Art [Smallest of the species].”

**penelope** [*Gynacantha* Ris 1915c: 110]

In Homer's *Odyssey* Penelope [Gr. Πηνελόπη or due to metrical requirements Πηνελόπεια] is the wife of Odysseus, who during the 20 years absence of her spouse in spite of many difficulties kept her marital fidelity. This is one of three women connected to Odysseus, after whom in that publication a species of *Gynacantha* is named, and it is to be noted, that they follow the succession, in which the hero met them on his way back home.

**peralta** [(*Rhionaeschna*) 1918: 160]

L. *peraltus* –a– um = very high

Not the species itself is very high, but the provenance of Ris' specimens, which is: “Peru: 1 ♂, 2 ♀, Apurimac 3500 m, ... - Bolivia: 2 ♂ La Paz 3600 und [and] 3700 m ...“



**Fig. 17: *Trineuragrion percostale* ♂. The genus name and the species name as well refer to the third antenodal crossvein, which is to be seen well on this photo by the late D. Grand (published with permission).**

***percostale*** [*Trineuragrion* 1915d: 63]

L. *per* = through, across + *costalis* *-is* *-e* = pertaining to the costa (in entomology: the foremost vein of the wings)

This is the type species of *Trineuragrion* (see p. 21) in which genus there is a third crossvein in the costal space.

***peregrinus*** [(*Indolestes*) 1916a: 15]

L. *peregrinus* = foreign, strange, alien

Ris does not explain why he chose the name, but as he described this taxon from specimens caught in Japan as a subspecies of *Lestes gracilis* Hagen described from Sri Lanka, his choice seems to be perspicuous.

***perforatus*** [*Leptogomphus* 1912d: 73]

L. *perforatus* *-a* *-um* = bored through, pierced through, perforate

The reason for the name is found in the key (p. 69): "♂ App. inf. mit einem tiefen Einschnitt, der sich aus einer schmalen Spalte zu einem kreisförmigen Loch erweitert [♂ inferior appendages with a deep incision, which from a narrow cleft is widened out to a circular hole]."

***peringueyi*** [(*Ecchlorolestes*) 1921: 282]

There is nothing about the eponym in the description of the species, but in the preface of the paper it reads: "The origin of the present paper is a request by Dr. L. Péringuey to the author to write a paper which would help the resident entomologist to get a reliable knowledge of the South African dragonflies." Louis Albert Péringuey (1855-1924), a French entomologist, in 1879 had emigrated to South Africa, where he found an employment at the South African Museum. In 1906 he became its director (cf. Beolens 2018: 326).

***perpusillus*** [*Progomphus* 1918: 144]

L. *perpusillus* *-a* *-um* = very small

"Die kleinste aller bekannten Gomphinen und eine der kleinsten anisopteren Libellen überhaupt [The smallest of all known known Gomphines and one of the smallest anisopteran Odonata at all]."

(Ris adds that the smallest dragonfly is *Nannophya pygmaea*).

***persephone*** [*Trithemis* 1912a: 768]

In Greek mythology Persephone was the daughter of Demeter, the goddess of agriculture, who became queen of the netherworld (More about that below s.v. *Cora* p. 103). Ris does not explain his choice of the name which certainly is a female name from antiquity in accordance with Drury's practice (see p. 23).

***peruviana* ssp.** [*Brechmorhoga pertinax* 1913a: 859]

L. *peruvianus* *-a* *-um* = from Peru, Peruvian

The nominate species was described from Mexico by Hagen (1861: 166). Immediately after having established the taxon *B. p. eurysema* (see p. 41) from southern Central America Ris described this new subspecies from specimens from Peru in Morton's and his own collection.

***peruviana*** [*Palaemnema* 1918: 79]

*L. peruvianus* –a –um = from Peru, Peruvian

This taxon was also described from Peru: “Peru: 1 ♂ Pozuzo (durch Rolle 1911 [by Rolle 1911]).” Franz Hermann Rolle (1864-1929) acted as a natural history dealer in Berlin from 1889 to 1922, his shop known as ‘Institut Kosmos’. He mainly sold birds and insects. Ris mentions him as the source of his specimens also for other Odonata.

***peterseni*** [*Andinagrion* 1908b: 519]

The reason for the dedication is mentioned in the preface of the paper: „Seither hatte ich Gelegenheit bekommen, durch die gütige Vermittlung des Herrn Esben Petersen in Silkeborg, die Libellenausbeute der Herren A.C. Jensen-Haarup und P. Joergensen zu studieren [Since then {the publication of Ris 1904a} I had the opportunity through the kind mediation of Mr. Esben Petersen at Silkeborg to study the odonate collections of Mr. A.C. Jensen-Haarup and P. Joergensen]. For more about the Danish amateur entomologist Peter Esben-Petersen (1869-1942) see Beolens 2018: 328).

***philippa*** [*Idjonyx* 1912d: 80]

Philippa is the female form of the name Philippos [Gr. Φίλιππος = lover of horses], which is especially known from Macedonian kings. Which Philippa Ris had in mind when naming the species he does not say.

***phoebe*** [*Diplacina* 1915c: 114]

Phoebe [Gr. Φοίβη = the bright one] in ancient mythology is an epithet of Artemis as goddess of the moon. The name might have been chosen in reference to a round yellow spot on the sides of the thorax: “Auf den Thoraxseiten am ventral-hinteren Rand des Metepimeron eine hellgelbe Binde, von dieser breit getrennt ein rundlicher Fleck an der dorsal vorderen Ecke [On the sides of the thorax at the ventral posterior margin of the metepimeron a light yellow band, widely separated from that a rotund spot at the dorsal anterior angle].“

***phoenicosceles*** [*Oxythemis* 1910a: 163]

Gr. φοινικοσκελής –ής –ές = red-legged

The name refers to the hind femora of the single male, from which the species was described: „1. Beinpaar schwarz, am 2. und 3. die Femora leuchtend blutrot, der Rest schwarz [1st pair of legs black, in the 2nd and 3rd the femora bright blood-red, the rest black] .“

***phoenicyra*** [*Planiplax* 1912a: 731]

Gr. φοινικοῦς –ῆ –οῦν = purple-red, crimson, red + οὐρά = tail (in entomology often for

abdomen, sometimes for appendage)

In this species the last segments of the male's abdomen are red: "♂ ... Abdomen breit, depress, von Segment 6 an gegen das Ende allmählich verschmälert, völlig hell scharlachrot, ebenso die Appendices [Abdomen broad, flattened, from segment 6 distally gradually narrowed, completely bright scarlet, as are the appendages]."

***phoenissa*** [(*Nososticta*) 1929a: 143]

Gr. φοίνισσα = feminine of φοῖνιξ = purple or crimson [originally 'Phoenician', because the Phoenicians were said to have invented this colour]

In his description Ris mentions light markings of frons, prothorax, thorax and abdomen, adding: "Bei dem reifen und gut erhaltenen Expl. ist die lichte Färbung ein reiches scharlachorange, etwa zwischen dem orange der *C. plagiata* und dem reinen rot der *C. Selysi* [In the mature and well preserved specimen the light colour is a bright scarlet orange, approximately intermediate to the orange of *C. plagiata* {*C.* = *Caconeura*} and the clear red of *C. selysi*]" (p. 144).

***phyllochromus*** [*Progomphus* 1918: 143]

Gr. φύλλον = leaf + -χρωμος -ος -ον = -coloured

The name refers to the coloration of the thorax of the sole male specimen: "Statur des *P. gracilis*. ... Thoraxzeichnung rein grün (statt gelb) [Figure of *P. gracilis* ... Markings of the thorax pure green (instead of yellow)]." But this name does not fully accord with living males, where the coloration "is a beautiful blue-green in life. These blue-green colors always turn to green or apple green when treated in acetone" (Garrison, in litt).

***poecilops*** [*Orthetrum* 1919: 1091]

Gr. ποικίλος = many-coloured, spotted, pied, dappled + -ωψ = -looking, -coloured

The name is from the very old label "(*poecilops* M. - H.)" at the Stockholm Museum attached to the first of Ris' two male specimens (the other one was from Königsberg). Who is indicated by the initials as having chosen the name I could not find out. The specimens are described as coloured black and yellow in all parts of the body, partially with an olive tinge. So Ris' specimens were not mature, as blue pruinosity is not mentioned anywhere in the description.

***polyneura*** [*Macrothemis* 1913a: 888]

Gr. πολυ- = many, much + -neura (in odonate names) = veined

Ris says this species whereas being close to *M. hemichlora* differs from it inter alia by this feature: "Vorhandensein von 2 Reihen Discoidalzellen im Hinterflügel der ♂ [existence of two rows of discoidal cells in the hindwing of the ♂]." So the wing venation is somewhat denser than in the other species.

***pontogenes*** [*Pseudagrion* 1915e: 140]

Gr. ποντο-γενής ποντο-γένεια ποντο-γενές = seaborne

As the species is described from Mayotte, a group of French islands between Mozambique and Madagascar, the choice of name seems appropriate.

**pseudexul** [(*Nososticta*) 1913e: 478]

Gr. ψευδ(ο)- = false, pretended + L. *exul* = a banished person, exile

The name refers to the striking resemblance to a species which Ris erroneously deems to be *N. exul* (Selys, 1886). Of that misidentified taxon he had given a description in Ris 1900: 194 and from that one the new species is distinguished in a key in Ris 1913d: 509. However the confusion with the Selysian species finally was corrected by Lieftinck 1938: 90 who named the species in question *Nososticta commutata* (= the mixed up one).

**pulverulenta** [*Teinobasis* 1915c: 104]

L. *pulverulentus* –a –um = full of dust, covered with dust, dusty

The name refers to the whitish pruinescence on the thorax of the males: “Thorax düster oliv, auf den Seiten lichter, beim ♂ dicht weisslich bereift [Thorax dark olive, at the sides lighter, in the ♂ densely whitish pruinose]” (key p. 101).

**quadricolor** [(*Oreiallagma*) 1918: 136]

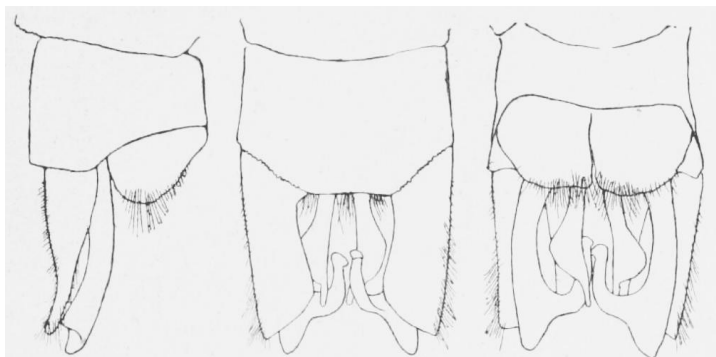
L. *quadricolor* = fourcoloured

There is a problem with the name of this very rare species: Ris does not explain, which four colours he has taken as basis of the name of this polychrome species. As four colours of the head might be named light yellow (occiput, labium), olive (labrum, anteclypeus, basis of mandible and genae), black (postclypeus, frons and vertex) and sea-green (postocular spots), of the synthorax black (prothorax dorsally), light yellow-ochrish (prothorax laterally, metepimeron, mesinfraepisternum, metinfraepisternum), chocolate brown (thorax dorsally, the anterior part of the mesepimeron laterally), sea green (antehumeral stripes, two thirds of the mesepimeron), of the abdomen light yellow (segments 1 to 6 laterally), orange (segments 3-6 dorsally), blue (segment 8 dorsally, segment 9) and black (segments 7 and 10 dorsally). If someone is not content with these colours he might add murky reddish on segment 1 dorsally and murky rust-coloured on segment 2 dorsally.

**radians** [*Chalcopteryx* 1914b: 284]

L. *radians* = emitting beams, beaming, shining, radiating

In this calopterygian species the sheen of the wings of the males has led to the name: “♂ ... Vfl. ... Die Fensterflecken in gewisser Beleuchtung blau oder violett schillernd; im übrigen die Vorderflügel nur mit schwachem kupfrigen Metallglanz. ... Hfl. ganz dunkel; auf der Oberseite zwei breite Binden prachtvoll grüngolden glänzend mit schmal rotgoldenen Rändern ... [♂ ... Fore wings ... the hyaline spots in a certain light with blue or violet iridescence; otherwise the forewings only with a weak coppery metallic sheen. ... Hindwings totally dark; on the upper side two broad bands glittering splendidly green golden with narrow reddish golden margins].” The wings of the females are without the hyaline parts and the rays of the hindwings and their gloss is rather moderate. By the way: the name semantically is close to those of the related species *C. rutilans* (Rambur) (= glowing reddish) and *C. scintillans* Mc Lachlan (= sparkling), which are mentioned at the beginning of the description.



**Fig. 18: Male appendages of *Progomphus recurvatus* (from Ris 1912b: 115).**

***recurvatus*** [Progomphus 1912b: 114]

L. *recurvatus* –a –um = bent backward, turned back

The name is not explained in the text. It refers to processes of the anal plate, which are recurved (see. fig 18).

***reductum*** [Papuagrion 1913e: 484]

L. *reductus* –a –um = reduced

As a distinctive feature is mentioned in the key (p. 483): "Lobus posterior des Prothorax ein wenig breiter, konvex mit einer schwachen Einbuchtung in der Mitte [Posterior lobe of the prothorax a little broader, convex with a small indentation in the middle]."

***regalis*** [Orthemis 1910b: 281]

L. *regalis* –is –e = regal

This is a manuscript name by the collector and scientist H. W. Bates (about him see p. 28). Why he chose that name may be seen from Ris' remark: "Ueber diese prachtvolle Libelle, eine der grössten und schönsten aller Libellulinen, findet sich in H. W. Bates Manuskript die Notiz [The note about this magnificent dragonfly, one of the largest and most beautiful of all dragonflies, is found in H. W. Bates' manuscript]: „Pathways in the deep forest, Pará and Santarem, rare.“

***regina*** [(Ormenophlebia) 1918: 46]

L. *regina* = queen

While Ris does not explain his choice of name of this large species it is most probably inspired by the related taxon *O. imperatrix* (Mc Lachlan, 1878) (= the empress) with which it is contrasted in the key on p. 41 and which is also mentioned in the description on p. 47.

***retroflexus*** [Heliogomphus 1912d: 69]

L. *retroflexus* –a –um = bent or turned back

The name refers to the superior appendages of the male: "♂ App. sup. hellgelb, undeutlich gegabelt, der laterale Ast stumpf und kurz, der mediale schlank, dorsalwärts gebogen"

gen [Superior appendages light yellow, slightly forked, the lateral branch obtuse and short, the medial one slim, bent dorsally].”

***rhea*** [*Oligoclada* 1911a: 402]

This is certainly a female name from ancient mythology, but it is uncertain, whether from Greek or Roman. If from Greek, Rhea [Ῥέα] was the daughter of Gaia (the goddess of earth) and Uranos (god of the sky), sister and wife to her brother Kronos, with whom she generated the Olympian gods Zeus, Poseidon, Hades and Iano. In Roman mythology Rhea Silvia was the mother of the founders of Rome, the twins Romulus and Remus. Which one is the eponym Ris does not say.

***robustior*** [*Nososticta* 1915d: 66]

L. *robustior*, *-ior -ius* = harder, firmer, more solid, more robust (comparative)

The name is chosen in reference to *I. spinipes* Selys (= spine-footed) described immediately before: “Im Habitus der *I. spinipes* überaus ähnlich, aber viel robuster und nach der Flügeläderung ... sicher verschieden [In its habitus exceedingly similar to *I. spinipes*, but much more robust and according to the wing venation certainly different].”

***rosea*** [*Nososticta* 1913d: 513]

L. *roseus -a -um* = rose-coloured, rosy, ruddy

The colour of the antehumeral spots has evoked the name: “♂ ... Thorax vorne tief schwarz; große Antehumeralflecken, ziemlich breit oval ... ihre Farbe sehr leuchtend, zwischen scharlach, rosa und orange [♂ ... Thorax anteriorly deep black; large antehumeral spots, rather broad oval ... their colour very shining, between crimson, rosy and orange].”  
“♀ ... Thoraxfärbung wie Männchen, doch der antehumerale Fleck kleiner, besonders in der Breite reduziert ... die Färbung etwas trüber [Coloration of the thorax like that of the male, but the antehumeral spot smaller, especially reduced in the breadth ... the coloration somewhat murkier].”

***rotundipennis*** [*Proischnura* 1921: 321]

L. *rotundus -a -um* = round, circular, rotund + *-pennis -is -e* = winged

The name refers to one of the distinguishing features from *Azuragrion nigradorsum* (Selys, 1876a) described immediately after this new species: “... and both sexes are distinct by their wings broadly rounded apically.”

***rufipes*** [*Andaeschna* 1918: 167]

L. *rufus -a -um* = red (of various shades) + *-pes = -* footed

This species has also got its name from one of the distinguishing features: “Ausgezeichnet durch: ... ganz rostfarbene Beine ... [Characterised by: ... its completely rust-coloured legs ...].”

***sagitta*** [*Orthetrum* 1915a: 216]

L. *sagitta* = arrow, shaft, bolt

In his description Ris says: “very slender species”. So this may have led to the name.



**saliceti** [(*Andinagrion*) 1904a: 9]

L. *salicetum* = copse of willows

The name is a reminiscence of Ris' visit to Argentina as a surgeon: "Der Name soll an die herrlichen Haine babylonischer Trauerweiden erinnern, die bei San Isidoro das La-Plata-Ufer säumen ["The name is thought to be reminiscent of the lovely copses of Babylonian weeping willows bordering the banks of the Rio de la Plata near San Isidoro]."

**salisburyense** [*Pseudagrion* 1921: 306]

L. *Salyburyensis* –is –e = from Salisbury

Most of Ris' 32 specimens ("9 ♂, 12 ♀") had been collected by G. A. K. Marshall (see p. 55) at "Salisbury, Mashonaland."

**saltuum** [(*Ormenophlebia*) 1918: 44]

L. *saltuum* = of forest woodlands, of untilled mountain land (genitive plural of saltus)

Ris types were from Pozuzo, Peru, a forested district in a river valley.

**salva** [*Lyriothemis* 1927c: 37]

L. *salvus* –a –um = unharmed, safe, unhurt, uninjured

The name emphasises that the hamuli of the sole specimen are not damaged: "Zwischen *eurydice* und *biappendiculata*. Von *eurydice* verschieden durch die Thoraxzeichnung und die Hamuli, ...; diese Hamuli ähnlicher der *biappendiculata*, aber es fehlen die Fortsätze der Lamina anterior (sie sind sicher nicht etwa abgebrochen!) [Between *eurydice* and *biappendiculata*. Distinct from *eurydice* by the pattern of the thorax and the hamuli ...; these hamuli are more similar to *biappendiculata*, but processes of the lamina anterior are missing (by no means are they broken off!)."

**samaritis** [*Teinobasis* 1915c: 103]

Modern L. *Samaritis* = female from Samar (one of the larger Philippine islands)

This is a reference to the type locality: "1 ♂ 1 ♀ Catabalogan, Samar, Philippinen 19-26. IV. 1910."



Fig. 19: *Caledopteryx sarasini* ♀. Kennedy (1925) based his genus *Caledopteryx* on the single species named by Ris after the leader of the Swiss expedition, which had secured his specimens. It took more than half a century before a second species of this genus endemic to New Caledonia has been detected (photo D. Grand, published with permission).

**sarasini** [(*Caledopteryx*) 1915d: 58]

The Swiss anthropologist and naturalist Karl Friedrich (Fritz) Sarasin (1859-1942) in 1911-12 together with the zoologist J. B. Roux (see p. 87) had undertaken an expedition to New Caledonia and the Loyalty islands, from where they had brought back a large collection of zoological and anthropological material, which in the following years was published by specialists. The Odonata were edited by Ris (1815d), who dedicated the first species he thought to be new, to Sarasin and to Roux (cf. p. 87). For more about Sarasin see Beolens 2018: 367.

**sauteri** [(*Leptogomphus*) 1912d: 75]

“Die Art steht sicher der Gattungstypen *L. Semperi* Selys nahe... doch lässt sich insbesondere die Beschreibung der App. sup. nicht ohne Zwang auf unsere Art anwenden. Diese ist dem erfolgreichen Formosa-Sammler gewidmet [The species certainly is close to *L. semperi* Selys, the type of the genus. But the description of the superior appendages does not agree with our species without some mental twisting. It is dedicated to the successful collector on Taiwan].”

The eponym of the species, Hans Sauter (1871-1943) was a German zoologist with interests in entomology and herpetology. He had tried to achieve a doctorate on pentatomids at Tübingen, but after the death of his doctoral supervisor, whose chair remained vacant for a long time, he could not find someone to adopt that task. So in 1902 Sauter went to Formosa (today's Taiwan), which was then under Japanese control, and began to collect insects. In the following year he went to Japan, where he engaged in herpetology and ichthyology as well. There he married his Japanese wife, with whom he had seven children. In 1905 he returned to Taiwan with his family, where he lived until his death. There he worked for a British tea company, but spent as much time as he could on entomology. His collections mainly went to the Deutsches Entomologisches Institut (then in Berlin) and were published by specialists, e.g. Ris for the Odonata. In 1914 World War I broke out. As England and Japan were opponents of Germany he lost his job and was under observation and restricted in his freedom of moving. So he had to earn his living by teaching languages and giving piano lessons, which was not easy, for after the death of his wife in 1916 he also had to care for their children. Due to bad eyesight he abandoned his entomological collecting in 1917 and changed to herpetology. His last years were encumbered by illness (cf. Beolens 2018: 368; Chen 2002).

Three of the 19 specimens, from which Ris described the species, had been collected by Sauter on Taiwan (for *Paracercion sauteri* (Ris, 1916) = *P. sieboldii* see p. 88)

**saxicolor** [(*Crocqthemis*) 1919:1164]

*L. saxum* = a large stone, rough stone, broken rock, boulder, rock + *-color* = coloured

The name is due to a note of the collector G.A.K. Marshall (see p. 55) about one of the females: “settles only on granite boulders at a distance from water; very difficult to detect, also very local.” Ris adds: “Die gut erhaltene Färbung der vorliegenden adulten ♀ lässt die Anpassung an eine derartige Umgebung noch wohl erkennen [The well preserved coloration of the adult ♀ at hand allows us to recognise well the adaptation to such an environment].”

***scabrifrons***

[*Hadrothemis* 1910a: 172]

L. *scaber* –*bra* –*brum* =rough, scurfy, scabrous + –*frons* = fronted

In this species the frons is characterised by point-shaped grooves: “Stirn gerundet, stark vorspringend, mit flacher Furche, durch zahlreiche tief eingegrabene eng gestellte Punkte eigentümlich gerunzelt [Frons rounded, very prominent, with a shallow furrow, peculiarly rugose by numerous deeply grooved narrowly positioned dots].” In the addenda to his ‘Libellulinen’ describing the so far unknown male from R. Martin’s collection Ris remarks: “♂ ... Die grubige Punktierung der Stirn ist mindestens so stark wie beim ♀ [... The dot-like grooving of the frons is at least as pronounced as in the ♀]” (Ris 1919: 1072).

***schmidti***

[*Philogenia* 1918: 79]

“Die Art ist erwähnt in Dr. Erich Schmidts Arbeit über „vergleichende Morphologie des 2. und 3. Abdominalsegments bei männlichen Libellen (Zool. Jahrb. Anat. 39, p. 91, 147, Tab. 11, Fig. 62 – 1915); das distale Ende des Penis ist daselbst abgebildet. Ich benenne sie nach dem Verfasser der verdienstvollen Arbeit [The species is mentioned in Dr Erich Schmidt’s paper on “Comparative morphology of the 2nd and 3rd abdominal segments in male Odonata (...); the distal end of the penis is illustrated there. I name it after the author of that commendable treatise].” The treatise mentioned by Ris was the doctoral thesis of Erich Walter Schmidt (1890-1969), a German internationally renowned entomologist and odonatologist, after whom nine Odonata taxa are named. He studied natural science in Bonn, Freiburg and Munich and after World War I was employed at the horticulture college at Geisenheim, later at the Deutsches Entomologisches Institut (then at Berlin), and from 1934 to 1936 he was responsible for the entomological department of the Museum Alexander Koenig, Bonn and subsequently worked as a civil servant at Bonn. After Ris’ death Schmidt edited a paper on African *Pseudagrion*s from Ris’ notes and preparations (for more about Schmidt see Heymer 1967; Fliedner 1998: 38; Beolens 2018: 371).

***scorpio***

[*Heliogomphus* 1912d: 72]

L. *scorpio* = scorpion

The name probably refers to the inner branches of the male superior appendages, which may have reminded Ris of the raised tail of a scorpion: “♂ App. sup. sehr robust, schwarz, tief gegabelt, der laterale Ast etwas stumpf, der mediale länger, spitz, medial-dorsalwärts gebogen [♂ superior appendages very robust, black, deeply furcate, the lateral branch rather obtuse, the median one longer, pointed, curved medially upward]” (key p. 69).

***selenion***

[(*Mortonagrion*) 1916a: 25]

Gr. σελήνιον = little moon, the outline of the moon

Ris explains: “Der Name soll an die halbmondförmigen Postocularflecken des ♂ erinnern [The name is chosen to be reminiscent of the crescent-shaped postocular spots of the ♂]” (p. 27).

**severini** [Rhythemis 1913a: 948]

Ris informs us about the naming of the species: "Ich benenne sie zu Ehren meines Freundes und Mitarbeiters G. Severin [I name it in honour of my friend and colleague G. Severin]." Ris had already appreciated the role of Severin in the preface of his 'Libellulinen' (1909a: 4): "Besonders gedenken muss ich noch meines Verhältnisses zum Museum in Brüssel und seinem leitenden Entomologen G. Severin. Herrn Severin und seiner liebenswürdigen Familie verdanke ich es, wenn die Arbeitswochen in Brüssel jedesmal auch zu angenehmen Ferienwochen wurden [I have to commemorate especially my relations to the Brussels Museum and its leading entomologist G. Severin. It is due to Mr. Severin and his amiable family that the weeks of work at Brussels each time also became pleasurable weeks of holiday]." Wilhelm Peter Robert ('Guillaume') Severin (1862-1938), born in the Netherlands from German parentage, had been trained in Liège as an artist and industrial designer. When told to walk a lot due to weak health he developed an interest in entomology. In 1888 he contacted Selys, who took him on as a student. In 1890 Severin became an 'aide-naturalist' at the Royal Museum at Brussels and from 1899-1927 was Curator of arthropods there. He painted many of the dragonfly watercolours of the Selys collection. After Selys' death he took responsibility for finding contributors to and for the edition of the catalogue of the collections of Selys (see Calvert 1939; Beolens 2018: 381).

**silvarum** [Hemicordulia 1913d: 500]

L. *silvarum* = of the woodlands (gen. pl. of *silva* = wood, forest, woodland)

Ris does not explain his choice of the name. His specimens are from the Noord-Fluss (later Lorentz river, now Unir in Papua, Western New Guinea) at an altitude of 750 m a. s. l. which region was wooded (cf. Holthuis 1974).

**silvarum** [Philogenia 1918: 80]

L. *silvarum* = of the woodlands (gen. pl. of *silva* = wood, forest, woodland)

The species is described from Pozuzo, Peru, a village established by German and Austrian immigrants in the middle of the 19th century in a wooded river valley at an altitude of about 750 m a.s.l.

**simalura** *Brachydiplax chalybea* 1915b:17

The taxon was described as a subspecies of *B. chalybea* (Brauer) from the island Simalur near North West Sumatra (it still ranks thus in Bridges 1994 and Steinmann 1997: 340), but in Paulson & Schorr 2020 it is seen as a synonym of the nominate taxon the name of which [L. *chalybeus* –a –um = of steel, steel–] most probably refers to the frontally metallic black thorax.

**simpsoni** [Cyanothemis 1915a: 219]

"I have the pleasure in naming this beautiful insect after the successful collector of Odonata in Sierra Leone, Dr. J. J. Simpson." The eponym of the species James Jenkins Simpson (1881-1936) was a Scottish entomologist and marine biologist. After his DSc

at Aberdeen he worked in Burma and Nyasaland (today's Malawi). From 1909 to 1915 he was appointed by the Colonial Office's Research Centre (later Imperial Bureau of Entomology) to collect arthropods like ticks, tabanids and mosquitos which might carry tropical diseases in West Africa. During World War I Simpson worked in the West African Frontier Force on tropical diseases. Thereafter he held leading positions in the National Museum of Wales (1919-1926) and the Public Museums at Liverpool (until 1928). His last years he spent in Turkey to organise the Department of Oceanography and Marine Biological Research. In 1936 travelling from Greece to Turkey he was reported lost from the passenger liner (see Baker & Bayliss 2009; Beolens 2018: 387).

***sinuatum*** [(*Africallagma*) 1921: 330]

L. *sinuatus* –a –um = bent into a curve, billowed out, sinuate

The explanation of the name is to be seen from the key for males on p. 318: "Superior appendages bent ventrad for their entire length, almost straight on side view, distinctly sinuate in dorsal view."

***solimaea*** [*Erythrodiplax* 1911a: 490]

mod. L. *Solimaeus* –a –um = pertaining to the Solimões River (upper part of the Amazonas from the Peruvian border to the confluence with the Rio Negro)

Ris describes this taxon as subspecies of *E. ochracea* (Burmeister): "Zu *ochracea* gehören diese Exemplare ganz sicher. Doch dürften sie mehr sein als blosse Varietäten und wahrscheinlich eine in gewissen Teilen des Solimões-Gebiets vorkommende geographische Form repräsentieren [These specimens quite certainly belong to *ochracea*. But probably they are more than mere varieties and might represent a geographic form (subspecies) occurring in certain parts of the Solimões region]."

***stellata*** [(*Palaiargia*) 1915c: 95]

L. *stellatus* –a –um = set with stars, shaped like a star, sparkling, glittering

The name probably refers to the postocular spots: "♂ ... Weiter nach hinten der Kopf schwarz, mit grossen, dreieckigen, leuchtend karminroten Postocularflecken [Further back the head is black with large triangular shining crimson postocular spots] ... ♀ „Kopf oben düster rotbraun, die roten Postocularflecken etwas dieser Farbe genähert und diffus [Head dorsally dusky reddish-brown, the red postocular spots somewhat approaching that colour and being diffuse]."

***suave*** [*Ceriagrion* 1921: 316]

L. *suavis* –is –e = agreeable, pleasant, gratifying, sweet; charming, attractive

While Ris does not explain his choice of the name, it is certainly one of those referring to the charming character of Odonata.

***subtile*** [(*Africallagma*) 1921: 332]

L. *subtilis* –is –e = fine, slender, delicate

The name refers to the shape of the abdomen: "Abdomen very slender."

**superbum** [Heteropodagrion 1918: 89]

L. *superbus* –a –um = proud, superior, excellent, distinguished; splendid, magnificent, superb (also: haughty, proud, arrogant, insolent; these negative meanings prevail in antiquity)

Probably the conspicuous polychrome appearance of the males has led to the name (Ris did not know the females): "Prothorax trüb rostfarben ... Thorax tief samtig schwarzbraun [Prothorax murky ferruginous ... Thorax velvety deep blackish brown] ... Beine leuchtend scharlachrot, auch die Dornen, nur feinste schwarze Linie auf der Außenkante der Femora [Legs shining crimson, even the spines, only finest black line on the exterior edge of the femora] ... Abdomen schlank, sehr rein und leuchtend scharlachrot [Abdomen slender, very clear and shining crimson] ... Flügel ziemlich reich gelb, die Färbung kostalwärts etwas vertieft. Pterostigma leuchtend scharlachrot in rostfarbenen Randadern [Wings rather rich yellow, the coloration somewhat deeper towards the costa. Pterostigma shining scarlet within ferruginous marginal veins]."

**terminata** [Neurothemis 1911c: 569]

L. *terminatus* –a –um = limited, terminated

This is a replacement name for Rambur's species name *apicalis* (preoccupied by *Libellula apicalis* Guérin-Méneville 1832: 192): "Die hier *terminata* genannte Form deckt sich mit Selys' *N. fluctuans* race *apicalis* und auch mit Krüger's *N. apicalis*. Der Rambur'sche Name musste aufgegeben werden, da Rambur's Form nicht die Guerin'sche ist. Ich habe ihn hier durch einen Manuskriptnamen ersetzt, welchen die Exemplare tragen, die fast zweifellos als Rambur's Typen anzusehen sind [The taxon called *terminata* here is congruent with Selys' *N. fluctuans* race *apicalis* and also with Krüger's *N. apicalis*. Rambur's name had to be abandoned, as his taxon is not that of Guerin. I have replaced it here by a manuscript name, which the specimens bear, which almost without any doubt are the types of Rambur]." Rambur's abandoned name *apicalis* [= concerning the apex] as well as Ris' name *terminata* refer to the fact, that the dark coloration of the wings ends shortly before the apex, which remains hyaline.

**tibiale** [(*Sympetrum*) 1897a: 43]

L. *tibialis* –is –e = of or belonging to the shin-bone or tibia

In this species the yellow colour of the tibiae is a characteristic by which it is to be distinguished from other species: "Elle se distingue de la *D. armeniaca* Selys par le jaune des pieds s' entendant jusqu'au bout des tibias ... [It differs from *Diplax armeniaca* (= *S. armeniacum*) Selys by the yellow of the legs stretching out to the end of the tibiae ...]." (Photo of the holotype p. 117)

**tillyardi** [*Metaphya* 1913e: 497]

Ris gives as reason for his choice of name: "Benannt habe ich sie nach meinem werten Freunde R. J. Tillyard, dessen unermüdlichen Forschungen wir soviel für die Vertiefung der Kenntnis australischer Odonaten, ganz besonders auch der Cordulinen verdanken [I have named it after my esteemed friend R. J. Tillyard, to whose tireless research we owe so much for the promotion of the knowledge of Australian Odonata, particularly that of cordulines]." Robin John Tillyard (1881-1937) was a British zoologist, who mainly

worked in Australia and New Zealand. He was one of the outstanding odonatologists of his time. After his BA in mathematics at Cambridge in 1903 due to health problems with rheumatism a year later he went to Sydney, where for nine years he taught at the Sydney Grammar School. At the same time he developed an interest in Odonata and from 1905 he published numerous papers on the results of his field work. In 1913 he began to study biology at the Sydney University on the basis of a Science Research Fellowship and was awarded a BSc in 1914. After that he held a Linnean Macleay Fellowship in Zoology until 1920, in which time his book 'The biology of Dragonflies' was published by the Cambridge University Press, which became a standard handbook for generations of odonatologists. From 1920 to 1928 he became Head of the Biological Department of the Cawthron Institute at Nelson, New Zealand, where he successfully worked on biological control of plant and insect pests. So he was asked to return to Australia to become Chief of the division of Entomology in the Council of Scientific and Industrial Research. Due to continuous pain from an injured spine in a railway accident in 1914 and concerns about lack of progress he had a nervous breakdown, after which he resigned in 1934. He died in 1937 as a result of a car accident. Tillyard's research not only referred to Odonata, but also to nearly all other orders of insects and to entomological palaeontology. He is author of about a quarter of Australia's odonate taxa (for more see Endersby & Fliedner 2015: 64-65; Beolens 2018: 401-413). It is to be noted, that Ris dedicated the species to Tillyard at the time when that author began his study of zoology and before his *major* odonatological books had been published.

***tricolor*** [*Lyriothemis* 1919:1063]

L. *tricolor* = three-coloured

The three colours probably are yellow, black and red, which in the male are distributed thus: "♂ "Thorax tief sammtig schwarz mit hellgelben Zeichungen ... Abdomen sehr robust ... Dorsum trüb gelbrot (gut erhalten wahrscheinlich rein rot) [Thorax deep velvety black with light yellow pattern ... Abdomen very robust ... Dorsum murky yellowish red (in well preserved specimens probably clear red)."] The coloration of the female is similar, but its abdomen is reddish ochreous.

***turrialba*** [*Uracis* 1919: 1137]

The species is named after the type locality, the Volcano Turrialba in Costa Rica, which name has an indigenous origin.

***ultima*** [*Ischnura* 1908b: 518]

L. *ultimus* –a –um = farthest, most distant, most remote, extreme, last

Ris does not explain his choice of name; but at that time it was the southernmost species of *Ischnura* described from the Americas. Otherwise the last segment of the male may have led to the name, which Ris describes thus: "♂ ... Rand des 10. Segments steil, aber nicht hoch aufgerichtet in ein schmales fast viereckiges nicht ausgerandetes Blättchen [Margin of segment 10 steeply, but not highly erect into a narrow, nearly quadrangular not indented lamina]".

**umbrosa**[*Philogenia* 1918: 78]L. *umbrosus* –a –um = full of shade, rich in shade, shady

The species is described from a single male in a group of species characterised by: "Flügelspitzen hyalin, oder mit blassem, schmalem und diffusen Schatten [Apices of the wings hyaline or with a pale narrow diffuse shade]" (key p. 77). Differently from *P. schmidtii*, with which it is said to agree completely in coloration, the wings of the species are not marked with a definite marginal shade from pterostigma to the wing tip, but they are "ohne Spitzenzeichnung, distalwärts zunehmend fleckig graulich getrübt [without apical marking, more and more blotched greyish distally]."

**uniseries**[[*Caledargiolestes*] 1915d: 62]L. *uni-* = having a single + *series* = a row, succession, series

Ris classified this species from New Caledonia in the genus *Argiolestes*, but he also stated a difference from all other species of the genus: "Von allen beschriebenen Arten (und der ursprünglichen Gattungsdefinition) abweichend durch das einreihige Feld zwischen Cu2 und dem Rand [Differs from all described species (and the original definition of the genus) by its single-row space between Cu2 and the margin]." Kennedy (1925: 293) drew the obvious conclusion establishing the genus *Caledargiolestes* for it (see p. 101).



**Fig. 20: *Caledargiolestes uniseries* ♂.** The characteristic single row of cells between Cu2 and the rear margin of the wings that led to the name of the species and to the creation of a new genus for it by Kennedy can be recognised well (photo D. Grand, published with permission).

**urania**[*Macromia* 1916a: 68]

Urania (Gr. Οὐρανία = the heavenly one) in ancient mythology was the Muse of astronomy. It is another *Macromia* species named after a Muse by Ris (cf. *calliope* p. 31).



**velata** [(*Vestalaria*) 1912d: 56]

L. *velatus* –a –um = covered up, enveloped, veiled

Ris described this taxon as a subspecies of *Vestalis smaragdina* Selys, 1879, from which it differs by “(b) die ganzen Flügel goldig rauchbraun, ziemlich dunkel, die Aderung teils gleichfarbig, teils etwas dunkler oder heller (je nach der Ausfärbung?), bei ♂ und ♀ ungefähr gleich [b] the wings totally golden smoky brown, rather dark, the venation partially of the same colour, partially somewhat lighter or darker (due to maturity ?), about the same in ♂ and ♀].” In *V. smaragdina* Selys (1879: 362) describes the wings to be hyaline only at the base and the costa coloured dark yellow.

**vetusta** [*Philoganga* 1912d: 47]

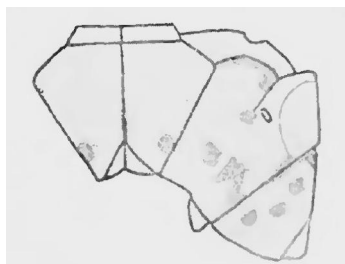
L. *vetustus* –a –um = old, ancient, of long standing

In his characterisation of the calopterygid genus *Philoganga* immediately before the description of the new species Ris emphasises it to be of an archaic character, from which the agrionine damselflies might have developed: “Formen wie *Philoganga* stehen nun offenbar an der Stelle, wo die Agrionidenreihe sich zu bilden beginnt [Taxa like *Philoganga* apparently have their position {in evolution}, where the development direction of agrionids begins]” (p. 46). So we can see that he assesses the species to be archaic in its appearance.

**vigintipunctata** [(*Rhionaeschna*) 1918: 163] ||

L. *viginti* = twenty + *punctatus* –a –um = spotted, punctured

The name is inspired by the pattern of the thorax: “Thorax robust ... Seiten diffus marmoriert aus licht bläulich oliv und mehr gelblichen Tönen mit einer Zeichnung aus rundlichen und V-förmigen schwarzen Flecken, deren Verteilung sich aus Fig. 107 besser als aus einer Beschreibung ergibt [Thorax robust ... its sides diffusely mottled from light bluish olive and more yellowish tinges with a pattern of rotund and v-shaped black spots, the distribution of which is better to be seen from Fig. 107 than from a description].” Later (p. 166) Ris adds: “Der Name braucht auf die eigentümliche Fleckenzeichnung des Thorax nicht ganz wörtlich angewandt zu werden, wie eine Nachzählung auf der Figur ohne weiteres ergibt [The name should not be referred to the typical spotted pattern of the thorax literally, as to be seen readily by a recount on the figure].”



**Fig. 21: Thorax of *Rhionaeschna vigintipunctata* (from Ris 1918: 164). The number of the spots does not sum up to twenty.**

***villosum*** [Sympetrum 1911c: 695]

L. *villosus* –a –um = hairy, shaggy, rough

The taxon is distinguished from other species in the key by this feature (p. 624): "Ganzer Körper lang und ziemlich dicht behaart [The whole body is shaggy by long and rather dense hairiness]." The (female) specimen was said to be from Natal by the dealer like other dragonflies of the consignment which really were from Chile; so Ris states: "Der Habitus der Art mit ihrer dichten und langen Behaarung passt gut zu einer Herkunft aus Chile [The habitus of the species with its long shaggy hairiness suits very well to a Chilean origin]."

***vincentius* ssp.** [Platystigma jocaſte 1918: 72]

The name refers to the locality, where Ris' female specimens had been collected: "Columbia: 1 ♂ Llanos de Medina 400 m, VI. 1910; 2 ♀ Villavicencio 450 m, I. 1911." The place has its name from St. Vincentius, who was said to have died as a martyr in the time of Diocletian's persecution of Christians in the early fourth century at Valencia.

***viola*** [Zenithoptera 1910b: 316]

L. *viola* = the violet

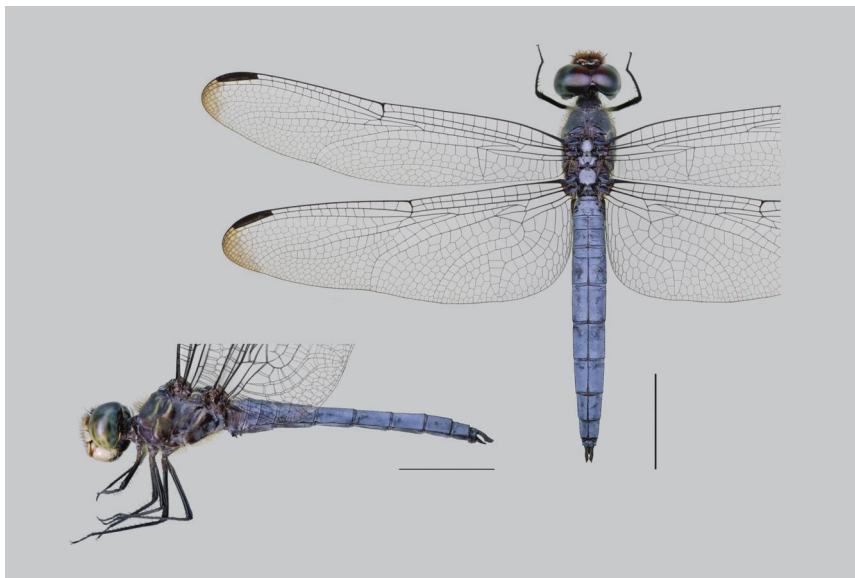
This was a new name for a taxon which in Selys' collection was labelled *Z. fasciata*. That is now the valid name of the species described by Linnaeus twice, the second time under the name *Libellula americana* (the first synonym in odonate taxonomy). The latter species name Ris erroneously adopted as the correct one and described that taxon in detail, but because of the synonymy he chose for the different species the name *viola* most probably in reference to the coloration of the wings, which for the Linnean species he describes as "violettblau atlasglänzend [violetish blue, shining like satin]" and for his new taxon as "Der Atlasglanz der adulten ♂ ist etwas weniger intensiv als bei *Z. americana* [The satin-like sheen of the adult ♂ is somewhat less pronounced than in *Z. americana* {actual name *Z. fasciata*}]."

***wernerii*** [Trithemis 1912a: 765]

The species is dedicated to the collector: "Mus. Wien: 2 ♂, Gondokoro Uganda (6-17. III. 1905, I. Dr. F. Werner)." Franz Josef Maria Werner (1867-1939) was an Austrian zoologist specializing in reptiles, amphibians, and in entomology in orthopterans. He studied in Vienna and Leipzig, and from 1894 was employed at the University of Vienna, from 1909 as professor. He undertook numerous collecting trips in the mediterranean region, Asia Minor and North and East Africa. For more see Beolens 2018: 442.

***williamsoni*** [(Elasmothemis) 1919: 1208]

Ris gives as reason for his dedication: "Die Art, die auffallendste unter der Reihe von Mr. E.B. Williamson's neuen Libellulinen, ist ihrem Entdecker gewidmet [This species, the most spectacular one among the series of Mr. E.B. Williamson's new libellulines, is dedicated to its discoverer]." Williamson had placed the results of two collection trips to Guatemala and to British Guyana and Trinidad at the author's disposal. "Mr. Williamson's Beitrag ist bei weitem der grösste, den ein Einzelner zu dieser Monographie



**Fig. 22: *Elasmothemis williamsoni* ♂. Ris dedicated the “most spectacular species” that Williamson had sent from his expedition to British Guiana to his friend he never met in person. (© Dan Bárta, Aleš Dolný, Robert Lizler).**

der Libellulinen geliefert hat; ausser dem überaus wertvollen Studienmaterial verdanke ich ihm aber auch noch Winke in einigen wichtigen Spezies-Fragen, deren an ihrer Stelle gedacht wird [Mr. Williamson's contribution is by far the largest which a single person has supplied for this monograph of libellulines; besides the extremely valuable study material I owe to him tips in some important problems concerning species which are referred to at the respective places].“ Edward Bruce Williamson (1878-1933) was among the great authorities on Odonata from America. After graduating from Ohio State University in 1898 for a short period he became assistant curator of entomology at the Carnegie Museum, Pittsburg, then held a fellowship at Vanderbilt University and for a year taught science in the high school at Salem, Ohio. In 1902 he settled in Bluffton, Indiana, where he took a post in the bank of his family and married. In 1918 he became president of that bank as successor to his father. But all the time he continued to collect Odonata, not only in the near surroundings, but also on extensive collecting trips to several parts of the US, and moreover he undertook expeditions to Middle America and the northern parts of South America including Barbados and Trinidad. He was in contact with the leading odonatologists of his time, not only in America, but also in Europe, among these with Selys, Förster and Ris. In 1928 his bank had to close because of the stock market crash. So in 1929 he moved to Ann Arbor, Michigan to become research associate at the Museum of Zoology of the University of Michigan, with which he had been in contact since 1916 as Honorary Curator of Odonata. His vast collections and his library after his death were bequeathed to this institution (Beolens 2018: 448; Fliedner & Endersby 2019: 81-82).

**xanthe**[*Rhinocypha* 1927c: 7]

Gr. ξανθός –ή –όν = yellow, of various shades, freq. with a tinge of red, brown, auburn

Ris gives as an overall statement: "Ein sehr eigenartiges Tier, ohne dunkle Zeichnung der Flügel. Der Farbeffekt wird durch die Thoraxzeichnung aus orange und tiefschwarz bestimmt [A very peculiar animal, without dark markings of the wings. The effect of the coloration is caused by the pattern of the thorax consisting of orange and deeply black]." In the following text Ris describes orange or ochre markings of the head, prothorax, thorax and abdomen in detail and mentions that the wings are light yellow. So his choice of name seems justified.

**xanthostoma**[*Cora* 1918: 16]

Gr. ξανθός –ή –όν = yellow, of various shades, freq. with a tinge of red + στόμα = mouth

One of the distinguishing features in the key is (p. 14): "Mund und Vordergesicht orange [Mouth and anterior part of the face orange]."

**xiphea**[*Tauriphila* 1913c: 1004]

This is a manuscript name by Selys preserved by Ris. It is somehow derived from Gr. ξίφος = sword, but Ris' description of the species does not contain any sword-like structures, unless Selys had the impression of a sword blade when looking at the abdomen.

**yungarum**[*Acanthagrion* 1918: 124]

mod. L. *yungarum* = of the yungas (gen. plur). Yunga is a word from indigenous languages of the Andes in Peru, Bolivia and Argentina denoting a band of forests on the eastern mountain slopes with a rainy, humid, warm climate.

Ris specimens were from Pozuzo in the Argentine north western province Mendoza, like those of some other species in the same publication named from environment (*saltuum* p. 71, *silvarum* p. 74).

**zygoptera**[(*Micromacromia*) 1909a: 71]

Gr. ζυγόν = yoke, homogenous pair + Gr. –πτερος –ή –ον = winged

Usually the damselflies are united under this name as a suborder of the odonata, because their fore- and hindwings are nearly alike. Ris (1909a: 71) for this species had created its own genus named *Eothemis* [= libellulid genus from the dawn of evolution] which later was identified as a junior synonym of *Micromacromia* Karsch. The reason for the genus name was: "Von allen mir bekannten Libellulinen zeigt diese die geringste Differenzierung der Vorderflügel und Hinterflügel [Of all libellulines known to me this one shows the least dissimilarity of fore- and hind-wings]" which characteristic certainly also applied to the sole species of that genus.

**Synonyms**

*aequatorialis*, *Erythrodiplax ochracea* 1911a: 498 [= *E. famula* (Erichson in Schomburgk, 1848)]

L. *aequatorialis* –is –e = equatorial

Ris' specimens were from the Brazilian province Pará and from Surinam, regions not far from the equator. Erichson's name *famula* (L. = a maid-servant, handmaid, female slave) is one of the names for dragonflies pertaining to womanliness.

*aurgola*, *Trithemis* 1912a: 788 [= *T. hecate* Ris, 1912a: 787]

L. *aureolus* –a –um = golden, gold-coloured, figuratively: splendid brilliant, beautiful

The name probably refers to the "goldgelber Basisfleck im Hinterflügel [golden-yellow basal spot in the hind wing]" in both sexes. For *hecate* see p. 44)

*bismarckianum*, *Orthetrum* 1898: 328 [= *O. villosovittatum* (Brauer, 1868)]

mod.L. *Bismarckianus* –a –um = pertaining to Bismarck

In this case the reference is not to the German politician Otto von Bismarck (†1898), but to the Bismarck Archipelago which in 1884 had been conceded as a colony to Germany (prior to that, called New Britain). Ris mentioned the closeness to the species *O. villosovittatum* Brauer (= shaggy banded, see Fliedner 2020: 25), but did not recognise that they were identical.

*chalcongta*, *Nephepeltia* 1919: 1131 [= *N. flavifrons* (Karsch, 1889)]

Gr. χαλκός = copper, bronze + –ωτος = –backed

In this species the thorax of the ♂ is "stark glänzend dunkel grünblau metallisch; vorne ohne Zeichnung oder nur mit Andeutung einer hellen Linie in der Schulternat [very shining dark greenish blue metallic, front without pattern or only a hint of a light line in the humeral suture." The name by Karsch *flavifrons* means 'yellow-fronted' (in Ris' description this part of the head is described as whitish).

*chlōris*, *Rhodopygia* 1911c: 611 [= *R. hollandi* Calvert, 1907]

Gr. Χλωρίς is a female name derived from χλωρός –ά –όν = greenish-yellow, pale green, pale, but also green, i. e. fresh. In Greek mythology there are several candidates for the eponymy, one being a nymph, beloved by the god of the west wind Zephyrus, which is synonymised by the Latin poet Ovid with Flora, the goddess of vegetation, another being one of the Pierids (daughters of a legendary king in the Macedonian region Pieria) who provoked the Muses to a contest. When they lost they were turned into birds. Calvert explains his choice of name: "This species is dedicated to Dr. Wm. J. Holland, Director of the Carnegie Museum of Pittsburgh, to whom I am indebted for the loan of the collections from that museum." For more see Beolens 2018: 187.

*clymene*, *Macromia* 1921: 381 [= *Phyllomacromia mongceros* (Förster, 1906a)]

Clymene (Gr. Κλυμένη) was a Greek female name. In mythology one Clymene was the daughter of Oceanus and mother of Atlas, the giant bearing the sky, and Prometheus, who provided mankind with fire in spite of being forbidden to by Zeus. The name by Förster (Gr. μονοκέρως = with but one horn) refers to the tenth segment of the male, which ends into one nearly straight horn.

*cuniculus*, *Davidius* 1916a: 49 [= *D. nanus* (Selys, 1869b)]

L. *cuniculus* = rabbit



**Fig. 23: Male appendages of *Davidius cuniculus* (from Ris 1916a: 50)**

The description of the species, which was made from deformed specimens carefully reconstructed by Ris after being soaked in alcohol, does not give a clue for the choice of the name. So I very hesitantly dare a suggestion: in ventral view the male appendages might have looked to Ris similar to a rabbit head with its ears

(see fig. 23). In his description Ris states that he has compared the appendages also with *D. nanus* (Selys) which he sees to differ from his reconstruction.

*L. nanus* = dwarf refers to the small size of Selys' specimen (total length 28 mm).

*ebneri*, *Agriocnemis* 1924: 277 [= *A. zerafica* Le Roi, 1915]

In the preface of his treatise Ris informs us: "Die im folgenden Text erwähnte Reihe hat R. Ebner gesammelt [The group of species treated in this paper has been collected by R. Ebner]." The eponym of this synonym, Richard Ebner (1885-1961) was an Austrian schoolteacher and entomologist, who from 1910 to 1938 undertook numerous collecting trips to southern Europe, Norway, North Africa and the Near East up to Iran, mainly targeting orthoptera. His large collections he bequeathed to the Vienna Natural History Museum (Beolens 2018: 117). Le Roi collected his specimen at Bahr-el-Zeraf (Sudan).

*fraterna*, *Erythrodiplax connata* 1911a: 508 [= *E. bromelijicola* Westfall in Needham, Westfall & May, 2000]

*L. fraternus* –a –um = of a brother, brotherly, fraternal

Hagen 1873: 375 had stated that there was a species nearly related to *E. abjecta* (Rambur) (= low, common, mean) from Cuba, for which he suggested the name *Diplax fraterna* without any further description, probably referring to the close relationship of the taxa. In his *Biologia Centrali Americana* Calvert (1906: 259-267) had tried to unravel the species complex of *Libellula connata* Burmeister (*L.* = born at the same time, twin; probably due to its similarity to *Sympetrum vulgatum* (Linnaeus), cf. Fliedner 2006: 17) according to regions enumerating forms a to f and a' to f', also giving a synonymy of his taxa. This preliminary treatment was resumed by Ris in his 'Libellulinen' describing Hagen's taxon for the first time in detail as a subspecies of *E. connata* in Calvert's classification. In 2000 the taxon was recognised as a species in its own right by M. J. Westfall and named *bromelijicola* (= inhabitant of bromeliads) due to the place of larval development, which is unique in that genus.

*jacobsoni*, *Burmagomphus* 1912c: 162 [= *B. inscriptus* (Hagen in Selys, 1878b: 422)]

Edward R. Jacobson (1870-1944) was a Dutch businessman, naturalist and explorer. From his youth he was interested in natural history and would have liked to study

medicine, but his father induced him to adopt a career in business. After having moved to Semarang/Java in 1897 as representative of a trading firm in his free time he began to collect plants and animals, mainly insects, for which purpose he undertook *major* expeditions. One of these in 1908 led him to Krakatau to explore the development since the great eruption 25 years before. In 1910 he decided to leave business and to engage completely in his natural studies. He arranged for his collections to be sent to the Leiden Museum of Natural History, where scientists were to analyse and describe his findings. Furthermore he created a foundation to promote the scientific investigation of Dutch East Indies (today's Indonesia). In 1913 he undertook an expedition to explore the scarcely known fauna and flora of Simalur Islands, which resulted in rich material. From 1919 to 1933 he settled on Sumatra to continue his studies there. After that he resided at Bandung/Java. Due to the Japanese occupation in 1942 Jacobson was transferred to an internment camp, where he died in December 1944. Jacobson has rendered outstanding services to the knowledge of flora and fauna of Indonesia as well as on the ethnography and linguistics of that region (De Beaufort 1947-48; Beolens 2018: 199). Ris' publications 1912c, 1915b and 1927c are based on collections by Jacobson. Ris comments upon the excellent condition and the diligent designation of the provenance of Jacobson's specimens (1912c: 157) and emphasises his "anerkannte Kompetenz [recognised expertise]" (1915b: 5). The name *inscriptus* (L. = inscribed marked, branded) chosen by Hagen might refer to the yellow markings on the abdomen of the single female, on which his description is based.

*karschi*, *Xiphiagrion* 1898: 326 [= *X. cyanomelas* Selys, 1876a: 321]

The eponym of this species, the German entomologist Ferdinand Anton Franz Karsch (1853-1936) was a German arachnologist, entomologist and anthropologist, who was employed in Berlin at the Zoological Museum. The appreciation of his merits in taxonomy can be seen by the fact that at least 30 valid taxa and 9 synonyms in various orders were dedicated to him. From 1903 he changed the subject of his publications focusing on homosexuality in the animal kingdom or in non-Western cultures (for more about him see Endersby & Fliedner 2015: 55-56; Beolens 2018: 212). Why he dedicated the taxon to Karsch, Ris does not say, but he was the editor of the journal, in which Ris' paper was published, and the specimens, from which the taxon was described, were the property of the Berlin museum, where Karsch was employed. Ris already saw the similarity to *X. cyanomelas* (= blue and black), but – as no females were at his disposal – he was not able to decide if his specimens constituted a subspecies of that taxon or an own species.

*kreyenbergi*, *Gomphus* 1928b: 273 [= *Stylurus annulatus* (Djakonov, 1926)]

Ris does not give an explanation of his choice of name except "leg. Kreyenberg (D. E. M. Dahlem {Deutsches Entomologisches Museum Dahlem})." Martin Kreyenberg (1872-1914) was a German physician and zoologist. After graduating he joined the imperial navy as a surgeon and during his voyages collected in East Asia and Australia in coastal regions. Then he went to China as physician of a coal mine and later of a railway construction under German control collecting mainly reptiles and fish. Due to the Xinhai Revolution (1911) he gave up his plan of an expedition to the west of China

and with two partners settled on a Philippine island as coconut planter which enterprise due to two typhoons turned out to be a disaster. Kreyenberg died of acute appendicitis on a steamer which was to take him to a hospital in Manila for surgery (Woltersdorff 1915; Beolens 2018:228). The name *S. annulatus* [= adorned with little rings] refers to the basal yellow rings on segments 3 to 6 of the abdomen, which do not show longitudinal markings (cf. Wilson 2019).

*lenti*, *Erythrodiplax* 1919: 1156 (part) [= *E. amazonica* Sjöstedt, 1918]  
(part) [= *E. melanica* Borror, 1942]

Ris explains his choice of name: "Der Erinnerung an Mr. Lent A. Williamson von Bluffton, Indiana gewidmet [Dedicated to the memory of Mr. Lent A. Williamson from Bluffton, Indiana]." The eponym L.A. Williamson (1845-1914) was the father of Ris' odonatological friend E.B. Williamson (see p. 80), who enjoyed collecting dragonflies and had encouraged his son to do it too (Mallis 1971: 183). He also had participated in an expedition with his son and J.B. Rainey to British Guiana in 1912, where several specimens of the taxon were secured. But this species had already been described by Sjöstedt (1918: 19) under the name *E. amazonica* because his type specimens had been collected at Manaus, Amazonas. Ris in his description of the taxon had already mentioned a single male of a dark variety from Pará, Brasilia. In his revision of the genus *Erythrodiplax*, Borror (1942: 52-54) described this variety on the basis of more material as a subspecies of Sjöstedt's species as *E.a. melanica* (mod. L. = exhibiting melanism), due to "the dark coloration which distinguishes this subspecies from *E.a. amazonica*." In Paulson & Schorr 2020 the taxon has gained specific rank.

*luna*, *Acanthagrion* 1918: 122 [= *A. obsoletum* (Förster, 1914)]

*L. luna* = moon (the derived verb *lunare* may mean 'to bend like a halfmoon, crook')

The name refers to the males' rear margin of the tenth segment; it is extended into two robust, short horns, which are directed backwards and a little dorso-laterally with a semicircular emargination. In dorsal view this structure looks crescent-shaped. Why Förster named this taxon *obsoletum* (L. = worn out, obsolete, faded; (of color) dirty looking, dingy) he does not say and his description does not give a clue either, unless it is a reference that the wings in old age are "leicht getrübt [slightly unclear]" (1914: 69).

*morrisoni*, *Sympetrum obtrusum* 1911c: 687 [= *S. pallipes* (Hagen, 1874)]

Herbert Knowles Morrison (1854-1885) was an American entomologist and professional collector. In 1874 he was one of the founders of the Cambridge Entomological Club that met at Hagen's house at Harvard. Later he collected insects in many parts of the United States: Ris gives as reason for his choice of name: "Die Form ist dem Andenken des unermüdlichen Sammlers gewidmet, der weitaus das meiste des nordamerikanischen Materials der Coll. Selys zusammenbrachte [This taxon is dedicated to the memory of the indefatigable collector, who brought together by far most of the North American material in Selys' collection]" (p. 688). On the same page Ris states for the few specimens of *S. pallipes* [L. = pale-footed] at hand: "ob sie einer distinkten Art angehören oder einer eigentümlichen Farbenvarietät des *S. obtrusum*, darüber werden reichlichere Beobachtungen entscheiden müssen. Die Gestalt und Struktur der ♂ und ♀ Genitalien stimmt fast



völlig mit *S. obtrusum* Morrisoni überein [whether they pertain to a distinct species or to a peculiar variety in coloration of *S. obtrusum*, further observations will have to show. Shape and structure of the ♂ and ♀ genitalia nearly completely conform with those of *S. obtrusum morrisoni*] [For the name *obtrusum* see Fliedner & Endersby 2019: 194].

*naias*, *Perithemis* 1910b: 344 [= ***P. lais*** (Perty, 1834)]

Gr. ναιάς = a Naiad, a river nymph

This is a manuscript name by the British explorer H.W. Bates, which Ris used for a species mentioned by Kirby as *P. lais* Perty, because he doubted the identity. But after having had the opportunity to inspect Perty's types, he abandoned the new name (Ris 1919: 1119). Furthermore in his publication 1930b: 38 he corrects the comment that the first two specimens illustrated in Ris 1910a on pl. II under the name *Perithemis domitia naias* (Bates, mss) really pertain to *P. cornelia* (for *lais* see p. 111).

*octoxantha*, *Perithemis mooma* 1910b: 336 [= ***P. mooma*** Kirby 1889]

Gr. ὀκτώ = eight + ξανθός –ή –όν = yellow

Ris chose this name for a group of eight specimens which showed more yellow on the wings than those of the typical form. But he withdrew that taxon as unsubstantiated in Ris 1930b: 27. For the name *mooma* I could not find any convincing explanation.

*raineyi*, *Oligoclada* 1919: 1134 [= ***O. abbreviata*** (Rambur, 1842)]

J.B. Rainey accompanied E.B. Williamson and his father on their expedition to British Guiana (Ris 1919: 1043), from which came nine of the twelve specimens on which Ris based his taxon. But he stated that it was most similar to *O. abbreviata* (L. = shortened, abridged, due to its short abdomen): "♂. Gegen *abbreviata* kann ich nicht den geringsten Unterschied finden, ausser der Form des Hamulus [I cannot find the slightest difference from *abbreviata* except for the shape of the hamulus]." (Also Williamson dedicated an odonate species to Rainey, see Beolens 2018: 341).

*remota*, *Diplacodes* 1911a: 470 [= ***D. trivialis*** (Rambur, 1842)]

L. *remotus* –a –um = removed, far off, distant, remote, retired

There are two possibilities why Ris chose this name. In his description he says that he had hesitated for a long time to describe a species from a single female: "Doch ist mir im Laufe mehrerer Jahre nichts zu Gesicht gekommen, was dem Exemplar gleicht [But for several years I did not set my eyes on anything looking like this specimen]." So the name might mean that the new taxon is very distant from other dragonflies. But Ris adds: "Es gleicht in allen Stücken am meisten einer etwas grösser und sehr viel robuster gebauten *D. trivialis* [It resembles mostly in every respect a somewhat larger and very much sturdier *D. trivialis* (L. = common, vulgar, trivial; Rambur does not give any explanation for his choice of name)]." Due to this explicitly stated similarity the other interpretation is more probable. Ris' specimen was from the Solomon Islands, which certainly are far off any mainland.

*rouxi*, *Argiolestes* 1915d: 60 [= ***Eoargiolestes ochraceus*** (Montrousier in Perroud & Montrousier, 1864)]

Jean Roux (1876-1936) was a Swiss zoologist, mainly herpetologist. After studying at Geneva and Berlin, in 1902 he became curator of the Naturhistorisches Museum at Basel. He participated in expeditions to the Aru and Kei Islands with H. Merton (see p. 58) in 1907-08 and to New Caledonia and the Loyalty Islands in 1911-12 with Fritz Sarasin (see p. 72) from which Ris' specimens came (cf. Beolens 2018: 360). Later with Sarasin he edited the publications of the zoological results of this expedition. Montrouzier's species name *ochraceus* refers to the coloration of the thorax and the first five segments, which he describes as "jaune d'ochre [yellowish ochre]." (A more detailed description of the coloration is found in Kalkman & Theischinger 2013: 20-22).

*ruficollis*, *Paraphaea* 1930c: 90 [= ***Heterophaea barbata*** (Martin, 1902)]

L. *rufus* –a –um = red, reddish + –*collis* –is –e = –necked

The name refers to the male's red prothorax which is: "im Farbenbilde der Art recht auffallend [its coloration quite conspicuous in the appearance of the species]." The first sentence of the description is: "Das Exemplar stimmt recht nahe mit der Beschreibung von *P. barbata* (L. = bearded, referring to ventral bristles at the ninth segment) überein, aber ... [The specimen fits rather well with the description of *H. barbata*, but ...]" and the reasons follow why Ris thinks his specimen differs from Martin's species.

*sauteri*, *Agrion* 1916a: 34 [= ***Paracercion sieboldii*** (Selys, 1876a: 1281)]

In the preface Ris mentions that the *major* part of the material on which his paper is based was collected by Hans Sauter in Taiwan and Japan (more about the eponym see p. 72). Eponym of the Selysian species from Japan – whereas not mentioned – is the physician and naturalist Franz von Siebold (1796-1866), who went to Japan in Dutch service and collected lots of botanical, zoological and ethnological material about which he wrote in numerous publications after having been banned from Japan (for more see Beolens 2018: 384-385).

*schultzei*, *Enallagma* 1908a: 314 [= ***Africallagma glaucum*** (Burmeister, 1839)]

The eponym of the species, Leonhard Schultze(-Jena) (1872-1955) was a German scientist skilled in several disciplines (zoology, anthropology, geography, philology of non-European languages). He led an expedition to western and central South Africa in 1903 to 1905, which was funded by the Prussian Academy of Science. The material collected then was published in the following years by specialists, which Ris did for the Odonata, augmenting it with material from the collections of Martin, Selys and the Museums at Hamburg and Leiden. In his description Ris mentions the very close affinity of the single male to *A. glaucum* (= bluish green or grey, named from the male's main coloration). (For more about Schultze see Beolens 2018: 375 and <http://www.germananthropology.com/short-portrait/leonhard-schultze-jena/192>).

*sibylla*, *Orthemis* 1919: 1104 [= ***O. ambirufa*** Calvert, 1909]

Gr. Σίβυλλα = prophetess, priestess of Apollo, Sibyl

Ris had mistaken this specimen from Surinam earlier (1910b: 287) for *O. aequilibris* Calvert (= level, horizontal, referring to two horizontal greenish(-yellow) bands on the sides of the thorax). So to avoid a similar mistake Ris said concerning his specimen in the end

of the description that he regarded it as safer "diesem einen neuen Namen zu geben anstatt es bei der mir unbekanntem *ambirufa* vielleicht nochmals falsch einzuordnen [to give it a new name instead of classifying it again wrongly as *ambirufa* (= red(dish) on both parts, referring to the reddish labrum and abdomen {as black in *ambinigra* = black on both parts}) which I do not know]." The new name *sibylla* he explains: "Der Name erinnert an Maria Sibylla Merian, die berühmte Illustratorin surinamischer Insekten [The name is reminiscent of M.S. Merian, the famous illustrator of Surinamese insects]."

*simile*, *Mortonagrion* 1930a: 7 [= ***M. aborensis*** (Laidlaw, 1914)]

L. *similis* –is –e = like, resembling, similar

The name reflects that Ris had first thought that his specimens pertained to *Argio-cnemis rubescens* Selys (= reddening, due to its dark red dorsal and yellowish red ventral coloration): "Der Name wurde gewählt um die grosse Ähnlichkeit der Art mit den dunklen Ausfärbungsformen der *A. rubescens* anzudeuten [The name was chosen to indicate the close resemblance of the species to the dark coloured varieties of *A. rubescens*]" (p.11). Ris mentions (p.12) that he also had considered, whether his specimens from Sumatra might pertain to *M. aborensis* (Laidlaw) (= pertaining to the Abor region, Assam), but had decided against that because of differences to Laidlaw's illustration of the male appendages.

*thetis*, *Macromia* 1921: 379 [= ***Phyllo-macromia monoceris*** (Förster, 1906a)]

In ancient mythology Thetis (Gr. Θέτις) was the most beautiful of the Nereids (sea nymphs). Because of a prophecy that her son would be greater than his father, Zeus (who had become king of the gods by dethroning his father Kronos) to avoid a danger to his rule compelled her to marry the hero Peleus, who thus fathered Achilles. Ris does not explain his choice of name, but it is another demigoddess from antiquity, after which a *Macromia* species is named by him (cf. *calliope* p. 31, *clymene* p. 83). The name by Förster (Gr. μονοκέρατος = with but one horn) refers to the tenth segment of the male, which ends in one nearly straight horn (Förster 1906a: 319).

*ulmifolia*, *Platycnemis* 1930a: 26 [= ***P. phyllopoda*** Djakonov, 1926]

L. *ulmifolius* –a –um = with leaves like an elm

Ris explains: "Der Name wurde gewählt in Erinnerung an Selys, der die Form der erweiterten Tibien mit einem Ulmenblatt vergleicht [The name was chosen in memory of Selys, who compares the shape of the widened tibiae with a leaf of an elm]." Djakonov's name *phyllopoda* (from Gr. = leaf-footed) refers also to the widened tibiae.

*umbra*, *Dictyris* 1918: 12 [= ***Heliocharis amazona*** Selys, 1853]

L. *umbra* = shade, shadow

The name might pertain to the dark dorsal coloration of the male (Ris does not give an explanation for his choice of name). Selys' species name refers to the type locality: "Patrie: Bords de l'Amazone, dans la Bolivie [Country: Banks of Amazonas River, in Bolivia]."

*wahlbergi*, *Lestes* 1921: 272 [= ***L. pallidus*** Rambur, 1842]

Ris' specimen from the Stockholm museum had been collected in Cafraria by Johan Au-

gust Wahlberg (1810-1856). This Swedish naturalist and collector began to collect in Scandinavia in the 1830s and from 1838 travelled collecting in Southern Africa with a short intermission spent in Sweden in 1853. In 1856 he was killed by a wounded elephant. His large collections were sent to Sweden (see Beolens 2018: 434). Rambur only knew females which he describes as “flavo-rufescens [yellowish-red]”, that means paler than other metallic green *Lestes* species. The species can be very variously coloured (see Tarboton & Tarboton 2005: 34), but most of these colour types are somewhat pallid.

*waltheri*, *Perithemis* 1910b: 340 [= ***P. icteroptera*** (Selys in Sagra, 1857)]

Walthère de Selys-Longchamps (1846-1912 was the younger son of the ‘Father of Odonatology’. He finished his studies in law at the University of Liège with a doctorate in 1870. In 1872-73 he participated in a Belgian expedition to Brazil and Argentina, where he also collected dragonflies, among these the series of specimens in the Collection Selys, on which besides specimens from other collections Ris based his description. Later he was interested in politics and like his father became a member of the Belgian Senate 1896. After the death of his father he was assigned to the task to ensure that a catalogue of the entomological collections of his father was prepared (cf. Wasscher & Dumont 2013; Beolens 2018: 438).

Ris had been in doubt if his taxon was *P. lais* (Perty) (see *naias* p. 87), but not having seen the types he decided: „... trug ich doch Bedenken, den alten Namen zu übernehmen und widmete die Form dem Sammler der sehr schönen und homogenen Serie der Coll. Selys [... I thought it to be inappropriate to adopt the old name and dedicated the taxon to the collector of the fine homogeneous series in the Selys collection].” The species *P. icteroptera* (= yellow-winged), which he treated next, he assessed as “eine reduzierte Südform der *P. Waltheri* [“a reduced southern form of *P. waltheri*]” (p. 341; by ‘reduziert’ he wants to say that its coloration is paler and the dark spots or bands on the wings are missing). In his revision of *Perithemis* (1930b: 7) he finally states: “Twelve different species are recognised in the following text. Specific distinctness appears doubtful in but one case: *waltheri* versus *icteroptera*; *waltheri* might well be a luxuriant tropical form of the same species which is represented by the smaller and less intensely colored *icteroptera* of the region of Buenos Aires. But since no new material of *waltheri* has come to hand and the original series could not again be confronted, I prefer to let the matter stand as it is.”

*xanthomelaena*, *Nososticta* 1915c: 91 [= ***N. plagiata*** (Selys, 1886)]

Gr. ξανθός –ή –όν = yellow, of various shades, freq. with a tinge of red + μέλας μέλαινα μέλαν = black, dark

The name chosen by Ris refers to the coloration of the male’s prothorax and thorax: “Prothorax schwarz, die Seiten licht orange. Thoraxdorsum schwarz und licht gelborange; die orange Farbe über die ventralen zwei Fünftel breit ... [Prothorax black, the sides light orange. Dorsum of the thorax light yellowish orange; the orange colour is broader than the ventral two fifths ...]” (p. 92). Subsequently Ris describes the distribution of black and orange or yellowish markings on the thorax in detail. In the key p. 91 he had listed distinguishing features to a species which he erroneously deemed to be the Selysian taxon *N. plagiata*. But that taxon turned out to be a different species which finally was de-

scribed by Lieftinck (see p. 95), while Ris' taxon really was *N. plagiata* (Gr.+ L = marked obliquely; the name refers to an irregular black dorsal band on the orange thorax enlarged obliquely to the humeral suture).

## Misidentifications and homonyms

(Names included in brackets ( ) have been described in a different genus).

This chapter deals with odonate taxa, which have been misidentified by Ris, but described in his thorough way; so that they are homonymic to the original taxa. Only in one case is a taxon concerned that was already described (see below s.v. *melampus* p. 93); in all other cases Ris' error had to be detected by others and the species in question given a valid name. One example of this was already treated above s.v. *pseudexul* (p. 68) by which name he refers to *Nososticta exul* (Selys 1886) on the basis of a misidentified but thoroughly described specimen, which finally was named by Lieftinck in 1938.

In the following lemmata first the name of the misidentified taxon will be explained, then the valid name of the taxon misidentified by Ris. Why, in the case of (*Enallagma*) *minutum*, this procedure will have to differ a little will be seen below (p. 94).

*abbreviata*, *Oligoclada* Ris 1911a: 405 ≠ (Rambur, 1842: 119) → ***O. rjsi*** Geijskes, 1984: 182  
Rambur named his species *abbreviata* (L.= shortened) because of its short abdomen. Geijskes instead chose Ris as eponym of the taxon that he had mistaken.

*auriculata*, *Drepanosticta* Ris 1929a: 141 ≠ (Selys, 1878c: 322) → ***D. moluccana***, Lieftinck 1938: 82

Selys in that publication described two new species of *Drepanosticta* from New Guinea which have lateral processes on each side of the prothorax. One of them he named *bi-cornuta* (L. = with two horns), the other one *auriculata* (L. = with auricles). Lieftinck recognised that Ris' taxon from the Moluccan (now Maluku) island Buru pertained to a different species and named it after the archipelago to which that island pertains.

*cultriformis*, *Orthemis* Ris 1904a: 42 ≠ Calvert, 1899:31 → ***O. ambinigra*** Calvert, 1909: 246  
L. *culter* = ploughshare; knife + *-formis* = shaped like a

The name of the species *O. cultriformis*, for which Ris mistook his specimens goes back to Hagen, who did not give any description. Also the description by Calvert does not give a direct clue either. So I very hesitatingly try an interpretation. If 'culter' is intended in the meaning 'knife' perhaps the name refers to the shape of the male abdomen in dorsal view, which might have reminded Hagen of the blade of a knife. If a 'ploughshare' is referred to, the shape of the outer branch of the male hamule might be meant, "much larger {than the inner one}, broad and lamellate, rolled inward and ventralward." The species *ambinigra* (L. = black on both parts) got its name, because labrum and abdomen dorsally are black (cf. p. 88 s.v. *sibylla*).

*eburnea*, *Nososticta* (Ris 1929a: 144) ≠ (Förster, 1897: 336) → ***N. egregia*** (Lieftinck, 1937: 24)  
Förster chose the name *eburnea* [L. = of ivory, ivory-coloured] for this taxon in reference to light markings on the abdomen of the male [Its classification as a subspecies of

*N. salomonis* (Selys) (a reference to the Solomon islands as type locality), which is found in Bridges, probably goes back to the fact, that Fraser (1926b: 492) unaware of Förster's publication had described the taxon anew as *Caconeura salomonis geminata* (L. = double, a pair with) because of its agreement in size, venation and wing coloration with the nominate taxon. But this assignment is not followed in recent publications, e.g. Theischinger & Richards 2015: 222]. Liefinck's name *egregia* (L. = distinguished, extraordinary, eminent) for the new species mistaken by Ris for Förster's taxon probably is another example for the admiration of the prettiness of Odonata.

*exul*, *Nososticta* (see *pseudexul* p. 68)

*gracilis*, *Progomphus* Ris 1912b: 111 ≠ (Hagen, 1854: 70) → *P. adaptatus* Belle, 1973: 214

The genus *Progomphus* mainly comprises species with a slender, slightly clubbed abdomen (Dunkle 1989: 51), so it is no wonder that Hagen named his species *P. gracilis* (L. = thin, slim, slender) without any explicit explanation. Ris erroneously deemed some specimens from the Hamburg Museum, which he shortly described, to pertain to Hagen's taxon; but Belle detected that they were a different "somewhat smaller, more delicate and darker species" which is "very closely related" to *P. gracilis*. He named the new species *P. adaptatus* (L. = adjusted, modified) probably due to this relatedness.



**Fig. 24a-b: a. *Progomphus adaptatus* Belle a. holotype male (ZMH 65846): The naming of *Progomphus adaptatus* Belle was the second last correction of a taxonomic error made by Ris.**

**b. labels: The course from the trader's tag to the final nomenclatural act is to be seen well (for the odonate types at the Zoological Museum Hamburg see Henningssen & al. 2020) (©Zoologisches Museum Hamburg, T. Dalsgaard).**

*kruegeri*, *Drepanosticta* Ris 1927c: 19 ≠ *D. kruegeri* Laidlaw 1926: 228 → ***D. arcuata*** Lieftinck, 1934: 469

Laidlaw does not explain this name for the damselfly from the Mentawi islands west of Sumatra, but it is clear that by it he wanted to honor the German odonatologist Leopold Krüger (1861-1942), who in the years 1898 to 1902 had described the odonate fauna of Sumatra in four major papers on the basis of collections made by Heinrich Dohrn (1838-1913, cf. Beolens 2018: 110), whom he also succeeded as president of the Stettiner entomologischer Verein and editor of the Stettiner entomologische Zeitung (for more about Krüger see Endersby & Fliedner 2015: 61-62; Beolens 2018: 229). As Laidlaw had neglected the umlaut ü, which really is a ligature of u with an ancient form of the letter e formed by two parallel strokes (ü), Ris in his publication corrected it to *kruegeri*. The name *arcuata* (= bow-like, arched) most probably refers to the processes of the posterior lobe of the prothorax, which in *arcuata* are "directed almost straight upwards and then curled a little forwards", while they are "directed straight backwards" in the nearly related species "*kruegeri* (*sic*) and *sundana* (mod. L. = from the Sunda Islands)."

*major*, *Megalestes* Ris 1916a: 11 ≠ *M. major* Selys, 1862a: 293 → ***M. riccii*** Navas, 1935: 89  
L. *maior* –*ior* –*ius* = larger, greater, bigger / rather large, big, great (comparative)

Selys had given this name to a species from Southern India with an abdominal length of 54 mm, on which he based his genus *Megalestes* (Gr. = large *Lestes*). Ris' taxon, which he had published from Formosa (now: Taiwan), only indirectly was recognised to pertain to the species *M. riccii*, which was named by Navas after the first Jesuit missionary in China Matteo Ricci (1552-1610; see Beolens 2018: 350) from specimens caught in continental China near Guling/Jiangxi. Chin-Wen Chen (1947) had seen that Ris' taxon was different from the Selysian species from India and had named it after the Chinese entomologist Tsing-Chao Maa (1910-1992), who then was Head of the Department of Economic Zoology of the Taiwan Agricultural Research Institute. With him and a third companion Chen had secured his specimens in the mountains of Taiwan (for more about Maa see Hämäläinen 2004: 372; Beolens 2018: 260). Yu & Xue (2020) finally in a revision of the genus *Megalestes* synonymised Chen's taxon with *M. riccii*.

*melampus*, *Trigomphus* Ris 1916a: 52 ≠ (*Gomphus m.* Selys, 1869b: 182) → ***T. interruptus*** (Selys, 1854b: 66)

Ris erroneously determined his specimens as the Selysian species *G. melampus* (Gr. = blackfooted), but transferred it to Bartenev's genus *Trigomphus* established shortly before. Later it was found out that the taxon in question really was *Trigomphus interruptus* (Selys, 1854) (L. = interrupted, due to the interruptions of the abdomen's yellow longitudinal line at the articulations).

*metallica*, *Teinobasis* Ris 1913d: 522 ≠ (*Telebasis m.* Förster, 1898: 300) → ***T. nitescens*** Lieftinck, 1935: 253

Förster had named the species *metallica* because of its general coloration being "metallisch stahlgrau und schmutzig weißlichgelb [metallic steel-grey and dingy whitish yellow]." Lieftinck recognised that two of the specimens which Ris had taken for Förster's

taxon really pertained to a new species and named it *nitescens* (L. = shining, glittering) with a name referring to the same feature (for *Telebasis* vs. *Teinobasis* see p. 118).

*minutum*, *Enallagma* Ris 1931: 102 ≠ (treated as homonym of *Trichocnemis minuta* Selys, 1857: 464) → ***Pinheyagrion angolicum*** (Pinhey, 1966: 9)

In 1857 Selys had named a species *Trichocnemis minuta* (L. = small, little, minute) in reference to its total length of ca 27 mm (for *Trichocnemis* see *Coelliccia* p. 102). Ris (1931: 102) described his species *minutum* (named so due to its smallness: "abdomen 17 mm") in the genus *Enallagma* stating: "etwa von der Statur der meisten *Agriocnemis* [its stature somewhat like that of most *Agriocnemis* species]." Because Ris' name was assessed by some as a homonym of the Selysian species, Pinhey in 1962 renamed it *E. risi*, and as that name was preoccupied by a species named by E. Schmidt from Afghanistan in the year before, in 1966 Pinhey renamed in *E. angolicum* after the provenance of Ris' specimen (For the genus *Pinheyagrion* based on this single species see p. 114).

*optata*, *Idionyx* Ris 1912d: 82 ≠ Selys, 1878a: 196 → ***I. carinatus*** Fraser, 1926a: 206

Selys does not say why he chose the name *optatus* (L. = desired, longed for, welcome, pleasing), but probably he was happy that in the genus *Idionyx* (see p. 107) in addition to the species *I. yolanda* from Singapore a second one from India had been found. Fraser renamed the Risian taxon as *I. carinata* (L. = furnished with a keel) in feminine gender, because it, although grammatically incorrect, had been in use for *Idionyx* up to Bridges 1994 and is still found on the Internet. The descriptions by Ris or Fraser do not give any clue for the choice of name, but photographs from the internet show a dark keel-like ventral structure at the first abdominal segments (e.g. <https://www.insecte.org/forum/viewtopic.php?t=193419>).

*ovigerum*, *Enallagma* Ris 1918: 117 ≠ Calvert 1909: 159 → ***Mesamphiagrion risi*** (De Marmels 1997: 147)

Calvert informs us that the name *ovigerum* (= egg-bearing) was a collection name by Hagen at the Harvard Museum of Comparative Zoology (p. 160) adopted by himself. But his description of the species does not mention any egg-like structure or pattern. Ris 1918 gave a new description from specimens in his collection which he thought to pertain to Calvert's species, but he also mentioned that they differed slightly from the first description. Neither in his description is found anything about egg-like features. Kennedy (1920: 87) chose *E. ovigerum* as the type species of his new genus *Archaeallagma* (= archaic *Enallagma*). From newly collected material De Marmels (1989: 250) was induced to give a new description of *ovigerum*, but transferred it to the genus *Cyanallagma* Kennedy, 1920 (for which see p. 103), with which he had synonymised the genus *Archaeallagma* the year before. For the classification of his material he had relied on specimens from Ris' collection expressing some doubt if the taxon described by Ris really was the same as Calvert's taxon. Later after a comparison with Calvert's type material at MCZ he came to the conclusion that Ris had described a different, but similar taxon, which he named *C. risi* "after the great Swiss odonatologist Dr. Friedrich Ris, who gave the first description of this species" (De Marmels 1997: 148). But that is not



the end of the story: von Ellenrieder & Garrison (2008) when redefining *Cyanallagma* transferred Calvert's and Ris' taxa to the genus *Mesamphiagrion* (for which see p. 109), a third genus created by Kennedy in 1920 on the same page.

As to the name *ovigerum*: it is possible that "it might refer to the round, semicircular tubercle on the distal margin of the male cercus when seen in lateral view" (Garrison, in litt.).



**Fig. 25a-b: *Mesamphiagrion risi* ♂+♀ . J. De Marmels chose this name for the species because Ris had first described the taxon not seeing that it really differed from *Mesamphiagrion ovigerum* (Calvert) for which he had mistaken it (© C. Bota Sierra).**

*plagiata*, *Nososticta* Ris 1915c: 91 ≠ (Selys, 1886: 184) → *N. aurantiaca* Lieftinck, 1938: 94

The name *plagiata* (Gr.+L = marked obliquely) given by Selys refers to an irregular black dorsal band on the orange thorax enlarged obliquely to the humeral suture. The actual name *aurantiaca* (L. = orange) describes the colour of the large markings on the black thorax of the males.

*quatuornotata*, *Agrionoptera insignis* Ris 1910a: 138 partim ≠ *A. quatuornotata* Brauer 1867b: 298 → *A. i. yapensis* Lieftinck 1962: 72

Brauer had named his taxon *quatuornotata* (L. = four-marked) due to a dark basal streak in each of its wings. Ris had classified this taxon as a subspecies of *A. insignis* including specimens from the Caroline Islands in the Hamburg Museum into his description. In 1962 Lieftinck assessed specimens from the Caroline island Yap as a subspecies in its own right under the name *A. i. yapensis*, which in Bridges 1994 is taken for the complete Risian taxon (misspelled as *quatornotata*). Schneider (2004: 81) maintains *A. i. quatuor-*

*notata* as a subspecies and states that in Liefertinck 1962 it is taken as a species. Liefertinck's taxon *yapensis* in Davies & Tobin (1985) and in Steinmann (1997: 378) is classified as a species of its own right. Buden & Paulson 2007: 271 however prefer to see the population of Yap as neither an own specific or subspecific taxon, but as a synonym of the nominate form *A. insignis*. The same goes for *quatuornotata* and *yapensis* in Paulson & Schorr 2020.

*terpsichore*, *Macromia* Ris 1913e: 496 & 1915c: 84 ≠ Förster, 1900: 86 → ***M. eurynome*** Liefertinck, 1942: 563

In 1900 Förster choosing the name *terpsichore* (Gr. = dance enjoying) first made a Muse from ancient Greek mythology an eponym of a *Macromia* species. His description was based on a single male. Martin (1909: 198) described what he thought to be a second male specimen of the species from the Natural History Museum at Genoa, as did Ris in 1913 when he classified a collection from New Guinea, adding the description of the female two years later. But they both were mistaken as Liefertinck realised in 1942, renaming their taxon *M. eurynome* which is also a female name from ancient mythology. According to the Greek mythographer Hesiodus Eurynome was one of the daughters of Oceanus and his wife Thetys and mother of the Charites, the goddesses of grace and beauty.

### Actual genera

The genus name of any species is an indispensable part of its scientific name. The names of the genera not described by Ris into which his species are now placed shall be explained here in alphabetical order.

***Acanthagrion*** Selys, 1876a: 304

Gr. ἄκανθα = prickle, thorn+ *-agrion* see *Antiagrion* p. 14

In that publication Selys describes a section of his 'genre *Agrion*' with eight 'sous-genres' (now real genera, but two of them are now synonymised with *Ischnura*), which at present would be classified as *Ischnurinae*. Their common feature is: "Une épine ou pointe aiguë au bout du 8e segment de la femelle en dessous" [A spine or sharp point below the end of the 8th segment of the female]" (p. 250). One of these eight 'sous-genres' is *Acanthagrion*, which name according to Selys would have been appropriate to designate that whole group. It might be added that also the names *Oxyagrion* [= pointed *Agrion*] and *Xiphiagrion* [sword *Agrion*] in this group are evoked by that characteristic.

***Aciagrion*** Selys, 1891: 509

Gr. ἀκίς = pointed object, hence needle + *-agrion* see *Antiagrion* p. 14

The name apparently refers to this feature: "Abdomen long, excessivement grêle [Abdomen long, exceedingly slender]".

***Aethiothemis*** Martin, 1908: 662

Gr. Αἰθίοψ = properly: burnt-face, i. e. an inhabitant of Ethiopia, African + *-themis* see

***Argyrothemis*** p. 15

At the end of his description Martin states: “Le type de la Guinée a été soumis à notre ami le Dr. Ris qui travaille en ce moment à une histoire générale des Libellulinae, et c'est lui qui a nommé le genre *Aethiothemis* et l'unique espèce de ce genre, actuellement connue [The type from Guinea has been submitted by our friend Dr. Ris, who at the moment is working on a general history of Libellulinae, and it is he who named this genus *Aethiothemis* and the sole species of this genus known so far {*A. solitaria*}]” (p. 663). For the interpretation of the genus name ancient Greek mythology is helpful: Phaeton was son of Helios, the sun-god, and an Oceanid, a lesser deity. Being of juvenile age to prove his divine descentance he badgered his father, who finally allowed him drive the sun chariot for one day. But Phaeton was not strong enough to steer the chariot correctly, which came near to the Earth and scorched the whole southern area and the people as well, who thereafter became dark skinned. This great accident was ended when Zeus to prevent more harm killed the unlucky driver with a thunderbolt. So it is to be seen, that the word Αἰθίοψ does not only refer to Ethiopia, but to all sub-Saharan Africa. The species *A. solitaria* is from the Guinea-Bissau, so although not mentioned anywhere, the name *Aethiothemis* surely means “libellulid dragonfly from sub-Saharan Africa”.

***Aethriamanta*** Kirby, 1889: 262

*L. aethra* = bright sky (borrowed from Greek) + *amant* = stem of the participle *amans* = loving + the philologically inappropriate feminine ending –a, to show the gender unmissably which is not seen in the participle form.

The description of the genus being purely morphological does not allow any conclusion about the interpretation of the name which probably just means: “Loving bright sky.”

***Africallagma*** Kennedy, 1920: 87

The name is a combination of the genus name *Enallagma* (=giving the possibility of confusion, cf. Fliedner & Endersby 2019: 139) suggested by Charpentier for the very similar coenagrionid species with blue males showing a black pattern with Africa, the continent, to the sub-Saharan part of which the species of this taxon are confined: “Generic characters as in *Enallagma*, except apex of segment 10 in male is elevated into an apical keel, notched at apex. Includes *nigradorsum*, *obliteratum* and *schultzei* as described in Ris, “Od. Sudafrika” [= Ris 1908a].”

***Agrionoptera*** Brauer, 1864: 163

For *Agrion* see *Antiagrion* p. 14 + Latinised feminine form from Gr. –πτερος = winged

Brauer saw in the wings of this taxon a similarity to zygopteran wings: “Vorder und Hinterflügel fast gleich gross, letzterer am Grunde nicht erweitert, kaum breiter als ersterer, beide am Hinterrande abgerundet, in der Gestalt den Flügeln der Agrioniden (*Euphaea*) im weiteren Sinne ähnlich [Forewing and hindwing of about the same size, the latter not expanded at the base, hardly broader than the former, both rounded at the rear margin, the shape of the wings similar to those of the agrionids in a broader sense (*Euphaea*)]”.

***Allocnemis*** Selys, 1863: 173

Gr. ἄλλος -η -ο = another, i. e. one besides what has been mentioned + κνημῖς = greave, legging as a reference to the genus *Platycnemis* (= broad greave, because of the widened tibiae)

Selys described this taxon as a 'sous-genre' in the publication in which he established his 'légion *Platycnemis*', which should comprise taxa closely related to the genus *Platycnemis*. For *Allocnemis* he states: "Ils se séparent ... des autres sous-genres précédents par les ailes plus petiolées [They are separated from the other aforementioned subgenera by the more petiolate wings]" (p. 174). So the name means: "Another platycnemidid taxon". It should be noted, that in his "legion *Platycnemis*" Selys created seven new genera ending in *-cnemis* (two of them subsequently to be changed because of homonymy), but he later on recognised that not all of these pertained to the Platycnemididae, so that the morpheme *-cnemis* may just mean 'Coenagrionid damselfly' e.g. in *Amphicnemis*, see below).

***Allopodagrion*** Förster, 1910, 54

Gr. ἄλλος -η -ο = another, i. e. one besides what has been mentioned + *Podagrion*

In 1862b Selys had established a genus *Podagrion* (= leg-*Agrion*), its name referring to the species *P. megalopus* (= long legs). Because of homonymy that genus later was renamed *Megapodagrion* (= long leg-*Agrion*). Förster saw that some species included by Selys in that genus differed in features of their wing venation from the above mentioned species; so for these he founded the genus *Allopodagrion* (= another *Podagrion*).

***Amphicnemis*** Selys, 1863: 152

Gr. ἀμφί = on both sides + *-cnemis* (cf. *Allocnemis* above)

In his description Selys says: "NB. Ressemblent aux *Amphilestes* ... [Resembling *Amphilestes*]". That taxon (now *Rhinagrion* Calvert because of homonymy) got its name from dark olive reniform spots on both sides of the thorax of the single species included in it when established (see Selys 1862b: 42).

***Anatya*** Kirby, 1889: 263 & 293

There is no Greek or Latin word that would allow an interpretation of this name. Kirby himself does not give a clue.

***Anax*** Leach in Brewster, 1815: 137

Gr. ἄναξ = sovereign, king

The name might reflect the dominant behaviour of *Anax imperator* at the waterside or its large size. Leach does not give any explanation for his choice of name.

***Andaeschna*** De Marmels, 1994: 427

Span. (+ L.) *Andes* = the Andes (the mountains one might call the backbone of South America) + *Aeshna*

Fabricius in 1775 introduced the name *Aeshna* for those Anisoptera, that had not remained in the genus *Libellula* Linnaeus. This name, the etymology of which is unknown, for some time was emended to *Aeschna* (with c), until in 1958 the ICZN in opinion 34

decided, that *Aeshna* had to be maintained, as Fabricius had not explained his name in any way and an orthographical slip therefore could not be proven (cf. Endersby & Fliedner 2015: 96-97; Fliedner & Endersby 2019: 94). But in compound names the spelling *-aeschna* (with c) was maintained and also new ones were added after the decision of ICZN, as in this case. De Marmels based his genus on three species of *Aeshna* already described and a new one (from Bolivia, Colombia and Venezuela, all states through which the Andes run). He states for the distribution of this taxon: "All what (*sic*) can be said for now is that *Andaeschna* is confined to northwestern South America, and that its four species are strictly Andean, found exclusively on the eastern slopes" (p. 437).

***Andinagrion*** Bulla, 1973: 512

L. *Andinus* –a –um = concerning the Andes + *-agrion* see *Antiagrion* p. 14

Under this name Bulla separated two species described by Ris from Argentina from the genus *Oxyagrion* Selys (cf. *Acanthagrion* p. 96) because he thought the peculiarities of these two species were due to the adaptation to the Andean habitat. Later it was found out, that there really are three species of this taxon, only one of which (*A. peterseni*) is really Andean, ranging from the Argentine east slopes of these mountains to the Monte, Subantarctic and Patagonian Provinces, the second one (*A. garrisoni*) occupies the wet eastern slopes of the Sub Andean mountain chains of the North Western provinces of Argentina, and the third one (*A. saliceti*) is found in the Pampas of the Buenos Aires province and Uruguay (von Ellenrieder & Muzon 2006: 222).

***Archaeogomphus*** Williamson, 1919: 2

Gr. ἀρχαῖος –α –ov = from the beginning or origin + *Gomphus*

The name is a reference to the archaic character of wing venation: "Belonging to that group of genera (not necessarily closely related, inter se) of the legion *Gomphus*, which possesses numerous unspecialised cross-veins between M1-3 and M4." The genus name *Gomphus* (Gr. γόμφος = bolt for shipbuilding) was introduced by Leach for species with the feature "Abdomen clavate in both sexes". The Gomphidae now form one of the largest dragonfly families at all.

***Argentagrion*** Fraser, 1948: 48

*Argentina* = name of the second large state of South America, first found on a Venetian map from 1536; Italian: (*terra*) *Argentina* = land of Silver, an erroneous hope of the conquerors + *-agrion* see *Antiagrion* p. 14

Fraser based his new genus on the single species *Acanthagrion ambiguum* Ris, 1904a from Buenos Aires, the capital of Argentina. Already Ris had been in doubt whether his species was correctly placed in *Acanthagrion* (see p. 24).

***Argja*** Rambur, 1842: 254

Gr. Ἀργεῖα = the woman from Argos

The name might be taken from ancient mythology, where *Argia* was the wife of Polyneikes, son of Oedipus, who wanted to regain rule over Thebes with six allies, after he had been expelled by his brother and rival Eteokles. Such a genus name however would be uni-

que with Rambur, as all others created by him refer to a quality of the respective genus or compare it with a bird of prey. But in his description of the genus Rambur emphasises the closeness to *Agrion* in wing venation: “par le ptérostigma et les deux nervules du premier espace costal elles se rapprochent des *Agrion* [by the pterostigma and the two small veins of the first costal space they are close to *Agrion*].” So it seems probable that Rambur chose a name as near to *Agrion* as possible without causing confusion.

It should be noted that only two from the five species included in that genus by Rambur are from America, two others are from India and one from the Island Waigeo near New Guinea which are now classified in other genera.

***Argiolestes*** Selys, 1862b: 38

*Argio*– see above s.v. *Argia* + *Lestes* (see p. 108)

Selys (1862b: 6) presents in his Légion *Podagrion* taxa which have a similarity to his Légion *Lestes*, “mais ce n’est pas une véritable affinité [but that is not a real affinity]”. But due to this similarity for some of his new generic names he chose *–lestes* as the second element of their names.

Selys based his genus *Argiolestes* on *A. australis* (Guérin) from Offak, Waigeo Island, which Rambur had included in his genus *Argia* (1842: 256) erroneously stating it to be from Australia. The statement in Endersby & Fliedner (2015: 107) *Argio*– being meant as an anagram of *Agrio*– in this case is erroneous.

***Atrocalopteryx*** Dumont, Vanfleteren, De Jonckheere & Weekers, 2005: 360

*L. ater* –*tra* –*trum* =black, coal-black, gloomy, dark + *Calopteryx* (= Gr. pretty wing)

The element *atro*– is a reference to the type species *A. atrata* (Selys 1854a) [=clothed in black, because of the blackish wings which in the males have a dark green opalescence] of the new genus separated from *Calopteryx* Leach.

***Bayadera*** Selys, 1853: 49

Latinised from the Portuguese word *bailadeira* = female dancer, forms of which word were used for Indian female temple dancers in European languages from the 18th century evoking an oriental flair and an impression of attractiveness.

In their Synopsis of Caloptérygines Selys and Hagen established several genus names which communicated a conception of attractive womanliness, choosing names of courtesans from antiquity like *Mnais* or *Lais*, or of female deities like *Echo* or *Sylphis*. *Bayadera* blends in with such names well, the semantic field of which had been initiated by Linnaeus with his first zygopteran species names *virgo* (= virgin) and *puella* (= girl). It might be mentioned that in 1839 a group of Indian bayaderes toured France and England, or that in 1830 a ballet named *Le Dieu et la Bayadère* ou *La Courtisane amoureuse* had been performed in Paris, based on a poem of the German poet J.W. Goethe. From that it is to be seen that the term and its erotic connotation were present in public in the 19th century.

***Brachygonia*** Kirby, 1889: 259; 310

Gr.βραχύς = short + –γονία (in compounds) begetting, generation.

The rather short secondary genitalia of the males probably are at the base of the name.



**Fig. 26: *Bradinopyga cornuta* ♂.** The slender abdomen at the base of the genus name and the little horns at the frons that led to the species name are to be recognised well. (© Dan Bárta, Aleš Dolný, Robert Lizler).

***Bradinopyga*** Kirby, 1893: 553

Gr. βράδιος –η –ον = tapered, slim, slender + –πυγος = –rumped

In the key Kirby says: “abdomen rather slender, hardly thickened at base, a little shorter than the hind wings.”

***Brechmorhoga*** Kirby, 1894: 264

Gr. βρέχμα = front part of the head + ῥωγή = cleft.

A characteristic of the genus is “frontal tubercle bifid”, by which it can be distinguished from the genus *Macrothemis*.

***Caledargiolestes*** Kennedy, 1925: 293

L. *Caledonia* = (properly:) the Scottish Highlands, but here the reference is to New Caledonia + *Argiolestes* (see p. 100)

This genus was established for *Argiolestes uniseries* Ris, 1915 from New Caledonia, which its author stated that it differed from other *Argiolestes* by having just one row of cells between Cu2 and the margin of the wing. Not until 1975 was a second species of that genus described by Lieftinck.

***Caledopteryx*** Kennedy, 1925: 295

L. *Caledonia* = (properly:) the Scottish Highlands, but here the reference is to New Caledonia + *-pteryx* (see this lemma)

Kennedy based this genus on a single species, for which he states: “*Caledopteryx sarasini* is considered an independent development parallel with *Podopteryx*” (p. 301). Selys (1871b: 415) chose the name *Podopteryx* for a genus, because some generic characters showed a resemblance to the calopterygid genus *Amphipteryx* (on both sides wing, because the wing venation in this genus shows calopterygid and agrionid characters as well; see Selys 1854a: 240), but others showed that it belonged in his Lestid ‘légion *Podagrion*’ (for which see above s.v. *Allopodagrion* p. 98).

***Calophlebia*** Selys, 1896: 80

The name is a compound of *Calopteryx* (= pretty wing), to which genus the dark steel coloured outer parts of the wings of the type species show some resemblance and *Neophlebia* (= veined in a novel way, a younger synonym of *Tetrathemis* (see p. 111).

***Castoraeschna*** Calvert, 1952: 264

The name refers to the type species *Aeshna castor* Brauer, which Calvert separated together with four other species from the genus *Aeshna*. (For *Aeshna* see *Andaeschna* p. 98; for *Aeshna castor* see Fliedner 2020: 15).

***Ceriagrion*** Selys, 1876b: 525

L. *cerinus* = waxcoloured + *-agrion* see *Antiagrion* p. 14

The name's first element is an allusion to the general colouring in this genus, which is primarily “jaunâtre orange [orangish yellowish].”

***Chalcopteryx*** Selys, 1853: 68

Gr. χαλκός = copper; anything made of metal + *-πτερυξ* = *-winged*

Selys states: “Ailes ... inférieures opaques, métalliques dans les deux sexes [Hind wings opaque, metallic in both sexes].”

***Chlorogomphus*** Selys, 1854b: 99

Gr. χλωρός *-ά -όν* = greenish-yellow, pale green; yellow; pale, pallid + *-gomphus* (see *Archaeogomphus* p. 99)

As Selys (1858: 575) states that the hind wings of the females of the sole species known then are unique in the Gomphids by size and colour, probably their partly yellow ochre opaque coloration is at the base of the name.

***Coeliccia*** Kirby, 1890: 128

This is a replacement name for the preoccupied *Trichocnemis* (= with bristles at the tibiae) Selys, for which in his last description (1886: 114) he had given as one distinctive feature: “♀ Prothorax à bord postérieur échancré (♀ Prothorax scalloped at the rear margin).” The name was replaced by Kirby in his Synopsis with *Coeliccia* without any explanation. It might be composed of Gr. κοίλος *-ή -ον* = hollow, concave and the Italian suffix



–*iccio* –*a* = somewhat, in reference to the feature mentioned by Selys, but that is a mere guess.

***Cogra*** Selys, 1853: 71

Gr. Κόρη = Persephone (queen of the netherworld) (aka Kore) (properly: girl, maiden)

In Greek mythology Persephone was the beautiful daughter of the goddess Demeter, the patroness of agriculture. Hades, the god of the netherworld, abducted her to his realm, when mother and daughter rejected his courtship. Demeter, mourning for her lost daughter, prevented the crops from growing, so that Zeus had to establish a compromise: Persephone was allowed to return to her mother for a part of each year, the rest of the year she reigned as queen in the netherworld. This myth is thought to have been an explanation why crops do not grow in winter.

***Croc~~o~~themis*** Brauer, 1868b: 367 & c: 736

Gr. κρόκος = saffron; for –*themis* ≈ libellulid dragonfly see *Argyrothemis* p. 15

Even though the name is neither explained in the first description nor the feature to which it alludes is even mentioned there, it is evident that it refers to the large saffron coloured basal patches in the hindwings of all species included in the new genus by Brauer (cf. Fliedner 1997: 40).

***Cyanallagma*** Kennedy, 1920: 87

Gr. κύανος = dark-blue enamel; lapis lazuli + –*allagma* see *Africallagma* p. 14

Under this name Kennedy separated three species (and another one doubtfully) from the genus *Acanthagrion* (see p. 96), which in the Selysian system is next to *Enallagma*. Why he named this genus *Cyanallagma* Kennedy does not say; but it is to be concluded from a remark in the description of *Oxyallagma* split from *Oxyagrion* on the same page, where it reads: “Characters as in *Enallagma*, except red a dominant color.” So in this genus blue is a dominant colour.

***Dasythemis*** Karsch, 1889: 251

gr. δασύς = thick with, dense; for –*themis* ≈ libellulid dragonfly see *Argyrothemis* p. 15

This taxon differs from other genera with quadrangular discoidal cell [e.g. *Nannodiplax* Brauer (= dwarfish *Diplax*; cf. *Diplacina* below)] by its very dense wing venation.

***Davidius*** Selys, 1878b: 667

Selys named this genus after Jean Pierre Armand David (1826-1900), a French Lazarist priest and zoologist, who was a missionary in China from 1862 to 1876, where he also undertook collecting trips for the Muséum d'histoire naturelle in Paris. Père David had brought the specimens of two species of the new genus to Paris, one from north of Peking (now Beijing), the other one, *D. davidii*, from Tibet. More about the eponym Beolens 2018: 101.

***Diplacina*** Brauer, 1868a: 173

*Diplacina* is derived from *Diplax* with the Latin suffix –*inus* –*a* –*um* = resembling, related to.

The genus was introduced by Brauer for some species resembling the libellulid genus

*Diplax* (from Greek δις (= twice, doubly) and πλάξ (= anything flat and broad, e.g. area) because of the shape of the prothorax being similar to the upper case letter B. That genus had been created by Charpentier (1840: 12), who was not aware that this taxon had already been described by Newman (1833: 511) on the basis of a different characteristic under the name *Sympetrum* (= compressed abdomen). This fact remained nearly unnoticed until about 1880 (see Hagen 1888), but because of the priority of Newman's name the genus *Diplax* itself became obsolete. It is however part of many compound genus names, but not all these genera have the bilobed prothorax, which is at the base of Charpentier's name.

### ***Diplacodes*** Kirby, 1889: 263 & 307

For *Diplax* see above s.v. *Diplacina*; Gr. suffix –ώδης –ης –εος = similar to, looking like a Kirby does not give an etymological explanation, but he states: "This genus will include all the species placed in *Diplacina* by Brauer, except his type, *D. nana*, from the Philippines, which is clearly not generic with the others. Several species previously referred to *Diplax* will come better here, ..."

### ***Ecchlorolestes*** Barnard, 1937: 190

Gr. ἐκ– = out, away, off + *Chlorolestes* (Gr. χλωρός –ά –όν = green + *Lestes* see p. 108). In 1862 in his 'région *Podagrion*' Selys had founded a genus *Chlorolestes* (green *Lestes*, because all species but one he included dorsally show a dark green bronze colour and some similarity to the real genus *Lestes*). Kennedy (1920: 84) had split a taxon *Euchlorolestes* (good {≈ characteristic} *Chlorolestes*) from that for two species (one of them also by a synonym) because of the special form of the distal hook of the penis. That taxon ranks as a subgenus in Bridges and also in ADDO ([http://137.158.76.132/index.php?taxon\\_id=300](http://137.158.76.132/index.php?taxon_id=300)), but no longer exists in Paulson & Schorr 2020. Barnard saw that in two species of *Chlorolestes*, one already described and a new one, the penis of the males did not show any distal hook, so that the genus name says: '*Chlorolestes* without ...'

### ***Elasmothemis*** Westfall, 1988: 422

„Etymology: *Elasmothemis* from the Greek "elasmos", a metal plate, in reference to the large plate-like anterior lamina of the males, + "themis", a common suffix in genera of Odonata."

### ***Epigomphus*** Hagen in Selys, 1854b: 59

Gr. ἐπι– = upon, on, in addition to, besides, after + *Gomphus* (see *Archaeogomphus* p. 99) The Greek prefix can have several meanings, but neither in Selys 1854b nor in Selys 1858 is there any explanation of the name found. So it might be meant as "additional genus of *Gomphus*".

### ***Erpetogomphus*** Selys, 1858: 329

Gr. ἔρπετόν = reptile, esp. snake + *Gomphus* (see *Archaeogomphus* p. 99) By this new genus three American species were separated from the holarctic genus *Ophio-*

*gomphus* (= snake *Gomphus*, see p. 14), and it is to be seen that the semantic similarity of the names is to reflect the close relationship of the taxa.

***Erythrodiplax*** Brauer, 1868b: 368 & 1868c: 722

Gr. ἔρυθρός = red + for *-diplax* ≈ libellulid dragonfly see *Diplacina* p. 103)

Brauer included in this genus seven species (one of them also listed by two younger synonyms), only three of which are described as reddish brown or reddish yellow, one as brickcoloured, none as truly red. The taxon is separated from others only by features of wing venation. The present type species, Brauer's *E. corallina*, which is truly red, was classified into the genus *Erythemis* [= red *Themis*], when the genus *Erythrodiplax* was established.

***Euphaea*** Selys, 1840: 200

The name probably is derived from the Greek adjective εὐφαής = very bright. It was the first genus name Selys suggested, but erroneously named for it the North American species *Calopteryx holoserica* Burmeister {= *C. maculata* Palisot de Beauvois} said to be from Java. In Selys 1898: 338 he corrected his error, informing us that really *E. variegata* (Rambur) was the species he had had in mind when he created the genus.

***Euthore*** Selys, 1869a: 668

Gr. εὖ = well; in nomenclature often for 'typical' or 'advanced' (in an evolutionary sense); for *Thore* see this lemma.

Selys (1853) established a "legion", a "genre" and a "sous-genre" *Thore*, which he credits to Hagen. There is a rare Greek word θορή (= male or animal semen), but that as a genus name does not harmonise with the other new genus names in that publication, which mostly refer to female charm (cf. *Mnais* p. 111). So I suppose that *Thore* might be a female name from a novel of the 19th century. A derivation from the Norse male name *Thore* (≈ Thor's warrior) is not probable, as the genus name from the outset was used in feminine. In his more extensive description of that "legion" (1854a: 247) Selys states: "cette Légion n'a pas d'affinité avec aucune autre des Caloptérygines. Nous connaissons, au contraire, parmi les Agrionines fossiles, des espèces qui se rapprochent des *Thore* ... [this legion has no affinity to another one of the Calopterygines. On the contrary among the fossil *Agrionines* we know species which verge on the taxa of *Thore* ...]", that means he sees in *Thore* a link from the Calopterygines to the more advanced Agrionines. When establishing the taxon *Euthore* as a subgenus (1869a: 675) he explains, that differing from *Thore* two of the antecubital veins are formed more strongly than the others, which seems to him a transitional stage to the two antecubitals in the Agrionines, so that the new taxon is more advanced in evolution. It should be noted, that the name *Thore* was preoccupied by a genus of spiders and therefore replaced by Calvert (1917: 263) with *Polythore*, Greek πολυ- (= many) being a reference that in this taxon the cells of the wings are more numerous than in *Calopteryx*.

***Gomphomacromia*** Brauer, 1864: 163

*Gomphus* (see *Archaeogomphus* p. 99) + *Macromia* (see p. 109)

In the species *G. paradoxa* Brauer found similarities to the genera *Gomphus* in the clavate shape of the male's abdomen and to *Macromia*, the name of which taxon Rambur had chosen, because in its wings the humeral part of the costal edge is at least twice as long as the cubital as far as the pterostigma.

***Gynacantha*** Rambur, 1842: 209

Gr. γυνή = woman + ἄκανθα = thorn, prickle.

The females of this Aeshnid genus have spines on the tenth abdominal segment.

***Hadrothemis*** Karsch, 1891: 75

Gr. ἄδρός –ά –όν = thick, stout, bulky; for –themis ≈ libellulid dragonfly see *Argyrothemis* p. 15  
Karsch characterises his new genus as "Kurz, plump und dick [short, plump and thick]."

***Heliogcharis*** Selys, 1853: 55

Gr. ἥλιος = sun + χάρις = grace, beauty, sweetness

Selys does not explain why he chose this name for the calopterygid genus based on a single male specimen caught by the English explorer H.W. Bates. But from Ris' description of *Orthemis regalis* (see p. 69) we know that in the Selys collection information by Bates about environment and in other cases about behaviour was also available. So that name probably refers to the beauty of the species and its preference for sunny places which are not relevant to a morphological description.

***Heliogomphus*** Laidlaw, 1922: 378-79

Gr. ἥλιος = sun + *Gomphus* (see *Archaeogomphus* p. 99)

Laidlaw separated this genus from *Leptogomphus* Selys (see p. 108) without any explanation of his choice of name, but included species from Ceylon and Assam, from Sumatra, from Tonkin and from Yunnan, that means from sunny regions.

***Hemicordulia*** Selys, 1870: v

Gr. ἡμι– = half + *Cordulia* (from Gr. κορδύλειος –α –ον = clavate)

Leach founded his genus *Cordulia* one one species (*C. aenea*), from which later on many related species were detected, which already had been distributed within several new genera, when Selys (1870) summed these up in a "Synopsis" and added new (sub)genera. One of these was *Hemicordulia*. As it was placed as one subgenus together with the sole other subgenus *Cordulia* in the genus *Cordulia*, the name probably says "one half of the genus *Cordulia*". Clearly these taxa now have generic rank.

***Hetaerina*** Hagen in Selys, 1853: 30

Gr. ἑτάιρα = companion, courtesan + suffix –ιός –ινή –ιόν = related to, like a...

Hagen does not explain the name, but it is clearly related to the numerous female names for damselflies, like Linné's species names *virgo* or *puella*.

***Heteropodagrion*** Selys, 1885: cxliv

Gr. ἕτερος –α –ον = one or the other of two; of another kind, different + *Podagrion* (see *Allopodagrion* p. 98)

After having changed the preoccupied name *Podagrion* into *Megapodagrion* Selys described the genus *Heteropodagrion*, explaining its species to be “fort analogues aux *Heteragrion* [very similar to *Heteragrion* (= different sort of *Agriion*)], a taxon he had established as one genus in his ‘légion *Podagrion*’ in 1862b.

***Homeoura*** Kennedy 1920: 88

Gr. ὁμοῖος –α –ον = similar+ οὐρά = tail (in entomology often for abdomen, sometimes for appendage)

Kennedy founded this genus on *Ischnura nepos* (misspelled in the publication) and stated: “Characters as in *Ischnura*, but more Enallagmine. “ That means the similarity to the genus *Ischnura* (see p. 108) is at the base of the name.

***Idiataphe*** Cowley, 1934a: 243

The name should not be referred to Gr. ἴδιος –α –ον= one's own and ταφή = burial, for it is an anagram of the original name *Ephidatia* Kirby 1889 [Gr. ἐφιδάτιος –η –ον = in / on the water], which Cowley had found out to be preoccupied. In antiquity *Ephydatia* was an epithet used for Nymphs, which seems to be suitable for an odonate genus.

***Idiocnemis*** Selys, 1878c: 321

Gr. ἴδιος –α –ον= one's own; a peculiar kind of; for –*cnemis* see *Allocnemis* p. 98)

Selys created this genus for two species from New Guinea, whose wing venation is close to that of the African genus *Allocnemis*, but by other features differed enough to classify them in a new genus. Thus the name might be understood as ‘a peculiar kind of platycnemidid’.

***Idionyx*** Selys in Hagen, 1867b: 62

Gr. ἴδιος –α –ον= one's own; a peculiar kind of + ὄνυξ = talon, claw

In 1867b: 58 Hagen announced that two genera would be described by Selys which were peculiar by their claws, whose teeth were of an equal length as the claws themselves, so that they looked bifid. One of these was the libellulid genus *Zygonyx* (see p. 120) the other one *Idionyx*, which by Selys (1871: 519) was classified in his “légion *Macromia*”, but in Carle & al. 2015 (pp. 289+295) is placed among the *Synthemistidae* s.l.

***Indolestes*** Fraser, 1922: 58

L. *Indus* = Indian + *Lestes* p. 108

Fraser based his new genus on three lestid species from India.

***Ischnura*** Charpentier, 1840: 20

Gr. ἰσχνός = thin, lean + οὐρά = tail (in entomology often for abdomen, sometimes for appendage)

Charpentier proposed this taxon for two coenagrionid species he assessed to be quite slender.

***Isosticta*** Selys, 1885: cxlv

Gr. ἴσος = equal + στικτός = spotted, tattooed (in Odonata often used in reference to the pterostigma)

Selys does not explain his choice of name. Probably the explanation from Endersby & Fliedner 2015: 165 gives the proper answer: "Philologically *Isosticta* is the opposite of *hetero-stictus* –a –um suggesting a contrast. In all of the Subischnurinae, including *Ischnura heterosticta*, the pterostigmata in fore and hindwings are of a different shape and often colour. Perhaps the genus name *Isosticta* was chosen because in that genus two coloured or different stigmata are not found."



**Fig. 27: *Isosticta robustior* ♂. The photo by the late D. Grand shows the uniform pterostigmata of fore- and hindwings which probably are at the base of the genus name (published with permission).**

***Leptogomphus*** Selys, 1878b: 442

Gr. λεπτός –ή –όν = thin, fine, delicate + *Gomphus* (see *Archaeogomphus* p. 99)

As usual there is no explanation of the name in the first description, but for all three species included into the new genus Selys states: "abdomen grêle [abdomen thin] (pp. 443, 445, 446).

***Lestes*** Leach in Brewster, 1815: 137

Gr. ληστής = robber; the Latinised form *Lestes* is accentuated on the first syllable

This is one of two new genera of damselflies created by Leach, but he does not explain why he chose this name. It does not give a diagnostic clue either because all Odonata are predators.

***Libellago*** Selys, 1840: 200

The name while being no ancient word nevertheless seems to be formed of Latin elements,

*libell-* derived from *libell(ul)a*, combined with *-ago*, which we find e.g. in *virago* [L. = heroine], which means “with the characteristics of a man [L. *vir*]”. Selys saw in this calopterygid genus some resemblance to “certain Libellules [certain *Libellulae*]” because one could find “à la rigueur [at a pinch]” some sort of discoidal triangle in their wings.

***Lyriothemis*** Brauer, 1868a: 180

Gr. λύριον = a small lyre; for *-themis* ≈ libellulid dragonfly see *Argyrothemis* p. 15

In the single species included in the genus when founded (L. *cleis*) the male's superior appendages are somewhat shaped like the gently curved arms of a lyre (p. 182).

***Macromia*** Rambur, 1842: 137

Gr. μακρός *-ά -όν* = long, extensive, + ὤμος = shoulder + feminine form of the suffix *-ιος -ια -ιον* = concerning

The distinguishing feature of this genus is that in its wings the humeral part of the costal edge is at least twice as long as the cubital as far as the pterostigma. (For the misinterpretation of the name by Williamson (1899: 231, 307) see Endersby & Fliedner 2015: 174-175).

***Macrothemis*** Hagen, 1868: 281

Gr. μακρός *-ά -όν* = long, tall, large, great; for *-themis* see *Argyrothemis* p. 15

The name must not be understood as 'large libellulid', for Hagen separated this taxon from his genus *Dythemis* established seven years before, and more than half of the species included in it then are larger than any of the four species comprising the new genus. These differ from the others by the peculiar form of the tarsi, which are like those of *Macromia* doubled at the tip. So the name means 'libellulid similar to *Macromia*' (see Fliedner & Endersby 2019: 181)

***Malgassophlebia*** Fraser, 1956: 69

L. *Malgassus -a -um* =Malagasy; for *-phlebia* see *Archaeophlebia* p. 99

When dealing with the odonate fauna of Madagascar Fraser established this new genus for *M. mayanga* (Ris), because its wing venation differed too much from that of the other two species in the genus *Calophlebia* (for which see p. 102). Fraser could not forecast that the name would be somewhat inappropriate, because nowadays only two species of this genus are known from Madagascar, but three from continental Africa ranging as far as Gabon (see [http://addo.adu.org.za/index.php?taxon\\_id=74000](http://addo.adu.org.za/index.php?taxon_id=74000)).

***Mesamphiagrion*** Kennedy, 1920: 87

Gr. μέσος = middle, in the middle, intermediate + *Amphiagrion* (see this lemma)

Selys (1876a: 284) had erected the ischnurine genus *Amphiagrion*, which had its name from a species *A. amphion*, named after a figure from Greek mythology, a son of Zeus and the daughter of a river god (see Fliedner & Endersby 2019: 98. The species *A. amphion* no longer pertains to that genus, as it was synonymised with *Ischnura verticalis* Say, see Garrison & von Ellenrieder 2016, 19). Kennedy erected this genus for the single species *Enallagma occultum* Ris, which is intermediate between *Enallagma* and *Amphiagrion* sharing some distinctive features with each of the two genera.

**Metagrion** Calvert, 1913: 261

Gr. μετά = among, between/after, next to/after, behind + *-agrion* see *Antiagrion* p. 14

Calvert does not explain his choice of name, but he based it on some species of Selys' genus *Argiolestes* (see p. 100) from the 'légion *Podagrion*'. So probably the name means 'genus among others of the legion *Podagrion*.'

**Metaleptobasis** Calvert, 1907: 386 (in: *Biologia Centrali Americana*)

Gr. μετά = among, between/after, next to/after, behind + λεπτός –ή –όν = thin, fine, lean + βάσις = (inter alia) base, pedestal.

Selys (1877b: 99) had named a coenagrionid genus *Leptobasis* as a reference to its petiolate wings. Calvert (1901-08: 120) had stated that one of the distinctive features of the genus mentioned by Selys – “the tarsal claws without an inferior tooth” – neither applied for the type species appointed by Kirby (1890: 156) nor for other species of that genus. So when he found a new species that differed in wing venation and the claws of which really did not show any tooth, this appeared to him “to necessitate the formation of a new genus”. Its name therefore means 'genus next to *Leptobasis*.'

**Metaphya** Laidlaw, 1912: 65

Gr. μετά = among, between/after, next to/after, behind + φυή = stature or growth

The element *-phyia* had been introduced to odonatological nomenclature by Rambur's genus *Nannophya* (dwarfish stature) for the smallest libellulid dragonfly he knew (*N. pygmaea*). The following genera with the element *-phyia* established by Selys and Tillyard all pertained to the Corduliidae (still in Bridges 1994; but in Paulson & Schorr 2020 they have been transferred to the Synthemistidae). In his description Laidlaw states: “Amongst these genera {of Tillyard's Cordulina group} *Metaphya* must take its place, and I cannot at present indicate its exact position much more clearly than this.” So the name says “among the Corduliidae” where it still holds its taxonomic place.

**Micrathyria** Kirby, 1889: 264 & 303

Gr. μικρός –ά –όν = small + ἄθυρος –ον = without door + adjectival suffix –ος –ία –ιον

The first element of the name probably is a reference to the small size of the type species, which has “no supratrigonal nervures” in fore and hind wings. A name referring to small cells correctly would be: *Microthyria*.

**Micromacromia** Karsch, 1890: 388

Gr. μικρός –ά –όν = small; for *Macromia* see p. 109

Karsch's description of this libellulid genus does not mention *Macromia* at all. Perhaps like in Hagen's *Macrothemis* (see p. 109) the tooth of the claws led to the name (“die Klauen unten nahe der Mitte mit deutlichem Zahn [the claws at the bottom near the middle with a distinct tooth]”). But it is to be noted that the sole species on which Karsch based this taxon shows some cursory similarity to the genus *Macromia*: it has long narrow wings, a dark, shining main colour with (greenish-)yellow markings, the thorax is dark metallic green (for *Macromia* see Wildermuth & Martens 2019: 540-542). Anyway, with its total length of about 30 mm it is a rather small libellulid.



***Miocora*** Calvert 1917: 259

Calvert explained the etymology: „Greek μείων, less, and *Cora*, in allusion to the reduced venation in comparison with that genus”, also stating for this new taxon based on a single male specimen from *Peralta* in Costa Rica: “The insect is evidently different from *Cora*, although the latter is its closest known ally.”

***Mnais*** Selys, 1853: 20

In his 'Synopsis des Caloptérygines' Selys established several genus names evoking female charm and beauty such as *Cleis*, *Lais* and *Mnais*, typical Greek names for courtesans, that respectively allude to Gr. κλέος = fame, λαός = folk, and μνάομαι = to woo as well as μνᾶ - sum of 100 drachmai (a drachma being more than the wages of a labourer for one day). Such genus names seem to have been popular in zoological nomenclature, for *Cleis* and *Lais* had to be replaced later on because of homonymy (see the following lemma).

***Mnesarete*** Cowley, 1934b: 201

Gr. μνησ(ι)- = reminding of, remembering + ἀρετή = goodness, excellence

This is the replacement name for *Lais* (cf. foregoing lemma). Cowley does not explain his choice of name, but it was the real name of another famous Greek courtesan from the fourth century BC who later was called Phryne (for a synopsis of the genus see Garrison 2006).

***Mortonagrion*** Fraser, 1920: 148

–*agrion* see *Antiagrion* p. 14

While Fraser does not give any explanation this coenagrionid damselfly genus certainly was named in honour of K.J. Morton (1858-1940), a Scottish amateur entomologist of renown (see Beolens 2018: 298). He also was a friend of Ris, who dedicated one plecoptere and two odonate species to him (see p. 8 and p. 61). After Ris' sudden death Morton wrote a touching obituary (Morton 1931).

***Nannophlebia*** Selys, 1878c: 315

Gr. νᾶνος or νάννος = dwarf + φλέψ (stem φλεβ-) = vein + adjectival suffix –ιος –α –ον = associated with

The name must not be understood as 'dwarfishly veined'. In 1877 (a: 19) Selys had described a *Neophlebia lorquinii* from the Moluccas (for *Neophlebia* = *Tetrathemis* see *Calophlebia* p. 102), but then he saw in its wing venation some features corresponding those of *Nannophya* Rambur. So he established for that species a new taxon *Nannophlebia*, composed of elements of the genera in the background of his taxonomical decision (cf. Endersby & Fliedner 2015: 185-186).

***Neodythemis*** Karsch, 1889: 252

Gr. νέος –α –ον = new, fresh + δύο = two + –*themis* see *Argyrothemis* p. 15

Karsch described this taxon in a group of genera for which he states as a characteristic: “Hinterleib des Männchens schlank, dünn, am hinteren Ende etwas erweitert, ähnlich

*Dythemis* [abdomen of the male slim, lean, at the distal end somewhat dilated, similar to *Dythemis*]." Hagen's genus *Dythemis* probably got its name because of the bituberculated 10th abdominal segment in the females.

***Nephepeltia*** Kirby 1889: 310

Gr. νέφος = cloud, mass of clouds + πέλιτη = small light shield, but also: shaft, pole + suffix –ιος –ία –ιον = pertaining to

As usual Kirby does not explain the name, but the element *neph-* in scientific names often describes a dark and cloudy pattern. That might apply to the abdomen of the sole species of the genus when established, *N. phryne* (Perty, 1834: 125). It is described as slender and cylindric ("tenuē, cylindricum") and dark fuscous with several chestnut brown lateral spots ("fusco-nigrum, maculis utrimque aliquot badii lateralibus"). As Kirby emphasises the slenderness of the taxon's abdomen in the key (p.259) and in its description as a distinctive feature, the rarer meaning of *pelte* seems to be intended.

***Neurothemis*** Brauer, 1867a: 6

Gr. νεῦρον = any linear feature in an organism, so sinew, tendon, vein, nerve, fibre in plants; in entomology used for wing veins; for *-themis* ≈ libellulid dragonfly see *Argyrothemis* p. 15

As Rambur's name *Polyneura* (Gr. πολὺς = many, much) referring to the many wing veins in this genus was preoccupied Brauer replaced it by *Neurothemis*.

***Oligoclada*** Karsch, 1890, 382-383

Latinised feminine form of Gr. ὀλιγόκλαδος –ος –ον = with few branches

Karsch states that among all American species with a continuous last antenodal except *Pachydiplax* this genus is "durch die geringe Zahl von 8-9 Antenodalqueradern ausgezeichnet [characterised by the low number of eight to nine antenodals]".

***Onychothemis*** Brauer 1868a: 170

Gr. ὄνυξ (stem ὄνυχ-) = talon, claw; for *-themis* ≈ libellulid dragonfly see *Argyrothemis* p. 15

The claws in this libellulid genus differ from those of related taxa by lacking a distinct tooth (Brauer 1868b: 365).

***Oreiallagma*** von Ellenrieder & Garrison, 2008: 42

"Etymology: From 'oreios' (Greek): of or from the mountains, and 'allagma' (Greek): a neuter noun used for many damselfly names, allusion that was originally chosen by Charpentier (1840) to denote the possibility of mistaking coenagrionid genera with blue and black males with those of the genus *Enallagma* (Fliedner 2006). The name refers to the habitat of these species, which inhabit the Andean mountain range."

***Ormenophlebia*** Garrison, 2006: 8

"Etymology. Ormeno — Greek for stem; *phlebia*, a feminine noun — Greek for vein.

The generic name refers to the long, narrow wings." (For the correct analysis of *-phlebia* see *Archaeophlebia* p. 15).

***Orthemis*** Hagen, 1861: 161

Gr. ὀρθός =straight + *-themis* see *Argyrothemis* p. 15

The name *Orthemis* was devised by Hagen after the model of *Orthetrum* Newman (see next lemma; cf. Hagen 1888) for a North American species with straight abdomen (see Fliedner 2020: 43 s.v. *Prothorthemis*).

***Orthetrum*** Newman, 1833: 511

Gr. ὀρθός =straight + ἦτρον = abdomen.

Newman (1833) suggested splitting the remaining genus *Libellula* – after some other Anisopteran genera had been separated from it – into four genera according to the shape of the abdomen. Two of these are accepted now, *Orthetrum* for species with a straight abdomen, the other one *Sympetrum* (below p. 117). It should be noted, that these genera remained nearly unnoticed until about 1880 (cf. above s.v. *Diplacina* p. 103).

***Palaemnema*** Selys, 1860: 434

Gr. παλαιός –ά –όν = old, ancient + μνήμα = memory.

As in Selys' publication there is no explanation of the name, its interpretation would be unpromising but for a note by Calvert (1931b: 2, note 1): "Dr. Ris has told me ... that from hints which Baron de Selys dropped he had received the impression that the Baron intended the generic name *Philogenia* to allude to his love for his living family, *Palaemnema* to his pious memory of his forebears."

***Paracercion*** Weekers & Dumont, 2004: 186

Gr. παρα- = alongside + *Cercion* (see this lemma)

Because of its long, curved cerci the species *Agrion lindenii* Selys was split from its former genus by Navas (1907: 48) and transferred to a genus of its own, *Cercion*, the name of which was explained by the author as a combination of the distinguishing body part, the cerci {= superior appendages}, and the genus name *Agrion*. Later species from eastern Asia were included in this genus. But an examination of the larvae and a molecular genetical analysis showed, that the type species of that genus, *C. lindenii* really belonged in the genus *Erythromma* [= red eye]. By this reclassification the previous genus name became unavailable, and so the authors replaced it for the Asian species by *Paracercion*.

***Paragomphus*** Cowley, 1934b: 201

Gr. παρα- = alongside + *Gomphus* (see *Archaeogompgus* p. 99)

Förster (1906a: 323) had founded a genus *Mesogomphus* (*Gomphus* in the middle of ...), in which genus the triangle corresponded with that of *Gomphus*, while the appendages of the males showed some similarity to those of *Onychogomphus* (= *claw Gomphus* because of the forceps like appendages). As this name was preoccupied, Cowley replaced it by *Paragomphus*.

***Perithemis*** Hagen, 1861: 185

Gr. περί = around, round about; for *-themis* see *Argyrothemis* p. 15



**Fig. 28: *Perithemis electra* ♂.** The constricted base of the abdomen that probably led to the name is to be seen well also in this species named by Ris after a figure from ancient tragedy (© Dan Bárta, Aleš Dolný, Robert Lízler).

As usual Hagen does not give an explanation of the name, but it probably refers to the narrower abdomen at the base (= around the body) as a distinguishing feature.

***Philoganga*** Kirby, 1890: 111

Gr. φίλο– = fond of, loving + *Ganga* (Hindustani name of the river Ganges, running from the Himalaya to the Bay of Bengal and at the same time the goddess of the river)

This is a replacement name for the preoccupied *Anisoneura* Selys (1859: 445) (= unequally veined, because it lacks coincidence of costal and subcostal veins), instituted by the polyglot W.F. Kirby for the single species *P. montana* (= belonging to mountains) from the Himalaya. Kirby probably chose the form in –a to confirm that it was perceived as feminine, while in Greek and Latin Ganges would have been masculine.

***Philogenia*** Selys, 1862b: 10

Gr. φίλο– = fond of, loving + –*genia*, a word derived by Selys from Gr. γένος (= kin)

The name was intended as a sign for Selys' love for his living family (see above s.v. *Palaemnema* p. 113).

***Pinheyagrion*** May 2002: 405

for –*agrion* see *Antiagrion* p. 14

“Named for the late Dr Elliot Pinhey in recognition of his many contributions to the

taxonomy of African Odonata.” The eponym (1910-1999) was a specialist in African Lepidoptera and Odonata. After his study of mathematics and natural science at London University in 1939 he emigrated to Southern Rhodesia (now Zimbabwe). He worked at several African Museums, successively the Transvaal Natural History Museum at Pretoria, the Coryndon Museum at Nairobi (1949-1955) and the National Museum Bulawayo, South Rhodesia (today's Zimbabwe) (1955-1980). On various expeditions he collected many Odonata and named more than a tenth of the Afrotropical species. After the independence of Zimbabwe he retired with his family to Britain. He was a prominent member of the Societas Internationalis Odonatologica (Beolens 2018: 331).

***Plagulibasis*** Lieftinck, 1949: 176

“The generic name is derived from the latin *plagula*, the curtain of a palanquin, an allusion to the long hair-fringes along the posterior margin of the 10th abdominal segment of the ♂. Genotype: *Nesobasis ciliata* Ris (p. 177).“

***Planiplax*** Muttkowski, 1910: 169

L. *planus* –a –um = flat, level, plain + Gr. πλάξ = anything flat and broad.

By this name Muttkowski replaced the preoccupied name *Platyplax* Karsch (Gr. πλατύς –εῖα –ύ = flat, level), referring to the flattened frons, especially in males, converting the first part from Greek to Latin (cf. Fliedner & Endersby 2019: 204).

***Platycnemis*** Burmeister, 1839: 822

Gr. πλατύς –εῖα –ύ = flat, level + κνημῖς = greave, legging

In his manual of entomology Burmeister mentioned that the genus *Platycnemis* would be established by Charpentier. However, as he also reported on which species it would be based he already had given a valid description of the new genus and thus is recognised as its author now. The name refers to the widened tibiae in that genus (see Charpentier 1840: 21).

***Prodasineura*** Cowley, 1934b: 202

This is Cowley's replacement name for *Alloneura* Selys 1886: 176. The difficulty was that Selys (1860: 441 & 446) in his “légion *Protonevra*”) had named a “genre” and within that a “sous-genre” with the preoccupied name *Alloneura* (= differently veined) and had redefined it in 1886 (for the taxonomical difficulties see Cowley 1934b: 202-204). The replacement name is an anagram (a word formed by rearranging the letters) of another “sous-genre” of *Alloneura* 1860 named *Disparoneura* (= separately veined, see *Disparocypha* p. 17)), with which (according to Selys 1886: 177) *Prodasineura* has a feature of the wing venation in common.

***Progomphus*** Selys, 1854b: 69

Gr. prefix προ– = prior in rank or order + *Gomphus* (see *Archaeogomphus* p. 99)

As before this taxon a genus *Hemigomphus* (= half a *Gomphus*) is described, the name is probably meant as ‘preceding *Gomphus* phylogenetically’, referring to the primitive position of the genus.

***Proischnura*** Kennedy, 1920, 87

Gr. prefix προ– = prior in rank or order + *Ischnura* see p. 108)

As Kennedy took the type species out of the genus *Enallagma* and he stated: “Penis intermediate between that of *Ischnura* and that of *Enallagma*”, one may assume that he assessed his new genus to be prior in evolution to both.

***Proplatycnemis*** Kennedy, 1920, 85

Gr. prefix προ– = prior in rank or order + *Platycnemis* (see *Alloccnemis* p. 98)

The name suggests that Kennedy assessed this taxon, which he separated from *Platycnemis* by features of wing venation, as more archaic than the original genus.

***Pseudagrion*** Selys, 1876b: 491

Gr. ψευδ– = false, pretending to be + *-agrion* see *Antiagrion* p. 14

The name reflects the difficulty in distinguishing *Pseudagrions* from true *Agrions* because of their close resemblance.

***Raphismia*** Kirby, 1889: 293

Gr. ῥαφίς = needle + a Greek feminine adjectival ending, which probably should say “provided with”.

The name refers to a feature of the single species included into this genus, *R. bispina* (Hagen): “male with two small spines projecting from the middle of the metasternum.”

***Rhinocypha*** Rambur, 1842 : 232

Gr. ῥίς (stem ρίω–) = nose + κυφός = bent forwards, hunchbacked

The species of this genus have a protruding clypeus.

***Rhionaeschna*** Förster, 1909: 220

Gr. ῥίον = any jutting part of a mountain, whether upwards or forwards + *Aeshna* (see *Castoraeschna* p. 102)

Förster based this genus on the single species *R. breviprons* (Hagen), which has a peculiar prominent vertex (cf. Fliedner & Endersby 2019: 212).

***Rhyothemis*** Hagen, 1867a: 232

Gr. ῥυθῖναι = having flowed; for *-themis* see *Argyrothemis* p. 15

Hagen in his choice of the name probably was inspired by geology: In 1861 F. von Richtofen under the name Rhyolite had published the description of a magmatic rock interspersed with many other minerals, which thus shows many differently coloured irregular patterns (Lüschen 1968: 303). This is also true for the patterns which the species of this genus show on their wings.

***Selysioneura*** Förster, 1900: 106

*-neura* (in odonate names) = veined

Förster explains his choice of name: “Meinem Freunde und Lehrer in der Odonatenkunde,

Herrn Baron Ed. De Selys Longchamps zu Lüttich in Erinnerung an gemeinsame Studien gewidmet [Dedicated to my friend and teacher in Odonatology Baron Ed. De Selys Longchamps at Liège in memory of shared studies].” The second part of the name is explained thus: “*Selysioneura* gehört zur Legio *Protoneura* de Selys [*Selysioneura* pertains to the legio *Protoneura* de Selys].“

***Stylurus*** Needham 1897: 166

Gr. στῦλος = pillar [≠ *stylus* as in other names] + –ουρος –ος –ον (in compounds) –tailed [from οὐρά = tail; in entomology used for abdomen].

The name of this genus refers to the elongate ninth segment of its larvae, which sets it apart from other gomphids (p.168): “Ninth abdominal segment one half longer than the 8th, its lateral margins nearly parallel”.

***Sympetrum*** Newman, 1833: 511

This genus was introduced by Newman in 1833 for libellulid genera with a compressed abdomen. He explains the name thus: “Συμπιεζω comprimo [= to compress] ητρον abdomen”. But it should be noted, that this feature does not apply for all species classified in this genus nowadays. Newman’s name for this genus however remained nearly unnoticed until about 1880 (Hagen 1888).



**Fig. 29a-b. *Sympetrum tibiale* a. holotype male (ZMH 65892):** The laterally compressed abdomen that is evoked by the genus name is well to be seen.

**b. labels:** Noticeably still in 1906 Ris used the outdated genus name *Diplax*. (© Zoologisches Museum Hamburg, T. Dalsgaard).

***Tanymecosticta*** Liefstinck, 1935: 300

Gr. τανυμήκης = long-stretched, tall + στικτός = spotted, tattooed (in Odonata often used in reference to the pterostigma)

The element *-sticta* in this case does not refer to the pterostigmata in this taxon itself, but it is a reference to its close affinity to the genus *Isosticta* (cf. p. 108). Liefstinck (1932: 555) had first called this genus *Stenosticta* (Gr. στενός = narrow) because of its long, narrow petiolate wings, which are seven times as long as broad in this genus, in *Isosticta* merely six times. But he was informed by J. Cowley, who was very eager to amend such mistakes, that this name was preoccupied. So he changed it to the actual name.

***Tauriphila*** Kirby, 1889: 258 & 268

Gr. Ταυρική = Land of the Taurians (today's Crimea) + -φίλος -ή -ον = loving /dear to

The correct interpretation of the name is given by Hämäläinen & Garrison 2020: 53: "the name surely originates from Greek mythology. Kirby (1889) designated '*Tramea iphigenia*, Hag.' [synonym of *Tauriphila australis* (Hagen, 1867a: 229)] as the type species of his new genus. It seems likely that the name *Tauriphila* comes from the drama 'Iphigenia among the Taurians' (Ιφιγένεια ἐν Ταύροις) written by Euripides between 414 BC and 412 BC. In Greek mythology Iphigenia was the daughter of King Agamemnon. The Taurians lived in the Crimean peninsula. Given the multilingual W.F. Kirby's passionate enthusiasm for mythology, on which topic he wrote several books, this seems the obvious interpretation." Hence the explanation in Fliedner & Endersby (2019: 268) is erroneous.

***Teinobasis*** Kirby, 1890: 157

By this name Kirby solved a nomenclatural problem caused by Selys. In 1877 (b: 112) he had established a taxon *Telebasis* as a subgenus of *Telebasis*, Selys, 1865 (see next lemma) which, when elevated to generic rank, had to be renamed because of homonymy. So Kirby replaced the first element of the name Gr. τηλε- (in compounds) = far, far apart by τείνω = stretch out.

***Telebasis*** Selys, 1865: 378

Gr. τηλε- (in compounds) = far, far apart + βάσις = (inter alia) base, pedestal.

The name describes the long petiolation of the wings, by which their bases are somewhat remote from the thorax.

***Tetrathemis*** Brauer, 1868a: 182

Gr. τετρα- (in compounds) = four; for *-themis* see *Argyrothemis* p. 15

The name refers to an irregularity concerning the wing venation. In this genus in both wings the anterior side of the triangle is bent, so that the discoidal cell is quadrangular.

***Trigomphus*** Bartenev, 1911: 432

Gr. τρι- (in compounds) = three; for *Gomphus* see *Archaeogomphus* p. 99

One of the differences from the genus *Gomphus* is that the females have "a trilobate vulvar lamina" (p. 433).



***Trithemis*** Brauer, 1868a: 176

Gr. τρι- (in compounds) = three; for *-themis* see *Argyrothemis* p. 15

In this genus the rear margin of the prothorax is trilobed (cf. Fliedner 2020: 11).

***Tyriobapta*** Kirby, 1889: 294

L. *Tyrius* = (metonymically) purple (because in antiquity this was a valued product of the Phoenician town Tyros) + βαπτός -ή -όν = dipped, dyed

This name is due to a feature of the type species *T. torrida* (p. 338): "Male (mature). ... hind wings with a purplish-brown blotch at the base, with green and purple reflexions, broadest at the anal angle, where it covers rather more than one fourth of the wing."

***Uracis*** Rambur, 1842: 31

Gr. οὐρά = tail (in entomology often for abdomen, sometimes for appendage) + ἀκίς = any pointed object, hence needle

The pointed ovipositor of the females, which sticks out beyond the end of the abdomen, is at the base of the name.

***Vestalaria*** May, 1935: 207

L. *Vestalis* = virgin priestess of Vesta, the Roman goddess of the hearth, home, and family in Roman religion + *-arius -a -um* = belonging to, pertaining to

May separated a group of species from Eastern Asia from the genus *Vestalis* Selys on the basis of differences in wing venation and penis structure. Whereas this taxon was regarded as a subgenus for a long time, due to a DNA analysis its generic rank generally is accepted (see Reinhard 2008: 104).

***Xiphiagrion*** Selys 1876a: 321

Gr. ξίφος = sword + *-agrion* see *Antiagrion* p. 14

The name of this ischnurine genus is explained above s.v. *Acanthagrion* p. 96.

***Zenithoptera*** Selys, 1877a: 16

L. Fr. Eng. *zenith* (of Arabic origin) an imaginary point of the firmament directly "above" a particular location; L. *-pterus -a -um* = winged]

This name Selys (1877a: 16) had received together with the specimens from the British explorer and scientist H.W. Bates (1825-1892), renowned for the detection of mimicry (cf. p. 28). The name might refer to "the power of closing their wings erect over the body, which is their usual position in repose" (Bates cited in Ris 1910b: 315), that means: directed to the zenith.

***Zygonoides*** Fraser, 1957: 119-120

For *Zygonyx* see the following lemma; Gr. -(ο)ειδής = looking like (suffix indicating resemblance)

In his publication Fraser establishes a new subfamily "Zygonictinae" (correctly: Zygonychinae). Within this he erects the new genus *Zygonoides* (due to similarities to

the genus *Zygonyx*) for all species formerly classified in the genus *Olpogastra* Karsch (from Gr. ὄλιπη = leathern oil-flask + –γαστρος = bellied, in reference to the inflated abdomen) except his type species *O. lugubris* (= mournful, referring to its dark coloration).

### **Zygonyx** Selys in Hagen 1867b: 62

Gr. ζυγόν = (properly) yoke, (metaphorically) an equal pair of + ὄνυξ = talon, claw  
Hagen reported, that together with the genus *Idionyx* (see p. 107) Selys would establish a genus *Zygonyx*, in which the teeth of the claws are of equal length with it. Selys himself (1871a: 520) speaks of “onglets à dents égales [claws with equal teeth]”.

### **Zyxomma** Rambur, 1842: 30

Gr. –ζυξ = yoked + ὄμμα = eye

Rambur (philologically not quite correct) created this libellulid genus for a species, in which the large eyes are contiguous for nearly the distance of their breadth.

## **Conclusions**

When we consider the names given by Ris to odonate taxa we can see some preferences: Ris is author of 28 genus names of which 23 are still valid. For the first genus he ever described he chose the name *Selysiotemis* in honour of his mentor. As his main taxonomic field was the Libellulids it is natural that 14 of his genus names contain the element –*temis* in the meaning ‘libellulid dragonfly’ as already customary since Hagen (1861) introduced this element into odonate nomenclature. Eleven of his genus names refer to the appearance of the respective taxon (eight to morphology, three to coloration) as do ten to places (eight to provenance either directly or indirectly, two to environment). Two eponyms are Nordic female names, which is rather unusual in odonate nomenclature (one of these, a homonym, was later replaced by *Risiophlebia* Cowley); two other names refer to evolution (one a younger synonym). One name reflects the similarity to another taxon (*Pseudagrionoptera*) and one he gave from a suggestion by Muttkowski (*Lokia* as the substitute name for the preoccupied *Apatelia* Karsch which now also is seen as younger synonym see p. 21).

An examination of the species group names (synonyms included, the 13 manuscript names from other authors excluded) shows that most of the 281 remaining names reflect coloration (57 = 20.3%), while morphology (31 = 11.0%) and pattern (17 = 6.1%) play a minor role, as do similarities to other taxa (15 = 5.3%). If we compare the genus names referring to appearance with the species group names it seems natural that the former mainly refer to morphology, the latter to coloration, because genera rather are distinguished by morphological features, while differences in species in many cases may be recognised by coloration or pattern. In total the 131 names referring to appearance represent 46.6 % of the species named by Ris.

The second place is taken by the 43 (=15.3%) personal (mostly female) names from antiquity or literature according to the paradigm of Drury (cf. p. 23 s.v. *aethra*); it is plausible that someone with a good knowledge of classical and modern literature like Ris

would resort to this thesaurus if so many names were required for labeling new taxa, which might be memorised easily.

Another large group of the eponyms are the collectors of his specimens (39 = 13.9%), while colleagues and other scientists are only 14 (= 5.0%). But it should be mentioned that Ris also dedicates a taxon to each of the people who helped him most with his work at the Selys collection, namely the widow of Selys' eldest son, the preparator at the Bruxelles Museum, the illustrator of the Catalogue of the collection and to Guy Severin, who took care of the edition of the catalogue. So, on the whole as many species are dedicated to contemporaries as are named from coloration. That twelve of these now are younger synonyms does not belittle Ris' kind intention.

We may see that by most of these names Ris wanted to show his gratitude to those to whom his scientific work was indebted, so that their important role would be noticed in public. The obligation Ris felt for services rendered to him is not only to be seen by the fact that among the eponyms of odonate species are the deaf preparator and the illustrator at Brussels, but also from several statements about the significance of the collectors for the scientific knowledge of exotic taxa, e.g. "Das beste {Material} erhielt ich aber durch den Fleiss einiger Berufssammler, denen ich aufrichtigen Dank schulde, wohl wissend, dass das wissenschaftliche dem pekuniären Interesse vorangehen muss, wo der uns beschäftigenden Insektenordnung grössere Aufmerksamkeit geschenkt wird; es ist zweifellos die Pflicht der wissenschaftlichen Arbeiter, der Hilfe dieser Pioniere der Forschung zu gedenken, die vielfach unter grossen Mühsalen und Entbehungen die Tiere beschaffen, die wir dann im sichern Heim in aller Musse studieren können [The best {material} however I received by the diligence of several professional collectors to whom I am sincerely indebted well being aware that scientific has to be appreciated higher than monetary interest, when greater regard is attributed to the order of insects with which we concern ourselves; indubitably it is the duty of those engaged in scientific work to commemorate the assistance of these pioneers of research who many times provide specimens at the cost of great labour and privation, which we can study at home securely at leisure]" (Ris 1919: 1043). In other cases he describes the collectors as "erfolgreich [successful]" or "unermüdlich [tireless]."

A special appreciation is expressed for the collector Hermann Elgner (cf. p. 38), who had collected on the Aru Islands south of New Guinea on Ris' request (see 1913d: 504): "Leider war mir der Verkehr mit Elgner nur für wenige Jahre vergönnt; aber seine Libellen-Sammlungen waren ein sprechender Beweis für die kluge Sorgfalt, mit der er zu Werke ging und bedeuten ebenfalls wesentliche Bereicherung unserer Kenntnis [Unfortunately the contact with Elgner was granted to me only for a few years; but his collections of Odonata reliably produce evidence of the shrewd diligence with which he acted and they also stand for a substantial enrichment of our knowledge] ... Es erscheint mir, auch abgesehen von dem Interesse, das dieser letzten Sammlung an sich gebührt, als eine Ehrenpflicht dem Verstorbenen gegenüber, sie zu veröffentlichen [To me it seems – irrespective of the interest that this last collection deserves by itself – an honorary duty to the deceased to publish it]" (Ris 1915c: 87).

A total of 36 (= 12.8%) of the names refer to the provenance of his specimens either directly (e.g. *bonariense*) or indirectly (e.g. *nesea*), 9 (= 3.2%) to their habitats. This last named category seems remarkable as Ris' friend René Martin has only one such a species name (*Aethio-*

*themis palustris* L. = living in the swamps), Brauer none. Two of these go back to Ris' own experiences when he was a ship's surgeon (*calamorum* cf. p. 30; *saliceti* cf. p. 71), the others to additional information from the collectors which is not included in the scientific descriptions.

Sometimes by his names Ris follows a double intention: So by naming a species *sibylla* after Maria Sibylla Merian in homage to her scientific merits when investigating the flora and insect fauna of Suriname at the same time he referred to the provenance of his material from that country. Or with the name *phoebe* (the ancient moon goddess) he also hints at a round yellow spot on each side of the thorax. Or by naming a taxon lemur he evokes its provenance from Madagascar, where these primates live.

It might be noticed that Ris reverentially kept names for new species he found in manuscripts or on collection labels (seven by Selys, four by Bates, one by Rambur, one a nomen nudum Hagen had proffered twice without description, but the identity of which taxon Ris knew from Selys' collection), thus preserving the taxonomic findings achieved by other scientists. Certainly he would have been able to find new names, which he did several times, when a prior name was preoccupied or not definite taxonomically (cf. *exilis* p. 41; *viola* p. 80). It seems worthwhile to direct the attention to Ris' approach to his publications. Several aspirations are to be seen:

– Aspiration for completeness and presentation in context:

Already in his first papers, when he was asked to analyse a collection from some region, he tried to supplement the material from other sources, so that the results would exceed the mere enumeration of collected species of a single expedition, and at the same time give a comparison to the geographic odonate fauna on a larger scale. We can see that from the example of his first publication on South America (Ris 1904a) for which he had been given a collection of 14 specimens from Chile. For the publication Ris added his own material from southern Argentina: "Am meisten Material stand mir aus der Gegend von Buenos Aires zur Verfügung, wo ich selbst Ende Dezember 1890 und Anfang Januar 1891 auf einigen Exkursionen Libellen sammelte und von wo ich über 200 Exemplare mitbrachte. Ohne diese Ausbeute, die eine gute Übersicht über die dortige Fauna gestattet, wäre meine Liste noch etwas knapper ausgefallen [Most material was at my disposal from Buenos Aires, where I myself collected Odonata in several excursions at the end of December 1890 and the beginning of January 1891, and from where I brought more than 200 specimens. Without these, which represent a good outline of the fauna of that region, my catalogue would have been somewhat scantier]" (1904a: 3).

Subsequently he gives an analysis of his findings: "Deutlich geht aus unserer Liste hervor, dass es sich um zwei Faunen handelt [It is evident from our list, that two faunas are involved]. Die atlantische Seite zeigt in der ausgesprochensten Weise eine verarmte südamerikanischen Tropenfauna [The Atlantic region most pronouncedly shows an impoverished South American tropical fauna] ... Anders die pazifische Seite. Hier herrscht eine außerordentliche Armut an den Libellenformen, die sonst in der ganzen Welt dominieren, den Libellulinen und den Agrioninen, und was davon vorhanden ist, lässt sich, wenigstens bei den Libellulinen, als späte Einwanderung südamerikanischer Tropenformen auffassen [Differently in the Pacific region. There prevails an extraordinary scarcity of those odonate taxa, which elsewhere in the whole world abound, the libellulines and agrionines, and those

of these {subfamilies} which are present, at least the libellulines, may be seen as lately immigrated South American tropical taxa] – Dabei ist aber in dem Lande eine Reihe äusserst archaischer Typen erhalten geblieben, die z.T. (die *Petalia*-Gruppe) hier allein vorkommen, z.T. (*Phenes*) ihre Verwandten in Neu-Seeland, Australien, Japan und Nordamerika suchen müssen [In this country however a number of extremely archaic taxa has persisted, which partly (the *Petalia* Group) are found only here, and which partly (*Phenes*) have to look for their relatives in New Zealand, Australia, Japan and North America]" (p. 4).

A second example is his first publication on South Africa (Ris 1908a), for which the starting point was 11 Odonata preserved in alcohol: "Diese Sammlung ist nicht groß genug, um ein befriedigendes Bild vom Stande der südafrikanischen Fauna zu geben. Um dieses besser abzurunden, vereinigte ich hier alles, was ich in der Literatur, soweit sie mir zugänglich war, über südafrikanische Odonaten auffinden konnte, und ferner, was mir an Beobachtungen sonst zugänglich war [This collection is not large enough to give a satisfactory impression of the inventory of the South African fauna. To complete that I collated all I could find on South African Odonata in publications as far I had access to them and in addition all other observations available to me]" (p.303/101). What he added was all South African material that came from the collections of the Hamburg and the Leiden museums and those of Selys and René Martin. As a result he listed 83 species with information on quotations in literature and places from which they were known. The only species described as new in this publication later turned out to be a taxon described by Burmeister seventy years before. From these examples we can see how demanding Ris was in his publications.

– A second aspiration was the unambiguousness of his terminology and classifications: In the preliminary remarks of his 'Libellulinen', the main part of which (pp. 1-1042) was written in the years 1902 to 1909 (see 1909a: 12), Ris states that the differentiation into genera is mainly based on characters of wing venation, for which he refers to the terminology proffered by Comstock and Needham in 1903: "Die alte Selys-Hagensche Nomenklatur habe ich nur ungern aufgegeben. Doch würde ich gewiss nicht im Sinne von Edm. de Selys gehandelt haben, wenn ich einem zweifellosen Fortschritt aus dem Wege gegangen wäre, der sich mit jedem Jahr weitere Gebiete der Entomologie erobert [The old terminology by Selys and Hagen I have abandoned reluctantly. But certainly I would not have acted in accordance with the intention of Edm. de Selys, if I had avoided an unquestionable progress that every year finds its way further into fields of entomology]." But at the same time he facilitates the changeover to the new terminology by a figure of a fore and a hind wing where the particulars of each are indicated by a combination of letters, for which explanations in both terminologies are given.

But later due to progress in science Ris had to reconsider his choice with the following result (1930a: 2): "Der Erfüllung dieses Wunsches nach einer einheitlichen Terminologie {für Zygopteren-Aderung} stehen wir heute ferner als je, nachdem insbesondere durch Tillyard deren Basis in der Comstock-Needham'schen (CN) Terminologie angefochten und radikal umgestaltet wurde. Ich habe gewichtige Gründe, die in der Materie selbst liegen, nicht ohne weiteres die CN-Auffassung für die Tillyard-Lameere'sche (TL) zu verlassen; doch können diese Gründe jetzt und hier nicht auseinandergesetzt werden [Today we are farther from fulfilling the desire for a standardised terminology {for the wing venation of zygoptera} than ever, since - especially by Tillyard – its basis in Comstock's and Needham's

(CN) terminology has been challenged and remodelled radically. I have important reasons, which are based in the matter itself, not to abandon the CN-concept in favour of that of Tillyard and Lameere (TL); but these reasons cannot be expounded here and now].”

But there is an additional motive for not adopting the new terminology by which a facet of Ris' character becomes apparent: “Ganz besonders aber veranlassen mich die Forderungen der taxonomisch-deskriptiven Praxis an der CN-Terminologie festzuhalten [In particular by the requirements of the descriptive taxonomic practice I am determined to adhere to the CN-terminology]. Eine wichtigste und leider vielfach nicht beachtete Forderung dieser Praxis ist: das Beschriebene dem Leser mit einem möglichst erträglichen Aufwand an Mühe und Zeit und mit einer der Sicherheit möglichst nahekommenen Wahrscheinlichkeit wiedererkennbar zu gestalten. Eigentlich eine Selbstverständlichkeit. [It is a most important and regrettably often neglected requirement of this practice: to devise the described matter recognisable with an expense of effort for the reader which is as endurable as possible and for which the probability of recognition is as near to certainty as any possible. That should be self-evident].” But at the same time Ris emphasises that this respect for the readers convenience must not lessen scientific exactitude.

A similar effort not to stress the readers more than necessary is mentioned a little further (p. 3):

“Seltener verwendete oder neu berücksichtigte Merkmale werden sicherlich besser voll ausgeschrieben in Worten gegeben; der Gewinn aus Abkürzungen ist für den Druck nicht nennenswert, und ich glaube bestimmt dass wie mein eigenes so auch das Gedächtnis der meisten andern Leser sich weigern wird, von diesen Dingen mehr als ein bescheidenes Mass aufzunehmen; was man aber immer wieder nachschlagen muss bedeutet unangenehme Belastung. [Certainly it is better to present rarely employed or newly incorporated characteristics written out in words; the advantage effected by abbreviations for the print is not noteworthy, and I am convinced that like my own memory that of most readers will refuse to absorb more of these things than a moderate quantum; anything you have to look up over and over effects an unpleasant disturbance].”

In several publications Ris states his endeavour for unambiguousness of his taxonomic results, so in 1908a: 304/102: “In der Namenfrage habe ich mich strikt nach den Internationalen Nomenklaturregeln gerichtet [Concerning the names I strictly have followed the rules of International Nomenclature]. Wer es aber versucht hat, weiß, daß trotz der klaren Fassung der Regeln doch immer wieder Fälle vorkommen, wo der Naturforscher seinen Beruf verlassen und sich auf spitzfindige Tüfteleien einlassen muß [But whoever has tried that, knows, that – in spite of the clear wording of the rules – again and again there are cases where the scientist has to relinquish his profession and to resort to hair-splitting] ... Immerhin ist die Stabilität der Nomenklatur ein so ernsthaftes Ziel, daß ihm einige Opfer gebracht werden dürfen [Anyway the stability of nomenclature is such a grave goal, that some sacrifices may be brought to it].”

He continues: “Sehr angenehm empfand ich die Möglichkeit, nach den Regeln zur trinominale Nomenklatur überzugehen; ich glaube, wenn man an der Definierbarkeit der Subspecies aus wirklichen Merkmalen und nicht nur aus ihrer geographischen Herkunft festhält, so kann die trinominale Bezeichnung viel Nützliches erreichen [It was very comfortable for me to be able, according to the rules, to pass on to trinomial nomenclature; from

my point of view the trinomial classification can be highly advantageous, if one adheres to the practice to define a subspecies from real characteristics, not merely from its geographic provenance].“

That means: Ris was very cautious to give specific rank to a new taxon, and there are many examples of what he described as subspecies are now being recognised as species, for instance *Teinobasis angusticlavia* (see p. 26), *Zygonoides occidentis* (see p. 62) or *Vestalaria velata* (see p. 79).

This reservation is also found elsewhere in his publications (1929a: 142): “So kleine Unterschiede bei geographisch getrennten Formen werden vielleicht besser als subspezifische, denn als Artunterschiede aufgefasst [Such minor differences in geographically separated taxa might rather be regarded as subspecific, not specific differences].“

On the whole Ris was not inclined to increase the number of taxa in his classification, as to be seen from a letter written in 1901, when he had decided to prepare the catalogue for the ‘Collection Selys’: “I do not care to have any great number of nov. spec. to present (I really think there are not so many as one might suppose) but will earnestly try to know not only what is really described but also distinct. Mr. Kirby has collected the names with marvellous patience and learning, but I would try to get through the names on the matter itself, as M. de Selys has done on those groups that he has worked out. The task is, indeed, very heavy, but if I can get through, something good might be done.” He continues: “my only ambition is to get up a tolerably reliable systematic and critical catalogue of Libellulinae with here and there a description where there is need for it and some good keys for the large and difficult genera. In not a few genera (I may name *Tramea*, *Orthetrum*, Old World *Trithemis*, etc.) great slaughter of old (and sometimes new) names will be necessary to bring some order into the matter” (Calvert, 1931a: 184-185).

As to difficulties of taxonomical decisions on the base of wing venation he had already stated in the preliminary remarks of his ‘Libellulinen’ (1909a: 13): “Alle Flügeladerungsmerkmale der Gruppe sind variabel, ohne Ausnahme, auch die wichtigsten. Es gilt zu erfassen, was die mittlere Linie der Konstanz innerhalb dieser Variabilität ist, und ein solches Erfassen ist in weitaus den meisten Fällen möglich [All the features of wing venation in this group {the libellulines} are variable without any exception. It is essential to understand what is the centre line of consistency within this variability, and that such a recognition is possible in by far the most of cases] ... Wir haben uns darauf verlassen, dass der kritische Benutzer unserer Beschreibungen, da wo er Abweichungen findet, allmählig mit Leichtigkeit das individuelle und unwichtige vom generischen und wichtigen unterscheiden lernt, gerade wie es dem Verfasser auch gegangen ist [We have relied on the fact that the discerning users where they find discrepancies from our descriptions they by and by will learn to distinguish easily the individual and unimportant {appearances} from the generic and relevant, just as it happened to the author].“

Elsewhere he emphasises the necessity to exclude such irrelevant variations from nomenclature (1908a: 304/ 102): “Die Benennung der individuellen Varietäten finde ich hübsch, wenn sie die Rosen "Gloire de Dijon", "Mareshal Niel" oder ähnliches angeht; für die zoologische Systematik halte ich sie für ein zu bekämpfendes Uebel [To name individual varieties I find nice, if roses like "Gloire de Dijon", "Mareshal Niel" or similar things are concerned; in zoological systematics I regard that as an evil which has to be fought].“

Another description of the difficulties of classification is found in Ris' revision of the genus *Perithemis* (1930b: 8), in which the "sexual specific characters of males or females, so important and useful in many species of Libellulinae, are practically absent" and venational characters "are individually variable in *Perithemis* as in most other dragonflies, and perhaps a little more so." These difficulties he overcomes by adding new criteria like "the proportions of length to breadth of hind wing as the first distinction."

The diligence Ris employed in his taxonomic decisions may be seen by comparing the number of synonyms among his species group names. In total 294 of names are authored by Ris (octoxantha not counted because it was cancelled by himself); 31 of these are junior synonyms, that is 10.5%. Wasscher & Dumont (2013: 394) compare the percentage of synonyms "by the five most prolific (*sic*) Odonata taxonomists" in a table, in which Ris ranks as second best after Lieftinck (5%) before Selys (20%), Hagen (26%) and Fraser (28%) [our numbers for Ris differ from that table by a higher number of names and a lower number of synonyms. That may be a consequence if numbers were taken from Paulson & Schorr, where normally they do not distinguish between subspecies and synonyms. The sums for names given by Ris and by Hagen in the 'total' column are transposed in the table].

As already mentioned above (p. 123) Ris saw as his duty to study things not in isolation but coherently on a larger scale. So he did not restrict his odonatological focus to a single region or continent: "... it may sometime appear that my own work, rambling over the five continents, must necessarily be somewhat superficial. Nevertheless I think I shall continue in the old way, partly from real interest in the whole series, which interest I can only temporarily concentrate on one geographic unit, partly from a feeling that there should be at least one representative of the older generation, who tries to be able to give (with due allowance for time and otherwise limited possibilities) an answer to any single question that might be put to him on dragonflies of any part of the world – thus continuing (perhaps as a kind of 'glacial relic') the traditions of Selys and McLachlan" (Calvert 1931a: 190).

So by his work Ris was in contact with nearly all great odonatologists of his time. What he thinks about these connections we see from a letter he wrote after the visit of the Calverts in 1929: "Indeed one of the great services that entomology has done me, and continues to do, has been the development of friendships that have given color and distinction to an existence which otherwise might have been a rather dull one in many respects. So nature pays to her lovers not only with her own admirable and sublime productions, but also with the friendships of fellow admirers and followers of her beauty and profound secrets. Like to yourself, so to me, correspondence of days to come will be enlivened by the remembrance of a personal intercourse, which was delightful in every respect" (Calvert 1931a: 190).

Certainly his knowledge of languages facilitated his international connections: he published in the three main languages of his home country, German, French, Italian (in that language only one medical treatise in his time at Padua), and many of his papers were in English, as was his correspondence with P.P. Calvert except the first two letters (Calvert 1931a: 183). Furthermore due to his education he knew Latin and Greek, which languages helped him in composing his scientific names.

It is now the place to say something about the importance of Ris' work for odonatology: His first paper, the first ever produced synopsis of the Swiss odonate fauna (Ris 1885), nearly



a century after its publication was praised by Kiauta (1978: 207-208): "This monograph was the very first publication of the young author, and it was to remain the standard work on Swiss dragonflies until our days," and he continues: "His contribution to the knowledge of Swiss dragonflies, contained in close to 30 papers, is based on systematically planned excursions that led him into all corners of the country. A minute record of these has been kept in his entomological diary."

Concerning this matter in the most recent compendium of the Swiss odonate fauna (Wildermuth et al. 2005: 41) the relevance of Ris' work is described thus (in translation): "F. Ris was one of the few Swiss naturalists, who already betimes recognised of what a fundamental historical importance it is to record exact data of the findings regarding the fauna of an investigated region. His well known diaries now are the only documentation the exactness of which is sufficient to analyse the development of the insect fauna of northeastern Switzerland from the end of the 19th century."



**Fig. 30: The older part of the asylum at Rheinau in the beginning of the 20th century. Due to Ris' activity the former monastery on an island of the river Rhine had become the 'Mecca of Odonatology'. This stretch of the river then held an isolated population of *Onychogomphus uncatus*. (Photo by F. Ris, © Stadtarchiv Schaffhausen).**

As to the "great and lasting contribution to the science of odonatology" in general Kiauta (l.c.) states:

"Ris's entering on the stage of odonatology has introduced an entirely new epoch. Due to his activities, Switzerland became one of the world odonatological centres for about four decades. Rheinau, where Dr. Ris was residing as the director of a huge hospital, became the Mekka (*sic*) of dragonfly workers, visited by such illustrious authorities as Kenneth John

Morton in 1904, Dr. and Mrs. Robin John Tillyard in 1926, Dr. Edmund M. Walker in 1928, and Dr. and Mrs. Philipp Calvert in 1929 — to mention just a few of them. Dr. Ris was among the greatest odonatologists of all times, and one of the very few whose work was devoted to dragonfly fauna of all regions. His fundamental monograph of the Libellulidae of the world (1909-1916; 1278 quarto pages, 692 textfigures, 8 colour plates) placed him at an equal level with the acknowledged "Father of Odonatology", the Belgian baron Michael Edmond de Selys Longchamps (1813-1900), and remained by far the largest single publication ever written on dragonflies."

## Acknowledgements

This treatise would not have come into existence without Rosser Garrison, who first suggested its subject and then supported its implementation in many ways: he provided me with all literature, even the rarest, I could not access by other means, gave advice concerning subspecific status or synonymies, supplied me with some of the photos and suggested who to contact about others. Martin Schorr accepted it for IDF-Reports and arranged the layout in his diligent manner, having initially provided some proposals and material about Ris. Ian Endersby in his unrivalled helpful manner transformed my inexpert verbalisation into plain English and pointed to slips and errors which had to be corrected. Hansruedi Wildermuth provided a xerocopy of Ris' personal copy of "Die schweizerischen Libellen 1885" with its entomological notes and he proofread the biographical chapter and the conclusions; Heinrich Schiess gave me access to his transcription of Ris' entomological diary and to the reproduction of one of its pages; Marcel Wasscher informed me about dates from Selys' diaries and pointed to C.G. Jung's appreciation of Ris in his letter to Sigmund Freud; Matti Hämäläinen helped with information about Eusébie de Selys-Longchamps; Günter Theischinger and Florian Weihrauch gave advice on how to translate a difficult terminus technicus into English; Klaas Douve Dijkstra and Vincent Kalkmann advised me of changes in taxonomy; Urs Weibel contributed reproductions of four diapositives taken by Ris himself and Ris' portrait from the Museum Schaffhausen. Phan Quốc Toản courteously sent me photos of *Coeliccia brachysticta* from Ris' collection; Milen Marinov gave me access to four field photos from the heritage of the late Daniel Grand and helped me to get a permission to reproduce them from the heirs, to who I am most grateful for this; further photos were contributed by Jürg De Marmels, Malte Seehausen, Jürgen Ruddek and Massimo Terragni (Senckenberg Museum Frankfurt); Dan Barta provided excellent scans of some species prepared by him and his colleagues; Peter Peitzner directed my attention to the publication concerning the odonate types at the Zoologisches Museum Hamburg, informed me about the label of a specimen of *Selysiothemis nigra* with reference to Ris and helped me to contact Martin Husemann (ZMH), who courteously arranged that my photo requests obligingly were fulfilled by Thure Dalsgaard in this time of corona restrictions. To all of them I feel most obliged for their kind assistance.

## References

### Material concerning Ris' biography

- Anonymous, 1931: Death of Dr. Ris. The Ark. University Museums of Zoology and Anthropology and the University Herbarium, University of Michigan, Ann Arbor 9(5): 1.
- Balmer, H. 2010. Ris, Friedrich, in: Historisches Lexikon der Schweiz (HLS), Version vom 16.04.2010. <https://hls-dhs-dss.ch/de/articles/032000/2010-04-16> (accessed 07.12.2020).
- Calvert, P. P. 1931a. (see below p. 131)
- Fliedner-Kalies, T. & H. Fliedner, 2011. Libellen im Kanton Schwyz. Berichte der Schweizerischen Naturforschenden Gesellschaft 16: 208 pp.
- Kummer, G. 1931. Dr. med. Fritz Ris †. Schaffhauser Tageblatt, 02. ii. 1931.
- Martens, A. Schiess, H., Kunz, B. & H. Wildermuth, 2008. *Onychogomphus uncatius* in Deutschland: die historischen Funde am Hochrhein (Odonata: Gomphidae). Libellula 27: 53-61.
- McGuire, W. & W. Sauerländer (eds), 1974. Sigmund Freud – C.G. Jung. Briefwechsel. Frankfurt/ M. S. Fischer. 721 pp.
- Morton, K.J. 1905. Dragonfly hunting in eastern Switzerland. The Entomologist's Monthly Magazine (II) 16: 1-4, 33-36.
- Morton, K.J. 1931. Obituary. Dr. Fritz Ris. The Entomologist's Monthly Magazine 67(3): 65-66.
- Müller-Schürch, E.H. 1932. Abschiedsworte. pp. 23-26 in: Zum Andenken an Dir. Dr. med. Friedrich Ris. Rheinau, Private Print (Jan. 1932).
- Rifkin, F. 1932. Dr. med. Friedrich Ris (8. Januar 1867 bis 30. Januar 1931). pp. 5-22 in: Zum Andenken an Dir. Dr. med. Friedrich Ris. Rheinau, Private Print (Jan. 1932).
- Ris, F. 1899. Nekrolog. Prof. Gustav Schoch, geb. 11. Sept. 1833, † 27. Febr. 1899. Mitteilungen der Schweizerischen entomologischen Gesellschaft 10: 211-217.
- Schneider-Orelli, O. 1931. Friedrich Ris. Vierteljahrsschrift der Naturforschenden Gesellschaft Zürich 76: 496-509.
- Uehlinger, A. 1931. Direktor Dr. med. Fritz Ris. Mitteilungen der Naturforschenden Gesellschaft Schaffhausen 10: 95-113.
- Weidner, H. 1964. Die Entomologischen Sammlungen des Zoologischen Staatsinstituts und Zoologischen Museums Hamburg, X. Teil, Insecta VII. Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut 62: 55-100.
- Wildermuth, H. & U. Weibel, 2018. Elisabeth Ris: eine Schweizerin im Namen der Balkan-Adonislibelle *Pyrrhosoma elisabethae* Schmidt, 1948 (Odonata: Coenagrionidae): EntomoHelvetica 11: 31– 38.

### Unpublished Material

- Ris, F. (1886-1897). Handwritten entomological notes in his private copy of Ris 1885 (cf. below p. 137), kept in the Entomological Department of the 'Eidgenössische Technische Hochschule' Zürich

Ris, F. (1917-1930). Entomological diary, transcribed from Ris' manuscript and type-written copy by Elisabeth Ris at the Stadtarchiv Schaffhausen by Heinrich Schiess. 422 pp+Index.

### Resources used in eliciting etymologies.

- Ahrens, G. 1988. Medizinisches und naturwissenschaftliches Latein: mit latinisiertem griech. Wortschatz. Verlag Enzyklopädie: Leipzig. 353 pp.
- Beolens, B. 2018. Eponym Dictionary of Odonata. Whittles Publishing Ltd. Dunbeath, Caithness Scotland UK. 460 pp.
- Bridges, C.A. 1994. Catalogue of the family-group, genus-group and species-group names of the Odonata of the world. C.A. Bridges: Urbana, Illinois. 3rd Edn xiv+951 pp.
- Hämäläinen, M. 2016. Catalogue of individuals commemorated in the scientific names of extant dragonflies, including lists of all available eponymous species-group and genus-group names – Revised edition. International Dragonfly Fund Report 92. 132 pp.
- Hentschel, E. & G. Wagner, 1993. Zoologisches Wörterbuch. 5. durchgesehene Auflage. Gustav Fischer: Jena (UTB 367). 576 pp.
- Lewis, C.T. & C. Short, 1963. Latin Dictionary Based on Andrews's edition of Freund's Latin Dictionary. Oxford University Press: New York. 2019 pp.
- Liddell, H.G & R. Scott, 1996. A Greek-English Lexicon. 9th ed with a revised supplement. Clarendon Press: Oxford. 2111 col.
- Werner, F.C. 1972. Wortelemente lateinisch-griechischer Fachausdrücke in den biologischen Wissenschaften. Suhrkamp, Frankfurt/M. (Suhrkamp Taschenbuch 64). 475 pp.

### References containing original descriptions or explanatory matter.

- Baker, R.A. & R.A. Bayliss, 2009. "Two naturalists in Africa: Sheffield Airey Neave (1879-1961) and James Jenkins Simpson (1881-1937) with particular reference to their work on insects and ticks from 1910 to 1915". The Linnean 25(1): 20–28.
- Barnard, K.H. 1937. Notes on dragon-flies (Odonata) of the S.W. Cape with description of the nymphs and of new species. Annals of the South African Museum 32: 169-260.
- Bartenev, A.N. 1911. Contributions to the knowledge of the Odonata from palearctic Asia in the Zoological Museum of Imp. Academy of Sciences of St. Petersburg. Annuaire du musée zoologique de l'Académie impériale des sciences de St. Pétersbourg 16: 409-448.
- Belle, J. 1973. A revision of the New World genus *Progomphus* Selys, 1854 (Anisoptera: Gomphidae). Odonatologica 2(4): 191-308.
- Borror, D.J. 1942. A Revision of the Libelluline Genus *Erythrodiplax* (Odonata). Contributions from the department of Zoology and entomology No. 4, The Ohio State University, Columbus. xv+286 pp.
- Bota-Sierra, C.A. & M.I. Wolff Echeverry, 2013. Taxonomic revision of *Mesamphiagrion* Kennedy, 1920 from Colombia (Odonata: Coenagrionidae), with the description of four new species. Zootaxa 3718(5): 401-440.

- Brauer, F. 1864. Erster Bericht über die auf der Weltfahrt der kais. Fregatte Novara gesammelten Neuropteren. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 14: 159-164.
- Brauer, F. 1867a. Beschreibung neuer exotischer Libellen aus den Gattungen *Neurothemis*, *Libellula*, *Diplax*, *Celithemis* und *Tramea*. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 17: 3-26.
- Brauer, F. 1867b. Bericht über die von Hrn. Dir. Kaup eingesendeten Odonaten. Schluss. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 17: 287-302.
- Brauer, F. 1868a. Neue und wenig bekannte vom Herrn Doct. Semper gesammelte Odonaten. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 18: 167-188.
- Brauer, F. 1868b. Verzeichniss der bis jetzt bekannten Neuropteren im Sinne Linné's. Erster Abschnitt. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 18: 359-416.
- Brauer, F. 1868c. Verzeichniss der bis jetzt bekannten Neuropteren im Sinne Linné's. Zweiter Abschnitt. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 18: 711-742.
- Buden, D.W. & D.R. Paulson, 2007. Odonata of Yap, Western Caroline Islands, Micronesia. Pacific Science 61(2): 267-277.
- Bulla, L. A. 1973. *Andinagrion* gen. nov. y revision de las especies Argentinas del genero *Oxyagrion* Selys (Odonata, Coenagriidae). Physis 32: 499-523.
- Burmeister, H. 1839. Handbuch der Entomologie. Zweiter Band. T. C. Friedr. Enslin, Berlin: 757-1050.
- Calvert, P.P. 1899. A contribution to the knowledge of the Odonata of Paraguay. Anales del Museo Nacional de Historia Natural de Buenos Aires 7: 25-35
- Calvert, P.P. 1901-1908. Odonata, in: Biologia Centrali American: Insecta Neuroptera. London, R.H. Porter & Dulau & Co. pp. 17-420.
- Calvert, P.P. 1909. Contributions to a Knowledge of the Odonata of the Neotropical Region, exclusive of Mexico and Central America. Annals of the Carnegie Museum 6: 73-280.
- Calvert, P.P. 1913. The fossil odonate *Phenacolestes*, with a discussion of the venation of the legion *Podagrion* Selys. Proceedings of the Academy of Natural Sciences of Philadelphia 65: 225-275.
- Calvert, P. P. 1917. Studies on Costa Rican Odonata. VIII. A new genus allied to *Cora*. Entomological News 28(6): 259-263.
- Calvert, P. P. 1931a. Dr. Friedrich Ris. Entomological News 42(7): 181-191.
- Calvert, P. P. 1931b. The generic characters and the species of *Palaemnema* (Odonata: Agrionidae). Transactions of the American Entomological Society 57: 1-111, 21 pl.
- Calvert, P. P. 1939. Obituary Guillaume Severin. Entomological News 50(2): 58-60.
- Calvert, P. P. 1952. New taxonomic entities in Neotropical *Aeshnas* (Odonata: Aeshnidae). Entomological News 63(10): 253-264.

- Carle, F.L., Kjer, K.M. & M.L. May, 2015. A molecular phylogeny and classification of Anisoptera (Odonata). *Arthropod Systematics and Phylogeny* 73(2): 281-301.
- Charpentier, T. de. 1840. *Libellulinae Europaeae Descriptae et Depictae*. Voss, Lipsiae. 180 pp.
- Chen, C.-W., 1947. On a new damselfly from Formosa (Odonata: Synlestidae). *Biological Bulletin of Fukien Christian University* 6: 27-31.
- Chen, K.-M., 2002. Hans Sauter (1871–1943). In: *Taipeh heute*. (6), 1. Nov 2002, S. 58–59.
- Corbet, P.S. 1991. A brief history of Odonatology. *Advances in Odonatology* 5: 21-44.
- Cowley, J. 1934a. Notes on some generic names of Odonata. *Entomologist's Monthly Magazine* 70: 240–247.
- Cowley, J. 1934b. Changes in the generic names of Odonata. *Entomologist* 67: 200-204.
- Davies, D.A.L. & H. Fliedner, 1999. Entomological etymology, a correction (Zygoptera, Megapodagrionidae, *Rhipidolestes*). *Notulae Odonatologicae* 5(3): 36-37.
- Davies, D.A.L. & P. Tobin, 1985. The dragonflies of the world: A systematic list of the extant species of Odonata. Vol. 2. Anisoptera. Utrecht, Societas Internationalis Odonatologica. xi+151 pp.
- De Beaufort, L.F. 1947-48. *Levensbericht E.R. Jacobson*. Huygens Instituut – Koninklijke Nederlandse Akademie van Wetenschappen, Jaarboek: 159-162.
- De Marmels, J. 1989. Notes on *Acanthagrion acutum* Ris, *Enallagma occultum* Ris, and *E. ovigerum* Calvert (Zygoptera: Coenagrionidae). *Odonatologica* 18(3): 245-252.
- De Marmels, J. 1994. A new genus of Aeshnini (Odonata: Aeshnidae) from the Andes, with description of a new species. *Insect Systematics & Evolution* 25(4): 427-438.
- De Marmels, J. 1997. New and little-known species of *Cyanallagma* Kennedy, 1920 from the Andes and from Pantepui (Zygoptera: Coenagrionidae). *Odonatologica* 26(2): 135-157.
- Dias dos Santos, N. 1945. *Oligoclada nemesi* (Ris 1911), nova combinação e notas sobre outras espécies (Odonata: Libellulidae). *Boletim do Museu nacional Rio de Janeiro (N.S.) Zoologia* 46: 1-4.
- Dijkstra, K.-D.B. & G.S. Vick, 2006. Inflation by venation and the bankruptcy of traditional genera: the case of *Neodythemis* and *Micromacromia*, with keys to the continental African species and the description of two new *Neodythemis* species from the Albertine Rift (Odonata: Libellulidae). *International Journal of Odonatology* 9(1): 51-70.
- Dijkstra, K.-D.B. & V. Clausnitzer, 2014. The Dragonflies and Damselflies of Eastern Africa: handbook for all Odonata from Sudan to Zimbabwe. *Studies in Afrotropical Zoology* 298: 1-260.
- Dumont, H. J. Vanfleteren, J. R. De Jonckheere, J. F. & P. H. Weekers, 2005. Phylogenetic relationships, divergence time estimation, and global biogeographic patterns of calopterygoid damselflies (Odonata, Zygoptera) inferred from ribosomal DNA sequences. *Systematic Biology* 54(3), 347-362.
- Dunkle, S. 1989. *Dragonflies of the Florida Peninsula, Bermuda and the Bahamas*. Scientific Publishers, Gainesville. 154 pp.
- Endersby, I. & H. Fliedner, 2015. The naming of Australia's dragonflies. *Busybird publishing*, Eltham Victoria, Australia. 278 pp.

- Fabricius, J.C. 1775. *Systema entomologiae, sistens insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus*. Flensburgi et Lipsiae: Libraria Kortii. xxxii+832 pp.
- Fliedner, H. 1997. Die Bedeutung der wissenschaftlichen Namen europäischer Libellen. *Libellula*, Supplement 1. 111 pp.
- Fliedner, H. 1998. Die Namengeber der europäischen Libellen. *Ergänzungsheft zu Libellula Supplement 1*; published by the author. 56 pp.
- Fliedner, H. 2006. Die wissenschaftlichen Namen der Libellen in Burmeisters 'Handbuch der Entomologie'. *Virgo* 9: 5-23. (Available in English translation at <http://www.entomologie-mv.de/>)
- Fliedner, H. 2012. Wie die Libelle zu ihrem Namen kam. *Virgo* 15: 5-9.
- Fliedner, H. 2020. The scientific names of Brauer's odonate taxa. *International Dragonfly Fund - Report 148*: 1-55.
- Fliedner, H. & I. Endersby, 2019. *The Scientific Names of North American Dragonflies*. Busybird publishing, Eltham Victoria, Australia. 274 pp.
- Förster, F. 1897. Beiträge zur Kenntnis der indo-australischen Odonaten-Fauna. VI. *Entomologische Nachrichten* 23: 333-338.
- Förster, F. 1898. Odonaten aus Neu-Guinea. *Termeszeträji Füzetek* 21: 271-302.
- Förster, F. 1900. Odonaten aus Neu-Guinea. *Termeszeträji Füzetek* 23: 81-108.
- Förster, F. 1906a. Forschungsreise durch Südschoa, Galla und die Somaliländer von Carlo Freiherr von Erlander. *Libellen. Jahrbücher des nassauischen Vereins für Naturkunde* 59: 299-344.
- Förster, F. 1906b. Die Libellulidengattungen von Afrika und Madagaskar. *Jahresberichte des Vereins für Naturkunde Mannheim* 71-72: 1-67
- Förster, F., 1909. Beiträge zu den Gattungen und Arten der Libellen. *Jahrbücher des nassauischen Vereins für Naturkunde* 62: 211-235.
- Förster, F. 1910. Beiträge zu den Gattungen und Arten der Libellen. II. *Wiener entomologische Zeitung* 29: 51-56.
- Förster, F. 1914. Beiträge zu den Gattungen und Arten der Libellen III. *Archiv für Naturgeschichte (A)* 80(2): 59-83.
- Fraser, F.C. 1920. Some new Indian dragonflies. *Journal of the Bombay Natural History Society* 27(1): 147-150.
- Fraser, F.C. 1922. New and rare Indian Odonata in the Pusa Collection. *Memoirs of the Department Agriculture in India, Entomological Series* 7(7): 39-77.
- Fraser, F.C. 1926a. A revision oft he genus *Idionyx* Selys. *Record of the Indian Museum* 28: 195-207.
- Fraser, F.C. 1926b. Notes on a collection of dragonflies (Order Odonata) from the Dutch East Indies and descriptions of four new species from the neighbouring continent. *Treubia* 8(3-4): 467-494.
- Fraser, F.C. 1948. The Odonata of the Argentine Republic II. *Acta zoologica lilloana* 5: 47-67.

- Fraser, F.C. 1956. Faune de Madagascar I. Insectes Odonates Anisoptères. Tananarive, Institut de Recherche scientifique. 125 pp.
- Fraser, F.C. 1957. A reclassification of the order Odonata. Sydney, New South Wales. Royal Zoological Society of New South Wales. 133 pp.
- Garrison, R.W. 2006. A synopsis of the genera *Mnesarete* Cowley, *Bryoplantanon* gen. nov. and *Ormenophlebia* gen. nov. (Odonata: Calopterygidae). Contributions in Science 506: 84 pp.
- Garrison, R.W. & N. von Ellenrieder, 2016. A synonymic List of the New World Odonata. Revised version of 29 November 2016. 73 pp. [https://www.cdfa.ca.gov/plant/ppd/PDF/Garrison\\_vonEllenrieder\\_NWOL\\_November\\_2016.pdf](https://www.cdfa.ca.gov/plant/ppd/PDF/Garrison_vonEllenrieder_NWOL_November_2016.pdf)
- Geijskes, D.C. 1984. What is *Oligoclada abbreviata* (Rambur, 1842). Zoologische Mededeelingen 58(12): 175-185.
- Geyr von Schweppenburg, H.F. 1917. Otto le Roi zur Erinnerung. Journal für Ornithologie 65: 435-443.
- Grand, D. Marinov, M. Cook, C. Jourdhan, H. Rous, S. & J. Theuerkauf, 2014. Identification key to adult Odonata of New Caledonia and Wallis and Futua. Odonatologica 43(3/4): 247-277.
- Guérin-Ménéville, F. E. 1832. Chapitre XIII. Insectes. p. 57-319 in: Duperrey, L. I. 1830--1838: Voyage autour du monde exécuté par ordre du roi, sur la corvette de Sa Majesté, La Coquille, pendant les années 1822, 1823, 1824 et 1825 ... Vol. 2 (2) Zoologie, Paris, Arthus-Bertrand. 155 pp.
- Hagen, H.-A. 1854. in: Selys-Longchamps, M. E. de 1854. Synopsis des Gomphines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique 21: 23-112.
- Hagen, H. 1861. Synopsis of the Neuroptera of North America, with a list of the South American species. Washington, D. C. Smithsonian Institute. xx+347 pp.
- Hagen, H. 1867a. Die Neuroptera der Insel Cuba. Stettiner Entomologische Zeitung 28: 215-232.
- Hagen, H. 1867b. Notizen beim Studium von Brauer's Novara-Neuropteren. Verhandlungen der kaiserlich-königlichen zoologisch-botanischen Gesellschaft Wien 17: 31-62.
- Hagen, H. 1868. Odonaten Cubas. Stettiner Entomologische Zeitung 29: 274-287.
- Hagen, H.A. 1873. Notes on Mr. S.H. Scudder's "Odonata of the Isle of Pines". Proceedings of the Boston Society of Natural History 15: 373-375.
- Hagen, H. A. 1874. Report on the Pseudo-Neuroptera and Neuroptera collected by Lieut. W. L. Carpenter in 1873 in Colorado. Report of the U.S. Geological and Geographical Survey of the Territories 7: 571-606.
- Hagen, H.A. 1888. On the genus *Sympetrum*, Newman. Entomologica Americana 4: 31-34.
- Hämäläinen, M. 2004. Caloptera damselflies from Fujian (China), with description of a new species and taxonomic notes (Zygoptera: Calopterygoidea). Odonatologica 33(4): 371-398.



- Hämäläinen, M. 2016 (see p. 130)
- Hämäläinen, M. 2020. The etymology of ten eponymous species names of Odonata introduced by Selys in his 'Odonates de Cuba' (1857), honouring prominent people or religious movements from classical antiquity and the middle ages. *Notulae odonologicae* 9(5): 178-184.
- Hämäläinen, M. & R.W. Garrison, 2020. Review of: The scientific names of North American dragonflies, Authors: Heinrich Fliedner & Ian Endersby, Busybird Publishing, Montmorency, Victoria, Australia, x+273 pp. 2019, ISBN 978-1-925949-08-7. *Agrion* 24(1): 52-54.
- Heymer, A. 1967. Dr. phil. Erich Schmidt zum 75. Geburtstag. *Deutsche Entomologische Zeitschrift NF* 14: 257-263.
- Holthuis, L.B. 1974. Notes on the localities, habitats, biology and vernacular names of New Guinea freshwater crabs (Crustacea Decapoda, Sundathelphusidae). *Zoologische Verhandlungen* 137: 3-47.
- Henningsen, M. Peitzner, G. Peitzner, P. & M. Husemann, 2020. An updated checklist of type material of dragonflies and damselflies (Odonata) housed in the Zoological Museum Hamburg (ZMH), Germany. *Evolutionary Systematics* 4: 53–60.
- Kalkman, V.J. & A.G. Orr, 2013. Field Guide to the damselflies of New Guinea. *Brachytron* 16 Supplement: 118 pp.
- Kalkman, V.J. & G. Theischinger, 2013. Generic revision of the Argiolestidae (Odonata), with four new genera. *International Journal of Odonatology* 16(1): 1-52.
- Karsch, F. 1889. Beitrag zur Kenntniss der Libellulinen mit vierseitiger cellula cardinalis (*Nannophya* Rambur). *Entomologische Nachrichten* 15: 245-263.
- Karsch, F. 1890. Beiträge zur Kenntniss der Arten und Gattungen der Libellulinen. *Berliner Entomologische Zeitschrift* 33(2): 347-392.
- Karsch, F. 1891. Übersicht über die von Herrn Dr. Paul Preuss in Deutsch-West-Afrika gesammelten Odonaten. *Entomologische Nachrichten* 17: 65-80.
- Karsch, F. 1900. Odonaten. Ergebnisse einer zoologischen Forschungsreise in den Molukken und Borneo ... ausgeführt von Dr. Willy Küenthal. *Abhandlungen herausgegeben von der Senckenbergischen naturforschenden Gesellschaft* 25(1): 211-230.
- Kennedy, C. H. 1920. Forty-two hitherto unrecognized genera and subgenera of Zygoptera. *Ohio Journal of Science* 21: 83–88.
- Kennedy, C.H. 1925. New genera of *Megapodagrioninae*, with notes on the subfamily. *Bulletin of the Museum of Comparative Zoology at Harvard College* 67(7): 291-311.
- Kiauta, B. 1978. An outline of the history of odonatology in Switzerland, with an annotated bibliography on the Swiss odonate fauna. *Odonatologica* 7(3): 191-222.
- Kirby, W. F. 1889. A revision of the subfamily Libellulinae, with descriptions of new genera and species. *Transactions of the Zoological Society of London* 12: 249-348.
- Kirby, W. F. 1890. A synonymic catalogue of Neuroptera Odonata or dragonflies, with an appendix of fossil species. London, Gurney & Jackson. 202 pp.
- Kirby, W. F. 1893. Catalogue of the described Neuroptera Odonata (Dragonflies) of Ceylon. *Journal of the Linnean Society London (Zoology Series)* 24: 545-566.

- Kirby, W. F. 1894. On some small collections of Odonata (dragonflies) recently received from the West Indies. *Annals & Magazine of Natural History* 14: 261-269.
- Laidlaw, F.F. 1912. On a new genus and species of Odonata from Sarawak. *Sarawak Museum Journal* 2: 65-67.
- Laidlaw, F.F. 1914. Zoological Results of the Abor Expedition, 1911-12. XXV. Odonata. *Record of the Indian Museum* 8(4): 335-349.
- Laidlaw, F.F. 1922. A list of dragonflies listed from the Indian Empire with special reference to the collection of the Indian Museum. Part V. The subfamily Gomphines. With an appendix by F.C. Fraser. *Record of the Indian Museum* 24: 367-414.
- Laidlaw, F.F. 1926. *Spolia Mentawiensia*. Dragonflies (Odonata). *Journal of Malayan Branch of the Royal Asiatic Society* 4(2): 214-233.
- Latreille, P.A. 1802. *Histoire naturelle générale et particulière des crustacés et insectes III. Familles naturelles des genres*. Dufart, Paris. 468 pp.
- Leach, W. E. 1815. Entomology. In Brewster, D. *The Edinburgh Encyclopedia* 9: 57-172.
- Lieftinck, M.A. 1932. The dragonflies (Odonata) of New Guinea and neighbouring islands Pt. I. Descriptions of new genera and species of the families Lestidae and *Agrionidae*. *Nova Guinea* 15: 485-602.
- Lieftinck, M.A. 1934. Notes on the genus *Drepanosticta* Laid. with descriptions of the larva and of new Malaysian species (Odon. Zygoptera). *Treubia* 14(4): 463-476.
- Lieftinck, M.A. 1935. The dragonflies (Odonata) of New Guinea and neighbouring islands Pt. III. Descriptions of new and little known species of the families Megapodagrionidae, Agrionidae and Libellulidae. *Nova Guinea* 17: 203-300.
- Lieftinck M.A. 1937. The dragonflies (Odonata) of New Guinea and neighbouring islands. Part IV. Descriptions of new and little known species of the families Agrionidae (sens. lat.), Libellulidae and Aeshnidae (genera *Idiocnemis*, *Notoneura*, *Papuagrion*, *Teinobasis*, *Aciagrion*, *Bironides*, *Agyrtacantha*, *Plattycantha*, and *Oreaeschna*). *Nova Guinea (N.S.)* 1: 1-82.
- Lieftinck, M.A. 1938. The dragonflies (Odonata) of New Guinea and neighbouring islands. Part V. Descriptions of new and little known species of the families Libellaginidae, Megapodagrionidae, Agrionidae (sens. lat.), and Libellulidae (Genera *Rhinocypha*, *Argiolestes*, *Drepanosticta*, *Notoneura*, *Palaiargia*, *Papuargia*, *Papuagrion*, *Teinobasis*, *Nannophlebia*, *Synthemis*, and *Anacordulia*). *Nova Guinea (N.S.)* 2: 47-128.
- Lieftinck, M.A. 1942. The dragonflies (Odonata) of New Guinea and neighbouring islands. Part VI. Results of the third Archbold expedition 1938-39 and of the Le Roux expedition 1939 to the Netherlands New Guinea (I. Anisoptera). *Treubia* 18 (3): 441-608.
- Lieftinck, M. A. 1949. The Dragonflies (Odonata) of New Guinea and neighbouring islands. Part VII. Results of the Third Archbold expedition. *Nova Guinea (N.S.)* 5: 1-271.
- Lieftinck, M.A. 1962. *Insects of Micronesia*. Odonata. Honolulu, Bishop Museum 5(1): 1-95.
- Linnæus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tom. I (Animalia). Ed. decima. Holmiae, Laurentius Salvius. iv+824 pp.
-

- Lüschen, H. 1968. Die Namen der Steine. Das Mineralreich im Spiegel der Sprache. Mit einem Wörterbuch, enthaltend über 1200 Namen von Mineralien, Gesteinen, Edelsteinen, Fabel- und Zaubersteinen. Ott, Thun & München. 368 pp.
- Mallis, A. 1971. American Entomologists. Rutgers University Press, New Brunswick, New Jersey. 551 pp.
- Martin, R. 1902. Odonates indo-océaniens des collections du Muséum. Bulletin du Muséum d'Histoire Naturelle Paris 1902 (7): 506-512.
- Martin, R. 1908. Voyage de feu Leonardo Fea dans l'Afrique occidentale. Odonates. Annali del Museo civico di Storia naturale di Genova 43: 649-667.
- Martin, R. 1909. Odonates de la Nouvelle Guinée Britannique. Bollettino delle Società Entomologica Italiana 40: 195-207.
- May, E. 1935. Entomologische Mitteilungen VIII. Über die Genera *Vestalis* Selys, *Vestinus* Kennedy und *Vestalaria* n.g. Senckenbergiana 17: 207-218.
- May, M.L. 2002. Phylogeny and taxonomy of the damselfly genus *Enallagma* and related taxa (Odonata: Zygoptera: Coenagrionidae). Systematic Entomology 27(4): 387-408.
- Muttkowski, R. A. 1910. Catalogue of the Odonata of North America. Bulletin of the Public Museum of the City of Milwaukee 1: 1–207.
- Navas, R.P. Longinos, 1907. Neurópteros de España y Portugal. Broteria 6: 43-100.
- Navas, R.P. Longinos, 1935. Névroptères et insectes voisins. Chine et le pays enviro-nants. Huitième série. Notes d'entomologie chinoise 2(5): 85-103.
- Needham, J. G. 1897. Preliminary studies of N. American Gomphinae. Canadian Entomologist 29: 144–146, 164–168, 182–186.
- Newman, E. 1833. Entomological notes. Entomological Magazine London 1: 505-514.
- Perroud, B.-P. & (X.) Montrousier, 1864. Essai sur la Faune entomologique de Kanala (Nouvelle Calédonie), et quelques espèces nouvelles ou peu connues. Annales de la Société Linnéenne de Lyon N.S. 11: 46-253.
- Perty, J.A.M. 1834. Delectus animalium articulorum, quae in itinere per Brasiliam annis 1817-1820 jussu et auspiciis Maximiliani Josephi Bavariae regis augustissimi peracto, collegerunt Dr. J.B. de Spix et Dr. C.F.Ph. de Martius. Monachii (= Munich). 220 pp.
- Pinhey, E.C. 1966. Checklist of dragonflies (Odonata) from Malawi, with description of a new *Teinobasis* Kirby. Arnoldia 2(33): 1-24.
- Rambur, P. 1842. Histoire Naturelle des Insectes. Névroptères. Librairie Encyclopédique de Roret: Paris. xvii 534 pp.
- Ravizza, C. Vinçon, G. & J.-P. Reding, 2020. The origins of the names of Plecoptera genera and species occurring in the Italian Region. Bollettino della Società entomologica italiana 152(3): 115-132.
- Reinhardt, K. 2008. Der Beitrag von Eduard May (1905-1956) zur Libellenkunde (Odonata). Libellula 27(1/2): 89-110.
- Ris, F. 1885. Fauna helvetica. Neuroptera. Die schweizerischen Libellen. Schaffhausen. 50 pp, 1 pl. (Reprinted with different pagination in 1886 in: Mittheilungen der Schweizerischen entomologischen Gesellschaft 7, Beilage: 35-85, 1 pl.)

- Ris, F. 1889. Beiträge zur Kenntnis der schweizerischen Trichopteren. Mittheilungen der Schweizerischen entomologischen Gesellschaft 8: 102-145.
- Ris, F. 1890. Notizen über schweizerische Neuropteren. Mittheilungen der Schweizerischen entomologischen Gesellschaft 8: 194-216.
- Ris, F. 1896. Untersuchung über die Gestalt des Kaumagens bei den Libellen und ihren Larven. Zoologische Jahrbücher / Abteilung für Systematik, Geographie und Biologie der Tiere 9: 596-624.
- Ris, F. 1897a. Note sur quelques Odonates de l'Asie centrale. Annales de la Société entomologique de Belgique 41: 42-50.
- Ris, F. 1897b. Neuropterologischer Sammelbericht 1894-1896. B. Fragmente der Neuropteren-Fauna des Rheins. D. Einige neue Beobachtungen aus dem Tessin. Mittheilungen der Schweizerischen entomologischen Gesellschaft 9: 415-442.
- Ris, F. 1898. Neue Libellen vom Bismarck-Archipel. Entomologische Nachrichten 24: 321-327.
- Ris, F. 1900. Libellen vom Bismarck-Archipel, gesammelt durch Prof. Friedrich Dahl. Archiv für Naturgeschichte 66(1): 175-204.
- Ris, F. 1904a. Odonaten. In: Hamburger Magalhaensische Sammelreise. Hamburg, Friedrichsen & Co. vol. II (7): 44 pp.
- Ris, F. 1904b. Ein unbekanntes Organ der Phryganiden *Oecetis notata* und *Oecetis testacea*. Vierteljahresschrift der Naturforschenden Gesellschaft in Zürich 49: 370-374.
- Ris, F. 1905. Oviposition in *Cordulegaster*. Entomological News 16: 113-114.
- Ris, F. 1906. Farbenvarietäten der Agrionide *Nehalennia speciosa* Charp. Mittheilungen der Schweizerischen entomologischen Gesellschaft 11: 159-165.
- Ris, F. 1908a. Odonata. In: L. Schultze 1908: Forschungsreise im westlichen und zentralen Südafrika, ausgeführt in den Jahren 1903-1905. Denkschriften der medizinisch-naturwissenschaftlichen Gesellschaft zu Jena 13: 303-346.
- Ris, F. 1908b. Beitrag zur Odonatenfauna von Argentina. Deutsche entomologische Zeitschrift 1908: 518-531.
- Ris, F. 1909a. Libellulinen monographisch bearbeitet. I. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 9: 1-120.
- Ris, F. 1909b. Odonata. In: A. Brauer, Süßwasserfauna Deutschlands Heft 9. Fischer, Jena. 67pp.
- Ris, F. 1910a. Libellulinen monographisch bearbeitet. I. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 10: 121-244.
- Ris, F. 1910b. Libellulinen monographisch bearbeitet. I. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 11: 245-384.
- Ris, F. 1910c. Kopulationsmarken bei Libellen. Deutsche entomologische National-Bibliothek 1: 70-71, 79-80.
- Ris, F. 1911a. Libellulinen monographisch bearbeitet. II. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 12: 385-528.
-

- Ris, F. 1911b. Libellen von Sintang, Borneo, gesammelt von Dr. L. Martin. *Annales de la Société entomologique de Belgique* 55: 231-255
- Ris, F. 1911c. Libellulinen monographisch bearbeitet. II. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 13: 529-700.
- Ris, F. 1911d. Ueber einige afrikanische Arten der Aeschninengattung *Anax*. *Annales de la Société entomologique de Belgique* 55: 320-324.
- Ris, F. 1911e. Zwei neue afrikanische Arten der Libellulinenengattung *Orthetrum*. *Revue Zoologique africaine* 1: 125-131.
- Ris, F. 1911f. Übersicht der mitteleuropäischen Cordulinen-Larven. Nachschrift. Einige allgemeine und technische Bemerkungen über Libellenlarven. *Mitteilungen der Schweizerischen entomologischen Gesellschaft* 12: 25-41.
- Ris, F. 1912a. Libellulinen monographisch bearbeitet. II. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 14: 701-836.
- Ris, F. 1912b. Ueber einige Gomphinen von Südbrasilien und Argentina. *Mémoires de la Société entomologique de Belgique* 19: 101-119. (In Bridges erroneously listed for 1911)
- Ris, F. 1912c. Ueber Odonaten von Java und Krakatau, gesammelt von Edward Jacobson. *Tijdschrift voor Entomologie* 55(2): 157-183.
- Ris, F. 1912d. Neue Libellen von Formosa, Südchina Tonkin und den Philippinen. *Supplementa Entomologica* 1: 44-85.
- Ris, F. 1913a. Libellulinen monographisch bearbeitet. III. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 15: 837-964.
- Ris, F. 1913b. Neuer Beitrag zur Kenntnis der Odonatenfauna von Argentina. *Mémoires de la Société entomologique de Belgique* 22: 55-102.
- Ris, F. 1913c. Libellulinen monographisch bearbeitet. III. Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 16(1): 965-1142.
- Ris, F. 1913d. Odonata von den Aru- und Kei-Inseln, gesammelt durch Dr. H. Merton 1908, nebst Uebersicht über die von den Aru-Inseln bekannten Odonaten. *Abhandlungen der Senckenbergischen Naturforschenden Gesellschaft* 34: 503-536.
- Ris, F. 1913e. Die Odonata von Dr. H. Lorentz' Expedition nach Südwest-Neu-Guinea 1909 und einige Odonata von Waigöu. *Nova Guinea* 9(3): 471-512.
- Ris, F. 1913f. Nochmals die Perlide *Capnionera nemuroides* und einige Bemerkungen zur Morphologie der Perliden. *Entomologische Mitteilungen* 2: 178-185.
- Ris, F. 1913g. Die Atmungs-Organen der anisopteren Libellenlarven. *Mitteilungen der Schweizerischen entomologischen Gesellschaft* 11: 92-99.
- Ris, F. 1914a. *Ceriagrion melanurum* und eine verwandte Art (Odonata). *Entomologische Mitteilungen* 3: 44-48.
- Ris, F. 1914b. Zwei neue neotropische Calopterygiden (Odonata). *Entomologische Mitteilungen* 3: 282-285.
- Ris, F. 1915a. New Dragonflies (Odonata) of the Subfamily Libellulinae from Sierra Leone, W. Africa. *Annals and Magazine of Natural History* (8) 15: 213-223
- Ris, F. 1915b. Fauna simalurensis. Odonata. *Tijdschrift voor Entomologie* 58(1/2): 5-21

- Ris, F. 1915c. Neuer Beitrag zur Kenntnis der Odonatenfauna der Neu-Guinea Region. *Nova Guinea* 13(2): 81-131.
- Ris, F. 1915d. Libellen (Odonata) von Neu-Caledonien und den Loyalty-Inseln, in: Sarasin, F. & J. Roux, 1915. *Nova Caledonia*, Kreidel, Wiesbaden, A. *Zoologie* 2 (4): 57-72.
- Ris, F. 1915e. Eine kleine Sammlung Libellen von den Comorischen Inseln (Odonata). *Entomologische Mitteilungen* 4: 137-146
- Ris, F. 1915f. *Aeschna coerulea* (sic) in der Schweiz. *Mitteilungen der Schweizerischen entomologischen Gesellschaft* 12: 348-354.
- Ris, F. 1915g. Ueber Ontogenese der Flügeladerung bei den Libellen. *Mitteilungen der Schweizerischen entomologischen Gesellschaft* 12: 328-332.
- Ris, F. 1916a. H. Sauter's Formosa-Ausbeute. Odonata. (Mit Notizen über andere ostasiatische Odonaten.) *Supplementa Entomologica* 5: 1-81.
- Ris, F. 1916b. Zwei Notizen über Calopterygiden (Odonata) vom Malaischen Archipel. *Entomologische Mitteilungen* 5: 303-318.
- Ris, F. 1917a. Ueber drei Arten *Erpetogomphus* (Odonata). *Archiv für Naturgeschichte (A)* 82 (3): 152-158.
- Ris, F. 1917b. Eine neue Agrioniden-Gattung der «Legion *Podagrion*» (Odonata) aus China. *Tijdschrift voor Entomologie* 60: 185-191.
- Ris, F. 1918. Libellen (Odonata) aus der Region der amerikanischen Kordilleren von Costa Rica bis Catamarca. *Archiv für Naturgeschichte (A)* 82 (9): 1-197.
- Ris, F. 1919. Libellulinen monographisch bearbeitet. III. *Collections zoologiques du Baron Edm. de Selys-Longchamps. Catalogue systématique et descriptif fasc. 16 (2): 1043-1278.*
- Ris, F. 1920. Uebersicht der mitteleuropäischen *Lestes*-Larven (Odonata). [Festschrift für Zschokke 22]. Kober, Basel. 14 pp.
- Ris, F. 1921. The Odonata or Dragonflies of South Africa. *Annals of the South African Museum* 18: 245-452.
- Ris, F. 1922. Ueber die Libellen *Sympetrum striolatum* und *Sympetrum meridionale* in den Alpen. *Schweizer Entomologischer Anzeiger* 1: 28-30.
- Ris, F. 1923a. Im Tössstockschongebiet gesammelte Insekten aus den Ordnungen Plecoptera, Neuroptera und Trichoptera. *Mitteilungen der Entomologia Zürich und Umgebung* 7: 401-407.
- Ris, F. 1923b. Einige Beobachtungen an *Aeschna cyanea*. *Schweizer Entomologischer Anzeiger* 2: 39-40.
- Ris, F. 1924. Wissenschaftliche Ergebnisse der mit Unterstützung der Akademie der Wissenschaften in Wien aus der Erbschaft Treitl von F. Werner unternommenen zoologischen Expedition nach dem Anglo-Aegyptischen Sudan (Kordofan), 1914. XIX. Odonata. *Denkschriften der Kaiserlichen Akademie der Wissenschaften Wien, Mathematisch-naturwissenschaftliche Klasse* 99: 275-282.
- Ris, F. 1927a. *Aeschna subarctica* Walker, eine für Deutschland und Europa neue Libelle (Odon.). *Entomologische Mitteilungen* 16: 99 - 103.
- Ris, F. 1927b. Ein neuer *Chlorogomphus* aus China (Odonata). *Entomologische Mitteilungen* 16: 103-105.

- Ris, F. 1927c. Odonaten von Sumatra, gesammelt von Edward Jacobson. Zoologische Mededeelingen 10: 1-49.
- Ris, F. 1928a. Zwei neue Odonaten aus Chile und der argentinischen Kordillere. Entomologische Mitteilungen 17: 162-174.
- Ris, F. 1928b. Ein neuer *Gomphus* aus Schantung, China (Odon.). Entomologische Mitteilungen 17: 273-276.
- Ris, F. 1928c. Die Ausbeute der Deutschen Chaco-Expedition 1925 bis 1926. Odonata. Konowia 7: 40-49.
- Ris, F. 1929a. Fauna Buruana. Odonata gesammelt von L. J. Toxopeus auf Buru, 1921-1922, nebst einigen Odonaten von Amboina. (2. Teil, Zygoptera.) Treubia 7 (Suppl.): 139-147.
- Ris, F. 1929b. Gynandromorphismus bei Odonaten. Mitteilungen der Schweizerischen entomologischen Gesellschaft 14: 97-102.
- Ris, F. 1930a. Drei Notizen über ostasiatische Agrioniden (Odonata). Arkiv för Zoologi 21 A (31): 1-32.
- Ris, F. 1930b. A revision of the Libelluline Genus *Perithemis* (Odonata). University of Michigan Museum of Zoology, Miscellaneous Publications 21: 50 pp.
- Ris, F. 1930c. Vier neue Calopterygiden (Odonata) von den Philippinen und Palawan. Mitteilungen der Münchener Entomologischen Gesellschaft 20: 71-92.
- Ris, F. 1931. Odonata aus Süd-Angola. Resultats de la Mission scientifique Suisse en Angola, 1928-1929. Revue Suisse de Zoologie 38: 97-112.
- Ris, F. & Er. Schmidt, 1936. Die *Pseudagrion*-Arten des kontinentalen Afrika (Insecta, Odonata). Abhandlungen der Senckenbergischen naturforschenden Gesellschaft 433: 1-68.
- Robert, A. , Robert, D. & E. Reichen, 2018. Erinnerungen der Kinder von Paul-André Robert an ihren Vater. p. 11-12 in: Brochard, C. (ed) 2018. Die Libellenlarven, von Paul-André Robert. Sein Lebenswerk. KNNV Publishing, Zeist, The Netherlands. 320 pp.
- Schneider, W. 2004. Friedrich Moritz Brauer's and Johann Jakob Kaup's types of dragonflies (Insecta: Odonata) in the Hessisches Landesmuseum Darmstadt. Kaupia: Darmstädter Beiträge zur Naturgeschichte 13: 77-87.
- Schnell, L. 1988. Nachruf. Ehrenvorsitzender Prof. Dr. Erwin Lindner , \* 7. April 1888 †30. November 1988. Mitteilungen Entomologischer Verein Stuttgart 1869 e.V. 23: 75-76.
- Selys-Longchamps, E. de, 1840. Monographie des libellulidées d'Europe, Rôret, Paris. xxii+408 pp.
- Selys-Longchamps, E. de, 1853. Synopsis des Caloptérygines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique 20, Annexe: 1–73.
- Selys-Longchamps, E. de, 1854a. Monographie des Caloptérygines. Mémoires de la Société Royale des Sciences de Liège 9: xi+291 pp.
- Selys-Longchamps, E. de, 1854b. Synopsis des Gomphines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique 21: 23–112.
- Selys-Longchamps, E. de, 1857. Odonates de Cuba. In: R. de la Sagra, Histoire physique, politique, et naturelle de l'Île de Cuba. Animaux articulés 7: 436–471.

- Selys-Longchamps, E. de, 1858. Monographie des Gomphines, avec la collaboration de M. le docteur H.A. Hagen (de Koenigsberg). Mémoires de la Société Royale des Sciences de Liège 11: 257-720.
- Selys-Longchamps, E. de, 1859. Additions au Synopsis des Caloptérygines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (Sér 2.) 7: 437-451.
- Selys-Longchamps, E. de, 1860. Synopsis des Agrionines, Dernière légion: *Protonevra*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 10: 431-462.
- Selys-Longchamps, E. de, 1862a. Synopsis des Agrionines, Seconde légion: *Lestes*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 13: 288-338.
- Selys-Longchamps, E. de, 1862b. Synopsis des Agrionines, Troisième légion: *Podagrion*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 14: 5-44.
- Selys-Longchamps, E. de, 1863. Synopsis des Agrionines, Quatrième légion: *Platycnemis*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 16: 147-176.
- Selys-Longchamps, E. de, 1865. Synopsis des Agrionines, 5me legion: *Agrion*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 20: 375-417.
- Selys-Longchamps, E. de, 1869a. Secondes Additions au Synopsis des Caloptérygines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 27: 645-680.
- Selys-Longchamps, E. de, 1869b. Secondes Additions au Synopsis des Gomphines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 28: 168-208.
- Selys-Longchamps, E. de, 1870. Sous-famille des Cordulines, Selys (1). In: Comptes-rendus des séances de la société entomologique de Belgique: Assemblée mensuelle du 5 novembre 1870. Annales de la Société entomologique de Belgique 14: iii-vii.
- Selys-Longchamps, E. de, 1871a. Synopsis des Cordulines (en deux parties). Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (Sér. 2) 31: 238-316, 519-565.
- Selys-Longchamps, E. de, 1871b. Aperçu statistique sur les Névroptères Odonates. Transactions of the Entomological Society of London 19: 409-416.
- Selys-Longchamps, E. de, 1876a. Synopsis des Agrionines, 5me légion: *Agrion*. Le genre *Agrion*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 41: 247-322, 496-539, 1233-1309.
- Selys-Longchamps, E. de, 1876b. Synopsis des Agrionines, 5me légion: *Agrion* (suite). Le genre *Agrion*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 42: 490-531, 952-991.
- Sélys-Longchamps, E. de, 1877a. Odonates recueillis a Madagascar, aux iles Mascareignes et Comores, determines et décrits; in: Recherches sur la faune de Madagascar



- et de ses dépendances, d'après les découvertes de François Pollen et D.C. van Dam. Leyde, J.K. Steenhoff (5): 15-25.
- Selys-Longchamps, E. de, 1877b. Synopsis des Agrionines, 5me legion: *Agrion* (suite et fin). Les genres *Telebasis*, *Argiocnemis* et *Hemiphlebia*. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 43: 97-159.
- Selys-Longchamps, E. de, 1878a. Secondes Additions au Synopsis des Cordulines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 45: 183-222.
- Selys-Longchamps, E. de, 1878b. Quatriemes additions au synopsis des Gomphines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 46: 408-471, 658-698.
- Selys-Longchamps, E. de, 1878c. Odonates de la région de la Nouvelle Guinée. I. Considérations sur la faune de la Nouvelle Guinée, des Molucces et de la Célèbes. Mitteilungen des Königlich zoologischen Museums Dresden 3: 289-322.
- Selys-Longchamps, E. de, 1878d. Note sur deux Libellules de genre *Urothemis*. Comptes-rendus des séances de la société entomologique de Belgique. Annales de la Société entomologique de Belgique 21: lxiv-lxvi.
- Selys-Longchamps, E. de, 1879. Quatrièmes Additions au Synopsis des Caloptérygines. Bulletins de l'Académie Royale des Sciences, des Lettres, et des Beaux-Arts de Belgique (2) 47: 349-409.
- Selys-Longchamps, E. de, 1882. Memorias de historia natural. Odonates des Philippines. Anales de la Sociedad Española de Historia natural 11: 5-34.
- Selys-Longchamps, E. de, 1885. Programme d'une Révision des Agrionines. In: Comptes-rendus des séances de la société entomologique de Belgique: Assemblée mensuelle du 6 décembre 1885. Annales de la Société entomologique de Belgique 29: cxli-cxlv.
- Selys-Longchamps, E. de, 1886. Revision du Synopsis des Agrionines, Première partie comprenant les legions *Pseudostigma*, *Podagrion*, *Platycnemis* et *Protonevra*). Mémoires couronnés et autres memoirs publiés par l'Académie royale des Sciences, des Lettres et des Beaux Arts de Belgique 38 (4): 233 pp.
- Selys-Longchamps, E. de, 1891. Viaggio de Leonardo Fea in Birmania e regioni vicine. XXXII. Odonates. Annali del Museo civico di Storia naturale di Genova 30 [= (2) 10]: 433-518.
- Selys-Longchamps, E. de, 1896. Causeries Odonatologiques. No. 8. *Neophlebia* et *Calophlebia*; observations sur la terminologie employee en décrivant la reticulation des ailes des Odonates. Annales de la Société entomologique de Belgique 40: 78-96.
- Selys-Longchamps, E. de, 1898. Causeries Odonatologiques. No.11 (4). Sur les noms *Euphaea* et *Calopteryx*. Annales de la Société entomologique de Belgique 42: 337-338.
- Sjöstedt, Y. 1918. Wissenschaftliche Ergebnisse der schwedischen entomologischen Reise des Herrn Dr. A. Roman in Amazonas 1914-1915. 1. Odonata. Arkiv för Zoologi 11(15): 1-54, incl. pl. 1-2.
- Staudinger, O. 1890. Lebensskizze des Dr. Paul Hahnel. Deutsche Entomologische Zeitschrift "Iris" 3: 128 – 132

- Steinmann, H. 1997. World Catalogue of Odonata: I. Zygoptera. II. Anisoptera. De Gruyter, Berlin, New York. xxi+500 & xiv+636 pp.
- Tarboton, W. & M. Tarboton, 2005. A fieldguide to the Damselflies of South Africa. Johannesburg, by the authors. 96 pp.
- Theischinger, G. & S.J. Richards, 2015. The genus *Nososticta* Hagen (Odonata: Platycnemididae) from the Papua region with descriptions of ten new species group taxa. *Odonatologica* 44(3-4): 153-224.
- Tillack, F. 2018. Rudolf Emil Mell (1878 – 1970). *Mertensiella* 27: Die Geschichte der Herpetologie und Terrarienkunde im deutschsprachigen Raum Vol. II: 258 – 264.
- Verspui, K. & M. Wasscher, 2020. Conflicting views on the status of *Orthetrum cancelatum kraepelini*. *Agrion* 24(2): 149-154.
- van Tol, J. 1987. The Odonata of Sulawesi and adjacent islands. Part 2. The genus *Diplacina* Brauer on Sulawesi. *Zoologische Mededelingen* 61: 160-176.
- van Ellenrieder, N. & R.W. Garrison, 2008. *Oreiallagma* gen. nov. with a redefinition of *Cyanallagma* Kennedy 1920 and *Mesamphiagrion* Kennedy 1920, and the description of *M. dunklei* sp. nov. and *M. ecuatoriale* sp. nov. from Ecuador (Odonata: Coenagrionidae). *Zootaxa* 1805: 1-51.
- van Ellenrieder, N. & J. Muzon, 2006. The genus *Andinagrion*, with description of *A. garrisoni* sp. nov. and its larva from Argentina (Odonata: Coenagrionidae). *International Journal of Odonatology* 9(2): 205-223.
- Wasscher, M. Th. & H.J. Dumont, 2013. Life and work of Michel Edmond de Selys Longchamps (1813-1900). *Odonatologica* 42(4): 369-402.
- Weekers, P.H. & H.J. Dumont 2004. A molecular study of the relationship between the Coenagrionid genera *Erythromma* and *Cercion*, with the creation of *Paracercion*, new genus, for the East Asiatic "*Cercion*". *Odonatologica* 33: 181-188.
- Westfall, M.J. 1988. *Elasmothemis* gen. nov. a new genus related to *Dythemis* (Anisoptera, Libellulidae). *Odonatologica* 17(4): 419-428.
- Wildermuth, H. Gonseth, Y. & A. Maibach (eds), 2005. Odonata – Die Libellen der Schweiz. *Fauna Helvetica* 12. CSCF/SEG. Neuchâtel. 398 pp.
- Wildermuth, H. & A. Martens, 2019. Die Libellen Europas. Alle Arten von den Azoren bis zum Ural im Porträt. Quelle & Meyer, Wiebelsheim. 957 pp.
- Williamson, E.B. 1899. Dragonflies of Indiana. In: Indiana Department of Geology and Natural Resources, Twenty-Fourth Annual Report: 229-333.
- Williamson, E.B. 1919. Results of the University of Michigan – Williamson Expedition to Colombia, 1916-1917. III. *Archaeogomphus*, a new genus of dragonflies (Odonata). *Occasional Papers of the Museum of Zoology, University of Michigan* 63: 6 pp.
- Wilson, K.D.P. 2019. The genus *Stylurus* and resolution of *Stylurus annulatus* (Odonata: Gomphidae) and its close allies in Asia. *Agrion* 23(1): 8-24
- Woltersdorff, W. 1915: Dr. Martin Kreyenberg †. *Abhandlungen und Berichte aus dem Museum für Natur- und Heimatkunde und dem Naturwissenschaftlichen Verein in Magdeburg* 3: 117-122.

Yu, X. & J.L. Xue, 2020. A review of the damselfly genus *Megalestes* Selys, 1862 (Insecta: Odonata: Zygoptera: Synlestidae) using integrative taxonomic methods. *Zootaxa* 4851(2): 245-270.

### Further resources

German and English wikipedia has been accessed in the time between 01. vi. 2020 – 15. xii. 2020 on behalf of the following themes:

Aethra, Amphinome, Antigone, Arachne, Artemis, Asclepiades, Atalanta, Bayadera, Bleuler Eugen, Böttcher Georg, *bromelicola*, Buettikofer Johan, Calliope, Calliste, Calypso, Carmelita, El Carmen de Viboral, Chloris, Circe, Cleopatra, Clio, Clymene, Cora, Cornelia, Diotima, Ebner Richard, Electra, Elga, Esmeralda, Essequibo, Eusebia, Ganga, Golgi Camillo, Hahnel Paul, Hesperis, Hippolyte, *Idionyx carinatus*, Jujuy, Juliana, Kreyenberg Martin, Laetitia, Lindner Erwin, Loki, Lorentz river, Mahajanga, Maia, Mell Rudolf Emil, Melpomene, Mneme, Nemesis, Nyasa, Oda, Persephone, Philippa, Phryne, Pozuzo, Rhea, Rio de Janeiro, Roux, Santa Inez, Sauter Hans, Schultze(-Jena), Simpson, Solimões, Standfuss Max, Terpsichore, Turrialba, Urania, Villavicencio, Vincentius, Yunga, Zenith. ly; at the medial-ventral margin near the base a broad, trapezoid extension, cut straight at the free margin, directly followed by a small triangular tooth; further distally the medio-dorsal margin protruding in two corrugations anterior to the spiral curve of the tip."



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Swezey, O. & F. Williams, 1942. Dragonflies of Guam. Bernice P. Bishop Museum Bulletin 172: 3-6.

Tillyard, R., 1924. The dragonflies (Order Odonata) of Fiji, with special reference to a collection made by Mr. H.W. Simmonds, F.E.S., on the Island of Viti Levu. Transactions of the Entomological Society London 1923 III-IV: 305-346.

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the 1990s, the number of people in the UK who are employed in the public sector has increased from 10.5 million to 12.5 million (12.5% of the population).

There are a number of reasons why the public sector has grown so rapidly. One of the main reasons is that the government has increased its spending on health, education and social services. This has led to a large increase in the number of people employed in these sectors. Another reason is that the government has created new public sector jobs in areas such as housing and transport.

There are a number of advantages to working in the public sector. One of the main advantages is that public sector jobs are often more secure than private sector jobs. This is because the government is unlikely to cut public sector jobs as it would have to cut other services. Another advantage is that public sector jobs often offer better benefits than private sector jobs, such as pension schemes and sick leave.

There are also a number of disadvantages to working in the public sector. One of the main disadvantages is that public sector jobs are often more bureaucratic than private sector jobs. This can lead to a slower pace of work and a lack of flexibility. Another disadvantage is that public sector jobs often offer lower wages than private sector jobs.

There are a number of ways in which the public sector can be made more efficient. One way is to reduce the number of public sector jobs. This can be done by cutting public sector spending or by increasing the productivity of public sector workers. Another way is to introduce competition into the public sector. This can be done by allowing private companies to bid for public sector contracts.

There are a number of ways in which the public sector can be made more transparent. One way is to publish information about public sector spending and performance. This can help to ensure that the public sector is accountable to the public. Another way is to introduce independent bodies to monitor public sector performance.

There are a number of ways in which the public sector can be made more accountable. One way is to introduce a system of public sector audits. This can help to ensure that public sector workers are held accountable for their actions. Another way is to introduce a system of public sector ombudsmen. This can help to ensure that the public sector is held accountable for its actions.

There are a number of ways in which the public sector can be made more effective. One way is to introduce a system of public sector performance targets. This can help to ensure that public sector workers are working towards common goals. Another way is to introduce a system of public sector performance reviews. This can help to ensure that public sector workers are being held accountable for their performance.

There are a number of ways in which the public sector can be made more efficient, more transparent, more accountable and more effective. These are some of the ways in which the public sector can be improved. It is important to ensure that the public sector is working in the best interests of the public.

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