

Description of a new species of *Lestes* from South Australia (Odon., Lestidae)

by

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By the courtesy of Mr. LINDSAY HUMPHRIES, of Renmark, South Australia, I received several small consignments of Odonata taken by him at the Murray River during five consecutive years, 1947 to 1951. As the Odonate fauna of that particular region is still very imperfectly known, new species were likely to turn up, and besides the new *Lestes* described hereafter, several other interesting discoveries were made by Mr. HUMPHRIES; these will, it is hoped, be discussed at some other place. I have pleasure in dedicating the present species to its collector, in recognition of his efforts in contributing to our knowledge of the Australian fauna.

***Lestes humphriesi*, sp.n. (fig. 1—2).**

Material. — 4 ♂♂, 1 ♀ (ad.), South Australia, Murray River near Renmark, 13.VI and 13.IX.1949, L. HUMPHRIES; 1 ♂, 1 ♀ (ad.), New South Wales, Bogan River, VIII.1950, G. A. ARMSTRONG. Holotype ♂ and allotype ♀: Renmark, 13.IX.1949, L. HUMPHRIES, in the Leiden Museum.

Male (ad.) — Mouth-parts, anteclypeus and genae pale ochreous, mid-lobe of labium with greenish hue and labrum intermingled with light blue. Apices of labial palpi and mandibles glossy black. Dorsal surface of head dull coppery-bronze, slightly more shiny and rather more metallic-green in younger individuals; lateral sloping surface of postclypeus, the antennal sockets as well as the first joint of antennae anteriorly, pale ochreous; ocelli surrounded with a narrow yellow ring; occipital ridge and a pair of oblique, oval or subcircular spots, one on either side of the posterior ocelli, pale blue. Rear of the head deep black with the exception of a spot on each side of the foramen and a tapered streak along margin of compound eye, which are yellow; anterior portion chalky pruinulent blue.

Prothorax ochreous (possibly light blue in life) variegated with bronzy-brown; light are: the anterior lobe, three dorsal spots upon the median division (the lateral ones narrowly confluent with the yellow side-margin of the anterior lobe), the posterior lobe except two dark blotches on either side of the middle, and a large bilobed marking bordering the lower margin of the main body of prothorax.

All coxae with a bronzy-black anterior patch; trochanters ochreous; legs otherwise greenish bronzy-black, exteriorly with a continuous ochreous stripe along full length of all femora, tibiae and tarsi.

Synthorax dark reddish- or coppery-bronze with low metallic reflex, marked with light blue or greenish-ochreous as shown in fig. 1; sides paler; lateral and ventral sutures pruinulent blue. Venter pale; the sternal depressions, a thick stripe over the median suture of poststernum expanding posteriorly into a reniform transverse dot, and a much larger streak on each side along margin of apical part of poststernum, deep black.

Wings shaped similarly to *L. leda*, but main longitudinal veins (except *R* + *M* up to nodus, and *R* posterior to that level) conspicuously yellow

instead of brown. Petiole shorter than in *leda*; Ac in fore wing situated distinctly proximal to Ax_1 ; Arc at Ax_2 . Fore wing with proximal side of q equal in length to costal side and about half as long as distal side; hind wing with costal side almost twice as long as proximal side and equal in length to distal side; costal and distal sides almost in line. M_2 arises about mid-way between Px_2 — Px_3 in all wings; M_{1a} reach-

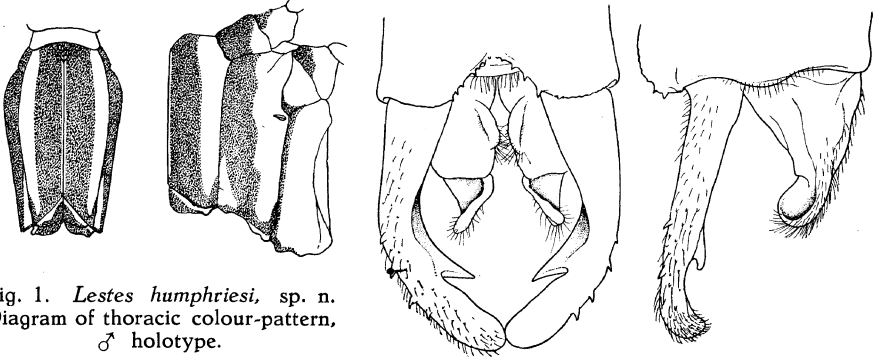


Fig. 1. *Lestes humphriesi*, sp. n. Diagram of thoracic colour-pattern, ♂ holotype.

Fig. 2. *Lestes humphriesi*, sp. n. Anal appendages of ♂ holotype, dorsal view and right side.

ing as far as proximal side of pt . Sector between M_3 — M_4 very long, reaching proximad almost as far as the subnodus (as in *leda* and several other Australian species); between M_1 — M_2 7—9 small marginal cells, but only 3 at level of pt . Postnodals 8—10 in fore wing, 7—9 in hind wing. Pterostigma of the usual shape and a trifle wider than in *leda*, covering two underlying cells; dark cinnamon, surrounded by conspicuously yellow-coloured nervures, only the costal and inner (lower) half of the distal sides being brown.

Abdomen, ground-colour greenish-ochreous becoming blue on dorsum of all segments; 1 with bronze-green basal lunar spot, deeply concave posteriorly so as to leave a large hood-shaped apical dorsal mark of blue; dorsum of 2 with a pair of parallel metallic-green stripes from base to apex, separated from one another by an equally broad blue mid-dorsal stripe, which is narrowest at extreme base, thence expands gradually and after a distinct postmedian constriction again widens, reaching its maximum width on the apical third of the dorsum. Segm. 3—7 dorsally with a pair of metallic-green bands which expand abruptly near the apical end of the segments and then contract as abruptly to become confluent with a narrow apical black ring, whilst the basal ends of the dark stripes are truncated and fall short of the base of each segment, those on 3—4 being cut off abruptly and squarely, those on succeeding segments tapering more or less to a point, leaving distinct ochreous mid-dorsal lines (narrower from before backwards) and conspicuous baso-dorsal spots of a light blue colour. These basal rings occupy a little more than one-fifth of the segment's length. On segm. 7 the subapical constrictions are hardly indicated, whilst 8 bears two very broad and parallel-sided dark bands from end to end, separated by a fine yellow median line. Segm. 9 and 10 entirely blue save for a transverse bronze

lateral streak, one on each side of the middle, along base of 9, the inter-segmental ring 8—9 also blue.

Anal appendages shaped as shown in fig. 2. Superior pair one and one-fourth longer than segm. 10, black, only the lower half yellow interiorly, each carrying a small, more or less trapezoidal, inferior sub-basal tubercle. Inferiors ochreous, basal half of each black and apical shelf-like portion brown dorsally; pubescence whitish.

Female (ad.) — Resembling the ♂ in almost every respect. Light thoracic markings slightly more extensive and bronze-green bands on abdominal segments 3—6 less markedly expanded sub-apically. Dorsum of 9 entirely coppery-bronze, lacking a mid-dorsal yellow line; 10 blue with the exception of two transverse basal dark streaks, confluent mesially in the allotype, separated from one another in the paratype. Intersegmental rings of 6—9 light ochreous, as are also the anal appendages and tuberculum anale. Valves shaped much as in *leda*, but lower margin in apical half finely denticulate, not surpassing apex of segm. 10, yellow with a lateral black stripe running from base to apex.

Measurements: ♂ abd. + app. 31.0—34.0, hw. 21.0—23.0, pt. 1.3; ♀ 30.0—30.5, 23.0, 1.4 mm.

At Renmark this interesting new species was found flying in company with *L. annulosus* Selys and *leda* Selys, *humphriesi* being far outnumbered by the others, which were about equally abundant.

On comparing our insect with the other Australian members of the genus, the nearest relationship of *humphriesi* appears to be with *leda*, whilst it is also remotely allied to *analis* Ramb. Besides being of larger size, ♂ *humphriesi* differs from *leda* in the following respects: (1) 9th abdominal segment blue instead of bronzy-brown; (2) sup. anal apps. devoid of a slender inferior finger-like process near their base, but carrying instead a small projection which is only visible in oblique dorsal view; (3) inf. anal apps. at least half as long as superior pair instead of about one-third as long; apical third of each hollowed out and distinctly outcurved, not slender, tapering and simply upcurved; (4) juxtahumeral thoracic blue bands extending further upwards, and light posthumeral off-shoot of same considerably larger; (5) dorsum of prothorax with additional yellow markings on each side of the middle. *Lestes analis* is at once distinguished from *humphriesi* by having only the 10th abdominal segment blue, by having much longer and very differently shaped upper anal appendages, and by the vestigial (knob-like) inferior appendages.

A very useful key to the identification of a number of Australian *Lestes* was published by RIs in his "Odonata. Fauna Südwest-Australiens" (Ergebn. Hamb. südwest-austr. Forschungsreise 1905, 2: 421—429, figs., 1910).

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