

SHORT COMMUNICATIONS

**HUONIA MELVILLENSIS SPEC. NOV.,
A NEW DRAGONFLY FROM AUSTRALIA
(ANISOPTERA: LIBELLULIDAE)**

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The new sp. is described after 3 ♂ from Melville Island, off the northern coast of Australia. Holotype ♂: Australia, Melville Island, Takamprimili Creek, Pickertaramoor, 11°46'S/130°53'E, 11-X-1996; deposited in Museum and Art Gallery of the Northern Territory, Darwin. This is the first record of the genus for Australia.

INTRODUCTION

Huonia Förster is one of the largest and dominant libellulid genera in the New Guinea region, 15 species described by FÖRSTER (1903) and LIEFTINCK (1935, 1942, 1953, 1963), but despite this diversity, and the proximity of the Australian mainland, the genus has not been previously recorded from Australia (WATSON et al., 1991). However, recently, a species of *Huonia* was collected as part of a freshwater survey of Melville Island. Since it is different from all described species, it is described as new below.

Melville Island is part of the Northern Territory, and is separated from the mainland by Clarence Strait and the Darwin area to the South, and Dundas Strait and the Coburg Peninsula to the East. Both these distances are less than 30 km. The island is also separated from Bathurst Island in the West by the narrow and strongly tidal Apsley Strait. Melville Island is approximately 132 km long and 100 km wide and, together with Bathurst Island and Coburg Peninsula, is dominated by open Eucalyptus forest with a predominant grass understorey. It has several freshwater streams: those flowing to the north coast are relatively long and empty into small mangrove lined bays, while those on the south coast are shorter (and perhaps steeper) and do not open into bays. Some streams may be seasonally dry as almost all rainfall occurs between October and April each year.

Melville Island is aboriginal land and entry is restricted. It is mostly undeveloped, and much of it is not readily accessible. For these reasons it is not well explored entomologically.

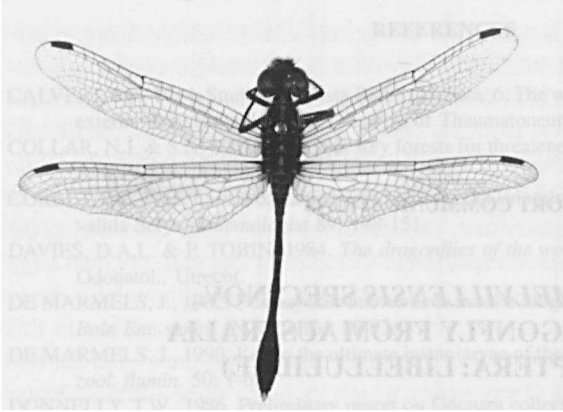


Fig. 1. *Huonia melvillensis* sp. n., holotype ♂.

The specimens described here were collected on a natural solid sandstone road crossing, at Pickertaramoor, on the upper reaches of Takamprimili Creek. At this point the creek was narrow and shallow with a series of small waterfalls (2-4 m) downstream, and a small vegetated water filled weir immediately upstream. Here, males were observed sunning themselves on the crossing. Individuals

were seen in ones or twos, and would remain at rest for perhaps at most 5 minutes, although on occasions they would behave territorially and chase other dragonflies away before returning to the same spot. After this period, they would fly almost vertically to roost in the lower branchlets of the same drooping tree (possibly *Melaleuca* sp.) which overhung the edge of the weir. These dragonflies could not be spotted in this tree, where they remained for much longer periods.

HUONIA MELVILLENSIS SP. NOV.

Figures 1-8

Material. – **Holotype** ♂: Australia, Melville Island, Takamprimili Creek, Pickertaramoor, 11°46'S/130°53'E, 11-X-1996, G.R. Brown & G.M. Dally leg.; in Museum and Art Gallery of the Northern Territory, Darwin (NTM). – 2 ♂ paratypes, same data as holotype; in NTM and in Australian National Insect Collection, CSIRO, Canberra (ANIC). Paratype in NTM with abdomen broken and card mounted.

MALE. – **Head.** – Labium blackish brown, lobes yellowish green with black medial and anterior margins; labrum pale yellowish green with ventral margin black; outer mandible pale yellowish green with apex black; clypeus and frons pale yellowish green with anteclypeus and oblique mark on frons pale brown to black, and dorsal margin laterally and near medial ocellus black; genae and vertex black; occipital triangle pale yellowish green with a pair of variable brown marks; postgenae black, pale yellowish green ventrally above which is a similarly coloured quadrate mark and a more dorsal smaller spot; antennae black.

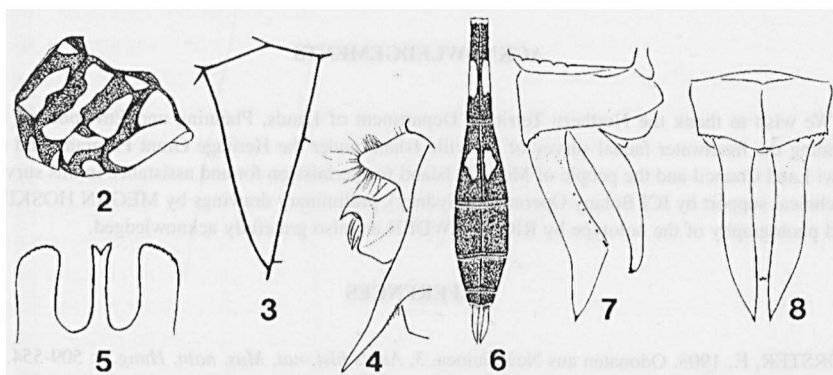
Thorax. – Prothorax. - Anterior lobe black with anterior margin yellow; median lobe black with posterolateral angle and quadrate medial mark at posterior margin which may extend anteriorly and then laterally as a curved line to almost encircle the lateral half pale yellowish green; posterior lobe pale yellowish green with posterior and lateral margins narrowly and continuously dark brown to black;

propleuron and coxa black with pale yellowish green marks; trochanter and femur black with ventral surface pale yellowish green; tibia, tarsus and claws black.

Synthorax. – Black with pale yellowish green marking as follows: dorsal carina, mesanepisternum near dorsal carina, antealar sinus, small spot behind antealar ridge, spot below antealar ridge and long subparallel humeral stripe becoming pointed dorsally; mesokatepisternum dorsally and subtriangular mark ventrally; irregular posterior stripe at posterior margin of mesepimeron almost continuing to ventral margin and broadened ventrally and abruptly broadened dorsally; metanepisternum below and above spiracle with posterior stripe broadly triangularly interrupted dorsally to form a separate dorsal spot; posteroventral spot on metakatepisternum; metepimeron (except anterior margin extending medially into a narrow line for most of the length of the sclerite); most of tergal sclerites and poststernum (except for margins and medial sagittal line); margins of coxae.

Wings. – Most of humeral and axillary plates pale yellowish green; intermediary pieces, veins and pterostigma black; membrane hyaline, extreme base suffused with orange; arculus at or slightly proximal to Ax2; antenodals 8-9 / 7 with distal antenodal complete or incomplete; postnodals 5-7 / 6-7; costal side of forewing triangle broken; subtrigon 2-celled; hindwing triangle in line with arculus.

A b d o m e n. – Clubbed, segment 8 broadest and parallel sided, segment 7 much broader posteriorly than anteriorly, segment 9 narrower posteriorly than anteriorly; tergite 1 black anteriorly (especially laterally), pale yellowish green posteriorly; tergite 2 anterior to supplementary transverse carina black with irregular pale yellowish green mark posteromedially, posterior to supplementary transverse carina and ventrally yellowish green with black posteromedial band, posteroventral angles produced into long narrow acutely triangular black process; tergite 3 black with almost complete pale yellowish green medial band immediately behind sup-



Figs 2-8. *Huonia melvillensis* sp. n., ♂: (2) synthorax, lateral aspect; – (3) forewing (right) triangle; – (4) secondary genitalia, lateral aspect; – (5) penis structure (apex of chitinous “hood” covering third penile segment), ventral aspect; – (6) terminal abdominal segments, dorsal aspect; – (7) anal appendages, lateral aspect; – (8) idem, dorsal aspect.

plementary transverse carina; tergites 4-6 black with pale yellowish green anterior band and lateral spot at about midlength of segment, spots by far largest on tergite 6; tergite 7 black with lateral spot at about midlength; tergites 8-9, segment 10 and sternites black; genital lobe black; hamule pale yellowish green with black margins and projections.

Anal appendages. – Superior appendages pale yellowish green with base and extreme tip black, viewed dorsally slightly curved towards apex, inner margin almost straight, outer margin more curved especially apically, apex acute; in profile subparallel and downcurved with ventral margin granulate and apex acute and directed horizontally; inferior appendage subtriangular, curved in profile, pale yellowish green with extreme tip black.

M e a s u r e m e n t s (in mm). – Hindwing 24.0-25.0, abdomen 22.0-24.0.

FEMALE unknown.

DISCUSSION. – The male of *Huonia melvillensis* sp. n. can be distinguished from all other species of *Huonia* by the presence of pale marks on abdominal tergite 7. It also stands out by a combination of other characters (narrow black line on metepimeron, broken costal side of forewing triangle, particular shape of secondary genitalia, and almost straight anal appendages). The closest affinities of *H. melvillensis* undoubtedly lie with *H. thais* Lieft. from Misool Island and western New Guinea, and with the more widely distributed (in New Guinea) *H. arborophila* Lieft. The penis structure of *H. melvillensis* clearly places this species in LIEFTINCK's (1953) group C which according to him includes *H. arborophila*, *H. ferentina* Lieft., *H. rheophila* Lieft., *H. thais* and probably *H. thalassophila* Lieft. (with *H. oreophila* Lieft. not having been studied).

The discovery of *Huonia* on Melville Island suggests that other Papuan dragonflies may also occur here and elsewhere in northern Australia, and this will only be resolved with more extensive collecting.

ACKNOWLEDGEMENTS

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