SYNOPSIS OF THE PHILIPPINE ODONATA, WITH LISTS OF SPECIES RECORDED FROM FORTY ISLANDS *

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A list of dragonflies known from the Philippines is presented with data on their distribution by the accuracy of the islands. In addition to the 224 named spp. (and 3 sspp.), some 65-70 still undescribed or unidentified (to species level) taxa are listed. Detailed collecting data are presented for 14 named spp., which are listed from the Philippines for the first time, viz. Archibasis viola, Ceriagrion cerinorubellum, Acrogonphus jubilaris, Ictinogomphus decoratus melaenops, Gynacantha arsinoe, G. dohrni, Heliaeschna simplicia, H. uninervulata, Indaeschna grubaueri, Tetracanthagyna brunnea, Macromia westwoodi, Aethriamanta gracilis, Neurothemis fluctuans and Rhyothemis obsolescens. Prodasineura obsoleta (Selys, 1882) is synonymized with P. integra (Selys, 1882) and Gomphidia platerosi Asahina, 1980 with G. kirschii Selys, 1878. A few other possible synonymies are suggested for future confirmation. A brief review of the earlier studies on Philippine Odonata is presented. Grouped according to the present understanding of the Philippine biogeographical regions, all major islands are briefly characterized and separate lists are given for 40 islands. The records are based on literature data, and on ca 27 000 specimens in Roland Müller’s collection, ca 2 000 specimens in coll. Ris at SMF and on some other smaller collections studied by the authors.

INTRODUCTION

While the second author made plans for a zoological expedition to the Philippines in 1985, Dr Bastiaan K i a u t a suggested him to take collecting of dragonflies as one of the goals, because the knowledge of the Philippine Odonata fauna was very inadequate.

Collecting dragonflies was rather random and incidental during the visits to Luzon,

* Results of the Roland Müller Zoological Expeditions to the Philippines, No. 14.
Mindanao and Palawan in April-June 1985. However, a total of 344 specimens representing 59 species were netted. During the next expedition to Mindanao and Sibuyan in July-August 1986 a total of 533 specimens of 45 species were collected.

These specimens were sent to the first author for identification in 1986. As he could confirm that the collection included a dozen undescribed species, the study of the Philippine dragonfly fauna became Roland Müller’s main zoological interest during the next six expeditions in 1987-1996 (cf. Appendix).

During these expeditions many local collectors have been trained for dragonfly collecting. Since 1988 some of them have made extensive own collecting trips to several islands, and some others have collected only in their home island. It has been practice to send the collectors to the islands and localities from where, according to the literature, none or very few dragonflies were known. Most of the material originates from these trips. One or two of the collectors usually visited the sites beforehand, that were selected as targets for Roland Müller’s own expeditions.

The present or past collectors, most of whom also served as guides in the group are: Theobaldo B. Borromeo and his son Theobaldo B. Borromeo, Jr., Alex Buenafe, Wilfredo Catá, Adrian Gorostiza, Lionel Gorostiza, Celso M. Nazareno and J. de los Reyes. In addition there have been a few more casual contributors.

A considerable amount of specimens has accumulated as the result of a “side-activity” of colleagues and friends during their own expeditions. Colin G. Treadaway (Limbach, Germany), assisted by Theobaldo B. (“Dodong”) Borromeo, has during his butterfly collecting trips netted

Fig. 1. Approximate position of localities of the specimens in Roland Müller collection.
also plenty of dragonflies from many islands; among them are several new species. Arne Schanowsky (Germany) provided a small collection, including a new species, *Gynacantha constricta* Hämäläinen, 1991, from Luzon in 1988. Lorenzo Vinciguerra (Bern, Switzerland), who is working on bats, gathered in May-June 1992 (with Adrian Gorostiza and Alex Buenafe) a fine collection from Palawan and in January-February 1994 from Mindanao and Palawan (with E. Horn).

![Biogeographic division of the areas of endemism in the Philippines](image)

Fig. 2. Biogeographic division of the areas of endemism in the Philippines, modified from VANE-WRIGHT (1990, fig. 6, p. 26). – [Abbreviations: L = Luzon region; – MDO = Mindoro region; – W-V = West Visayan region; – E-V = East Visayan subregion; – MNO = Mindanao subregion (E-V and MNO together form Mindanao region); – P = Palawan group (part of the Greater Sunda endemic area); – S = Sulu region]. – The Luzon, Mindoro, West-Visayan and Mindanao regions comprise the Philippines proper.
PRESENT SCOPE OF COLLECTION MÜLLER

At present (October 1, 1996) the Roland Müller Philippine dragonfly collection contains ca 27 000 curated and filed specimens, referable to ca 250 species. Some 2000 further specimens, mostly common species from various islands, are still waiting for curating. Some 75 species were (or still are) undescribed. The value of the collection is increased by the fact that the large majority of the specimens originates from the streams in primary forests. Common ricefield and pond species are poorly represented. The selective collection certainly underestimates the number of species in some islands.

All specimens have been identified by the first author. A computer file of the specimens is maintained. The material originates from 36 islands (Fig. 1), from ca 500 localities/dates. Some of the localities have been visited more than once, in different seasons.

PREVIOUS PUBLICATIONS ON COLLECTION MÜLLER

A brief general report on the results of the first expeditions was presented by MÜLLER (1989). HÄMALÄINEN (1994, 1996) based his reviews on the conservation aspects of the Philippine dragonflies mainly on Roland Müller’s material. So far only a small part of this large material has been treated taxonomically or faunistically in various publications. The partial revision of the genus Risiocnemis (HÄMALÄINEN, 1991c, 1991d) is to a great extent based on Müller’s specimens. Two smaller revisions of the genus Cyrano (HÄMALÄINEN, 1989b) and of Neurobasis luzoniensis (HÄMALÄINEN, 1990), as well as several minor papers, each describing 1-2 new species have been published, viz. HÄMALÄINEN (1989a, 1991a, 1991b, 1993), HÄMALÄINEN & MULLER (1989), MULLER (1992, 1996), MÜLLER & HÄMALÄINEN (1993). Altogether 20 new species and 1 new subspecies have so far been described, partly or exclusively from Müller’s material. Müller and his coworkers have also found most of the remaining still undescribed Philippine species. Revisions of all Philippine members of some large genera, like Drepanosticta, Amphicnemis and Teinobasis, are badly needed. The very elusive species of the difficult genus of Oligoaeschna are also poorly known. Also the Philippine Chlorogomphus are in need of a careful revision.

ON THE CONTENTS OF THE PRESENT PAPER

At present we are aware of some 290-295 species to occur in the Philippines. Since a considerable proportion of them is still undescribed, and since new material is constantly coming from various islands by local collectors, and further expeditions are planned, it is far too early to attempt compiling a more detailed synopsis of the Philippine dragonflies. However, it seemed important to present some kind of a preliminary account of our present knowledge of the dragonfly fauna in the different islands of the Philippines. Aside from the Roland Müller collection, the information in the present paper is based on
- critical consideration of all published data;
- ca 2000 specimens (ca 135 species) in the Senckenberg Museum (SMF) Frankfurt/M;
- some of the material in the Nationaal Natuurhistorisch Museum (RMNH) Leiden; unfortunately, as yet we were unable to study all the Philippine material in this museum;
- specimens in National Museum of Natural History (USNM) Washington, DC;
specimens preserved in some private collections.

Based on these sources, an annotated list of all species known from the Philippines is given with distribution data on pp. 256-276. A number of described species is recorded from the Philippines for the first time; only these species are furnished with detailed collecting data. Two new synonyms are presented and a few likely synonyms are tentatively proposed.

We know that many other museums and collections (especially in Japan and the Philippines) also contain plenty of unpublished Philippine material, the study of which would certainly increase the knowledge of species composition in different islands.

A brief history of the progress on the knowledge of the Philippine dragonfly fauna appears on pp. 253-256. It is neither aimed to be comprehensive, nor is the list of references complete. However, all major publications are listed.

On p. 285, a brief general chapter on the Philippines is presented. For more detailed information on the subject and for some useful travellers hints we warmly recommend the work of PETERS (1994).

In the second half of the paper, brief characterizations are given of the islands from where any dragonfly records are known. The islands are grouped in accordance with the present understanding of the regional zoogeography (Fig. 2). Within each region or subregion, the major islands are listed in sequence of their relative size. A separate species list is presented for each island.

Although the structure of the present publication may appear unusual, and the presentation not always satisfactory, we do hope that the paper will facilitate the work of the visiting and local dragonfly collectors alike.

**HISTORY OF ODONATE STUDIES IN THE PHILIPPINES**

*Trithemis aurora* (Burmeister, 1839) appears to be the first dragonfly species to be described from the Philippines, followed by *Euphaea refulgens* Hagen, 1853 and *Ictinogomphus tenax* (Hagen, 1854).

**SEMPER’S MATERIAL**

Insect collections made by the German zoologist Dr Carl Gottfried Semper in 1859-1861 and 1863-1865 form the starting point of our knowledge on the Philippine dragonfly fauna. The following brief itinerary of his travels in the Philippines is compiled from data presented in SEMPER (1861, 1862) and WEIDNER (1967).

Semper arrived in Manila in December 1858 and collected first in its surroundings. In August 1859 he travelled to the south and worked mainly near Zamboanga in Mindanao and in Basilan. In March 1860 he returned to Manila and left for the northeastern part of Luzon in April 1860, travelling through Bulacan and Nueva Ecija to Baler in Aurora province. From there he proceeded along the coast to Palanan in Isabela province and further across the Sierra Madre mountain chain to Cagayan from where he had to return back to Manila due to an attack of malaria.

In April 1861 he left again for northern Luzon. His route proceeded through Nueva Ecija to San Nicolas and further to Benquet province. From there he visited also La Union province. At the end of July he arrived at Mankayan at the northern corner of Benquet. Unfortunately, we are not aware of his route thereafter, but he returned to Manila in November 1861, this time with dysentery. In order to recover
from the disease he embarked on a long voyage in the Pacific.

In 1863 he visited Bohol, Cebu, Leyte and Mindanao and in May-December 1864 stayed in the eastern and inner parts of Mindanao. Semper left Manila for Europe in May 1865.

BRAUER (1867, 1868a, 1868b) described 22 new species from Semper's dragonfly material. Hagen and De Selys Longchamps described in the 1860-1870s about a dozen new species from the Philippines, most of them from Semper's material, which at present seems to be scattered in museums in Brussels, Vienna and Cambridge, Mass.

The first synopsis of the Philippine dragonflies was compiled by de SELYS LONGCHAMPS (1882). A total of 77 species were listed, including 9 new species. Most of the specimens treated were collected by Semper. Most of the records were from Luzon, Mindanao, Bohol and Cebu, but a few came also from Mindoro, Basilan and Panaon. However, some of the species listed (incl. 2 newly described) appear to be mere synonyms, and actually only some 70 species were known at that time. Nine years later he published an addition to his "Odonates des Philippines" (1891), adding 7 species, including one new species. Meanwhile also KIRBY (1884) had reported on a few common species from the Philippines.

**BOETTCHER's MATERIAL**

RIS (1912, 1915) described four new species, collected in Mindoro and Samar in 1910-1911. Later F. Ris received splendid material, gathered by Dr med. G. Boettcher (Wiesbaden, Germany) in 15 islands between October 1913 and March 1918.

Boettcher, the author of some dipterological papers, travelled extensively in the archipelago. In November 1913 - January 1914 he was in North Palawan, in 1914 he collected in many Luzon provinces and left for the South in late November, stopping briefly at Negros on his way to Zamboanga and Basilan in December 1914. In 1915 he collected in many places in Mindanao (e.g. in Surigao), and visited also Samar, Leyte, Biliran, Panaon, Dinagat. In August-September 1915 he collected in Polillo and in the southern provinces of Luzon. In 1916 he was first in Mindoro and Luzon, but in July returned to Bohol, Camiguin, Surigao (in Mindanao) and collected in Siargao. His 1917-1918 material comes mostly from Luzon, but also from Mindoro.

Boettcher's material in the Senckenberg Museum (SMF) contains ca 1800 specimens of some 135 species. We do not know how many of his specimens are deposited in other museums. SCHMIDT (1951) described Coeliccia boettcheri from 13 specimens, taken at Binaluan in northern Palawan, preserved in Zoological Museum in Berlin. The Ris collection contains also 23 specimens from the same site, which were not mentioned in the C. boettcheri description.

Unfortunately, RIS (1930) published only a single paper, describing four new
euphaeid species from this rich collection. LIEFTINCK (1957) studied some *Amphicnemis* and *Teinobasis* specimens from it, but did not describe any of the new taxa in this material. The first author has recently studied the collection for his revisions of *Neurobasis* and *Risiocnemis* (HÄMÄLÄINEN, 1990, 1991c, 1991d). Boettcher’s material is valuable also from the conservation point of view, since it was gathered when most islands were still covered with extensive primary forests.

**NEEDHAM & GYGER**

The next large collection was amassed by teachers and students of the agriculture and forestry institutes preceding the present “University of the Philippines at Los Baños” in the 1920-1930s. Among others C.F. Baker and L.B. Uichanco provided much of this material. Most of this material was collected in the surroundings of Los Baños and elsewhere in Luzon. A fair number of species came also from Zamboanga in Mindanao and some specimens also elsewhere from Mindanao and Samar, single specimens from Dinagat, Negros and Polillo.

This material forms the basis of NEEDHAM & GYGER’s “The Odonata of the Philippines” (1937, 1939, 1941). A small part of Baker’s specimens had earlier been worked out by LAIDLAW (1925), CAMPION & LAIDLAW (1928) and COWLEY (1936). As a whole, Needham & Gyger’s series is a very useful illustrated account of the regional fauna. Unfortunately, the presentation of the material is rather uneven and some of the species descriptions are too meagre for a reliable identification of allied forms. The series lists nearly 150 species and contains descriptions of 32 new species. Some papers, containing descriptions of the Philippine novelties did not come to the author’s attention in time, viz. LAIDLAW (1934) and FRASER (1936).

**LIEFTINCK AND ASAHINA**

Dr M.A. Lieftinck was the next author to deal with the Philippine dragonflies. His major contributions include a treatment of some species in *Teinobasis* and *Amphicnemis* (LIEFTINCK, 1957), reports on the results of the H. Hoogstraal & F.G. Werner.Philippine Zoological Expedition 1946-1947 (LIEFTINCK, 1961; for the itinerary see HOOGSTRAAL, 1951) and the Noona Dan Expedition, 1961-1962 (LIEFTINCK, 1974; for the itinerary see PETERSEN, 1966), and a treatment of some species of the genus *Risiocnemis* (LIEFTINCK, 1981). In these and some other papers (LIEFTINCK, 1939a, 1940a, 1940b, 1948), he described some 20 new species and subspecies from the Philippines, many of them from Palawan.

Dr S. Asahina has also made a major contribution to the knowledge of the Philippine Odonata, and he has so far described six new species from the Philippines. In his first major paper, ASAHINA (1968) reported on material from various sources, collected between 1932-1966. Another paper (ASAHINA, 1980), dealing with the
Gomphidae, Chlorogomphidae and Corduliidae, contains material amassed by a few Philippine (e.g. Dr C. Plateros) and by many Japanese collectors, mostly in 1960-1970s. Minor are the papers by ASAHINA (1990) and KITAKAWA (1990), while NAKAO et al. (1976) reported on some species from the Luzon and Mindanao ricefields; for localities, see YASUMATSU et al. (1975). NARUMI (1979, pp. 125-156) provided in his Japanese book a chapter on the Luzon and Mindanao species, with some colour photographs.

OTHER CONTRIBUTORS

Other recent works on the Philippine dragonflies include the cytotaxonomic papers by KIAUTA & KIAUTA (1980, 1981, 1983) and a semipopular article by SILSBY (1994). The Philippine entomologists have also made some contributions to odonatology. GAPUD & RECUENCO (1993) recently described a new Argiolestes species from Luzon. Earlier GAPUD (1984) commented briefly on the state of knowledge on the Philippine Odonata. PLATEROS (1972) reported on the results of his studies on the Libellulidae of Bohol, Cebu and Leyte. BARRION (1979) listed 16 species occurring in the Philippine rice agroecosystem. Considerable unpublished material is available in the collections of the University of the Philippines at Los Baños.

Not considering the presently known synonyms and other obvious errors, the list of known Philippine dragonfly species has increased as follows:
- De SELYS LONGCHAMPS (1882, 1891): 84 spp.
- The present list, which includes also undescribed species: ca 290-295 spp.

The fact that several new species of Drepanosticta, Risiocnemis and Amphicnemis were discovered in rather restricted mountain areas in Luzon and Mindanao in 1995-1996 indicates that many species seem restricted to certain mountain chains. As large areas of Luzon and Mindanao still remain virtually unexplored, a considerable number of new species in these and in some other genera, can still be expected. Also some islands, large enough to support endemic taxa, are still unexplored. Undoubtedly a number of Philippine dragonfly taxa has already become extinct during this century without having been discovered, especially so in the deforested smaller islands. Unfortunately, many more species are doomed to disappear in the near future.

We estimate that at least 350-400 dragonfly species existed in the Philippines at the beginning of this century.

ANNOTATED CHECKLIST OF THE PHILIPPINE ODONATA

- The list includes a number of species marked as “sp.n.” or “sp.” Most of the latter undoubtedly also represent new species or subspecies.
- The asterisked taxa (*), represent new records for the Philippines.
- The synonyms are listed only where the status of a name disagrees with the usage in BRIDGES (1994). Two of them are new. Some other synonymies are preliminarily suggested (“?”), but these are subject to subsequent confirmation (checking the type material).
The known distributions of all taxa are stated, the islands are listed by regions or subregions. Genera and species are usually listed in alphabetical order within the resp. families and genera. However, in the large genera Drepanosticta, Amphicnemis, Teinobasis and Risiocnemis, a preliminary species grouping is attempted. The details are presented in the respective comments. Many taxa are commented upon, see comments 1 - 111 on pp. 276-285.

**PLATYSTICTIDAE**

*Drepanosticta annulata* (Selys, 1886) ¹
Luzon region: Luzon

*D. aries* Needham & Gyger, 1941
Mindanao subregion: Mindanao

*Drepanosticta* sp./spp. (cf. *aries*) ³
- East Visayan subregion: Samar; - Mindanao subregion: Mindanao; - Sulu region: Tawi Tawi

*D. belyshevi* Hämäläinen, 1991
- East Visayan subregion: Leyte, Panaon, Bohol

*D. ceratophora* Lieftinck, 1974
- Palawan region: Palawan

*D. lestoides* (Brauer, 1868)
- East Visayan subregion: Panaon; - Mindanao subregion: Mindanao, Dinagat

*D. lymetta* Cowley, 1936
- Mindanao subregion: Mindanao

*Drepanosticta* sp. (cf. *lymetta*) ⁴
- West Visayan region: Siquijor

*D. megametta* Cowley, 1936
- Mindanao subregion: Mindanao

*D. mylitta* Cowley, 1936 (? syn. *septima* Needham & Gyger, 1939) ⁵
- East Visayan subregion: Samar, Leyte, Biliran, Homonhon, Panaon; - Mindanao subregion: Dinagat

*Drepanosticta* sp. (cf. *mylitta*) ⁶
- East Visayan subregion: Samar

*Drepanosticta* sp.n. ⁷
- Luzon region: Luzon

*Drepanosticta* sp.n. ⁸
- Luzon region: Luzon

*Drepanosticta* sp.n. ⁹
- Luzon region: Luzon

*Drepanosticta* sp.n. ¹⁰
- Luzon region: Luzon

*Drepanosticta* sp.n. ¹¹
- Luzon region: Catanduanes

*Drepanosticta* sp.n. ¹²
Mindoro region: Mindoro

*Drepanosticta* sp.n. 13

- West Visayan region: Negros, Panay, Sibuyan

*Drepanosticta* sp.n. 14

- Mindanao subregion: Mindanao

*Drepanosticta* sp.n. 15

- Mindanao subregion: Mindanao

*Drepanosticta* sp.n. 16

- Mindanao subregion: Mindanao

*Drepanosticta* sp.n. 17

- Mindanao subregion: Mindanao

*Drepanosticta* sp.n. 18

- Mindanao subregion: Mindanao, Camiguin

*Drepanosticta* sp.n. 19

- Palawan region: Palawan

*Drepanosticta* sp.n. 20

- Palawan region: Palawan, Busuanga

*D. halterata* (Brauer, 1868) 21

- Luzon region: Luzon

*D. philippa* Lieftinck, 1961

- Luzon region: Luzon

*D. taurus* Needham & Gyger, 1941

- Mindanao subregion: Mindanao

*D. trimaculata* Lieftinck, 1939

- Luzon region: Luzon

*Drepanosticta* sp.n. 22

- West Visayan region: Negros, Panay, Sibuyan

*Drepanosticta* sp.n. 23

- East Visayan subregion: Bohol

*Drepanosticta* sp./spp. (cf. *philippa* & *trimaculata*) 24

- Luzon region: Luzon, Marinduque

*Protosticta* sp.n. 25

- Luzon region: Luzon

*Protosticta* sp.n. 26

- Luzon region: Luzon

*Protosticta* sp.n. 27

- Luzon region: Polillo

**PROTONEURIDAE**

*Prodasineura integra* (Selys, 1882) (syn. *Alloneura obsoleta* Selys, 1882, n.syn.) 28

- West Visayan region: Masbate; - East Visayan subregion: Samar, Leyte,
Homonhon; - Mindanao subregion: Mindanao, Basilan, Dinagat, Camiguin

*P. palawana* Lieftinck, 1948
Palawan region: Palawan, Busuanga, Dumaran

*Prodasineura* sp. n. 9
Palawan region: Palawan

COENAGRIONIDAE

*Aciagrion borneense* Ris, 1911
Palawan region: Busuanga

*Agriocnemis f. femina* (Brauer, 1868)
Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Cebu, Masbate, Negros, Sibuyan, Siquijor, Ticao; - East Visayan subregion: Leyte, Bohol, Biliran, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Basilan; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Jolo, Sibutu

*A. pygmaea* (Rambur, 1842)
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu, Panay, Negros, Sibuyan; - East Visayan subregion: Panaon; - Mindanao subregion: Mindanao, Basilan; - Palawan region: Palawan

*Amphicnemis circularis* Lieftinck, 1974 2, 30
Sulu region: Tawi Tawi, Sanga Sanga, Bongao, Sibutu

*A. dentifer* (Needham & Gyger, 1939) 1
Mindanao subregion: Mindanao, Siargao

*Amphicnemis* sp. (cf. *dentifer*) 31
East Visayan subregion: Samar, Homonhon

*A. furcata* Brauer, 1868
Luzon region: Luzon

*Amphicnemis* sp. n. 32
Mindoro region: Mindoro

*Amphicnemis* sp. n. 33
West Visayan region: Negros, Sibuyan

*A. cantuga* (Needham & Gyger, 1939) 2, 34
East Visayan subregion: Samar, Leyte, Biliran, Homonhon; - Mindanao subregion: Mindanao, Dinagat

*A. macgregori* (Needham & Gyger, 1939)
Luzon region: Luzon

*A. bonita* (Needham & Gyger, 1939) 35
Luzon region: Luzon, Marinduque

*Amphicnemis* sp. (cf. *bonita*) 36
West Visayan region: Panay, Negros, Cebu, Masbate

*A. flavicornis* (Needham & Gyger, 1939)
Luzon region: Luzon
Amphicnemis sp. (cf. flavicornis) 37
East Visayan region: Samar
Amphicnemis sp. (cf. flavicornis) 38
West Visayan region: Negros
Amphicnemis sp.n. 39
Luzon region: Luzon
A. incallida Needham & Gyger, 1939 40
Luzon region: Luzon; - East Visayan region: Samar
Amphicnemis sp. (cf. incallida) 41
East Visayan subregion: Samar, Leyte; - Mindanao subregion: Mindanao
Amphicnemis sp. 42
Luzon region: Catanduanes
Amphicnemis sp. 43
East Visayan subregion: Bohol
Amphicnemis sp. 44
Mindanao subregion: Mindanao, Dinagat
Amphicnemis sp.n. 45
Mindanao subregion: Mindanao
Amphicnemis sp. 46
East Visayan subregion: Samar, Leyte, Panaon, Biliran
A. lestoides (Brauer, 1868)
Mindanao subregion: Mindanao
Amphicnemis sp. / spp. (cf. lestoides) 47
Mindanao subregion: Mindanao, Dinagat
Amphicnemis sp. (cf. lestoides) 48
East Visayan subregion: Homonhon
A. glauca Brauer, 1868 49
Luzon region: Luzon
Argiocnemis rubescens intermedia Selys, 1877
Luzon region: Luzon, Polillo, Catanduanes; - Mindoro region: Mindoro; - West Visayan region: Cebu, Panay, Sibuyan, Siquijor; - East Visayan subregion: Leyte, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Siargao, Basilan;
- Palawan region: Palawan, Dumaran; - Sulu region: Tawi Tawi, Sanga Sanga, Bongao, Sibutu
* Archibasis viola Lieftinck, 1949 50
Palawan region: Palawan
Cercion luzonicum Asahina, 1968
Luzon region: Luzon
C. malayanum (Selys, 1876)
Luzon region: Luzon
C. pendulum (Needham & Gyger, 1939)
Luzon region: Luzon

Ceriagrion calamineum Lieftinck, 1951
Luzon region: Luzon; - Palawan region: Busuanga, Dumaran

* C. cerinorubellum (Brauer, 1865) 51
Palawan region: Dumaran

C. lieftincki Asahina, 1967
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Panay, Cebu, Ticao; - East Visayan subregion: Leyte, Samar, Bohol, Panaon, Homonhon; - Mindanao subregion: Mindanao, Basilan, Dinagat; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Jolo, Sanga Sanga, Bongao, Siiasi

Ischnura a. aurora Brauer, 1865
Mindanao subregion: Mindanao

I. senegalensis (Rambur, 1842)
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Panay, Sibuyan, Masbate; - Mindanao subregion: Mindanao, Dinagat, Basilan; - Palawan region: Palawan; - Sulu region: Tawi Tawi

Ischnura sp. 52
Luzon region: Luzon

Moroagrion danielli Needham & Gyger, 1939 53
? (Guara)

Onychargia atrocyana Selys, 1865
Mindoro region: Mindoro; - Mindanao subregion: Mindanao

Pseudagrion azureum Needham & Gyger, 1939
Luzon region: Luzon

P. buenafei Müller, 1996
Mindanao subregion: Mindanao

P. evanidum Needham & Gyger, 1939
Luzon region: Luzon

P. microcephalum (Rambur, 1842)
Luzon region: Luzon; - West Visayan region: Panay; - Mindanao subregion: Mindanao; - Sulu region: Jolo

P. p. pilidorsum (Brauer, 1868)
Luzon region: Luzon, Polillo, Marinduque, Catanduanes; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Panay, Sibuyan, Masbate, Siquijor, Ticao; - East Visayan region: Samar, Leyte, Panaon, Homonhon, Biliran; - Mindanao subregion: Mindanao, Dinagat, Camiguin, Basilan; - Palawan region: Palawan, Dumaran; - Sulu region: Tawi Tawi, Jolo

P. r. rubriceps (Selys, 1876)
Luzon region: Luzon; - Mindoro region: Mindoro

Stenagrion sp.n. 54
Palawan region: Palawan

Teinobasis annamaijae Hämäläinen & Müller, 1989 2

Synopsis of the Philippine Odonata 261
Mindanao subregion: Mindanao, Dinagat

*T. corolla* Needham & Gyger, 1939
Luzon region: Luzon, Marinduque; - West Visayan region: Negros, Masbate, Ticao

*T. filamentum* Needham & Gyger, 1939
East Visayan subregion: Samar, Bohol, Panaon, Homonhon; - Mindanao subregion: Mindanao, Basilan

*Teinobasis* sp. (cf. *filamentum*)
Luzon region: Luzon

*T. filiformis* (Brauer, 1868)
Luzon region: Luzon

*Teinobasis* sp. (cf. *filiformis*)
Mindanao subregion: Mindanao

*T. filum* (Brauer, 1868)
Mindanao region: Mindanao

*T. hamalainenii* Müller, 1992
Luzon region: Luzon

*T. nigra* Campion & Laidlaw, 1928
Luzon region: Luzon, Polillo

*T. olivacea* Ris, 1915
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu, Masbate, Ticao; - East Visayan subregion: Samar, Leyte, Homonhon; - Mindanao subregion: Mindanao, Siargao; - Palawan region: Palawan, Dumaran

*T. ranee* Needham & Gyger, 1941
Mindanao subregion: Mindanao

*T. recurva* (Selys, 1877)
Mindanao subregion: Mindanao, Basilan

*T. rubricauda* Lieftinck, 1974
Palawan region: Palawan, Dumaran

*T. samaritis* Ris, 1915
Luzon region: Luzon, Polillo, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Masbate, Sibuyan, Siquijor, Ticao; - East Visayan subregion: Samar, Homonhon; - Mindanao subregion: Mindanao, Basilan; - Palawan region: Palawan, Busuanga; - Sulu region: Tawi Tawi, Sanga Sanga, Tandubas, Sibutu

*T. strigosa* Needham & Gyger, 1939
Luzon region: Luzon, Polillo; - East Visayan subregion: Samar

*Xiphiagrion cyanomelas* Selys, 1876
Luzon region: Luzon; - West Visayan region: Sibuyan; - East Visayan subregion: Leyte; - Mindanao subregion: Mindanao, Dinagat; - Sulu region: Tawi Tawi, Sanga Sanga, Sibutu
PLATYCNYEMIDIDAE

Asthenocnemis stephanodera Lieftinck, 1949
  Palawan region: Palawan

Asthenocnemis sp. (cf. stephanodera) 57
  Palawan region: Palawan

Coeliccia axinocercus Lieftinck, 1974
  Palawan region: Balabac

C. boettcheri Schmidt, 1951
  Palawan region: Palawan, Dumaran, Cuyo

C. brachysticta Ris, 1912
  Mindoro region: Mindoro

C. dinoceras Laidlaw, 1925 2
  West Visayan region: Siquijor; - East Visayan subregion: Samar, Leyte, Panaon, Biliran, Bohol; - Mindanao subregion: Mindanao, Basilan, Dinagat

C. exoleta Lieftinck, 1961 2
  Mindanao subregion: Mindanao

C. palawana Lieftinck, 1940 2
  Palawan region: Palawan

C. werneri Lieftinck, 1961 2
  Palawan region: Palawan

Coeliccia sp. 58
  Palawan region: Busuanga

Coeliccia sp.n. 59
  Palawan region: Dumaran

Copera vittata palawana Lieftinck, 1940
  Palawan region: Palawan

Risiocnemis appendiculata (Brauer, 1868)
  East Visayan subregion: Samar, Leyte, Panaon, Biliran, Bohol, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Camiguin

R. arator Hämäläinen, 1991
  Luzon region: Luzon

R. asahinai Kitagawa, 1990
  Luzon region: Luzon; - Mindoro region: Mindoro

R. confusa Hämäläinen, 1991
  Luzon region: Luzon, Catanduanes

R. elegans Kitagawa, 1990 60
  Luzon region: Luzon

R. erythrura (Brauer, 1868)
  Mindanao subregion: Mindanao, Siargao

R. gracilis Hämäläinen, 1991 2
  Luzon region: Luzon
R. kiautai Hämäläinen, 1991
  West Visayan region: Sibuyan
R. laguna Hämäläinen, 1991
  Luzon region: Luzon
R. moroensis Hämäläinen, 1991
  Mindanao subregion: Mindanao
R. praeusta Hämäläinen, 1991
  East Visayan subregion: Samar, Leyte, Panaon, Biliran; - Mindanao subregion: Dinagat
R. pulchra Hämäläinen, 1991
  Luzon region: Luzon
R. rolandmuelleri Hämäläinen, 1991
  West Visayan region: Panay, Negros, Sibuyan, Masbate, Siquijor
R. serrata (Hagen in Selys, 1863)
  Luzon region: Luzon, Polillo, Marinduque, Catanduanes
R. varians Hämäläinen, 1991
  Luzon region: Luzon
Risiocnemis sp.n.
  Luzon region: Luzon
R. atripes (Needham & Gyger, 1941)
  Mindanao subregion: Mindanao
R. atropurpurea (Brauer, 1868)
  Luzon region: Luzon, Marinduque
R. calceata Hämäläinen, 1991
  East Visayan subregion: Panaon; - Mindanao subregion: Dinagat
R. flammae (Selys, 1882)
  East Visayan subregion: Samar, Leyte, Biliran, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat
R. fuligifrons Hämäläinen, 1991
  East Visayan subregion: Panaon; - Mindanao subregion: Mindanao, Dinagat, Basilan
R. haematopus (Selys, 1882)
  Luzon region: Luzon, Catanduanes; - East Visayan subregion: Samar
R. ignea (Brauer, 1868)
  Luzon region: Luzon
R. incisa Kimmins, 1936
  Luzon region: Luzon; - Mindoro region: Mindoro
R. melanops Hämäläinen, 1991
  East Visayan subregion: Samar
R. odobeni Hämäläinen, 1991
  Luzon region: Luzon, Catanduanes; - Mindoro region: Mindoro
R. plebeja Hämäläinen, 1991
West Visayan region: Panay, Sibuyan
*R. polilloensis* Hämäläinen, 1991 ²
Luzon region: Polillo, Catanduanes
*R. rubripes* (Needham & Gyger, 1939)
Mindanao subregion: Mindanao, Dinagat
*R. sinae* Hämäläinen, 1991 ²
East Visayan subregion: Samar, Leyte, Biliran
*R. tendipes* (Needham & Gyger, 1941)
Mindanao subregion: Mindanao
*Risinocnemis* sp. n. 62
East Visayan subregion: Samar
*Risinocnemis* sp. n. 63
Mindanao subregion: Mindanao
*Risinocnemis* sp. n. 64
Mindanao subregion: Mindanao
*Risinocnemis* sp. n. 65
Mindanao subregion: Mindanao
*Risinocnemis* sp. n. 66
Luzon region: Luzon

**LESTIDAE**

*Lestes concinnus* Hagen *in* Selys, 1862
Luzon region: Luzon
*L. p. praemorsus* (Selys, 1862)
Luzon region: Luzon; - West Visayan region: Panay; - East Visayan subregion: Samar, Homonhon; - Mindanao subregion: Dinagat, Siargao
*L. quercifolia* (Selys, 1878)
Mindanao subregion: Basilan; - Palawan region: Balabac; - Sulu region: Tawi Tawi, Sanga Sanga, Sibutu

**MEGAPODAGRIONIDAE**

*Rhinagrion philippinum* (Selys, 1882)
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Masbate;
- East Visayan region: Samar, Bohol; - Mindanao subregion: Mindanao
*Argiolestes realensis* Gapud & Recuenco, 1993
Luzon region: Luzon
*Argiolestes* sp. n. 67
Luzon region: Luzon
AMPHIPTERYGIDAE

Devadatta podolestoides basilanensis Laidlaw, 1934 (syn. filipina Needham & Gyger, 1939)
Mindanao subregion: Mindanao, Dinagat, Basilan

Devadatta sp. 68
Luzon region: Luzon

CHLOROCYPHIDAE

Cyrano angustior Hämäläinen, 1989
East Visayan subregion: Samar, Leyte; - Mindanao subregion: Mindanao, Dinagat, Camiguin

C. unicolor (Hagen in Selys, 1869)
Luzon region: Luzon, Marinduque, Catanduanes; - Mindoro region: Mindoro; - West Visayan region: Negros, Panay

Rhinocypha colorata (Hagen in Selys, 1869) 69
Luzon region: Luzon, Marinduque, Catanduanes; - Mindoro region: Mindoro; - West Visayan region: Panay, Negros, Cebu, Masbate, Sibuyan; - East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon; - Mindanao subregion: Mindanao, Basilan, Dinagat

R. dorsosanguinea Lieftinck, 1961 70
Mindanao subregion: Basilan

R. hageni Krüger, 1898
Sulu region: Jolo

R. humeralis Selys, 1873 (syn. eximia Selys, 1873)
Palawan region: Palawan, Busuanga, Balabac

R. latimaculata Lieftinck, 1974
Sulu region: Tawi Tawi, Bongao

R. sanguinolenta Lieftinck, 1961 2
Mindanao subregion: Mindanao

R. turconii Selys, 1891 71
Luzon region: Luzon, Catanduanes; - West Visayan region: Cebu; - East Visayan subregion: Samar, Leyte, Biliran, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Camiguin

EUPHAEIDAE

Cyclophaea cyanifrons Ris, 1930
Palawan region: Palawan, Busuanga

Euphaea amphicyana Ris, 1930
East Visayan subregion: Samar, Leyte, Panaon, Homonhon; - Mindanao subregion:
Mindanao, Dinagat, Basilan

_E. cora_ Ris, 1930  
East Visayan subregion: Samar; - Mindanao subregion: Mindanao, Basilan

_E. subcostalis_ Selys, 1873 (syn. _laidlawi_ Kimmins, 1936)
Palawan region: Palawan

_E. refulgens_ Hagen _in_ Selys, 1853 (syn. _semperi_ Selys, 1879)
Luzon region: Luzon, Marinduque, Catanduanes; - Mindoro region: Mindoro

_Heterophaea barbata_ (Martin, 1902) [? syn. _ruficollis_ (Ris, 1930)]  
Luzon region: Luzon

**CALOPTERYGIDAE**

_Neurobasis anumariae_ Hämäläinen, 1989
- East Visayan subregion: Samar, Leyte; - Mindanao subregion: Mindanao

_N. daviesi_ Hämäläinen, 1993
- Palawan region: Palawan

_N. l. luzoniensis_ Selys, 1879
- Luzon region: Luzon; - Mindoro region: Mindoro

_N. luzoniensis subpicta_ Hämäläinen, 1990
- West Visayan subregion: Negros, Panay

_Vestalis melania_ Selys, 1873
Luzon region: Luzon, Catanduanes; - Mindoro region: Mindoro; - East Visayan region: Samar, Leyte, Panaon; - Mindanao subregion: Mindanao, Basilan, Dinagat; - Sulu region: Jolo

_V. amaryllis_ Lieftinck, 1965
- Palawan region: Balabac

**GOMPHIDAE**

* _Acrogomphus jubilaris_ Lieftinck, 1964  
- East Visayan subregion: Samar

_Gomphidia kirschii_ Selys, 1878 (syn. _Gomphidia platerosi_ Asahina, 1980, n. syn.)
- Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - East Visayan subregion: Samar, Leyte; - Mindanao subregion: Mindanao, Basilan, Dinagat

_Heliogomphus bakeri_ Laidlaw, 1925
- Luzon region: Luzon, Catanduanes; - Mindoro region: Mindoro; - West Visayan region: Panay, Negros, Sibuyan; - East Visayan subregion: Samar, Leyte, Homonhon; - Mindanao subregion: Mindanao, Dinagat

_H. olivaceus_ Lieftinck, 1961  
- Palawan region: Palawan, Busuanga

_Ictinogomphus tenax_ (Hagen _in_ Selys, 1854)
- Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - Mindanao
subregion: Mindanao

* I. decoratus melaenops (Selys, 1858) 75
  Palawan region: Palawan, Dumaran

Leptogomphus palawanus Asahina, 1968
  Palawan region: Palawan, Busuanga, Dumaran

L. semperi Selys, 1878 2
  Luzon region: Luzon; - East Visayan subregion: Samar, Leyte; - Mindanao subregion: Mindanao, Basilan

Microgomphus chelifer Selys, 1857 ssp. 76
  Palawan region: Palawan

Onychogomphus treadawayi Müller & Hämäläinen, 1993
  Palawan region: Busuanga

Paragomphus balneorum (Needham & Gyger, 1937)
  Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Panay; - Mindanao subregion: Mindanao

Paragomphus sp. (cf. balneorum) 77
  Palawan region: Busuanga

AESHNIDAE

Anaciaeschna jaspidea (Burmeister, 1839)
  Luzon region: Luzon; - Mindanao subregion: Mindanao

Anax guttatus (Burmeister, 1839)
  Luzon region: Luzon, Polillo, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Panay, Negros; - East Visayan subregion: Leyte; - Mindanao subregion: Mindanao; Sulu region: Sibutu

A. panybeus Hagen, 1867
  Luzon region: Luzon, Marinduque; - West Visayan region: Negros, Panay; - East Visayan subregion: Samar, Leyte, Bohol, Biliran; - Mindanao subregion: Mindanao; - Sulu region: Sanga Sanga, Bongao

Anax sp. 78
  Mindanao subregion: Mindanao

Gynacantha alcathoe Lieftinck, 1961
  East Visayan subregion: Samar, Homonhon; - Mindanao subregion: Mindanao; - Sulu region: Bongao, Sanga Sanga, Sibutu

* G. arsinoe Lieftinck, 1948 79
  Sulu region: Tawi Tawi, Bongao, Sanga Sanga

G. basiguttata Selys, 1882
  Luzon region: Luzon; - Mindoro region: Mindoro; - Palawan region: Palawan

G. bayadera Selys, 1891
  Luzon region: Luzon; - West Visayan region: Panay, Sibuyan; - Mindanao subregion: Mindanao, Dinagat; - Palawan region: Palawan; - Sulu region: Tawi
Tawi, Bongao, Sanga Sanga

G. constricta Hämäläinen, 1991
Luzon region: Luzon

* G. dohrni Krüger, 1898 80
East Visayan region: Leyte; - Palawan region: Palawan

G. hyalina Selys, 1882 81
Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Negros; - East Mindanao subregion: Homonhon; - Mindanao subregion: Mindanao; - Palawan region: Palawan, Dumaran

G. rolandmuelleri Hämäläinen, 1991
West Visayan region: Panay, Sibuyan

G. subinterrupta Rambur, 1842 81
Luzon region: Luzon; - Mindanao subregion: Mindanao; - Palawan region: Palawan

* Heliaeschna simplicia (Karsch, 1891) 82
Sulu region: Bongao, Sanga Sanga

* H. uninervulata Martin, 1909 83
Palawan region: Palawan

Indaeschna baluga Needham & Gyger, 1937
Luzon region: Luzon

* I. grubaueri (Förster, 1904) 84
West Visayan region: Negros; - Mindanao subregion: Mindanao

Oligoaeschna poeciloptera (Karsch, 1889) 85
Luzon region: Luzon; - East Visayan subregion: Homonhon

Oligoaeschna spp. (cf. poeciloptera) 86
Mindoro region: Mindoro; - Mindanao subregion: Mindanao, Dinagat

O. uemurai Asahina, 1990
East Visayan subregion: Samar; - Mindanao subregion: Mindanao

O. zambo Needham & Gyger, 1937
Mindanao subregion: Mindanao

Oligoaeschna sp. 87
East Visayan subregion: Leyte

Oligoaeschna sp. 88
Mindoro region: Mindoro

Oligoaeschna sp. 89
Palawan region: Palawan

Oligoaeschna sp. 90
Sulu region: Tawi Tawi

Tetracanthagyna bakeri Campion & Laidlaw, 1928
Luzon region: Luzon; - Mindoro region: Mindoro; - East Visayan subregion: Leyte; - Mindanao subregion: Mindanao

* T. brunnea McLachlan, 1898 91
Palawan region: Palawan

CHLOROGOMPHIDAE

Chlorogomphus splendidus (Selys, 1878) 92
Luzon region: Luzon
Chlorogomphus sp.n. 93
West Visayan region: Panay
Chlorogomphus sp. 93
Mindoro region: Mindoro
Chlorogomphus sp. 93
Palawan region: Palawan, Busuanga
Chlorogomphus sp./spp. 93
Luzon Region: Marinduque; - Mindanao subregion: Dinagat, Mindanao

CORDULIIDAE

Epophthalmia v. vittigera (Rambur, 1842)
West Visayan region: Negros; - Mindanao subregion: Mindanao; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Sanga Sanga
E. elegans (Brauer, 1865) 94
Luzon region: Luzon
Hemicordulia apoensis Asahina, 1980
Mindanao subregion: Mindanao
H. m. mindana Needham & Gyger, 1937
Mindoro region: Mindoro; - East Visayan subregion: Samar, Leyte, Biliran; - Mindanao subregion: Mindanao, Basilan, Dinagat; - Palawan region: Palawan; - Sulu region: Tawi Tawi
Heteronaias heterodoxa (Selys, 1878) 95
Luzon region: Luzon, Marinduque, Catanduanes; - Mindoro region: Mindoro; - West Visayan region: Negros, Panay, Masbate, Sibuyan; - East Visayan subregion: Samar, Leyte, Bohol, Biliran, Homonhon, Panaon; - Mindanao subregion: Mindanao, Dinagat; - (Palawan region: Palawan)
Idionyx philippa Ris, 1912
Luzon region: Luzon; - Mindoro region: Mindoro; - East Visayan subregion: Samar, Leyte, Panaon, Homonhon; - Mindanao subregion: Mindanao, Basilan, Dinagat
I. salva Needham & Gyger, 1937
Luzon region: Luzon
Idionyx sp. (cf. salva) 96
Palawan region: Palawan, Busuanga
Macromia cincta Rambur, 1842
Palawan region: Palawan; - Sulu region: Tawi Tawi
*M. negerito* Needham & Gyger, 1937 97
Luzon region: Luzon; - Palawan region: Busuanga

* M. westwoodi* Selys, 1874 98
Palawan region: Palawan

*Macromidia asahinai* Lieftinck, 1971 2
Palawan region: Palawan

*M. samal* Needham & Gyger, 1937 1
Luzon region: Luzon; - Mindoro region: Mindoro; West Visayan region: Negros;
- Mindanao subregion: Mindanao, Dinagat

*Procordulia moroensis* Lieftinck, 1977
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Negros;
- Mindanao subregion: Mindanao

**LIBELLULIDAE**

*Acisoma p. panorpoides* Rambur, 1842
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Sibuyan,
Siquijor; - East Visayan subregion: Samar, Leyte, Homonhon; - Mindanao
subregion: Mindanao, Dinagat; - Palawan region: Busuanga

*Aethriamanta gracilis* (Brauer, 1878) 99
Sulu region: Tawi Tawi

*Agrionoptera bartola* Needham & Gyger, 1937 100

?  

*A. insignis* (Rambur, 1842) 101
Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu,
Siquijor; - East Visayan subregion: Samar, Leyte, Homonhon; - Mindanao
subregion: Mindanao, Dinagat, Siargao, Basilan; - Palawan region: Palawan,
Balabac; - Sulu region: Tawi Tawi, Bongao, Sanga Sanga, Tandubas, Sibutu

*Brachydiplax c. chalybea* Brauer, 1868
Luzon region: Luzon; - Mindoro region: Mindoro; - East Visayan subregion:
Bohol; - Mindanao subregion: Mindanao, Dinagat; - Palawan region: Palawan,
Dumaran; - Sulu region: Tawi Tawi, Tandubas, Sibutu

*B. duivenbodei* (Brauer, 1866)
East Visayan subregion: Bohol, Homonhon; - Mindanao subregion: Dinagat

*Brachythemis contaminata* (Fabricius, 1793)
Luzon region: Luzon

*Camacinia gigantea* (Brauer, 1867)
Luzon region: Luzon, Polillo; - Mindanao subregion: Mindanao, Dinagat, Siargao,
Basilan; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Bongao, Sanga
Sanga, Sibutu, Cagayan Sulu

*Cratilla l. lineata* (Brauer, 1878)
Palawan region: Palawan, Balabac

*C. lineata assidua* Lief tinck, 1953

- Luzon region: Luzon, Polillo;
- Mindoro region: Mindoro;
- West Visayan region: Sibuyan;
- East Visayan subregion: Samar, Leyte;
- Mindanao subregion: Mindanao, Dinagat, Siargao, Basilan;
- Sulu region: Tawi Tawi, Sanga Sanga, Bongao, Sibutu

*C. metallica* (Brauer, 1878)

- Luzon region: Luzon;
- Palawan region: Palawan

*Crocothemis s. servilia* (Drury, 1770)

- Luzon region: Luzon;
- Mindoro region: Mindoro;
- West Visayan region: Cebu, Masbate;
- East Visayan subregion: Samar, Leyte, Bohol, Panaon;
- Mindanao subregion: Mindanao

*Diplacina bolivari* Selys, 1882

- Luzon region: Luzon, Marinduque;
- Mindoro region: Mindoro;
- West Visayan region: Cebu, Negros, Panay, Masbate, Siquijor;
- East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon;
- Mindanao subregion: Mindanao, Basilan, Camiguin

*D. bolivari* ssp. 102

- Palawan region: Palawan, Busuanga;
- Sulu region: Tawi Tawi

*D. braueri* Selys, 1882

- Luzon region: Luzon;
- Mindoro region: Mindoro;
- West Visayan region: Cebu, Negros, Masbate, Sibuyan;
- East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon;
- Mindanao subregion: Mindanao, Basilan;
- Sulu region: Tawi Tawi, Jolo

*D. lisa* Needham & Gyger, 1941 2

- Luzon region: Luzon;
- Mindoro region: Mindoro;
- Mindanao subregion: Mindanao

*D. nana* Brauer, 1868 2

- Luzon region: Luzon;
- West Visayan region: Cebu, Negros, Siquijor;
- East Visayan subregion: Samar, Bohol, Biliran;
- Mindanao subregion: Mindanao, Dinagat

*Diplacodes nebulosa* (Fabricius, 1793)

- Luzon region: Luzon;
- Mindoro region: Mindoro;
- Mindanao subregion: Mindanao

*D. trivialis* (Rambur, 1842)

- Luzon region: Luzon, Marinduque, Catanduanes;
- Mindoro region: Mindoro;
- West Visayan region: Panay, Cebu, Negros, Sibuyan, Ticao;
- East Visayan region: Leyte, Bohol, Panaon, Homonhon;
- Mindanao subregion: Mindanao, Dinagat, Basilan;
- Palawan region: Palawan, Busuanga, Balabac, Dumaran, Cuyo, Albaguin;
- Sulu region: Tawi Tawi, Sanga Sanga, Bongao, Sibutu

*Hydrobasileus croceus* (Brauer, 1867)

- Luzon region: Luzon;
- Mindoro region: Mindoro;
- Mindanao subregion: Mindanao, Dinagat;
- Palawan region: Palawan
**Lathrecista asiatica** (Fabricius, 1798)

Luzon region: Luzon, Polillo; - Mindoro region: Mindoro; - West Visayan region: Cebu, Panay, Negros, Masbate, Sibuyan, Siquijor; - East Visayan subregion: Leyte, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Siargao, Basilan, Camiguin; - Palawan region: Palawan, Busuanga, Balabac; - Sulu region: Tawi Tawi, Sanga Sanga, Bongao, Sibutu

**Lyriothemis cleis** Brauer, 1868

Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Sibuyan; - East Visayan subregion: Samar, Leyte, Homonhon, Panaon; - Mindanao subregion: Mindanao, Dinagat, Basilan; - Palawan region: Palawan, Balabac; - Sulu region: Tawi Tawi, Sanga Sanga, Sibutu

**L. latro** Needham & Gyger, 1937

Luzon region: Luzon; - East Visayan subregion: Samar, Bohol

**Macrodiplax cora** (Brauer, 1867)

Luzon region: Luzon; - Mindoro region: Mindoro; - Mindanao subregion: Mindanao, Basilan; - Palawan region: Palawan

**Nannophya pygmaea** Rambur, 1842

Mindoro region: Mindoro; - East Visayan subregion: Samar, Leyte, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat

**Nesozena lineata** (Selys, 1879)

Mindoro region: Mindoro; - East Visayan subregion: Homonhon; - Mindanao subregion: Mindanao; - Palawan region: Palawan, Dumaran

* Neurothemis fluctuans* (Fabricius, 1793)

Palawan region: Palawan, Busuanga

**N. r. ramburii** (Brauer, 1866)

Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Panay, Masbate, Sibuyan, Siquijor; - East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Basilan; - Palawan region: Palawan, Busuanga; - Sulu region: Tawi Tawi, Sitangkai, Sibutu, Sanga Sanga, Jolo, Bongao

**N. t. terminata** Ris, 1911

Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Panay, Masbate, Sibuyan, Siquijor, Ticao; - East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon, Homonhon; - Mindanao subregion: Mindanao, Dinagat, Camiguin, Basilan; - Palawan region: Palawan, Busuanga, Balabac, Dumaran, Cuyo, Albaguin; - Sulu region: Tawi Tawi, Bongao, Jolo, Sanga Sanga, Sibutu

**Onychothemis abnormis** Brauer, 1868

Luzon region: Luzon; - Mindoro region: Mindoro; - East Visayan subregion: Leyte, Bohol

**Orchithemis pulcherrima** Brauer, 1878

Luzon region: Luzon; - Mindanao subregion: Basilan; - Sulu region: Tawi Tawi,
Sanga Sanga

*Orthetrum chrysis* (Selys, 1891)
- Luzon region: Luzon, Polillo
- Mindoro region: Mindoro
- West Visayan region: Cebu, Negros, Masbate, Sibuyan, Ticao
- East Visayan subregion: Samar, Leyte, Biliran, Homonhon
- Mindanao subregion: Mindanao
- Palawan region: Palawan, Busuanga, Balabac, Cuyo
- Sulu region: Tawi Tawi

*O. glaucum* (Brauer, 1865)
- Luzon region: Luzon
- West Visayan region: Panay

*O. luzonicum* (Brauer, 1868)
- Luzon region: Luzon
- Mindoro region: Mindoro
- Palawan region: Busuanga

*O. pruinosum clelia* (Selys, 1878)
- Luzon region: Luzon
- Mindoro region: Mindoro
- West Visayan region: Cebu, Negros, Panay, Sibuyan, Siquijor
- East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon, Homonhon
- Mindanao subregion: Mindanao, Dinagat, Basilan
- Palawan region: Palawan
- Sulu region: Tawi Tawi, Sanga Sanga, Jolo, Bongao, Sibutu

*O. s. sabina* (Drury, 1770)
- Luzon region: Luzon, Marinduque, Catanduanes
- Mindoro region: Mindoro
- West Visayan region: Cebu, Negros, Panay, Masbate, Sibuyan, Siquijor, Ticao
- East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon, Homonhon
- Mindanao subregion: Mindanao, Basilan
- Palawan region: Palawan, Busuanga, Cuyo, Albaguin
- Sulu region: Tawi Tawi, Jolo, Bongao, Sanga Sanga, Sibutu

*O. t. testaceum* (Burmeister, 1839)
- Luzon region: Luzon
- Mindoro region: Mindoro
- West Visayan region: Cebu, Negros, Masbate, Sibuyan, Siquijor, Ticao
- East Visayan subregion: Samar, Leyte, Bohol, Biliran, Panaon, Homonhon
- Mindanao subregion: Mindanao, Dinagat, Basilan
- Palawan region: Palawan, Balabac
- Sulu region: Tawi Tawi, Jolo, Bongao, Sanga Sanga, Sibutu

*Pantala flavescens* (Fabricius, 1798)
- Luzon region: Luzon, Marinduque
- Mindoro region: Mindoro
- West Visayan region: Cebu, Negros, Panay, Sibuyan, Tablas, Ticao
- East Visayan subregion: Samar, Leyte, Bohol, Panaon, Biliran, Homonhon
- Mindanao subregion: Mindanao, Dinagat, Basilan
- Palawan region: Palawan, Busuanga, Balabac
- Sulu region: Tawi Tawi, Jolo, Sanga Sanga, Sibutu

*Potamarcha congener* (Rambur, 1842)
- Luzon region: Luzon, Marinduque
- Mindoro region: Mindoro
- West Visayan region: Cebu, Negros, Masbate, Sibuyan, Siquijor, Ticao
- East Visayan subregion: Samar, Leyte, Bohol, Panaon, Biliran, Homonhon
- Mindanao subregion: Mindanao, Dinagat, Basilan
- Palawan region: Palawan, Dumaran
- Sulu region: Tawi Tawi, Sanga Sanga, Bongao

*Protorthemis intermedia* Fraser, 1936
- Palawan region: Palawan
Raphismia bispina (Hagen, 1867)
   Luzon region: Luzon, Polillo; - Mindoro region: Mindoro; - West Visayan region: Masbate; - East Visayan subregion: Homonhon; - Mindanao subregion: Mindanao, Dinagat, Basilan; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Bongao, Sanga Sanga, Sibutu, Sitangkai

Rhodothemis rufa (Rambur, 1842)
   Luzon region: Polillo; - East Visayan subregion: Leyte; - Mindanao subregion: Dinagat; - Palawan region: Dumaran; - Sulu region: Sibutu

* Rhoothemis obsolescens Kirby, 1889
   Mindoro region: Mindoro

R. phyllis subphyllis Selys, 1882
   Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu; - East Visayan region: Samar, Leyte, Bohol; - Mindanao subregion: Mindanao, Basilan, Dinagat; - Palawan region: Palawan, Busuanga; - Sulu region: Tawi Tawi, Sanga Sanga, Bongao, Jolo, Tumindanao, Cagayan Sulu

R. r. regia (Brauer, 1867)
   Mindoro region: Mindoro; - East Visayan subregion: Samar; - Mindanao subregion: Mindanao, Basilan, Dinagat; - Palawan region: Palawan, Balabac; - Sulu region: Sanga Sanga, Sibutu, Bongao, Cagayan Sulu

R. triangularis Kirby, 1889
   Mindoro region: Mindoro; - East Visayan subregion: Samar; - Mindanao subregion: Mindanao; - Palawan region: Palawan; - Sulu region: Tawi Tawi

Tetrathemis i. irregularis Brauer, 1868
   Luzon region: Luzon, Polillo; - Mindoro region: Mindoro; - West Visayan region: Masbate, Sibuyan; - East Visayan subregion: Samar; - Mindanao subregion: Mindanao, Dinagat, Basilan; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Sanga Sanga

Tholymis tillarga (Fabricius, 1798)
   Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu, Panay, Sibuyan, Siquijor; - East Visayan subregion: Leyte, Bohol, Homonhon; - Mindanao subregion: Mindanao, Basilan, Dinagat; - Palawan region: Palawan, Balabac; - Sulu region: Jolo, Bongao, Sanga Sanga

Tramea rosenbergi Brauer, 1866
   Luzon region: Luzon; - East Visayan subregion: Samar; - Mindanao subregion: Mindanao

T. transmarina euryale (Selys, 1878)
   Luzon region: Luzon; - West Visayan region: Sibuyan; - East Visayan subregion: Bohol, Homonhon; - Mindanao subregion: Mindanao, Dinagat; - Palawan region: Palawan; - Sulu region: Tawi Tawi, Bongao, Sanga Sanga, Sibutu

Trithemis adelpha Selys, 1878
   Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu; - East Visayan subregion: Samar, Bohol, Panaon; - Mindanao subregion:
Mindanao, Basilan

*T. aurora* (Burmeister, 1839)
- Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Panay, Masbate, Sibuyan; - East Visayan subregion: Samar, Leyte, Bohol, Panaon, Homonhon; - Mindanao subregion: Mindanao, Basilan; - Palawan region: Palawan, Busuanga, Dumaran, Albaguin

*T. festiva* (Rambur, 1842)
- Luzon region: Luzon, Marinduque; - Mindoro region: Mindoro; - West Visayan region: Negros, Cebu, Masbate, Sibuyan; - East Visayan subregion: Samar, Leyte, Bohol, Homonhon, Panaon; - Mindanao subregion: Mindanao, Dinagat, Basilan, Camiguin; - Palawan region: Palawan; - Sulu region: Tawi Tawi

*T. pallidinervis* (Kirby, 1889)
- Luzon region: Luzon; - Mindoro region: Mindoro

*Urothemis signata bisignata* Brauer, 1868
- Luzon region: Luzon; - Mindoro region: Mindoro; - Sulu region: Tawi Tawi

*Zyxomma obtusum* Albarda, 1881
- Luzon region: Luzon; - Mindoro region: Mindoro; - West Visayan region: Cebu, Negros, Masbate; - East Visayan subregion: Leyte, Homonhon; - Mindanao subregion: Mindanao, Basilan; - Palawan region: Palawan; - Sulu region: Bongao, Siasi, Sibutu

*Z. petiolatum* Rambur, 1842
- Luzon region: Luzon; - Mindoro region: Mindoro; - East Visayan subregion: Homonhon; - Mindanao subregion: Mindanao, Dinagat; - Palawan region: Palawan; - Sulu region: Tawi Tawi

*Zygonyx* sp. 11
- Luzon region: Luzon

**COMMENTS ON THE CHECKLIST**

(1) Material in coll. Müller includes also the undescribed male.

(2) Material in coll. Müller includes also the undescribed female.

(3) Material in coll. Müller includes specimens (41 ♀, 6 ♂) from Mindanao (Zamboanga del Sur, Zamboanga del Norte and Lanao del Norte), Samar (1 ♂) and Tawi Tawi / Sanga Sanga (18 ♀, 5 ♂). It is still uncertain, how many different taxa they represent.

(4) 7 ♂ in coll. Müller.

(5) *Drepanosticta septima*, described on the basis of a single female from Samar may prove conspecific with *D. mylitta*.

(6) 6 ♂, 5 ♀ in coll. Müller.

(7) Coll. Müller includes specimens (15 ♂, 11 ♀) from Nueva Vizcaya, Nueva Ecija and Aurora provinces. Coll. Selys includes a female specimen from Luzon, originally identified as *annulata*. This is the second species in the
series from which LIEFTINCK (1961: 135-136) selected the lectotype of
D. annulata (Selys, 1886).

(8) Coll. Müller includes specimens (1 ♂, 6 ♀) from Nueva Vizcaya Nueva
Ecija and Quirino provinces.

(9) 1 ♂ from Ifugao province in RMNH.

(10) 1 ♂ (in RMNH) and 1 ♀ (in SMF) from Camarines Sur province.

(11) 3 ♂, 1 ♀ in coll. Müller.

(12) 30 ♂, 9 ♀ in coll. Müller.

(13) Coll. Müller includes specimens from Negros (4 ♂, 6 ♀), Panay (1 ♂, 5 ♀)
and Sibuyan (4 ♂, 3 ♀). Further there is 1 ♂ from Panay in coll. G.S. Vick.

(14) Coll. Müller includes specimens (99 ♂, 19 ♀) from Surigao del Sur prov-
ince.

(15) 2 ♂ from Davao Oriental province in coll. Müller.

(16) 45 ♂ from Davao Oriental province in coll. Müller.

(17) 42 ♂ from Davao Oriental province in coll. Müller. From the same site as
the previous sp. Further 8 ♀ of one of the two species.

(18) Specimens (71 ♂ and 23 ♀) from South and North Cotabato, Bukidnon,
Davao and Davao Oriental provinces in Mindanao and 6 ♂ and 1 ♀ from
Camiguin Island in coll. Müller; 1 ♂ from Zamboanga del Norte province
in RMNH.

(19) 1 ♂ in coll. Müller and 1 ♀ in coll. Hämäläinen.

(20) Coll. Müller includes 13 ♂ and 11 ♀ from Palawan and Busuanga; coll.
Hämäläinen 4 ♂ and 3 ♀ from Palawan; coll. Ris 1 ♂ and 1 ♀ from Palawan.

(21) D. halterata and the following species are considered to form an own group
among the Philippine species in the genus.

(22) Coll. Müller includes 204 ♂ and 40 ♀ from Negros, 55 ♂ and 5 ♀ from
Panay and 2 ♀ from Sibuyan. Further 1 ♂ from Panay in coll. G.S.Vick. It
is uncertain whether the Panay and Negros specimens belong to the same
taxon.

(23) 2 ♂ from Bohol in coll. Müller.

(24) Still unidentified specimens from different parts of central and NE Luzon in
coll. Müller, RMNH and SMF and 1 ♂ from Marinduque in coll. Müller.
Further material from different parts of Luzon are needed to disclose their
status.

(25) 1 ♂ from Quirino province in coll. Müller.

(26) 2 ♂ and 1 ♀ from Quirino province in coll. Müller.

(27) 1 ♂ at SMF.

(28) M.H. has studied the type specimen of Prodasineura obsoleta (Coll. Selys
at IRSN). The teneral specimen in rather poor shape, labelled "Quelle des
Baubo" (in "interior" Minadanao) seems to be conspecific with integra.
This synonymy was already foreseen by NEEDHAM & GYGER (1939).

(29) 1 ♂ in coll. Müller.
Amphicnemis is undoubtedly the most difficult Zygoptera genus in the Philippines and in need of thorough revision. The number of collected specimens is still too limited for any analysis of the Philippine fauna. The species are listed in 3 groups, based on the structure of male appendages. The first group includes species with rudimentary inferior appendages. The superiors have a distinct ventral hook.

Specimens from Samar (7 ♂, 2 ♀) and Homonhon (59 ♂, 25 ♀) in coll. Müller.

Coll. Müller includes 2 ♂ from Sibuyan and 1 ♀ from Negros.

In this group the superior appendages are strongly curved and inferiors are clearly shorter.

The rest of species are lumped to this somewhat variable group. Superiors are straight or slightly curved, inferiors nearly as long or even longer than the superiors.

A total of 4 ♂, 9 ♀ from Cebu in coll. Müller and Hämäläinen; 1 ♀ from Panay and 2 ♀ from Negros in coll. Müller.

1 ♂ at SMF.

1 ♂ and 1 ♀ in coll. Müller.

Specimens (2 ♂, 6 ♀) in coll. Müller from Quirino and Nueva Vizcaya provinces. 1 ♂ from Laguna province at SMF.

Needham & Gyger's (1939) material should be studied, to see whether the specimens from Luzon and Samar are conspecific. The holotype of Amphicnemis incallida was not designated. The lectotype should be selected from Luzon specimens.

Coll. Müller includes 1 ♂ from Samar and 2 ♀ from Leyte and 1 ♂ from Mindanao. 1 ♀ from Leyte in SMF.

3 ♂ and 3 ♀ in coll. Müller.

3 ♂ in coll. Müller.

3 ♂ from Dinagat in coll. Müller. 1 ♂ from Surigao at SMF apparently belongs to the same taxon.

5 ♂ and 1 ♀ from Surigao del Sur province in coll. Müller.

Coll. Müller includes specimens from Samar (8 ♂, 1 ♀), Leyte (2 ♂, 1 ♀), Biliran (1 ♂) and Panaon (1 ♂); 2 ♂ from Samar at SMF. There is slight variation between the specimens from different islands.

Specimens resembling lestoides, but still slightly different, are known from some localities in Mindanao. More material from different sites is necessary to reveal the taxonomica status of these populations. Coll. Müller 16 ♂ and 2 ♀ from South Cotabato, Lanao del Norte, Davao Oriental and Surigao del Sur provinces.

16 ♂ and 7 ♀ in coll. Müller.

The male of A. glauca is still unknown, therefore it cannot be placed in any
of the above species groups.

(50) *Archibasis viola* is new to the Philippines: 1 ♂, Palawan, Mt Saint Paul, Tagabinit, Babuyan River (alt. 160 m), 25/30-III-1992, L. Vinciguerra & A. Gorostiza leg. A widespread species.

(51) *Ceriagrion cerinorubellum* is new to the Philippines: 1 ♂, Dumaran Island (Palawan region), Araceli, Baeng, Mauringon, 1st Creek, 20/25-XII-1995, A. Buenafe leg.

(52) In addition to *I. senegalensis*, NEEDHAM & GYGER (1939) listed also *I. elegans* from Luzon. M.H. has studied 2 ♂ from “Chamartin, 12-VIII-1903” preserved at USNM, labelled “*I. elegans*” by Needham & Gyger, although in the publication they were reported to be *senegalensis*. These specimens are not *elegans*, but they are also clearly distinct from *senegalensis*. Needham & Gyger’s whole *Ischnura* material should be carefully restudied. Coll. Müller includes 1 ♀ from Zambales province, which seem to be conspecific with the males from Chamartin.

(53) Recorded from “Guara”. We have not been able to locate this place from the Philippines.

(54) 1 ♂ in coll. Müller. This species will be named after the late Peter Miller in one of the next issues of *Odonatologica*.

(55) 3 ♂ from Nueva Vizcaya province in coll. Müller.

(56) 1 ♂ from Davao province in coll. Müller.


(58) Specimens (26 ♂, 7 ♀) in coll. Müller.


(60) New material from Quirino province seems to indicate that *R. elegans* and *R. varians* are distinct species. The two ♀ specimens in coll. Selys, supposed to be *R. pulchra* by HÄMALÄINEN (1991c), belong to *R. elegans*.

(61) 8 ♂, 1 ♀ from Quirino province in coll. Müller.

(62) 7 ♂ and 1 ♀ in coll. Müller. The second part (covering the subgenus *Igneocnemis* Hämäläinen, 1991) of the *Risiocnemis* revision has been postponed, since new species are still discovered every year.

(63) 5 ♂ in coll. Müller.

(64) 16 ♂, 6 ♀ in coll. Müller.

(65) 2 ♂ and 1 ♀ in coll. Müller.

(66) 11 ♀ from Los Baños at SMF. These specimens, collected by Boettcher in 1914, somewhat resemble *R. polilloensis*; without males their identity remains uncertain.

(67) 1 ♂ from Quirino province in coll. Müller.

(68) A ♀ specimen from Los Baños was listed by NEEDHAM & GYGER (1939) as *Devdatta argyoides* Selys. M.H. has studied this specimen (CU). A pair of wings is mounted on glass, otherwise the specimen in poor condition is preserved in alcohol. It is neither *argyoides* nor *podolestoides basilanensis*,
but may represent an undescribed species. New material, especially males, are needed before its status can be confirmed.

(69) *Rhinocypha colorata.* As pointed out by ASAHINA (1968), its populations are variable in the different regions of the Philippines, and certainly a number of subspecies could be conveniently defined, as done in the related *R. tincta* Rambur. ASAHINA (1968) considered *colorata* as a subspecies of *tincta*, but LIEFTINCK (1974) treated *tincta* and *colorata* "as separate species belonging apparently to one superspecies".

(70) LIEFTINCK (1961) presented the distribution of *dorsosanguinea* as "Basilan; ?Mindanao". However, so far no reliable material is known to us from Mindanao.

(71) The holotype of *turconii* is stated to come from "Panay pay (Ile de Zebu)". Since this is the only specimen known from the whole West Visayan region, the correctness of the locality label must be considered somewhat doubtful. Recent material from Aurora province in Luzon and from Catanduanes island, confirms the occurrence of this species also in the Luzon region.

(72) It seems nobody has compared the actual types of *Heterophaea barbata* and *H. ruficollis*. Müller's specimens from Quirino Province fit well with the type of *ruficollis* at SMF. In RMNH, there are similar specimens, identified by Lieftinck as *barbata*. These two taxa may prove conspecific.

(73) *Acrogomphus jubilaris* is new to the Philippines. 1 ♂, Samar, Eastern Samar province, San Rafael, 20/28-V-1993, Th. Borromeo leg. Jan van Tol kindly compared this specimen with the holotype of *jubilaris* from Borneo and confirmed its identity. Perhaps this elusive species is more widespread in the Philippines.

(74) Difficulties in separating Müller's *Gomphidia* specimens (15 ♂, 7 ♀) from 7 islands to *kirschii* and *plerosoi* led to the observation that the proposed relative difference in the length of the inferior appendages in males of these species (ASAHINA, 1980) depends on their "internal position" in the specimens. When the inferior appendages were removed, those in lateral view looking like in *kirschii* were as long as those looking like in *plerosoi* in Asahina's figures. ASAHINA (1980) listed both "species" from the same locality and date "Bislig, Mindanao, 3.VII.1977, leg. Kurosawa" and "Bislig, Mindanao, 4.VII.1977, leg. Kurosawa" respectively.


(76) *Microgomphus chelifer* ssp. ASAHINA (1980) reported on two crushed teneral ♀ specimens from Palawan under the name *M. chelifer thelyphonus* Lieftinck. Our recent material (5 ♂, 3 ♀) includes also mature male speci-
mens. A revision of the whole *chelifer* group is needed to clarify the correct status of the Palawan populations.

(77) 1 ♂ in coll. Müller. This may also prove conspecific with *balneorum*.

(78) Specimens of both sexes from South Cotabato and Davao Oriental provinces in coll. Müller. A thorough revision of the genus *Anax* is badly needed.

(79) *Gynacantha arsinoe* is new to the Philippines; all from Sulu Archipelago, Tawi Tawi group: 1 ♂, Bongao Island, Bongao Peak, forested area (alt. 314 m), 23/24-VI-1988, W. Catal leg.; 1 ♂, Sanga Sanga Island, Boloboc, 1/11-I-1990, Th. Borromeo, Jr leg.; 1 ♂, Tawi Tawi Island, Batu-Batu, Magsag-Gaw, 14/16-III-1991, Th. Borromeo, Jr leg. The specimens were compared with the holotype at RMNH. Earlier known only from Talud Island, between Mindanao and Halmahera.

(80) *Gynacantha dohrni* is new to the Philippines: 1 ♂, Leyte, Mahaplag, Hilusig, Mt Balocaue (alt. 600 m), 15-V-1987, Th. Borromeo leg.; 1 ♂, 1 ♀, same locality, 28-V-1988, C. Treadaway leg.; 1 ♂, N. Palawan, Mt Capoas, Barrio Banbanan, Camp Inunungan River, 16/22-III-1992, L. Vinciguerra & A. Gorostiza leg.; 1 ♀, S. Palawan, Quezon distr., Malatgao, Bugon, II-1994, L. Vinciguerra & E. Horn leg; 1 ♂, Palawan, Pancol, 10-I-1914, G. Boettcher leg. (at SMF). Coll. Ris includes also a ♀ from Polillo (11-VIII-1915, G. Boettcher leg.), identified by Ris as "*G. dohrni ?*", but, its identity remains uncertain. - Widely distributed in Malesia.

(81) *Gynacantha hyalina* and *G. subinterrupta* remain difficult to separate, especially the females. Coll. Müller includes nearly 30 unidentified ♀ specimens from Homonhon, Luzon, Mindanao, Mindoro and Palawan.


(83) *Heliaeschna uninervulata* is new to the Philippines. 1 ♂, S. Palawan, Quezon distr., Malatgao, Magmuni stream (alt. 1000 ft), 16/22-V-1992, C.G. Treadaway & Th. Borromeo leg. - Nearest to Palawan this widely distributed species is known from Borneo.

(84) *Indaeschna grubaueri* is new to the Philippines: 1 ♂, Negros, Negros Oriental prov., Amlan (alt. 500 m), VI-1985, C.G. Treadaway leg.; 1 ♀, Mindanao, Bukidnon prov., Lapatan, Mt Apolong (alt. 1300 m), 24/29-VIII-1989, Th. Borromeo Jr leg. - Widespread in Malesia.

(85) Taxonomic work on *Oligoaeschna* is badly hampered, due to the elusive nature of the species. As to the Philippine species, problems arise also from the fact that *O. poeciloptera* is known only the ♀ sex. Two female specimens from Homonhon match quite well with the description of *poeciloptera*. It is safe to estimate that at least 7-8 species occur in the archipelago, but
apparently many more.

(86) 2 ♀ from Mindoro and 1 ♀ from Dinagat in coll. Müller. These specimens have 5-celled anal loop like poeciloptera, but differ in some other details. All other species listed below have 3-celled anal loop.

(87) 1 ♂ in coll. Müller.

(88) 1 ♂ at SMF.

(89) 1 ♂ from South Palawan in coll. Hämäläinen.

(90) 1 ♂ and 1 ♀ from the same site in Tawi Tawi in coll. Müller.

(91) Tetracanthagyna brunnea is new to the Philippines: 1 ♀, N. Palawan, Olanguan (alt. 500 m), 5/10-VII-1988, C.G. Treadaway leg.; 1 ♂, S. Palawan, Quezon distr., Malatgao, Magmuni stream, 25-V/1-VI-1991, L. Vinciguerra & A. Gorostiza leg. - Nearest to Palawan occurs in Borneo.

(92) Aside of the old record of C. splendidus from Luzon, apparently only a single ♂ Chlorogomphus specimen (from Balagatan, Mindanao) has been reported in the literature by ASAHINA (1980), with comments “belongs very probably to dyak Laidlaw”. H. Karube and D.A.L. Davies are studying the Philippine material, including specimens in coll. Müller.

(93) Specimens of both sexes in coll. Müller.

(94) Epophthalmia elegans was reported by de SELYS LONGCHAMPS (1891) from Luzon. For some reason LIEFTINCK (1931) did not consider this record in his revision of the genus. Neither were the Philippines included in the range of elegans in LIEFTINCK et al. (1984).

(95) Heteronaias heterodoxa seems to be common in the Philippines proper, but it has not been found in the Sulu Archipelago. Until further specimens become available from Palawan, the labelling of a single ♀ specimen reported by ASAHINA (1980) from Puerto Princesa must be considered doubtful.

(96) Coll. Müller includes 1 ♂ and 5 ♀ from Busuanga and 4 ♀ from North Palawan. One of the Palawan females has a 4-sided triangle in the fore wings, an apparent individual anomaly. The structure of the male appendages shows that the Palawan taxon is clearly distinct from philippa. However, since no males from Luzon have become available, which could be linked with the somewhat dubious I. salva (described on basis of a single female, which also posses a 4-sided triangle in the fore wing) it remains to be confirmed, whether the Palawan taxon is distinct also from salva, which LIEFTINCK (1971, p. 3) considered as a good species.

(97) Coll. Müller includes 2 ♂ from Busuanga at present identified as Macromia negrito with some doubt. A direct comparison with the holotype ♂ from Luzon is necessary to verify their status.

(98) Macromia westwoodi is new to the Philippines: 2 ♂, N. Palawan, Matalangao waterfalls, between Port Barton and Roxas (alt. 200 m), 16-V-1985, R.A. Müller leg.; 1 ♂, N. Palawan, Mt Capoas, Sitio Caoban, Camp Neutico (alt. 280 m), 11/15-III-1992, L. Vinciguerra & A. Gorostiza leg.