Content

Dow, Rory, Graham Reels & Robin Ngiam
Previously unpublished Odonata records from Sarawak, Borneo,
Part III. Sri Aman, Sibu and Kapit Divisions 1–34

Volume 9  2015
The International Dragonfly Fund (IDF) is a scientific society founded in 1996 for the improvement of odonatological knowledge and the protection of species.

Internet: http://www.dragonflyfund.org/

This series intends to contribute to the knowledge of the regional Odonata fauna of the Southeastern Asian and Pacific regions to facilitate cost-efficient and rapid dissemination of faunistic data.

Southeast Asia or Southeastern Asia is a subregion of Asia, consisting of the countries that are geographically south of China, east of India, west of New Guinea and north of Australia. Southeast Asia consists of two geographic regions: Mainland Southeast Asia (Indochina) and Maritime Southeast Asia.

Pacific Islands comprise of Micronesian, Melanesian and Polynesian Islands.

Editorial Work: Rory Dow, Milen Marinov, and Martin Schorr

Layout: Martin Schorr

Indexed by Zoological Record, Thomson Reuters, UK

Printing: ikt Trier, Germany

Impressum: Faunistic Studies in South-East Asian and Pacific Island Odonata - Volume 09

- Date of publication: 13.02.2015
- Publisher: International Dragonfly Fund e.V., Schulstr. 7B, 54314 Zerf, Germany. E-mail: oestlap@online.de
- Responsible editor: Martin Schorr
Previously unpublished Odonata records from Sarawak, Borneo, Part III. Sri Aman, Sibu and Kapit Divisions

Rory A. Dow¹ & Graham T. Reels² & Robin W.J. Ngiam³

¹Naturalis Biodiversity Center, P.O. Box 9517, 2300 RA Leiden, The Netherlands
Email: rory.dow230@yahoo.co.uk

²31 St Anne’s Close, Winchester SO22 4LQ, Hants., United Kingdom
Email: gtreels@gmail.com

³National Biodiversity Centre, National Parks Board, Singapore
Email: ngiam_wen_jiang@nparks.gov.sg

Abstract

New records of Odonata from three of Sarawak’s administrative divisions are presented: Sri Aman, Sibu and Kapit. *Idionyx montana* is recorded from Borneo for the first time, from Batang Ai National Park in Sri Aman Division. Other notable records include: *Podolestes* species, *Matronoides cyaneipennis*, *Rhinoneura caerulea*, *Dysphaea* species, *Coeliccia campioni*, *Acrogomphus jubilaris*, *Procordulia fusiformis* and *Ortheicum borneense*.

**Key words:** Odonata, Kapit, Sibu, Sri Aman, Batang Ai, Sarawak, Borneo, Malaysia

Introduction

Since 2005 the authors have been engaged in an ongoing survey of the Odonata of Sarawak in Malaysian Borneo. The present paper is the third of a series of publications in which we hope to list all the Odonata records we have made in Sarawak in 2005-2014 which have not previously been published and which are not scheduled to be published elsewhere. In this third paper of the series we present records from some of the central administrative divisions of Sarawak. Map 1 gives an overview of the locations covered.

Sri Aman division is the most western and southern of the divisions dealt with here. It is believed that the Iban people, the largest Dayak group in Sarawak, first entered Sarawak from Kalimantan in this division, in the area of the present-day Batang Ai National Park. It is very poorly known odonatologically, with published records in Laidlaw (1920a), Kalkman & Villanueva (2011), Dow (2010b, 2010c), Dow & Orr (2012) and Donnelly (1999); most records in the latter are from Batang Ai National Park, with isolated records from the Skrang River area and Selindong near Engkilili. Many records in Donnelly (1997) are also probably from Sri Aman, but are presented without detailed locality information and could also be from some location(s) in Samarahan division.
Sibu division is located to the north and east of Sri Aman division. It is even more poorly known for Odonata than Sri Aman, with definite published records from the division of only 10 species in Hincks (1930), Hisamatsu & Sasamoto (2003) and Lieftinck (1953) prior to this publication. The city of Sibu, located on the Rajang River, is the gateway to Kapit division; our few records from Sibu division are all from locations near the city, sampled on odd days before or after trips to Kapit.

Classification used here follows Dijkstra, Bechly et al. (2013) for Anisoptera and Dijkstra, Kalkman et al. (2014) for Zygoptera, including the treatment of some genera formerly placed in Megapodagrionidae and Corduliidae as incertae sedis.

Map 1. Satellite image of Sarawak showing the locations of some of the sampling sites covered in this report. B – Batang Ai National Park, Sri Aman division; S – sites in Sibu Division; K – sites in Kapit division.

As-yet-undescribed species of *Devadatta* are referred to as species A, B and C; this notation is consistent with Parts I and II of this series and Dow & Ngiam (2014), e.g. *Devadatta* species ‘A’ here is the same as species ‘A’ in Dow & Reels (2013) and in Dow, Reels & Butler (2013b). A combined morphological and molecular analysis of the Bornean Devadattidae will be published in the near future (Dow, Hämläinen & Stokvis in preparation); material will be listed there so is not listed here.


**Sri Aman Division – Batang Ai National Park**

All of our records from Sri Aman are from one trip made to Batang Ai National Park (Map 2) by the first two authors in December 2007. The national park has an area of ca 270 km$^2$ and is contiguous with the Lanjak Entimau Wildlife Sanctuary, and with Bentuang-Karimun National Park in Kalimantan. The park includes the headwaters of the Batang Ai River, which feeds the Batang Ai hydroelectric dam. More information on the national park can be found in Hazebraek & Morshidi (2001). Our sampling was mostly confined to a small area easily accessed from the Nanga Delok Ranger Station.

**Map 2. Satellite image showing Sri Aman division and parts of Sibu and Kapit division in more detail.**

Locations:
- **B1.** Sungai Bebiong Besar and tributaries.
- **B2.** Sungai Bebiong Mit and tributaries.
- **B3.** Sungai Nanga Beredik (Fig. 1).
**Figure 1.** Sungai Nanga Beredik. Photo by G.T. Reels.

B4. Forest pools away from streams.
B5. Trailside.
B6. At the Ranger Station.
B7. Outside the park, at edges of the Batang Ai reservoir.

**List of species collected**

**Zygoptera**  
**Platystictidae**

1. *Drepanosticta attala* Lieftinck, 1934  
   A very local species.  
   Loc B2 – ♂, 6.xii.2007, RD.

2. *Drepanosticta* species cf *crenitis* Lieftinck, 1933  

3. *Drepanosticta rufostigma* (Selys, 1886)  
   Loc B3 – ♂, 8.xii.2007, RD.

4. *Drepanosticta versicolor* (Laidlaw, 1913)  
   Loc B2 – ♂, 5.xii.2007, RD.
5. *Telosticta longigaster* Dow & Orr, 2012 (Fig. 2)
See Dow & Orr (2012).

![Telosticta longigaster male. Photo by G.T. Reels.](image)

**Figure 2.** *Telosticta longigaster* male. Photo by G.T. Reels.

**Argiolestidae**

6. *Podolestes* species (Fig. 3)
This large sized species is closely allied to *P. orientalis*, but differs from that species in size, markings and details of the anal appendages. At Batang Ai it was found at one large forest pond in a saddle on a ridge; the pool had probably originally been created by the digging activities of Bearded Pigs. Subsequently this species has been found at several other locations in Sarawak.
Loc B4 – 2 ♂♂, 4.xii.2007, RD; ♂, 4.xii.2007, GR; ♂+♀, 7.xii.2007, RD.
Figure 3. *Podolestes* species male. Photo by G.T. Reels.

Calopterygidae

7. *Neurobasis longipes* Hagen, 1887

8. *Vestalis amaryllis* Lieftinck, 1965
   Loc B2 – 2 ♂♂, 5.xii.2007, RD; 6 ♂♂, 5.xii.2007, GR; 2 ♂♂, 6.xii.2007, RD; ♂, 6.xii.2007, GR. Loc B5 – 2 ♂♂, 4.xii.2007, RD.

   Loc B2 – 2 ♂♂, 5.xii.2007, RD.

10. *Vestalis atropha* Lieftinck, 1965

11. *Vestalis beryllae* Laidlaw, 1915 (Fig. 4)
    Loc B5 – ♂, 4.xii.2007, GR.
Figure 4. *Vestalis beryllae* male. Photo by G.T. Reels.

**Chlorocyphidae**

12. *Heliocypha biseriata* (Selys, 1859)
   Loc B1 – ♂, 4.xii.2007, RD.

13. *Libellago stictica* Selys, 1859
   Loc B1 – ♂, 4.xii.2007, GR.

14. *Rhinocypha aurofulgens* Laidlaw, 1931 (Fig. 5)

Figure 5. *Rhinocypha aurofulgens* male. Photo by G.T. Reels.
Devadattidae
15. *Devadatta* species B
Specimens will be listed in Dow, Hämäläinen & Stokvis (in preparation). Loc B1, B2.

Euphaeidae
16. *Dysphaea* species
This unnamed species, similar in appearance to *D. dimidiata* Selys, (Selys, 1853) is being described as part of a combined morphological and molecular revision of the genus in Sundaland (Hämäläinen, Dow & Stokvis in preparation); specimens will be listed in that publication.

17. *Euphaea impar* Selys, 1859

18. *Euphaea subcostalis* Selys, 1873 Fig. 6

Figure 6. *Euphaea subcostalis* male. Photo by G.T. Reels.

19. *Euphaea tricolor* Selys, 1859
Loc B2 – ♂, 5.xii.2007, RD; ♂, 5.xii.2007, GR.

Platycnemididae
20. *Coeliccia* species cf *borneensis* (Selys, 1866)
Specimens from Batang Ai were included under the “western form” of *Coeliccia borneensis* in Dow 2010b; molecular results (unpublished) suggest that *C. borneensis* might belong to a complex of extremely similar taxa, requiring further study.

21. *Coeliccia cyaneothorax* Kimmins, 1936
22. *Coeliccia nigrohamata* Laidlaw, 1918

23. *Prodasineura dorsalis* (Selys, 1860)
   Loc B2 – 2 ♂♂, 5.xii.2007, RD; ♂, 6.xii.2007, RD.

Coenagrionidae

24. *Ceriagrion bellona* Laidlaw, 1915
   Loc B2 – ♂, 6.xii.2007, RD.

25. *Pseudagrion microcephalum* (Rambur, 1842)
   Loc B7 – ♂, 9.xii.2007, RD.

26. *Stenagrion dubium* (Laidlaw, 1912)

27. *Teinobasis laidlawi* Kimmins, 1936 (Fig. 7)
   See Dow 2010a.

---

Figure 7. *Teinobasis laidlawi* male. Photo by G.T. Reels.
Anisoptera
Aeshnidae
28. Gynacantha dohrni Krüger, 1899  
   Loc B4 – ♂, 7.xii.2007, RD.
29. Indaeschna grubaueri (Förster, 1904)  
   Loc B3 – ♂, 8.xii.2007, GR. Loc B4 – ♂, 7.xii.2007, GR.

Gomphidae
30. Ictinogomphus decoratus melaenops (Selys, 1858)  
   Loc B7 – ♂, 9.xii.2007, GR.
31. Leptogomphus coomansi Laidlaw, 1936  
   Loc B2 – ♂, 5.xii.2007, RD; ♂, 5.xii.2007, GR.

Figure 8. Habitat of Hylaeothemis clementia at Batang Ai National Park. Photo by G.T. Reels.
**Libellulidae**

32. *Cratilla lineata* (Brauer, 1878)
   Loc B4 – ♂, 4.xii.2007, GR.

33. *Cratilla metallica* (Brauer, 1878)
   Loc B4 – ♂, 4.xii.2007, GR; ♀, 7.xii.2007, RD.

34. *Hylaeothemis clementia* Ris, 1909 (Fig. 9)
   This is a species of hilly and mountainous terrain, favouring small but sunlit seeps and stream heads. At Batang Ai it was found at the marshy head of a tributary in a saddle point on a ridge, where past disturbance had opened up the canopy to a considerable extent (Fig. 8). Fig. 9 shows a mature male at this location.
   Loc B2 – 2 ♂♂, 5.xii.2007, RD.

35. *Lyriothenis biappendiculata* (Selys, 1878)

36. *Neurothemis fluctuans* (Fabricius, 1793)
   Loc B6 – ♀, 3.xii.2007, RD.

37. *Onychothemis coccinea* Lieftinck, 1953
   Loc B1 – ♂, 4.xii.2007, RD; ♂, 4.xii.2007, GR.

38. *Orchithemis pulcherrima* Brauer, 1878
   Loc B2 – 2 ♂♂, 5.xii.2007, GR.
39. *Orthetrum chrysis* (Selys, 1891)
   Loc B2 – ♂, 5.xii.2007, GR.

40. *Orthetrum glaucum* (Brauer, 1865)
   Loc B5 – ♀, 4.xii.2007, RD.

41. *Orthetrum pruinosum schneideri* Förster, 1903
   Loc B2 – ♂, 5.xii.2007, GR.

42. *Trithemis aurora* (Burmeister, 1839)
   Loc B7 – ♂, 3.xii.2007, RD.

43. *Tyriobapta torrida* Kirby, 1889
   Loc B3 – ♂, 8.xii.2007, RD.

**Incertae sedis**

44. *Idionyx montana* Karsch, 1891
   This species has not previously been recorded from Borneo. A single male was collected whilst perched by a rocky, low gradient, forest stream (Fig. 1) at the onset of late afternoon rain.
   Loc B3 – ♂, 8.xii.2007, RD.

45. *Idionyx* species cf *selysi* Fraser, 1926
   Loc B5 – ♂, 7.xii.2007, GR.

---

Figure 10. Black water channel in highly disturbed forest, Sungai Teku. Photo by R.A. Dow.
**Sibu**

As noted in the introduction, Sibu has been very poorly sampled for Odonata historically, and little has changed in the past decade. Our sampling in the division to date has been confined to two disturbed sites close to Sibu town (Map 2).

S2. Sungai Teku area in Sibu division, outskirts of Sibu town. Fig. 10.

**Zygoptera**  
**Chlorocyphidae**  
1. *Libellago hyalina* (Selys, 1859)  
   Loc S2 – ‌♂, 10.v.2010, RD.

**Platycnemididae**  
2. *Copera vittata* (Selys, 1863)  
   Loc S2 – ‌♂, 10.v.2010, RD.

**Coenagrionidae**  
3. *Agriocnemis femina* (Brauer, 1868)  
   Loc S1 – 2 ‌♂♂, ‌♀, 23.x.2009, RD. Loc S2 – ‌♂, ‌♀, 10.v.2010, RD; ‌♂, ‌♀, 10.v.2010, LS.  
4. *Agriocnemis minima* (Selys, 1877)  
   Loc S2 – 2 ‌♀♀, 10.v.2010, GR.  
5. *Amphicnemis wallacii* Selys, 1863  
   Loc S2 – 7 ‌♂♂, 3 ‌♀♀, 10.v.2010, RD; 3 ‌♂♂, 3 ‌♀♀, 10.v.2010, GR; ‌♂, 2 ‌♀♀, 10.v.2010, LS.  
   Loc S2 – ‌♂, 10.v.2010, RD.  
7. *Ceriagrion cerinorubellum* (Brauer, 1865) (Fig. 11)  
   Loc S2 – ‌♂, 10.v.2010, RD; ‌♂, 10.v.2010, GR; ‌♂, 10.v.2010, LS.

![Figure 11. Ceriagrion cerinorubellum male. Photo by G.T. Reels.](image-url)
8. *Ischnura senegalensis* (Rambur, 1842)  
   Loc S2 – 2 ♂♂, 10.v.2010, RD.

   Only a single male of this species was collected, flying with *P. microcephalum*.  
   In Borneo this species appears to be a low pH specialist.  
   Loc S2 – ♂, 10.v.2010, RD.

10. *Pseudagrion microcephalum* (Rambur, 1842)  
    Loc S2 – 4 ♂♂, 10.v.2010, RD; 2 ♂♂, ♂+♀, 10.v.2010, GR.

**Anisoptera**

**Gomphidae**

11. *Ictinogomphus decoratus melaenops* (Selys, 1858)  
    Loc S2 – ♂, 10.v.2010, GR.

**Macromiidae**

12. *Epophthalmia vittigera* (Rambur, 1842)  
    Loc S2 – ♀, 10.v.2010, GR.

**Libellulidae**

13. *Agrionoptera sexlineata* Selys, 1879  
    Loc S1 – 2 ♂♂, ♀, 23.x.2009, RD.

14. *Brachydiplax chalybea* Brauer, 1868  
    Loc S1 – ♂, 23.x.2009, RD. Loc S2 – 2 ♂♂, 10.v.2010, RD.

15. *Brachygonia oculata* (Brauer, 1878)  
    Loc S2 – ♂, 10.v.2010, RD.

16. *Hydrobasileus croceus* (Brauer, 1867)  
    Loc S2 – ♀, 10.v.2010, GR.

17. *Nannophya pygmaea* Rambur, 1842  
    Loc S2 – ♂, 10.v.2010, GR.

18. *Neurothemis fluctuans* (Fabricius, 1793)  
    Loc S2 – ♂, 10.v.2010, GR.

19. *Orchithemis pulcherrima* Brauer, 1878  
    Loc S2 – ♂, 10.v.2010, RD.

20. *Orthetrum chrysis* (Selys, 1891)  
    Loc S2 – ♂, 10.v.2010, GR.

21. *Orthetrum sabina* (Drury, 1773)  
    Loc S2 – ♀, 10.v.2010, RD; ♀, 10.v.2010, GR.

22. *Orthetrum testaceum* (Burmeister, 1839)  
    Loc S2 – ♀, 10.v.2010, LS.

23. *Rhodothemis rufa* (Rambur, 1842)  
    Loc S1 – 2 ♂♂, 23.x.2009, RD. Loc S2 – ♂, 10.v.2010, GR.
24. *Rhyothemis obsolescens* Kirby, 1889  
   Loc S2 – ♂, 10.v.2010, RD; ♀, 10.v.2010, GR.

25. *Rhyothemis phyllis* (Sulzer, 1776)  

26. *Urothemis signata insignata* (Selys, 1872)  
   Loc S2 – ♂, 10.v.2010, RD; ♂, 10.v.2010, GR.

27. *Zyxomma petiolatum* (Albarda, 1881)  
   Loc S2 – ♀, 10.v.2010, GR.

Map 3. Satellite image showing part of Kapit division in more detail. All sampling locations are marked except K3, which is too close to K2 to display separately at this scale.

**Kapit**

We have been visiting Kapit since 2008, but our early efforts in the division were hampered by lack of information and poor local contacts. Before 2010 our efforts were confined to the area around Kapit town, but in 2010 we were able to mount a small expedition to the fascinating Hose Mountains (Dow & Reels 2010). In 2011 RD and RN visited another part of the Hose Mountains (Dow & Ngiam 2012) and later in the year RD embarked on an ill-fated trip to the Batu Laga plateau on the far side of the Balui river to the east of the Hose Mountains; a combination of vehicle breakdown and washed-out bridges meant that RD managed only one day in the field out of a planned seven (fortunately LS and MB were able to do a few days of sampling at the foot of the Hose Mountains during this period). 2013 saw trips to areas near the Indonesian border (Dow & Ngiam 2014) and to the Lanjak Entimau Wildlife Sanctuary; the results of the
latter will be reported elsewhere. A few records from the vicinity of a long house on the Sungai Katibas are also available. Despite our efforts this largest division remains poorly sampled for Odonata; a situation we hope to rectify in coming years, insofar as time and funding allow. The sampling locations listed below are shown in Map 3.

K1. Sungai Katibas area, on tributaries to Sungai Katibas.
K2. Sebabei Recreational Park, near Kapit Town: Sungai Sebabei and tributaries. Fig. 12.

Figure 12. Sungai Sebabei. Photo by G.T. Reels.

K3. The Sungai Kapit and tributaries above Rumah Bundong (Fig. 13), the last longhouse on the stream.

Figure 13. Rumah Bundong. Photo by G.T. Reels.
Figure 14. A rocky stream at the foot of the Hose Mountains. Photo by R.A. Dow.

Figure 15. A stream at 1300-1400m in the Hose Mountains. Photo by R.A. Dow.
K4. The Sungai Sbong, a tributary of the Baleh River, and tributaries and adjacent marshy open area.
K5. The Sungai Ulu Yong and tributaries near Kapit town.
K6. Open and disturbed habitats by Baleh river near Kapit town.
K8. A small shady pool at the edge of disturbed forest, between Kapit town and the Hose Mountains.
K9. A low gradient stream in disturbed forest between Kapit and the Hose Mountains.
K10. At foot of the Hose Mountains and on the lower slopes up to ca 900m. Fig. 14.
K11. Above ca 900m in the Gunung Lumut area of the Hose Mountains. Fig. 15.
K13. A shallow forest stream about one hour’s drive from the Baleh river at Kapit town. Fig. 16.

Figure 16. A shallow forest stream in Kapit. Photo by R.W.J. Ngiam.

List of species collected

Zygoptera
Platystictidae

1. Drepanosticta actaeon Laidlaw, 1934

   This species was recorded as Drepanosticta species cf. actaeon in Dow & Ngiam (2012), but subsequent examination of a large amount of material from Sabah and Sarawak east of the Lupar river has shown that differences in the inferior anal appendages were more apparent than real and that differences in colour between some populations may merely represent geographical variation. Although further
study is needed, we feel that all populations from east of the Lupar river are best treated as *D. actaeon* for the time-being.


2. *Drepanosticta* species cf *crenitis* Lieftinck, 1933


3. *Drepanosticta* species cf *dentifera* Kimmins, 1936


4. *Drepanosticta dulitensis* Kimmins, 1936


5. *Drepanosticta rufostigma* (Selys, 1886)


6. *Drepanosticta sbong* Dow, 2010

Loc K4 – See Dow (2010a).

7. *Drepanosticta versicolor* (Laidlaw, 1913)


8. *Protosticta* species

Since only teneral females have been collected at the locations discussed here, little can be said about this taxon.


See Dow & Orr (2012).

**Argiolestidae**

10. *Podolestes orientalis* Selys, 1862


**Calopterygidae**

11. *Matronoides cyaneipennis* Förster, 1897

The Hose mountains are the western limit of the known range of this beautiful species.

12. *Neurobasis longipes* Hagen, 1887


15. *Vestalis amoena* Hagen in Selys, 1853


17. *Vestalis beryllae* Laidlaw, 1915


Chlorocyphidae

18. *Heliocypha biseriata* (Selys, 1859)

19. *Libellago semiopaca* (Selys, 1873)

20. *Libellago stictica* Selys, 1859


22. *Rhinocypha cucullata* (Selys, 1873)

23. *Rhinocypha spinifer* Laidlaw, 1931 (Fig. 17)

![Figure 17. *Rhinocypha spinifer* male. Photo by G.T. Reels.](image)

   See Dow & Reels (2010) for the story of the rediscovery of this species, originally described from Mount Dulit on the Miri/Kapit border (Kimmins 1936), in the Hose Mountains in 2010. It has now also been found on Gunung Mulu in Miri division (Dow unpublished).

25. *Sundacypha petiolata* (Selys, 1859)
**Devadattidae**

Specimens will be listed in Dow, Hämäläinen & Stokvis (in preparation).

26. *Devadatta* species A  
Loc K3, K5, K11, K12.

27. *Devadatta* species B  
Loc K2, K3, K4, K5, K10.

28. *Devadatta* species C  
Loc K11, K12.

**Euphaeidae**

29. *Dysphaea dimidiata* (Selys, 1853)  
Specimens will be listed in Hämäläinen, Dow & Stokvis (in preparation).  
Loc K9, K10.

30. *Euphaea basalis* (Laidlaw, 1915) (Fig. 18)  

31. *Euphaea impar* Selys, 1859  

32. *Euphaea subcostalis* Selys, 1873  

33. *Euphaea tricolor* Selys, 1859

**Philosinidae**

34. *Rhinagrion borneense* (Selys, 1886)

**Platycnemididae**

35. *Coeliccia* species cf *borneensis* (Selys, 1866)
See Dow (2010c) and Dow & Reels (2011) and the comments above in the Sri Aman section.

36. *Coeliccia campioni* Laidlaw, 1918
See Dow & Reels (2011). This species appears to have a rather limited range in Sarawak’s Miri and Kapit divisions, although it is to be expected across the border in Kalimantan.

37. *Coeliccia cyaneothorax* Kimmins, 1936

38. *Coeliccia* species cf *nemoricola* Laidlaw, 1912
39. *Coeliccia nigrohamata* Laidlaw, 1918


40. *Copera vittata* (Selys, 1863)


41. *Elattoneura analis* (Selys, 1860) (Fig. 19)


Figure 19. *Elattoneura analis* male. Photo by R.A. Dow.

42. *Prodasineura dorsalis* (Selys, 1860)


43. *Prodasineura hosei* (Laidlaw, 1913)


44. Prodasineura hyperythra (Selys, 1886)

45. Prodasineura species
A single female from disturbed forest that might be the true P. peramoena (Laidlaw, 1913).
Loc K12 – ♀, 29.ix.2011, RD.

46. Prodasineura verticalis (Selys, 1860)

Coenagrionidae

47. Aciagrion borneense Ris, 1911

48. Agriocnemis femina (Brauer, 1868)
Loc K6 – ♂, 4.iv.2011, RD.

49. Argiocnemis species

50. Ceriagrion bellona Laidlaw, 1915

51. Ceriagrion cerinorubellum (Brauer, 1865)

52. Pseudagrion microcephalum (Rambur, 1842)
Loc K7 – ♀, 8.ii.2008, GR.

Figure 20. Pseudagrion perfuscatum male. Photo by R.A. Dow.
53. *Pseudagrion perfuscatum* Lieftinck, 1937 (Fig. 20)

54. *Stenagrion dubium* (Laidlaw, 1912)

55. *Xiphiagrion cyanomelas* (Selys, 1876)

**Anisoptera**

*Aeshnidae*

56. *Indaeschna grubaueri* (Förster, 1904)

57. *Tetracanthagyna degorsi* Martin, 1896

*Gomphidae*

58. *Acrogomphus jubilaris* Lieftinck, 1964 (Fig. 21)
This genus is common in larval samples in sandy forest streams in Sarawak, but the adults are exceptionally elusive; two male *A. jubilaris* collected in the Hose

---

**Figure 21. Acrogomphus jubilaris** male. Photo by G.T. Reels.
Mountains in 2010 are the only non-reared examples of their sex that we have collected. Females are encountered more often, but still relatively rarely. The males from the Hose Mountains were caught while basking at the side of a logging road in the morning, rather than at a stream.

Loc K10 − 2 ♂♂, 24.v.2010, RD.

59. *Heliogomphus* species
   More than one species may be included here.

60. *Leptogomphus coomansi* Laidlaw, 1936

61. *Leptogomphus* species cf *pasia* van Tol, 1990
   Loc K2 – ♂, 20.x.2009, RD.

62. *Leptogomphus williamsoni* Laidlaw, 1912

63. *Macrogomphus quadratus* (Selys, 1878) (Fig. 22)

   ![Figure 22. *Macrogomphus quadratus* female. Photo by G.T. Reels.](image)

64. *Macrogomphus* species
   Loc K5 – exuvia, 21.x.2009, RD.
65. *Megalogomphus* species cf *sumatranus* (Krüger, 1899)

The species from Sarawak differs considerably in the male accessory genitalia from specimens from Sumatra and Peninsular Malaysia in the RMNH collection and a male from Peninsular Malaysia in the collection of the first author; the species from Borneo is certainly a distinct species.

Loc K5 – ♂, 12.v.2010, RD.

**Macromiidae**

66. *Epophthalmia vittigera* (Rambur, 1842)

Loc K1 – ♂, 1.v.2011, JU.

67. *Macromia cydippe* Laidlaw, 1922

Probably a fairly common species in lowland forest in Sarawak, but most records are of females and larvae.


68. *Macromia euterpe* Laidlaw, 1915

This and the next species are extremely similar and may eventually prove to be the same species.

Loc K11 – 2 ♀♀, 22.v.2010, RD; ♂, ♀, 23.v.2010, RD; ♂, 23.v.2010, GR; ♀, 23.v.2010, LS.

69. *Macromia westwoodi* Selys, 1874


**Corduliidae**

70. *Procordulia fusiformis* Lieftinck, 1977

Once a very poorly known species, there have been a number of records in recent years. All records definitely of this species are from above 900m, where it can be found at forest pools, but it is quite commonly encountered at man-made forest edge ponds (created by partial damming of streams or excavation for road building materials) beside logging roads.

Loc K11 – ♀, 17.v.2010, RD; ♂, 17.v.2010, GR.

**Libellulidae**

71. *Aethriamanta gracilis* (Brauer, 1878) (Fig. 23)

Loc K5 – ♂, 21.x.2009, RD.

72. *Agrionoptera sexlineata* Selys, 1879

Loc K8 – ♂, 14.v.2010, GR.

73. *Camacina gigantea* (Brauer, 1867)


74. *Cratilla metallic* (Brauer, 1878)

Figure 23. *Aethriamanta gracilis* male. Photo by G.T. Reels.

75. *Diplacodes trivialis* (Rambur, 1842)  
76. *Lyriothemis biappendiculata* (Selys, 1878)  
77. *Lyriothemis cleis* Brauer, 1868  
78. *Nannophya pygmaea* Rambur, 1842  
   Loc K10 – ♂, 16.v.2010, RD.
79. *Neurothemis terminata* Ris, 1911  
   Loc K6 – ♂, 4.iv.2011, RD.
80. *Onychothemis coccinea* Lieftinck, 1953  
81. *Orchithemis pulcherrima* Brauer, 1878  
   Loc K10 – ♂, 16.v.2010, RD.
82. *Orthetrum borneense* Kimmins, 1936  
   This montane species was described from Mount Dulit on the Miri/Kapit border and has been found on Gunung Mulu in Miri division and in the Hose Mountains in recent years.  
   Loc K11 – 2 ♀♀, 19.v.2010, RD.
83. *Orthetrum chrysis* (Selys, 1891)

84. *Orthetrum glaucum* (Brauer, 1865)

85. *Orthetrum pruinosum schneideri* Förster, 1903 (Fig. 24)

86. *Orthetrum sabina* (Drury, 1773)
   Loc K4 – ♂, 11.ii.2008, RD.

87. *Orthetrum testaceum* (Burmeister, 1839)

88. *Pantala flavescens* (Fabricius, 1798)
   Loc K10 – ♂, 17.v.2010, RD.

89. *Rhyothemis phyllis* (Sulzer, 1776)
90. *Rhyothemis triangularis* Kirby, 1889

91. *Tetrathemis* new species
See Dow & Ngiam (2012) for remarks on this species.
Loc K11 – ♂, 17.v.2010, RD; ♂, 17.v.2010, GR; ♂, 17.v.2010, LS.

92. *Tramea transmarina euryale* Selys, 1878

93. *Trithemis aurora* (Burmeister, 1839)

94. *Tyriobapta torrida* Kirby, 1889

95. *Zygonyx iris errans* Lieftinck, 1953

96. *Zyxomma obtustum* (Albarda, 1881)
Loc K7 – ♂, 7.ii.2008, RD.

**Incertae sedis**

98. *Macromidia fulva* Laidlaw, 1915

Loc K4 – 2 ♂♂, 2 ♂♀, 11.ii.2008, GR.

**Acknowledgements**

The Sarawak Forest Department and Sarawak Forestry Corporation are to be thanked for granting permits to collect Odonata in Sarawak. All those who have assisted us on our collecting trips in Sri Aman, Sibu and Kapit division are to be thanked, in particular Manau anak Budi, Lion anak Nyapong, Somoh anak Nyapong, Mibang Kibi, Luke Southwell and Joanes Unggang.
References


INSTRUCTION TO AUTHORS

Faunistic studies of South-East Asian and Pacific islands Odonata is a journal of the International Dragonfly Fund (IDF). It is referred to as the journal in the remainder of these instructions. Transfer of copyright to IDF is considered to have taken place implicitly once a paper has been published in the journal.

The journal publishes original papers only. By original is meant papers that: a) have not been published elsewhere before, and b) the scientific results of the paper have not been published in their entirety under a different title and/or with different wording elsewhere. The republishing of any part of a paper published in the journal must be negotiated with the Editorial Board and can only proceed after mutual agreement.

Papers reporting studies financially supported by the IDF will be reviewed with priority, however, authors working with Odonata from the focal area (as defined on the back page of the front cover) are encouraged to submit their manuscripts even if they have not received any funds from IDF.

Manuscripts submitted to the journal should preferably be in English; alternatively German or French will also be accepted. Every manuscript should be checked by a native speaker of the language in which it is written; if it is not possible for the authors to arrange this, they must inform the Editorial Board on submission of the paper. Authors are encouraged, if possible, to include a version of the abstract in the primary language of the country in which their study was made.

Authors can choose the best way for them to submit their manuscripts between these options: a) via e-mail to the publisher, or b) on a CD, DVD or any other IBM-compatible device. Manuscripts should be prepared in Microsoft Word for Windows.

While preparing the manuscript authors should consider that, although the journal gives some freedom in the style and arrangements of the sections, the editors would like to see the following clearly defined sections: Title (with authors names, physical and e-mail addresses), Abstract, Introduction, Material & Methods, Results, Discussion, Acknowledgments and References. This is a widely used scheme by scientists that everyone should be familiar with. No further instructions are given here, but every author should check the style of the journal.

Authors are advised to avoid any formatting of the text. The manuscripts will be stylised according to the font type and size adopted by the journal. However, check for: a) all species names must be given in italic, b) the authority and year of publication are required on the first appearance of a species name in the text, but not thereafter, and c) citations and reference list must be arranged following the format below.

Reference cited in the text should read as follows: Tillyard (1924), (Tillyard 1924), Swezey & Williams (1942). The reference list should be prepared according to the following standard:


Tillyard, R., 1924. The dragonflies (Order Odonata) of Fiji, with special reference to a collection made by Mr. H.W. Simmonds, F.E.S., on the Island of Viti Levu. Transactions of the Entomological Society London 1923 III-IV: 305-346.

Citations of internet sources should include the date of access.

The manuscript should end with a list of captions to the figures and tables. The later should be submitted separately from the text preferably as graphics made using one of the Microsoft Office products or as a high resolution picture saved as a .jpg or .tif file. Hand-made drawings should be scanned and submitted electronically. Printed figures sent by the post could be damaged, in which case authors will be asked to resubmit them.

Manuscripts not arranged according to these instructions may also be accepted, but in that case their publication will be delayed until the journal’s standards are achieved.