

Odonata collected in the Hose Mountains, Kapit Division, Sarawak, Malaysia in April 2011

Rory A. Dow¹ & Robin W.J. Ngiam²

¹NCB Naturalis, P.O. Box 9517, 2300 RA Leiden, The Netherlands
(rory.dow230@yahoo.co.uk)

²National Biodiversity Centre, National Parks Board, Singapore
(ngiam_wen_jiang@nparks.gov.sg)

Abstract

The results of an odonatological expedition to the Hose Mountains in central Sarawak, Malaysian Borneo made in April 2011 are presented. During the two-week expedition more than sixty-three species of Odonata were collected, bring the number of species of Odonata known from the Hose Mountains to over ninety-three; a number greater than that recorded from some of Sarawak's National Parks. Species of particular interest collected on the expedition include *Drepanosticta* new species, *Protosticta ?tubau* Dow, 2010 and, most notably, *Chlorogomphus manau* Dow & Ngiam, 2011, which was discovered during the expedition.

Introduction

The Hose Mountains are situated in Sarawak's central Kapit Division. The range has several peaks that reach 2000m (high by Bornean standards); parts of the range have not yet been logged whereas other parts have been through at least one round of commercial timber extraction. Until a small expedition made by G.T. Reels and the first author in 2010 to the western part of the range this remote area had never been sampled for Odonata. The 2010 expedition produced interesting odonatological results; in particular *Rhynoneura caerulea* Kimmins, 1936, previously only known from the type series from Mount Dulit (also in Sarawak), was re-discovered (Dow & Reels 2010).

Encouraged by the results of the 2010 expedition, the authors of this report made another expedition to the northern part of the mountains from April 3-17, 2011, in the vicinity of a mountain known locally as Gunung Kajang (Fig. 1). This expedition



was partly funded by grants from the International Dragonfly Fund and Uyttenboogaart-Eliassen Stichting; R.W.J. Ngiam's involvement was funded by the National Biodiversity Centre, National Parks Board Singapore.



Figure 1. Approaching Gunung Kajang. Photography by R. Ngiam.

The Gunung Kajang area (Figures 2-4) has been logged recently enough that some of the logging roads leading up into the mountains are still usable in parts. A base camp was established at the foot of the mountains, from this base, moving by 4WD on old logging roads and on foot where the roads were no longer usable, we were able to sample Odonata at altitudes from ca 250-1300m. Attempts to reach higher altitudes were rendered impossible with the time and resources available due to the distances involved and conditions. The sites above 1000m sampled in 2011 were of a different nature to those at comparable altitudes sampled in 2010: the forest consisted mostly of relatively small near-ridge top growth, the terrain was steeper on average and the area was more disturbed by logging; consequently a number of high altitude species collected in 2010 were not found in 2011. Weather conditions were suboptimal for much of the expedition period.

Results

Despite this 63+ (see under *Devadatta spp. cf podolestoides* below) species of Odonata were collected, of which 21 are new records for the Hose Mountains and



11 are new records for Kapit Division. 91+ species of Odonata are now known from the Hose Mountains, a number already greater than known from several of Sarawak's National Parks, and which will undoubtedly grow substantially with further



Figure 2. View in the Gunung Kajang area I. Photography by R. Ngiam.



Figure 3. View in the Gunung Kajang area II, Manau anak Budi in the foreground. Photography by R. Ngiam.





Figure 4. View in the Gunung Kajang area III. Photography by R. Ngiam.

sampling. The most notable new records are *Euphaea subnodalis* (a large westwards expansion to the known range), *Drepanosticta* new species, *Protosticta ?tubau* (previously known only from the holotype) and *Chlorogomphus manau* (to the authors knowledge the first adult *Chlorogomphus* specimen collected in Sarawak since the 1920s) which was discovered during the expedition.





Figure 5. Our party, minus the photographer, from right to left: MK, SN, MB, LS and RD. Photography by R. Ngiam.

List of species collected

Collectors/expedition members (Figure 5) are represented by their first and last initial:

LS – Luke Southwell

MB – Manau anak Budi

MK – Mibang Kibi

RD – Rory Dow

RN – Robin Ngiam

SN – Somoh anak Nyapong

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

1. Large rocky streams and their tributaries at the foot of the mountains (Figure 6).
2. Ponds at the foot of the mountains.
3. Streams below 800m in the mountains (Figure 7).
4. Streams 800-1300m in the mountains.
5. Forest ponds and pools below 800m in the mountains.
6. Forest edge pools at ca 1100m in the mountains (Figure 8).
7. On and beside old logging roads in the mountains.
8. At lights at a timber camp at the foot of the mountains.





Figure 6. Typical larger stream at the foot of the mountains. Photography by R. Ngiam.



Figure 7. Mid altitude stream in disturbed forest, Mibang Kibi inspects the foliage for damselflies. Photography by R. Ngiam.





Figure 8. A pond at around 1100m in the mountains. Photography by R. Ngiam.

Additionally asterisks (*) are used with the following meanings:

* New record for Hose Mountains.

** New record for Kapit Division.

*** First record for Borneo made on this expedition.

Zygoptera

Amphipterygidae

1. *Devadatta* spp. cf *podolestoides* Laidlaw, 1934 — There is now strong evidence that at least three distinct but very similar species have been lumped together as *Devadatta podolestoides*. At least two species occur in the Hose Mountains; probably neither of them is the true *D. podolestoides*. However both species are treated together here for simplicity. 1 – 7.iv: 4 ♂♂, LS; ♂, MK; ♂, RD; ♂, RN. 3 – 5.iv: ♂, RD; 6.iv: 2 ♂♂, MK; 9.iv: ♂, RD; 10.iv: 2 ♂♂, RN; 12.iv: 2 ♂♂, ♀, MK; ♂, RD; 13.iv: 2 ♂♂, MK, ♀, RN; 2 ♂♂, LS; 2 ♂♂, 2 ♀♀, MB; 15.iv: ♂, RD. 4 – 8.iv: ♂, RD; 11.iv: 2 ♂♂, MK; ♂, RN. 7 – 14.iv: ♂, MK; 15.iv: ♂, LS; 2 ♂♂, MB; 2 ♂♂, MK.



Chlorocyphidae

2. *Rhinocypha aurofulgens* Laidlaw, 1931 — A species of rocky forest streams (Figure 9). 1 – 7.iv: ♂, LS; 5 ♂♂, MK; 7 ♂♂, ♀, RD; 2 ♂♂, ♀, RN; 15.iv: ♂, ♀, RN.



Figure 9. *Rhinocypha aurofulgens*. Photography by R. Ngiam.

3. *Rhinocypha spinifer* Laidlaw, 1931 — A species of forest streams in mountains and uplands. 3 – 12.iv: ♀, MK; 14.iv: ♀, LS. 4 – 6.iv: ♂, RD.

Euphaeidae

4. *Euphaea impar* Selys, 1859 — A very common species of forest streams, including highly disturbed forest. 1 – 10.iv: ♂, RD. 3 – 10.iv: ♂, ♀, RN; 12.iv: ♂, MK; ♂, RD; 14.iv: ♂, LS.
5. *Euphaea subcostalis* Selys, 1873 — Another common species, but more specialised, typically preferring smaller streams in mixed dipterocarp forest (MDF) in hilly and mountainous terrain. 1 – 7.iv: ♂, RD; ♂, RN; 10.iv: ♂, RD. 3 – 14.iv: ♂, LS. 4 – 6.iv: ♂, RD.
6. *Euphaea subnodalis* (Laidlaw, 1915)** — This species prefers larger and typically very rocky streams than the last, typically in hilly and mountainous terrain. This is the most westerly record of the species yet made. 1 – 7.iv: 2 ♂♂, MK; 2 ♂♂, RD.



7. *Euphaea tricolor* Selys, 1859 — A disturbance tolerant species of larger forest streams. 1 – 7.iv: ♂, RD; 15.iv: ♂, RN.

Calopterygidae

8. *Neurobasis longipes* Hagen, 1887 — A common species of rocky forest streams. 1 – 7.iv: 2 ♂♂, LS; ♂, MK; 2 ♂♂, RD; 2 ♂♂, RN; 15.iv: ♂, ♀, RN.
9. *Vestalis amaryllis* Lieftinck, 1965 — With *V. amoena* generally the commonest of the *amoena*-group of *Vestalis* species in Sarawak, and like that species, less common in the Hose mountains than is typical. 1 – 7.iv: ♂, RD. 3. 14.iv: ♂, RD.
10. *Vestalis amnicola* Lieftinck, 1965 — A common species in mountainous terrain. 1 – 7.iv: ♂, MK; 3 ♂♂, RD. 3 – 9.iv: ♂, RD. 4 – 6.iv: 2 ♂♂, RD; 8.iv: ♂, RD; 13.iv: ♂, RD.
11. *Vestalis amoena* Hagen in Selys, 1853 — See the comments under *V. amaryllis*. 1 – 7.iv: ♂, RD.
12. *Vestalis atrophæa* Lieftinck, 1965 — A locally common species on streams in MDF. 1 – 7.iv: 3 ♂♂, MK; ♂, RN; 10.iv: ♂, RD.
13. *Vestalis beryllæ* Laidlaw, 1915 — This species is locally common in MDF in steep terrain, where it breeds in small high gradient streams. 1 – 7.iv: ♂, LS. 3 – 5.iv: ♂, RD; 10.iv: ♂, RN; 12.iv: 2 ♂♂, RD; 14.iv: 6 ♂♂, ♀ (in tandem with one of the males), MB. 7 – 15.iv: ♂, LS.

Platystictidae

14. *Drepanosticta* sp cf *actæon* Laidlaw, 1934* — Populations from Kapit division differ in colouration and their inferior anal appendages from populations from Miri, which appear to be the genuine *D. actæon*, described from Mount Kinabalu. However the inferior appendages of the type of *D. actæon* are damaged, so that it is difficult to be sure about the status of either of the forms found in Sarawak. Without more sampling in the division it is difficult to be sure, but the Kapit form may be locally common in MDF. 3 – 9.iv: 3 ♂♂, 2 ♀♀, RD; ♂, RN.
15. *Drepanosticta* sp cf *crenitis* Lieftinck, 1933 — This species is widespread and locally common in Sarawak, where it is typically found at tiny muddy trickles. It differs from the type of *D. crenitis* in the colour of the prothorax. 3 – 5.iv: ♀, RD; 9.iv: ♂, ♀, MK; ♂, ♀, RD; 12.iv: 2 ♂♂, 2 ♀♀, RD; 13.iv: 3 ♀♀, MK; 14.iv: ♀, MB.



16. *Drepanosticta dulitensis* Kimmins, 1936 — Once thought to be a high altitude species confined to Mount Dulit, we now know that this species occurs from at least the mid Baram area of Miri division to the Hose mountains and the Tubau area in Bintulu division, and occupies a broad altitudinal range from near sea-level to over 1100m. It is common in the Hose Mountains. 3 – 5.iv: 2 ♂♂, RD; 6.iv: ♂, MK; 9.iv: 5 ♂♂, ♀, RD; 3 ♂♂, RN; 10.iv: 2 ♂♂, RN; 12.iv: ♂, MK; 2 ♂♂, ♀, RD; 13.iv: ♂, RN; 15.iv: 2 ♂♂, RD. 4 – 13.iv: ♂, RD.
17. *Drepanosticta rufostigma* (Selys, 1886) — This is the most common member of the Platystictidae in Sarawak, found on a wide variety of forest streams, although absent from swamp forest (Figure 10). 1 – 7.iv: 2 ♂♂, LS; ♂, ♀, MK; ♂+♀, RD; 10.iv: 2 ♂♂, RD. 3 – 5.iv: 3 ♂♂, RD; 6.iv: 4 ♂♂, ♀, MK; 2 ♂♂, RN; 9.iv: 2 ♂♂, MK; 3 ♂♂, RD; 10.iv: ♂, ♀, RN; 12.iv: ♂, RN; 13.iv: 2 ♂♂, MK; ♂, RN; 14.iv: 8 ♂♂, LS; ♂, MB; 15.iv: 2 ♂♂, 2 ♀♀, RD. 4 – 6.iv: 2 ♂♂, RD; 8.iv: ♂, RD; 13.iv: ♂, RD.



Figure 10. *Drepanosticta rufostigma*. Photography by R. Ngiam.



18. *Drepanosticta versicolor* (Laidlaw, 1913) — Another common platystictid, usually found at tiny muddy seeps and trickles. 1 – 10.iv, 2 ♂♂, RD. 3 – 9.iv: ♂, RD; 12.iv: ♀, RD.
19. *Drepanosticta* new sp*** — A single male was collected perched high on the bank of a stream at ca 900-1000m. It is allied to the next species (see, for instance, Orr 2003, van Tol 2009 or Dow 2010 for comments on the current taxonomy of the Platystictidae). 3 – 6.iv: ♂, RD.
20. *Protosticta* new sp. — This species (*Protosticta* sp. A in Orr 2003) is widespread in Sarawak east of the Lupar river and in Brunei. It is typically common where it occurs and favours small streams in steep terrain in MDF. It is being described by the first author and A.G. Orr as part of a revision of the species group to which it belongs. 1 – 7.iv: 2 ♂♂, LS. 3 – 6.iv: ♂, MK; 9.iv: ♂, ♀, RD; 13.iv: 2 ♂♂, MK; 15.iv: 2 ♂♂, RD.
21. *Protosticta* ?*tubau* Dow, 2010** — *P. tubau* is known with certainty only from the holotype male from the Tubau area of Bintulu division (Dow 2010a). A teneral specimen from the same site as species 19 bears the distinctive tuft of long setae on the dorsum of abdominal segment 10 as *P. tubau* and has similar markings, but its anal appendages are shrivelled so it is not possible to be sure if it is actually *P. tubau* or a closely allied species. 4 – 6.iv: ♂, RD.

Protoneuridae

22. *Prodasineura hyperythra* (Selys, 1886) — A moderately common species in MDF in Sarawak. 1 – 7.iv: 2 ♂♂, RD.

Coenagrionidae

23. *Argiocnemis* sp. — A problematic form, certainly distinct from *Argiocnemis rubescens* but possibly with a name buried in the synonymy of that species. Widespread in Borneo and peninsular Malaysia, occurring in a variety of swampy habitats. 2 – 10.iv: 2 ♂♂, RD; 15.iv: 2 ♂♂, RN.
24. *Ceriagrion bellona* Laidlaw, 1915 — This is a locally common species, found at pond. It occurs from sea level up to at least 1400m, but possibly favours higher altitude sites. Figure 11. 5 – 14.iv: ♂, RD. 6 – 8.iv: ♂, RD; ♂, RN; 11.iv: ♂, ♀, MK; 12.iv: 3 ♂♂, 2 ♀♀, LS; 13.iv: 5 ♂♂, 6 ♀♀, LS. 7 – 15.iv: ♂, MB; ♂, 2 ♀♀, MK.





Figure 11. *Ceriagrion bellona*. Photography by R. Ngiam.

25. *Stenagrion dubium* (Laidlaw, 1912) — A common species on small forest streams in mountainous and hilly country; however the status of some populations is a matter of ongoing investigation. 1 – 7.iv: ♂, LS; ♂, ♀, MK; ♂, ♂+♀, RD. 3 – 5.iv: 2 ♂♂, RD; 6. iv: ♂, MK; ♂, RD; 9.iv: ♂, MK; ♂, RD; 13.iv: 11 ♂♂, MK; 2 ♂♂, RN; 14.iv: ♂, LS; 15.iv: 3 ♂♂, LS; ♀, MB; ♂, MK. 4 – 11.iv: 6 ♂♂, ♀, MK; ♂, RD; ♂, RN; 13.iv: ♀, LS; ♂, RD. 7 – 14.iv: ♂, MK.

26. *Xiphiagrion cyanomelas* (Selys, 1876) — A widespread and common species, but the form found above 1000m may represent a separate species. 2 – 10.iv: ♂, RD; 15.iv: ♂, RN. 6 – 8.iv: ♂+♀, RN.

Platycnemididae

27. *Coeliccia ?borneensis* (Selys, 1866) — Specimens from the Hose Mountains correspond in structure to the problematic “western form” (Dow 2010b, Dow & Reels 2011). Hopefully molecular studies underway at NCB Naturalis will help to resolve the issues surrounding this form, which is probably a distinct species. 1 – 7.iv: ♂, RN; 10.iv: ♂, RD. 3 – 5.iv: 2 ♂♂, RD; 9.iv: ♂, MK; 7 ♂♂, RD; 10.iv: ♂, LS; 12.iv: ♂, RD; 13.iv: 2 ♂♂, MK; 15.iv: ♂, RD.



28. *Coeliccia cyaneothorax* Kimmins, 1936 — A local species of forest streams in hilly and mountainous terrain. 3 – 9.iv: ♂, RD.
29. *Coeliccia* sp. cf *nemoricola* Laidlaw, 1912 — A problematic form, its status will be dealt with elsewhere. 3 – 9.iv: ♂, RD; 14.iv: ♂, RD; 15.iv: ♀, RD. 4 – 6.iv: 3 ♂♂, RD; 8.iv: 2 ♂♂, RD; 9.iv: ♂, RD; 11.iv: ♂, ♂+ ♀, RD; 13.iv: 2 ♂♂, LS.
30. *Coeliccia nigrohamata* Laidlaw, 1918 — A very common species on forest streams and seeps; however there are taxonomic issues with populations east of the Lupar river. 1 – 7.iv: 2 ♂♂, RD; ♂, RN; 10.iv: ♂, RD; 3 – 5.iv: 3 ♂♂, 2 ♀♀, ♂+ ♀, RD; 6.iv: 2 ♂♂, MK, ♂, RN; 9.iv: 17 ♂♂, ♀, MK; 10.iv: 7 ♂♂, ♂+ ♀, LS; 2 ♂♂, RN; 12.iv: 7 ♂♂, ♀, MK; 13.iv: ♂, MK. 4 – 8.iv: ♂, RD; 13.iv: ♂, RD. 7 – 15.iv: ♂, LS.
31. *Copera vittata* (Selys, 1863) — A number of different colour forms of this species occur in Borneo; the specimens recorded here belong to the typical red-legged form. 2 – 10.iv: ♀, RD. 5 – 14.iv: 2 ♂♂, RD.



Figure 12. *Chlorogomphus manau*. Photography by R. Ngiam.



Anisoptera**Chlorogomphidae**

37. *Chlorogomphus manau* Dow & Ngiam, 2011*** — One male of this previously unknown species (Figure 12) was collected by M. Budi. See Dow & Ngiam (2011) for more details. 7 – 15.iv: ♂, MB.

Gomphidae

32. *Heliogomphus blandulus* Lieftinck, 1963* — A poorly known species, one teneral male was collected. 3 – 10.iv: ♂, RN.
33. *Heliogomphus borneensis* Lieftinck, 1929** — Another poorly known species. A teneral female was caught on a small forest stream at ca 740m and is questionably referred here; a male was caught beside an old logging road at ca 1100m. 3 – 6.iv: ♀, MK. 7 – 11.iv: ♂, RD.
34. *Leptogomphus williamsoni* Laidlaw, 1912* — This small and distinctive species has not often been recorded but was relatively common in the Hose Mountains during the sampling period. 3 – 9.iv: ♂, RD; 10.iv: ♂, RN; 13.iv: ♀, MK; ♂, RN.



Figure 13. *Leptogomphus* sp cf *pasia*. Photography by R. Ngiam.



35. *Leptogomphus* sp. cf *pasia* van Tol, 1990** — A single female was collected at ca 840m (Figure 13); although it agrees with *L. pasia* in its markings, it differs in structure. Figure 13. 3 – 9.iv: ♀, RD.
36. *Microgomphus* sp.** — Only *Microgomphus chelifera* (Selys, 1858) has been recorded from Borneo, but males are very rarely collected and most specimens are teneral females, making identification almost impossible; it is possible that additional *Microgomphus* species occur on the island. 1 – 7.iv: ♀, RD.

Aeshnidae

38. *Indaeschna grubaueri* (Förster, 1904)* — A fairly common species in MDF, breeding in forest pools and sometimes found in buildings in forested areas. 5 – 14.iv: ♂, RD. 6 – 8.iv: ♂, RD. 8 – 10.iv: ♀, MB, MK & SN.

Macromiidae

39. *Ephthalma vittigera* (Rambur, 1842)** — A common pond species. 2 – 10.iv: ♂, RD.

Corduliidae

40. *Idionyx* new species** — A widespread species in Sarawak, similar to, but distinct from, *I. selysi* Fraser, 1926. 7 – 15.iv: ♀, MB.
41. *Idionyx ?yolanda* Selys, 1871** — A female, probably that of *I. yolanda*. 3 – 5.iv: ♀, RD.
42. *Macromidia fulva* Laidlaw, 1915 — A fairly common species on streams in MDF, but under-recorded due to its behaviour. 1 – 7.iv: ♂, LS.
43. *Procordulia fusiformis* Lieftinck, 1977 — This is a poorly known species, but it appears to be quite common at higher altitudes in Sarawak, and to be disturbance tolerant. 6 – 8.iv: ♂, RD; 12.iv: ♀, LS.

Libellulidae

44. *Cratilla lineata* (Brauer, 1878)** — Fairly common in Sarawak, but preferring disturbed forest habitats. 5 – 6.iv: ♂, RD; 14.iv: ♂, RD.
45. *Cratilla metallica* (Brauer, 1878)* — Usually common in MDF. 3 – 5.iv: ♀, RD.



46. *Diplacodes trivialis* (Rambur, 1842) — A common species of disturbed habitats. 7 – 14.iv: ♀, MK; ♂, RN.
47. *Hylaeothemis clementia* Ris, 1909** — An extremely local species, typically found at small sunlight pools and seepages in forest in hilly and mountainous terrain, contrary to the statement in Lieftinck (1954: 126) that it is “in the alluvial forests”, which appears to have been speculation based on a series of specimens from east Kalimantan, without habitat information, and now in RMNH. Figure 14. 3 – 5.iv: ♂, RD. 7 – 11.iv: ♂, RD.



Figure 14. *Hylaeothemis clementia*, immature male. Photography by R. Ngiam.

48. *Lyriothemis biappendiculata* (Selys, 1878) — A locally common species, its preferred habitat is muddy seepages and marshy areas in MDF. 1 – 7.iv: ♀, RD. 3 – 12.iv: ♂, MK; ♂, RD.
49. *Lyriothemis cleis* Brauer, 1868* — This species breeds in tree holes and small forest pools. 1 – 7.iv: ♀, RD.
50. *Neurothemis terminata* Ris, 1911 — A common species. 7 – 14.iv: ♂, RN.
51. *Onychothemis coccinea* Lieftinck, 1953* — A locally common species on low gradient forest streams, including those in disturbed forest. 1 – 15.iv: ♂, RN.



52. *Orthetrum borneense* Kimmins, 1936 — This species was once thought to be confined to montane forest on Mount Dulit, but is now known from a number of high altitude sites in Limbang, Miri and Kapit divisions in Sarawak, where it appears to breed in forest and forest edge pools; in Limbang division at ca 1400m C.Y. Choong (pers. communication) reports it as common in open and disturbed areas. 7 – 13.iv: ♂ (ca 1100-1250m), LS; 15.iv: ♀ (ca 600-800m), MK.
53. *Orthetrum chrysis* (Selys, 1891) — A common species in a variety of habitats. 1 – 7.iv: ♂, LS; ♂, RD. 7 – 15.iv: ♂, RN.
54. *Orthetrum glaucum* (Brauer, 1865) — Very common in disturbed areas in hilly and mountainous terrain. 1 – 7.iv: 2 ♂♂, LS; ♂, MS; ♂, RD. 6 – 8.iv: ♀, RD; 12.iv: ♀, LS. 7 – 6.iv: ♂, ♀, MK; 11.iv: 2 ♀♀, LS; ♀, MK; 14.iv: ♂, ♀, MK; 15.iv: 2 ♂♂, 2 ♀♀, ♂+ ♀, LS; 3 ♂♂, 2 ♀♀, MB.
55. *Orthetrum pruinosum schneideri* Förster, 1903 — Locally common in MDF, including disturbed forest, appears to become more common at higher altitudes. 1 – 7.iv: ♂, LS; ♂, RD. 5 – 5.iv: ♂, RD; 14.iv: ♂, RD. 6 – 8.iv: ♂, RD; ♂, RN; 12.iv: ♂, LS. 7 – 15.iv: 3 ♂♂, LS.
56. *Orthetrum sabina* (Drury, 1773)* — A common species of open disturbed habitats, but occasionally found in many forest habitats. 2 – 15.iv: ♂, RN.
57. *Orthetrum testaceum* (Burmeister, 1839) — A very common species of disturbed habitats. 1 – 7.iv: ♂, MK. 2 – 10.iv: ♂, RD. 7 – 14.iv: ♂, MK.
58. *Tetrathemis irregularis hyalina* Kirby, 1889** — A locally common species of swamps and slow sections of streams. 1 – 7.iv: ♂, RD.
59. *Tetrathemis* new sp. — A new species, first found in the Hose Mountains in 2010, and now also known from a location in Sabah (C.Y. Choong: personal communication), superficially resembling the last species but probably more closely related to *T. platyptera* Selys, 1878. 5 – 14.iv: 3 ♂♂, RD.
60. *Trithemis aurora* (Burmeister, 1839) — A very common species in disturbed habitats. 2 – 10.iv: ♂, RD; 15.iv: ♂, RN. 7 – 14.iv: ♂, LS.
61. *Trithemis festiva* (Rambur, 1842) — Also very common in disturbed habitats. 7 – 14.iv: ♀, LS; ♂, ♀, MK; ♂, RN.



62. *Tyriobapta torrida* Kirby, 1889 — Common in MDF at swampy areas, pools and slow sections of streams. 1 – 7.iv: ♂, RD. 5 – 14.iv: ♂, RD.
63. *Zygonyx iris errans* Lieftinck, 1953 — In Sarawak this is a rather local species. 1 – 7.iv: ♂, MK.

Acknowledgements

The fieldwork reported here was made possible by support from the International Dragonfly Fund, Uyttenboogaart-Eliasen Stichting (grant SUB.2010.12.03) and the National Biodiversity Centre, National Parks Board Singapore. The Sarawak Forest Department and Sarawak Forestry Corporation granted permits to collect Odonata in Sarawak. We owe much thanks to our other expedition members: Luke Southwell, Manau anak Budi, Mibang Kibi and Somoh anak Nyapong.

References

- Dow, R.A., 2010a. Two new Platystictidae (Odonata: Zygoptera) from Sarawak, Malaysian Borneo. *Zootaxa* 2412: 63-68.
- Dow, R.A., 2010b. Revision of the genus *Coeliccia* (Zygoptera: Platycnemididae) in Borneo. Part I: The borneensis-group of species. *Zoologische Mededelingen, Leiden* 84(7): 117-157.
- Dow, R.A. & R.W.J. Ngiam, 2011. *Chlorogomphus manau* sp. nov. from Sarawak, Malaysia (Odonata: Chlorogomphidae) *International Journal of Odonatology* 14(3): 269-274.
- Dow, R.A. & G.T. Reels, 2010. Finding the Holy Grail: the rediscovery of *Rhinoneura caerulea* in the Hose Mountains, Sarawak, Borneo. *Agrion* 14(2): 28-29.
- Dow, R.A. & G.T. Reels, 2011. *Coeliccia southwelli* sp. nov. (Odonata: Zygoptera: Platycnemididae) from Mount Dulit, Sarawak. *Zootaxa* 2832: 63-68.
- Lieftinck, M.A., 1954. Handlist of Malaysian Odonata. A catalogue of the dragonflies of the Malay Peninsula, Sumatra, Java and Borneo, including the adjacent small islands. *Treubia (Suppl.)* 22: i-xiii + 1-202.
- Orr, A.G., 2003. *Dragonflies of Borneo*. Natural History Publications, Kota Kinabalu.
- Van Tol, J. (2009) Phylogeny and biogeography of the Platystictidae (Odonata). Ph.D. thesis, University of Leiden, x + 294 pp.

