

**GYNACANTHA CORBETI SPEC. NOV., A NEW DRAGONFLY FROM WEST
MALAYSIA (ANISOPTERA: AESCHNIDAE)**

Jochen Lempert

Vereinsstrasse 41, D-20357 Hamburg, Germany

This paper is dedicated to Philip S. Corbet on the occasion of his 70th birthday.

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Abstract

The male and female of *Gynacantha corbeti* spec. nov., a new aeschnid from West Malaysia dedicated to Philip Corbet, is described, figured, and its relationship with congeners from the *G. basiguttata*-group is discussed. *G. musa* appears to be its nearest relative.

Introduction

The odonate fauna of the Malayan peninsular is relatively well known. Since Lieftinck's synopsis on the Odonata of Malaysia (1954) there have been several faunal reports and descriptions of new species (e.g. Brooks, 1981, Kemp, 1989, 1994, Kemp & Kemp 1989, Norma-Rashid 1995, Norma-Rashid & Van Tol 1995, Norma-Rashid *et al.*, 1996, Hämäläinen *et al.*, 1996). Probably one of the best studied water bodies in Malaysia from a faunistic and limnological point of view is the Gombak River (Furtado, 1969, Bishop, 1973, Brooks, 1981, Norma-Rashid & Van Tol, 1995). Many odonatologists visited this river, especially since the establishment of the Ulu Gombak Fields Studies Center in the 1960s. The primary rainforest of the area was logged about 40 years ago and it is now covered with secondary forest and preserved as a forest reserve. I visited the Gombak River for two weeks in 1993, and unexpectedly caught a new species of *Gynacantha* there, which will be herein described.

Description

Material

Holotype: a male, West Malaysia, Selangor, Ulu Gombak, Field Study Center (3°19'32"N, 101°45'16"E), 1 Sept 1993.

Paratype: a male, same locality, 28 Aug 1993.

Allotype: a female, same locality, 31 Aug 1993. The holotype will be deposited in the Museum für Naturkunde, Berlin; paratype and allotype in the describer's collection.

Etymology

The new species is dedicated to Philip Corbet - its *locus typicus* is situated near to his city of birth, Kuala Lumpur. Furthermore other ties can be linked to this locality: Philip caught dragonflies at the Gombak River twenty years ago, and before him his father, a well known Lepidopterologist, collected dragonflies in the same area 70 years ago (Brooks, 1981).

Holotype

Head: occipital triangle brown; antennae brown; vertex black; frons dorsally with dark T-mark, its margins confluent with surrounding greenish yellow, clypeus greenish, lower margin of postclypeus yellow; labrum, genae, and labium yellow.

Thorax: prothorax light brown, synthorax green with a small brown spot above the stigma; lower parts of pleurites light-brown, not reaching the stigma. **Legs:** coxae brown, fore legs black, inner side of trochanter and proximal half of femur pale brown (right fore leg missing), middle- and hind legs black, the proximal half of femur and tarsus ferruginous.

Wings: venation black, costa dark brownish red; membrane of wings clear, slightly tinged with yellow; this colour more pronounced along wing margins; costal- and subcostal space to first anq and basis of median space dark brown; membranula grey; anal triangle with three cells; anal loop with 10 resp.11 cells; wing triangle with 6 or 7 cells in fore- and hind wing; nodal index in fore wing 22.26/28.22, in hind wing 25.20/ 21.24. Between Rspl and IR3 below the fork of IR3 six cells in hind wing and seven cells in fore wing; maximum five rows of cells between M and Mspl; number of cells along media 35 in hind wing; pterostigma light brown, length 3 mm, in hind wing surmounting 3.5 resp. 4 cells.

Abdomen: segment three constricted to one third of its maximum width; oreillettes broad with 6 resp. 9 teeth; ground colour black with - in life - vividly green markings, which became indistinctly brown in the dried specimen; dorsum on segment 1 almost completely covered with a central brown spot, laterally green; basal margin of segment 2 green, confluent with distinct mid-dorsal stripe, two lateral green stripes and two apical stripes; segments 3 - 8 each with a pair of green stripes at first third and two spots at the apical margin of segment, segment 8 with two additional spots in the middle of segment (post mortem?), segment 9 with two diffuse basal spots; appendices superiores reddish black, the broadened tips black, inferior appendage yellow, with dark basis and black tip; bristles of almost equal length grouped in a brush-like manner near the apex of the superior appendages (Figs 1 and 2).

Measurements. Total length, including cerci 71.5 mm, length of abdomen including cerci 55 mm, length of hind wing 48.5 mm.

Paratype

Colours less well preserved; differences with holotype: wings - probably due to age - completely enfumed with light brown; nodal index of fore wing 21.27/28.22, of hind wing 23.20/21.24; triangle with eight cells in fore wing and seven cells in hind wing; anal loop with 12 resp.13 cells; oreillettes with 7, resp. 8 teeth.

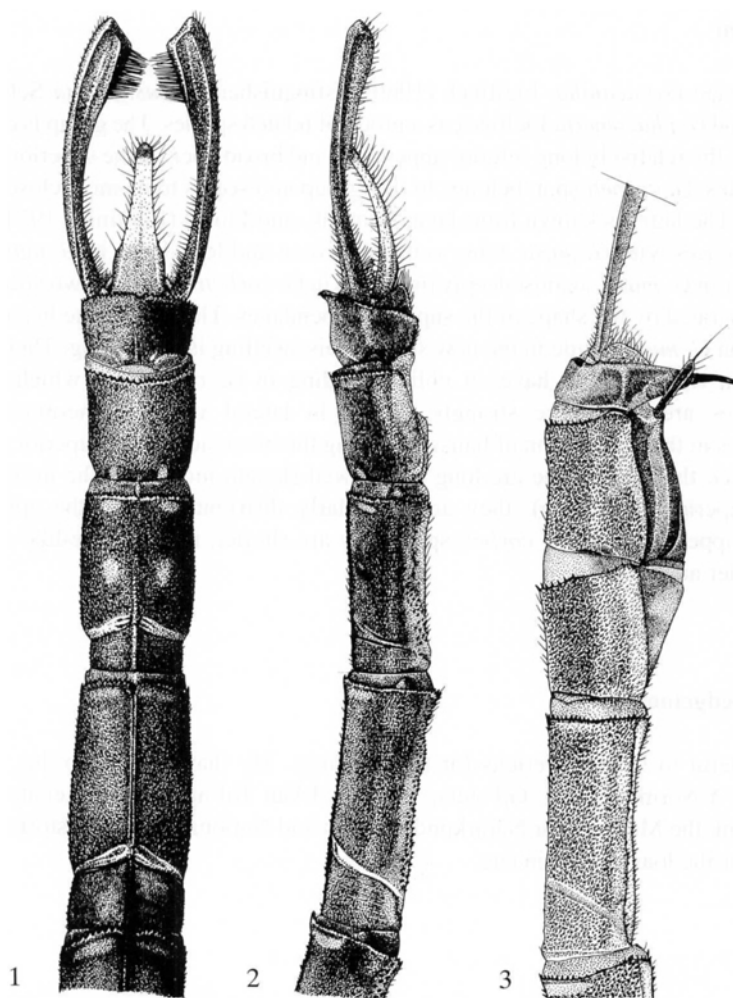
Allotype

Head: frons with T-mark, face light reddish brown.

Thorax: olive brown; wings tinged with brown, more intensely so in costal - and subcostal space, wing base as in male deep brown; wing triangle with 8, resp.7 cells in fore - and 6, resp.7 cells in hind wing; nodal index of fore wing 21.29/27.20, of hind wing 26.22/20.24; between Rspl and IR3, seven cells in fore- and eight cells in hind wing; maximum six rows of cells between M and Mspl; pterostigma light brown, almost yellowish.

Abdomen: segment 3 slightly constricted, markings diffuse, due to postmortal changes; probably similar to male; segment 10 laterally prolonged downwards and ending in two divaricate spines, which are only slightly curved in lateral view; styli long and rather stout; appendices broken (see Fig. 3).

Measurements (mm). Total length, excluding cerci 65 mm, abdomen, excluding cerci 50 mm; length hind wing 49 mm.



Figures 1-3. *Gynacantha corbeti* sp. n.: (1) Male - terminal segments of abdomen, dorsal view; - (2) The same in lateral view; - (3) Female - terminal segments of abdomen, lateral view.

Biological Notes

The species was found at a small, forested tributary of the Gombak River, close to the Field Studies Centre. When I visited the site during the dry season, there was almost no running water, with the stream reduced to a series of stagnant, fully shaded pools.

Males were encountered in the course of three visits in the afternoon hours (between 1500 und 1600 hr). They were clinging to twigs above the water surface at a height of 20-30 cm. When disturbed, these males flew up, but returned to their previous perch. I did not observe spontaneous flights of perched males. One female flew up from the ground close to the water edge, where she probably oviposited.

Discussion

Within Asian *Gynacantha*, Lieftinck (1960) distinguished *G. basiguttata* Selys, *G. musa* Karsch, and *G. phaeomeria* Lieftinck as a group of related species. The group is characterized mainly by the relatively long inferior appendage and broad apex of the superior appendages in the males. *G. corbeti* sp.n. belongs to this group and seems to be most closely related to *G. musa*. The latter is known from Java, Lombok, and Flores (Lieftinck, 1954).

Differences with *G. musa*: wing venation brown and less dense in *G. musa*; the wing basis clear in *G. musa*, against deeply brownish in *G. corbeti* sp.n. The two species are also easily separated by the shape of the superior appendages. They terminate in a cushion-like swelling in *G. musa*, while in the new species this swelling is less strong. They end almost squared in *G. musa*, but have an oblique ending in *G. corbeti*, in which the inferior appendages are also more strongly curved in lateral view. Furthermore, there are differences in the distribution of hair-setae along the inner side of the superior appendages. In *G. musa*, these hair-setae are long and bowed (length more than the maximum width of the superior appendage); they are irregularly distributed along the apical third of superior appendages. In *G. corbeti* sp.n., they are shorter, more bristle-like and grouped in a smaller area.

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