

**A description of *Micropsectra rilensis* sp. n. (Diptera: Chironomidae)
with a review of Bulgarian Tanytarsini**

WOJCIECH GILKA

Department of Invertebrate Zoology, University of Gdańsk,
Al. Marszałka Piłsudskiego 46, 81-378 Gdynia, Poland

ABSTRACT. *Micropsectra rilensis* sp. n. is described from the Rila Mts. and compared with *M. junci* (MEIGEN) and *M. recurvata* GOETGHEBUER. A review including 13 species recorded for the first time from Bulgaria is presented.

KEY WORDS: Diptera, Chironomidae, Tanytarsini, new species, faunistics, Bulgaria.

INTRODUCTION

The total number of valid species of the genus *Micropsectra* KIEFFER was primarily estimated to about 40 (REISS 1969). Further reports reveal that at least 80 species inhabit Holarctic (PINDER & REISS 1983) and several remain not described so far (REISS 1995). This heteromorphic genus was divided into few species-groups on the basis of adult characters. The *attenuata*, *notescens*, *lacustris* and *recurvata* groups were treated by REISS (1969) and SÄWEDAL (1975, 1976, 1981). The greatest group - *atrofasciata-bidentata* (= *atrofasciata* or *bidentata*) is still not revised. Only three groups (*attenuata*, *notescens* and *atrofasciata-bidentata*) are presently accepted by most authors but the group membership of some species is still unclear (e.g. REISS 1995). Comprehensive studies proved that some groups are closely related (e.g. SÄWEDAL 1981). PINDER & REISS (1986) claim that these species-groups are not clearly distinct as immature stages. The described below male of *M. rilensis* has features which allow to include it to the *recurvata*-group sensu SÄWEDAL (1981). However, some characters show its close relation to *M. junci* (MEIGEN) - a member of the *notescens* group.

A review of Bulgarian Tanytarsini is based on papers by JANEVA et al. (1997), KOVACHEV & UZUNOV (1986), MICHAILOVA (1982, 1989), REISS (1984), RUSSEV (1994),

STOICHEV (1994, 2000), STOICHEV & CHERNEV (2001), UZUNOV & KOVACHEV (1987), and specimens presently examined. Morphological terminology follows SAETHER (1980) and SÄWEDAL (1982). The material studied is deposited in the Department of Invertebrate Zoology, University of Gdańsk.

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DESCRIPTION

Micropsectra rilensis sp. n.

Figs. 1A-D; 2B, E

Diagnosis

Male. AR = 0.70-0.81; anal point of hypopygium long and stout, tip blunt and rounded (Figs. 1B, D); superior volsella finger-shaped; digitus extending over the superior volsella, distorted in median part (Figs. 1B, 2E); median volsella long, S-shaped, with spoon-shaped lamellar setae (Fig. 2B). The new species is easy to distinguish among known *Micropsectra* by unique shape of anal point and low AR. Female unknown.

Description

Male (n = 5).

Wing length (arculus-tip): 2.10-2.35 mm. Colour (in alcohol): tentorium light transparent; pedicellum, scutum, postnotum, sternum and legs brown; scutellum and abdomen yellowish to light brown with green undertint; haltera pale. Head: frontal tubercles short (5-8 μ m) (Fig. 1A); AR = 0.70-0.81; length of palpomeres II-V (μ m): 55-60: 140-165: 125-150: 240-270. Thorax: Ac = 13-18, Dc = 9-13, Pa = 3-4, Scts = 10-12; acrostichals reaching anteprepronotum, scutellars in single regular row. Wing: membrane densely covered with macrotrichia except cells between C and R₄₊₅ and between Cu and neighbouring false veins; all veins except Sc, R₂₊₃, M and short proximal part of Cu with macrotrichia (M sometimes with few macrotrichia in distal half); C not projecting beyond R₄₊₅, R₂₊₃ ended half way between R₁ and R₄₊₅, FCu distinctly proximal to radial fork (FR) and slightly distal to RM-M, An ended under FCu, false vein under distal half of M₁₊₂ and false veins along Cu M₃₊₄ and Cu₁ good visible. Legs: fore tibia with short spur (8-15 μ m); mid and hind legs without spurs, combs fused, pulvilli fine; Ta₁ of P₂ with 1-2 sensilla chaetica distally; fore femur slightly distorted in 1/3 proximal part. For length of legs segments, leg and bristle ratios see table.

Hypopygium (Fig. 1B-D; 2B, E): gonostylus transversely cut distally; lateral teeth small; anal tergite with 4-6 median setae; anal tergal bands widely separated, V-type, internal structures between bands good visible (punctuation); anal point long and wide, its

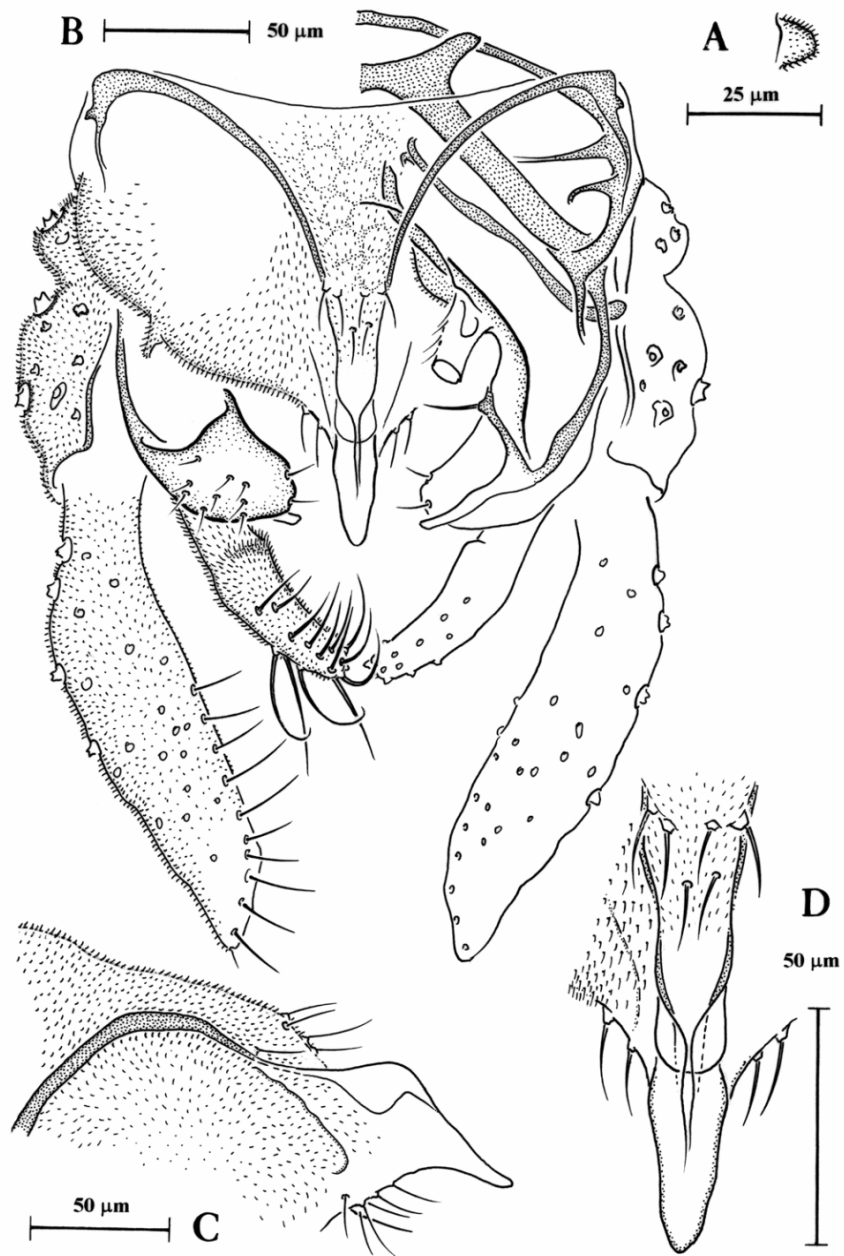


Fig. 1. *Micropsectra rilensis* sp. n., male. A - frontal tubercle, B - hypopygium, C - anal point in lateral view, D - anal point in top view.

margins irregular in top view, tip blunt and rounded, anal point crests wide and deeply cut into the anal point, 2-3 setae on each side of the anal point; superior volsella finger-shape, margins parallel at base, tip rounded and directed medially, 7-10 setae in dorsal position and 2 setae on apex; digitus long, extending over the superior volsella, distorted in median part, tip pointed; inferior volsella long and slender, tapering to tip, slightly curved and directed caudo-medially with slight transverse ridge in median part, armed with long setae on its 1/3 distal part (numerous curved setae directed orally and 2-3 straight setae directed caudally); median volsella long (95-125 μm), S-shaped, with spoon-shaped lamellar setae directed dorso-medially.

Table. Length of leg segments (μm), leg (LR) and bristle (BR) ratios of *Micropsectra rilensis* sp. n.

	Fe	Ti	Ta ₁	Ta ₂	Ta ₃	Ta ₄	Ta ₅	LR	BR
P ₁	940-1095	675-785	1085-1230	540-615	415-475	310-355	155-185	1.54-1.60	4-4.5
P ₂	940-1090	800-940	475-525	270-310	200-230	140-170	110-140	0.55-0.60	5.5-7.5
P ₃	1075-1295	1015-1200	705-800	415-495	325-385	215-245	140-155	0.66-0.70	5.5-6.5

Type material

Holotype, male: dissected and slide-mounted in Canada balsam, labelled: *Micropsectra rilensis* sp. n., holotypus, design. W. Gilka 2001, leg. R. Szadziwski, Bulgaria - Skakavica waterfall nr. Sapareva Banja, 20.07.1976, netting. Paratypes: four males prepared and labelled as above. The type series deposited in Dept. of Invertebr. Zool., University of Gdańsk, Poland.

Ecology

M. rilensis was noted at 1580 m a.s.l. It was collected at the bank of a mountain pond reinforced by the waterfall and was taken together with other species of the *Micropsectra*, *Parapsectra* REISS and *Neozavrelia* GOETGHEBUER which are known as cold stenotermous polyoxybionts (see faunistic review). Despite the fact that the larval habitat of the new species is unknown it can be suggested that it has similar habitat requirements as chironomids mentioned above.

Discussion

The new species has intermediate characters found in *M. junci* (*notescens* group) and *M. recurvata* [*recurvata* group sensu SÄWEDAL (1981)]. Differences between the three species compared should be interpreted as follow (in sequence: from A to C and from D to F): increasing of the length and curvation degree of inferior and median volsellae; change of the orientation of spoon-shaped setae on median volsella [from dorsal or lateral to median position]; increasing of the length of digitus; decreasing of the bend degree of digitus; erecting of superior volsella. Characters analysed show close relations between compared species and the intermediate position of *M. rilensis*. It indicates that including the *recurvata* group to the *notescens* group and the concept of three large groups within the

genus *Micropsectra* is correct (e.g. REISS 1995).

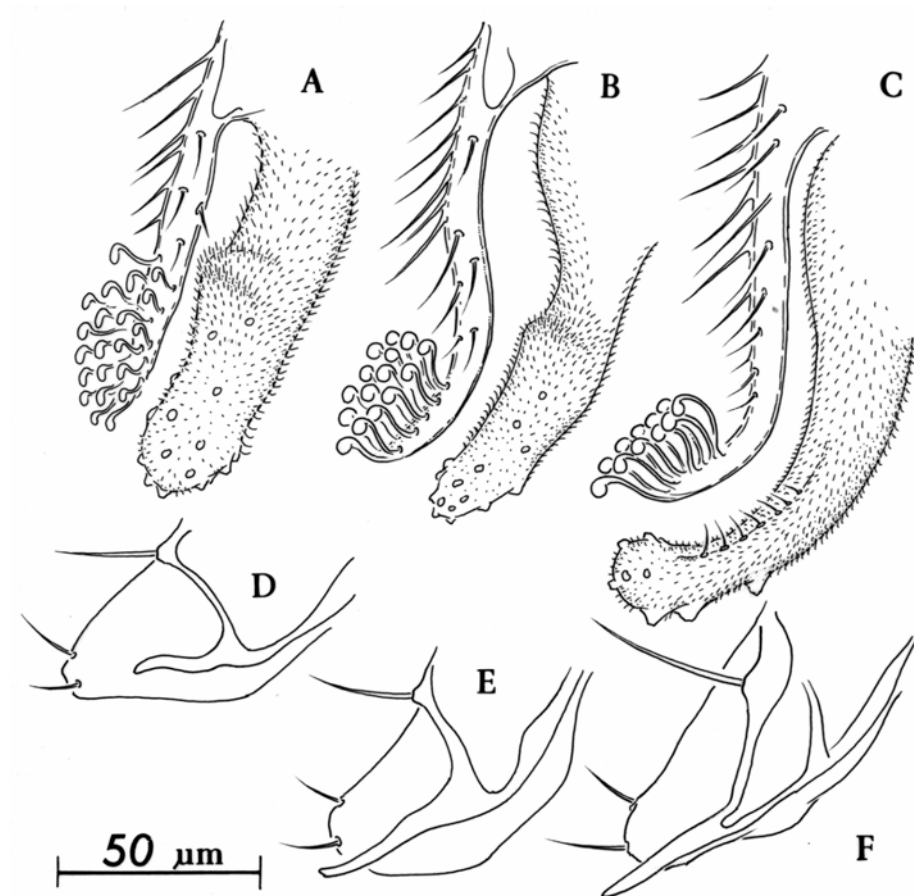


Fig. 2. A, D - *Micropsectra junci* (MEIGEN); B, E - *M. rilensis* sp. n.; C, F - *M. recurvata* GOETGHEBUER. A-C - median and inferior volsella, D-F - superior volsella and digitus.

FAUNISTIC REVIEW

Specimens examined were collected by Prof. Ryszard Szadziewski (R.Sz.) and Doc. dr hab. Wiesław Krzemiński (W.K.) during expeditions in 1976, 1982 and 1984. Adults were taken with an entomological net.

Sampling sites (Fig. 3). 1 - Bačkovno nr. Asenovgrad by Čepelarska Reka river, Rodopi

Mts.; 2 - Kalofer nr. Karlovo by Tundza river, Rosova Dolina; 3 - Lakatnik nr. Sofia by Iskâr river; 4 - Panačarevo nr. Sofia by Iskâr river; 5 - Skakavica waterfall, Rila Mts.; 6 - a little stream on hill-side in Rila Mts. (mountain meadows zone above 2000 m a.s.l., snow-bound in July); 7 - „Seven Lakes of Rila”; 8 - Rilski Manastir; 9 - Popski Preslop nr. Goce Delčev by Bistrica river, Pirin Mts.; 10 - Sandanski by Struma and Sandanska Bistrica rivers, Pirin Mts.

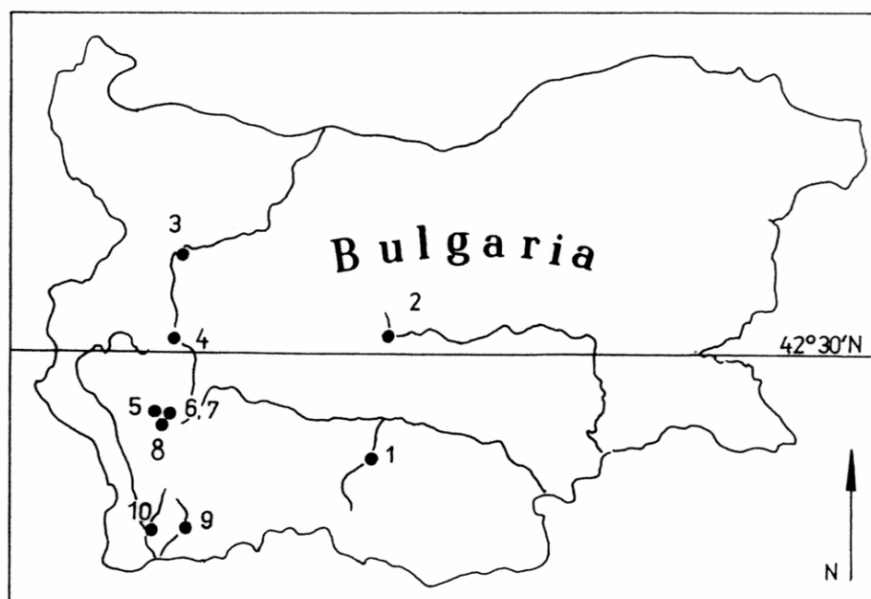


Fig. 3. Sampling sites.

Material examined (s.-site). *Micropsectra apposita* (WALKER): 20.07.1976., s.5, R.Sz., 1 ♂. 20.07.1976., s.7, R.Sz., ♂♂, ♀♀ in large sample of *M. lindrothi*. *Micropsectra atrofasciata* (KIEFFER): 20.06.1982., s.1, W.K., 2 ♂♂. 18.06.1982., s.3, W.K., 6 ♂♂. 07.06.1984., s.4, W.K., 2 ♂♂. 24.06.1982., s.9, W.K., 1 ♂. *Micropsectra auvergensis* REISS: 20.07.1976., s.5, R.Sz., 2 ♂♂. *Micropsectra bidentata* (GOETGHEBUER): 18.06.1982., s.3, W.K., 1 ♂. 20.07.1976., s.5, R.Sz., 7 ♂♂. 17.06.1984., s.8, W.K., 1 ♂. *Micropsectra junci* (MEIGEN): 20.07.1976., s.5, R.Sz., 1 ♂. 21.07.1976., s.6, R.Sz., 1 ♂. *Micropsectra lindrothi* GOETGHEBUER: 20.07.1976., s.7, R.Sz., large sample consisting of ♂♂ and ♀♀. *Micropsectra notescens* (WALKER): 20.07.1976., s.7, R.Sz., 12 ♂♂ in large sample of *M. lindrothi*. *Micropsectra roseiventris* (KIEFFER): 20.07.1976., s.5, R.Sz., 1 ♂; s.7, R.Sz., 5 ♂♂. *Neozavrelia fuldensis* FITTKAU: 18.06.1982., s.3, W.K., 1 ♂.

12.06.1984., s.10, W.K., large sample. *Neozavrelia improvisa* FITTKAU: 20.07.1976., s.5, R.Sz., 3 ♂♂. *Parapsectra nana* (MEIGEN): 20.07.1976., s.5, R.Sz., 4 ♂♂. *Paratanytarsus inopertus* (WALKER): 19.06.1982., s.4, W.K., 2 ♂♂. 12.06.1984., s.10, W.K., 3 ♂♂. *Rheotanytarsus muscicola* THIENEMANN: 12.06.1984., s.10, W.K., 3 ♂♂. *Rheotanytarsus nigricauda* FITTKAU: 24.06.1982., s.9, W.K., 3 ♂♂. *Rheotanytarsus pentapoda* (KIEFFER): 21.06.1982., s.2, W.K., 2 ♂♂. *Tanytarsus brundini* LINDEBERG: 20.07.1976, s.7, R.Sz., 1 ♂. *Tanytarsus fimbriatus* REISS et FITTKAU: 12.06.1984., s.10, W.K., 1 ♂. *Tanytarsus pallidicornis* (WALKER): 19.06.1982., s.4, W.K., 1 ♂.

Checklist of Bulgarian Tanytarsini

(* - new for Bulgaria, underlined - questionable record or synonym)

Cladotanytarsus mancus (WALKER)

Corynocera ambigua ZETT.

- *pedicelliferus* (BIRULA)

Micropsectra apposita (WALKER) *

- *atofasciata* (KIEFFER)

- *auvergnensis* REISS *

- *bidentata* (GOETGH.) *

- *contracta* REISS

- *roseiventris* (KIEFFER) *

- *junci* (MEIGEN)

- *praecox* (MEIGEN)

- *lindrothi* GOETGH.

- *notescens* (WALKER) *

- *cf. recurvata* GOETGH.

- *rilensis* **sp.n.**

Neostempellina thienemanni REISS

Neozavrelia fuldensis FITTKAU

- *improvisa* FITTKAU *

Parapsectra nana (MEIGEN) *

Paratanytarsus confusus PALMEN

- *inopertus* (WALKER) *

- *lauterborni* (KIEFFER)

Rheotanytarsus muscicola THIEN. *

- *nigricauda* FITTKAU *

- *pentapoda* (KIEFFER) *

Stempellinella brevis (EDWARDS)

Tanytarsus brundini LINDEBERG *

- *fimbriatus* REISS et FITTKAU *

- *gregarius* KIEFFER

- *medius* REISS et FITTKAU

- *mendax* KIEFFER

- *holochlorus* EDWARDS

- *pallidicornis* (WALKER)

- *usmaënsis* PAGAST

Virgatanytarsus arduennensis (GOETGH.)

Nomina dubia

Micropsectra curvicornis TSCHERN.

Micropsectra viridiscutellata GOETGH.

Tanytarsus longipes AKHROROV

Tanytarsus sexdentatus TSCHERN.

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