Odonatologica 18(4): 385-389 *December 1, 1989*

ARCHIBASIS REBECCAE SPEC. NOV. FROM WEST MALAYSIA (ZYGOPTERA: COENAGRIONIDAE)

R.G. KEMP
33 Bridge Road, Alveley, Bridgnorth, Shropshire, WV15 6JN,
United Kingdom

Received September 18, 1989 / Accepted September 26, 1989

A. rebeccae sp. n. is described from 4 ♂ (holotype ♂: stream 2 km N of Batu Malim, Pahang, alt. 170 m, 6-II-1988; deposited in author's collection). It is compared with *A. tenella* Lieft. and *A. incisura* Lieft.

INTRODUCTION

The genus *Archibasis* Kirby, 1890 contains seven known species which range from India through South East Asia to New Guinea and northern Australia (DAVIES & TOBIN, 1984). With the exception of *A. sushmae* Singh, 1955, recently shown to be synonymous with *Indolestes cyaneus* (Selys, 1862) (HAMALÄINEN, 1989), each of the known species are dealt with by LIEFTINCK (1949) in his review of the genus. To date, only two species are recorded from West Malaysia viz. *A. melanocyana* (Selys, 1877) and *A. viola* Lieftinck, 1949 (LIEFTINCK, 1954).

Whilst visiting the State of Pahang, Peninsular Malaysia in February, 1988, I collected three males of a relatively small species of *Archibasis* that failed to agree with the descriptions of *A. melanocyana* (Sel.) and *A. viola* Lieft. Subsequent examination revealed that the structure of the anal appendages of these males differed significantly from that of all known species in the genus by having a distinct, well developed, flap-like, medio-ventral extension to the superior surface of the superior appendage.

I have pleasure in naming this new taxon after my daughter who accompanied me at the time when the specimens were taken.

ARCHIBASIS REBECCAE SPEC. NOV.

Figures 1-3

Material. — **Holotype** ♂: Peninsular Malaysia, Stream 2 km N of Batu Malim nr Raub, Pahang, alt. 170 m approx., 6-II-1988, R.G. Kemp leg. — **Paratypes:** 2 ♂: same data as for holotype; — 1 ♂: labelled "S. Johore, Malaya, 16-IV-63", M.A. Lieftinck leg. (RNHL).

Holotype and one paratype in R.G. Kemp collection. Two paratypes deposited in Rijksmuseum van Natuurlijke Historie, Leiden. The Netherlands.

MALE **(holotype)** — Abdomen + appendages 29 mm; hind-wing 21.5 mm.

Head. — Labium creamy-yellow; labrum pale bluish-white; anteclypeus dark turquoise-blue; postclypeus black with a hint of blue at middle apical border. Frons, genae and base of mandible turquoise-blue. The upper extent of the blue facial coloration includes the sockets, most of the anterior surface of the first joint of the antennae and continues laterally, as a wedge-shaped extension bordering the margin of the eyes, to approximately the same level as the anterior ocellus. In the middle of the face, at the level of the transverse furrow of the frons, the blue coloration develops into two distinct, broadly based and rounded, blue lobes separated by black. These extend upwards to a level reaching just beyond the lower margin of the anterior ocellus.

Upper part of head matt black; with large blue postocular spots almost reaching margin of compound eye; occiput black. Rear of head black with a broad yellowish band along each eye margin.

Prothorax. — Largely matt black. Anterior lobe with large triangular blue marking edged with black. Middle lobe with a small mid-dorsal blue spot divided by a thin, longitudinal, black line. Middle third of posterior lobe blue. Lateral lobes black, edged with blue.

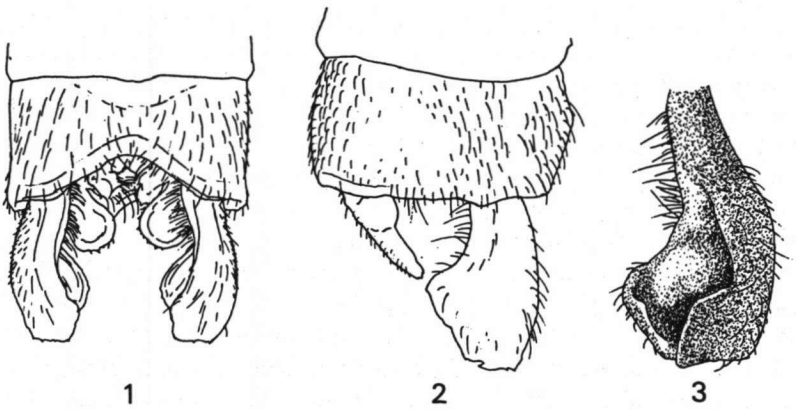
Synthorax. — Black, marked extensively with blue. Antehumeral blue stripes broad, slightly narrower than the mid-dorsal black stripe and moderately excised on the outer edge of the upper third. Ante-alar sinus black with a transverse, oval blue spot in each half. Mesepimeral black stripe at lower end as wide as antehumeral blue stripe, but gradually narrowing dorsally. Below this the synthorax is blue except for a small, round, black spot in the middle of the mesepimeron (i.e. near end of the obsolete interpleural suture) and a small, elongate, black spot at the dorsal end of the metapleural suture. Metepimeron blue with extensive brown areas (? brown coloration possibly due to post-mortem change). Mesinfraepisternum black, forming a continuation of the mesepimeral black stripe; postero-ventral corner blue. Metinfraepisternum blue. Ventral surface of thorax creamy-brown.

Legs. — Coxae blue with obscure dark patches. Femora black with interior surfaces blue. Tibiae creamy-brown on exterior surface but black at the tips; interior surface and spines black. Tarsi largely black with dull brown basal patches on each segment. Claws dark brown; black apically. Claw hooks absent.

Wings. — Hyaline, venation typical of the genus. Veins brown; 14 postnodals

in fore-wing, 12 in hind-wing. Pterostigma dark brown, rhomboidal, and very slightly longer than high; similar in all wings. It is framed narrowly with a hyaline border and enclosed by thick black veins; subtends slightly less than one cell.

Abdomen. — Black, marked sparingly with blue: seg. 1 pale blue marked with square, basal black spot; apical border and side of segment pale blue; seg. 2 extensively black on dorsum, the marking enclosing a thin, longitudinal blue spot in basal half. The black mark becoming abruptly constricted apically to end in a short stalk. Sides of segment 2 blue. Segs. 3-7 black, except for very narrow blue basal rings. Segs 8-9 blue, with thin black apical rings. Seg. 10 black with two, very small, basal, blue spots on dorsum.



Archibasis rebeccae sp. n., holotype male: (1) anal appendages, dorsal view; — (2) anal appendages, lateral view; — (3) interolateral view of superior appendage.

Anal Appendages. — Black.

Superior Appendage slightly longer than seg. 10. — In lateral view (Fig. 2.) it appears rather hatchet-shaped; widening gradually over the basal third, then more abruptly on the ventral surface, to reach its maximum width at approximately mid-length before tapering apically to a width almost equal to the basal width; a small, obtuse, v-shaped notch in apical border; an obtuse angulation on ventral surface of appendage at the point where it reaches its greatest width. — In dorsal view (Fig. 1) the superior surface is produced into a flange, directed medially, which is widened strongly in the apical quarter; the inferior surface is produced in the apical half into a angular, shelf-like, projection which is directed medially. — In intero-lateral view (Fig. 3) the interior surface of the appendage can be seen to be strongly concave and bordered, except over the basal third, by the medial development of the superior surface and the shelf-like projection of the inferior surface. Over the apical third, the superior surface folds down abrupt-

ly forming a flap-like structure covering almost half the width of the appendage before both surfaces become fused apically.

Inferior appendage: In lateral view more or less digitiform; about 0.7 times the length of the superior appendage and directed upwards at an angle of about 45 degrees to the abdominal axis, its apex situated just below the obtuse angulation on the ventral surface of the superior appendage. — In dorsal view rounded with marked concavity, appearing spoon shaped.

HABITAT. — The three Pahang males were taken settled on low vegetation in dappled sunlight, close to the edge of a very slow-flowing, small (1.5 m width), rainforest stream. Bottom substrate consisted of fine silt and sand.

DISCUSSION

Although the shapes of the anal appendages are distinct, the colour pattern of the new species most closely resembles that of *A. tenella* Lieftinck, 1949 and *A. incisura* Lieftinck, 1949, especially the former. It would appear that the only strong difference between the colour pattern of *A. rebeccae* and *A. tenella,* pending more *rebeccae* material for comparison, is that the size and extent of the facial blue lobes above the transverse furrow of the frons are much greater in the new species. In *tenella,* the lobes tend to be poorly formed and variable in outline, agreeing well with the "irregular boundary-line" given in the key of LIEFTINCK (1949). In nine *tenella* specimens examined, two had only barely discernible lobes, being little more than undulations of the upper margin and, when lobes were present, none reached a level above of the lower border of the anterior ocellus, as seen in the new species.

The very well developed, flap-like, medio-ventral extension of the superior surface of the superior appendage should readily distinguish *rebeccae* from other known *Archibasis* species.

ACKNOWLEDGEMENTS

I would especially like to thank Dr JAN VAN TOL (RHNL) for his kind help in comparing the new species with representative *Archibasis* species in his care and the loan of specimens for comparison; RAY ANDRESS and STEPHEN BUTLER for help with the drawings and GRAHAM VICK for his valuable suggestions.

REFERENCES

DAVIES, D.A.L. & P. TOBIN, 1984. The dragonflies of the world: A systematic list of the extant species of Odonata. Vol. I. Zygoptera, Anisozygoptera. *Soc. int. odonatol. rapid Comm.* (Suppl.) 3: I-IX + 127 pp.

HÄMÄLÄINEN, M., 1989. Odonata from the Dehra Dun Valley (Uttar Pradesh, India), with notes on synonymy of some West Himalayan species. *Odonatologica* 18(1): 13-20.

LIEFTINCK, M.A., 1949. The dragonflies (Odonata) of New Guinea and neighbouring islands. VII. Result of the Third Archbold Expedition 1938-1939 and the Le Roux Expedition 1939 to Netherlands New Guinea. (II. Zygoptera). *Nova Guinea* (NS) 5: 1-271.

LIEFTINCK, M.A. 1954. Handlist of Malaysian Odonata. A catalogue of the dragonflies of the Malay Peninsula, Sumatra, Java and Borneo, including the adjacent small islands. *Treubia* 22 (Suppl.) XIII + 202 pp.