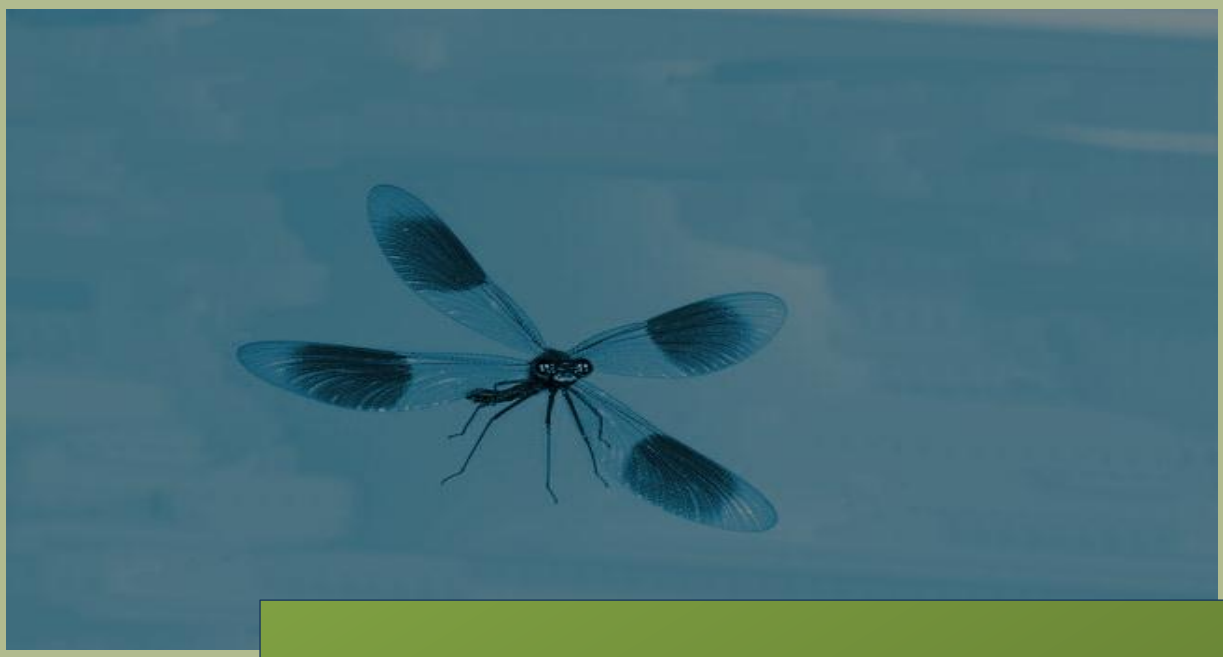

International Dragonfly Fund - Report

Journal of the
International Dragonfly Fund

ISSN 1435-3393

Content

Volume 54 2012

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 publish studies promoted by IDF and to facilitate cost-efficient and rapid dissemination of odonatological data.

Donations are highly requested and welcome!
Account information:
BIC TRISDE55XXX
IBAN DE22 5855 0130 0003 6999 49

Editorial Work: Martin Schorr and Milen Marinov

Layout: Martin Schorr

Indexed by Zoological Record, Thomson Reuters, UK

Home page of IDF: Holger Hunger

Printing: ikt Trier, Germany

Impressum: International Dragonfly Fund - Report - Volume 54

- Date of publication: 17.12.2012
- Publisher: International Dragonfly Fund e.V., Schulstr. 7B, 54314 Zerf, Germany. E-mail: oestlap@online.de
- Responsible editor: Martin Schorr

Odonata collected at Gunung Pueh, Kuching Division, Sarawak, Malaysia in October 2012

Rory A. Dow

Naturalis Biodiversity Centre, P.O. Box 9517, 2300 RA Leiden, The Netherlands
(rory.dow230@yahoo.co.uk)

Abstract

Records of Odonata collected from Gunung Pueh and the surrounding area, in west Sarawak, in October 2012, are presented. 67 species were collected; two species were recorded in Borneo for the first time: *Libellago stigmatizans* and *Copera ciliata*. Other notable records include *Podolestes chrysopus*, *Telosticta* ?*gading*, *Agriocnemis minima* and *Pseudagrion coomansi*. Some additional, previously unpublished, records from the most western part of Sarawak are included in two appendices.

Bahasa Melayu Abstrak

Rekod Odonata yang dikumpul dalam Oktober 2012 dari Gunung Pueh dan kawasan berhampiran, barat Sarawak dilaporkan di sini. Sejumlah 67 spesies pepatung telah disampel. Dua spesies adalah rekod baru kepada Borneo: *Libellago stigmatizans* dan *Copera ciliata*. Rekod lain yang penting termasuk *Podolestes chrysopus*, *Telosticta* ?*gading*, *Agriocnemis minima* dan *Pseudagrion coomansi*. Rekod tambahan yang belum diterbitkan bagi bahagian paling barat Sarawak diberikan dalam dua lampiran.

Introduction

Gunung Pueh lies along the Malaysian-Indonesian border in the west of Sarawak's Kuching Division (Figure 1). Although normally the whole area is referred to as Gunung Pueh (Mount Pueh), it is actually a range with a number of distinct peaks, at least one of which exceeds 1400m (Gunung Kenyi; marked as G. Kanyi in the map in Figure 1), making it by far the highest mountain in Sarawak west of the Lupar river. The whole range would be better referred to as the Pueh Range, but here I generally retain the usual practice and call it Gunung Pueh. Most of the range has been subjected to relatively undestructive selective logging in the past, parts are currently being subjected to much more destructive logging, but, especially above ca 500m, much good quality forest remains. The range lies fairly close to a good quality public road that

runs between the towns of Sematan and Lundu, and is only about one-and-a-half hours drive from the state capital Kuching. However it is a remarkably poorly known range, hardly shown with the same name on any two of the easily available tourist maps. Needless to say, despite its proximity to a road, to actually get onto the mountains is not so easy, and in practice can only be accomplished with local assistance.

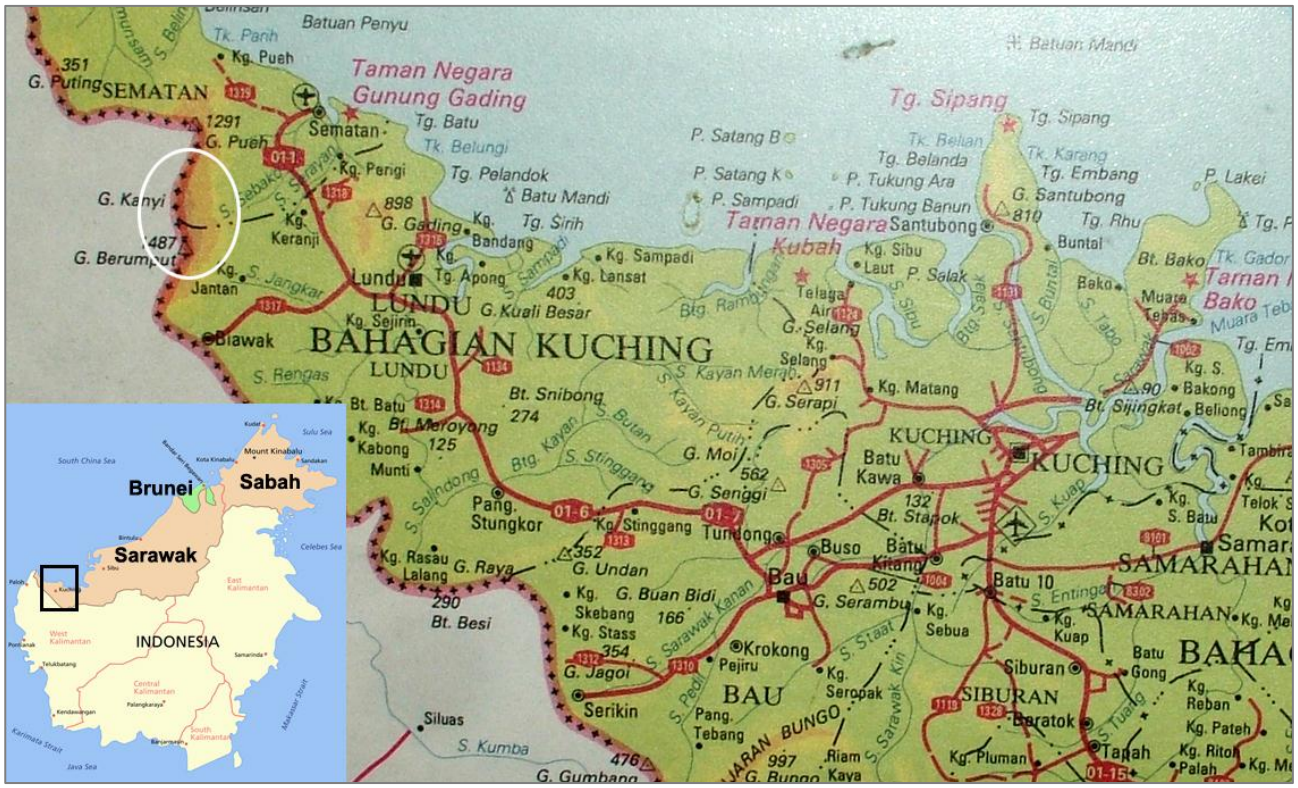

Figure 1: Borneo (inset) and part of western Sarawak (main) showing the position of the Pueh Range.

Gunung Gading National Park is quite close to Gunung Pueh, but separated by low lying, almost level, terrain. Gunung Gading is usually regarded as the best place to see *Rafflesia* in Sarawak, but I have seen this plant flowering on two occasions on Gunung Pueh (see Figure 2), but only an unopened flower on Gunung Gading.

Back in February 2007 Graham Reels and myself were able to stay at a village, Kampung Sebako, at the foot of the range in the Gunung Kenyi area, for a few days, but our attempts to work on the mountain then were thwarted by the almost continual rain that falls there between approximately the end of November and the beginning of March. It was not our first attempt; we tried without local assistance at another part of the mountain in 2006, but could not get beyond the foot.

In October 2012, with generous financial assistance from the IDF, I was again able to stay at Kampung Sebako and employ three of the Selakau people who live there as guides and field assistants. The primary objective was to search for Odonata on the

mountain itself. As soon I arrived at the house of my host, Jefri anak Sujang, it became apparent that I would not be able to access the higher parts of the range, as the only person who knew the way to the high sites, Jefri's elder brother Rowmina, was not available. Despite this, we were able to access streams up to about 720m. I was visiting at the end of a very dry season, and another difficulty of looking for Odonata on Gunung Pueh was revealed; on the mountain itself many of the streams were either dry, or running underground for most of their course, the remainder were mostly larger, high gradient, torrential boulder streams which are extremely difficult and hazardous to work in. We also took extensive samples in the mosaic of habitat types present on the Selakau Native Customary Rights (NCR) land at the foot of the mountain. Habitats here ranged from Oil Palm and Rubber plantation to a small patch of degraded peatswamp forest (the most threatened, and undervalued, forest type in south-east Asia).

Figure 2: *Raffalesia* growing on Gunung Pueh in 2007. Photograph by G.T. Reels.

Altogether we collected sixty-seven species from the mountain and the habitats at its foot. This includes two first records for Borneo: *Libellago stigmatizans* and *Copera*

ciliata. Other notable finds were *Podolestes chrysopus* and *Telosticta* ?*gading*, both species known from very few locations; *Agriocnemis minima* and *Pseudagrion coomansi*, two 'low pH-species' more common in the south of Borneo; and *Prodasineura collaris*, which although it is a widespread species, had not been found in the west of Sarawak before.

Hopefully it will be possible to make further surveys, higher on the mountain, in the near future. There is some urgency to this, as further timber extraction in the good forest in the higher parts of the range is very likely to continue, despite local opposition.

Some additional, older records from Gunung Pueh and other locations in the western most part of Sarawak are included in appendices to this report.

List of species collected

The following codes for groups of sampling sites are used below:

1. Streams and trailside 550-720m on Gunung Kenyi.
2. Streams and trailside 30-250m on rising ground on Gunung Kenyi.
3. Streams on c. level ground in disturbed forest, rubber and oil palm at the foot of the mountains.
4. Streams in freshwater swamp and surrounding swamp, near Kampung Sebako.
5. A small patch of blackwater swamp near Kamung Sebako.
6. Open blackwater habitats (stream and ponds in young oil palm) near Kampung Sebako.
7. Other open and/or highly disturbed habitats around Kampung Sebako (ponds, ditches etc.) and at lights in houses.

The following abbreviations are used for the names of collectors: author – RAD; Jefri anak Sujang – JS; Edmund anak Rowmina – ER; Tony anak Neyam – TN; children from Kampung Sebako – C.

Zygoptera

Amphipterygidae

1. *Devadatta* species

   As remarked on in Dow (2012), we now know that several species have been treated as *Devadatta podolestoides* Laidlaw in the past. To-date the only species found at Gunung Pueh has been an unnamed one; however this species is very common in hilly and mountainous country in Sarawak and Brunei. 1 – 3.x: 6 ♂♂, ♀, RAD; ♀,

ER & TN. 2 – 4.x: ♂, RAD; ♀, JS; 5.x: 2 ♂♂, ♀, ER & TN; 8.x: ♂, RAD. 3 – 6.x: 2 ♂♂, RAD; 5 ♂♂, 2 ♀♀, ER & TN, 7 ♂♂, 2 ♀♀, JS.

Chlorocyphidae

2. *Heliocypha biseriata* (Selys, 1859)

Generally a common species in Sarawak, occurring from the lowlands to at least 1100m. 2 – 4.x: ♂, RAD; 5.x: ♂, ER & TN; 6.x: 6 ♂♂, ♀, ER & TN; 2 ♂♂, JS; 7.x: 2 ♂♂, ER & TN; 8.x: ♂, 2 ♀♀, JS. 3 – 2.x: ♂, RAD; ♂, ♀, JS; 9.x: ♂, ER & TN; 2 ♂♂, 2 ♀♀, JS.

3. *Libellago stigmatizans* (Selys, 1859)

This species has not been recorded from Borneo before, but was known from Peninsular Malaysia, Thailand and Sumatra. It differs from its sister species, *Libellago stictica* (Selys), only in markings; the later species is endemic to Borneo, but appears to have a more eastern distribution on the island so that the two are likely to have allopatric distributions. The specimen from Gunung Pueh is shown in Figure 3, it differs from examples from the mainland in some details of its markings, a typical individual from Pahang in Peninsular Malaysia is shown in Figure 4. 3 – 9.x: ♂, RAD.

Figure 3: Male *Libellago stigmatizans* collected at Gunung Pueh. Photograph by R.A. Dow.

Figure 4: Typical *Libellago stigmatizans* from Pahang. Photograph by C.Y. Choong.

Euphaeidae

4. *Euphaea impar* Selys, 1859
   1 – 3.x: 3 ♂♂, JS; 4.x: 3 ♂♂, ER & TN. 2 – 4.x: ♂, RAD; 2 ♂♂, ♀, JS; 5.x: 7 ♂♂, ♀, ER & TN; 6.x: 2 ♂♂, 2 ♀♀, ER & TN; ♂, JS; 7.x: 2 ♂♂, ♀, ER & TN; 8.x: 3 ♂♂, 3 ♀♀, ER & TN. 3 – 2.x: ♂, RAD; 9.x: ♂, RAD.

5. *Euphaea subcostalis* Selys, 1873
   1 – 3.x: ♂, JS. 2 – 4.x: ♂, RAD; 5 ♂♂, JS; 7.x: ♂, ER & TN.

Calopterygidae

6. *Vestalis amaryllis* Lieftinck, 1965
   3 – 5.x: 5 ♂♂, ER & TN; 6.x: 2 ♂♂, RAD; 7 ♂♂, ER & TN; 2 ♂♂, JS; 8.x: ♂, JS. 4 – 9.x: ♂, RAD.

7. *Vestalis* species cf *amnicola* Lieftinck, 1965
   See the comments in Dow (2012), shown in Figure 5. 1 – 3.x: 2 ♂♂, RAD; 2 ♂♂, ER & TN; 8 ♂♂, ♀, JS; 4.x: ♂, ER & TN. 2 – 4.x: ♂, RAD; 4 ♂♂, JS; 6.x: 2 ♂♂, RAD; 7.x: ♂, ER & TN; 8.x: ♂, JS.

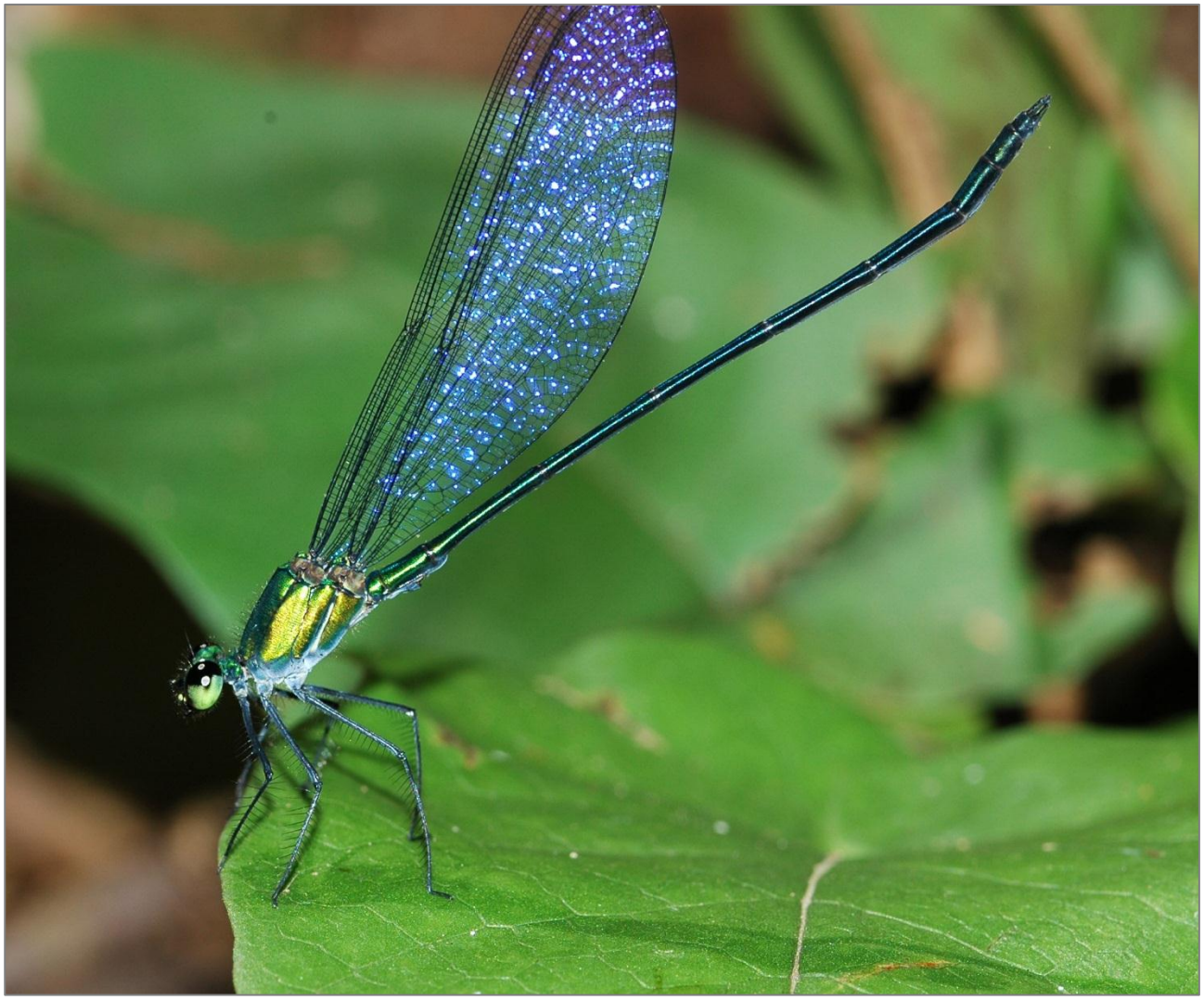

Figure 5: Male *Vestalis* species cf *amnicola*, at Gunung Gading. Photograph by G.T. Reels.

8. *Vestalis amoena* Hagen in Selys, 1853
   3 – 6.x: 2 ♂♂, ER & TN; 8.x: ♂, ER & TN; 9.x: ♂, RAD.

9. *Vestalis atropha* Lieftinck, 1965
   2 – 4.x: 3 ♂♂, JS; 6.x: ♂, ER & TN; ♂, JS.

Lestidae

10. *Orolestes wallacei* (Kirby, 1889)
    This is a very local species whose occurrence is rather unpredictable. One male was caught hanging high above a freshly excavated muddy hole beside a track in rubber plantation; this is not a location where I would have expected to find it. 7 – 2.x: ♂, RAD.

Megapodagrionidae

11. *Podolestes chrysopus* Selys, 1889

Only two other sites are currently known for this species in Sarawak, one is a peat-swamp forest location in Betong Division, the other an old rubber plantation on peat near Kuching (see Dow & Reels 2011). The location at which it was found at Gunung Pueh, a patch of low pH swamp, appears typical for the species; however it is apparently absent from most low pH swamp sites that I have investigated. The site near Kuching will certainly be lost within the next decade (probably much sooner), that in Betong is protected in principle, but in practice is severely threatened by illegal logging activities. The only other relatively recent record of the species is from Brunei (e.g. Orr 2001). The known site at Gunung Pueh is small, and has probably only survived because it is in a natural depression, making it difficult to drain for agriculture. However, other small blackwater sites are likely to remain in the area and are a priority for further investigation. Figure 6. 5 – 9.x: 2 ♂♂, RAD; ♂, JS.

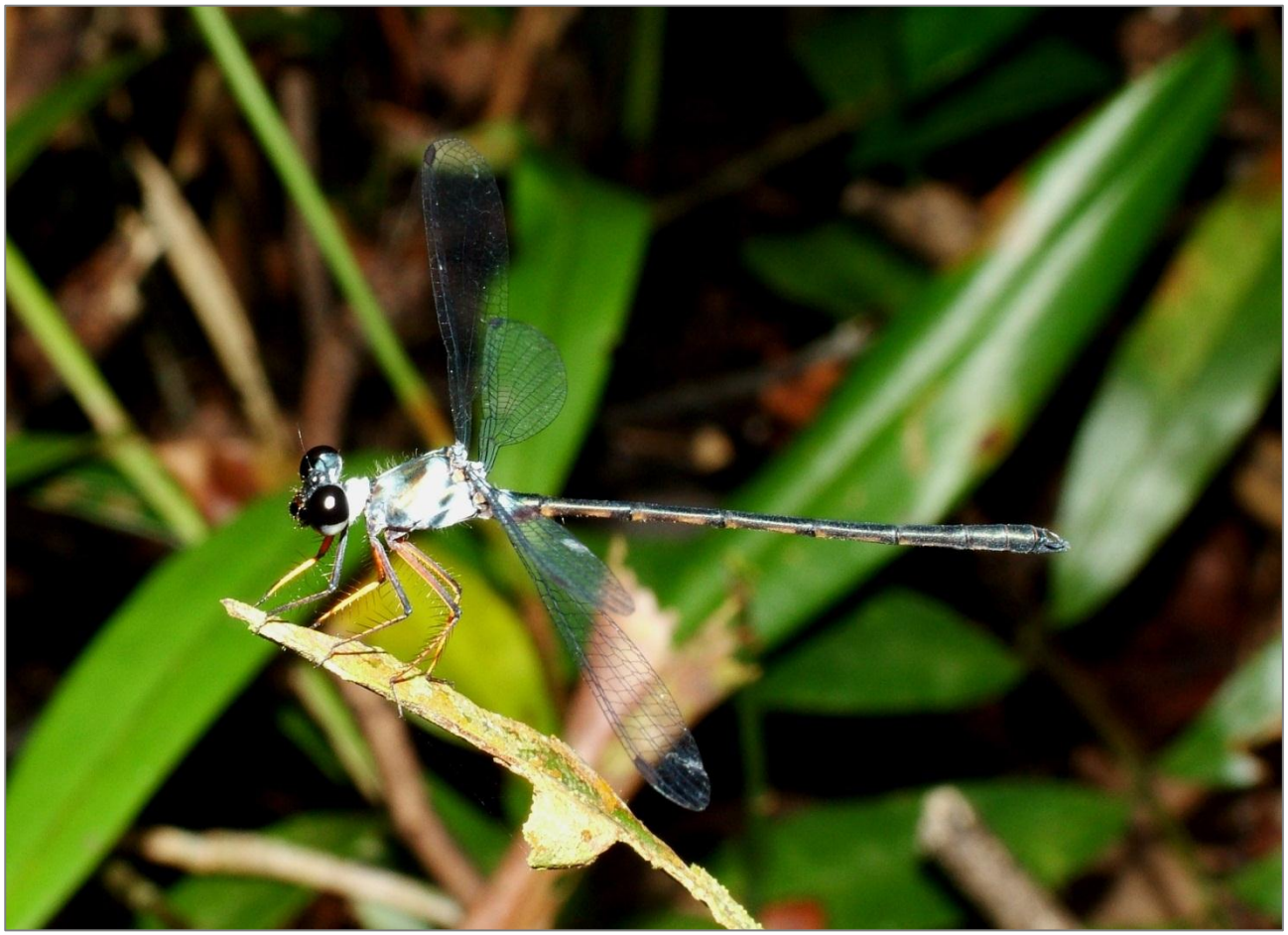

Figure 6: Male *Podolestes chrysopus*, at a site near Kuching. Photograph by R.A. Dow.

12. *Podolestes orientalis* Selys, 1862

4 – 5.x: ♂, RAD; 2 ♂, JS.

13. *Rhinagrion borneense* (Selys, 1886)
3 – 6.x: ♂, RAD; 3 ♂♂, ER & TN; 3 ♂♂, 2 ♀♀, JS; 7.x: ♂, ER & TN.

Platystictidae

14. *Drepanosticta rufostigma* (Selys, 1886)
1 – 3.x: 9 ♂♂, ♀, RAD; 2 ♂♂, ER & TN; 2 ♂♂, JS; 4.x: 2 ♂♂, ER & TN. 2 – 4.x: 4 ♂♂, ♀, RAD; 4 ♂♂, JS; 6.x: ♂, RAD; 5 ♂♂, ♀, ER & TN; 15 ♂♂, JS; 7.x: 6 ♂♂, 2 ♀♀, ER & TN; 8.x: ♂, RAD; 5 ♂♂, ♀, ER & TN; 3 ♂♂, 2 ♀♀, JS.

15. *Telosticta bidayuh* Dow & Orr, 2012
Gunung Pueh is a new location for this recently described species (Dow & Orr 2012a). 2 – 4.x: 3 ♂♂, RAD; 5.x: ♂ (teneral), ER & TN.

16. *Telosticta* ?*gading* Dow & Orr, 2012
This species differs in markings from *T. gading*, which is known with certainty only from Gunung Gading (Dow & Orr 2012a), which is close to Gunung Pueh. The status of the form found at Gunung Pueh requires further investigation. Figure 7 shows a typical individual from Gunung Gading. 1 – 3.x: 11 ♂♂, RAD; 2 ♂♂, JS.

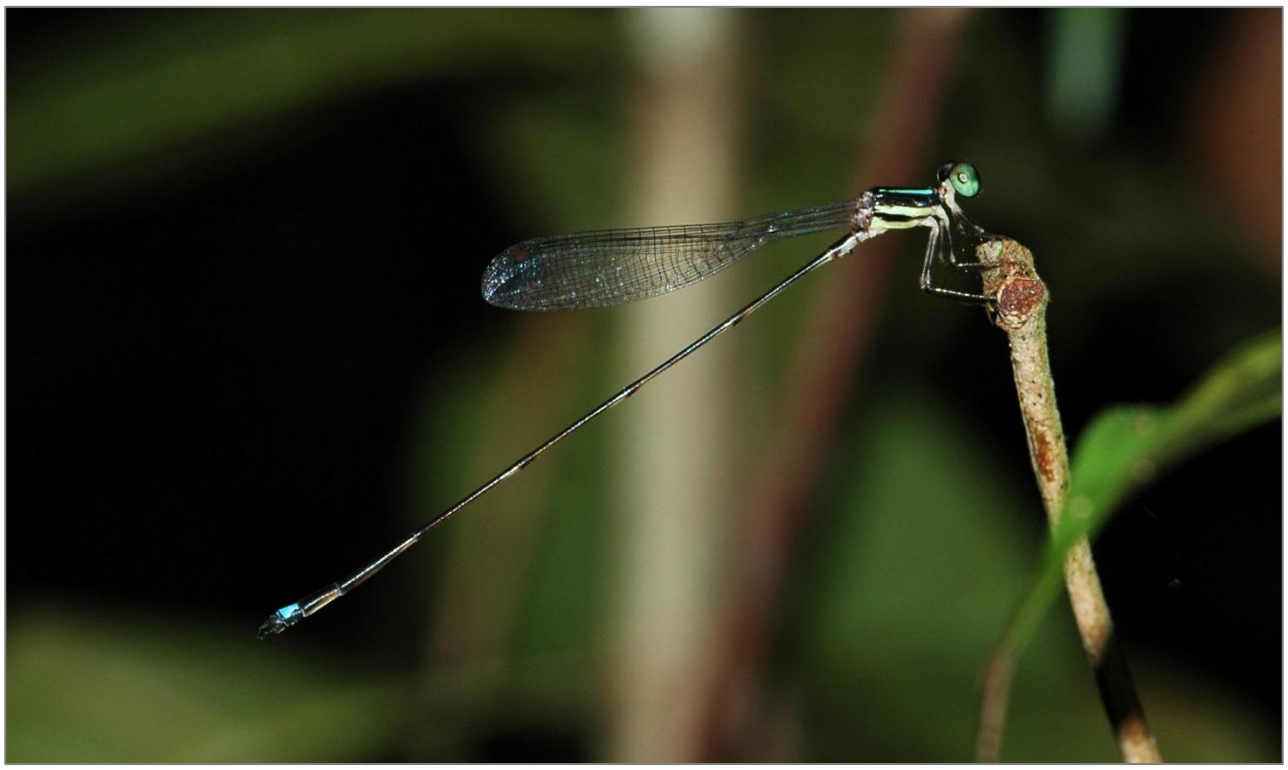

Figure 7: *Telosticta ?gading*, at Gunung Gading. Photograph by G.T. Reels.

Disparoneuridae

17. *Elattoneura analis* (Selys, 1860)
3 – 6.x: ♂, RAD; 9.x: ♂, RAD; ♂, JS.

18. *Prodasineura collaris* (Selys, 1860)
Surprisingly, this rather widespread species has not been recorded from western Sarawak before now. Figure 8. 3 – 2.x: 3 ♂♂, RAD; 8.x: 3 ♂♂, ♀, ER & TN; 9.x: 2 ♀♀, RAD; ♂, ER & TN; ♂, ♀, JS. 4 – 5.x: ♂, ♀, RAD; 2 ♂♂, ♀, JS.

Figure 8: Male *Prodasineura collaris*, at Lambir Hills National Park. Photograph by G.T. Reels.

19. *Prodasineura dorsalis* (Selys, 1860)
3 – 2.x: ♂, RAD; 5.x: 4 ♂♂, ♀, ER & TN; 6.x: 6 ♂♂, 2 ♀♀, ER & TN; 4 ♂♂, ♀, JS; 8.x: ♂, JS. 4 – 5.x: ♂, RAD; ♂ (teneral), ♀ (teneral), ER & TN; ♀, JS.

20. *Prodasineura haematosoma* Lieftinck, 1937
2 – 4.x: 2 ♂♂, RAD. 3 – 2.x: 2 ♂♂, RAD; 5.x: 2 ♂♂, ER & TN; 6.x: ♂, RAD; 3 ♂♂, ER & TN; 3 ♂♂, 2 ♀♀, JS; 7.x: ♂, ER & TN; 8.x: ♂, ER & TN.

21. *Prodasineura verticalis* (Selys, 1860)
3 – 2.x: ♂, RAD; 2 ♂♂, JS; 6.x: 5 ♂♂, ER & TN; 2 ♂♂, ♀, JS; 9.x: ♂, JS.

Coenagrionidae

22. *Aciagrion borneense* Ris, 1911
6 – 9.x: ♂, ♂+♀, RAD; 3 ♂♂, JS. 7 – 2.x: ♂, RAD; ♂, JS; 4.x: ♀, JS; 9.x: 4 ♂♂, ♀, ER & TN.

23. *Agriocnemis femina femina* (Brauer, 1868)
7 – 9.x: 2 ♂♂, 2 ♀♀, ER & TN.

24. *Agriocnemis minima* (Selys, 1877)

This appears to be a scarce species in Sarawak, with only a few sites known. It occupies shallow, well vegetated, open and semi-open low pH waters. A male specimen from southern Kalimantan is shown in Figure 9. 6 – 9.x: 2 ♀♀, RAD.

Figure 9: Female *Agriocnemis minima*. Photograph by R.A. Dow.

25. *Amphicnemis wallacii* Selys, 1863

4 – 5.x: 5 ♂♂, 2 ♀♀, RAD; 2 ♂♂, JS; 9.x: ♂, RAD. 5 – 9.x: 2 ♂♂, 2 ♀♀, JS.

26. *Archibasis viola* Lieftinck, 1948

4 – 5.x: ♂, RAD. 5 – 9.x: ♀, RAD; 4 ♂♂, JS. 7 – 5.x: ♂, ER & TN.

27. *Argiocnemis* species

See Dow & Ngiam (2012: 11) for a brief discussion of this problematic form. 4 – 5.x: ♂, ♀, RAD; 3 ♂♂, 2 ♀♀, JS; ♂, ER & TN. 7 – 9.x: ♀, ER & TN; ♀, JS.

28. *Ceriagrion cerinorubellum* (Brauer, 1865)

2 – 4.x: ♀, JS. 3 – 2.x: ♂, ♀, RAD; 6.x: 5 ♂♂, 2 ♀♀, ER & TN; 8.x: ♀, ER & TN; 9.x: 6 ♂♂, ER & TN. 4 – 5.x: ♂, RAD; 4 ♂♂, JS; ♂, ER & TN. 5 – 3 ♂♂, JS.

29. *Onychargia atrocyana* (Selys, 1865)

4 – 5.x: ♂, JS.

30. *Pseudagrion coomansi* Lieftinck, 1937

Another scarce species in Sarawak, and another that appears to be a low pH specialist. 6 – 9.x: 4 ♂♂, RAD; 2 ♂♂, 2 ♀♀, JS.

31. *Pseudagrion lalakense* Orr & van Tol, 2001

7 – 4.x: ♂, ♂+♀, RAD; ♂, JS; 6.x: ♂, ♀, ER & TN.

32. *Pseudagrion microcephalum* (Rambur, 1842)
    7 – 6.x: ♂, ER & TN.

33. *Pseudagrion perfuscatum* Lieftinck, 1937
    3 – 2.x: 2 ♂♂, RAD; ♂, JS; 6.x: ♂, ER & TN; 9.x: ♂, ER & TN; 6 – 9.x: ♂, JS.

34. *Stenagrion dubium* (Laidlaw, 1912)
    1 – 3.x: 3 ♂♂, RAD; 2 ♂♂, JS. 2 – 4.x: 2 ♂♂, RAD; ♂, JS.

Platycnemididae

35. *Coeliccia flavostriata* Laidlaw, 1918
    1 – 3.x: ♀, RAD. 2 – 4.x: ♀, RAD.

36. *Coeliccia nigrohamata* Laidlaw, 1918
    1 – 7.x: ♂, RAD. 2 – 3.x: ♀, JS; 4.x: ♀, JS; 6.x: 2 ♂♂, RAD; ♂, ER & TN; ♂, JS; 8.x: ♂, RAD; ♂, ER & TN; ♂, JS. 3 – 2.x: ♂, RAD.

37. *Copera ciliata* (Selys, 1863)
    This conspicuous species had not been recorded from Borneo before; it may only occur in the extreme west of the island. The male specimen from Gunung Pueh is shown in Figure 10. 3 – 2.x: ♂, RAD; 6.x: ♀, ER & TN. 6 – 9.x: ♀, RAD.

Figure 10: Male *Copera ciliata* collected at Gunung Pueh. Photograph by R.A. Dow.

38. *Copera vittata* (Selys, 1863)
    3 – 3.x: ♂, RAD; 6.x: ♀, ER & TN; ♂, ♀, JS; 8.x: 4 ♂♂, ER & TN. 4 – 5.x: ♂, ER & TN; 4 ♂♂, 2 ♀♀, JS. 7 – 9.x: ♂, RAD; ♂, ER & TN; 2 ♂♂, JS.

Anisoptera

Gomphidae

39. *Acrogomphus jubilaris* Lieftinck, 1964
A single female was collected perched by a trail in the morning and was presumably foraging. The specimen is shown in Figure 11. 2 – 4.x: ♀, RAD.

Figure 11: Female *Acrogomphus jubilaris* collected at Gunung Pueh. Photograph by R.A. Dow.

Macromiidae

40. *Macromia westwoodi* Selys, 1874
1 – 3.x: ♂, ER & TN.

Corduliidae

41. *Idionyx* species cf *selysi* Fraser, 1926
2 – 7.x: ♀, ER & TN.

42. *Macromidia fulva* Laidlaw, 1915
Figure 12. 2 – 6.x: ♂ (teneral), ER & TN.

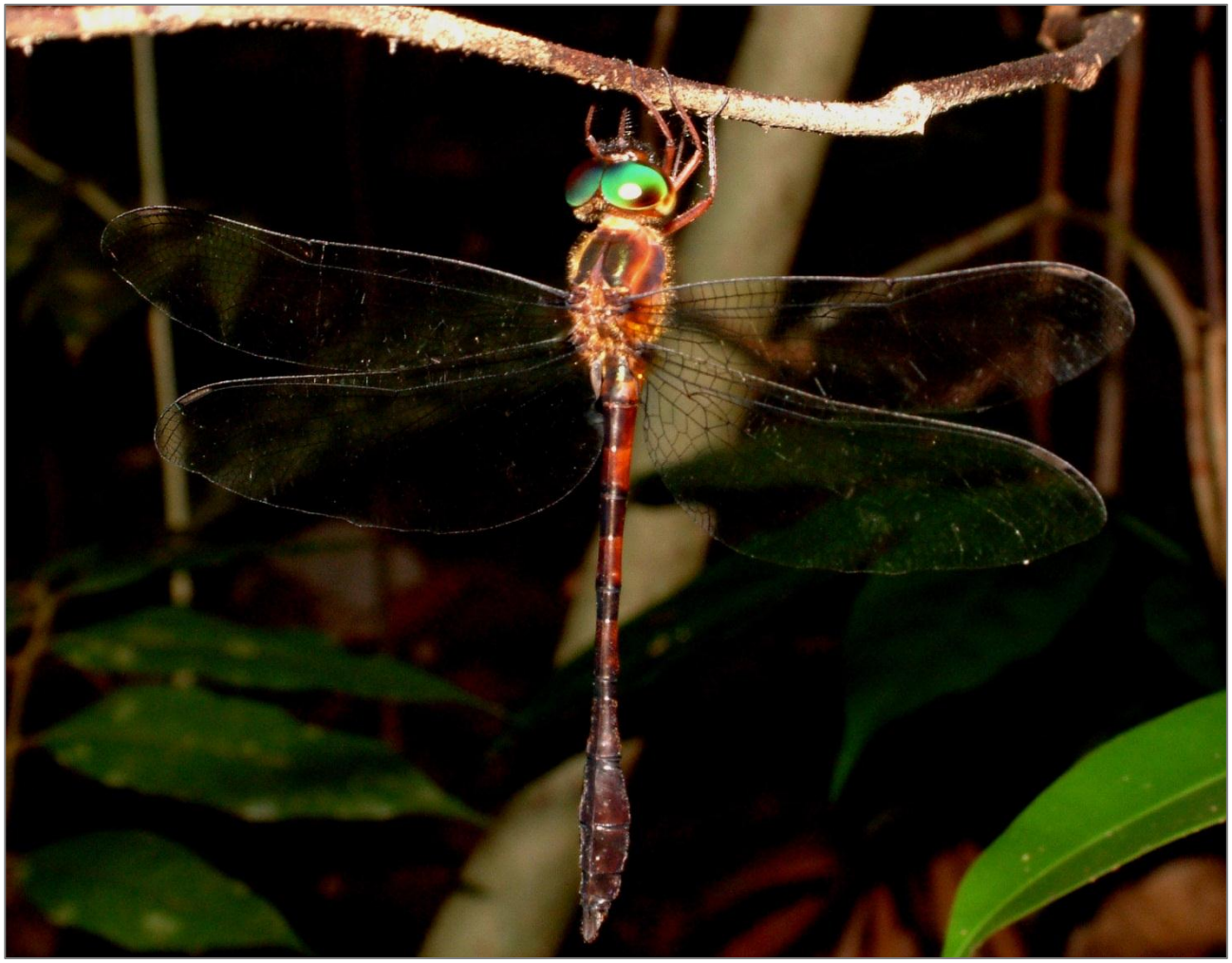

Figure 12: Male *Macromidia fulva*, Lambir Hills National Park. Photograph by R.A. Dow.

Libellulidae

43. *Aethriamanta gracilis* (Brauer, 1878)
    7 – 9.x: ♂, RAD.

44. *Brachydiplax chalybea* Brauer, 1868
    7 – 2.x: ♂, RAD; ♂, JS; 6.x: ♂, ER & TN; 8.x: ♂, ER & TN.

45. *Brachydiplax farinosa* Krüger, 1902
    4 – 5.x: 2 ♂♂, RAD.

46. *Brachygonia oculata* (Brauer, 1878)
    4 – 5.x: 2 ♂♂, RAD; ♂, ♀, ER & TN; 2 ♂♂, 3 ♀♀, JS. 5 – 9.x: ♂, ♀, JS.

47. *Cratilla lineata* (Brauer, 1878)
    7 – 9.x: ♂, ♀, RAD; ♂, JS.

48. *Cratilla metallica* (Brauer, 1878)
7 – 6.x: ♂, JS.

49. *Lyriothemis cleis* Brauer, 1868
2 – 4.x: ♂, RAD.

50. *Nannophya pygmaea* Rambur, 1842
4 – 5.x: 5 ♂♂, ER & TN; ♀, JS. 6 – 9.x: ♂, RAD; 2 ♂♂, JS. 7 – 2.x: 2 ♂♂, RAD; 3 ♂♂, JS; 9.x: 3 ♂♂, ER & TN.

51. *Neurothemis fluctuans* (Fabricius, 1793)
2 – 4.x: ♀, JS. 7 – 2.x: ♂, RAD; ♂, JS; 4.x: 2 ♂♂, ER & TN; 6.x: ♂, ♀, ER & TN; 9.x: 2 ♂♂, ♀, ER & TN.

52. *Neurothemis terminata* Ris, 1911
4 – 5.x: ♂, 2 ♀♀, ER & TN; ♀, JS. 7 – 2.x: ♂, RAD; 5.x: 3 ♂♂, ♀, ER & TN.

53. *Orchithemis pruinans* (Selys, 1878)
5 – 9.x: ♂, RAD.

54. *Orchithemis pulcherrima* Brauer, 1878
4 – 5.x: 2 ♂♂, RAD; 2 ♂♂, JS. 7 – 6.x: ♂, ER & TN; 8.x: ♂, ER & TN.

55. *Orthetrum chrysis* (Selys, 1891)
3 – 6.x: 2 ♂♂, ♀, ER & TN. 7 – 2.x: ♂, RAD; 9.x: ♂, ER & TN.

56. *Orthetrum glaucum* (Brauer, 1865)
2 – 4.x: ♂, JS. 7 – 2.x: ♂, RAD; ♂, JS; 5.x: ♂, ER & TN.

57. *Orthetrum sabina* (Drury, 1773)
4 – 5.x: ♂, ER & TN; ♂, JS. 5 – 9.x: ♂, JS. 7 – 2.x: ♂, RAD; ♂, ♀, JS; 3.x: ♀, ER & TN; 4.x: ♂, ER & TN; 6.x: ♀, ER & TN; 9.x: 2 ♂♂, ♀, ER & TN.

58. *Orthetrum testaceum* (Burmeister, 1839)
7 – 5.x: ♀, ER & TN; 6.x: ♀, ER & TN.

59. *Rhyothemis obsolescens* Kirby, 1889
Figure 13. 2 – 4.x: ♀, RAD; ♂, ♀, JS. 4 – 5.x: ♂, RAD; 5 ♂♂, ER & TN. 5 – 9.x: ♂, RAD; ♂, JS. 7 – 9.x: 3 ♂♂, ER & TN.

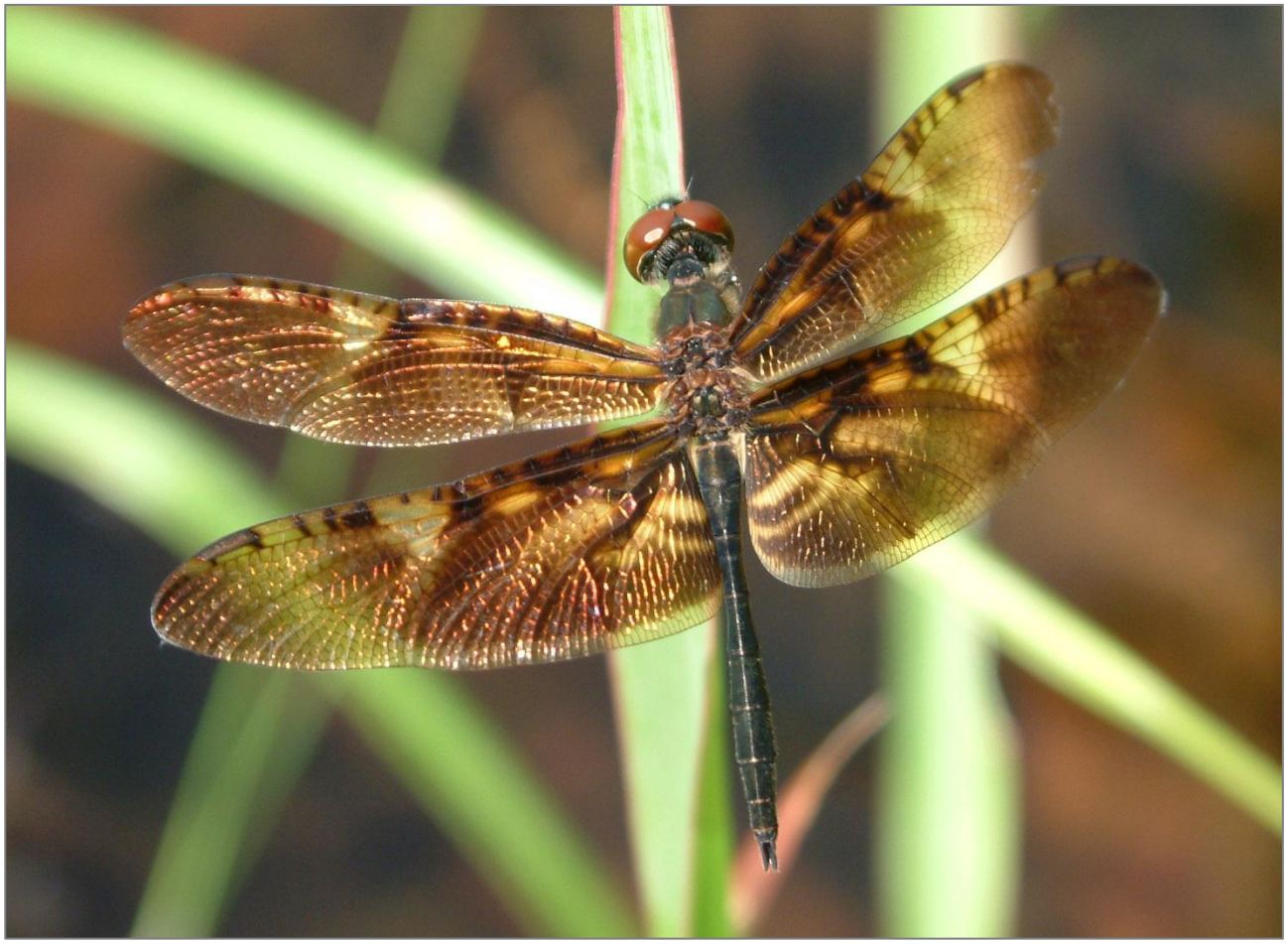

Figure 13: Male *Rhyothemis obsolescens*, Lambir Hills National Park. Photograph by R.A. Dow.

60. *Rhyothemis triangularis* Kirby, 1889
    7 – 4.x: ♂, RAD; 5.x: ♂, ER & TN; 9.x: ♂, ER & TN.
61. *Tetrathemis irregularis hyalina* Kirby, 1889
    7 – 9.x: ♂, RAD.
62. *Trithemis aurora* (Burmeister, 1839)
    3 – 2.x: ♂, RAD; ♂, ♀, JS; 3.x: 2 ♀♀, JS; 6.x: ♀, ER & TN; 9.x: 3 ♂♂, 2 ♀♀, ER & TN.
63. *Trithemis festiva* (Rambur, 1842)
    3 – 2.x: ♂, RAD; 9.x: 3 ♂♂, ER & TN; ♂, JS.
64. *Tyriobapta laidlawi* Ris, 1919
    5 – 9.x: ♂, RAD.
65. *Tyriobapta torrida* Kirby, 1889
    4 – 5.x: ♂, RAD; 2 ♂♂, ♀, JS. 7 – 8.x: 3 ♂♂, ER & TN.
66. *Urothemis signata insignata* (Selys, 1872)
    6 – 9.x: 2 ♂♂, JS.
67. *Zyxomma petiolatum* Rambur, 1842
    7 – 7.x: ♂, C.

Acknowledgements

The fieldwork reported here was made possible by support from the International Dragonfly Fund on the basis of a generous donation of Dr. Theo Benken, Germany. The Sarawak Forest Department and Sarawak Forestry Corporation are to be thanked for granting permits to collect Odonata in Sarawak. Thanks are due to C.Y. Choong and G.T. Reels for allowing me to use some of their photographs, and to C.Y. Choong for correcting my attempt to translate the abstract into bahasa Melayu. Special thanks are due to Jefri anak Sujang, Edmund anak Rowmina and Tony anak Neyam for their assistance in the field, and to the headman of Kampung Sebako for granting permission for me to work in the area.

References

Dow, R.A. 2010a. A review of the *Teinobasis* of Sundaland, with the description of *Teinobasis cryptica* sp. nov. from Malaysia (Odonata: Coenagrionidae). International Journal of Odonatology 13(2): 205-230, plate II.

Dow, R.A. 2010b. Revision of the genus *Coeliccia* (Zygoptera: Platycnemididae) in Borneo. Part I: The borneensis–group of species. Zoologische Mededelingen 84(7): 117–157.

Dow, R.A. 2012. Odonata collected around the Borneo Highlands Resort on Gunung Penrissen, Kuching Division, Sarawak, Malaysia in July 2012. International Dragonfly Fund - Report 50: 1–12.

Dow, R.A. & R.W.J. Ngiam, 2012. Odonata collected in the Hose Mountains, Kapit Division, Sarawak, Malaysia in April 2011. International Dragonfly Fund - Report 44: 1-18.

Dow, R.A. & A.G. Orr. 2012a. *Telosticta*, a new damselfly genus from Borneo and Palawan (Odonata: Zygoptera: Platystictidae). The Raffles Bulletin of Zoology 60(2): 365–401.

Dow, R.A. & A.G. Orr. 2012b. *Drepanosticta simuni* spec. nov. from Borneo with notes on related species (Zygoptera: Platystictidae). Odonatologica 41(3): 283-291.

Dow, R.A. & G.T. Reels. 2011. Odonata from a remnant patch of disturbed peatswamp forest on the outskirts of Kuching, west Sarawak. Agrion 15(2): 50-51.

Orr, A.G. 2001. An annotated checklist of the Odonata of Brunei with ecological notes and descriptions of hitherto unknown males and larvae. International Journal of Odonatology 4: 167-220.

Appendix I – Additional records from Gunung Pueh

Collecting at Gunung Pueh in 2006 and 2008 was conducted by the author (RAD) and Graham T. Reels (GTR). Collecting was carried out at the locations listed below.

Locations:

A1 – Foot of Gunung Pueh in vicinity of Sungai Sabaat.
A2 – Around Kampung Sebako.
A3 – On the mountain, near to Kampung Sebako.

Zygoptera

Amphipterygidae

1. *Devadatta* species — A1 – ♂, 28.i.2006, GTR. A3 – ♀, 18.ii.2008, RAD.

Chlorocyphidae

2. *Heliocypha biseriata* (Selys, 1859) — A1 – ♂, 28.i.2006, RAD; ♂, 28.i.2006, GTR.

Euphaeidae

3. *Euphaea impar* Selys, 1859 — A1 – ♂, 28.i.2006, GTR.
4. *Euphaea subcostalis* Selys, 1873 — A1 – ♂, 28.i.2006, GTR.

Calopterygidae

5. *Vestalis amaryllis* Lieftinck, 1965 — A1 – ♂, 28.i.2006, RAD & GTR.
6. *Vestalis* species cf *amnicola* Lieftinck, 1965 — A1 – 4 ♂♂, 28.i.2006, RAD.
7. *Vestalis atropha* Lieftinck, 1965 — A1 – 2 ♂♂, 28.i.2006, RAD.

Megapodagrionidae

8. *Rhinagrion borneense* (Selys, 1886) — A1 – ♀, 28.i.2006, GTR.

Platystictidae

9. *Drepanosticta drusilla* Lieftinck, 1934 — A1, see Dow & Orr (2012b).
10. *Drepanosticta rufostigma* (Selys, 1886) — A1 – 5 ♂♂, ♀, 28.i.2006, RAD; ♂, 28.i.2006, GTR.

Disparoneuridae

11. *Prodasineura verticalis* (Selys, 1860) — A1 – ♂, 28.i.2006, GTR.

Coenagrionidae

12. *Argiocnemis* species — A1 – ♀, 28.i.2006, RAD.
13. *Pericnemis stictica* (Hagen in Selys, 1863) — A1 – ♂, 28.i.2006, RAD.

Platycnemididae

14. *Coeliccia nigrohamata* Laidlaw, 1918 — A1 – 4 ♂♂, ♀, 28.i.2006, RAD; 4 ♂♂, 28.i.2006, GTR. A3 – 2 ♂♂, 18.ii.2008, RAD.
15. *Copera vittata* (Selys, 1863) — A1 – 2 ♂♂, 28.i.2006, RAD.

Anisoptera

Aeshnidae

16. *Anax guttatus* (Burmeister, 1839) —.A1 – ♀, 28.i.2006, GTR.
17. *Gynacantha basiguttata* Selys, 1882 — A2 – ♂, 18.ii.2008, C.
18. *Indaeschna grubaueri* (Förster, 1904) — A1 – ♂, 28.i.2006, GTR.

Corduliidae

19. *Idionyx* species cf *selysi* Fraser, 1926 — A1 – ♂, 28.i.2006, GTR.
20. *Macromidia fulva* Laidlaw, 1915 — A3 – ♀, 18.ii.2008, RAD.

Libellulidae

21. *Cratilla lineata* (Brauer, 1878) — A1 – ♂, 28.i.2006, GTR. A3 – ♂, 18.ii.2008, RAD.
22. *Cratilla metallica* (Brauer, 1878) — A1 – ♂, 28.i.2006, RAD; ♂, 28.i.2006, GTR.
23. *Diplacodes trivialis* (Rambur, 1842) — A1 – ♂, 28.i.2006, RAD.
24. *Neurothemis fluctuans* (Fabricius, 1793) — A1 – ♂, 28.i.2006, GTR. A3 – ♂, 18.ii.2008, RAD.
25. *Orthetrum sabina* (Drury, 1773) — A3 – ♂, 18.ii.2008, RAD.
26. *Tyriobapta torrida* Kirby, 1889 — A1 – ♂, 28.i.2006, RAD.
27. *Zyxomma petiolatum* Rambur, 1842 — A2 – ♀, 18.ii.2008, RAD.

Appendix II – Additional records from the Lundu/Sematan area of western Sarawak

Collecting in this area was conducted by the author and Graham T. Reels, at the following locations:

B1 – Sematan (at lights).
B2 – Sg. Tembaga, a stream running from Gunung Pueh through disturbed and secondary forest and oil palm plantation between Sematan and Lundu, accessed from the road.
B3 – On Gunung Gading in the National Park of the same name.
B4 – In Lundu.

Zygoptera

Amphipterygidae

1. *Devadatta* species — B3 – 3 ♂♂, 29.i.2006, RAD; ♂, ♀, 29.i.2006, GTR; ♂, 1.x.2008, RAD.

Chlorocyphidae

2. *Heliocypha biseriata* (Selys, 1859) — B2 – ♂, 30.i.2006, RAD; ♂, 30.i.2006, GTR. B3 – 2 ♂♂, 29.i.2006, GTR.
3. *Libellago aurantiaca* Selys, 1859 — B2 – ♀, 30.i.2006, RAD.

Euphaeidae

4. *Euphaea impar* Selys, 1859 — B2 – ♂, 30.i.2006, RAD. B3 – ♂, 29.i.2006, GTR; ♂, 1.x.2008, RAD.
5. *Euphaea subcostalis* Selys, 1873 — B3 – ♂, 29.i.2006, RAD; 2 ♂♂, 29.i.2006, GTR.

Calopterygidae

6. *Vestalis* species cf *amnicola* Lieftinck, 1965 — B3 – ♂, 29.i.2006, RAD; ♂, 29.i.2006, GTR; ♂, 1.x.2008, RAD.
7. *Vestalis amoena* Hagen in Selys, 1853 — B2 – ♂, 30.i.2006, RAD; ♂, ♀, 30.i.2006, GTR.

Platystictidae

8. *Drepanosticta rufostigma* (Selys, 1886) — B3 – 6 ♂♂, ♀, 29.i.2006, RAD; 4 ♂♂, 29.i.2006, GTR; 4 ♂♂, 1.x.2008, RAD.
9. *Telosticta gading* Dow & Orr, 2012 — B3 – see Dow & Orr (2012a).

Disparoneuridae

10. *Prodasineura dorsalis* (Selys, 1860) — B3 – ♂, ♀, 29.i.2006, RAD.
11. *Prodasineura haematosoma* Lieftinck, 1937 — B3 – ♂, ♀, ♂+♀, 29.i.2006, RAD.
12. *Prodasineura verticalis* (Selys, 1860) — B2 – ♂, 30.i.2006, RAD.

Coenagrionidae

13. *Pseudagrion microcephalum* (Rambur, 1842) — B2 – ♂, 30.i.2006, GTR.
14. *Pseudagrion perfuscatum* Lieftinck, 1937 — B2 – ♂, 30.i.2006, RAD.
15. *Stenagrion dubium* (Laidlaw, 1912) — B3 – 4 ♂♂, 29.i.2006, RAD.
16. *Teinobasis ruficollis* (Selys, 1877) — B4 – see Dow (2010a).

Platycnemididae

17. *Coeliccia flavostriata* Laidlaw, 1918 — B3 – See Dow (2010b).
18. *Coeliccia nigrohamata* Laidlaw, 1918 — B3 – 2 ♂♂, 29.i.2006, RAD; ♂, 1.x.2008, RAD.
19. *Copera vittata* (Selys, 1863) — B2 – ♂, 29.i.2006, GTR.

Anisoptera

Aeshnidae

20. *Gynacantha basiguttata* Selys, 1882 — B1 – ♂, 27.i.2006, RAD & GTR.

Corduliidae

21. *Macromidia fulva* Laidlaw, 1915 — B3 – ♂, 29.i.2006, RAD.

Libellulidae

22. *Agrionoptera insignis* (Rambur, 1842) — B2 – ♂, 30.i.2006, RAD.
23. *Neurothemis fluctuans* (Fabricius, 1793) — B3 – ♂, 29.i.2006, RAD.
24. *Neurothemis terminata* Ris, 1911 — B3 – ♂, 29.i.2006, RAD.
25. *Orthetrum testaceum* (Burmeister, 1839) — B2 – 2 ♂♂, 30.i.2006, RAD.

INSTRUCTION TO AUTHORS

International Dragonfly Fund - Report 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 in general with Odonata 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:

Swezey, O. & F. Williams, 1942. Dragonflies of Guam. Bernice P. Bishop Museum Bulletin 172: 3-6.

Rebora, M., Piersanti, S. & E. Gaino. 2004. Visual and mechanical cues used for prey detection by the larva of Libellula depressa (Odonata Libellulidae). Ethology, Ecology & Evolution 16(2): 133-144.

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.

Nr.	Jahr	geförderte Person bzw. Körperschaft	Fördergegenstand
62	2010	Villanueva, Reagan, Philippinen	Fieldwork on dragonflies on Siargao and Bucas Grande islands (Philippines)
63	2010	Asmaa Hassan Jabr, Baghdad, Iraq	Providing odonatological literature to M.Sc. student Asmaa Hassan Jabr,Department of Biology, College of Education, (Ibn al-Haitham), Adhamiyah, Anter SQ, Baghdad – Iraq
64	2010	Kosterin, O.E., Russia	The Odonata of the Cardamon mountains in Cambodia – progress study November 2010
65	2010	Villanueva, Reagan, Philippinen	Fieldwork on dragonflies on Samar Island (Philippines)
66	2010	Villanueva, Reagan, Philippinen	Fieldwork at Balut/Saranggani (Philippines) and Talaud islands (Indonesia)
67	2010	Villanueva, Reagan, Philippinen	Endemic species of the Diomabok-Lake region south of Davao, The Philippines
68	2010	Graham Reels, Hong-Kong	African Odonata (Dijkstra & Clausnitzer, Eds) text edit
69	2011	Rory Dow, Niederlande	Expedition to the Odonata of the Hose Mts., Sarawak, Malaysia
70	2011	Dejan Kulijer, Bosia & Herzegovina	Odonata of the Livanjsko poljekarst wetland area, with special emphasis on Coenagrion ornatum
71	2011	Do Manh, Cuong, Hanoi, Vietnam	Study of Odonata in north central Vietnam
72	2011	Kosterin, O.E., Russia	The Odonata of the Cardamon mountains in Cambodia – progress study August 2011
73	2011	Villanueva, Reagan, Philippinen	Odonata of Tawi-Tawi-Island, The Philippines
74	2011	Elena Dyatlova, Ukraine	Odonata of Moldavia – progress study
75	2011	Zhang, Haomiao, Guangzhou, China	The Superfamily Calopterygoidea in South China: taxonomy and distribution III – Travelling grant to the Guizhou and Yunnan Provinces, Summer 2011
76	2011	Marinov, Milen, Christchurch, New Zealand	Odonata at artificial light sources – review paper
77	2011	Do Manh, Cuong, Hanoi, Vietnam	Providing the Odonatological literature database
78	2010	Villanueva, Reagan, Philippinen	Stereomikroskop
79	2010	Villanueva, Reagan, Philippinen	Odonata of the Diomabok-Lake region south of Davao, The Philippines Follow-up
80	2011	Villanueva, Reagan, Philippinen	Odonata of the Catanduanes-Island, The Philippines
81	2012	Villanueva, Reagan, Philippinen	Odonata of Dinapique, The Philippines
82	2012	Dow, Rory, UK/The Netherlands	Odonata of Kalimantan, Borneo, Malaysia
83	2012	Marinov, Milen, Christchurch, New Zealand	Odonata species diversity of the "Eua Island, Kingdom of Tonga"
84		Marinov, Milen, Christchurch, New Zealand	Odonata of Solomon-Islands
85	2012	Villanueva, Reagan, Philippinen	Palawan-Odonata, The Philippines
86	2012	Do Manh, Cuong, Hanoi, Vietnam	Mau Son Mountain Odonata, Vietnam
87	2012	Dow, Rory, UK/The Netherlands	Odonata of Gunung Pueh, Borneo, Malaysia
In Planung			
	2013	Ananian, Vasil, Yerevan, Armenia	Ecology of Cordulegaster vanbrinckae
	2013	Villanueva, Reagan, Davao, Philippinen	Odonata of Mt. Lomot and Mt. Sumagaya, The Philippines
	2013	Büsse, Sebastian, Göttingen, Germany	Epiophlebia in China