

COMMENTED CHECKLIST OF THE ODONATA OF SURINAM

J. BELLE*

Onder de Beumkes 35, NL-6883 HC Velp, The Netherlands

Received March 26, 2001 / Revised and Accepted June 12, 2001

A list is given of 283 spp. and ssp., referable to 87 genera of 15 families. Some additional taxa are evidenced but remain unidentified. Notes are supplied on some spp.; *Hetaerina cruentata* (Ramb.), *Argia extranea* (Hag.), *Phyllocycla signata* (Hag.), *Phyllogomphoides audax* (Hag.), *Dythemis sterilis* Hag., *D. velox* Hag., *Erythrodiplax attenuata* (Kirby), *E. ochracea* (Burm.), *E. aequatorialis* Ris and *Perithemis waltheri* Ris are deleted from the national list.

INTRODUCTION

In his recent World List, TSUDA (2000) catalogued 196 species that were so far published from Surinam. The below list covers all the 282 species currently known to occur in that country. Most of these were evidenced during 1938-1965 by the late Dr D.C. Geijskes; merely ca 60 species were documented in the older literature. By 1953, when I became involved in field exploration of the Surinamese odonate fauna (1953-1965), his collection included ca 240 species.

Save for the Gomphidae, the listing is mainly based on the identifications by Geijskes, while liberal use has also been made of the Internet presentation by Dr D.R. Paulson. The lay-out of the checklist follows as much as possible that of DE MARMELS (1990) for the Venezuelan Odonata.

CHECKLIST OF DRAGONFLIES RECORDED FROM SURINAM

[up to March 2001]

The Checklist includes (94) Zygoptera species (in 31 genera, 11 families) and 189 Anisoptera species (in 56 genera, 4 families). The asterisked (*) taxa are commented upon on pp. 5-6.

* Author deceased 21 August 2001.

- Calopterygidae*
HETAERINA Selys, 1853
dominula Selys, 1853
laesa Hagen in Selys, 1853
majuscula Selys, 1853
moribunda Selys, 1853
mortua Hagen in Selys, 1853
MNESARETE Cowley, 1934
cupraea (Selys, 1853)
- Megapodagrionidae*
DIMERAGRION Calvert, 1913
percubitale Calvert, 1913
HETERAGRION Selys, 1862
ictericum Williamson, 1919
melanurum Williamson, 1919
simulatum Williamson, 1919
OXYSTIGMA Williamson, 1919
cyanofrons Williamson, 1919
williamsoni Geijskes, 1976
- Rimanelidae*
RIMANELLA Needham, 1934
arcana (Needham, 1933)
- Dicteriastidae*
DICTERIAS Selys, 1853
cothurnata (Förster, 1906)
- Heliocharitidae*
HELIOCHARIS
amazona Selys, 1853
- Polythoridae*
POLYTHORE Calvert, 1917
picta (Rambur, 1842)
- Lestidae*
LESTES Leach, 1815
basidens Belle, 1997
curvatus Belle, 1997
- * *falcifer* Sjöstedt, 1918
mediorufus Calvert, 1909
- * *sublatus* Hagen in Selys, 1862
tenuatus Rambur, 1842
trichonus Belle, 1997
- Perilestidae*
PERILESTES Hagen in Selys, 1862
attenuatus Selys, 1886
kahli Wllmsn & Wllmsn, 1924
solutus Wllmsn & Wllmsn, 1924
PERISSOLESTES Kennedy, 1941
guianensis Wllmsn & Wllmsn, 1924
 1 unidentified species
- Protoneuridae*
EPIPLEONEURA Williamson, 1915
capilliformis (Selys, 1886)
- fuscaenea* Williamson, 1915
lamina Williamson, 1915
pereirai Machado, 1985
spatulata Racenis, 1960
EPIPOTONEURA Williamson, 1915
nehalennia Williamson, 1915
NEONEURA Selys, 1860
- * *bilinearis* (Selys, 1860)
gaida Racenis, 1953 → *syn wt*
joana Williamson, 1917
mariana Williamson, 1917
myrthea Williamson, 1917
curriventris Selys, 1860 *cf nbn*
sylvatica Hagen in Selys, 1886
 4 unidentified species
PHASMONEURA Williamson, 1916
exigua (Selys, 1886)
PROTONEURA Selys, 1857
calverti Williamson 1915
tenuis Selys, 1860
PSAIRONEURA Williamson, 1915
tenuissima (Selys, 1886)
Coenagrionidae
ACANTHAGRION Selys, 1876
abunae Leonard, 1977
adustum Williamson, 1916
apicale (Selys, 1876)
chacoense Calvert, 1909
indefensum Williamson 1916
luteum Racenis, 1958
rubrifrons Leonard, 1977
 2 unidentified species
AEOLAGRION Williamson, 1917
dorsale (Burmeister, 1839) *cf*
flammeum (Selys, 1876)
ARGIA Rambur 1842
fumigata Hagen in Selys, 1865
insipida Hagen in Selys, 1865
oculata Hagen in Selys, 1865, *pa*
thespis Hagen in Selys, 1865
translata Hagen in Selys, 1865
- * 3 unidentified species
INPABASIS Santos, 1961
eliasi Santos, 1961
ISCHNURA Charpentier, 1840
capreolus (Hagen, 1861)
fluvialis Selys, 1876
hastata (Say, 1839)
ramburii (Selys, 1850)
LEPTAGRION Selys, 1876
aculeatum Santos, 1965

- croceum* (Burmeister, 1839)
LEPTOBASIS Selys, 1877
mammilaris Calvert, 1909 → *Tubana*
vacillans Hagen in Selys, 1877
 1 unidentified species
METALEPTOBASIS Calvert 1907
brysonima Williamson, 1915
cyanolineata Wasscher, 1998
fernandezii Racenis, 1955
mauritia Williamson, 1915
tetragena Calvert, 1948
weibezahni Racenis, 1955
NEHALENNIA Selys, 1850
minuta (Selys, 1857) ssp.
OXYAGRION
egleri (Santos, 1961)
TELEBASIS Selys, 1865
carminita Calvert, 1909
demerarum (Williamson, 1917) → *o-*
sanguinalis Calvert, 1909 → *simulata*
 1 unidentified species
Pseudostigmatidae
MECISTOGASTER Rambur, 1842
linearis (Fabricius, 1777)
lucetia (Drury, 1773)
ornata Rambur, 1842
MICROSTIGMA Rambur, 1842
maculatum Hagen in Selys, 1860
Aeshnidae
ANAX Leach, 1815
amazili Burmeister, 1839
concolor Brauer, 1865
CASTORAESCHNA Calvert, 1952
castor (Brauer, 1865)
CORYPHAESCHNA Williamson, 1903
adnexa (Hagen, 1861)
viriditas Calvert, 1952
GYNACANTHA Rambur, 1842
auricularis Martin, 1909
gracilis (Burmeister, 1839)
interioris Williamson, 1923
klagesi Williamson, 1923
laticeps Williamson, 1923
litoralis Williamson, 1923
membranalis Karsch, 1891
mexicana Selys, 1869
nervosa Rambur, 1842
tenuis Martin, 1909
NEURAESCHNA Hagen, 1867
calverti Kimmins, 1951
claviforcipata Martin, 1909
cornuta Belle, 1989
costalis (Burmeister, 1839)
harpya Martin, 1909
STAUROPHLEBIA Brauer, 1865
auca Kennedy, 1937
reticulata (Burmeister, 1839) ssp.
wayana Geijskes 1959
SUBAESCHNA Martin, 1909
francesca Martin, 1909
TRIACANTHAGYNA Selys, 1883
caribbea Williamson, 1923
 * *dentata* (Geijskes, 1943)
ditzleri Williamson, 1923
satyrus (Martin, 1909)
septima (Selys, 1857)
Gomphidae
AGRIOGOMPHUS Selys, 1869
ericae (Belle, 1966)
sylvicola (Selys, 1869)
APHYLLA Selys, 1854
brevipes (Selys, 1854)
dentata (Selys, 1859)
producta (Selys, 1854)
 * *simulata* (Belle, 1964)
ARCHAEOGOMPHUS Williamson, 1919
hamatus (Williamson, 1918)
nanus Needham, 1944
CACOIDES Cowley, 1934
latro (Erichson, 1848)
EBEGOMPHUS Needham, 1944
conchinus (Williamson, 1916)
demerarae (Selys, 1894)
minutus (Belle, 1970)
DESMOGOMPHUS Williamson 1920
tigrivensis Williamson, 1920
EPIGOMPHUS Hagen in Selys, 1854
hylaesus Ris, 1918
IDIOGOMPHOIDES Belle, 1984 (supp.)
 * *ictinia* (Selys, 1878) (supp.)
MELANOCACUS Belle, 1985
mungo (Needham, 1940)
PHYLLACYCLA Calvert, 1948
modesta Belle, 1970
neotropica Belle, 1970
ophis (Selys, 1869)
PHYLOGOMPHOIDES Belle, 1970
andromeda (Selys, 1869)
atlanticus (Belle, 1970)
cristatus (Needham, 1944)
fuliginosus (Hagen in Selys, 1854)
major Belle, 1984

- undulatus* (Needham, 1944)
PROGOMPHUS Selys, 1854
approximatus Belle, 1966
brachycnemis Needham, 1944
conjectus Belle, 1966
geijskesi Needham, 1944
guyanensis Belle, 1966
pijpersi Belle, 1966
tibialis Belle, 1973
ZONOPHORA Selys, 1854
batesi Selys, 1869 ssp.
calippus Selys, 1869
surinamensis Needham, 1944 ssp.
- Corduliidae**
AESCHNOSOMA Selys, 1870
auripennis Geijskes, 1970
elegans Selys, 1871
forcipula Hagen in Selys, 1871
PARACORDULIA
sericea (Selys, 1871)
- Libellulidae**
ANATYA Kirby, 1889
guttata (Erichson, 1848)
ARGYROTHEMIS Ris, 1911
- * *argentea* Ris, 1911
BRACHYMESIA Kirby, 1889
furcata (Hagen, 1861)
herbida (Gundlach, 1889)
BRECHMORHOGA Kirby, 1894
praedatrix Calvert, 1909
DASYTHEMIS Karsch, 1889
esmeralda Ris, 1910
essequiba Ris 1919
DIASTATOPS Rambur, 1842
dimidiata (Linnaeus, 1758)
obscura (Fabricius, 1775)
pullata (Burmeister, 1839)
DYTHEMIS Hagen, 1861
multipunctata Kirby, 1894 ssp.
ELASMOTHEMIS Westfall, 1988
cannacrioides (Calvert, 1906)
williamsoni (Ris, 1919)
ELGA Ris, 1911
leptostyla Ris, 1911
ERYTHEMIS Hagen, 1861
attala (Selys, 1857)
credula (Hagen, 1861)
haematogastra (Burmeister, 1839)
mithroides (Brauer, 1900)
peruviana (Rambur, 1842)
plebeja (Burmeister, 1839)
- * 1 unidentified species
ERYTHRODIPLAX Brauer, 1868
amazonica Sjöstedt, 1918
angustipennis Borror, 1942
basalis (Kirby, 1897)
castanea (Burmeister, 1839)
erratica (Erichson, 1848)
famula (Erichson, 1848)
fervida (Erichson, 1848)
fusca (Rambur, 1842)
juliana Ris, 1911
latimaculata Ris, 1911
laurentia Borror, 1942
longitudinalis (Ris, 1919)
maculosa (Hagen, 1861)
minuscule (Rambur, 1842)
paraguayensis (Förster, 1904)
- * *umbrata* (Linnaeus, 1758)
unimaculata (De Geer, 1773)
FYLGIA Kirby, 1889
amazonica Kirby, 1889 ssp.
GYNOTHEMIS Calvert, 1909
uniseta Geijskes, 1972
IDIATAPHE Cowley, 1934
batesi (Ris, 1913)
cubensis (Scudder, 1866)
longipes (Hagen, 1861)
LEPTHEMIS Hagen, 1861
vesiculosa (Fabricius, 1775)
LIBELLULA Linnaeus, 1758
- * *herculea* Karsch, 1889
MACROTHEMIS Hagen, 1868
brevidens Belle, 1983
delia Ris, 1913
declivata Calvert, 1909
extensa Ris, 1913
flavescens (Kirby, 1897)
hemichlora (Burmeister, 1839)
musiva Calvert, 1898
polyneura Ris, 1913
pumila Karsch, 1889
MIATHYRIA Kirby, 1889
marcella (Selys, 1857)
simplex (Rambur, 1842)
MICRATHYRIA Kirby, 1889
aequalis (Hagen, 1861)
artemis Ris, 1911
atra (Martin, 1897)
catenata Calvert, 1909
coropinae Geijskes, 1963
dido Ris, 1911

- didyma* (Selys, 1857)
dythemoides Calvert, 1909
hippolyte Ris, 1911
laevigata Calvert, 1909
mengeri Ris, 1919 ssp.
ocellata dentiens Calvert, 1909
pseudeximia Westfall, 1992
spinifera Calvert, 1909
surinamensis Geijskes, 1963
tibialis Kirby, 1897
MISAGRIA Kirby, 1889
calverti Geijskes, 1951
parana Kirby, 1889
NEPHEPELTIA Kirby, 1889
flavifrons (Karsch, 1889)
p. phryne (Perty, 1834)
NOTHODIPLAX Belle, 1984
dendrophila Belle, 1984
OLIGOCLADA Karsch, 1889
abbreviata (Rambur, 1842) ssp.
amphinome Ris, 1919
pachystigma Karsch, 1889
rhea Ris, 1911
risi Geijskes, 1984
sylvia (Kirby, 1889)
walkeri Geijskes, 1931
ORTHEMIS Hagen, 1861
aequilibris Calvert, 1909
attenuata (Erichson, 1848)
biolleyi Calvert, 1906
concolor Ris, 1919
cultriformis Calvert, 1899
* *ferruginea* (Fabricius, 1775)
flavopicta Kirby, 1889
regalis Ris, 1910
sibylla Ris, 1919
PANTALA Hagen, 1861
flavescens (Fabricius, 1798)
PERITHEMIS Hagen, 1861
cornelia Ris, 1910
electra Ris, 1930
lais (Perty, 1834)
mooma Kirby, 1889
thais Kirby, 1889
PLANIPLAX Muttkowski, 1910
arachne Ris, 1912
phoenicura Ris, 1912
RHODOPYGIA Kirby, 1889
cardinalis (Erichson, 1848)
geijskesi Belle, 1964
hollandi Calvert, 1907
pruinosa Buchholz, 1953
TAURIPHILA Kirby, 1889
argo (Hagen, 1869)
australis (Hagen, 1867)
THOLYMIS Hagen, 1867
citrina (Hagen, 1867)
TRAMEA Hagen, 1881
basilaris burmeisteri Kirby, 1889
binotata (Rambur, 1842)
calverti Muttkowski, 1910
cophysa Hagen, 1867
minuta De Marmels & Racenis, 1962
rustica De Marmels & Racenis, 1962
URACIS Rambur, 1842
fastigiata (Burmeister, 1839)
imbuta (Burmeister, 1839)
infumata (Rambur, 1842)
ovipositorix Calvert, 1909
siemensii Kirby, 1897
ZENITHOPTERA Selys, 1869
fasciata (Linnaeus, 1758)
viola Ris, 1910

NOTES AND COMMENTS

LESTES FALCIFER Sjöstedt. – As kindly brought under my attention by Dr J. De Marmels (pers. comm., 12 March 1998) and Dr R.W. Garrison (pers. comm., 4 Dec. 1998), my *L. edentatus* BELLE, 1997 is conspecific with this Brazilian species. Save for minor differences in coloration, the Surinamese males perfectly agree with SJÖSTEDT's (1918) description and figure. The female allotype is described in my 1997 paper.

LESTES SUBLATUS Hagen in Selys, 1862. – In the same letter (see above) Dr Garrison informed me that upon the examination of the holotype, Dr J. Muzón expressed

the opinion, *L. sublatus* appears a junior synonym of *L. alacer* Hagen from Central America.

NEONEURA BILINEARIS Selys. – As apparent from a letter by Miss C. Longfield to Dr M.A. Liefinck (1947), J. Cowley was of the opinion that specimens from Pará, i.e. the type specimens, taken by Bates, are not identic with those described from British Guyana by WILLIAMSON (1917). Dr D.C. Geijskes has examined the Selysian material in the Brussels Museum and has agreed with Cowley's suggestion. It is likely, therefore, the Surinamese "*bilinearis*" may be referable to an undescribed species

ARGIA, unidentified species. – I have sent the specimens to the late Mrs L.K. Gloyd. She responded on 2 Feb. 1976: "I found no new species in your *Argia* collection that were not represented in other material studied to date. However, I was pleased to see the additional specimens, especially your number 17. Three of the species retained for further study are definitely new ones ..."

TRIACANTHAGYNA DENTATA (Geijskes, 1947). – Near Zanderij airport I have collected 2 males which deviate from the typical *dentata* in having significantly more robust superior caudal appendages. They could represent an infraspecific form.

APHYLLA SIMULATA Belle. – It is very similar to *A. dentata* Selys, but its male caudal appendages are sometimes much more robust, and the metepimeron coloration varies greatly. It could be an infraspecific form of *A. dentata*.

IDIOGOMPHOIDES ICTINIA (Selys). – It is known from a single exuviae. The identification is based on supposition. See also BELLE (1992).

ARGYROTHEMIS ARGENTEA Ris. – The specimens from Surinam have a broad dark band in the wings of both sexes.

ERYTHEMIS, unidentified species. – A single female from Washabo is possibly referable to an undescribed species.

ERYTHRODIPLAX UMBRATA (Linnaeus). – A broad dark band occurs between nodus and stigma in males, but very rarely in females.

LIBELLULA HERCULEA Linnaeus. – It is often placed in the subgenus *Belonia*.

ORTHEMIS FERRUGINEA (Fabricius). – I distinguish the inland and the coastal form. They differ in the red body coloration.

SPECIES DELETED FROM THE CHECKLIST

HETAERINA CRUENTATA (Rambur, 1842). – Has a range from Brazil and Colombia (GARRISON, 1990) to Mexico, but it has never been seen in Surinam. GARRISON (1990) suspected the three Surinamese males listed by SELYS (1859) were mislabelled.

ARGIA EXTRANEA (Hagen, 1861). – Not recorded from Surinam after SELYS (1865). For its range see TSUDA (2000).

PHYLLOCYCLA SIGNATA (Hagen in Selys, 1854). – NEEDHAM's (1944) record is based on a misidentification of *P. modesta* Belle, 1970.

PHYLLOGOMPHOIDESAUDAX (Hagen in Selys, 1854). – Actually known only from the holotype (Brazil; cf. BELLE, 1984) but, due to an error in SELYS & HAGEN (1858), it was mentioned erroneously for Surinam by BELLE (1970).

DYTHEMIS STERILIS Hagen, 1871. – Ranging from Argentina to Mexico (cf. TSUDA, 2000), it has not been seen in Surinam since HAGEN's (1875) listing.

DYTHEMIS VELOX Hagen, 1861. – Recorded from Surinam by CALVERT (1906), but not encountered ever since. For its range, see TSUDA (2000).

ERYTHRODIPLAX ATTENUATA (Kirby, 1889). – Listed by HAGEN (1875), but not confirmed.

ERYTHRODIPLAX OCHRACEA (Burmeister, 1842). – Listed by HAGEN (1875), but not confirmed.

ERYTHRODIPLAX AEQUATORIALIS Ris, 1911. – Described from Surinam as a subspecies in *ochracea*, it is a subjective synonym of *E. famula* (Erichson), as pointed out by BRIDGES (1993; cf. also BORROR, 1942).

PERITHEMIS WALTHERI Ris, 1910. – The 3 Surinamese males, referred to in the original description, are said to be "sehr wahrscheinlich falsch etikettiert und ... von Espirito Santo stammend" (RIS, 1910). In his subsequent generic revision, RIS (1930) questioned the status of the taxon. DUNKLE (1982) postulated the probability of a synonymy with *P. icteroptera* (Selys), which synonymy was confirmed by e.g. VON ELLENRIEDER & MUZÓN (1999).

ACKNOWLEDGEMENT

I wish to express my warmest thanks to Prof. Dr B. KIAUTA (Bilthoven) for his critical reading of the checklist and for his valuable corrections in the text of the comments. The galleys were checked by Drs J. VAN TOL (Leiden) and M. WASSCHER (Utrecht).

REFERENCES

- BELLE, J., 1970. Studies on the South American Gomphidae (Odonata) with special reference to the species from Surinam. *Stud. Fauna Suriname* 11: 1-158; pls 1-2 excl..
- BELLE, J., 1984. A synopsis of the South American species of Phyllogomphoides, with a key and descriptions of three new taxa (Odonata, Gomphidae). *Tijdschr. Ent.* 127: 79-95.
- BELLE, J., 1992. Studies on ultimate instar larvae of neotropical Gomphidae, with the description of *Tibigomphus* gen. nov. (Anisoptera). *Odonatologica* 21: 1-24.
- BELLE, J., 1997. The genus *Lestes* (Odonata: Lestidae) Leach, 1815, in Surinam. *Zool. Meded. Leiden* 71(11): 89-103.
- BORROR, D.J., 1942. A revision of the libelluline genus *Erythrodiplax* (Odonata). Ohio St. Univ., Columbus [*Contr. Zool. & Ent.*, No. 4].
- BRIDGES, C.A., 1993. *Catalogue of the family-group, genus-group and species-group names of the Odonata of the World*. Bridges, Urbana.
- CALVERT, P.P., 1906. Neuroptera – Odonata. *Biologia cent.-am.* 2: 213-308.
- DE MARMELS, J., 1990. An updated checklist of the Odonata of Venezuela. *Odonatologica* 19(4): 333-345.
- DUNKLE, S.W., 1982. *Perithemis rubita* spec. nov., a new dragonfly from Ecuador (Anisoptera):

- Libellulidae). *Odonatologica* 11(1): 35-39.
- GARRISON, R.W., 1990. Synopsis of the genus *Hetaerina* with descriptions of four new species (Odonata: Calopterygidae). *Trans. Am. ent. Soc.* 116(1): 175-259.
- HAGEN, H.A., 1875. Synopsis of the Odonata of America. *Proc. Boston Soc. nat. Hist.* 18: 20-96.
- NEEDHAM, J.G., 1944. Further studies on neotropical gomphine dragonflies (Odonata). *Trans. Am. ent. Soc.* 69: 171-234; pls 14-16 excl.
- RAMBUR, P., 1842. *Histoire naturelle des insectes: névroptères*. Roret, Paris.
- RIS, F., 1910. Libellulinen monografisch bearbeitet. *Collns zool. de Sélys Longchamps* 11: 245-384.
- RIS, F., 1930. A revision of the libellulinae genus *Perithemis* (Odonata). *Misc. Publs Mus. Zool. Univ. Mich.* 21: 1-50.
- SÉLYS LONGCHAMPS, E. de, 1854. Monographie des calopterygines. *Mém. Soc. Liège* 9: v-xi, 1-291.
- SÉLYS LONGCHAMPS, E. de, 1865. Synopsis des agrionines, 5me légion: Agrion. *Bull. Acad. Belg.* (II) 20(8): 375-417 (1-45 sep.).
- SÉLYS LONGCHAMPS, E. de & A.H. HAGEN, 1858. Monographie des gomphines. *Mém. Soc. r. Sci. Liège* 11: 257-720 (viii + 460 pp. sep.), 23 pls; 5 tabs excl.
- SJOSTEDT, Y., 1918. Wissenschaftliche Ergebnisse der schwedischen entomologischen Reise des Herrn Dr. A. Roman in Amazonas 1914-1915 (1 Odonata). *Ark. Zool.* 11(15): 1-54, pls 1-2 excl.
- TSUDA, S., 2000. *A distributional list of World Odonata*. Tsuda, Osaka.
- VON ELLENRIEDER, N. & J. MUZÓN, 1999. The Argentinean species of the genus *Perithemis* Hagen (Anisoptera: Libellulidae). *Odonatologica* 28(4): 385-398.
- WILLIAMSON, E.B., 1917. The genus *Neoneura* (Odonata). *Trans. Am. ent. Soc.* 43: 211-246, pls 9-19 excl.