

# IDF



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Odonata from Ulu Katibas, Kapit Division

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## Previously unpublished Odonata records from Sarawak, Borneo, part XI: Odonata from Ulu Katibas, Kapit Division

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### Abstract

Records of Odonata from the ulu (upper) Katibas River area, just downstream from the Lanjak Entimau Wildlife Sanctuary (LEWS), in October 2022 are presented. The fieldwork was part of a larger project mainly funded by the Mohamed bin Zayed Species Conservation Fund. All locations surveyed are within Song District in Kapit Division. The survey was focused on searching for species of small, high gradient forest streams so the results certainly do not reflect the full odonate fauna of the area. Forty species were recorded during the survey (with one additional record made in the town of Song). One species (*Drepanosticta simuni*) was recorded from Kapit Division for the first time; the second ever record of the species. *Drepanosticta adenani* was recorded from outside of the LEWS boundary for the first time, and in second growth forest for the first time. A new species of *Telosticta* is reported based on a single male, however this might be the same species as a previously unidentified female specimen from within LEWS. A very distinctive female *Chlorogomphus*, of the same presumably undescribed species as one recorded from the Long Seridan area in Miri Division in 2020, was collected. The high diversity of Platystictidae in the ulu Katibas area is remarked on.

**Key words:** Odonata, Sarawak, Kapit, ulu Katibas, Song, new records, *Drepanosticta adenani*, *Drepanosticta simuni*, *Chlorogomphus*.

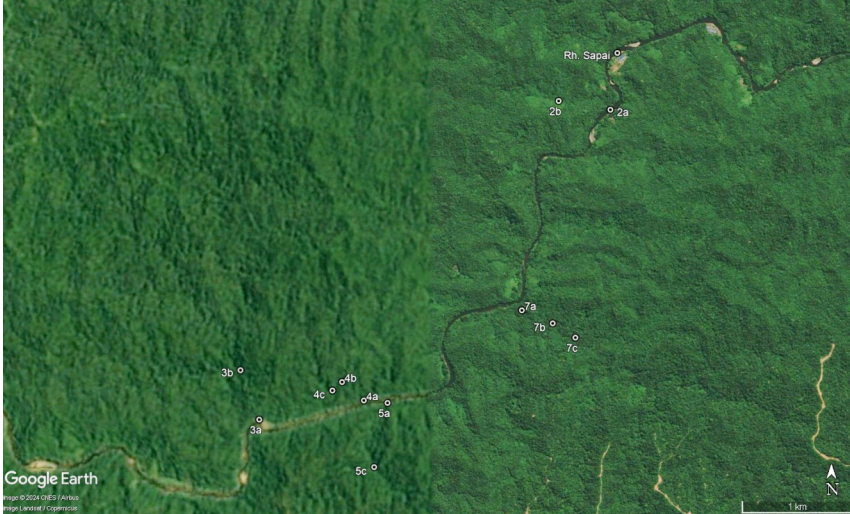
### Introduction

Records of Odonata from the ulu (upper) Katibas area in Sarawak's Kapit Division are available from the Nanga Bloh area of the Lanjak Entimau Wildlife Sanctuary (LEWS) (Norma-Rashid et al. 2010, Dow et al. 2018), with a few records from further down the Katibas included in Dow et al. (2015). In October 2022 I made a short survey in non-protected areas immediately downstream from Nanga Bloh, with some sites at (but not within) the LEWS boundary; these sites were all within the lands of the Rumah Sapi longhouse, the last longhouse on the Katibas River. This survey was part of a project, mainly funded by the Mohamed bin Zayed Species Conservation Fund (MBZSCF), to find new locations for a number of very poorly known species of Platystictidae and also the equally poorly known *Coelliccia southwelli* Dow & Reels, 2011 (unfortunately this species could not be found during the project). Only five days fieldwork were conducted in the area, originally this was supposed to be six days but one day was lost due to a miscommunication regarding boat

transport up the Katibas, resulting in an unplanned overnight stay in Song on October 15. Because the survey was focused on searching for species of small, high gradient forest streams, the Odonata of other habitats present in the area were only sampled in passing, on the way to suitable sites for the target species. Therefore the results of this survey do not reflect the full odonate fauna of the area, which is undoubtedly much richer than the 40 species reported here.

## Locations

Fig. 1 shows an overview of the locations in the ulu Katibas area surveyed in October 2022.



**Figure 1. Overview of locations surveyed for Odonata in ulu Katibas in 2022.**

1. Sungai Katibas between Rumah Sapai (1.6829N, 112.336E, ca. 98m a.s.l.) and Lanjak Entimau Wildlife Sanctuary (LEWS). In this part Sungai Katibas is a rapidly flowing river, mostly running clear at the time of sampling, with mostly rock and gravel substrates.
2. Sungai Sepantu, a forest stream:
  - a. Mainstream (confluence with Sungai Katibas at 1.6781N, 112.3354E, ca. 99-128m a.s.l.)
  - b. Sungai Mawang, a tributary (1.6788N, 112.3310E, ca. 124-157m a.s.l.)
3. Sungai Likau a forest stream running out from LEWS, downstream of LEWS boundary:
  - a. Mainstream (confluence with Sungai Katibas at 1.6520N, 112.3058E, ca. 106-120m a.s.l.)
  - b. High gradient tributary system (1.6562N, 112.3043E, ca. 120-180m a.s.l.)
4. Sungai Deri, a forest stream flowing from LEWS, downstream of LEWS boundary:
  - a. Mainstream (confluence with Sungai Katibas at 1.6536N, 112.3146E, ca. 104-140m a.s.l.)
  - b. Long, steep tributary system (1.6552N, 112.3128E, ca. 140-190m a.s.l.)
  - c. Very short, small tributary (1.6545N, 112.3120E, ca. 139m a.s.l.)

5. Sungai Lawas, a forest stream:
  - a. Mainstream (confluence with Sungai Katibas at 1.6534N, 112.3166E, ca. 102-140m a.s.l.). A fairly large, rocky stream.
  - b. Pool with flow at side of mainstream.
  - c. Large tributary (1.6481N, 112.3155E, ca. 140-170m a.s.l.)
  - d. Steep tributary to 5c (coordinates not recorded).
  - e. Very short, small tributary (coordinates not recorded).
6. Small, unnamed forest tributary to Sungai Katibas, not far downstream from Sungai Lawas (confluence with Sungai Katibas at 1.6541N, 112.32E, ca. 102m a.s.l.)
7. Sungai Ngemiu, a low gradient forest stream with a partly open canopy:
  - a. Mainstream (coordinates just upstream from confluence with Sungai Katibas: 1.6612N, 112.3279E, ca. 100-127m a.s.l.)
  - b. Tiny, steep tributary to Sungai Ngemiu (1.6601N, 112.3305E, ca. 127m a.s.l.) Fig. 2 shows the habitat at this location.
  - c. Moderate gradient tributary to Sungai Ngemiu (1.6589N, 112.3324E, ca. 127m a.s.l.)



**Figure 2: Steep tributary to Sungai Ngemiu (location 7b).**

## List of species found during the October 2022 survey

Definite first records for Kapit Division are indicated by \*. Specimens were collected by the author and James anak Engkulaw.

### Zygoptera

#### Platystictidae

##### 1. *Drepanosticta adenani* Dow & Reels, 2018

This species was discovered at a single site in the Nanga Segerak area of LEWS and later found at one site in the Nanga Bloh area of LEWS (Dow & Reels 2018). Both of the known sites were in high quality old growth forest. In October 2022 it was found outside of LEWS for the first time, at two sites. At one of the new sites only a single individual was found but at the other multiple individuals were found; this second new site was in fairly old second growth forest (with old growth forest further up the slope above the stream head), another first for a species which had only been found in intact old growth forest before.

**5e** – ♂, 20.x.2022. **7b** – ♂♂, ♀, 21.x.2022.

##### 2. *Drepanosticta* sp. cf *crenitis* Lieftinck, 1933

**3b** – ♂ (teneral), 18.x.2022. **4b** – ♀, 19.x.2022.

##### 3. *Drepanosticta* sp. cf *dentifera* Kimmins, 1936

**4a** – ♀, 19.x.2022.

##### 4. *Drepanosticta dulitensis* Kimmins, 1936

**2b** – ♂♂, 17.x.2022. **4b** – ♂♂, 19.x.2022. **5d** – ♂♂, 20.x.2022.

##### 5. *Drepanosticta rufostigma* (Selys, 1886)

**2a** – ♂♂, 17.x.2022. **2b** – ♂♂, 17.x.2022. **4b** – ♀, 19.x.2022. **4c** – ♂, 19.x.2022. **5c** – ♂♂, ♀, 20.x.2022. **7a** – ♂♂, 21.x.2022.

##### 6. *Drepanosticta sbong* Dow, 2010

**3b** – ♀ (almost at head), 18.x.2022. **4b** – ♀ (at head), 19.x.2022.

##### 7. *Drepanosticta simuni* Dow & Orr, 2012 \*

Probably the most surprising discovery of the survey. *Drepanosticta simuni* had been known only from the holotype, collected in Gunong Mulu National Park (Dow & Orr 2012). A single freshly emerged male was found at Sungai Lawas during the October 2022 survey, a considerable extension to the known range of this species. The closest relatives of *D. simuni* are *D. barbatula* Lieftinck, 1940 (known from Sabah and East Kalimantan) and *D. drusilla* Lieftinck, 1934 (known from the north of West Kalimantan and from the southwest of Sarawak where there are records from Kuching and Serian Divisions). *Drepanosticta simuni* is most easily distinguished from *D. drusilla* by the presence of a clump of long setae on the superior anal appendages; this clump of setae is present in the specimen from Ulu Katibas. *Drepanosticta barbatula* shares the clump of long setae with *D. simuni* but lacks a deep cleft in the apical part of the superior anal appendages – this cleft was clearly visible in the Ulu Katibas specimen prior to preservation, but since the superior anal appendages collapsed on treatment with acetone, it is harder to see now. The stream from which it

emerged is fairly large, rocky and torrential.

**5a** – ♂ (teneral), 20.x.2022.

8. *Drepanosticta versicolor* (Laidlaw, 1913)

**2b** – ♂ ♂, ♀, 17.x.2022. **3b** – ♂, ♀, 18.x.2022. **4b** – ♂ ♂, 19.x.2022. **4c** – ♂, 19.x.2022. **7b** – ♂, 21.x.2022.

9. *Telosticta longigaster* Dow & Orr, 2012

**2b** – ♂ ♂, 17.x.2022. **3b** – ♂ ♂, 18.x.2022. **4b** – ♂ ♂, 19.x.2022. **4c** – ♂, 19.x.2022. **5c** – ♂, 20.x.2022. **5d** – ♂, 20.x.2022. **6** – ♂, 20.x.2022. **7b** – ♂ ♂, ♀, 21.x.2022. **7c** – ♂ ♂, 21.x.2022.

10. *Telosticta* new sp.

A single male found perched in shade back from Sungai Lawas, although probably closely allied to *Telosticta iban* Dow, 2014 (known only from the type series from the Nanga Bloh area of LEWS), has distinctive characters and is clearly an unnamed species. It does however appear to match well with an unidentified female *Telosticta* collected within LEWS (also in the Nanga Bloh area) in 2013 (which has been counted as a distinct species for Kapit Division so that the record of the male does not increase the number of species known from the division). The male was perched at head height but in a position where it was not visible from the main part of the stream, it was only found by pushing through overhanging branches to view part of the stream bank that they obscured.

**5a** – ♂, 20.x.2022.

## Euphaeidae

11. *Dysphaea dimidiata* Selys, 1853

**1** – ♂, 17.x.2022.

12. *Dysphaea ulu* Hämäläinen, Dow & Stokvis, 2015

**2a** – ♂, 17.x.2022. **5a** – ♂, 20.x.2022. **7a** – ♂ ♂, 20.x.2022.

13. *Euphaea impar* Selys, 1859

**2a** – ♂ ♂, 17.x.2022. **4a** – ♂, 19.x.2022.

14. *Euphaea subcostalis* Selys, 1873

**2a** – ♂ ♂, 17.x.2022. **3a** – ♂, 18.x.2022. **4a** – ♂ ♂, ♀, 19.x.2022. **5a** – ♂ ♂, 20.x.2022. **6** – ♂, 20.x.2022. **7a** – ♂ ♂, 21.x.2022. **7c** – ♂, 21.x.2022.

## Devadattidae

15. *Devadatta somoh* Dow, Hämäläinen & Stokvis, 2015

**2b** – ♂ ♂, 17.x.2022. **3b** – ♂ ♂, 18.x.2022. **4b** – ♂ ♂, 19.x.2022. **5d** – ♂, 20.x.2022. **7b** – ♂, 21.x.2022.

## Philosinidae

16. *Rhinagrion borneense* (Selys, 1886)

**2a** – ♂ ♂, 17.x.2022. **3a** – ♂ ♂, 18.x.2022. **4a** – ♂ ♂, 19.x.2022. **7a** – ♂, 21.x.2022.

**Calopterygidae**

17. *Neurobasis longipes* Hagen, 1887

**2a** – ♂, 17.x.2022. **7a** – ♂, ♀, 21.x.2022.

18. *Vestalis amoena* Hagen in Selys, 1853

**2a** – ♂♂, 17.x.2022. **4a** – ♂♂, 19.x.2022. **7a** – ♂♂, ♀, 21.x.2022.

19. *Vestalis atropa* Lieftinck, 1965

**2a** – ♂♂, 17.x.2022. **3a** – ♂, 18.x.2022. **4a** – ♂♂, 19.x.2022. **5a** – ♂♂, 20.x.2022.

**5c** – ♂, 20.x.2022. **7a** – ♂, 21.x.2022.

**Chlorocyphidae**

20. *Heliocypha biseriata* (Selys, 1859)

**2a** – ♂♂, ♀, 17.x.2022. **4a** – ♂♂, 19.x.2022. **5a** – ♂♂, 20.x.2022. **7a** – ♂, 21.x.2022.

21. *Rhinocypha aurofulgens* Laidlaw, 1931

**2a** – ♂, 17.x.2022. **3a** – ♂♂, 18.x.2022. **5a** – ♂, 20.x.2022.

22. *Rhinocypha cucullata* Selys, 1873

**7a** – ♂, 21.x.2022.

23. *Rhinocypha stygia* Förster, 1897

**2a** – ♂♂, 17.x.2022.

**Platycnemididae**

24. *Coelliccia borneensis* (Selys, 1886)

**2b** – ♂♂, 17.x.2022. **3b** – ♂, 18.x.2022. **7b** – ♂, 21.x.2022. **7c** – ♂, 21.x.2022.

25. *Coelliccia campioni* Laidlaw, 1918

**3b** – ♂ (above head of stream), 18.x.2022.

26. *Coelliccia cyaneothorax* Kimmins, 1936

**2a** – ♂♂, 17.x.2022. **3b** – ♂, 18.x.2022. **4a** – ♂, ♂+♀, 19.x.2022.

27. *Coelliccia nigrohamata* Laidlaw, 1918

**2a** – ♂♂ (in low gradient, muddy seepage area immediately adjacent to stream), 17.x.2022.

28. *Elattoneura mauros* Dow, Choong & Ng, 2010

This species is only known from the ulu Katibas area and before this had only been found within or at the LEWS boundary, both on Sungai Katibas and its large tributary Sungai Bloh.

**1** – ♂♂, 21.x.2022.

29. *Prodasineura hosei* (Laidlaw, 1913)

**2a** – ♂, 17.x.2022. **4a** – ♂♂, 19.x.2022. **7a** – ♂, 21.x.2022.

30. *Prodasineura verticalis* (Selys, 1860)

**3a** – ♀ (mouth of stream), 18.x.2022.

**Coenagrionidae**

31. *Stenagrion dubium* (Laidlaw, 1912)



**2b** – ♂♂, 17.x.2022. **3b** – ♂♂, 18.x.2022. **4c** – ♂, 19.x.2022. **5d** – ♂, 20.x.2022. **7b** – ♂, 21.x.2022.

## Anisoptera

### Gomphidae

32. *Heliogomphus* sp.

**5a** – ♂ (teneral), 20.x.2022.

33. *Leptogomphus coomansi* Laidlaw, 1936

**7a** – ♂ (teneral), 21.x.2022.

34. *Leptogomphus pendleburyi* Laidlaw, 1934

**4a** – ♂ (teneral), 19.x.2022. **5a** – ♂ (teneral), 20.x.2022.

### Chlorogomphidae

35. *Chlorogomphus* sp.

A single female was collected while it was flying up a small, steep stream. It is a good match for a female collected in the Long Seridan area in Miri Division in 2020 (see Dow et al. 2021), with the vertex produced into a long, horn curving rearward (the head of female from Long Seridan is shown on the cover, photograph of the specimen taken by Chien Lee). No such structure on the vertex has been recorded in *Chlorogomphus dyak* (Laidlaw, 1911) or is present on the vertex of the male (female unknown) of *Chlorogomphus manau* Dow & Ngiam, 2011, indeed I am not aware of such a large structure in this position on any known species of *Chlorogomphus* (although the vertex is certainly modified to some extent in the females of some species from mainland Asia, for instance *Chlorogomphus aritai* Karube, 2013 has a narrow rearward directed process on the vertex and *C. nakamurai* Karube, 1995 has two rearward directed protrusions on the vertex). I have female specimens of two other species of *Chlorogomphus* from Sarawak, which I suppose are those of *C. dyak* and *C. manau* (at present it is not clear which is which) so that the one from Long Seridan and Ulu Katibas is probably an unnamed species. In the Sarawak Museum there is at least one female *Chlorogomphus* of the same species as that reported here (with location 'Baram', referring to somewhere in the Baram River basin), two others are possibly the same but have the vertex so obscured by glue and/or old fungus that it is not possible to be sure. *Chlorogomphus* larvae of at least one species have been recorded from the Nanga Bloh area of LEWS; it is uncertain if they are from the same species.

**4b** – ♀, 19.x.2022.

### Macromiidae

36. *Macromia corycia* Laidlaw, 1922

**5a** – ♀ (flying at mouth of stream at ca. 8:40 AM), 20.x.2022.

### Libellulidae

37. *Cratilla metallica* (Brauer, 1878)

**3a** – ♀, 18.x.2022.

38. *Lyriothemis biappendiculata* (Selys, 1878)

**2a** – ♂ (in low gradient, muddy seepage area immediately adjacent to stream), 17.x.2022.

39. *Onychothemis coccinea* Lieftinck, 1953

**7a** – ♂ ♂, 21.x.2022.

40. *Tyriobapta torrida* Kirby, 1889

**5b** – ♂, 20.x.2022.

### Additional Record

I include here one additional record made on the journey to ulu Katibas:

*Libellago semiopaca* (Selys, 1873) – one teneral female was found perched on the head of a customer in a café approximately 50m from the Rejang River in the town of Song (situated just downstream from the confluence of the Katibas River with the Rejang) on 15.x.2022.

### Discussion

Of the 41 (including the record from Song Town) species recorded above, one is a clear new record for Kapit Division (*Drepanosticta simuni*). Two other records (*Telosticta* new sp. and *Chlorogomphus* sp.) might or not be new records, since, for the *Telosticta* there is a record of an unidentified female (that could easily be the same species) from LEWS and for the *Chlorogomphus* there are records of *Chlorogomphus manau* and of unidentified larvae from LEWS and while it is unlikely that the ulu Katibas female is that of *C. manau* it could be the same species as all or some of the larvae. I do not give an updated figure for the number of species recorded from Kapit Division here since fieldwork conducted at other locations in the division in 2023-2024 raises it further and these results will be published in the near future.

The diversity of the Platystictidae in the ulu Katibas area is remarkable, in addition to the 10 species recorded here, Dow et al. (2018) list a further three species (*Drepanosticta acateon* Laidlaw, 1934, *Drepanosticta* sp. cf *forcicula* Kimmins, 1936 and *Telosticta iban* Dow, 2014) from the Nanga Bloh area. Although the ulu Katibas area is hilly and mountainous, much of it can only be described as lowland and all 13 species of Platystictidae recorded from the area have been found in the lowland parts.

As noted in the introduction the October 2022 survey was focused on small, high gradient forest streams and other habitats were only sampled in passing. Although the odonate fauna of the ulu Katibas area downstream of LEWS can be expected to be generally similar to that of the Nanga Bloh area of LEWS, some of the habitat is somewhat different from that within LEWS and additional species might well be found in such habitat in the future.

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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.

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