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

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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 Some additional, previously unpublished, records from the most western part of Sarawak are included in two appendices.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: *Rafflesia* 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.



Megapodagrionidae11. *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.

Platystictidae14. *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.

Disparoneuridae17. *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.

Coenagrionidae22. *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.

Platycnemididae35. *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.

Macromiidae40. *Macromia westwoodi* Selys, 1874

1 – 3.x: ♂, ER & TN.

Corduliidae41. *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 *Rhythemis obsolescens*, Lambir Hills National Park. Photograph by R.A. Dow.

60. *Rhythemis 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. *Zygomma petiolatum* Rambur, 1842
7 – 7.x: ♂, C.



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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 atrophia* 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.



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