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A further new species of the *Tachys* (s.l.) *ectromoides*-group from Queensland, Australia

(Insecta, Coleoptera, Carabidae, Bembidiinae)

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A further species of the enigmatic *ectromoides* species-group of the genus *Tachys* Dejean *sensu lato* is described from southern Queensland: *T. fortestriatus*, spec. nov. The species is distinguished from its nearest relatives by absence of any elytral pattern, completely dark surface colour, and rather deep and regular elytral striation.

The first record from Queensland of the related species *T. bolellus* Darlington is communicated, and a new record of *T. ectromoides* Sloane discovered under eucalypt bark corroborates the suspected subcorticolous habits of this species.

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Introduction

By courtesy of Dr. G. B. Monteith of Queensland Museum, Brisbane (abbreviated QMB in the text below), I received for identification a few tachyine specimens that belong to the so-called *ectromoides*-group in the sense of Baehr (1989, 1991) of the genus *Tachys* Dejean *sensu lato*. Apart for the first Queensland record of *T. bolellus* Darlington, the sample includes a specimen of a new species of this group that is decribed below. A recent capture of the nominate species of this group, *T. ectromides* Sloane, reveals the true subcorticolous habits of this species. The relationships of the *ectromoides*-group within the large genus *Tachys* s.l. still are unsettled, as are the relations of several other species or species-groups occurring in Australia. In some character states of external structure species of the *ectromoides*-group remember species of the genus *Tachyta* Kirby, though these similarities seem to be parallelisms caused by similar (corticolous) habits.

Tachys fortestriatus, spec. nov.

Figs 1, 2

Types. Holotype: ♂, SEQ: 26°52'S × 152°11'E Top of Blackbutt Range 24 Oct – 24 Nov 1995 G. Monteith, 400 m RF, Intercept Trap (QMB 93417).

Diagnosis. Characterized by unicolourous dark piceous colour devoid of any elytral pattern, absence of discal setiferous punctures, and complete, well impressed, thoroughly punctate elytral striae; distinguished from the most similar species *T. bolus* Darlington by lesser size and considerably shorter antennae, from *T. bolellus* Darlington by shorter and wider pronotum and elytra and deeper striation, and from *T. windsorensis* Baehr by much wider pronotum.

Description

Measurements. Length: 2.8 mm; width: 1.3 mm. Ratios. Width/length of pronotum: 1.44; width base/apex of pronotum: 1.48; length/width of elytra: 1.35; width elytra/pronotum: 1.44.

Colour. Head and pronotum piceous, elytra

even slightly darker. Lateral channel of pronotum and elytra reddish translucent. Anterior part of head reddish-piceous. Labrum and mandibles reddish, other mouth parts, legs and antennae dirty yellowish. Lower surface reddish. Surface of elytra fairly iridescent.

Head. Moderately wide. Eyes rather depressed, orbits large, convex, length of orbits almost a third of length of eyes. Temporal sulci deep, slightly curved, laterally bordered by a conspicuous ridge, prolonged onto clypeus. Anterior margins of clypeus and labrum straight. Mandibles rather elongate. Altogether, dorsal aspect of head markedly trechine-like. Mentum bifoveate, mental tooth present, though wide and rather obtuse at tip. Both palpi densely setose. Terminal palpomeres of both palpi elongate, markedly subulate. Antennae medium-sized, surpassing base of pronotum by about one antennomere. Median antennomeres c. 1.5 × as long as wide. Frons with conspicuous isodiametric microreticulation, microsculpture on clypeus and on neck abruptly weakened, meshes there slightly transverse.

Pronotum. Comparatively wide. Anterior angles slightly produced, obtuse at apex, lateral margin near apex markedly curved inwards. Apex with moderately deep excision. Pronotum widest about at middle, behind anterior lateral seta, moderately narrowed towards base, lateral margins posteriorly gently concave. Basal angles right. Base wide, considerably wider than apex, in middle slightly produced. Lateral channel anteriorly narrow, widened towards base, both, apex and base not bordered. Anterior transverse sulcus superficial, interrupted in middle. Median line not attaining apex, near base widened and deepened to form a conspicuous longitudinal sulcus. Prebasal transverse sulcus deep, straight, slightly interrupted in middle. Submarginal carina distinct, elongate, straight. Basal grooves fairly shallow. Microsculpture on disk barely visible, consisting of extremely superficial transverse meshes, but strong isodiametric microreticulation present in front of anterior transverse sulcus and across base behind basal transverse sulcus. Surface of disk nitid, somewhat iridescent, without any perceptible puncturation.

Elytra. Rather short and wide, convex, with wide base, laterally little rounded, widest slightly behind middle. Humerus rounded. Lateral channel deep and remarkably wide. Scutellar striole absent, though pore present and conspicuous. Striae complete, anteriorly deeply impressed, outer striae little shallower, towards apex all striae becoming shallower. Striae in anterior half distinctly punctate though not crenulate. Median intervals slightly raised. 8th stria sulcate throughout, reaching anterior group of marginal pores. Recurrent stria deep, bearing a strong ridge posterio-laterally, almost meeting 3rd stria. No discal punctures visible, though with a setiferous pore within recurrent stria. 8 marginal setae present, arranged in three groups of 4 pores near base, 2 behind middle, and 2 near apex, all setae very elongate. Microsculpture barely perceptible, surface nitid and with a rather iridescent appearance. Fully winged.

Lower surface. Prosternum with several fairly elongate hairs. Metepisternum < 2 × as long as wide. Male terminal abdominal sternum bisetose, without any additional setosity.

Legs. Of average size. Tibiae and tarsi with dense and very elongate setosity, claws edentate. 1st and 2nd tarsomeres of male anterior tarsus asymmetrically expanded and uniseriately squamose.

Male genitalia (Fig. 2). Genitalia very small. Genital ring triangular, almost symmetric, apex narrow and rather elongate. Aedeagus short and stout, lower surface gently curved, apex short and stout, widely rounded off. Inner sac in middle with two short, strongly sclerotized, semitubular sclerites that are folded one to another. Parameres of different size, both 5-setose.

Female genitalia. Unknown.

Variation. Unknown.

Collecting circumstances. The holotype was collected in a flight intercept trap exposed in subtropical rain forest at rather low altitude. Unfortunately, such collecting circumstances give no information as to the habits of the new species, except for that it is capable of flight.

Distribution. Southeastern Queensland. Known only from type locality.

Etymology. The name refers to the complete and deep striation of the elytra.

Relationships. According to colour of surface and structure of elytra, this species is most closely related to *T. windsorensis* Baehr from far northern Queensland. Unfortunately, of the apparent nearest relatives of *T. fortestriatus* either the male aedeagus is unknown, as in *T. windsorensis* Baehr, or the internal sac in the unique male of *T. marri* Baehr is fully everted. Hence, no comparison of the structure of the aedeagi is possible at present.

Recognition. For better distinction the key in the most recent paper on the *Tachys ectromoides*-group (Baehr 1991) is revised and completed as following.

1. Elytra with distinct colour pattern; discal elytral punctures present ..... 2.
– Elytra unicolourous, or with very indistinct pattern (humeri ill-delimited lighter); discal elytral punctures absent ..... 3.

2. Elytra yellow with wide brown fascia and piceous apex; antenna yellow throughout; pronotum very wide, base almost as wide as diameter of pronotum in middle; surface conspicuously reticulate. Eastern Australia ..... *ectromoides* Sloane
– Elytra piceous with indistinct lighter spots at humeri and in posterior third; antenna piceous with 1st, 2nd, and base of 3rd antennomeres yellow; pronotum evidently narrowed to base; surface almost smooth, nitid. Southwestern Australia ..... *marri* Baehr

3. Larger species, length 3.2-3.6 mm; median antennomeres c. 3 × as long as wide. Northeastern New South Wales ..... *bolus* Darlington
– Smaller species, length 2.6-2.9 mm; median antennomeres < 1.5 × as long as wide. Eastern Australia ..... 4.

4. Pronotum narrower, ratio width/length < 1.35; elytra wider in comparison to pronotum, ratio width elytra/pronotum > 1.5, elytra more oval-shaped, lateral margins more convex ..... 5.
– Pronotum wider, ratio width/length c. 1.44; elytra narrower in comparison to pronotum, ratio width elytra/pronotum < 1.45, elytra less oval-shaped, lateral margins more parallel (Fig. 1). Southeastern Queensland ..... *fortestriatus*, spec. nov.

5. Head, pronotum, and base of elytra reddish, rest light piceous; base of pronotum wider, ratio base/apex > 1.4; striae less impressed, even basally barely crenulate, lateral striae feebly indicated. Eastern New South Wales, southeastern Queensland ..... *bolellus* Darlington
– Colour almost black, only pronotum dark piceous; base of pronotum narrower, ratio base/apex < 1.3; striae well impressed, distinctly crenulate in basal half, lateral striae well marked. Northeastern Queensland .... *windsorensis* Baehr

Tachys bolellus Darlington

Darlington 1962: 127; Moore et al. 1987: 138; Baehr 1989: 280, 283; 1991: 190.

Up to now this species was recorded from Barrington Tops and New England Tableland, both northeastern New South Wales. The new record mentioned below enlarges the range of this species into southeastern Queensland. As for many records of species of the *ectromoides*-group, the Queensland species were captured while on the wing. Unfortunately, such collecting circumstances do not yield any information about habits, in particular whether this species lives in leaf litter on the ground as Darlington (1962) believed, or on or under bark of tree trunks, like certain related species (see Baehr 1989, and below).

Fig. 1. *Tachys fortestriatus*, spec. nov. Habitus. Length: 2.8 mm.

New records: 1♂, SEQ: 28°11'S × 153°11'E Lower Coomera 3 Dec 94-9 Jan 1995 G. Monteith & H. Janetzki Intercept trap, 350 m (QMB); 1♂, same locality, 9 Jan 1995-6 Apr 1995 G. Monteith Intercept trap, 350m (QMB).

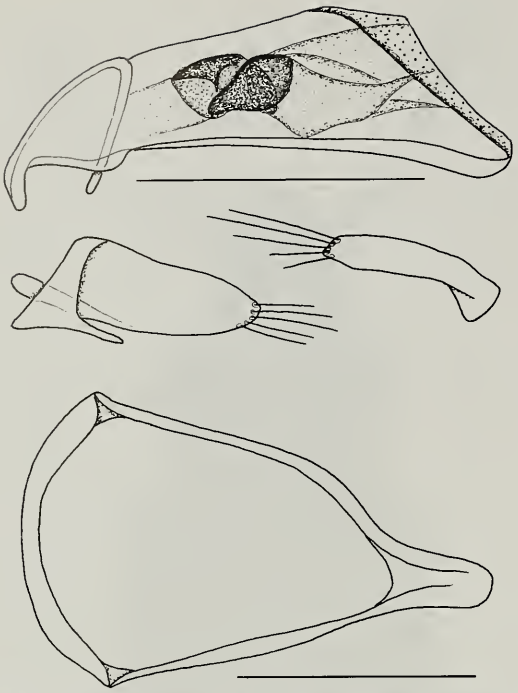

Fig. 2. *Tachys fortestriatus*, spec. nov. Male aedeagus, parameres and genital ring. Scales: 0.25 mm.

Tachys bolus Darlington

Darlington, 1962: 125; Moore et al. 1987: 138; Baehr 1989: 280; 1991: 190.

For the user of Moore's et al. (1987) catalogue of the Australian Carabidae it should be noted that *Tachys bolus* Darlington was erroneously included by Moore in the genus *Tasmanitachoides* Erwin. The biological reference for this species: "Erwin 1972", likewise is erroneous, because Erwin (1972), in his paper about the genus *Tasmanitachoides*, did not mention that species. Actually, *T. bolus* is next related to *T. bolellus* Darlington and likewise belongs in the *ectromoides*-group in the sense of Baehr (1989, 1991).

Tachys ectromoides Sloane

Sloane, 1896: 359; 1898: 477; 1921: 198, 204; Darlington 1962: 124; Moore et al. 1987: 144; Baehr 1989: 280, 282; 1991: 190.

A single specimen of this apparently rare eastern Australian species was found by me rather recently in central eastern Queensland. Darlington (1962) still suspected that the species might live either in litter or in rotten wood, because most (of the few recorded) specimens were captured at light and at that time virtually nothing was known about the habits of these beetles. The specimen recorded now, however, was collected while pyrethrum fogging trunks of river eucalypts along Dawson River near Taroom, central eastern Queensland. This observation corroborates the opinion of Baehr (1989: 283) who suspected that *T. ectromoides* might live rather on or under loose bark of living trees much alike its Western Australian counterpart *T. marri* Baehr.

New record: 1♂, QLD 01/48, Taroom, Dawson River, 20.-21.4.2001, M. Baehr (Working collection of author).

Remarks. Unfortunately, the systematic position of the *ectromoides*-group within the 'genus' *Tachys sensu lato* still is enigmatic, much alike the systematics of a number of other Australian tachyine species and species-groups of different shape and structure. Although R. Sciaky (Milano) and A. Vigna Taglianti (Roma) since some time are working towards a better understanding of the relationships of the many 'genera' and 'subgenera' that are still included in, or have been already excluded from the large 'genus' *Tachys*, their work has not been finished so far and, moreover, they have not yet included in their examination the several mentioned Australian *Tachys* of uncertain affinities. A final decision about the status of the *ectromoides*-group, therefore, is impossible so far.

All species of the *ectromoides*-group apparently are rare, or at least they have not been searched for at their characteristic habitats. Indeed, most records, apart from those discovered by the author, have been done either at light or in intercept traps which implies that these records are from specimens on the wing. Due to their apparent rarity, males are so far unknown from some species. Therefore, comparisons of the male aedeagi are not yet possible and thus, the relationships within the *ectromoides*-group remain unclear.

Although the depressed and rather wide body shape of the new species and of some of its relatives (in particular *T. ectromoides* Sloane, T. *marri* Baehr, *T. windsorensis* Baehr) strongly reminds shape and structure of species of the bark inhabiting genus *Tachyta* Kirby, this similarity with high probability is caused rather by similar subcorticolous habits than by true relationships.

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