

**TWO NEW SPECIES OF THE GENUS  
*SCHIZOPELEX* MC LACHLAN, FROM NORTHERN TURKEY  
(TRICHOPTERA, SERICOSTOMATIDAE)**

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**[Sipahiler, F. & Pauls, S. 2012. Two new species of the genus *Schizopelex* Mc Lachlan, from northern Turkey (Trichoptera: Sericostomatidae). *Munis Entomology & Zoology*, 7 (1): 184-190]**

**ABSTRACT:** Two new species of the genus *Schizopelex*, *S. yenicensis* Sipahiler & Pauls sp. n. and *S. boluensis* Sipahiler sp. n. (Sericostomatidae) from northwestern Turkey are described and figured. A brief description and illustrations of *S. anatolica* Schmid, 1964, based on the specimen collected from type locality are also given. The new species are closely related to each other and to *S. anatolica*.

**KEY WORDS:** Trichoptera, taxonomy, new species, *Schizopelex*, Sericostomatidae, northwestern Turkey.

The small genus *Schizopelex* Mc Lachlan with eight described species, is distributed mostly in the eastern Mediterranean region, namely, the Balkans, Turkey, the Caucasus and Iran, only two species are found in western Europe. In Turkey the genus well represented by seven species, including the new species *S. yenicensis* Sipahiler & Pauls sp. n., and *S. boluensis* Sipahiler sp. n., described in the present paper (Sipahiler, 2005, 2011). In the Balkans and Iran the genus is represented by one species each; in the Caucasus two species are found, which are also recorded in northeastern Turkey (Sipahiler, 2005, Oláh, 2010).

Schmid described *S. anatolica* based on one male collected from Akşehir (Schmid, 1964), given only the lateral and ventral aspects, which are insufficient to see the differences between it and the new species. Thus, a brief description and illustrations of this species are given, based on the specimen collected from the type locality. After that, *S. anatolica* was discovered in a few localities around Ankara province; the specimens that collected from one of such locality (Çubuk, Karagöl), were regarded as a variation for this species (Çakın, 1981). The figures of this specimen are stated as the variation of *S. anatolica* in the Atlas of European Trichoptera, with a mistake in the arrangement of the figures of the male genitalia, namely, the lateral aspect of the Karagöl specimen was put on the right-hand side with the figures of the *S. anatolica* specimen, it should has been on the left-hand side of the page (Malicky, 2004: 288). An example similar to this specimen, with the unusual lower branch of the inferior appendage having two short projections at the apex was rediscovered in northwestern Turkey and is described in the present paper as a new species, *S. boluensis* Sipahiler sp. n. It is closely related to *S. yenicensis* Sipahiler & Pauls sp. n., also having two apical projections on the lower branch of the inferior appendage but much longer.

## MATERIALS AND METHODS

specimens were collected by hand net. For the code of the depository the abbreviation CD is used. The holotype of *Schzopelex yenicensis* Sipahiler & Pauls, sp. n., was collected by S. Pauls and deposited in Senckenberg Museum, Germany, other specimens were collected by F. Sipahiler and deposited in her collection in the Biology Education Department at Hacettepe University.

## DESCRIPTIONS

### *Schzopelex yenicensis* Sipahiler & Pauls, sp. n.

(Figs. 1-5)

**Material:** Holotype ♂: Turkey, Karabük, Bolkuş, Yenice direction, 41° 09' N/ 32° 27' E, 230 m, 9.6.2011, leg. Pauls, coll. Senckenberg Museum (Frankfurt am Main), Germany.

Antennae black, scapus long and broad, the ratio of scapus/eye diameter is 0.77; maxillary palps are blackish, rather thin, curved upwards; wings blackish; labial palps blackish; forewings sparsely and hind wings densely white spotted; the anterior wing has two large white spots located on the end of the discoidal cell and the media; thorax and abdomen dorsally black, intersegmental areas whitish; coxa and two-third of the length of the femur of the legs black, the rest of the femur and tibia yellow; first and the second tarsal segments yellow, the rest are blackish. The length of the anterior wing of male is 12.5 mm.

**Male genitalia (Figs. 1-5):** The sides of the anterior edges of segment IX broadly dilated; the ventral part strongly sclerotized, in ventral view, the ventromedian portion is almost membranous, its posterior margin roundly dilated and a rounded lobe protrudes on the median part, the apical margin of this lobe is sclerotized and possesses five long setae. The preanal appendage is nearly quadrangular, apical edge rounded. In dorsal view, the median part of segment X is triangular, narrowing towards the apex; the sclerotized side projections are long and straight; in dorsal view, the inner edges are roundly dilated on the subdistal portions, the apex is pointed; in lateral view, the ventral projections of segment X are long, straight and thin; in ventral view, slightly curved inside. In lateral view, the dorsal branch of the inferior appendage broadly dilated dorsally, the posterior edge roundly excised on the ventral portion, the ventral edge is shorter than the dorsal portion; the ventral branch of the inferior appendage is broad, strongly sclerotized, the apical part bifurcated, the upper branch of which is thin, longer than the ventral branch and subdistally curved inside, the lower branch is directed posteriorly, both are pointed at the apex. The phallic apparatus is long, apical part somewhat broad, the sides with sclerotized bands, which make two rounded bands ventrally.

The female is unknown.

**Etymology:** This species is named after the place around where the specimens were collected.

***Schzopelex boluensis* Sipahiler, sp. n.**

(Figs. 6-10)

**Material:** Holotype ♂: Turkey, Bolu, Yedigöller, (CD: U-138), 780 m, 40° 52' N/ 31° 41' E, 10.6.2005, leg. and coll. Sipahiler; paratypes: Turkey, Ankara, Çubuk, Karagöl, 40° 21' N/ 32° 59' E, (Code of Depository: U-3-4), 9.7.1980, 2 ♂, leg. Çakın, coll. Sipahiler.

Antennae, maxillary palps head and thorax dark brown blackish, scapus long and broad, the ratio of scapus/eye diameter is 0.75; legs brown, wings dark brown; anterior wings with sparsely white spotted between costa and radius, the forewing with two large white spots located at the end of the Discoidal cell and the Media; hind wings with a few small spots. The length of the anterior wing of male is 12.5 mm.

**Male genitalia (Figs. 6-10):** The sides of the anterior edges of segment IX broadly dilated, the apex is also broad; the ventromedian portion is membranous, broadly trapezoidal, bearing a few setae at the tip. The preanal appendage is elongated oval. In dorsal view, the dorsolateral branch of segment X rather long, the subdistal part somewhat broader, curving on the sides, narrowing towards the rounded apex; the ventrolateral projection is sinuate, thin narrowing at the tip; in lateral view, it is broad, the apex is rounded. In lateral view, the dorsal edge of the dorsal branch of the inferior appendage is rounded, the posterior edge with two excisions on the ventral half, forming a small median lobe and a ventral lobe, which is slightly longer than the median one; the ventral branch of the inferior appendage is strongly sclerotized, broad at the base, the ventral edge is roundly dilated in the middle, narrowing on the subdistal portion, the distal part becoming somewhat broader, forming two short projections, which are pointed at the apex. The phallic apparatus becomes narrower and curved before the base, dilating towards the tip.

The female is unknown.

**Etymology:** This species is named after the place around where the specimens were collected.

**Remarks:** *Schzopelex yenicensis* Sipahiler & Pauls, sp. n. and *S. boluensis* Sipahiler, sp. n., differ from the other species of the genus *Schzopelex* by many parts of the male genitalia, especially the shape of the lower branch of the inferior appendage, which is broad, bifurcated, possessing two projections apically. Both new species are closely related to each other by having two projections on the lower branch of the inferior appendage, which are short in *S. boluensis* and long in *S. yenicensis*. The following differences are also seen in the male genitalia: In *S. yenicensis* the dorsolateral projections of segment X are long, knife-shaped, acute at the tips, and the ventrolateral projections are short and thin, while in *S. boluensis*, the dorsolateral projections of segment X are shorter and rounded at the apex; the ventrolateral projections of segment X are rather long and broad. In *S. yenicensis*, the dorsal branch of the inferior appendage has a rounded excision on the posterior edge, and the ventral edge is shorter than the dorsal edge, in *S. boluensis*, the apical edge of the dorsal branch of the inferior appendage has two excisions on the ventral portion; the lower branch of *S. yenicensis* is very broad, almost quadrangular at the basal part, possessing two long projections apically; in *S. boluensis*, the lower branch is narrower subdistally and possesses two short

projections at the apex; in *S. yenicensis*, the membranous ventromedian process of segment IX with a median rounded lobe, while in *S. boluensis* it is largely trapezoidal.

Both these new species are related to *S. anatolica*, differ from this species by the lower branch of the inferior appendage, which is bifurcated in the new species and in *S. anatolica* gradually narrower towards the tip; the posterior edge of the dorsal branch has a long, oval ventral lobe, while in *S. yenicensis* it has a large and short lobe and *S. boluensis* has two short lobes. In *S. anatolica*, in dorsal view, the ventrolateral projections of segment X are rather broad, only slightly narrower than the dorsolateral projections, which are thin in the new species. In addition, the scapus of *S. anatolica* is smaller than that of these new species.

### ***Schzopelex anatolica* Schmid, 1964**

(Figs. 11-15)

**Material:** Turkey, Ankara, Kalecik, Baykuş Boğazı, (CD: U-1), 22.6.1980 2 ♂, 1 ♂; same place, 15.6.1981, (CD: U-5), 23 ♂, 17 ♀; same place, 3.7.1981, (CD: U-7), 3 ♂, 3 ♀; Bolu, Abant, 19.6.1982, (CD: U-16), 2 ♂, 1 ♀; same place, 6.6.1983, 2 ♂; Çankırı, Ilgaz Mountains, Kadın Çayırı, 27.5.1984, (CD: U-20), 2 ♀; Ankara, Elmadağ, Eymir direction, 4.6.1988, (CD: U-49), 11 ♂, 8 ♀; Konya, Akşehir, Sultan Mountains, Saray Village, direction Yalvaç, Yelibel, 1500 m, 11.6.1994, (CD: U-87), 8 ♂; same place, 1800 m, 12.6.1994, (CD: U-93), 1 ♂, 2 ♀; Bolu, Abant, 1400 m, 24.6.1995, (CD: U-99), 15 ♂, 5 ♀; same place, 21.6.1999, (CD: U-117), 5 ♂, 4 ♀; same place, Bulanık Yaylası, 26.6.1999, (CD: U-120), 2 ♂; Bolu, Gölcük, 27.6.1999, (CD: U-123) 1 ♂; Samsun, Yakakent, Durağan direction, 1235 m, Kızılan, 14.7.2009, (CD: U-164), 2 ♂, 1 ♀; Sinop-Çorum province border, Ilgaz Mountains, Pelit Yaylası, 1446 m, (CD: U-167), 11.7.2009, 15 ♂, 1 ♀, same place, 15.8.2009, (CD: U-169), 4 ♂, leg. and coll. Sipahiler.

Antennae blackish, scapus shorter, the ratio of scapus/eye diameter is 0.62; maxillary palps somewhat broader than those of the related species; dark brown-blackish; the wings are dark brown, fore and hind wings spotted; fore wing with two larger spots on the discoidal cell and media; the legs are pale brown, tarsi brown. The length of the anterior wing of male is 12.5-13 mm.

**Male genitalia (Figs.11-15):** In lateral view, the sides of the anterior edges of segment IX dilated forming a triangle, the apex is narrow. In dorsal view, the sclerotized dorsolateral projections of segment X are directed posteriorly, the apex are rounded, only slightly curving on the sides; the ventrolateral branch is slightly narrower than the dorsolateral branch, straight at the base, directed subdistally towards the dorsolateral branch; in lateral view, the dorsolateral branch pointed at the tip. The preanal appendage is dorsally broadly oval. In lateral view, the dorsal branch of the inferior appendage with a large and long ventral lobe on the posterior margin; the ventral branch is pointed at the apex. The phallic apparatus is somewhat curved at the base.

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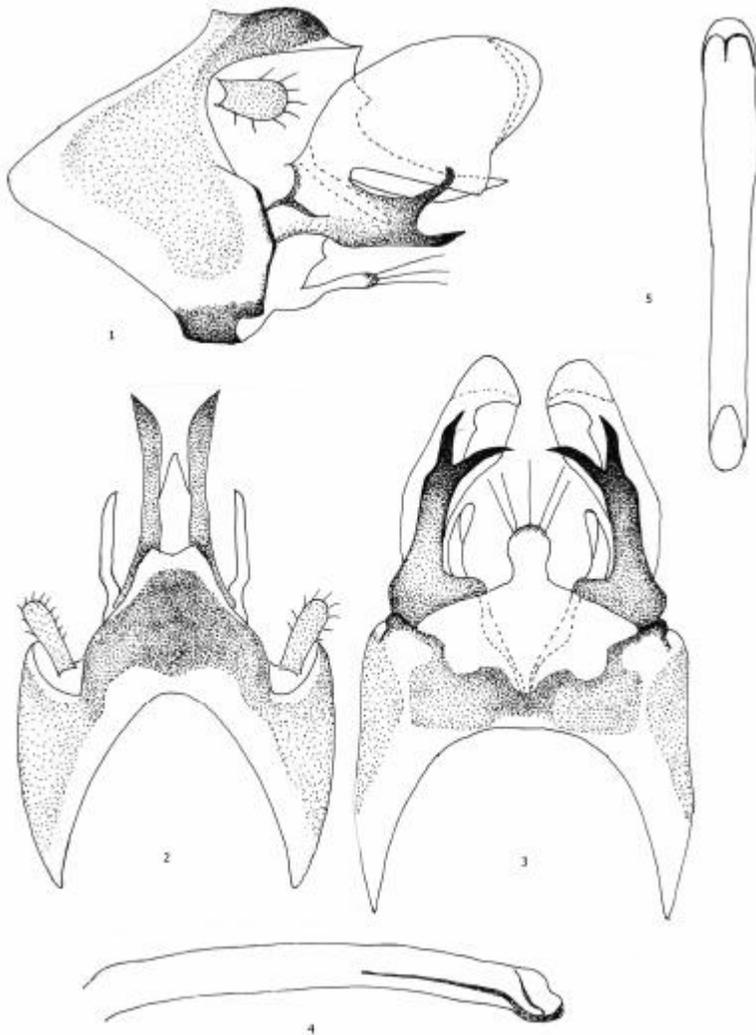
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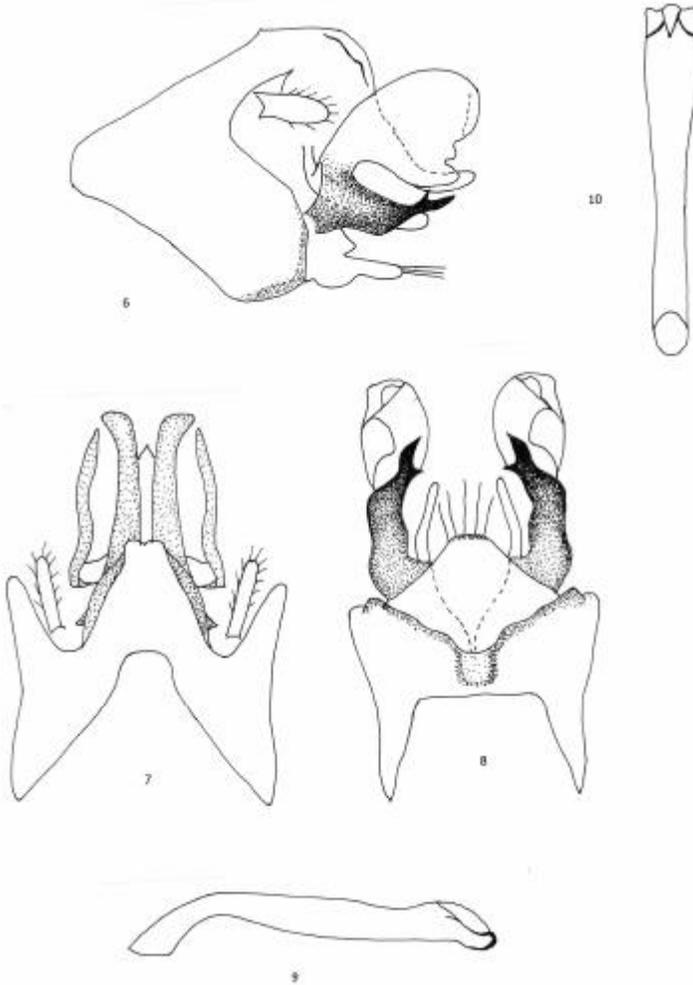
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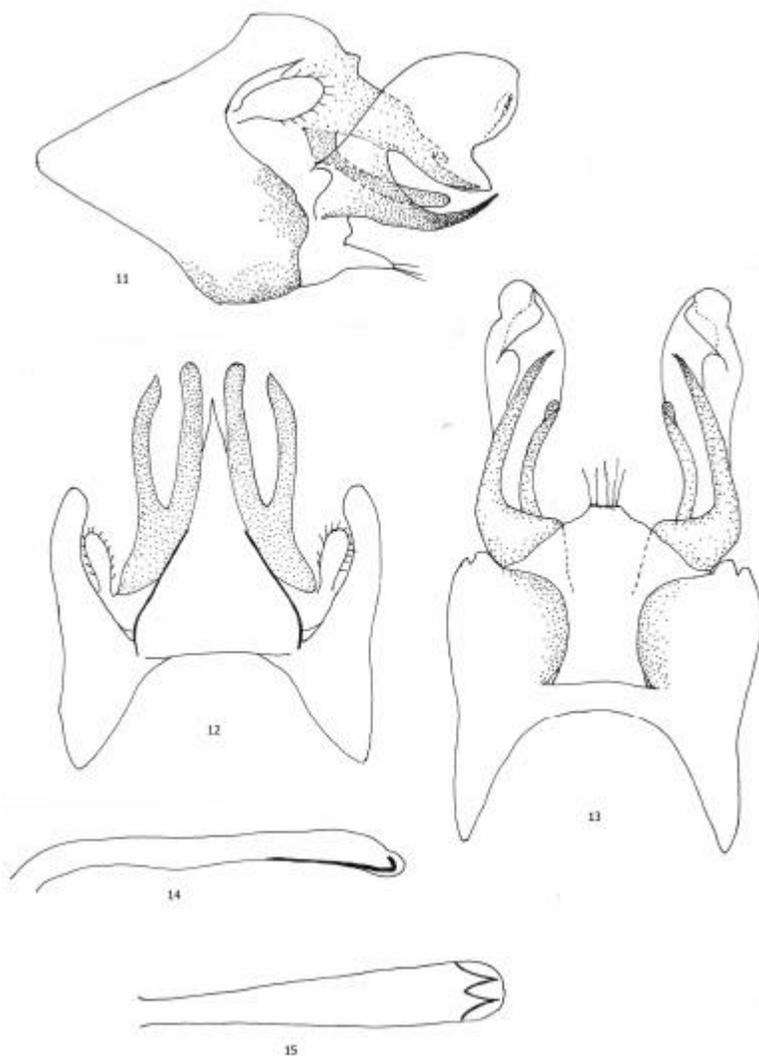
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Figures 1-5. *Schzopelex yenicensis* Sipahiler & Pauls, sp. n. Male genitalia: 1. lateral; 2. dorsal; 3. ventral; 4. phallic apparatus, lateral; 5. phallic apparatus, ventral.



Figures 6-10. *Schzopelex boluensis* Sipahiler, sp. n. Male genitalia: 6. lateral; 7. dorsal; 8. ventral; 9. phallic apparatus, lateral; 10. phallic apparatus, ventral.



Figures 11-15. *Schzopelex anatolica* Schmid, 1964, Male genitalia: Male genitalia: 11. lateral; 12. dorsal; 13. ventral; 14. phallic apparatus, lateral; 15. phallic apparatus, ventral.