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Mélanie Turiault

A catalogue of the types of Protoneurinae and Disparoneurinae deposited in the Museum für Naturkunde in Berlin (Odonata)

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A catalogue of the types of Protoneurinae and Disparoneurinae deposited in the Museum für Naturkunde in Berlin (Odonata)

Mélanie Turiault¹

¹Uhlenhorster Straße 23, 12555 Berlin, Germany

Email: melanieturiault@msn.com

Abstract

A catalogue of all types of subfamilies Protoneurinae and Disparoneurinae currently housed in the entomological collection of the Museum für Naturkunde – Leibniz Institute for Evolution and Biodiversity Science in Berlin (Germany) is presented. It includes current status of the family-group, genus-group and species-group names, transcriptions of data labels and references to the original descriptions.

Key words: Odonata, damselfly, Zygoptera, catalogue, collection locality, collector, verbatim label, type, *Allocnemis contraria* (Schmidt, 1951), *Allocnemis flavipennis* (Selys, 1863), *Allocnemis superba* (Schmidt, 1951), *Elattoneura cellularis* (Grünberg, 1902), *Prodasineura verticalis* (Selys, 1860), *Nososticta africana* (Schmidt, 1944), *Neoneura carnatica* Hagen in Selys, 1886.

Introduction

Following publications on the type material of Calopterygidae (Turiault, 2016) as well as Isostictidae, Dicteriadidae, Argiolestidae and Megapodagrionidae (Turiault, 2017) in the Museum für Naturkunde in Berlin, Germany, I treat here representatives of the New World Protoneurinae and Old World Disparoneurinae. I follow Dijkstra et al. (2013) where the New World Protoneuridae are sunk within Coenagrionidae and Old World Protoneuridae are transferred to Platycnemididae.

This project was undertaken in order to provide curatorial information for taxonomists in accordance with Recommendation 74G of the International Code of Zoological Nomenclature. No lectotypes have been designated since »lectotype designations should be done as part of a revisionary or other taxonomic work in order to enhance the stability of nomenclature, and not for mere curatorial convenience« (ICZN 1999).

Only a few photographs of type material accompany this paper (Figs 1–6); the remainder can be accessed on the internet (<http://www.digicoll.info/search>). The transcription of data labels follows Turiault (2016, 2017) where each number in parentheses refers to a label attached to a specimen and a forward slash (/) indicates a line break.

MNB – Museum für Naturkunde, Berlin, Germany; **RBINS** – Royal Belgian Institute of Natural Sciences; **NHMV** – Naturhistorisches Museum in Wien; **MCZ** – Museum of Comparative Zoology – Harvard University.

List of species-group names bearing type material
Old World Protoneurinae and Diparoneurinae

***Chlorocnemis contraria* Schmidt, 1951**

Status: available species-group name; valid species

Currently: *Allocnemis contraria* (Schmidt, 1951)

Type material. One male; collecting locality: Großer Kamerunberg, Ekona-Bavinga, Cameroon; collector: E. Hintz.

Verbatim label data male 78c175: (1) [a piece of abdomen adhered to the label]; (2) »Gr. Kamerunberg / Ekona - Bavinga / 22.X.1910 400 600m / E. Hintz S. G.« [printed]; (3) »Holo.« [handwritten] / »Typus« [printed]; (4) »Chlorocnemis / contraria ♂ / Typus n. sp.« [handwritten] / »det. Dr. Erich Schmidt 19« [printed], »43« [handwritten]; (5) »http://coll.mfn-berlin.de/u/78c175« [printed].

Notes. Schmidt wrote: »Material: Zool. Mus. Univ. Berlin: Gr. Kamerunberg, Ekona-Bavinga, 400 – 600 m, 22. X. 1910, 1 ♂, etwas juv., leg. E. Hintz.«. The mentioned male found in the Berlin collection is the holotype.

***Chlorocnemis nubilipennis* Karsch, 1893**

Status: available species-group name; junior synonym

Currently: *Allocnemis flavipennis* (Selys, 1863)

Type material. Three males; collecting locality: Bismarckburg, Togo; collector: Dr. Richard Büttner.

Verbatim label data male 78c16d: (1) [pieces of abdomen, wings and legs in an envelope paper]; (2) »Typus« [printed]; (3) »Bismarckburg / Togoland / R. Büttner S.« [printed]; (3 – on the reverse side) »20/IX - 15/X / 1980.« [handwritten]; (4) »Chlorocnemis / nubilipennis ♂ / Typus / Karsch« [handwritten] / »det. Dr. Erich Schmidt 19« [printed], »43« [handwritten]; (5) »Chlorocnemis / [2 words not readable] Selys.« [handwritten]; (6) »Chlorocnemis / nubilipennis Karsch / ♂-Syntype« [handwritten] / »det [scratched]. K. K. Günther 199« [printed], »3« [handwritten]; (7) »Chlorocnemis nubilipennis / Karsch, 1893 ♂ / Lectotypus / Des. Carfi & D'Andrea / 1993« [printed]; (8) »Chlorocnemis flavipennis / Selys, 1863 ♂ / Det. S. Carfi & M. D'Andrea, / 1993« [printed]; (9) »http://coll.mfn-berlin.de/u/78c16d« [printed].

Verbatim label data male 78c16e: (1) »Syntypus« [printed]; (2) »Togo / Bismarckburg / 15.12.-31.12.90. / R. Büttner S.« [printed]; (3) »Chlorocnemis / nubilipennis Karsch / ♂-Syntype« [handwritten], / »det. [scratched] K. K. Günther 199« [printed], »3« [handwritten]; (4) »Chlorocnemis nubilipennis / Karsch, 1893 ♂ / Paralectotypus / Des. Carfi & D'Andrea / 1993« [printed]; (5) »Chlorocnemis flavipennis / Selys, 1863 ♂ / Det. S. Carfi & M. D'Andrea, / 1993« [printed]; (6) »http://coll.mfn-berlin.de/u/78c16e« [printed].

Verbatim label data male 78c16f: (1) »Togo / Bismarckburg / 20.7.-20.9.90 / R. Büttner S.« [printed]; (2) »http://coll.mfn-berlin.de/u/78c16f« [printed].

Notes. Karsch described this species based on at least three males: »Chlorocnemis nubilipennis nov. spec. ♂«, »♀ fehlt.«, »Fangzeiten: 20. Juli bis 20. September 1890, ♂; 20. September bis 15 October 1890, ♂; 15. – 31. December 1890, ♂; Bismarckburg.« and included measurement ranges for abdomen and hind wings: »Hinterleib 32 – 35, Hinterflügel 20 – 21 mm lang.«. From these three syntypes, Carfi and D'Andrea (1994: 142) designated male 78c16d as lectotype and also "designated" male 78c16e as paralectotype, an action that was unnecessary according to the code (»74.1.3. The valid designation of a lectotype permanently deprives all other specimens that were formerly syntypes of that nominal taxon of the status of syntype [Art. 73.2.2]; those specimens then become paralectotypes.«). Male 78c16f is not listed by the authors as examined type material and has no specific label, but the data on the first label (»20.7-20.9.90«) matches those specified by Karsch in the original description, as do the length of the abdomen (35 mm) and hind wing (21 mm). This specimen obviously belongs to the original type series and became paralectotype in consequence of the lectotype designation. Carfi and D'Andrea (1994) treated this species-group name as synonym of *Allocnemis flavipennis* (Selys, 1863).

***Chlorocnemis superba* Schmidt, 1951**

Status: available species-group name; valid species

Currently: *Allocnemis superba* (Schmidt, 1951)

Type material. One male; collecting locality: Virgin forest, West of Ruwenzori, North-West Beni; collector: Herzog Adolf Friedrich z. Mecklenburg.

Verbatim label data male 78c170: (1) [a piece of abdomen adhered to the label]; (2) »Westl. v Ruwenzori / N. W. Beni (Urwald) / 1.08« [printed]; (3) »Exped. : Herzog / Adolf Friedrich / z. Mecklenburg« [printed]; (4) »Typus« [printed]; (5) »Chlorocnemis / superba / ♂ / n. sp. / Typus« [handwritten] / »det. Dr. Erich Schmidt 19« [printed], »43« [handwritten]; (6) »<http://coll.mfn-berlin.de/u/78c170>« [printed].

Notes: Schmidt wrote: »Material: Zool. Mus. Univ. Berlin: N. W. Beni, Urwald, westlich v. Ruwenzori, l. 1908, 1 ♂, Exped. Herzog Adolf Friedrich z. Mecklenburg. Das einzige ♂ ist [...]«. The male is the holotype. Pinhey (1969: 242) considered *superba* a subspecies of *marshalli* Ris, 1921, but Clausnitzer (2004: 194) and Dijkstra and Clausnitzer (2014: 49) treated it as a valid species.

***Disparoneura cellularis* Grünberg, 1902**

Status: available species-group name; valid species

Currently: *Elattonneura cellularis* (Grünberg, 1902)

Type material. One male; collecting locality: Nyassa-Lake, Langenburg, Tansania; collector: Fülleborn.

Verbatim label data male 78c17c: (1) »NOTE! penis lying / loose inside cap!« [handwritten]; (2) »Nyassa-See / Langenburg / 22.XI.-7.XII.98 / Fülleborn S.« [printed]; (3) »cellularis n. sp. / Disparoneura ♂ / n. sp. [scratched] / [word not readable] -vit- / tata Selys?« [handwritten]; (4) »Typus« [printed]; (5) [piece of abdomen in an envelope paper]; (6) [penis in a plastic cap]; (7 – front) »LECTOTYPE ♂ / Elattoneura / cellularis / des. KD Dijkstra / 26/1/04« [handwritten & scratched]; (7 – back) »Nach Rück- / sprache mit K. / D. Dijkstra / HOLOTYPE«; (8) »http://coll.mfn-berlin.de/u/78c17c« [printed].

Notes. Grünberg wrote: »♀ unbekannt.« and »Fundort: Langenburg. 1 ♂ (Torso)«. The male in Berlin has an accompanying lectotype label dated 2004 by K.-D. Dijkstra. After consulting Dr. Dijkstra we agreed that this specimen is the holotype since Grünberg based his description on only one male from Langenburg.

***Disparoneura delia* Karsch, 1891**

Status: available species-group name; valid species

Currently: *Prodasineura verticalis* (Selys, 1860)

Type material. Two females; collecting locality: Deli, Sumatra; collector: L. Martin.

Verbatim label data female 78c17e: (1) [a piece of abdomen adhered to the label]; (2) »6581« [printed]; (3) »Typus« [printed] / »von« [handwritten]; (4) »Deli Sumatra / L. Martin G.« [printed]; (5) »Disparoneura / delia Karsch / *« [handwritten]; (6) »http://coll.mfn-berlin.de/u/78c17e« [printed].

Verbatim label data female 78c176: (1) [a piece of abdomen adhered to the label]; (2) »Deli Sumatra / L. Martin G.« [printed]; (3) »Typus« [printed] / »von« [handwritten]; (4) »http://coll.mfn-berlin.de/u/78c176« [printed].



Figure 1. *Disparoneura delia* Karsch, 1891, junior synonym of *Prodasineura verticalis* (Selys, 1860); syntype female in coll. MNB (♀ 78c17e), lateral view.



Notes. Karsch based his description on two females: »2. *Disparoneura delia* n. sp. – 2♀.«. Both syntypes are in the Berlin collection. This taxon has been treated as a subspecies of *Prodasineura verticalis* (Selys, 1860) or as a synonym of that species, but its true status is complex and requires a revision of the group.

Figure 2. *Disparoneura delia* Karsch, 1891, junior synonym of *Prodasineura verticalis* (Selys, 1860); syntype female in coll. MNB (♀ 78c17e), labels.

***Notoneura africana* Schmidt, 1944**

Status: available species-group name; valid species

Currently: *Nososticta africana* (Schmidt, 1944)

Type material. One male; collecting locality: New Britain; collector: unknown.

Notes. Selys based his description on at least one male and one female providing the following measurements: »Abdomen ♂ 32, ♀ 28. Aile inférieure ♂ 17, ♀ 19.« and »Patrie: Bahia, Brésil, Mus. de Berlin. (Coll. Hagen et De Selys).«. In the original description, Selys states that there are »11 postcubitales«; but in his revised (1886) description cites »10-11 postcubitales«. Abdominal segments 3-10 of the male in the Berlin collection are glued to a label making it difficult for an exact measurement to be made, but my measurement of the entire abdomen (about 31-32 mm) tallies with the data given in the original description. The hind wing length (17 mm) also matches those given by Selys. The male in Berlin has 10 postnodal crossveins on the left and 11 on the right indicating that Selys may have originally cited the postnodal crossveins on the right wing of this male. This specimen could belong to the original type series and if so, can be considered a syntype. According to the original description syntypes were housed in Berlin and in Hagen and Selys' collections. Garrison (pers. comm.) found 4 possible syntypes (3 males and 1 female) in the collection of the MCZ. Re-

Figure 3. *Notoneura africana* Schmidt, 1944, synonym of *Nososticta africana* (Schmidt, 1944); holotype male in coll. MNB (♂ 78c17d), lateral view.



Figure 4. *Notoneura africana* Schmidt, 1944, synonym of *Nososticta africana* (Schmidt, 1944); holotype male in coll. MNB (♂ 78c17d), labels.

ference to the collector »Gomez« may refer to Francisco Agostinho Gomes (1769-1842) a collector for Johann Centurius Count von Hoffmannsegg (Papavero 1971: 48); Selys' original description (1860: 458 [30 separate]) heads the description of this species »IDIONEVRA ANCILLA, Hoffmannsegg, MS« and again (Selys 1886: 197): »IDIONEVRA ANCILLA, Hoffmannsegg; Selys«.

New World Protoneurinae

***Idioneura ancilla* Selys, 1860**

Status: available species-group name; valid species

Currently: *Idioneura ancilla* Selys, 1860

Type material. One male; collecting locality: Bahia, Brazil; collector: Gomez.

Verbatim label data male 78c179: (1) [abdominal segments 3-10 glued to the label]; (2) »Typus« [printed]; (3) »Idioneura / ancilla« [handwritten]; (4) »Bahia / Gomez« [handwritten]; (5) »2896« [printed]; (6) »<http://coll.mfn-berlin.de/u/78c179>« [printed].

Notes. Selys based his description on at least one male and one female providing the following measurements: »Abdomen ♂ 32, ♀ 28. Aile inférieure ♂ 17, ♀ 19.« and »Patrie: Bahia, Brésil, Mus. de Berlin. (Coll. Hagen et De Selys).«. In the original description, Selys states that there are »11 postcubitales«; but in his revised (1886) description cites »10-11 postcubitales«. Abdominal segments 3-10 of the male in the Berlin collection are glued to a label making it difficult for an exact measurement to be made, but my measurement of the entire abdomen (about 31-32 mm) tallies with the data given in the original description. The hind wing length (17 mm) also matches those given by Selys. The male in Berlin has 10 postnodal crossveins on the left and 11 on the right indicating that Selys may have originally cited the postnodal crossveins on the right wing of this male. This specimen could belong to the original type series and if so, can be considered a syntype. According to the original description syntypes were housed in Berlin and in Hagen and Selys' collections. Garrison (pers. comm.) found 4 possible syntypes (3 males and 1 female) in the collection of the MCZ. Reference to the collector »Gomez« may refer to Francisco Agostinho Gomes (1769-1842) a collector for Johann Centurius Count von Hoffmannsegg (Papavero 1971: 48); Selys' original description (1860: 458 [30 separate]) heads the description of this species »|DIONEVRA ANCILLA, Hoffmansegg, MS« and again (Selys 1886: 197): »|DIONEVRA ANCILLA, Hoffmansegg; Selys«.

***Neoneura carnatica* Hagen in Selys, 1886**

Status: available species-group name; valid species

Currently: *Neoneura carnatica* Hagen in Selys, 1886

Type material. One male; collecting locality: nearby Cárdenas, Cuba; collector: Gundlach.

Verbatim label data male 78c16c: (1) »4144« [printed]; (2) »Paratypus« [printed]; (3) »Protoneura / carnatica / Hag. *« [handwritten]; (4) »Cuba Gundl.« [handwritten]; (5) »<http://coll.mfn-berlin.de/u/78c16c>« [printed].

Notes. Hagen based his description on at least one mature ♂ and one mature ♀ (»Abdomen ♂ 31; ♀ 28, Aile inférieure ♂ 20; ♀ 20«), as well as a young ♂ (e.g. »♂ plus jeune«). He also mentioned: »Patrie: Cuba sur les ruisseaux aux environs de Cardenas,

par MM. Poey et Gundlach. Coll. Selys, Mac Lachlan.«. The young ♂ in the Berlin Museum has to be considered syntype. The whereabouts of the mature ♂ and ♀ are not known. Garrison (1999: 354-355) in his revision of the genus states: »TYPES. – Probably in IRSN [=RBINS]. This species was first mentioned by HAGEN (1867) without description as "on stream[s] about Cardenas, April." The first description is by Hagen in SELYS (1886), where the deposition for material examined is "Coll. Selys, Mac-Lachlan." KIMMINS (1970) does not list the types as in the BMNH.«



Figure 5. *Neoneura carnatica* Hagen in Selys, 1886; syntype male in coll. MNB (♂ 78c16c), lateral view.



Figure 6. *Neoneura carnatica* Hagen in Selys, 1886; syntype male in coll. MNB (♂ 78c16c), labels.

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