Odonatologica 26(4): 473-475 *December 1, 1997*

STENAGRION PETERMILLERI SPEC. NOV. FROM PALAWAN, THE PHILIPPINES (ZYGOPTERA: COENAGRIONIDAE)*

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Received March 22, 1997 / Reviewed and Accepted April 30, 1997

The new sp. (holotype ♂: Palawan Isl., Port Barton, 28-V-1991; deposited at SMF, Frankfurt-M) is described and compared with *S. dubium* (Laidlaw) from Borneo. Habitats of both spp. are briefly discussed.

INTRODUCTION

LAIDLAW (1915) established the genus *Stenagrion*, of which only one species, *S. dubium* (Laidlaw, 1912), has been known from Borneo. Another *Stenagrion* species, recently found in Palawan, is described here.

Both species have adapted to stay in a very competetive environment; the adults settle on moist vertical cliffs near waterfalls surrounded by constant water spray and mist.

The new species is dedicated to the late Dr Peter M i l l e r, whose scientific and social achievements in odonatology are outstanding.

STENAGRION PETERMILLERI SPEC. NOV.

Figures 1-2

Stenagrion sp.n.: HÄMÄLÄINEN & MÜLLER 1997: 261, 279, 304

M a t e r i a l. – **Holotype** ♂: Philippines, Palawan Island, Port Barton, waterfalls, 28-V-1991, Roland A. Müller leg. To be deposited at Senckenberg Museum (Frankfurt/Main).

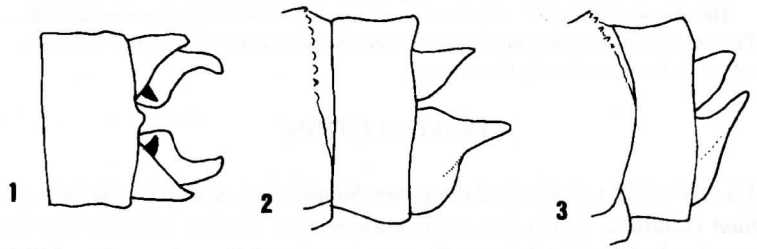
MALE. – H e a d. – Labrum, clypeus, genae, frons and scape and pedicel of antennae blue. Head above black, with large dark blue, triangular-shaped postocular spots.

* Results of the Roland Müller Zoological Expeditions to the Philippines, No. 15.

T h o r a x. – Prothorax largely dark brown; anterior lobe, lateroventral side of median lobe and lateral corners of posterior lobe bluish. – Pterothorax a mosaic of black, blackish brown, blue, and olive yellow colours. Dorsally blackish brown, with broad blue stripe above the humeral suture, the stripe interrupted in the upper half. The upper section of the stripe situated a little dorsad from the humeral suture, between them a thick black line. Mesepimeron and metepisternum largely blue; dorsal half of mesepimeron brown, except at the wing base, where the blue colour extends to the humeral suture. Lower third of metepisternum pale brown. A small black stripe along the second lateral suture near the wing base. Metepimeron and ventral side of pterothorax olive yellow.

Legs proportionally very short and robust, yellowish furnished with black spines; outer surface of femora with black band, joints between femora and tibiae black.

Wings. – The shape of the discoidal cell and other venational details agree well with the characters of *S. dubium*, as described by LAIDLAW (1912, 1915) and illustrated by LAIDLAW (1918). Pterostigma, however, somewhat less oblique than in *S. dubium*.



Figs 1-3. Male anal appendages: (1-2) *Stenagrion petermilleri* sp.n., holotype: dorsal and lateral views; – (3) *S. dubium* (Laidlaw) (Borneo, Mt Kinabalu, Poring, Kipungit waterfall, 17-IV-1994), lateral

A b d o m e n blackish brown, paler ventrolaterally. Side of segment 1 largely blue, a small blue side spot at apex of segment 2. Segment 8 and the proximal half of segment 9 broadly blue on dorsum and sides. Anal appendages shaped as in Figures 1-2; black, superiors brownish at base. Superiors furnished with a basal spine curved inwards, not visible in lateral view.

M e a s u r e m e n t s (in mm): - Hind wing 26; abdomen 36.

FEMALE unknown.

DISCUSSION

For comparison with the new species, I had a series of 10 ♂ *S. dubium*, collected by myself at Mt Kinabalu in Sabah (Poring: Kipungit waterfall (alt. 600 m) and Langanan waterfall (alt. 1000 m), 17/20-IV-1994).

S. petermilleri sp. n. is somewhat more robust than *S. dubium*, especially its abdomen is clearly thicker. The male anal appendages are basically similar in both

species, the superiors being furnished with a basal inward spine. However, in *S. dubium* the appendages (inferiors more strikingly) point obliquely upwards (Fig. 3), whereas in *S. petermilleri* (Figs 1-2) they are horizontal. The shape of the blue bands in the pterothorax is similar in both species, but in *dubium* the ground colour is deep black and the metepimeron is also blue. In my *dubium* specimens the blue humeral band is variable, either clearly interrupted (in older specimens?) or only slightly intended by black.

HABITAT. - According to Roland Müller, the locality of the holotype is situated a few km East from Port Barton in NW Palawan. The damselfly was spotted hanging in moist grass below a mossy vertical 4-5 m high rock, near a small waterfall, at an elevation of ca 100-200 m. The habitat was very dark and misty.

Correspondingly, at Mt Kinabalu, I found *S. dubium* males hanging in short, wet grass and moss on steep cliffs adjacent to Kipungit and Langanan waterfalls near Poring. In the latter place (alt. ca 1000 m), the water falls almost vertically for some 150 m. A single male *S. dubium* was observed hanging on the steep cliff only 2-3 m aside the major waterfall, in an spot exposed to a constant water spray. *Macromia euterpe* Laidl. was the only other dragonfly keeping close to this magnificent fall. Its females oviposited in the torrential stream just below the fall.

The proportionally very short and robust legs of *Stenagrion* species seem an adaptation to their demanding habitat. Unfortunately, as far as I know, their egg--laying habits and whereabouts of larvae are unknown.

In addition to the mountain sites of Mt Kinabalu and Mt Batu Lawi (up to 1000 m), *S. dubium* has also been recorded from the low country in Borneo (LIEFTINCK, 1954).

ACKNOWLEDGEMENTS

I am grateful to ROLAND A. MÜLLER for the possibility of describing this species and for the information of its habitat.

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