

Appendix 2. List of illustrated species of Calopterygines, Cordulines, Gomphines and Aeschnines in the watercolour collection of Selys that are associated with a current species name by expert opinion and those associated with a possible species name.

The majority of the following species names, written by Selys on the illustrations, are linked to a current species name based on the expert opinion of several taxonomic specialists (Matjaž Bedjanič, Jürg De Marmels, KD Dijkstra, Rory Dow, Rosser Garrison, Matti Hämäläinen, Vincent Kalkman, Haruki Karube, Tom Kompier, Angelo Machado, Günther Theischinger, Jan Van Tol, Natalia Von Ellenrieder and Haomiao Zhang). Matti Hämäläinen and Rosser Garrison made major contributions in finding current species names for the Selys' names and provided reference to other experts for consultation. For those Selys' names, that are not linked to current species names, additional information and possible species names are suggested. The Selys' names are classified in the four sous-familles of Selys: Calopterygines, Cordulines, Gomphines, Aeschnines.

[] no name

Calopterygines

[] (Ca21a) [] (Ca21b). These illustrations without name refer to the species described by Selys in 1889 as *Palaeophlebia superstes* and presently known as *Epiophlebia superstes* (personal communication, Hämäläinen, 29 November 2015). Another illustration of *Palaeophlebia superstes* with a name is present in the watercolour collection (Ca22a). Current name (expert opinion) is *Epiophlebia superstes* (Selys, 1889).

Amphipteryx agrionides (Ca146a). This illustration refers to *Amphipteryx agrionides* Selys, 1853 (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Amphipteryx agrionides* Selys, 1853.

Amphipteryx argyoides (Ca147a). This illustration refers to the species *Tetraneura argyoides* that was described by Selys in 1859. The sous-genre *Tetraneura* was placed by Selys in the genus *Amphipteryx*. Mistakenly the genre name was used in the name that Selys wrote on this illustration. Kirby (1890) replaced the preoccupied genus name *Tetraneura* with *Devadatta* (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Devadatta argyoides* (Selys, 1859).

atrata (Ca140a). This illustration refers to the species described as *Calopteryx atrata* by Selys in 1853. The female wing in the illustration has no pterostigma conform the description of *Calopteryx atrata* in the Monograph written by Selys and Hagen (1854). Presently this species is known as *Atrocalopteryx atrata* (Selys, 1853) (personal communication, Hämäläinen, 29 November 2015). Other illustrations of this species are the watercolour of *Calopteryx atrata* (Ca34b) and the drawing of a wing of *Calopteryx atrata* (Ca 133a). Current name (expert opinion) is *Atrocalopteryx atrata* (Selys, 1853).

biforata (Ca170a). This drawing refers to *Heliocypha biforata* (Selys, 1859), described by Selys as *Rhinocypha biforata* in 1859 (personal communication, Hämäläinen, 29 November 2015). There is also a watercolour of *Rhinocypha biforata* (Ca116b). Current name (expert opinion) is *Heliocypha biforata* (Selys, 1859).

biseriata (Ca169a). This illustration refers to *Heliocypha biseriata* (Selys, 1859), described by Selys as *Rhinocypha biseriata* in 1859 (personal communication, Hämäläinen, 29 November 2015). This species is also depicted in the watercolour of *Rhinocypha biseriata* (Ca115b). Current name (expert opinion) is *Heliocypha biseriata* (Selys, 1859).

Calopteryx dimidiata hudsonica (Ca25a). The illustration of the male is removed and “v pl. Martin Calopt” is written in the notes on the illustration. This illustration refers to a female specimen from Hudson bay that Selys first identified as *Calopteryx virginica* Westwood (Selys & Hagen 1854) and later identified as *Calopteryx hudsonica* (Selys 1879), currently ranked as synonym of *Calopteryx aequabilis* Say, 1840 (personal communication, Hämäläinen, 29 November 2015). The locality on the textsheet TCa47 is Canada for the male and Hudson bay for the female. Current name (expert opinion) is *Calopteryx aequabilis* Say, 1840.

Cleis longistima (Ca39a). Selys described *Sapho longistima* in 1869 with the comment that he saw this species as “intermédiaire entre les Sapho et les Cleis” (intermediary between *Sapho* and *Cleis*). On this illustration he used *Cleis* as generic name for this species. *Sapho longistima* is currently a synonym of *Umma longistima*. Current name (expert opinion) is *Umma longistima* (Selys, 1869).

cruentata (Ca151a). This drawing refers to *Hetaerina cruentata* (Rambur, 1842) (personal communication, Hämäläinen, 29 November 2015). The watercolour of *Hetaerina cruentata* (Ca68b) shows just the female of this species. Current name (expert opinion) is *Hetaerina cruentata* (Rambur, 1842).

Euphaea tricolor subcostalis (Ca84b). This illustration of a male refers to *Euphaea subcostalis* that Selys described in 1873 (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Euphaea subcostalis* Selys, 1873.

Euphaea variegata aspasia (Ca4a). This illustration of a female shows a specimen of the Selys' collection with a label Sumatra (Indonesia). Most likely this illustration refers to *Euphaea aspasia* Selys, 1853 (personal communication, Hämäläinen, 29 November 2015). The watercolour of *Euphaea aspasia* depicts a young male from Sumatra (Ca2b). The localities Java and Batavia (Indonesia) and Sumatra (Indonesia) are noted in the text sheet TCa21 and TCa79 respectively. Possible name is *Euphaea aspasia* Selys, 1853.

Heliocharis batesi (Ca165a) is a manuscript name of Selys. In the notes on this sheet with two drawings of wings *Heliocharis* is followed by “amazona” that is crossed out and followed by a question mark and “Batesi” is added. In his publication of 1869 Selys described *Heliocharis* specimens in his collection that were collected by Bates. In his review of the genus *Heliocharis* Dunkle (1991) placed all named taxa in one species *Heliocharis amazona*. Although *batesi* is not mentioned in this publication, this illustration refers to *Heliocharis amazona* Selys, 1853 (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Heliocharis amazona* Selys, 1853.

H. mortua (Ca145a) and *Hetaerina mortua* (Ca66a). The illustrations are a drawing of wings (Ca145a) and a watercolour painting (Ca66a). In the last illustration a question mark followed the Selys' name indicating Selys' doubts about the identification. In the watercolour painting (Ca66a) the notes “(inexacte à corriger ailes)” indicate that the representation of the wings is incorrect. In the drawing (Ca145a) the note “exact” implies that this illustration is correct. Both illustrations refer to a *Hetaerina* species but they can not be associated with a specific species (personal communication, Garrison, 9 December 2015). Possible name is *Hetaerina* spec.

hyalina (Ca143a). This drawing shows a hindwing of the species described by Selys in 1853 as *Thore hyalina* (personal communication, Hämäläinen, 29 November 2015). The drawing of *Thore* (Ca142a) depicts the same species. Current name (expert opinion) is *Euthore hyalina* (Selys, 1853).

ina borchgravii (Ca77a). Part of sheet with the name is removed and the generic name *Hetaerina* has become incomplete. The illustration refers to *Hetaerina borchgravii*. Garrison (2006) transferred the species to the genus *Mnesarete* Cowley, 1934 (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Mnesarete borchgravii* (Selys, 1869).

Libellago asiatica (Ca104b). This watercolour illustrates a male and female specimen that Selys described as *Libellago asiatica* in 1879. Hämäläinen (1989) studied type series and stated that *Libellago asiatica* Selys 1879 is a composite species. The male is conspecific with *Cyrano unicolor* (Hagen in Selys, 1869) and the female conspecific with *Cyrano angustior* Hamalainen, 1989 (personal communication, Hämäläinen, 29 November 2015). In the text sheet TCa88 en TCa20 the localities of this species are “Dolores I. Philippines Mazzare Dolores/Mazarredo” (Philippines). Current name (expert opinion) is *Cyrano unicolor* (Hagen in Selys, 1869) for the male and *Cyrano angustior* Hamalainen, 1989 for the female.

Micromerus annulatus (Ca132b). This sheet contains no illustrations. Part of the sheet is removed with the note “voir planche Martin Calopter” next to it. The removed illustration was probably sent to Martin and never returned. In the text sheet TCA35 the locality of the female is Sintang (Indonesia). *Micromerus annulatus* is a manuscript name and in Selys’ collection a female specimen labelled with another manuscript name, *Micromerus annuliventris*, is present. In his unpublished manuscript Martin used the name *Micromerus annuligaster* (Appendix 3 Figure 1). It is conspecific with *Pachycypha aurea* described by Lieftinck from Borneo in 1950 (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Pachycypha aurea* Lieftinck 1950.

Mnais pruinosa (Ca44b). This illustration refers to *Mnais pruinosa* that was described by Selys in 1853 from a series of Japanese male specimens (Asahina 1975) (personal communication, Hämäläinen, 29 November 2015). In notes on the illustration “race de strigata?” was written. According to Hämäläinen & van Tol (2005) *Mnais pruinosa* Selys, 1853 is a valid species with *Mnais strigata* Hagen in Selys 1853 as a synonym. Current name (expert opinion) is *Mnais pruinosa* Selys, 1853.

Mnais pruinosa (Ca45a). On this illustration the notes read “(race de strigata?)”(race strigata) and “var. costalis” (variety costalis). This illustration refers to the species that was described by Selys in 1869 as *Mnais costalis* (personal communication, Hämäläinen, 29 November 2015). The possibility that *Mnais pruinosa*, *Mnais strigata* and *Mnais costalis* might constitute a single species was presented later (Selys 1873). Presently *Mnais costalis* is considered a good species (Hayashi et al. 2004). Current name (expert opinion) is *Mnais costalis* Selys, 1869.

Mnais strigata (Ca45b). The illustration shows specimens from Japan, that were described in Selys (1853) as *Mnais strigata* (personal communication, Hämäläinen, 29 November 2015). In 1873 Selys ranked *strigata* as a variety of *Mnais pruinosa*. Presently *Mnais strigata* is ranked as a synonym of *Mnais pruinosa* and can be distinguished by the hyaline wing colour of the males. See Hämäläinen & van Tol (2005) and Asahina (1975). Current name (expert opinion) is *Mnais pruinosa* Selys, 1853.

Rhinocypha cuneata (Ca109b). This watercolour shows a male specimen that was described as *Rhinocypha spuria* by Selys in 1879 (personal communication, Hämäläinen, 29 November 2015). Notes on the illustration are “var. spuria Selys” (variety spuria Selys) and presently *Rhinocypha spuria* is considered very distinct from *Rhinocypha cuneata*, Selys 1853 and *Rhinocypha fenestrella* Rambur, 1842 (Hämäläinen et al 2009)

and is placed in the genus *Aristocypha* by Laidlaw (1950). Current name (expert opinion) is *Aristocypha spuria* (Selys, 1879).

Rhinocypha fenestrella (Ca110b). The illustration shows a species Selys described as *Rhinocypha quadrimaculata* in 1853. The note “ var. quadrimaculata” (variety quadrimaculata) is added to the illustration. In 1891 Selys suggested that *Rhinocypha quadrimaculata* and *Rhinocypha spuria* might be races of *Rhinocypha fenestrella*. Presently *Rhinocypha quadrimaculata* is considered a good species (Hämäläinen et al. 2009) and is known as *Aristocypha quadrimaculata* (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Aristocypha quadrimaculata* (Selys, 1853).

Rhinocypha fulgidipennis (Ca111a). This illustration refers to *Aristocypha fulgidipennis* and the species-group name *fulgidipennis* is an erroneous spelling. Selys consistently used the wrong spelling in his publications (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Aristocypha fulgidipennis* (Guérin, 1831)

Rhinocypha interposita (Ca114b) is a manuscript name. According to text sheet TCA25 and TCA92 the male specimen was collected in Nias (an island off the western coast of Sumatra, Indonesia) and the female specimen in Bua Bua (highest point in Enggano Island off the western coast of Sumatra, Indonesia). The illustration of the male refers to *Heliocypha angusta angusta* and the depicted female refers to *Heliocypha angusta oceanis* (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Heliocypha angusta angusta* (Hagen in Selys, 1853) for the male and *Heliocypha angusta oceanis* Lieftinck, 1947 for the female.

Rhinocypha tenuis (Ca124a) is a manuscript name and in the textsheet TCA95 the locality of this specimen is Kinabalu (Malaysia). In the Selys' collection specimens with the label *Rhinocypha tenera* are placed in drawers under the name *Rhinocypha tenuis* (Hämäläinen 2009). The specimens are conspecific with *Rhinocypha moultoni* that was described by Laidlaw in 1915 from Mount Kinabalu. The illustration also refers to this species (personal communication, Hämäläinen, 29 November 2015). Current name (expert opinion) is *Rhinocypha moultoni* Laidlaw, 1915.

Sapho macrostigma (Ca41a). On the text sheet TCA55 Congo is written as locality of the male specimen. The illustration shows a female that refers to a *Sapho* species. The lack of wing bands suggests *Sapho orichalcea* but the taxonomy with *S. gloriosa* is not yet resolved (personal communication, Dijkstra, 9 December 2015). Possible name is *Sapho orichalcea* McLachan, 1869.

Sapho orichalcea (Ca42a). This illustration has a note “et var. gloriosa” (and variety gloriosa). This illustration appears to show *Sapho gloriosa* McLachlan in Selys, 1873 (Personal communication, Hämäläinen, 29 November 2015) but the taxonomic status of *Sapho orichalcea* and *Sapho gloriosa* is still unresolved (personal communication, Dijkstra, 12 October 2015). The locality on the text sheet TCA55 for young female is Cameron (Cameroon, Africa). The watercolours of *Sapho orichalcea* (Ca41b) and *Sapho gloriosa* (Ca42b) also depict the mentioned *Sapho* species. Possible name is *Sapho gloriosa* McLachlan in Selys, 1873.

Tetraphlebia argioides (Ca98a). This illustration shows *Devadatta argyoides* (Selys, 1859) (personal communication, Hämäläinen, 29 November 2015). The generic name *Tetraphlebia* was never published by Selys. He did describe *Tetraneura argioides* in 1859 and Kirby (1890) replaced the preoccupied generic name *Tetraneura* with *Devadatta*. Current name (expert opinion) is *Devadatta argyoides* (Selys, 1859).

Th. aequatorialis (Ca19a). The illustration refers to the female specimen from Equator described by Selys in 1869 as *Thore picta*, Ramb. Race ? *Aequatorialis* (personal communication, Hämäläinen, 29 November 2015). Presently this taxon is considered a synonym of *Polythore vittata* (Selys, 1869). The depicted female specimen is according to the notes on the illustration from Ecuador. It is not possible to compare this illustration with the illustration of *Thore aequatorialis* (Ca12b) because the illustration was removed from the sheet. Current name (expert opinion) is *Polythore vittata* (Selys, 1869).

Th. concinna (Ca13b). The illustration of a female from Bononaza (Ecuador) refers to *Thore concinna* McLachlan, 1881 that is currently known as *Polythore concinna* (personal communication, Hämäläinen, 29 November 2015). This species is also depicted in the watercolour of *Thore concinna* (Ca13a). Current name (expert opinion) is *Polythore concinna* (McLachlan, 1881).

Th. mutata (Ca105b). This illustration refers to *Polythore mutata* that was described by McLachlan as *Thore mutata* in 1881 (personal communication, Hämäläinen, 29 November 2015). Bononaza (Ecuador) is written as a note on the illustration. Current name (expert opinion) is *Polythore mutata* (McLachlan, 1881).

Thore gigantea (Ca17a). The notes on the illustration are “var. procera”. This illustration shows specimens of a species described as *Thore procera* by Selys in 1869 (personal communication, Hämäläinen, 29 November 2015). Calvert (1917) replaced the preoccupied generic name *Thore* with the generic name *Polythore*. The locality on the text sheet TCa33 is Intaj (Ecuador). The same species is shown in the illustration of *Thore procera* (Ca16a). Current name (expert opinion) is *Polythore procera* (Selys, 1869).

Thore picta (Ca18a). The notes on the illustration “Ramb.” suggest that the depicted damselfly is a species described by Rambur. The illustration refers to *Thore picta* described by Rambur in 1842 and fits the description in Bick & Bick (1985). Current name (expert opinion) is *Polythore picta* (Rambur, 1842).

Cordulines

[] (Co29b). No name was written by Selys on the illustration. The accompanying textsheet lists *Cordulia shurtlef*. This illustration shows *Cordulia shurtleffii* Scudder, 1866 (personal communication, Hämäläinen, 7 January 2016). Current name (expert opinion) is *Cordulia shurtleffii* Scudder, 1866.

Aeschnosoma furcifer forcipula (Co41a). This illustration refers to *Aeschnosoma forcipula* Hagen in Selys, 1871 (personal communication, Hämäläinen, 7 January 2016). Notes on illustration “*furcifer* Bates *forcipula* H.” indicate that the name given by Bates was *Aeschnosoma furcifer* and the name given by Hagen was *Aeschnosoma forcipula*. Bates published no description so his name is a manuscript name and Hagen’s name prevailed. Current name (expert opinion) is *Aeschnosoma forcipula* Hagen in Selys, 1871.

Chlorophya pygmea (Co35b). The illustration refers to *Cordulephya pygmaea* (personal communication, Hämäläinen, 7 January 2016). *Chlorophya* is a manuscript name. Notes on the illustration read “*Chlorocypha?* (*Cordulephia*)” and suggest that *Cordulephya pygmaea* is the right name. In another note Selys wrote “Melbourne (coll. Mc Lachl)”. Martin (1907: p. 9) states that specimens of *Cordulephya pygmaea* from Melbourne are in the collections of both McLachlan and Selys. Selys used in his description in 1871 (p. 316) the species name *Cordulephya pygmaea*. Current name (expert opinion) is *Cordulephya pygmaea* Selys, 1871.

Epitheca sibirica (Co27b). The notes on illustration 'Race of *E. bimaculata*' suggest that this illustration refers to *Epitheca bimaculata* (Charpentier, 1825) race *sibirica* that Selys described in 1887 (personal communication, Hämäläinen, 7 January 2016). This taxon is currently considered a subspecies of *Epitheca bimaculata* (Van Tol, 2015). Current name (expert opinion) is *Epitheca bimaculata sibirica* Selys, 1887.

Epopthalmia bivittata elegans (Co39b). This drawing of male wings with traversed discoidal cells refers to a *Epopthalmia* species. *Epopthalmia bivittata* is Selys' manuscript name. The note "elegans" seems to be added later and refers, just as the illustration, to *Epopthalmia elegans* (Brauer, 1865) (personal communication, Hämäläinen, 7 January 2016). Interestingly Selys also wrote the manuscript name *Macromia bivittata* on the watercolour depicting a female specimen (Co49a)(see below). Current name (expert opinion) is *Epopthalmia elegans* (Brauer, 1865).

Eu Cordulia Chlorosoma curtisii (Co42a). The Selys' name contains two sous-genre names written on the sheet. "Eu" and "curtisii" are easily readable but the text in between can be deciphered as "Chlorosoma" and "Cordulia". In 1850 Selys & Hagen classified *curtisii* as a *Cordulia*. In a drawing of *Somatochlora metallica* (Co38a) the notes read "2 fois ♀ Somatochlora ~~Eucordulia~~ Chlorosoma metallica". *Eucordulia* is a genus-name that must be regarded as a manuscript name and was later replaced by the generic name *Oxygastra* in which the species *curtisii* was placed (Selys, 1870). This illustration refers to *Oxygastra curtisii* (Dale, 1834) (personal communication, Hämäläinen, 7 January 2016). The drawing of the wing agrees with the illustration of *Oxygastra curtisii* in Geijskes & van Tol (1983, p. 217). Current name (expert opinion) is *Oxygastra curtisii* (Dale, 1834).

Macromia bivittata (Co49a). This illustration refers to *Macromia cincta* Rambur, 1842 (personal communication, Hämäläinen, 7 January 2016). In the text sheet TCo30 the female of *Macromia bivittata* S. is listed with the note "n. sp." (new species) and with the locality, Borneo. Martin (1907) states "deux v coll. Selys sous le nom M. bivittata" (two females in the collection of Selys under the name bivittata) are under the heading for *Macromia borneensis* Krüger, 1899. This last species is currently a synonym of *Macromia cincta*. Current name (expert opinion) is *Macromia cincta* Rambur, 1842.

Macromia carolina (Co48a) is a manuscript name. The list on the text sheet TCo30 contains the name *Macromia carolina* S. with the locality of the female of this species as "n. carol" (North Carolina). Martin (1907; p. 64) stated that Selys mentioned another related female with the name *Epopthalmia carolina* but that the insect does not exist. In the Selys' collection in RBINS however a specimen labelled *Epopthalmia carolina* and *Macromia carolina* was found. Williamson did transfer the American species in the genus *Epopthalmia* to the genus *Macromia* in 1909. The depicted specimen is a female *Macromia*. The illustration can not be specifically identified but three species seem possible: *Macromia illinoiensis* Walsh, 1862 (including *Macromia georgina* (Selys, 1878), *Macromia alleghaniensis* Williamson, 1909 and *Macromia margarita* Westfall, 1947). The distribution and the information from Martin (1907) suggest that this illustration likely refers to *Macromia georgina* (Selys, 1878) that is often considered a subspecies of *Macromia illinoiensis* Walsh, 1862 (personal communication, Garrison, 4 January 2016). The specimens in the Selys' collection need to be studied to determine if the association between *Macromia carolina* and *Macromia georgina* exists. Possible name is *Macromia illinoiensis georgina* (Selys, 1878).

Neurocordulia lepida (Co19a). This illustration refers to the species described as *Cordulia lepida* (Selys, 1871) in the Synopsis des Cordulines (personal communication, Hämäläinen, 7 January 2016). In the same publication Selys established the genus

Neurocordulia (Selys, 1871) but *lepida* was not included. The genus *Dorocordulia* was erected by Needham in 1901 and Martin (1907) transferred *lepida* to *Dorocordulia*. This species is currently known as *Dorocordulia lepida* (Hagen in Selys, 1871). Current name (expert opinion) is *Dorocordulia lepida* (Hagen in Selys, 1871).

Neurocordulia libera (Co20a). This illustration shows the species described as *Cordulia libera* (Selys, 1871) in the Synopsis des Cordulines (personal communication, Hämäläinen, 7 January 2016). In the same publication Selys created the genus *Neurocordulia* (Selys, 1871) but *libera* was not included. The genus *Dorocordulia* was erected by Needham in 1901. This species is currently known as *Dorocordulia libera*. Current name (expert opinion) is *Dorocordulia libera* (Selys, 1871).

obsoleta (Co38b). This illustration refers possibly to the species described by Selys (1871 p. 279) as *Epitheca (?) obsoleta* (personal communication, Garrison, 19 January 2016). In the same publication Selys erected *Neurocordulia* (on page 278) with *Epitheca obsoleta* in the first group. Selys stated 'Cette espèce est difficile à classer, n'ayant vue deux exemplaires dont la réticulation n'est pas identique' (This species is difficult to classify, having seen two specimens whose wing venation is not identical) (Selys 1871; p. 281). Kirby (1890; p. 50) places the species with the species group name *obsoleta* in *Neurocordulia*. Possible name is *Neurocordulia obsoleta* (Say, 1840).

princeps (Co37b). This illustration possibly refers to a male and female *Epitheca princeps* Hagen, 1861 (personal communication, Garrison, 19 January 2016). The drawing of the wing seems to agree with the illustrations in Garrison, et al. (2006; p. 157). The note on the illustration "Uhler" refers to Philip R. Uhler as the author. Possible name is *Epitheca princeps* Hagen, 1861.

semiaquea (Co36b). This illustration may refer to *Epitheca semiaquea* (Burmeister, 1839) or *Epitheca cynosura* (Say, 1840). Martin (1907; p. 42) places race *semiaquea* Burmeister, 1839 under the species *Tetragoneuria cynosura*, currently known as *Epitheca cynosura* (Say, 1840). The drawing of the hindwing has colouration that seems inconsistent with the appearance of either species but the drawing is possibly just an outline of the venation only. Considering the shape of cells, the cell in the heel of the anal field seems more trapezium-shaped (suggesting *Epitheca semiaquea*) than triangular-shaped (suggesting *Epitheca cynosura*) (personal communication, Garrison, 19 January 2016). Possible name is *Epitheca semiaquea* (Burmeister, 1839).

Somatochlora irregularis (Co9b). This combination of generic and species name is not known. Selys noted S. (for Selys) as the author of this species on the illustration. Martin (1907; p. 16) refers to *Procordulia irregularis* as a new species from collection of Selys with the note " (Selys ms.)" (Selys manuscript). The illustration seems almost certainly refers to *Procordulia irregularis* (personal communication, van Tol, 17 January 2016). Current name (expert opinion) is *Procordulia irregularis* Martin, 1907.

Tetragoneura lateralis (Co22b)(Co23a). The note "cynosura" was written on both illustrations next to the species name. This illustration refers to *Epitheca cynosura* (Say, 1840)(personal communication, Garrison, 19 January 2016). *Tetragoneura* was not used as a genus-group name by Selys in 1871 but he mentioned *Cordulia lateralis*, *Epophthalmia lateralis* and *Libellula cynosura* as synonyms of *Cordulia cynosura*. Garrison et al. (2006) states that *Epophthalmia lateralis* is a synonym of *Epitheca cynosura*. Current name (expert opinion) is *Epitheca cynosura* (Say, 1840).

truncata (Co21b). This illustration refers to *Epitheca canis* (McLachlan, 1886) (personal communication, Garrison, 19 January 2016). On the text sheet TCo15 *Tetragoneura truncata* is listed and Martin (1907; p. 43) mentioned specimens in the collection of Selys with the manuscript name *Tetragoneuria truncata* that match the

description of *Tetragoneuria canis*. This last species is currently known as *Epitheca canis* (McLachlan, 1886). Current name (expert opinion) is *Epitheca canis* (McLachlan, 1886)

Gomphines

Aphylla floridana (Go104b and Go105a) is a manuscript name. The illustration resembles *Aphylla williamsoni* (personal communication, Garrison, 18 February 2016). Current name (expert opinion) is *Aphylla williamsoni* (Gloyd, 1936).

Aphylla dlheringi (Go96a) is a manuscript name. The illustration refers to a species of *Aphylla* and possibly a Brazilian species due to the species-group name that refers likely to the nature researcher Hermann von Ihering, who worked in Brasil from 1880 to 1920. (personal communication, Garrison, 18 February 2016). Possible name is *Aphylla spec.*

Cyanogomphus mexicanus (Go83a). This Selys' name is a manuscript name. The depicted female represents a somewhat pale specimen of *Erpetogomphus eutainia* Calvert (personal communication, Garrison, 1 February 2016). A label "Cyanogomphus? mexicanus n. sp. coll. R. Martin" on a female specimen from Honduras in MHNP (Paris) was examined by Garrison and this is considered to be *Erpetogomphus eutainia* (Garrison 1994). The note on the illustration in the watercolour collection "R. Martin" suggest the depicted specimen could be the examined specimen from the collection of Martin. Current name (expert opinion) is *Erpetogomphus eutainia* Calvert, 1905.

Erpetogomphus menetriesi (Go26b). This illustration of a female is likely based on a female in the Selys' collection of RBINS studied by Garrison (1994). He considers *menetriesii* a nomen dubium and identified the two female specimens with Selys' labels as *Erpetogomphus eutainia* Calvert, 1905 (personal communication, Garrison, 1 February 2016). Current name (expert opinion) is *Erpetogomphus eutainia* Calvert, 1905.

genei (Go16b). This illustration refers to *Paragomphus genei* (personal communication, Garrison, 18 February 2016) that was described as *Gomphus genei* by Selys in 1841. Notes on the illustration are "Partagne croquis dans une lettre de M. Albert Girard. 18 juin 1883. ♂ exselsus Costa sardaigne" (segmentation drawn in a letter of M. Albert Girard 18 June 1883 ♂ exselsus Carter Sardinia). *Gomphus excelsus* Costa, 1884 is a synonym of *Paragomphus genei*. The illustration is dated 3 December 1885. Current name (expert opinion) is *Paragomphus genei* (Selys, 1841).

Gomphidia chinensis (Go115b) is a manuscript name and the depicted gomphid represents *Gomphidia confluens* that is described by Selys in 1878 (personal communication, Garrison, 18 February 2016) (personal communication, Zhang, 22 February 2016). Current name (expert opinion) is *Gomphidia confluens* Selys, 1878.

Gomphidia ecornuta (Go116b). This illustration of a female refers to *Sinictinogomphus clavatus* that was described by Fabricius in 1775 (personal communication, Zhang, 22 February 2016). Current name (expert opinion) is *Sinictinogomphus clavatus* (Fabricius, 1775).

Gomphidia icterhinia (Go117b) is a manuscript name. In text sheet TGO46 the locality of this species is S. Java (Indonesia). The illustration might refer to *Gomphidia javanica* Förster because the thoracic pattern seems to fit that of this species (Schmidt 1934) (personal communication, Garrison, 18 February 2016). Possible name is *Gomphidia javanica* Förster, 1899.

Gomphus fluviatilis (Go53b) is a manuscript name. The illustration does not resemble the species *Gomphus fluvialis* Walsh, 1862 that is listed in Selys (1869). It does not represent a North American *Gomphus* species and may depict a Palaearctic species of *Gomphus* (personal communication, Garrison, 18 February 2016). Possible name is *Gomphus* spec.

Gomphus fruhstorferi (Go66a) is a manuscript name. The locality for this species is listed as Java on text sheet TGo19. In the Selys' collection in RBINS a specimen with the label "Gomphus fruhstorferi" also has a label with the text "♂ Burmagomphus javicus Schmidt det. M. A. Lieftinck 1939". The taxon *javicus* is currently considered a subspecies of *Burmagomphus williamsoni*. Current name (expert opinion) is *Burmagomphus williamsoni javicus* Schmidt, 1934.

Gomphus icterops (Go58a). This illustration refers to *Megalogomphus icterops* (personal communication, Dow, 3 June 2016). This species was mentioned by Martin in 1902 as a probable undescribed species in the collection of Selys with the name *Heterogomphus icterops* and he provided a brief description in this publication. Current name (expert opinion) is *Megalogomphus icterops* (Martin, 1902).

Gomphus melanogaster (Go70a) is a manuscript name. In the Selys' collection in RBINS the specimen with the label "Gomphus melanogaster S ♂" has also a label that reads "Gomphus consanguis ♂ Typus! Selys det. Dr. Erich Schmidt 1937". Another green label is attached with the text "N Carolina Morrison". This species is recently transferred to the genus *Stenogomphus* (Ware et al. 2016). Current name (expert opinion) is *Stenogomphus consanguis* Selys, 1879.

Gomphus nigrilabris (Go64b) is a manuscript name. The depicted specimens resemble *Davidius lunatus* (personal communication, Garrison, 18 February 2016) (personal communication, Zhang, 22 February 2016). Possible name is *Davidius lunatus* Bartenef, 1914.

Heterogomphus circularis (Go6b). *Heterogomphus* is possibly a misspelling of the generic name *Heterogomphus* that was a pre-occupied and replaced by *Onychogomphus*. This illustration refers possibly to the species described as *Onychogomphus circularis* by Selys in 1894. This species is currently placed in the genus *Orientogomphus* (Chao & Xu 1987) and is known from Myanmar and Laos (Manh, 2011). Possible name is *Orientogomphus circularis* (Selys, 1894).

Ictinus microphyllus (Go118a). The illustration refers to a species of *Ictinogomphus* (personal communication, Garrison, 18 February 2016). Possible name is *Ictinogomphus* spec.

Leptogomphus transiens (Go69a). This illustration refers to a *Burmagomphus* species. It resembles in some aspects *Burmagomphus divaricatus* Lieftinck, 1964 but the appendages in lateral view are very different (personal communication, Zhang, 22 February 2016). Possible name is *Burmagomphus* spec.

Macrogomphus ceylonicus (Go42a and Go42b) was not used by Selys in publications and is a manuscript name. The illustrated specimens clearly resemble a *Macrogomphus* species. In Sri Lanka, formerly known as Ceylon, two *Macrogomphus* species occur. The two depicted females resemble *Macrogomphus lankanensis* that was described by Fraser in 1933 (personal communication, Bedjanič, 21 February 2016). Possible name is *Macrogomphus lankanensis* Fraser, 1933

Microgomphus furcifer (Go37b) is a manuscript name. The appendages do resemble those of *Microgomphus* species and the depicted specimen is possibly associated with a *Microgomphus* species (personal communication, Garrison, 18 February 2016). Possible name is *Microgomphus* spec.

O. hageni (Go18a). This illustration could refer to *Onychogomphus hagenii* Selys, 1871, that is a synonym of *Paragomphus genei* Selys, 1841. The notes on the illustration “*Onychogomphus lacustris* Karsch?” suggest another possibility. *Onychogomphus lacustris* is currently known as *Paragomphus lacustris* (Karsch, 1890). Selys wrote Tanganica as locality on the illustration. The illustration mostly resembles *Paragomphus lacustris* but an association with the other *Paragomphus* species is still a possibility (personal communication, Dijkstra, 20 February 2016). Possible name *Paragomphus* spec.

Onychogomphus bicornutus (Go4b). The illustrated female from Japan has a manuscript name. The illustration refers to *Melligomphus viridicostus* that was described as *Lindenia viridicosta* by Oguma in 1926 (personal communication, Karube, 27 February 2016). Current name (expert opinion) is *Melligomphus viridicostus* (Oguma, 1926).

Onychogomphus cerastis/biforceps (Go5b). The notes clarify that *cerastis* is added for a not depicted female. The illustrated male is labelled by Selys as *Onychogomphus biforceps*. This refers to *Onychogomphus biforceps* Selys, 1878 that is currently known as *Lamelligomphus biforceps*. Current name (references) is *Lamelligomphus biforceps* (Selys, 1878).

Ophiogomphus obsoletus (Go29b) is a manuscript name. Notes on the illustration “*c'est severus jeune*” indicate *Ophiogomphus severus* Hagen, 1874 as a possible name. The illustration matches reasonably well with the appearance of this last species in the photos in Paulson (2011). The illustration refers to *Ophiogomphus severus* (personal communication, Garrison, 18 February 2016). Current name (expert opinion) is *Ophiogomphus severus* Hagen, 1874.

Ophiogomphus quadricornis (Go31a) is a manuscript name of Selys. This illustration refers to a *Ophiogomphus* species (personal communication, Garrison, 18 February 2016; Zhang personal communication February 22, 2016). Possible name is *Ophiogomphus* spec.

Petalia apicalis (Go136a) is not in use. The illustration refers to *Phyllopetalia apicalis* that Selys described in 1858 (personal communication, Garrison, 18 February 2016). Current name (expert opinion) is *Phyllopetalia apicalis* Selys, 1858.

Ph. apicalis (Go136b). This refers to *Phyllopetalia apicalis* Selys, 1858 (personal communication, Garrison, 18 February 2016). Current name (expert opinion) is *Phyllopetalia apicalis* Selys, 1858.

Progomphus heterogenus (Go87b) is a manuscript name. In the collection of Selys in RBINS a specimen with this name on the label has two labels with the text “*à decire*” and “*Progomphus polygonus* Selys J Belle 1971 lectotype ♀”. *Progomphus polygonus* was described by Selys in 1879. Current name (expert opinion) is *Progomphus polygonus* Selys, 1879.

stictica (Go137b and Go141a). This illustration refers possibly to *Phyllopetalia stictica* Hagen in Selys, 1858 (personal communication, Garrison, 18 February 2016). Current name (expert opinion) is *Phyllopetalia stictica* Hagen in Selys, 1858.

Aeschnines

[] (Ae16a). On this illustration no species name has been written and the prior textsheet TAe38 contains the name *Triacanthagyna trifida* (Rambur, 1842). Male appendages shape, T-spot shape and wing venation agree with *Triacanthagyna trifida* (personal communication, von Ellenrieder, 2 May 2016). Colors of preserved specimens in this genus (unless done with acetone) tend to become dull-brown and that can

explain that the colours differ from the colours in the photos of this species in Paulson (2011). Current name (expert opinion) is *Triacanthagyna trifida* (Rambur, 1842).

[] (Ae27a). No species name is written on this illustration but on the accompanying text sheet T Ae44 *Mesogyna idae* and *Mesogyna uninervulata* are written with Borneo as the locality for both. This illustration refers to *Heliaeschna uninervulata* Martin, 1909 based on the characteristic single crossvein in the median space of the wings (Martin 1909; Orr 2003) Martin (1909) mentioned a specimen of this species is present in the Selys' collection. Current name (expert opinion) is *Heliaeschna uninervulata* Martin, 1909.

Acanthaeschna godeffroyi (Ae59a). The illustration most likely refers to *Telephlebia godeffroyi* even though the main characters of the species on top of frons and the shape of the anal appendages cannot clearly be recognized (personal communication, Theischinger, 6 May 2016). Selys described *Telephlebia godeffroyi* in 1883. Theischinger designated a lectotype for this species (Theischinger 1985). Current name (expert opinion) is *Telephlebia godeffroyi* Selys, 1883.

Ae. Affinis (Ae75a). This illustration refers to *Aeshna affinis*. Current name (expert opinion) is *Aeshna affinis* Vander Linden, 1820.

Aeschna benedeni (Ae44b) is a manuscript name. The localities written by Selys on text sheet T Ae28 and T Ae47 are not clear (♂ Org*** ♂ Mn. orguer). Based on the appendages and the wing venation the illustration refers most likely to a *Rhionaeschna* species in the *punctata* group (personal communication, von Ellenrieder, 2 May 2016). Named probably after Edouard Van Beneden who accompanied Walthère de Selys Longchamps on his travels in Brazil, Uruguay and Argentina in 1872 and 1873. Possible name is *Rhionaeschna* spec (*punctata* group).

Aeschna circumcincta/ martini (Ae45a). The name *martini* is written in blue next to *circumcincta* on the illustration. *circumcincta* is a manuscript name. *Aeschna martini* is described by Selys in 1897 (Causerie 10) and is currently known as *Anaciaeschna martini* (Selys, 1897). The large illustration is cut out and this missing illustration is possibly printed in Martin 1908 (planche 1 figure 4; page 97). This figure 4 resembles photo's in the Dragonflies of Taiwan of Liang-Jong Wang (2000; p.226). Some small illustrations are still present on the sheet. The small illustrations also seems to fit with *Anaciaeschna martini*. Possible name is *Anaciaeschna martini* (Selys, 1897).

Aeschna intermixta (Ae34b) is a manuscript name but in text sheet T Ae47 *Aeschna californica* Hagen is noted next to this Selys' name and the locality listed as Washington territory. The illustration refers to *Aeschna californica* that is a nomen nudum from Hagen in 1877 and described by Calvert in 1895 (personal communication, von Ellenrieder, 2 May 2016). This species is currently known as *Rhionaeschna californica*. Current name (expert opinion) is *Rhionaeschna californica* (Calvert, 1895).

Aeschna natalensis (Ae33b) is a manuscript name. The illustration refers to *Anaciaeschna triangulifera* (personal communication, Dijkstra, 2 May 2016). Current name (expert opinion) is *Anaciaeschna triangulifera* McLachlan, 1896.

Aeschna punctata (Ae44a) was described by Martin in 1908 and was based partly on specimens from the collection of Selys (Bridges, 1994). Machado (1985) states that a male specimen in the Selys collection from Brazil with *Eschna punctata* on the label may not be conspecific with the types of *Aeschna punctata* in the collection of Martin. One male in the collection of Martin was designated a lectotype of *Aeschna punctata* by Machado. By the shape of the appendages the depicted specimen belongs to the *punctata* group of the genus *Rhionaeschna*, defined by Machado (1984, 1985). This group contains the following species: *R. decensus* (Calvert, 1956), *R. eduardoi* (Machado,

1984), *R. itatiaia* (Carvalho & Salgado, 2004), *R. punctata* (Martin, 1908) and *R. serrana*, (Carvalho & Salgado 2004). The illustrated species differs from all these species by having the mesepisternum apparently throughout yellow, whereas in the other species the yellow color is reduced to a stripe occupying only a part of it. So, assuming that the drawing is correct, Machado is almost convinced that it represents an undescribed species (personal communication, Machado, 3 June, 2016). Possible name is *Rhionaeschna* spec. (*punctata* group).

albifrons (Ae72b) is not in use as a species-groupname in the Aeshnidae so it represents a manuscript name of Selys. Absence of crossveins in supratrangles could indicate a species in the *Rhionaeschna* 'Neureclipsa' group. *Rhionaeschna bonariensis* has a parallel sided T-spot stem as depicted, but the abdominal color pattern does not match, and the pale antehumeral stripes are not as long as depicted (only about a third of mesanepisternum to absent) in any of the species of this group. Supratriangle also lacks crossveins in *Gomphaeschna* and some *Oligoaeschna* in the *O. pryeri* group. *Gomphaeschna* species have less crossveins in triangles and anal loop however, so it might be a species of *Oligoaeschna* (personal communication, von Ellenrieder, 2 May 2016). Possible name is *Oligoaeschna* spec.

Allopetalia reticulata reticulosa (Ae50b). This illustration seems to represent an *Allopetalia* species (personal communication, Garrison, 2 May 2016). This illustration may very well be *Allopetalia reticulosa*, that was described by Selys in 1873 (De Marmels, personal communication 2 May 2016). Possible name is *Allopetalia reticulosa* Selys, 1873.

Anax cyanoverum formosus (Ae73a). *Anax cyanoverum* is a manuscript name. The illustration refers to *Aeschna formosa* Vander Linden, 1823 that is currently a synonym of *Anax imperator* Leach, 1815. Notes on the illustration: "Indique d'amer. par erreur" (Indicated as American by mistake). The illustration fits with the appearance of *Anax imperator*. Current name (expert opinion) is *Anax imperator* Leach, 1815.

Anax maculifrons (Ae4b) is a manuscript name. The locality for this species in the text sheet TAe31 is Male Koulou (himalaya). The illustration refers to *Anax nigrofasciatus* (personal communication, Kalkman, 24 October 2016). The forehead has a distinct T-spot and the pattern of spots on the abdomen is reasonable similar to the pattern of this species. Current name (expert opinion) is *Anax nigrofasciatus* Oguma, 1915.

Cephalaeschna connexa (Ae63b) is a manuscript name. The locality for the male is Naini Tal (India) (Text sheet TAe65). This illustration seems to depict a *Cephalaeschna* species (personal communication, Kalkman, 24 October 2016). Possible name is *Cephalaeschna* spec.

Corduliaeschna acutifrons (Ae65a). This illustration possibly refers to *Caliaeschna acutifrons* that was described by Martin in 1909 with the note "nov sp type coll Selys" (new species type collection Selys). The current name for this species is *Cephalaeschna acutifrons*. The illustration refers to a *Cephalaeschna* species based in the appendages (personal communication, Kompier, 2 May 2016). Possible name is *Cephalaeschna* spec.

Gynacantha flavistyla (Ae20b) is a manuscript name of Selys. The locality is noted as "♂ mexique" or "♂ Putla mex" in text sheet TAe24, TAe40 and TAe41. This refers to Mexico and the place Putla near Oaxaca in SW Mexico. The depicted dragonfly seems to represent *Gynacantha helenga* Williamson & Williamson, 1930 (personal communication, von Ellenrieder, 2 May 2016). Possible name is *Gynacantha helenga* Williamson & Williamson, 1930.

Gynacantha megastima (Ae24b) is a manuscript name. The illustrated specimen seems to be a *Gynacantha* species but the lack of details on the caudal appendages makes it not possible to associated this illustration with a species name (personal communication, von Ellenrieder, 2 May 2016). Possible name is *Gynacantha* spec.

Gynacantha obscuripennis /gracilis (Ae18b). This illustration refers to *Gynacantha membranalis* that Karsch described in 1891 (personal communication, von Ellenrieder, 2 May 2016). This species is of the *Gynacantha gracilis* group. On the illustration the name “gracilis” was written in blue next to the name *Gynacantha obscuripennis*, possibly at a later date. The notes “orbig blanch” (likely author) and “falco Bates” (manuscript name of Bates) were also added. In tekstsheets TAe24 and TAe40 the locality amazone and caballo/caballo/cabula is listed. Current name (expert opinion) is *Gynacantha membranalis* Karsch, 1891.

Gynacantha stylata/khasiaca (Ae21b). Under the only illustration the name *stylata* is crossed out and *khasiaca* is added. The note “race nigripes” refers to *Gynacantha nigripes* Martin, 1909 that is considered a synonym of *Gynacantha khasiaca* that is described by McLachlan in 1896. On text sheets TAe14 and TAe24 Thibet is written as locality. This fits the range of *Gynacantha khasiaca*. This species is found in India, Bangladesh, Myanmar, Nepal (Tsuda, 2000). *Gynacantha stylata* is nowadays limited to the Seychelles (Tsuda 2000). However the light bands on the thorax, characteristic for *Gynacantha khasiaca*, are not present in the watercolour (personal communication, Kompier, 2 May 2016). Possible name is *Gynacantha khasiaca* McLachlan, 1896.

Gynacantha subtuberculata (Ae25a) is a manuscript name. The locality is Borneo (tekst sheet TAe20 and TAe42). The depicted male resembles a *Gynacantha* species (personal communication, van Tol, 20 December 2016) and the depicted female is Aeshnidae spec which is not closely related to the male and probably does not originate from Borneo (personal communication, Kalkman & Orr & Theischinger, 24 December 2016). Possible name is *Gynacantha* spec for the male and Aeshnidae spec. for the female.

Hoplonaeschna Allopetalia reticulata (Ae50a). The many names on this illustration are confusing. The only drawing is cut out and placed back. On both part of the sheet names are written. The name on the larger part without an illustration is written in bigger characters “hoplonaeschna ~~Allopetalia~~ reticulata”. “hoplonaeschna” is the only name written in blue and seems to be added later. On the small part is written “Hoplonaeschna reticulata” overwritten with “Allopetalia ...losa” in darker ink. *Hoplonaeschna* Karsch 1891 is an unjustified replacement name for *Oplonaeschna* Selys 1883. The illustration resembles an *Allopetalia* species (personal communication, Garrison, 2 May 2016). This illustration may very well be *Allopetalia reticulosa*, that was described by Selys in 1873 (personal communication, De Marmels, 2 May 2016). Possible name is *Allopetalia reticulosa* Selys, 1873.

idae (Ae26a). This species-group name seems to be a spelling mistake for *idae*. The illustration of a female refers to a *Heliaeschna* species. This refers to either *Heliaeschna idae* (Brauer, 1865) or *Heliaeschna crassa* Krüger, 1899. Females of these species are inseparable (Orr, 2003). Possible name is *Heliaeschna* spec.

Mesogyna idae (Ae26b). The note “Brauer” suggest that this illustration refers to *Gynacantha idae* Brauer, 1865. This species is currently known as *Heliaeschna idae*. In Martin’s publication (1909) on the collection of Selys *Heliaeschna idea* Brauer is listed. The depicted male refers to *Heliaeschna idae* and the depicted female resembles both *Heliaeschna idae* (Brauer, 1865) and *Heliaeschna crassa* Krüger, 1899 that are

inseparable (Orr, 2003). Current name for the male is *Heliaeschna idae* (Brauer, 1865) and possible name for the female is *Heliaeschna spec.*

Nasiaeschna cavinasa (Ae71a). In text sheet TAe72 “cavinasa” is crossed out and “pentacantha R” is added. Martin (1909) mentioned only one *Nasiaeschna* species in the collection of Selys: *Nasiaeschna pentacantha* (Rambur, 1842). This illustration refers possibly to *Nasiaeschna pentacantha*. The colour pattern bears however not much resemblance with the photos in Paulson (2011). Possible name is *Nasiaeschna pentacantha* (Rambur, 1842).

Orooeschna petalura (Ae46a). This refers to *Aeshna petalura* that was described by Martin in 1908 based on specimens of the Selys' collection. The locality according to the text sheets TAe7 and TAe50 is ♀ at Kiva ♀ phulloh. Habitat of *Aeshna petalura* according to Martin (1908) is Khasia Hills, Darjeeling, India. The characteristic appendages in the illustration of the watercolour collection resemble those in the illustration of *Aeshna petalura* in Martin (1908). In the collection in Brussel specimens are present. The label next to the specimens reads “Aeshna? petalura Selys two Orooeschna”. Illustrations in black and white of the characteristic appendages are positioned next to the specimens. Current name (expert opinion) is *Aeshna petalura* Martin, 1908.

Synaeschna/ Cephalaeschna masoni (Ae63a). This illustration refers possibly to *Cephalaeschna masoni* that was described as *Caliaeschna masoni* by Martin in 1909. The types of this species are in the collection of Selys. Possible name is *Cephalaeschna masoni* (Martin, 1909).