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Schineriella schineri gen. nov., comb. nov., placement of
Tanypus schineri Strobl 1880

(Diptera: Chironomidae)

By D. A. Murray and E. J. Fittkau

Abstract

The new genus *Schineriella* is erected for the species *Tanypus schineri* Strobl 1880. Diagnoses for the adult male and pupa are given. The type species is, by monotypy, *Schineriella schineri* (Strobl).

Introduction

The species *Tanypus schineri* was recognised by STROBL (1880) from material collected and previously identified by SCHINER (1862) as *Tanypus binotatus* (Wiedemann). The adult male is readily recognised by its distinctive abdominal pigmentation pattern and was included by EDWARDS (1929) and GOETGHEBUER (1936) in keys to the British and Palearctic chironomid fauna as *Pentaneura schineri* and *Ablabesmyia schineri* respectively.

In the revision of European Tanypodinae Fittkau (1962) indicated that the adult male of this species was sufficiently distinct to warrant its assignment to a new genus within the Pentaneurini. However, he refrained from erecting a new genus at that time in the absence of juvenile material and referred to the taxon as Pentaneurini gen ? Schineri. In more recent years pupae and pupal exuviae of this species have been obtained in East Holstein and Southern Bavaria, Germany (leg. Reiss). FITTKAU and MURRAY (1986) included a diagnosis for the pupal stage (as Tanypodinae Genus II) in the recently published keys and diagnoses to chironomid pupae of the Holarctic Region (WIEDERHOLM, 1986).

The new genus *Schineriella* is now erected for this species and generic diagnoses are given for the adult male and pupa.

Schineriella gen. nov.

Type and only included species: *Schineriella schineri* (Strobl 1880) by present designation.

Generic diagnosis

Imago ♂:

Small to medium sized species, winglength 2.5–3.0 mm, terminal antennal flagellomere noticeably narrower and distinctly set off from penultimate flagellomere. Scutal tubercle absent. Wings unmarked, R_{2+3} absent, costa not produced, anal lobe not developed. Anterior tarsus with beard, tibial spurs with main tooth and 3–4 side teeth. Tibial comb of 6–7 setae on hind leg. Volsella absent, transverse sternapodeme pointed anteriorly.

Pupa:

Thoracic horn somewhat swollen, "sausage" shaped; horn sac fills most of the lumen; plastron plate laterally displaced, circular and only $0.1 \times$ horn length. Shagreen spines narrow, sparse. Posterior border of tergite VIII projects backwards over anal lobe. Segment VII with only 3 LS setae, all in the distal $1/2$. Anal macrosetae with adhesive sheaths.

Larva:

The larva is as yet unknown

Generic description

Imago ♂:

Small to medium sized species, wings 2.5–3.0 mm long. Body pigmentation cuticular; thorax brownish, vittae and median anepisternum somewhat darker; legs pale yellow; abdomen variously pigmented.

Head: Pale; eyes with dorsal, parallel-sided, extension, minimum width of eye bridge with 4 ocelli; temporal setae uniserial, inner verticals beginning level with apex of coronal triangle and merging imperceptibly with outer verticals and post orbitals. Palps almost as long as the antennae and $1.5 \times$ as long as head width; palpomeres 3 and 4 equal in length and almost $2 \times$ as long as palpomere 2. Clypeus long, narrow, slightly more than $2 \times$ as long as broad. Posterior tentorial pit close to tip of tentorium. Antenna with 14 flagellomeres; terminal flagellomere noticeably narrower than penultimate flagellomere, $4\text{--}5 \times$ as long as broad and more or less cylindrical. AR about 2.0.

Thorax: Anteprenotum reduced, scutal tubercle absent. Dorsocentral setae more or less uniserial between the vittae. Acrostichals biserial, almost reaching to the pre-scutellar field; scutellar setae biserial. Scutal tubercle absent, 3–4 flagelliform setae present in mid scutal region. Postnotum round posteriorly.

Wing: Membrane with macrotrichia, unpigmented. MCu beyond FCu, RM close to MCu, R_{2+3} absent, R_{4+5} close to R1 and costa. Costa not produced beyond end of R_{4+5} and ending clearly before tip of M_{1+2} midway between M_{1+2} and M_{3+4} . Anal lobe not developed.

Legs: Anterior tarsus with distinct beard, LR 0.91; tibial spur sinuous, with main tooth, reaching to $0.5 \times$ spur length, and 3–4 side teeth. Outer spur small on mid and hind legs, hardly reaching $0.5 \times$ inner spur length. Tibial comb, of 6–7 setae present on hind leg. Pulvilli absent, empodium approximately as long as the terminally spatulate claws.

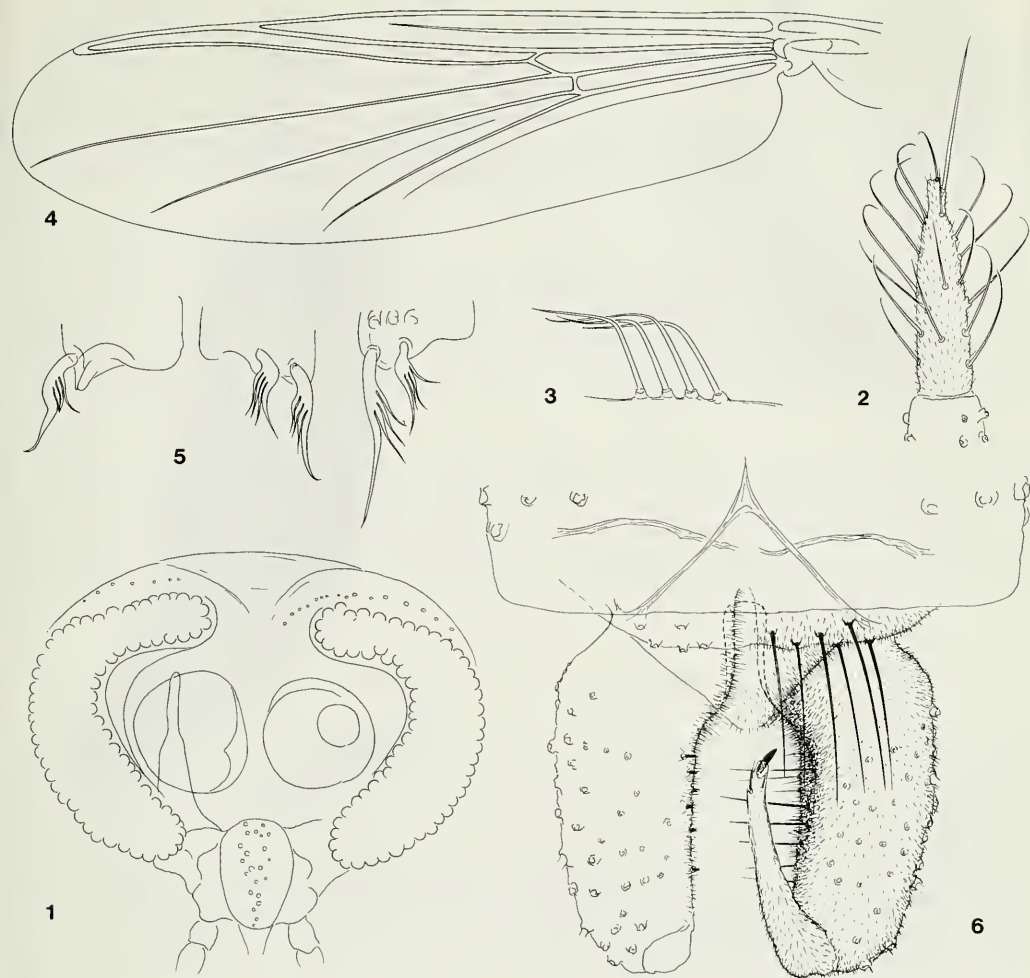
Hypopygium: Anal point large, triangular and broadly rounded apically. Gonocoxite more or less cylindrical, slightly swollen basally; dorsal and median surfaces setose on the distal $2/3$, longest seta equal to, or slightly longer than, the gonocoxite width; entire surface with a more or less uniform covering of macrotrichia which are more dense in the anterior median field. Gonostylus slender, swollen basally and distally narrow, reaching $2/3\text{--}3/4$ gonocoxite length. Terminal spur expanded medially, apically curved and pointed. Transverse sternapodeme distinctly pointed anteriorly.

Pupa:

Medium sized species, exuviae 6.0 mm in length and light, golden brown in colour.

Cephalothorax: Thoracic horn somewhat swollen, $3.0 \times$ as long as broad, slightly arched and more or less "sausage" shaped. External membrane with solitary spines. Horn sac fills most of the horn lumen, narrow basally, gradually expanded and connected to a small plastron plate by a narrow, sinuous, neck. Plastron plate slightly laterally displaced, set on a small tubercle, more or less circular in outline and only $0.1 \times$ horn length. Thoracic comb of 10–12 elongate, distally round or pointed, tubercles. Basal lobe distinct, conical and round apically. Thoracic membrane otherwise smooth. Thoracic setae filamentous and distally round, Dc_1 $5.0 \times$ as long as Dc_2 , Sa slightly longer than Dc_1 .

Abdomen: Elongate, pigmented scar on tergite I. Shagreen spines narrow, solitary and relatively sparse. Posterior border of tergite VIII projects backwards over the anal lobe. Abdominal setation; D, V and L setae filamentous, distally round, D3 unusually long. Segment VII with only 3 LS setae,



Figs. 1.–6. *Schineriella schineri* gen. nov., comb. nov., adult male: 1. head; 2. terminal antennal flagellomere; 3. flagelliform setae on scutum; 4. wing; 5. tibial spurs; 6. hypopygium.

0.75× segment length, all in the distal 1/2. Segment VIII with 5 LS setae, 1.5× segment length. Anal lobe 1.5× as long as broad. Points evenly tapered. Outer border toothed in the distal 1/2, inner border smooth. Anal macrosetae, with adhesive sheaths, arising from the middle 1/3 of the outer border.

Larva:

The larva is so far unknown.

Schineriella schineri (Strobl) comb. nov.

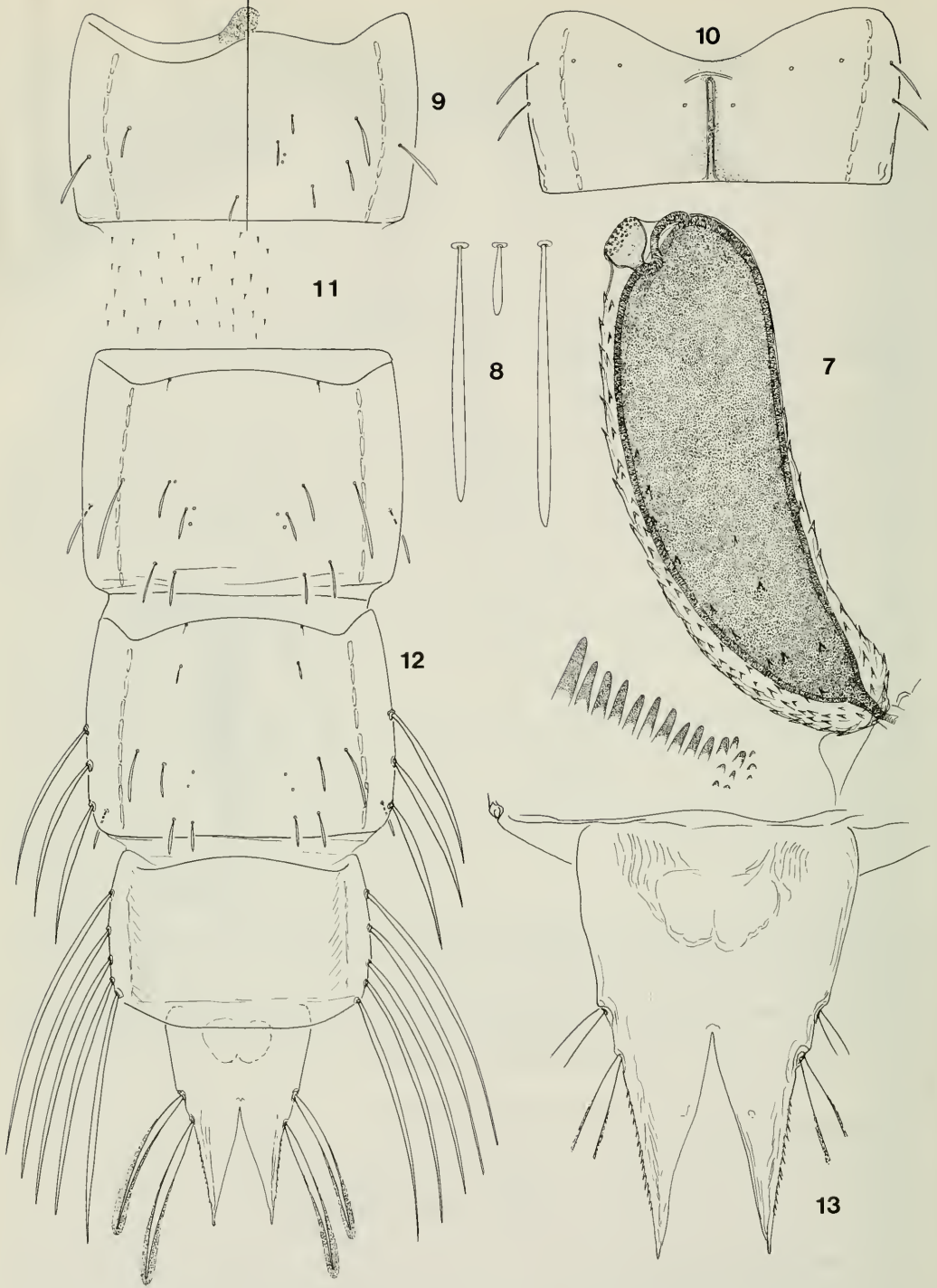
Tanypus schineri Strobl 1880 p. 55

Pentaneura schineri Edwards 1929 p. 294

Ablabesmyia schineri Goetghebuer 1936 p. 45

Pentaneurini gen ? *schineri* Fittkau 1962 p. 275

Tanypodinae "Genus II" Fittkau & Murray, 1986 p. 64



Figs. 7.–13. *Schineriella schineri* gen. nov., comb. nov., pupa: 7. thoracic horn, basal lobe and thoracic comb; 8. thoracic setae; 9. tergite I; 10. segment IV; 11. shagreen; 12. segments VI–VIII and anal lobe; 13. anal lobe and female genital sacs.

Imago ♂ (Figs. 1–6)

Additional to generic diagnosis: Temporal setae 18, including inner and outer verticals and post-orbitals. Clypeus with 21 setae. Lateral anteprenotal setae 4–5, humerals 3–4, dorsocentrals 20–22, acrostichals 36, prealars 7–8, supra alars 1. Abdominal tergites I–III and VI pale yellow, IV and V mostly dark brown with a pale posterior band, VII and VIII entirely dark brown. Tergite IX with a posterior transverse row of 12–15 backwardly directed setae.

Pupa:

See generic diagnosis and Figs. 7–13

Material studied: Imagines, 1 ♂, Murnauer Moos, Oberbayern, Germany 11/7/77; 1 ♂ same locality 21/6/78, both leg. Reiss; 1 ♂, Hart Saltacher See, Oberbayern, 16/6/80, leg. Plassmann; 1 ♂ Province of Adiyaman, Turkey, 21/6/85, leg. Schacht; 1 ♂ Witherslack, Westmorland, Great Britain, leg. Edwards, VI/1929; 1 ♂ Pe, Krebssee, Murnauer Moos, Oberbayern, 11/7/77, leg. Reiss; 1 ♀ Im and Pe (reared), Unter Ausgrabensee, Plön, Holstein, Germany, 20/5/74 leg. Reiss.

Distribution and Ecology

Records of *S. schineri* exist from Austria (STROBL 1880), Belgium (GOETGEHBUER 1936), Great Britain (EDWARDS 1929) and more recently from Holstein and Bavaria, Germany (leg. Reiss) and the Province of Adiyaman, Turkey (leg. Schacht). Although the larva has yet to be found it is likely to occur in sediments of small, nutrient rich ponds and small lakes containing much decaying leaf litter. Reiss (pers. comm.) has reared a pupa from such sediments taken from a depth of 1.5 m.

Systematic position of *Schineriella*

The new genus clearly belongs to the tribe Pentaneurini within the Tanypodinae. FITTKAU (1962) tentatively indicated a relationship between Pentaneurini gen ? *schineri* and *Krenopelopia* on the basis of similarity in structure of the tibial spurs and male hypopygium. However, adult male imagines of the new genus are clearly separable from *Krenopelopia* by the presence in the latter of a well developed wing vein R_{2+3} , which clearly divides into its constituent veins R_2 and R_3 . Moreover, the pupal stages of *Krenopelopia* and *Schineriella* are quite different, especially with regard to the thoracic horn which is trumpet shaped and with a well developed plastron in *Krenopelopia* in contrast to the bulbous horn and reduced plastron in *Schineriella* (see also FITTKAU and MURRAY 1986 under Tanypodinae "Genus II").

Within the tribe Pentaneurini wing vein R_{2+3} is absent or reduced, together with *Schineriella*, in the genera *Labrundinia* Fittkau, *Monopelopia* Fittkau and *Nilotanypus* Fittkau. However, adults of the latter genera have either only a single tibial spur or no spur (*Labrundinia*) on the mid and hind legs in contrast to the two tibial spurs present on the mid and hind legs in *Schineriella*. The pupa of *Schineriella* most closely resembles *Labrundinia* in the form of the thoracic horn but may be readily separated by the backwardly projecting corners of tergite VIII and the presence of only 3 LS setae on tergite VII in *Schineriella*. The overall similarity is also apparent in the adult stage but apart from the tibial spurs further differences are evident in the terminal antennal flagellomere which is only weakly set off from the penultimate flagellomere in *Labrundinia* in contrast to the well differentiated and distinctly set off, narrower, terminal flagellomere in *Schineriella*. Additionally, the abdominal pigmentation is cuticular in *Schineriella* while *Labrundinia* has subcuticular pigmentation.

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