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THE IDENTITY OF SYNLESTES WEYERSII SELYS
AND ITS CONFUSION WITH A NEW SPECIES,

by Lt Col. Frederick-Charles FRASER, I. M. S., Retd.
(Bournemouth).

Recently through the courtesy of the authorities of the Musée royal d'Histoire naturelle, Bruxelles, to whom my best thanks are due, I have been able to reexamine the type of *Synlestes weyersii* SELYS, whereby an error of identification of long standing has been cleared up and a new species belonging to the same genus has been discovered. This latter has been known to all students of Odonata as *weyersii* for many years. TILLYARD (1917, Proc. Lin. Soc. N. S. W. 42: 470), when discussing the identity of the type of *weyersii*, put forward the three following possibilities, to which I am now able to supply the answers :

1) The three specimens described by SELYS (Type female from Port Denison, N. Queensland: a male from Sydney, N.S.W., and another male from Queensland, in the Vienna Museum) may *all* belong to one species and the locality labels may *all* be correct?

Answer : The three specimens belonged to different species : the locality labels were all correct.

2) The three specimens may all belong to one species but the locality labels may *not all* be correct?

Answer : Same as for the first.

3). The three specimens may not all belong to the *same* species?

Answer : The three specimens belong to two different species.

The crucial point in the Selysian literature, which has been overlooked by all subsequent students and upon which unfortunately no emphasis was laid, occurs in the second description (1886) of the type female and reads as follows. « La bande antéhumérale ocracée plus large vers le bas, presque complète. » Actually the stripe alluded to is very much broader and very conspicuous, whereas it is linear and quite inconspicuous in the males of all other species.

Dr MALAISE of the Riks Museum, Stockholm, has kindly sent me the female and one of the six males mentioned by SJÖSTRÖM under the name of *weyersii* (1917, Arkiv für Zool. II, 11 : 26). An examination of these reveals them as *Synlestes tropicus* TILLYARD of which the female was hitherto unknown. The original description of this species is quite inadequate and a new one is given below together with that of the female. A redescription of the type of *weyersii* and a description of the new species, which has been masquerading as *weyersii*, is now given :

Synlestes weyersii SELYS.

Synlestes weyersii SELYS, 1869, C. R. Soc. Ent. Belg. XI : LXXVI.

1886, (pars) Mem. Cour. Acad. Belg. 38 : 91.

KIRBY, 1890, *Cat. Odon.* 126.

Lestes belladonna MACLEAY, 1831, *Voyage Capt. King, N. Australia*, App. 120. (*S. weyersii*?)

SELYS, 1862, Bull. Acad. Belg. (2) 13 : 377.

Type, a female in the Selysian collection, Brussels Museum, bearing a label indicating that it is the type from Port Denison, Queensland. The specimen lacks the six posterior segments of the abdomen and the apical half of the right hindwing but otherwise is in a good and recognizable condition and quite easily distinguishable from the females of the other four species of the genus.

Female (Male unknown).

Abdomen 40 mm. ca. Hindwing 32 mm.

Head : labium pale, labrum metallic green : epistome glossy

black, rest of head metallic green save the bases of mandibles, adjacent part of genae and the scape of antennae which are chrome-yellow. Prothorax weakly trilobate, green metallic on dorsum and upper part of sides; the lower parts of same, the anterior lobe and the borders narrowly of the posterior lobe chrome-yellow. Mesothorax dark green metallic on dorsum to as far lateral as the antero-lateral suture, beyond which the sides are pale yellow: broad conspicuous antehumeral stripes in contact with the humeral suture, deficient above for about the superior fifth of dorsum, beyond which is a small black area surrounding a minute point of yellow. Laterally a small triangular spot of metallic green at the upper part of the postero-lateral suture, followed below by a diffuse obscure clouding of blackish (? representing an obsolete lateral dark stripe). Beneath pale yellow. Legs blackish brown, flexor surface and distal ends of femora black. Wings hyaline: pterostigma pale creamy yellow framed in black nervures which are a little clouded with black within: 2 to 2.5 mm. in length,

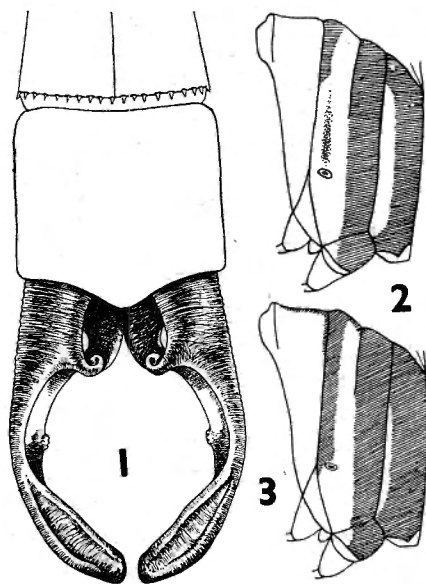


Fig. 1. — Anal appendages of *Synlestes tillyardi* sp. nov., dorsal aspect. — Fig. 2. Lateral view of thoracic markings of *Synlestes weyersii* SELYS, diagrammatic (From the type). — Fig. 3. The same of *Synlestes tillyardi* sp. nov. (Shaded areas are green metallic).

slightly dilated at middle, covering 4 cells: 17 to 19 postnodals. Abdomen (only 4 segments present) dark metallic green on dorsum, pale yellow beneath and laterally, the yellow encroaching on the dorsum at the segment bases to form interrupted narrow yellow annules.

HABITAT: Port Denison, N. Queensland. Type in the Brussels Museum. Distinguished from all other species by the broad conspicuous antehumeral stripes and obsolete postero-lateral stripes of thorax. Evidently a very local insect.

Synlestes tillyardi sp. nov.

Synlestes weyersii SELYS (pars), 1886, Mém. Cour. XXXVIII: 91.

KIRBY (pars), 1890, *Cat. Odon.* 126.

MARTIN, 1901, Mem. Soc. Zool. France, 19: 244.

TILLYARD, 1913, Proc. Lin. Soc. N. S. W. 38: 772.

1917, *Ibid.* 42: 472, f. 7, 8a, pl. 23, f. 11.

MUNZ, 1919, Mem. Amer. Ent. Soc. 3: pl. 10, f. 63.

KENNEDY, 1920, Ohio J. Sci. 21: 28, pl. 1, ff. 14, 15.

SCHMIDT, 1928, Ent. Mitt. 17: 248, f. 3b.

TILLYARD, 1926, *Insects Australia & New Zealand*, 78.

Male. Abdomen 45-50 mm. Hindwing 30 mm.

Head: labium, bases of mandibles and lower inner portion of genae pale yellow: epistome black with a transverse row of 3 minute yellow dots: rest of head above, including labrum brilliant metallic peacock-blue: beneath head dull black with some slight pruinescence. Bases of antennae (scape) yellow. Prothorax with anterior and posterior lobes pale yellow, middle lobe metallic golden green: posterior lobe trilobed, the middle lobe about twice as large as the two lateral ones. Thorax dark metallic green on dorsum to as far lateral as the first lateral suture, the middorsal carina darker and the upper part of humeral suture and a posterior bordering to the lower part, as well as the mesinfraepisternum dull black. A *fine linear* yellow stripe bordering the humeral suture anteriorly for about one

third its length beginning just below its centre point and ending before its lower end, bordered posteriorly by the black mentioned above. Laterally pale yellow as well as beneath, with a moderately broad brilliant metallic green stripe bordering the postero-lateral suture from its upper end to as far as the spiracle, enclosing between itself and the anterior metallic area, a yellow stripe darker than the rest of the yellow on the sides. Some specimens show a darker yellow area also on the lower posterior part of the metepimeron. Legs black, tibiae dark brown, the extensor surface of the two anterior pairs of femora yellow. Wings hyaline: 16-17 postnodals in forewings, 14-15 in the hindwings: pterostigma yellow-ochre with dark blackish brown framing veins, pale yellow in subadults but becoming suffused with dark ochreous or even brown in old adults, oblique at both ends, somewhat dilated at its middle and nearly three times as long as broad, covering between 3 and 5 cells. Abdomen pale yellow throughout on ventral surface, metallic green on dorsum of segments 1 and 2, dull steely or bronzed black for the rest of the segments: segments 3 to 6 with very narrow bright pale yellow basal annules interrupted rather broadly on middorsum: extreme apical border of segment 10 pale yellow. Anal appendages broad at base, narrowed at middle third and then dilated again at apical third: a prominent lobe or obtuse spine on the inner side of base with its apex directed inwards and curled downwards, and a *small molar-shaped prominence on the inner side of the middle third*: apical ends depressed. Inferior appendages short, only about one third the length of superiors, conical with apices strongly divergent and directed upwards.

Female. Abdomen 40-45 mm. Hindwing 33-35 mm.

Coloured and marked similarly to the male. The juxta-humeral yellow linear stripe not thicker than in the male, but in some specimens, a minute yellow point at the extreme upper end of humeral suture which is rarely present in the male. Pterostigma of a creamy yellow finely margined with black and much more conspicuous than in the male: 19 postnodals in forewings, 17-19 in the hind. The apex and sides of segment 10 bright yellow. Vulvar scales brownish yellow, not extending quite to end of abdomen.

HABITAT: Australia, N. S. Wales and Victoria. Several males and females in my own collection from Ebor, Yarunga and Tidbonville, N. S. W.: a number of both sexes in the Brit-

ish Museum, formerly TILLYARD collection, all from the same districts. Easily distinguished from *weyersii* by the fine antehumeral stripes incomplete above and below, and by the presence of a complete postero-lateral metallic green stripe. From other species, the shape of the superior anal appendages and the stunted *molar-like process* at the middle of the inner side of these, together with the *pale* coloured pterostigma, all serve as distinguishing features.

I have deposited the type in the Brussels Museum collection in order that future students may be able to compare it vis-a-vis with the type of *weyersii*. A male in the Selysian collection, apparently named as *weyersii* by MARTIN, almost certainly belongs to this new species: probably also the male in the Hamburg Museum and another in the Vienna Museum mentioned by SELYS as the male of *weyersii*, belong actually to *tillyardi* as the linear character of the antehumeral stripe serves to show. The « petit tubercule interne » mentioned by SELYS also suggests the molar-like process so characteristic of the anal appendages of *tillyardi*.

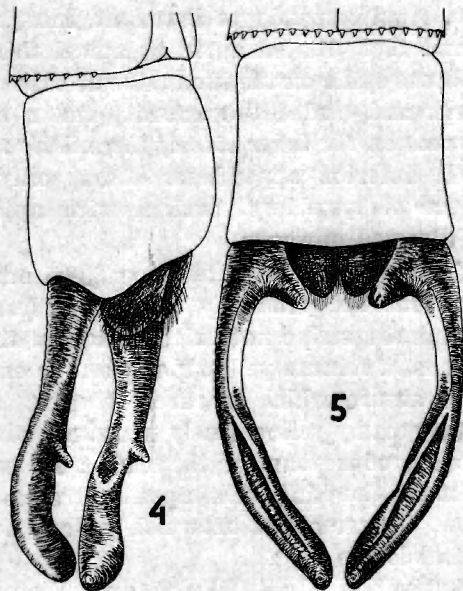


Fig. 4. — Ventro-lateral view of the anal appendages of *Synlestes tropicus* TILLYARD. — Fig. 5. The same seen from the dorsum.

Synlestes tropicus TILLYARD, 1917.

Synlestes tropicus TILLYARD, 1917, Proc. Lin Soc. N. S. W.
42 : 471, 475.

Synlestes weyersii SJÖSTEDT, 1917, Arkiv. för Zool. II, II : 26.

Material examined : 1 male, British Museum, ex TILLYARD coll., N. Queensland, Kuranda, 20-XII-12, coll. F. P. DODD : 1 pair, Riks Museum, Stockholm, N. Queensland, Malanda, Feb., coll. MJÖBERG. (TILLYARD also gives Herberton as a locality, in Queensland).

Male. Abdomen 51-55 mm. Hindwing 28-29 mm.

Head : labium pale, labrum and rest of head glossy metallic peacock blue and green, the bases of mandibles and adjacent part of genae chrome yellow. Antennae *including scape* black. Prothorax with posterior border of posterior lobe sinuous, shallowly concave but with the centre slightly produced : *the whole prothorax yellow*. Mesothorax metallic green to as far lateral as the antero-lateral suture beyond which the sides are yellow : *no vestige of antehumeral stripes*. Laterally a green metallic stripe extending from above to as far as the spiracle and covering the posterior half of mesepimeron : the yellow included between this stripe and the anterior metallic area a deeper ochreous than on the rest of the sides. Beneath pale yellow. Legs blackish brown, hind tibiae paler on extensor surface. Wings hyaline : pterostigma *black*, covering 2 to 3 cells, much shorter than in *tillyardi*, less than 2 mm. in length : 16 postnodals in forewings, 14-15 in the hind : arculus in forewings often a point proximal to distal antenodal (In one male from MJÖBERG' s series, there is a basal postcostal cross-vein in the left hindwing). Abdomen very long and slim as compared to other species, segment 1 pale yellow with a narrow apical green metallic annule : segment 2 bright metallic green on dorsum, remaining segments dull bronzed black with the sides and beneath ochreous : segments 2 to 6 with broad black apical rings overlapping on to the bases of the following segments and extending right round the segments. Segment 10 broadly bright ochreous on the sides and beneath. Anal appendages considerably longer than segment 10, slim, forcipated but curling in more evenly and gradually than in *tillyardi* : a very robust obtusely pointed spine on the inner side of base of superiors : a nipples shaped spine on the middle of the ventral aspect of the same appendages, not visible from above : *no subapical spine*.

Dorsally these appendages show a long fusiform and rather deep sulcus on the apical half of the superior surface. Inferior appendages very short obtuse conical processes.

Female. Abdomen 43 mm. Hindwing 32 mm.

Coloured very similarly to the male but the abdomen more brightly metallic green, the ochreous occupying the anterior halves of segments 2 to 6 and forming conspicuous lateral elongated spots. The region of the humeral suture non-metallic, diffusely dark brownish yellow with no defined limits: the femora bright ochreous on the extensor surfaces save at the black distal ends. Segment 9 enormously swollen, at least twice the diameter of segment 10: vulvar scales robust, extending slightly beyond end of abdomen, dark ochreous. Anal appendages shortly conical, black. Wings with black pterostigma as in the male, covering 2 1/2 to 3 cells and rather longer in the hindwings: 17-18 postnodals in forewings, 14 in the hind. (The right forewing in this female has an extra antenodal in the costal space and situated about as far proximal of the proximal antenodal as the two antenodals themselves are apart: the left hindwing has a basal postcostal cross-vein well defined such as is found in the *Platystictidae*.)

HABITAT: Australia, N. Queensland. Distinguished from all other species of the genus by its long slim abdomen, all-black antennae, total absence of antehumeral stripes and the characters of the superior anal appendages. Type male in the British Museum, ex TILLYARD collection; allotype female in the Riks Museum, Stockholm.