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**A new subspecies of *Psilopteryx turcicus* Cakin, 1983 with remarks on the genera *Psilopteryx* Stein, 1874 and *Kelgena* Mey, 1979 in Turkey (Limnephilidae, Chaetopterygini)**

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**Abstract.** A new subspecies of *Psilopteryx turcicus* CAKIN, 1983, *P. t. aladagensis* ssp.n., is described and illustrated. Remarks on the generic characteristics of *Psilopteryx* STEIN and *Kelgena* MEY in Turkey are given.

**Key words:** New subspecies, *Psilopteryx*, *Kelgena*, Chaetopterygini, Turkey, Taxonomy.

**Introduction**

The tribus Chaetopterygini is represented in Turkey by 6 species belonging to 4 genera, distributed in northern Anatolia. The only species of the genus *Psilopteryx* in Turkey is *P. turcicus* CAKIN, 1983 (CAKIN, 1983), found in northwestern Turkey. The other known species of the genus are found in central Europe, the Balkans and the Carpathians. A new subspecies, *P. turcicus aladagensis* ssp.n., was discovered in the same region, separated by the Bolu plain, 45 km south of where *P. turcicus* was found.

***Psilopteryx turcicus aladagensis* ssp.n.**

Antennae, legs and wings dark brown; abdomen, head and the thorax sclerites are testaceous; the length of the anterior wing of males 9-10.5 mm, of females 10-10.5 mm; four females are brachypterous; the spurs of males 0.2.2, of females 1.2.2, 1.2.3. The anterior wings are covered with dark brown erect hairs, both on the veins and membrane; not pubescent on the membranous area; on the male anterior wing (Fig. 1), the Sc and R are roundly dilated on the apical part, close to each other; in some specimens Sc and R are also connected at this part. On the posterior wing of the male, R is thick and short, not reaching the apical margin; Sc and R are very close to each other; the area A4 and A5 with long hairs; the area A5 with a short pleat. On the female forewing, the R is dilated through the Sc, which is straight; R reaches the apical margin on the hind wing.

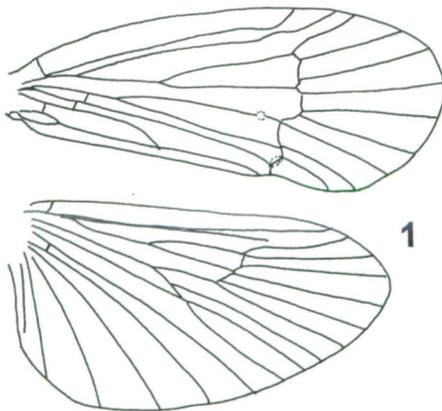
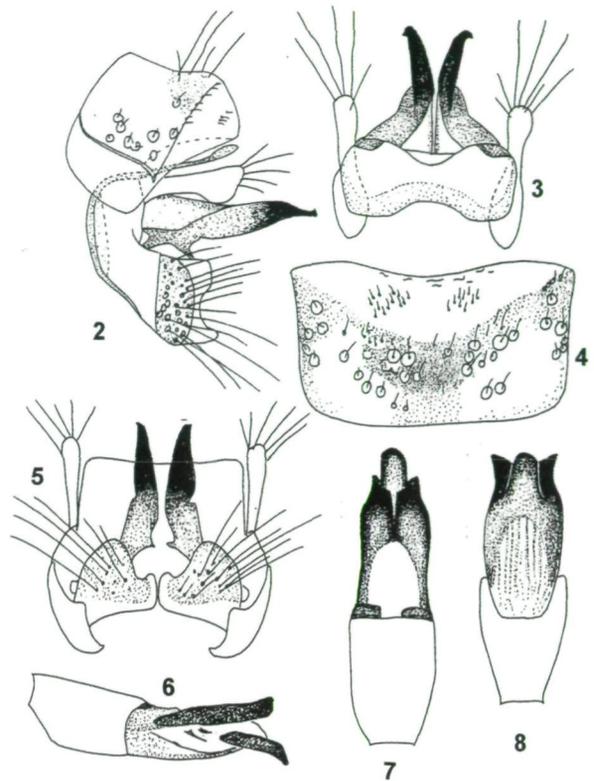
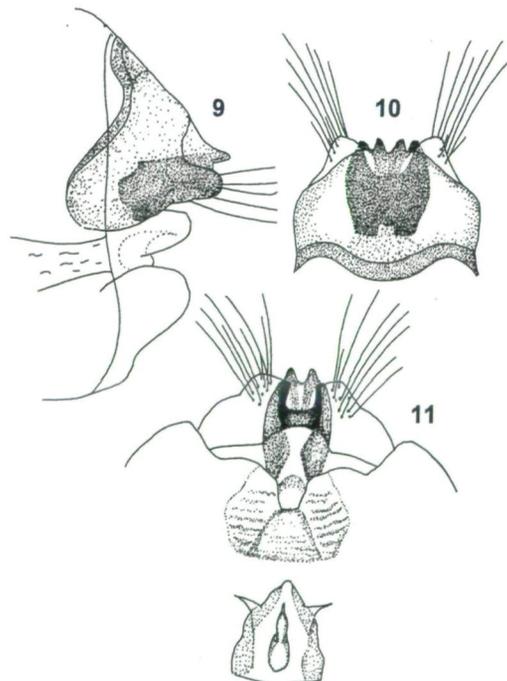


Fig. 1: *Psilopteryx turcicus aladagensis* ssp.n., the wings of the male.

Male genitalia (Figs. 2-8): The genitalia are covered dorsally by tergite 8 on the unmacerated specimens; tergite 8 possesses no spinulose zone; in some specimens there are a few thickened, short and black hairs on both sides of the membranous area of tergite 8. Segment 9 dorsally with a dorsal plate, which is located under tergite 8 on the unmacerated specimens, forming a large cavity; segment 9 is dilated on the anterior edge, almost smooth; thickened on the sides, curving inwards; on the dorsal part of segment 9 protrude sclerotized lobes on each side, which are short, rounded and curved upwards. The preanal



Figs. 2-8: *Psilopteryx turcicus aladagensis* ssp.n., male genitalia: 2, lateral; 3, dorsal; 4, tergite 8, dorsal; 5, ventral; 6, phallus, lateral; 7, phallus, dorsal; 8, phallus, ventral.



Figs. 9-11: *Psilopteryx turcicus aladagensis* ssp.n., female genitalia, 9, lateral; 10, dorsal; 11, ventral.

appendages are long, dilated on the distal part, located on the sides of the cavity. The intermediate appendages are long, strongly sclerotized, reaching the base of the dorsal cavity with large, somewhat sclerotized plates; in ventral view, the outer edge has a small excision located almost in the middle; in lateral view, the inferior appendages are short;

the apical edge is smooth on the dorsal part, largely excised through the ventral and forms there a rounded lobe. In lateral view, the phallosome is narrow at the base; in dorsal view, the sides of the posterior edge are sclerotized; the phallus without parameres; dorsally with strongly sclerotized side parts, these dorsal sclerites are connected at the base; the apical edges are sharply truncated; the ventral sclerite is longer than the dorsal sclerites, rather narrow and the apex is rounded; basal part of the phallus is dorsally and ventrally slightly sclerotized.

Female genitalia (Figs. 9-11): Segment 9 is broad; in dorsal view, the anterior margin is strongly sclerotized and roundly dilated on the median part; tubular pieces of segment 10 are rounded, possessing long hairs; there are two lobes between the tubular pieces, which are strongly sclerotized and as long as the tubular pieces; in ventral view, the sides of the anal opening are strongly sclerotized, forming rounded lobes on each side, which are as long as the tubular pieces. The supragenital plate is broad and rounded. There is no median lobe of the vulvar scale; the side lobes are large and rounded.

Holotype ♂ and paratypes (6 ♂♂, 5 ♀♀) Turkey, Bolu, Aladaglar, Kartalkaya, 1300 m, (40° 31' N, 31° 48' E), 31.10.2004, leg. and col. Sipahiler.

**Remarks:** *Psilopteryx turcicus aladagensis* ssp.n. differs from *P. turcicus turcicus* Cakin, 1983 by the following features: the spur formula in males of the new subspecies is 022 and 122 or 123 in females; while in *P. t. turcicus* it is 033 in males and 133 in females; the Sc and R of the anterior wing of the new subspecies are close to each other on the apical part, and on the posterior wing R does not reach the apical margin; in *P. t. turcicus* the veins are normal in shape. The differences in the male genitalia are as follows: in *P. turcicus* segment 9 is roundly dilated on the anterior part; in lateral view, the posterior edge of the inferior appendages is rounded; in ventral view, the intermediate appendages are without excisions on the outer edges; the phallosome is cylindrical; the phallus is strongly sclerotized, the ventral lobe of the phallus is broad; dorsal sclerotized lobes with rounded apical edges (CAKIN, 1983); in *P. t. aladagensis* ssp.n. the anterior edge is almost smooth; in lateral view, the posterior edge of the inferior appendages is largely excised, forming a rounded lobe ventrally; in ventral view, the intermediate appendages are excised on the outer edges; the phallosome is broad, narrowing through the base the phallus is less sclerotized; the ventral lobe of the phallus is rather narrow; the dorsal sclerotized lobes are sharply truncated on the apical margins. The following differences are seen in the female genitalia: in *P. turcicus* CAKIN, the anterior edge of segment 9 is almost straight in dorsal view; in ventral view, the sclerotized lobes of segment 10 are long, longer than the tubular pieces, which are in lateral view somewhat narrow and curved ventrally; in *P. t. aladagensis* ssp.n. the anterior edge of segment 9 is roundly dilated; the sclerotized lobes of segment 10 are as long as the tubular pieces, which are in lateral view broad and straight.

#### The genera *Psilopteryx* STEIN, 1874 and *Kelgena* MEY, 1979 in Turkey

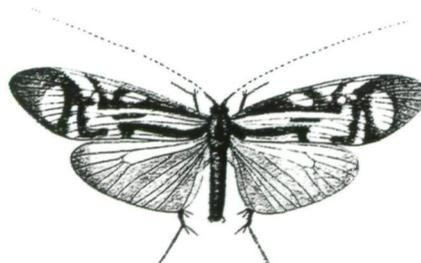
*Psilopteryx turcicus* CAKIN was the first species belonging to the tribus Chaetopterygini to be described in Turkey, and was listed in the "Trichoptera World Checklist" as *Kelgena turcicus*. Superficially, the genera *Psilopteryx*, *Kelgena* and *Rizeiella* show similarities, especially in the structure of the phallus, which is large and possesses a pair of dorsal sclerites. *Kelgena* and *Rizeiella* have a very large spinulose zone on tergite 8 and segment 9 without the dorsal plate. The genus *Rizeiella* differs from *Kelgena* in having parameres, which possess setae on the tips. *R. camiliensis* SIPAHILER, 1999 also shows a tendency to lack parameres (SIPAHILER, 1986; 1999). However, *Psilopteryx turcicus* shows typical generic characteristics of the genus *Psilopteryx*, namely, tergite 8 without a spinulose zone, segment 9 with a large dorsal plate and the cavity is large in the male genitalia. These generic features show that the genus *Psilopteryx* is close to the genus *Annitella*, which also has a large dorsal plate and tergite 8 without a spinulose zone (SCHMID, 1952; SIPAHILER, 1998), but not to the Caucasian genus *Kelgena*, characterized by a very large and convex spinulose zone on tergite 8, and segment 9 rather broad on the dorsal part, but much narrower than that of the genus *Psilopteryx*. In *P. turcicus*, the phallus is without parameres, dorsal sclerites of the phallus are well developed and the ventral part forms a sclerotized lobe apically. The female

genitalia of the genus *Kelgena* also show corresponding features, having a large dorsal depression above the anal opening, which makes copulation possible (SIPAHILER, 1999). The phallus in the genus *Kelgena* is also different from that in the genus *Psilopteryx*, in having a pair of sclerites located ventrally.

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