

## **A new European species closely related to *Trichocera* (*Saltrichocera*) *saltator* (HARRIS), 1776 (Diptera, Trichoceridae)**

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Abstract. A new European species, *Trichocera* (*Saltrichocera*) *brevis*, is described. The new species differs from *T. (S.) saltator* (HARRIS) by short ovipositor and shape of flagellomeres. Its identity with *T. fuscata* (MEIGEN) is rejected.

Key words: *Trichocera*, *Saltrichocera*, new species, Europe.

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### INTRODUCTION

The subgenus *Saltrichocera* (sensu KRZEMIŃSKA 2002) comprises very similar species, which usually differ more by females than males. Although this seems to be a rule in this subgenus, since the XIX century all holotypes of Trichoceridae species were described on males, following the mode applied to early described species (*T. lutea* (BECHER) 1886, *T. hiemalis* (DE GEER), 1776) which are very characteristic by their male genitalia. This procedure had caused confusion and resulted in synonymies of species obviously differing by females but having very similar males. Such, for example, was the case of *T. rufulenta* EDWARDS, 1938, described only as a variety of *T. saltator* (HARRIS), 1776 and only recently acknowledged by STARÝ (1996) as a valid species.

In European collections I previously observed another “species” or morphotype very close to *T. saltator* by male genitalia and inner female genitalia, but differing in having a short ovipositor. This ovipositor was however in some samples so variable in size and shape that delimiting a new species was not easy. Recently I have distinguished this species in a larger sample comprising also males and females of *T. saltator*. The females of a new species, although of variable ovipositor’s shape, were obviously very closely related by the shape of their slightly aberrant discal cell. They possibly came from one batch. This character of wing venation, as well as those of tarsal claws and antennae, helped also in separating the males of a new species from males of *T. saltator*. Since more differences are found in the female, the holotype is a female.

The identity with *T. fuscata* (MEIGEN), 1818 is rejected.

## MATERIAL AND METHODS

All drawings are made by tracing the photographs of relevant structures. Ovipositors were measured ventrally from tip to most extreme point of the base.

Abbreviations:

ISEZ – Institute of Systematics and Evolution of Animals, Kraków.

Collectors: EK – E. KRZEMIŃSKA; WK – W. KRZEMIŃSKI

## SYSTEMATICS

*Trichocera (Saltrichocera) brevis*, n. sp.

Figs 1-5, 7-10

**D i f f e r e n t i a l d i a g n o s i s.** A species very similar to *T. (S.) saltator* in size, black body color, male genitalia and inner female genitalia, differs in short ovipositor, not exceeding 1.3 times the genital segment (in *T. saltator*: 1.3-1.6) and antennae. Flagellomeres 1-4 in males and 1-6 or more in females are short, oval, with scarce, short pubescence, with 1-2 erect bristles (in *T. saltator* only first 1-3 are oval; the subsequent ones become elongated and cylindrical; pubescence is dense, soft, and bristles not erect). Tarsal claws usually black or blackening toward tip.

**M a t e r i a l.** Holotype: 1 ♀ (preserved in ethanol), Poland, Wysok n. Kętrzyn, 4. xi. 2001. (EK, WK). Paratypes: 5 ♀♀, 4 ♂♂, same date and locality; all in ethanol. Additional material: Poland: Tatra Mts, Dolina Małej Łąki (650 m), 20.x. 1998 – 3 ♀♀ (EK); Pieniny Mts, 25.x. 1998: Sromowce Niżne – Kały (470 m), 4 ♀♀, 3 ♂♂; Wąwóz Sobczański – 4 ♀♀; Hala Majerz (650 m) – 14 ♂♂, 5 ♀♀; Polana Szopka (650 m) – 1 ♂, 4 ♀♀ (A., A., M. PALACZYK, EK); Krynica Górská, 16.i. 1999 – 2 ♀♀; 17.i. 1999, +2°C – 2 ♀♀ (on snow, B. SOSZYŃSKI); Beskidy Mts: Rdzawka, at highway, 5.xi.1989 – 8 ♂♂, 7 ♀♀ (WK); Nida river basin, 3.xi. 1992: Wola Zagojska – 4 ♀♀, 1 ♂; Poganka – 2 ♀♀, 1 ♂; Pelczyska – 9 ♂♂ (E. SKALSKA, EK); Ojców National Park: 13.ix. 1987 – 6 ♂♂, 3 ♀♀ (A. PALACZYK). Sweden, 17-19.x. 1999 – 7 ♂♂, 1 ♀ (EK). Hungary: Budapest, Csucshegy, 31.x.1965. – 1 ♀ (L. PAPP); Bakonybél: Öreg-Séd, 10.ix.1974. – 2 ♀♀ (TÓTH S.); Fót, rét, 28.x.1960 – 2 ♀♀ (MIHALYI); Fót, Somlyó-h.: 28.x.1960. – 10 ♀♀, 6 ♂♂ (MIHALYI); Fót, rét, 28.x.1960 – 7 ♀♀, 5 ♂♂ (MIHALYI); Fenyőfő: ősfenyves, 29.x.1975. – 2 ♀♀, 8 ♂♂ (TÓTH S.); Szigetköz: Asvanyaró fénycsapda 30-8.x.1989 – 11 ♀♀, 6 ♂♂; Gerla: fénycsapda, 12.xi.1963 – 1 ♀ (L. PAPP).

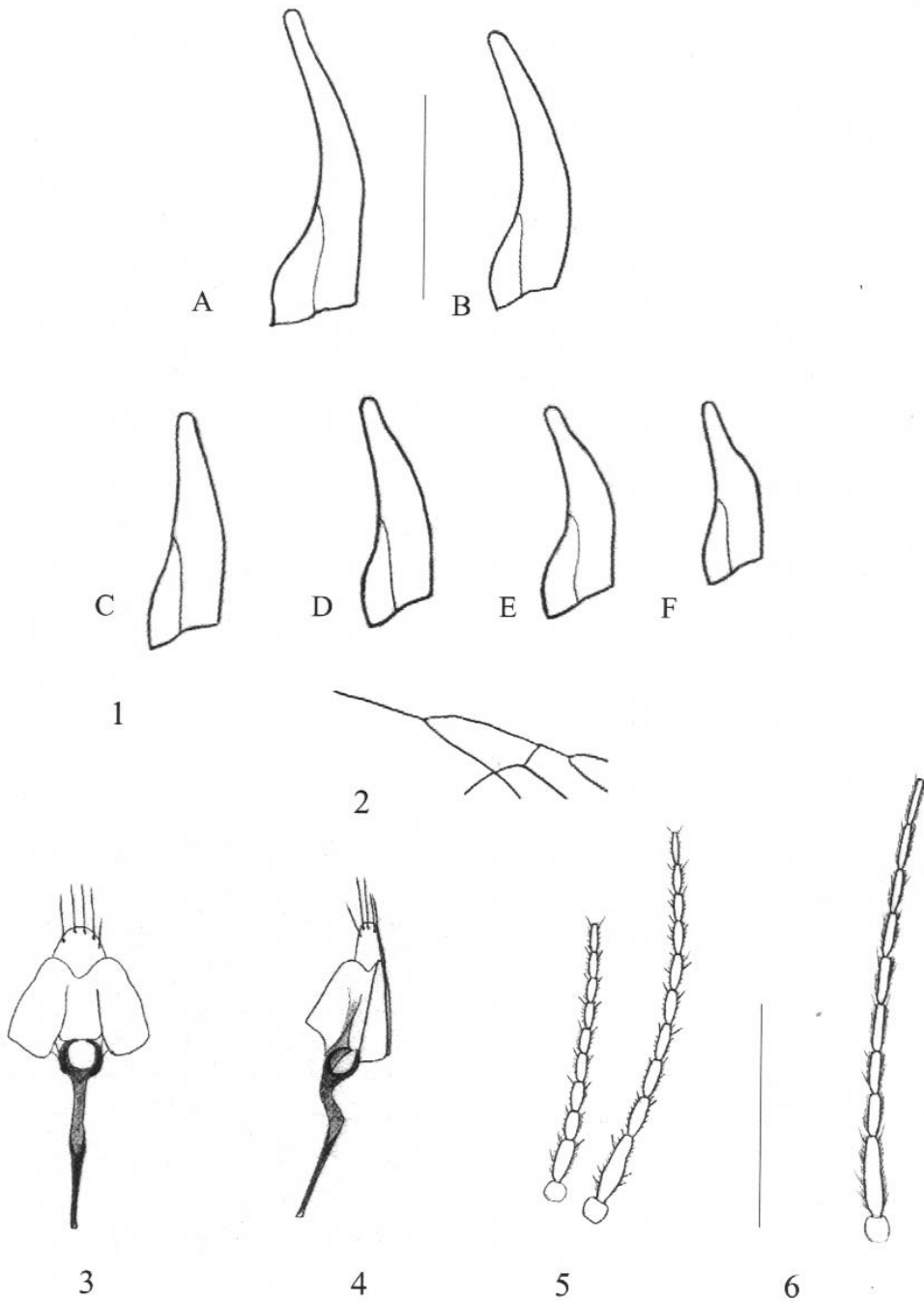
**Comparative material of *Trichocera saltator*:** Poland: Wysok n. Kętrzyn, 4. xi. 2001. – 10 ♀♀, 9 ♂♂ (EK, WK); Ojców National Park Wąwóz Skałbania, 18.xi. 1992 – 7 ♂♂, 4 ♀♀ (A. PALACZYK); 25.ix. 1989 – 5 ♂♂, 4 ♀♀ (WK). Sweden: Uppsala, Botanical garden, 17-19.x. 1999 – 10 ♂♂, 2 ♀♀ (EK). Hungary: material is listed in KRZEMIŃSKA (2001).

**E t y m o l o g y.** *Brevis* for short in Latin, refers to short ovipositor in a new species.

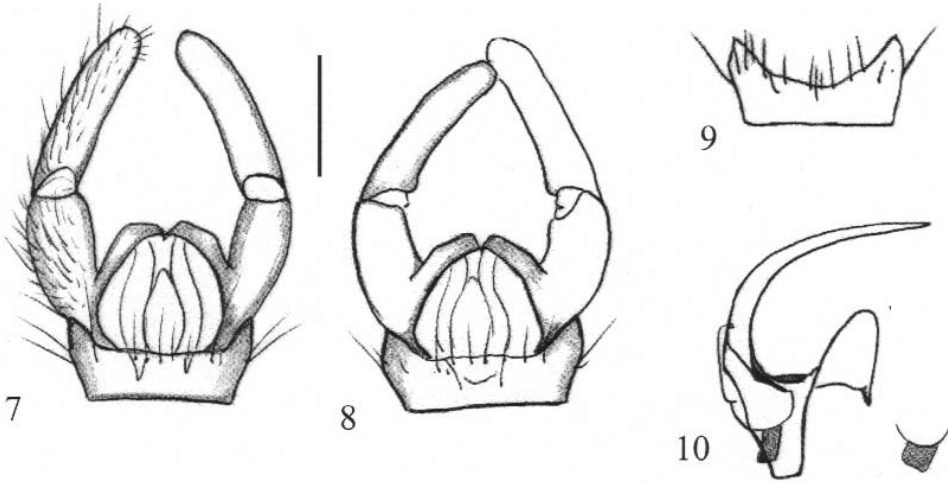
**D e s c r i p t i o n.** Body size 4.5-8 mm, wing length 5-9 mm. Color black, wing veins blackened, wing membrane clear (not dark infuscated as in *T. saltator*). Antennae short, in females sometimes even not reaching beyond mid dorsum; flagellomeres 1-4 in males and 1-6 (or more) in females are short, plump, oval, not getting longer, covered by scarce, short pubescence, each with 1-2 additional erect bristles distally (Fig. 5; for comparison antenna of *T. saltator*, Fig. 6). Wings: Sc bare over its proximal 2/3, as in *T. saltator*. R2+3+4 shorter to longer than R3+4. The d cell (Fig. 2) with aberrantly oblique cross-vein m-m is characteristic only to a sample of population from the locus typicus and cannot be used as a diagnostic character of the species.

Pleura bare. Legs: tarsal claws in males and females usually black or blackening toward tip, some specimens with entirely light claws (Fig. 11).

Male genitalia (Figs 7-10) usually cannot be discerned from those of *T. saltator*. Gonostyle parallel-sided to the tip which is round; a small swelling at inner mesal face basally (Fig. 8) is ob-



Figs 1-6. Fig. 1. Ovipositors of *Trichocera saltator* (A, B) and *Trichocera brevis*, n. sp. (C-F). Scale bar: 0.5 mm. Figs 2-4. *Trichocera brevis*, n. sp.: Fig. 2: discal cell prevailing in population of females from locus typicus. Figs 3-4: genital plate ventrally (3) and ventrolaterally (4). Figs 5, 6. Female antennae of *T. brevis*, n. sp. (5) and of *T. saltator* (6). Scale bar: 0.5 mm.



Figs 7-10. Male genitalia of *Trichocera brevis*, n. sp. Figs 7, 8: variations in gonostyles and gonocoxal bridge; Fig. 9: variation in sternite IX; Fig. 10: aedeagus and variation in aedeagal apodeme. Scale bar: 0.2mm.

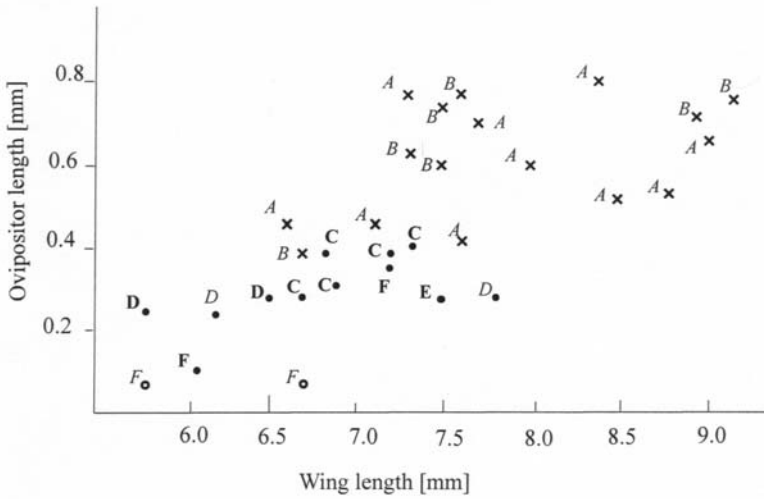


Fig. 11. Distribution of some characters in females from locus typicus of *Trichocera saltator* (crosses) and *Trichocera brevis* n. sp (circles): presence of black claws marked by filled circles; letters refer to shape of ovipositor shown in Fig. 1; letters in bold mark presence of aberrant discal cell (Fig. 2).

served in some specimens, making them similar to *T. obtusa* STARÝ 1966; this swelling however promptly vanishes during preparation in KOH. The gonocoxal bridge rounded. Distal margin of sternite IX usually straight, but sometimes with shallow depression (Fig. 9). Aedeagal complex (Fig. 10) with parameres long, basal apodemes rectangular and massive aedeagal apodemes (two variations shown in Fig. 10).

Female: (Figs 1, 3, 4) ovipositor usually as long as genital segment (in any case not longer than 1.3 times), narrowing markedly not before 2/3 of its length. Tip rounded; just under tip a slight depression in dorsal margin. Shape variable (Fig 1 C-F), most frequently that on Fig. 1E is observed,

and this is the shape of holotype's ovipositor. Genital plates (Figs 3, 4) as in *T. saltator*, with both lateral portions of the fork curved to inside to form an almost complete or complete, massive ring. Supragenital plate with 4-6 bristles, broad, reaching base of genital plate and tightly adhering to it (Fig. 4).

## DISCUSSION

*T. brevis* and *T. saltator* probably represent so called sibling species, i.e., two species that had split apart not long time ago, so that morphological differences between them are but only poorly developed and hardly distinguished by us. The extend of variation in length and shape of ovipositor in *T. brevis* (Fig. 1, C-F) is exceptionally great in the locus typicus and in samples from the Nida basin. In other localities the type E prevails.

Scatterplot (Fig. 11) shows distribution of some characters examined in females of *T. brevis* and *T. saltator* from the locus typicus (one sample). Black claws were present only in *T. brevis*, in all but two specimens. Also discal cell with oblique m-m (Fig. 2) was present only in females of this species, and again, few of them did not share this character. Small deviations in wing venation shared by several specimens caught in one sample suggest their common origin from one batch. Since females with aberrant d cells exhibit all types of ovipositor (C-F), this range of ovipositor variation is considered intraspecific. This character of d cell, and the presence of black claws, helped me also in separating the males of *T. brevis*.

The description of a new species as close to *T. saltator* as *T. brevis* n. sp. poses a question of its identity with *T. fuscata* (MEIGEN), 1818, a species synonymized with *T. saltator* by EDWARDS (1938). Its type is lost (DAHL and ALEXANDER 1976), but remarks of EDWARDS (1938) remain no doubts that ovipositor of *T. fuscata* was very long; so long that this species was temporarily even regarded by its author a synonym of *T. major* EDWARDS, 1921. In the collection of British Museum of Natural History I saw a female labelled "*T. fuscata*", maybe by EDWARDS himself. The specimen has a slender ovipositor, ca. 1.5 times longer than genital segment and very much like that of *T. saltator*. The only possible difference is in a more convex setulose area. By no means can it be identical with *T. brevis* n. sp.

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