

## AN UPDATED CHECKLIST OF THE ODONATA OF VENEZUELA

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An annotated checklist is given of 449 spp. and 6 ssp., referable to 116 genera of 14 families. Additional taxa are evidenced, but remain unidentified. 16 spp. that are to be deleted from the Venezuelan list are commented upon in an Appendix.

### INTRODUCTION

More than twenty years ago RACENIS (1966) compiled the first checklist of the Venezuelan Odonata. His "preliminary list" includes many undescribed species (*nomina nuda*) which in the aftermath were described frequently under a different name, or still await description. Others had to be synonymized since, or changed their generic position. No fewer than 16 genera and 65 species or subspecies could be added to the Venezuelan fauna over the last two decades (cf. Tab. I), while at least two genera and many species and subspecies recorded from this country erroneously, either by Racenis or by other authors, had to be deleted from the national list. PAULSON (1983), in a recent attempt to compile a "working list" of the Odonata for each South American country, eliminated Racenis' *nomina nuda* from the Venezuelan list and included some additional records, but otherwise continued to largely rely upon Racenis' data.

A critical revision of all Venezuelan records allows now the presentation of an updated checklist which can serve as a basis for future studies. All species and subspecies mentioned in the list are either represented in the MIZA collection (Museo del Instituto de Zoología Agrícola), or their occurrence in Venezuela has been reliably demonstrated. The sequence of the families tries to reflect their phylogenetic relationship. For each family the genera, species and subspecies are listed alphabetically; the species are numbered.

For several taxa the ordinal number in the list is accompanied by an additional

Table I  
 Odonata of Venezuela, status September 1989. Totals by families, genera and species/subspecies (only those identified included). In brackets figures taken from RACENIS (1966), including the unidentified or undescribed species (*nomina nuda*)

Family	Genera	Species and subspecies
Calopterygidae [Agrionidae]	3(3)	20(17)
Polythoridae	5(2)	10(6)
Heliocharitidae [Dicteriidae]	1(1)	1(2)
Megapodagrionidae	7(6)	24(20)
Rimanellidae [Pseudolestidae]	1(1)	1(1)
Lestidae [Lestidae + Perilestidae]	4(3)	14(13)
Platystictidae	1(1)	6(5)
Protoneuridae	5(5)	33(21)
Coenagrionidae	20(21)	73(77)
Pseudostigmatidae	4(3)	9(8)
Aeshnidae	10(10)	42(33)
Gomphidae	13(7)	50(21)
Corduliidae	5(3)	5(4)
Libellulidae [Libellulidae + Macrodiplacidae]	37(34)	167(162)
<i>Totals: 14(16)</i>	<i>116(100)</i>	<i>455(390)</i>

number. In these cases a short comment about their taxonomic status, Venezuelan record, synonyms or any other point of interest is given in Appendix I. The inclusion of full distributional data for all species and comments concerning their status of survival would have been desirable. Such information, however, goes beyond the limits of a checklist. A distributional atlas may be published at a later opportunity.

In the list the authors of the taxa are cited in accordance with DAVIES & TOBIN (1984, 1985), but their systematic and nomenclatorial arrangement has not always been followed.

In *Argia* Rambur only the fully determined species represented in the MIZA collection are mentioned. In this and in other genera many Venezuelan species remain unidentified or undescribed. The existence of such species is indicated for each genus.

In Appendix II a list of species and subspecies is given which were recorded from Venezuela erroneously, but have not so far been deleted from the list by any author. For each case the reasons for the deletion are quoted.

## CHECKLIST

## Calopterygidae

*HETAERINA* Selys, 1853

- (1) *amazonica* Sjöstedt, 1918
- (2) *c. caia* (Drury, 1773)
- (2a) *caia dominula* Selys, 1853
- (3) *capitalis* Selys, 1873
- (4) *cruentata* (Rambur, 1842)
- (5) *erythrocalamus* Garrison, 1990
- (6) *laesa* Hagen in Selys, 1853
- (7) *medinai* Racenis, 1968
- (8) *miniata* Selys, 1879
- (9) *moribunda* Selys, 1853
- (10) *mortua* Hagen in Selys, 1853
- (11) *occisa* Hagen, 1853
- (12) *sanguinea* Selys, 1853
- (13) *smaragdalis* De Marmels, 1985
- (14) *westfalli* Racenis, 1968

*IRIDICTYON* Needham & Fisher, 1940

- (1) *myersi* Needham & Fisher, 1940
- (2) *trebbaii* Racenis, 1968

*MNESARETE* Cowley, 1934

- (1) *astrape* De Marmels, 1989
- (2)<sup>1</sup> *cupraea* (Selys, 1853)
- (3) *metallica* (Selys, 1869)

## Polythoridae

*CHALCOPTERYX* Selys, 1853

- (1) *scintillans* MacLachlan, 1870

*CHALCOTHORE* De Marmels, 1985

- (1) *montgomeryi* (Racenis, 1968)

*CORA* Selys, 1863

- (1) *cyane* Selys, 1853
- (2) *marina alcyone* Selys, 1873
- (3) *xanthostoma* Ris, 1918

*EUTHORE* Selys, 1869

- (1) *f. fasciata* (Hagen in Selys, 1853)

(1a) *fasciata plagiata* Selys, 1873

- (2) *f. fastigiata* (Selys, 1859)

(2a) *fastigiata meridana* Selys, 1879*POLYTHORE* Calvert, 1917

- (1) *terminata* Fraser, 1946

Heliocaritidae<sup>2</sup>*HELIOCHARIS* Selys, 1853

- (1) *amazona* Selys, 1853

## Megapodagrionidae

*ALLOPODAGRION* Förster, 1910

- (1) *lepidum* Racenis, 1959
- (2) *macropus* (Selys, 1862)
- (3) *nebulosum* (Selys, 1886)
- (4) *oscillans* (Selys, 1862)
- (5) *venale* (Hagen in Selys, 1862)

*DIMERAGRION* Calvert, 1913

- (1) *mesembrinum* De Marmels, 1989
- (2) *percubitale* Calvert, 1913
- (3) *secundum* Needham, 1933

— 1 species to be described

*HETERAGRION* Selys, 1862

- (1) *bariai* De Marmels, 1989
  - (2) *breweri* De Marmels, 1989
  - (3) *chlorotaeniatum* De Marmels, 1989
  - (4) *chrysops* Hagen in Selys, 1862
  - (5) *ictericum* Williamson, 1919
  - (6)<sup>3</sup> *macilentum* Hagen in Selys, 1862
  - (7) *pemon* De Marmels, 1987
  - (8) *simulatum* Williamson, 1919
- 1 unidentified species

*MEGAPODAGRION* Selys, 1885

- (1)<sup>4</sup> *megalopus* (Selys, 1862)

*OXYSTIGMA* Williamson, 1919

- (1) *caerulans* De Marmels, 1987
- (2) *cyanofrons* Williamson, 1919
- (3) *williamsoni* Geijskes, 1976

*PHILOGENIA* Selys, 1862

- (1) *cassandra* Hagen in Selys, 1862
- (2) *ferox* Racenis, 1959
- (3) *polyxena* Calvert, 1924

*SCIOTROPIS* Racenis, 1959

- (1) *cyclanthorum* Racenis, 1959

## Rimaneliidae

*RIMANELLA* Needham, 1934

- (1) *arcana* (Needham, 1933)

Lestidae<sup>5</sup>*ARCHILESTES* Selys, 1872

- (1) *grandis* (Rambur, 1842)
- (2) *guayaraca* De Marmels, 1982
- (3) *tuberalatus* Williamson, 1921)

*LESTES* Leach, 1815

- (1) *dichrostigma* Calvert, 1909
- (2) *falcifer* Sjöstedt, 1918
- (3)<sup>6</sup> *forficula* Rambur, 1842
- (4) *helix* Ris, 1918
- (5) *henshawi* Calvert, 1907
- (6) *mediorufus* Calvert, 1909
- (7) *tenuatus* Rambur, 1842
- 1 species to be described

**PERILESTES** Hagen in Selys, 1862

- (1) *attenuatus* Selys, 1886
- (2) *kahli* Williamson & Williamson, 1924
- (3) *solutus* Williamson & Williamson, 1924

**PERISSOLESTES** Kennedy, 1941

- (1) *flinti* De Marmels, 1989
- 1 unidentified species

## Platystictidae

**PALAEMNEMA** Selys, 1860

- (1) *clementia* Selys, 1886
- (2) *melanostigma* Hagen in Selys, 1860
- (3) *mutans* Calvert, 1931
- (4)<sup>7</sup> *nathalia* Selys, 1886
- (5) *orientalis* De Marmels, 1989
- (6) *tepuica* De Marmels, 1989
- 1 species to be described

## Protoneuridae

**EPIPLEONEURA** Williamson, 1915

- (1) *fernandezii* Racenis, 1960
- (2) *fuscaenea* Williamson, 1915
- (3) *haroldoi* Santos, 1964
- (4) *lamina* Williamson, 1915
- (5) *manauensis* Santos, 1964
- (6) *metallica* Racenis, 1955
- (7) *ocuene* De Marmels, 1989
- (8) *pallida* Racenis, 1960
- (9) *solitaria* De Marmels, 1989
- (10) *spatulata* Racenis, 1960
- (11) *tariana* Machado, 1985
- (12) *uncinata* De Marmels, 1989
- (13) *venezuelensis* Racenis, 1955
- (14) *waiwaiana* Machado, 1985

**JUNIX** Racenis, 1968

- (1) *elumbis* Racenis, 1968

**NEONEURA** Selys, 1860

- (1) *bilinearis* Selys, 1860
- (2) *crisina* Racenis, 1955
- (3) *denticulata* Williamson, 1917

- (4) *desana* Machado, 1989
- (5) *esthera* Williamson, 1917
- (6) *fulvicollis* Selys, 1886
- (7) *gaida* Racenis, 1953
- (8) *joana* Williamson, 1917
- (9) *luzmarina* De Marmels, 1989
- (10) *mariana* Williamson, 1917
- (11) *myrthea* Williamson, 1917
- (12) *rubriventris* Selys, 1860
- (13) *sylvatica* Selys, 1886

**PROTONEURA** Selys, 1857

- (1) *amatoria* Calvert, 1907
- (2) *calverti* Williamson, 1915
- (3) *tenuis* Selys, 1860

**PSAIRONEURA** Williamson, 1915

- (1) *machadoi* De Marmels, 1989
- (2) *remissa* (Calvert, 1903)

## Coenagrionidae

**ACANTHAGRION** Selys, 1876

- (1) *adustum* Williamson, 1916
- (2) *apicale* Selys, 1876
- (3) *chacoense* Calvert, 1909
- (4) *dichrostigma* De Marmels, 1985
- (5) *fluviatile* (De Marmels, 1984)
- (6) *imeriense* De Marmels, 1989
- (7) *indefensum* Williamson, 1916
- (8) *inexpectum* Leonard, 1977
- (9) *kenmedii* Williamson, 1916
- (10) *luteum* Racenis, 1958
- (11) *minutum* Leonard, 1977
- (12) *temporale* Selys, 1876
- (13) *tepuicense* De Marmels, 1985
- (14) *trilobatum* Leonard, 1977
- (15) *truncatum* Selys, 1876
- (16) *vidua* Selys, 1876

**AEOLAGRION** Williamson, 1917

- (1) *chimantai* De Marmels, 1987
- (2) *demerarum* Williamson, 1917
- (3) *dorsale* (Burmeister, 1839)
- (4) *flammeum* (Selys, 1876)
- (5) *fulvum* Needham, 1933
- (6) *neblinae* De Marmels, 1989

**ANISAGRION** Selys, 1876

- (1) *inornatum* Selys, 1876

**ANOMALAGRION** Selys, 1857<sup>8</sup>

- (1) *hastatum* (Say, 1839)

**ARGIA** Rambur, 1842

- (1) *adamsi* Calvert, 1902

- (2) *cupraurea* Calvert, 1902  
 (3) *fumigata* Hagen in Selys, 1865  
 (4) *indicatrix* Calvert, 1902  
 (5) *infumata* Selys, 1865  
 (6) *insipida* Hagen in Selys, 1865  
 (7) *jocosa* Selys, 1865  
 (8) *medullaris* Hagen in Selys, 1865  
 (9) *oculata* Selys, 1865  
 (10) *orichalcea* Hagen in Selys, 1865  
 (11) *pulla* Hagen in Selys, 1865  
 (12) *talamanca* Calvert, 1906  
 (13) *translata* Hagen in Selys, 1865  
 — many unidentified or undescribed species  
**CHRYSOBASIS** Racenis, 1959  
 (1) *buchholzi* Racenis, 1959  
**CYANALLAGMA** Kennedy, 1920  
 (1) *laterale* (Selys, 1876)  
 (2) *tamaense* De Marmels, 1988  
**ENALLAGMA** Charpentier, 1840  
 (1) *cheliferum* (Selys, 1876)  
 (2) *civile* (Hagen, 1861)  
 (3) *novaehispaniae* Calvert, 1907  
**HOMEOURA** Kennedy, 1920  
 (1) *nepos* (Selys, 1876)  
**HYLAEONYMPHA** Racenis, 1968  
 (1) *magoi* Racenis, 1968  
**INPABASIS** Santos, 1961  
 (1) *eliasi* Santos, 1961 →  
 (2) *machadoi* Santos, 1961  
**ISCHNURA** Charpentier, 1840  
 (1)<sup>9</sup> *capreolus* (Hagen, 1861)  
 (2) *fluviatilis* Selys, 1876  
 (3) *ramburi* (Selys, 1850)  
**LEPTAGRION** Selys, 1876  
 (1)<sup>10</sup> *fernandezianum* Racenis, 1958  
 (2) *siqueirai* Santos, 1968  
**LEPTOBASIS** Selys, 1877  
 (1) *mammilaris* Calvert, 1909  
 (2) *vacillans* Selys, 1877  
 — 1 species to be described  
**LEUCOBASIS** Racenis, 1959  
 (1) *candicans* Racenis, 1959  
**METALEPTOBASIS** Calvert, 1907  
 (1) *brysonima* Williamson, 1915  
 (2) *fernandesi* Racenis, 1955  
 (3) *foreli* Ris, 1918  
 (4) *incisula* De Marmels, 1989  
 (5) *manicaria* Williamson, 1915  
 (6) *mauritia* Williamson, 1915  
 (7) *weibezahni* Racenis, 1955  
**NEHALENNIA** Selys, 1850  
 (1) *m. minuta* (Selys, 1857)  
**NEOERYTHROMMA** Kennedy, 1920  
 (1) *cutellatum* (Selys, 1876)  
**OXYAGRION** Selys, 1876  
 (1) *egleri* (Santos, 1961)  
**TELEBASIS** Selys, 1865  
 (1) *carminita* Calvert, 1909  
 (2) *corallina* Selys, 1876  
 (3) *digiticollis* Calvert, 1902  
 (4) *filiola* (Perty, 1834)  
 (5) *isthmica* Calvert, 1902  
 (6) *salva* (Hagen, 1861)  
 (7) *sanguinalis* Calvert, 1909  
 (8) *selaopyge* De Marmels, 1989  
 — several undescribed species of the *Aeolagrion-Helveciagrion-Telebasis* complex
- Pseudostigmatidae**
- ANOMISMA** MacLachlan, 1877  
 (1) *abnorme* MacLachlan, 1877  
**MECISTOGASTER** Rambur, 1842  
 (1) *j. jocaste* Hagen, 1869  
 (2) *linearis* (Fabricius, 1777)  
 (3) *lucretia* (Drury, 1773)  
 (4) *modesta* Selys, 1860  
 (5) *ornata* Rambur, 1842  
**MEGALOPREPUS** Rambur, 1842  
 (1) *caerulatus brevistigma* Selys, 1860  
**MICROSTIGMA** Rambur, 1842  
 (1) *maculatum* Selys, 1860  
 (2) *rotundatum* Selys, 1860 *Hagen*
- Aeshnidae**
- AESHNA** Fabricius, 1775  
 (1) *andresi* Racenis, 1958  
 (2) *c. cornigera* Brauer, 1865  
 (2a) *cornigera planaltica* Calvert, 1952  
 (3) *draco* Racenis, 1958  
 (4) *marchali* Rambur, 1842  
 (5) *nubigena* De Marmels, 1989  
 (6) *psilus* Calvert, 1947  
 (7) *rufipes* Ris, 1918  
 (8) *vigintipunctata* Ris, 1918  
 — 1 unidentified species  
**ALLOPETALIA** Selys, 1873  
 (1) *pustulosa* Selys, 1873

*ANAX* Leach, 1815

- (1) *amazili* (Burmeister, 1839)  
 (2) *concolor* Brauer, 1865

*CASTORAESCHNA* Calvert, 1952

- (1) *tepuica* De Marmels, 1989

*CORYPHAESCHNA* Williamson, 1903

- (1) *adnexa* (Hagen, 1861)  
 (2) *amazonica* De Marmels, 1989  
 (3) *luteipennis* (Burmeister, 1839)  
 (4) *viriditas* Calvert, 1952

— 1 species to be described

*GYNACANTHA* Rambur, 1842

- (1) *auricularis* Martin, 1909  
 (2) *bifida* Rambur, 1842  
 (3) *gracilis* (Burmeister, 1839)  
 (4) *interioris* Williamson, 1923  
 (5) *klagesi* Williamson, 1923  
 (6) *laticeps* Williamson, 1923  
 (7) *membranalis* Karsch, 1891  
 (8) *mexicana* Selys, 1869  
 (9) *nervosa* Rambur, 1842  
 (10) *tenuis* Martin, 1909  
 (11) *tibiata* Karsch, 1891

*NEURAESCHNA* Hagen, 1867

- (1) *calverti* Kimmins, 1951  
 (2) *claviforcipata* Martin, 1909  
 (3) *costalis* (Burmeister, 1839)  
 (4) *harpya* Martin, 1909

*RACENAESCHNA* Calvert, 1958

- (1) *angustistrigis* Calvert, 1958

*STAUROPHLEBIA* Brauer, 1865

- (1) *auca* Kennedy, 1937  
 (2) *gigantula* Martin, 1909  
 (3) *reticulata* (Burmeister, 1839)  
 (4) *wayana* Geijskes, 1959

*TRIACANTHAGYNA* Selys, 1883

- (1) *caribbea* Williamson, 1923  
 (2) *dentata* (Geijskes, 1943)  
 (3) *ditzleri* Williamson, 1923  
 (4) *satyrus* (Martin, 1909)  
 (5) *septima* (Selys, 1857)

## Gomphidae

*AGRIOGOMPHUS* Selys, 1869

- (1) *jessei* (Williamson, 1918)

*APHYLLA* Selys, 1854

- (1) *alia* Calvert, 1948  
 (2) *dentata* Selys, 1859  
 (3) *molossus* Selys, 1869

- (4) *obscura* (Kirby, 1899)

- (5) *producta* Selys, 1854  
 (6) *theodorina* (Navas, 1933)

— 1 unidentified species

*ARCHAEOGOMPHUS* Williamson, 1919

- (1) *furcatus* Williamson, 1923  
 (2) *nanus* Needham, 1944

*CACOIDES* Cowley, 1934

- (1) *latro* (Erichson, 1848)

*CYANOGOMPHUS* Selys, 1873

- (1) *minutus* Belle, 1970  
 (2) *pumilus* Belle, 1986

*DESMOGOMPHUS* Selys, 1854

- (1) *tigrivensis* Williamson, 1920

*DIAPHLEBIA* Selys, 1854

- (1) *angustipennis* Selys, 1854

*ERPETOGOMPHUS* Selys, 1857

- (1) *sabaleticus* Williamson, 1918

*MELANOCACUS* Belle, 1986

- (1) *mungo* (Needham, 1940)

*PHYLLOCYCLA* Calvert, 1948

- (1) *anduzei* (Needham, 1943)

- (2) *baria* Belle, 1987

- (3) *diphylla* (Selys, 1854)

- (4) *modesta* Belle, 1970

- (5) *ophis* (Selys, 1869)

*PHYLLOGOMPHOIDES* Belle, 1970

- (1) *andromeda* (Selys, 1869)

- (2) *angularis* Belle, 1982

- (3) *brunneus* Belle, 1981

- (4) *fuliginosus* (Selys, 1854)

- (5) *imperator* Belle, 1976

- (6) *major* Belle, 1984

- (7) *pedunculus* Belle, 1984

- (8) *semicircularis* (Selys, 1854)

*PROGOMPHUS* Selys, 1854

- (1) *abbreviatus* Belle, 1973

- (2) *brachycnemis* Needham, 1944

- (3) *dorsopallidus* Byers, 1934

- (4) *geijskesi* Needham, 1944

- (5) *guyanensis* Belle, 1966

- (6) *intricatus* Hagen in Selys, 1858

- (7) *maculatus* Belle, 1984

- (8)<sup>11</sup> *occidentalis* Belle, 1983

- (9) *phyllochromus* Ris, 1918

- (10) *pipersi* Belle, 1966

- (11) *polygonus* Selys, 1879

- (12) *pygmaeus* Selys, 1873

- (13) *racenisi* De Marmels, 1983

- (14) *superbus* Belle, 1973

— 1 species to be described

*ZONOPHORA* Selys, 1854

- (1) *batesi* Selys, 1869
- (2) *c. calippus* Selys, 1869
- (3) *regalis* Belle, 1976
- (4) *s. solitaria* Racenis, 1970
- (4a) *solitaria obscura* Belle, 1976
- (5) *supratriangularis* Schmidt, 1941
- (6) *surinamensis* Needham, 1944

#### Corduliidae

*AESCHNOSOMA* Selys, 1870

- (1) *auripennis* Geijskes, 1970
  - (2) *forcipula* Hagen in Selys, 1871
- DOROCORDULIA* Needham, 1901

- (1) *vagans* De Marmels, 1989
- 1 unidentified species

*LAUROMACROMIA* Geijskes, 1970

- (1) *dubitalis* (Fraser, 1939)

*NEOCORDULIA* Selys, 1882

- (1) *biancoi* Racenis, 1970

— 1 unidentified species

*PARACORDULIA* Martin, 1906

— 1 unidentified species

#### Libellulidae

*ANATYA* Kirby, 1889

- (1)<sup>12</sup> *guttata* (Erichson, 1848)

*ANTIDYTHEMIS* Kirby, 1889

- (1) *nigra* Buchholz, 1952

*ARGYROTHEMIS* Ris, 1911

- (1) *argentea* Ris, 1911

*BRACHYMESIA* Kirby, 1889

- (1) *furcata* (Hagen, 1861)
- (2) *herbida* (Gundlach, 1889)

*BRECHMORHOGA* Kirby, 1894

- (1) *innupta* Racenis, 1954
- (2) *neblinae* De Marmels, 1989
- (3) *nubecula* (Rambur, 1842)
- (4) *p. praecox* (Hagen, 1861)
- (5) *praedatrix* Calvert, 1909
- (6) *r. rapax* Calvert, 1898
- (7) *vivax* Calvert, 1906

— 1-2 unidentified species

*CANNAPHILA* Kirby, 1889

- (1) *vibex* (Hagen, 1861)

*DASYTHEMIS* Karsch, 1889

- (1) *esmeralda* Ris, 1910

— 1 unidentified species

*DIASTATOPS* Rambur, 1842

- (1) *dimidiata* (L., 1758)
- (2) *estherae* Montgomery, 1940
- (3) *nigra* Montgomery, 1940
- (4) *obscura* (Fabricius, 1775)
- (5) *pullata* (Burmeister, 1839)

*DYTHEMIS* Hagen, 1861

- (1) *m. multipunctata* Kirby, 1894
- (1a) *multipunctata reducta* De Marmels, 1989
- (2) *sterilis* Hagen 1861

*ELASMOTHEMIS* Westfall, 1988

- (1) *cannacrioides* (Calvert, 1906)
- (2) *kiatai* (De Marmels, 1989)

— 1 unidentified species

*ELGA* Ris, 1911

- (1) *leptostyla*, Ris, 1911
- 1 undescribed species

*ERYTHEMIS*, Hagen, 1861

- (1) *attala* (Selys, 1857)
- (2) *carmelita* Williamson, 1923
- (3) *credula* (Hagen, 1861)
- (4) *haematogastra* (Burmeister, 1839)
- (5) *mithroides* (Brauer, 1900)
- (6) *peruviana* (Rambur, 1842)
- (7) *plebeja* (Burmeister, 1839)

*ERYTHRODIPLAX* Brauer, 1868

- (1) *abjecta* (Rambur, 1842)
- (2)<sup>13</sup> *a. amazonica* Sjöstedt, 1918
- (3) *angustipennis* Borrer, 1942
- (4) *attenuata* (Kirby, 1889)
- (5) *basalis* (Kirby, 1897)
- (6) *castanea* (Burmeister, 1839)
- (7) *clitella* Borrer, 1942
- (8) *famula* (Erichson, 1848)
- (9) *fervida* (Erichson, 1848)
- (10) *fulva* Borrer, 1957
- (11) *fusca* (Rambur, 1842)
- (12) *juliana* Ris, 1911
- (13) *kimminsi* Borrer, 1942
- (14) *latimaculata* Ris, 1911
- (15) *lativittata* Borrer, 1942
- (16) *laurentia* Borrer, 1942
- (17) *longitudinalis* (Ris, 1919)
- (18) *maculosa* (Hagen, 1861)
- (19) *melanorubra* Borrer, 1942
- (20) *naeva* (Hagen, 1861)
- (21) *paraguayensis* (Förster, 1904)
- (22) *parvimaculata* Borrer, 1942
- (23) *solimaea* Ris, 1911

- (24) *transversa* Borrer, 1957  
 (25) *umbrata* (L., 1758)  
 (26) *unimaculata* (De Geer, 1773)  
 (27) *venusta* (Kirby, 1897)  
 — 2-3 unidentified species  
**FYLGIA** Kirby, 1899  
 (1) *amazonica lychnitina* De Marmels, 1989  
**GYNOTHEMIS** Calvert, 1909  
 (1) *venipunctata* Calvert, 1909  
**IDIATAPHE** Cowley, 1934  
 (1) *amazonica* (Kirby, 1889)  
 (2) *batesi* (Ris, 1913)  
 (3) *longipes* (Hagen, 1861)  
**LEPTHEMIS** Hagen, 1861  
 (1) *vesiculosa* (Fabricius, 1775)  
**LIBELLULA** L., 1758  
 (1) *herculea* Karsch, 1889  
**MACRODIPLAX** Brauer, 1868  
 (1) *balteata* (Hagen, 1861)  
**MACROTHEMIS** Hagen, 1868  
 (1) *brevicens* Belle, 1983  
 (2) *cynthia* Ris, 1913  
 (3) *delia* Ris, 1913  
 (4) *extensa* Ris, 1913  
 (5) *flavescens* (Kirby, 1897)  
 (6) *guarauno* Racenis, 1957  
 (7) *hahneli* Ris, 1913  
 (8) *hemichlora* (Burmeister, 1839)  
 (9) *idalia* Ris, 1919  
 (10)<sup>14</sup> *imitans leucozona* Ris, 1913  
 (11) *inacuta* Calvert, 1898  
 (12) *ludia* Belle, 1987  
 (13) *mortoni* Ris, 1913  
 (14) *musiva* Calvert, 1898  
 (15) *nobilis* Racenis, 1957  
 (16) *proterva* Belle, 1987  
 (17) *pseudimitans* Calvert, 1898  
 (18) *pumila* Karsch, 1889  
 (19)<sup>15</sup> *rupicola* Racenis, 1957  
 (20) *tessellata inequiunguis* Calvert, 1895  
**MIATHYRIA** Kirby, 1889  
 (1) *marcella* (Selys, 1857)  
 (2) *simplex* (Rambur, 1842)  
**MICRATHYRIA** Kirby, 1889  
 (1) *aequalis* (Hagen, 1861)  
 (2) *artemis*, Ris, 1911  
 (3) *atra* (Martin, 1897)  
 (4) *catenata* Calvert, 1909  
 (5) *dido* Ris, 1911  
 (6) *didyma* (Selys, 1857)  
 (7) *hesperis* Ris, 1911  
 (8) *hippolyte* Ris, 1911  
 (9) *laevigata* Calvert, 1909  
 (10) *mengeri* Ris, 1919  
 (11) *ocellata dentiens* Calvert, 1909  
 (12) *schumannii* Calvert, 1906  
 (13) *spinifera* Calvert, 1909  
 (14) *spuria* (Selys, 1900)  
 (15) *tibialis* Kirby, 1897  
 (16) *venezuelae* De Marmels, 1989  
 — 3-4 unidentified species  
**MISAGRIA** Kirby, 1889  
 (1) *bimacula* Kimmins, 1943  
 (2) *divergens* De Marmels, 1981  
 (3) *parana* Kirby, 1889  
**NEPHEPELTIA** Kirby, 1889  
 (1) *flavifrons* (Karsch, 1889)  
 (2) *leonardina* Racenis, 1953  
 (3) *p. phryne* (Perty, 1834)  
 — 1 unidentified species  
**OLIGOCLADA** Karsch, 1889  
 (1) *abbreviata* (Rambur, 1842)  
 (2) *amphinome* Ris, 1919  
 (3) *heliophila* Borrer, 1931  
 (4) *hypophane* De Marmels, 1989  
 (5) *leucotaenia* De Marmels, 1989  
 (6) *monosticha* Borrer, 1931  
 (7) *pachystigma* Karsch, 1889  
 (8) *risi* Geijskes, 1984  
 (9) *sylvia* (Kirby, 1889)  
 (10) *umbricola* Borrer, 1931  
 (11) *walkeri* Geijskes, 1931  
 — 3 unidentified species  
**ORTHEMIS** Hagen, 1861  
 (1)<sup>16</sup> *aequilibris* Calvert, 1909  
 (2) *anthracina* De Marmels, 1989  
 (3) *attenuata* (Erichson, 1848)  
 (4) *bolleyi* Calvert, 1906  
 (5) *concolor* Ris, 1919  
 (6) *cultriformis* Calvert, 1899  
 (7) *discolor* (Burmeister, 1839)  
 (8) *levis* Calvert, 1906  
 (9) *regalis* Ris, 1910  
 (10) *schmidti* Buchholz, 1950  
 (11)<sup>17</sup> *sibylla* Ris, 1919  
 — 1-2 unidentified species  
**PANTALA** Hagen, 1861  
 (1) *flavescens* (Fabricius, 1798)  
 (2) *hymenaea* (Say, 1839)  
**PERITHEMIS** Hagen, 1861



- |  |   |
|--|---|
| (1) <i>cornelia</i> Ris, 1910            | <i>TRAMEA</i> Hagen, 1881                     |
| (2) <i>domitia</i> (Drury, 1773)         | (1) <i>abdominalis</i> (Rambur, 1842)         |
| (3) <i>electra</i> Ris, 1930             | (2) <i>binotata</i> (Rambur, 1842)            |
| (4) <i>lais</i> (Perty, 1834)            | (3) <i>calverti</i> Muttkowski, 1910          |
| (5) <i>mooma</i> Kirby, 1889             | (4) <i>cophysa</i> Hagen, 1867                |
| (6) <i>thais</i> Kirby, 1889             | (5) <i>minuta</i> De Marmels & Racenis, 1982  |
| <i>PLANIPLAX</i> Muttkowski, 1910        | (6) <i>onusta</i> Hagen, 1861                 |
| (1) <i>arachne</i> Ris, 1912             | (7) <i>rustica</i> De Marmels & Racenis, 1982 |
| (2) <i>phoenicura</i> Ris, 1912          | — 1 unidentified species                      |
| <i>RHODOPYGIA</i> Kirby, 1889            | <i>URACIS</i> Rambur, 1842                    |
| (1) <i>cardinalis</i> (Erichson, 1848)   | (1) <i>fastigiata</i> (Burmeister, 1839)      |
| (2) <i>geijskesi</i> Belle, 1964         | (2) <i>imbuta</i> (Burmeister, 1839)          |
| (3) <i>hollandi</i> Calvert, 1907        | (3) <i>infumata</i> (Rambur, 1842)            |
| <i>SYMPETRUM</i> Newman, 1833            | (4) <i>ovipositrrix</i> Calvert, 1909         |
| (1) <i>illotum gilvum</i> (Brauer, 1868) | (5) <i>siemensi</i> Kirby, 1897               |
| (2) <i>roraimae</i> De Marmels, 1988     | <i>YPIRANGATHEMIS</i> Santos, 1945            |
| <i>TAURIPHILA</i> Kirby, 1889            | (1) <i>calverti</i> Santos, 1945              |
| (1) <i>argo</i> (Hagen, 1869)            | <i>ZENITHOPTERA</i> Selys, 1869               |
| (2) <i>australis</i> (Hagen, 1867)       | (1) <i>americana</i> (L., 1758)               |
| <i>THOLYMIS</i> Hagen, 1867              | (2) <i>lanei</i> Santos, 1941                 |
| (1) <i>citrina</i> (Hagen, 1867)         | (3) <i>viola</i> Ris, 1910                    |

## Appendix I

## COMMENTS ON THE CHECKLIST

- <sup>1</sup> *scintilla* Racenis, 1968 is a junior synonym of *cupraea* Selys.
- <sup>2</sup> Some authors prefer the name Dicteriastidae.
- <sup>3</sup> Known only from the type, the status of this species remains doubtful. An endemic species in the vicinity of Puerto Cabello (type locality) may be expected, however. A well-known example is *Archilestes tuberalatus*.
- <sup>4</sup> After studying the type and an additional male of *M. megalopus* in the Selys Collection, and comparing these with type material of *M. arachne* Racenis, 1959, I arrived at the conclusion that both are the same.
- <sup>5</sup> I follow KENNEDY (1920) who includes the Perilestinae as a subfamily into the Lestidae, being the shape of the penis the strongest reason for doing so. The larval labium is, however, reminiscent of the Megapodagrionidae. Admittedly, the Protoneuridae and the Pseudostigmatidae are much more similar to the Coenagrionidae (larvae and adults) than are the Perilestinae to the Lestidae. Nevertheless the former are treated as separate families.
- <sup>6</sup> *Lestes striatus* Selys is a junior synonym of *L. forficula*. I have seen 4 ♂ and 1 ♀ of the type series of *striatus*, without detecting any structural differences.
- <sup>7</sup> A sole record from "Venezuela, Maento" (CALVERT, 1903). "Maento" probably means Macuto, N of Caracas, on the Caribbean Coast (RACENIS, 1953).

- <sup>8</sup> Currently considered a subgenus of *Ischnura*.
- <sup>9</sup> Subgenus *Ceratura* Selys, 1876.  
 "A species-group name that is a simple (...) noun (...) in apposition retains the same ending, whatever the gender of the generic name with which it is combined" (Article 31b of the Int. Code of Zool. Nomenclature, 1985, p. 65): "capreolus" is a noun, therefore *Agrion capreolus* becomes *Ischnura capreolus*, not "capreola". "For the purposes of the Code the "original spelling" of a name is the spelling used in the work in which the name was established" (*Agrion capreolus* Hagen). "The original spelling of a name is the "correct original spelling", to be preserved unaltered unless it is demonstrably incorrect (...)" (Article 32a, b, p. 67).
- <sup>10</sup> Generic placement seems doubtful.
- <sup>11</sup> The unique specimen known, the type, is labelled "San Antonio". BELLE (1983) placed that village in "Venezuela (?)", but this proceeding seems to me quite arbitrary.
- <sup>12</sup> Included are specimens of the sympatric "*normalis*" Calvert, 1899 phenotype. I cannot see how they should be different species. Intermediate forms do exist in Venezuela.
- <sup>13</sup> The males of a population W of Santa Elena, in the Pacaraima Mountains, have a broad black dorsomedian band over the whole length of the laterally red abdomen.
- <sup>14</sup> Included are specimens from S of the Orinoco, which are smaller and darker than ordinary *leucozona* from Northern Venezuela.
- <sup>15</sup> Might be the same as *polyneura* Ris, but I did not examine the type of the latter.
- <sup>16</sup> Includes blue and red "forms" (DE MARMELS, 1988).
- <sup>17</sup> The type of *sibylla* should be compared with that of *ambirufa* Calvert, 1909, in order to exclude any possible synonymy.

#### Appendix II

#### COMMENTED LIST OF SPECIES TO BE DELETED FROM THE VENEZUELAN CHECKLIST

This appendix only includes published erroneous records, which have not so far been corrected in subsequent published notes. Species mentioned "per inclusionem" or erroneously in RACENIS' (1966) list only, are not considered valid records, if by now still no Venezuelan specimens has been brought on record.

- (1) *Hetaerina majuscula* Selys, 1853. Mentioned from "Venezuela" by SELYS (1879, p. 368), probably due to confusion with *H. capitalis*.
- (2) *Polythore gigantea* (Selys, 1853). SELYS (1873, p. 499) mentions "Venezuela" as part of the general range of *Thore gigantea* s.l. (incl. *procera*, *picturata* and *saundersi*). Neither is present in Venezuela.

- (3) *Amphipteryx agrioides* Selys, 1853. SELYS (1854a, p. 241) claims this species had been collected at "Cumaná", but this record must be discarded.
- (4) *Heteragrion icterops* Selys, 1862. SELYS (1886, p. 65) adds "San Esteban (Venezuela)" as a further locality for this species, but this Amazonian form has never been found in Venezuela.
- (5) *Heteragrion mitratum* Williamson, 1919. This species has not been explicitly recorded from Venezuela, but WILLIAMSON (1923, p. 10) mentions it from the "Catatumbo Basin", whose lower range lies within Zulia State (Venezuela). Curiously, in the original description WILLIAMSON (1919, p. 45) gives no locality in the Catatumbo Basin, either Venezuelan or Colombian. Therefore the species must be considered absent from Venezuela.
- (6) *Acanthagrion gracile* (Rambur, 1842). CALVERT (1909), RACENIS (1953) and TELLO (1968) record this species from Venezuela, in error, as the specimens in question are *A. vidua* Selys.
- (7) *Phyllocycla signata* (Hagen in Selys, 1854). SELYS (1854b, p. 78) mentions a female from "Venezuela" in the Hagen Collection. All subsequent citations by other authors seem to refer to this specimen, which may be *P. modesta* Belle.
- (8) *Aeshna brevifrons* Hagen, 1861. Should *vigintipunctata* Ris prove to be a junior synonym of *brevifrons*, then the latter would replace the former in the Venezuelan checklist. Otherwise *brevifrons* is cited from Venezuela in error (DE MARMELS, 1988).
- (9) *Aeshna intricata* Martin, 1908. This species was incorrectly cited from Venezuela, or may be a synonym of *brevifrons* (see above).
- (10) *Aeshna jalapensis* Williamson, 1908. CALVERT (1956, p. 199) records a few early instar larvae(!) from Upata, Bolívar State. However, on p. 106 ("Distribution") he states: "Also Venezuela if the identification of a larva be correct (. . .)". This seems improbable.
- (11) *Brechmorhoga pertinax eurysema* Ris, 1913. RIS (1919, p. 1212) mentions 3 ♂ and 2 ♀ from "Venezuela (Dr Hahnel)". I did not see these specimens, but there is little doubt about their identity with *B. vivax* Calvert, as the latter is common in the Coastal Cordillera where Hahnel did much of his collecting.
- (12) *Brechmorhoga praecox grenadensis* Kirby, 1894. This subspecies is cited by RACENIS (1953) from Margarita Island, but specimens collected there by myself do not differ from continental Venezuelan examples.
- (13) *Libellula nodisticta* Hagen, 1861. This species is cited from "Venezuela" by KIRBY (1890, p. 26). All subsequent citations refer to Kirby's record, which is erroneous (RIS, 1910, p. 264).
- (14) *Micrathyria eximia* KIRBY, 1897. This species is mentioned from Venezuela by RACENIS (1958) and Venezuelan specimens correspond well with the description and figures of *M. eximia* in RIS (1911). However, after Dr R.W. Garrison (pers. comm., March 1983) *M. eximia* Ris is not identical with *M. eximia* Kirby, which is absent from Venezuela.
- (15) *Paltothemis lineatipes* Karsch, 1889. The type locality is "Brasilien" (KARSCH, 1889), but neither Dr A.B.M. Machado, nor Dr N.D. dos Santos did collect this species in Brazil (Machado, pers. comm. April, 1984). The record from "Mérida" in CALVERT (1898, p. 312; 1906, p. 293) doubtless refers to Mérida in Yucatán, not to the homonymous city in the Venezuelan Andes. The type locality "Brasilien" is obviously erroneous.
- (16) *Perithemis bella* Kirby, 1889. RIS (1910, p. 339) mentions a male from "Venezuela(?)" in the Selys Collection, but the species is absent from this country. However, certain male specimens of *domitia* from the Paria peninsula (Sucre State) resemble *bella*.

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