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A NEW SPECIES OF *ISCHNURA* FROM NEW GUINEA (ZYGOPTERA: COENAGRIONIDAE)

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I. blumi sp. n. (♂ holotype, ♂, ♀ paratypes; Doumi-Kwen, Serabum, Irian-Jaya, Indonesia) is described and illustrated, and its affinities with other spp. are discussed.

INTRODUCTION

In April/May 1976, Dr. Paul Blum collected animals in the Snow Mountains (Oranje region) of Irian-Jaya (formerly Dutch New Guinea), Indonesia. In a small series of Odonata there turned out to be an undescribed species of *Ischnura*, allied to *I. isoetes* Lieftinck, 1949.

DESCRIPTION

ISCHNURA BLUMI SPEC. NOV.

Figures 1-6

Material. — Holotype ♂ (deposited in the Rijksmuseum van Natuurlijke Historie, Leiden, the Netherlands), 12 paratypes (7♂, 5♀), Doumi-Kwen, Serabum (elev. 2500 m approx.), Snow Mountains (Oranje-region), some 60 km N of Mt. Juliana, Irian-Jaya, New Guinea (140°E, 4°S). May, 1976; P. Blum leg. For type locality cf. Figure 5.

Male. — Hindwing: 14,3-15,3 mm; abdomen, incl. appendages: 22.5-23.6 mm.

Head. — Labium pale yellow; labrum brownish, its lateral upper borders and median basal spot black; anteclypeus brownish; postclypeus, genae, frons, antennae and vertex dull black; postocular spots roundish oval, blue;

postgenae greenish.

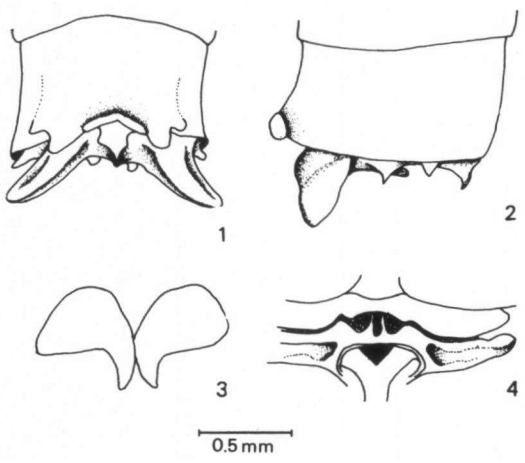
Prothorax dull black, with brownish sides.

Pterothorax. — Lamina mesostigmalis with a pair of prominent knob-like tubercles; dorsum dull black, with broad, light blue interrupted antehumeral bands: upper small roundish spot (sometimes almost wanting), lower straight band; sides of pterothorax brownish from humeral suture, overlaid with light blue; ventral side brownish.

Head and thorax covered with long, yellow hairs.

Legs. — Hind femora reaching back to the hind border of first abdominal segment; coxae and trochanter brownish; femora and tibiae black on the outside, brownish on the inside; tarsi brownish; praetarsi brownish with black apices; spines black.

Wings. — Slightly enfumed; venation dark brown; pterostigma in forewing much greater and more longish than in hindwing, its colour reddish in forewing, with light yellow faded distal costal angle; 9-10 postnodals in forewing, 8 postnodals in hindwing.



Figs. 1-4. Structural features of *Ischnura blumi* sp.n.: ♂ appendices anales (figs. 1-3): Dorsal view (1); right lateral view (2); inner branches of app.sup., caudal view (3). — ♀ posterior lobe of prothorax and lamina mesostigmalis (fig. 4).

Abdomen. — Brownish with dull black broad dorsal bands; intersegmental rings yellow; intersegmental sclerite between 1st and 2nd segment elevated, blue in colour; dorsum of 9th segment entirely blue, lateral black bands each sending one median indentation to it; apical two-fifths of 8th segment covered with a blue spot on dorsum, being broadly convex anteriorly; apex of 10th segment conspicuously raised, its posterior border being markedly excised (for shape cf. Fig. 1).

Anal appendages (Figs. 1-3). — Coloured black, the inferior pair yellowish; superior pair shaped very much as in *I. isoetes*, furnished on the inside with a conspicuous dense beard-like bunch of dull golden-yellow hairs; inferior branches of app.sup. extending conspicuously downwards, in caudal view touching in the median line, their dorsal and ventral parts diverging (cf. Fig. 3).

Female. — Hindwing: 16.4-17.0 mm; abdomen, incl. appendages: 21.4-

22.2 mm.

Head. — Labium yellowish; labrum and bases of mandibles brownish, labrum with one median and two lateral dark spots; anteclypeus brownish; postclypeus dull black with light brown basal band; frons brown up to base of antennae, with an extension of the brown colour proximal to each antenna, the upper part of frons and vertex dull black, antennae black; postocular spots very great, orange-red, passing over to the brown postgenae.

Prothorax. — Oral and lateral parts brown; dorsum dull black; posterior lobe cf. Figure 4.

Pterothorax. — Broad dorsal median black band; broad antehumeral brown bands; small humeral black bands, not joined above and below; lateral and ventral parts of pterothorax brown; lamina mesostigmalis (cf. Fig. 4) black with brown sides, with only a vestige of a tubercle on each side of the mesoprescutum.

Head and thorax covered with long, yellow hairs.

Legs. — Hind femora reaching back to the hind border of the first abdominal segment; legs coloured as in ♂, but dark colour more brownish.

Wings. — Venation dark brown; pterostigma in forewing markedly greater than in hindwing, its costal side longer than its anal side, colour brownish yellow; 10-11 postnodals in forewing, 8-9 postnodals in hindwing.

Abdomen. — Brownish yellow with broad dull black dorsal band on segments 3-10; intersegmental rings brownish yellow; 1st segment with one median dorsal and two lateral little dark spots; 2nd segment with a broad oral black band and an anal black T-like spot; intersegmental sclerite between 1st and 2nd segments elevated; appendices anales black; ovipositor yellow, with vulvar spine.

DISCUSSION

Ischnura blumi is a member of the endemic North Guinean *I. ariel* species-group, consisting of *I. ariel* Lieft., 1949, *I. isoetes* Lieft., 1949 and *I. acuticauda* Lieft., 1959. All species are restricted to certain lakes or valleys of the central mountain area. It is of special interest that this group obviously forms a link between the genera *Ischnura* and *Oreagrion*, the latter being also peculiar to the central mountains (for more details cf. LIEFTINCK, 1959).

The next allied relative of *I. blumi* is *I. isoetes*, being even its sisterspecies.

Through the kindness of Dr. M.A. Lieftinck I was recently able to examine some specimens of the latter species. Altogether there turned out to be ten differences between the two taxa viz.:

(1) *I. blumi* has a slender body, averagely shorter and slightly less hairy than that of *I. isoetes*;

(2) Female of *blumi* so far only heterochromatic, *isoetes* also isochromatic;

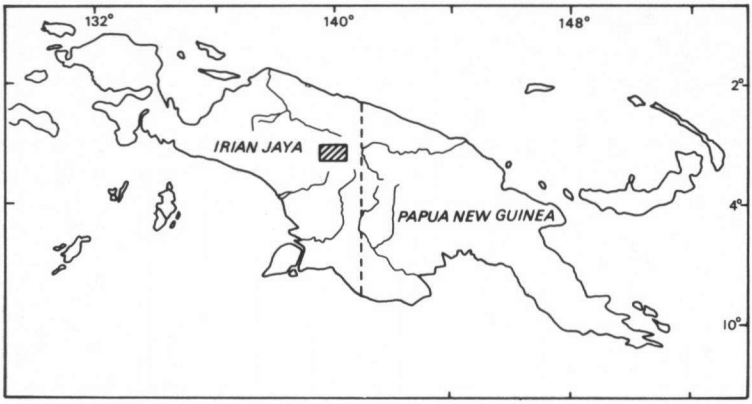


Fig. 5. General map of New Guinea. Hatched: type locality of *Ischnura blumi* sp. n.

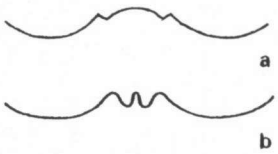


Fig. 6. Hind edge of the female prothorax: (a) *Ischnura blumi* sp. n.; — (b) *Ischnura isoetes* Lieft.

(3) Venation of *blumi* less dense;

(4) Light colour of pterothorax and intersegmental sclerite between 1st and 2nd abd.segm. green in *isoetes*, blue in *blumi*;

(5) Pterostigma markedly different in colour and shape: (forewing ♂) colour black in *isoetes*, only its distal three-fifths red with yellow apical angle, surrounding veins brown everywhere; colour red in *blumi*, apical third yellow together with surrounding veins of this part. Differences in shape also in female;

(6) Inner branches of app.sup. very similar in both species(!), but ventral ends in *blumi* shorter and less diverging; their median edges not touching in *isoetes*, touching or (mostly) overlapping in *blumi* (cf. Fig. 3);

(7) Outer (main) branches of app.sup. in dorsal view distinctly projecting over the lateral borders of 10th segment in *blumi* (cf. Fig. 1), reaching these borders at the most in *isoetes*;

(8) Hind border of female prothorax with differences as stated above; for additional sketch cf. Figure 6. Shape slightly varying in *isoetes*, very constant in *blumi*;

(9) Shape of male prothorax also distinctly different in both species: *isoetes*, hind border with marked median lobe, which is lacking in *blumi*, the latter sometimes possessing a ventrad directed median saddle not comparable with the lobe of *isoetes*;

(10) Important differences (both sexes) in the length of hind femora (as stated above).

Main similarities between the two species are: identically formed (and

coloured?) blue spot at the end of abdomen, and almost identically structured armature of the appendices. Both features obviously are due to the allopatric distribution of the two populations. They seem to fit fairly well in the semispecies-concept.

I. isoetes inhabits the environments of Mt. Wilhelmina in the Nassau-range of the Snow Mountains, at a distance of about 200 km west of the *I. blumi* type locality.

ACKNOWLEDGEMENTS

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