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Tonyosynthemis, a new dragonfly genus from Australia (Insecta: Odonata: Synthemistidae)

G. THEISCHINGER

A b s t r a c t : *Tonyosynthemis* (type species: *Synthemis claviculata* TILLYARD) is established on characters of adults and larvae.

K e y w o r d s : *Tonyosynthemis*, new genus, north-eastern Australia.

Introduction

Affinities of *Synthemis cyanitincta* TILLYARD and *Synthemis claviculata* TILLYARD were discussed by TILLYARD (1910), of *Synthemis ofarrelli* THEISCHINGER & WATSON and both, *S. claviculata* and *S. cyanitincta*, by THEISCHINGER and WATSON (1986).

CARLE (1995) erected the tribe Eusynthemistini with type genus *Eusynthemis* FÖRSTER and included in it also *Choristhemis* TILLYARD and *Austrosynthemis* which he established for *S. claviculata*, *S. cyanitincta* (type species) and *S. ofarrelli*. In general, CARLE'S (1995) view on the Synthemistidae appears to me very sound. Some of my more recent work on adults and particularly larvae does not only support my earlier placement of *Choristhemis barbarae* MOULDS in *Eusynthemis* (THEISCHINGER 1995) but also the close ties of the species included by CARLE in *Austrosynthemis* with *Choristhemis* TILLYARD, as suggested by CARLE (1995). Morphological details of adult *Austrosynthemis cyanitincta* and particularly of the larva of *Austrosynthemis claviculata* (TILLYARD), however, indicate specialisations unique in Synthemistidae. A new genus, *Tonyosynthemis*, based on *A. claviculata*, is therefore established below. A brief diagnosis of *Tonyosynthemis* and a comparative diagnosis of *Austrosynthemis* (as restricted here) are given. The larva of *Tonyosynthemis claviculata* is described for the first time. *Austrosynthemis*, now regarded as monotypic, is considered the sister group of *Tonyosynthemis*.

Tonyosynthemis gen. nov. (Figs 1-7)

Type species: *Synthemis claviculata* TILLYARD

Adults (Figs 1-3)

S i z e : Medium (hindwing generally longer than 30 mm).

C o l o u r a t i o n : Largely black with vivid yellow patttern; wing bases (subcostal space) not blackened.

A b d o m e n : Tergum 7 of male ventrally with short hairs and without distal hair-brush

(Fig. 1).

Male anal appendages: Apical portion of superior appendages distinctly club-shaped (Fig. 2).

Female genitalia: Valves narrow, with laterodistal point; styli well developed (Fig. 3).

Larvae (Figs 4-7)

Total length 18.5-19.5 mm.

Head: Prementum (Fig. 5) abruptly widening from short narrow base; ligula with median lobe hardly developed; labial palps with 7 dentitions (including very small one next to movable hook) and with 6 larger palpal setae; generally 5 primary premental setae and 6 secondary premental setae; postmentum with mediobasal notch. Postocular lobe (Fig. 6) strongly differentiated, almost bilobed.

Prothorax: Pronotal lobe (Fig. 7) strongly developed and with short appressed setae.

Abdomen: Two substantial obtuse laterodorsal processes each on segments 4-9 (Fig. 4).

Species included: *Synthemis claviculata* TILLYARD, *Synthemis ofarrelli* THEISCHINGER & WATSON.

Distribution: North-eastern Australia.

Name: in memory of Prof. A. F. L. (Tony) O'Farrell (1917-1997) and Dr. J.A.L. (Tony) Watson (1935-1993), two unforgettable friends and outstanding odonatologists.

Austrosynthemis CARLE (Figs 8-13)

Type species: *Synthemis cyanitincta* TILLYARD.

Adults (Figs 8-10)

Size: Rather small (length of hindwing about 25 mm).

Coloration: Largely greyish- to blackish brown with very pale bluish pattern; wing bases (subcostal space) distinctly blackened.

Abdomen: Tergum 7 of male ventrally with long hairs and with well developed distal hair-brush (Fig. 8).

Male anal appendages: Apical portion of superior appendages tapered (Fig. 9).

Female genitalia: Valves wide, with subbasal point close to midline; styli generally absent or vestigial (Fig. 10), sometimes moderately developed on one side only, rarely moderately developed on each side.

Larvae (Figs 11-13)

Head: Postocular lobe not strongly differentiated (Fig. 12).

Prothorax: Pronotal lobe (Fig. 13) with long prominent setae.

Abdomen: Dorsal surface of segments 4-9 smooth without any processes (Fig. 11).

Species included: *Austrosynthemis* CARLE is considered in this paper to be monotypic.

Distribution: South-western Australia.

Discussion

Discussing affinities amongst the Eusynthemistini, CARLE (1995) mentioned an *Austrosynthemis-Choristhemis* pair (p. 419) and a *Choristhemis-Eusynthemis* pair (p. 422) which I found somewhat confusing. A *Choristhemis-Eusynthemis* pair and an *Austrosynthemis-Tonyosynthemis* pair are proposed in this paper. The two pairs are considered as each others sister groups.

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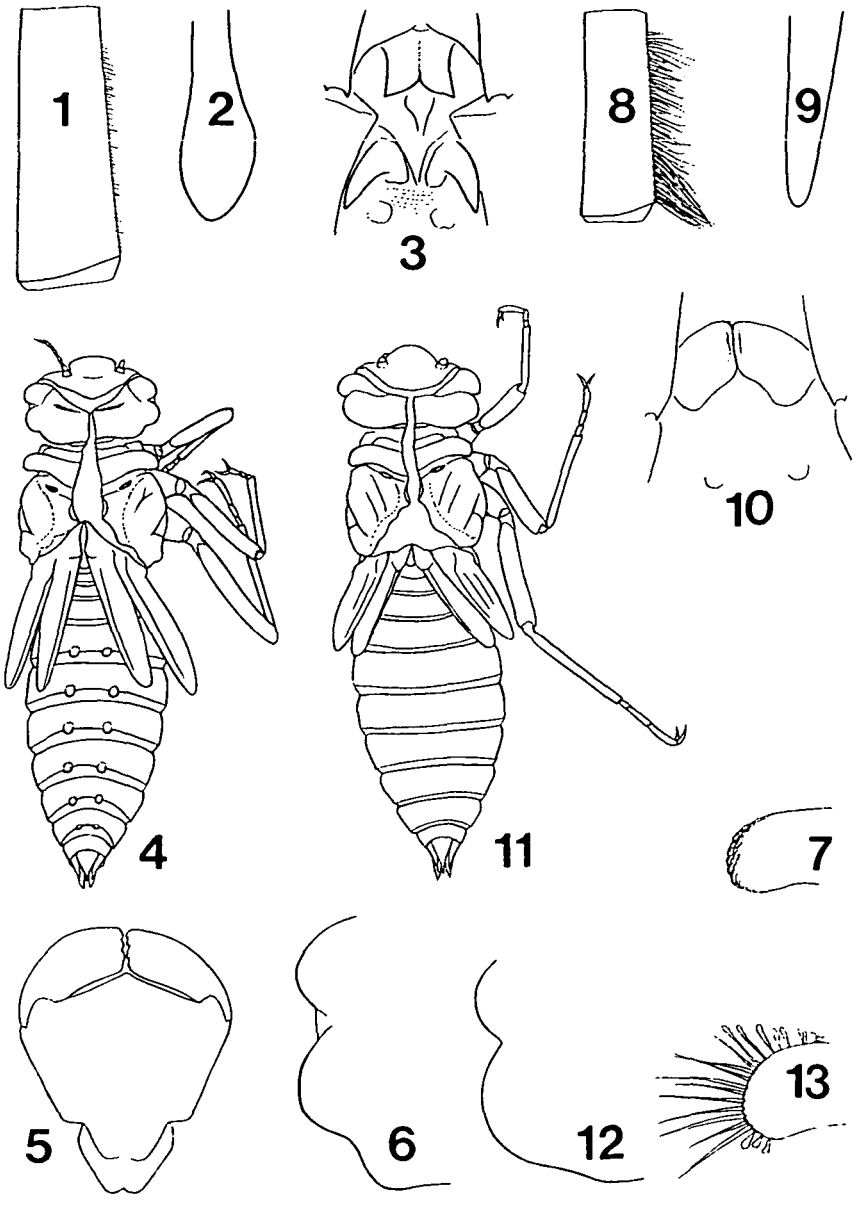
Address of the author: Günther THEISCHINGER
2A Hammersley Rd, Grays Point,
N.S.W. 2232, Australia



Figs 1-7: *Tonyosynthemis claviculata* (TILLYARD): **1-3** adults: **1** - tergum 7 of male, lateral aspect; **2** - apical portion of superior anal appendage of male, lateral aspect; **3** - female genitalia, ventral aspect; **4-7**: larva: **4** - habitus, dorsal aspect; **5** - labium, ventral aspect; **6** - postocular lobe, dorsal aspect; **7** - pronotal lobe, dorsal aspect. **Figs 8-13**: *Austrosynthemis cyanitincta* (TILLYARD): **8-10** adults: **8** -tergum 7 of male, lateral aspect; **9** - apical portion of superior anal appendage of male, lateral aspect; **10** - female genitalia, ventral aspect; **11-13** larva: **11** - habitus, dorsal aspect; **12** - postocular lobe, dorsal aspect; **13** - pronotal lobe, dorsal aspect.