

**ARGIOLESTES CELEBENSIS SPEC. NOV.
FROM SULAWESI, INDONESIA
(ZYGOPTERA: MEGAPODAGRIONIDAE)***

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The new sp. is described from a single ♂ (holotype ♂: INDONESIA, SW Sulawesi, W of Palopo, Puncak Palopo, X-1993; deposited in RMNH, Leiden). It is the first known representative of the genus on Sulawesi.

INTRODUCTION

During several expeditions (1982-1997), the National Museum of Natural History, Leiden purchased a large odonate collection from Sulawesi. Part of it was studied and led to the descriptions of several new species and a new genus (VAN TOL 1987, 1998a, 1998b, 2000). While the Sulawesi megapodagrionid material was recently examined with reference to a *Celebargiolestes* Kennedy revision, a specimen of an undescribed *Argiolestes* Selys was discovered. This is the first known representative of the genus on Sulawesi; its description is provided below.

ARGIOLESTES CELEBENSIS SP. NOV.

Figures 1-8

Material. — **Holotype** ♂: INDONESIA: SW Sulawesi, W of Palopo, Puncak Palopo; X-1993; R. Yohan leg.; purchased by J. van Tol; RMNH. Text on label: 'INDONESIA — SW Sulawesi, W of Palopo: Puncak Palopo, Oct 1993. R. Yohan leg. Purchased by J. van Tol'. The type is stored in an envelope in the Nationaal Natuurhistorisch Museum Naturalis, Leiden, the Netherlands (RMNH). First pair of legs broken, one of those missing. Right superior appendage missing.

* Notes on Old World Megapodagrionidae No. 1

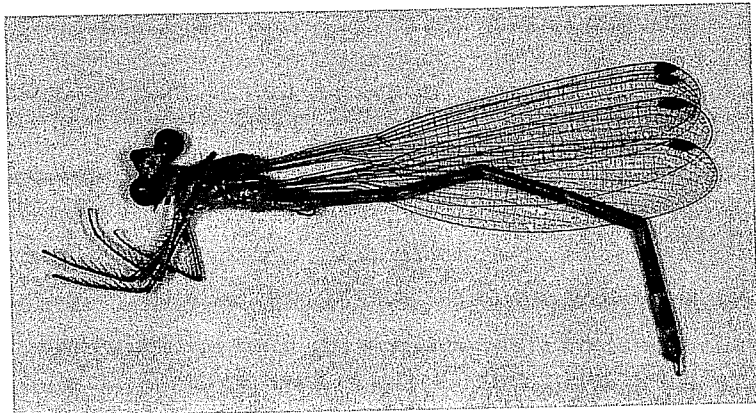


Fig. 1. *Argiolestes celebensis* sp. n., holotype ♂.

E t y m o l o g y. — Named after Celebes, the former name of the isle of Sulawesi.

MALE (holotype) (Fig. 1). — **H e a d.** — Labium yellow, slightly broader (1,8 mm) than long (1,5 mm), median cleft about one fifth of the length of labium and only as deep as wide (Fig. 2). Head black marked with blue (Fig. 3). Genae, mandibles and la-

brum shining blue, the latter with anterior margin bordered with a narrow, well defined black line. Anteclypeus shining brown, postclypeus blue with a well defined black line along the anterior border. Frons and vertex dull black except for the corners below the sockets of the antennae which are blue. Antennae and their sockets matt black with only apex of first and second segment brownish. Second segment of antennae about twice as long as first; third and fourth segments are a quarter shorter than second. Rear of head black and with normal shape without prominent occipital lobes.

T h o r a x. — Forelobe and hindlobe of pronotum black, median lobe yellow. The hindlobe is broad, flat and only slightly raised. The hindrim of hindlobe with a slight lateral angle. Synthorax black with dull yellow pattern as in Figure 4. Coxae and trochanters yellow.

Legs. — Dull yellow without markings except for the brown knees. Spines dark brown. Femur of the middle and the hind legs each with ten spines on lateral side, the ones at the centre of femur being twice as long as the space between the spines. Spines become slightly shorter towards both ends. Tibiae each with nine spines on the lateral side, the ones at the knees being more than three times as long as the space between the spines; the spines become increasingly shorter towards the tarsus.

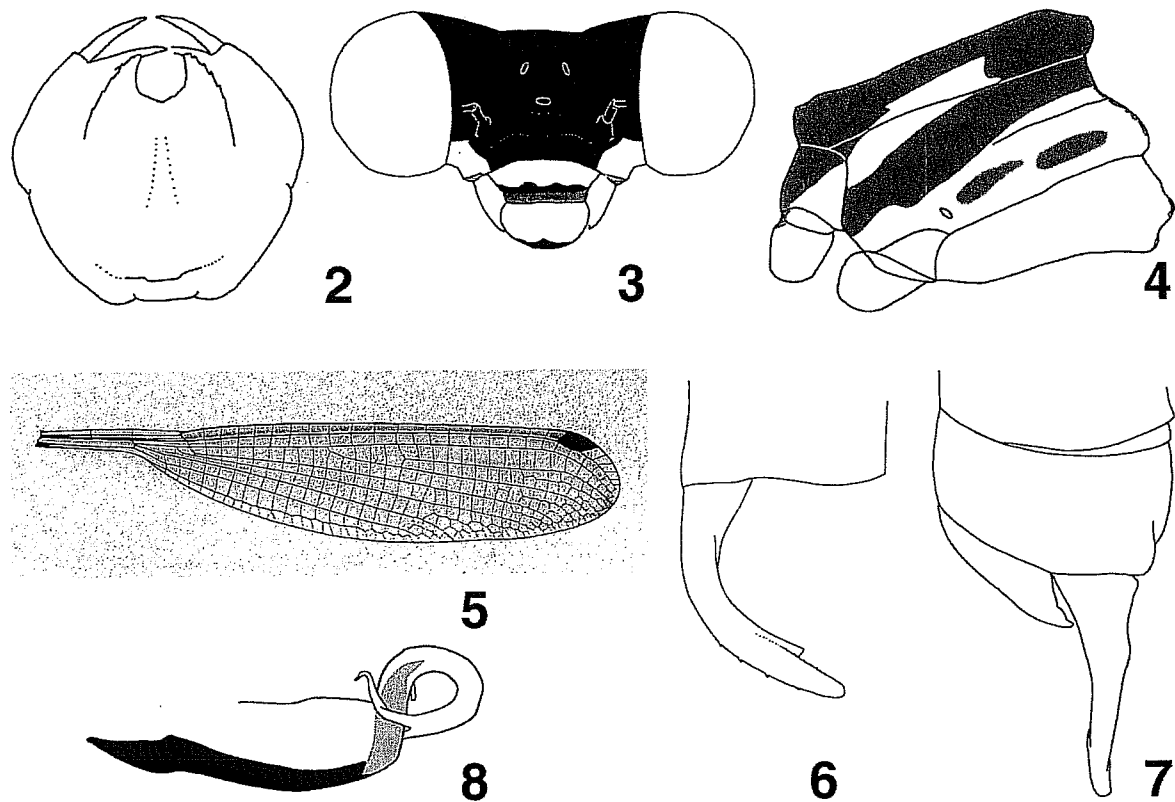
Wings. — Hyaline with black venation. Hindwing illustrated in Figure 5. Fore- and hindwing of same length. Forewing with two antenodal veins and 20-21 postnodal veins; hindwing with two antenodal veins and 18-19 postnodal veins. Arculus at level of second antenodal vein. Discoidal cell in forewing long, costal side more than three times as long as distal side, distal angle 50 to 60°. Two cells between discoidal cell and subnodus. Ac closer to first Ax1 than Ax2 and almost three times as far from the arculus as the length of the arculus. Brace vein absent. Pterostigma brown. No subcostal cells distal of Pt doubled. One row of cells between anal vein and border of wing. Fields between IR2 and R3, between R3 and IR3, and between IR3 and R4 at distal end containing each 3 or more rows of cells.

A b d o m e n. — Yellow-brown with a diffuse brown-black pattern (Fig 1). S1 dorsally largely black, S3-6 with an apical blackish ring and a broader blackish ring slightly before the middle of the segment. S7-9 largely blackish with a basal pale yellow ring. S10 brown-black. S9 and S10 without dorsal modifications (only a small ridge on S10), hind border of S10 without spines and slightly depressed in the middle. Appendages as in Figures 6 and 7. Inferior appendages simple, about one-fourth the length of superior appendages. Superior appendages brown, blackish apically, with four spines on lateral side of apex. On the inner side of the tip a dorsal ridge is present which bears a number (ten+) of black, blunt denticles. Slightly lower lies a second ridge, which starts at about halfway along the length of the superior appendages and ends with a sharp hook at about two-thirds the length of the appendages just below the dorsal ridge. Superior appendages slightly hollowed out between the dorsal and the ventral ridge. Penis as in Figure 8, with the apex of the horn-like structures directed laterally.

M e a s u r e m e n t s (mm). — Total length: 50, abdomen: 40, forewing: 33; forewing pterostigma: 1,5 (costal length), 1,9 (longest length); hindwing pterostigma: 1,8 (costal length), 2,1 (longest length).

FEMALE unknown.

DIFFERENTIAL DIAGNOSIS. — The only other species of Megapodagrionidae found on Sulawesi are members of *Celebargiolestes* with one described and several undescribed species. These, however, are easily distinguished from *A. celebensis* sp.



Figs 2-8. *Argiolestes celebensis* sp. n., holotype ♂: (2) labium; — (3) head; — (4) synthorax, lateral view; — (5) hindwing; — (6) appendages in dorsal view, right superior appendage missing; — (7) appendages in lateral view; — (8) penis, lateral view.

n. by 27-33 antenodal cells instead of 18-21. The male is distinguished from most other species of *Argiolestes* by the following combination of characters: (1) hind border of S10 without denticles or a spine-like prominence; (2) labrum blue with a well defined black anterior border and without metallic colours; (3) inferior appendages at most one-quarter of superior appendages. Three species share these characters with *A. celebensis* sp. nov. These can, however, be distinguished based on the colour of the pterostigma [yellow in *A. saltator* Lieftinck], the absence of blue on the thorax [*A. pallidistylus* (Selys) has the sides largely blue] and the yellow bar which runs from the second coxa to the dorsum of the thorax [absent in *A. australis* (Guérin-Méneville)].

DISCUSSION

The genus *Argiolestes* now comprises 38 species distributed from the Philippines (two species), Sulawesi (one), the Mollucas (two), New Guinea and the adjacent Solomon islands (32) and New Caledonia (one) (LIEFTINCK, 1956, 1976; GAPUD & RECUENCO-ADORADA, 2001; GAPUD & RECUENCO, 1993). *A. celebensis* sp. nov. is the first species of *Argiolestes* from Sulawesi. The specimen was purchased from a professional collector together with material of other Sulawesi endemics (e.g. *Protosticta geijskesi* Van Tol, *Macromia celebica* Van Tol) and therefore its origin is not doubted.

The genus needs revision, and should probably be split into several monophyletic genera, as was done by THEISCHINGER (1998) with the eleven Australian species now assigned to *Archiargiolestes* Kennedy, *Griseargiolestes* Theischinger and *Miniargiolestes* Theischinger. A thorough analysis of all species is needed in order to divide the genus into meaningful genera. The new species is provisionally placed in the genus *Argiolestes*. The species is evidently rare as only one male is known while *Celebargiolestes* is represented in the RMNH-collection with 200 specimens from over 50 localities across Sulawesi. Information on its habitat is lacking.

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