

FOUR NEW SPECIES OF HYDROPTILIDAE FROM TURKEY (TRICHOPTERA)

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ABSTRACT: A new species of the genus *Hydroptila*, *H. tifica* sp. n., belonging to the *occulta* group, (northeastern Turkey) is described and figured. The species of the genus *Stactobia* found in Turkey are revised, and the following new species are described and illustrated: *Stactobia alaplica* sp. n., *S. yenicensis* sp. n. (northwestern Turkey) and *S. kiziroglui* sp. n., (western Turkey). *Stactobia forsslundi* Schmid, 1959 is newly recorded for Turkey. *S. alaplica* sp. n. and *S. kiziroglui* sp. n. belong to the *furcata* species group, and *S. yenicensis* sp. n. belongs to the *martynovi* species group.

KEY WORDS: Taxonomy, new species, new record, *Hydroptila*, *Stactobia*, Turkey.

The *occulta* species group of the genus *Hydroptila* is well represented in Turkey by eight described species, seven of them which are endemic to Turkey (Sipahiler, 2005; 2010). The genus *Stactobia* is well represented in Turkey by 14 species including the new record of *S. forsslundi* Schmid, 1959 (Schmid, 1959) and the new species described in the present paper. Among them ten species are endemics. In Europe, the genus is represented by 20 species, only three of which, *S. maclachlani* Kimmins, 1949, *S. caspersi* Ulmer, 1950 *S. Jacquemarti* Malicky, 1977 are also found in Turkey. *S. kiziroglui* sp.n. is described as a new species below, based on the material collected from Birgi, İzmir, which previously were misidentified and recorded as *S. kimminsi* Schmid, 1959 (Malicky & Sipahiler, 1993), *S. kimminsi* is not found in Turkey.

DESCRIPTIONS

Hydroptila tifica sp. n. (Figs. 1-5)

Material: Holotype male and paratypes 74 males, 120 females; Turkey, Ordu, Niksar, Ünye direction, Gökçebayır village, Tifi Stream, (at light), 914 m, 14.8.2008, leg. and coll. Sipahiler.

Antennae, palps, legs and wings brown; head and thorax dorsal are dark brown; the length of the anterior wing of males 2-2.5 mm, of females 2-3 mm.

Male genitalia (Figs. 1-4): The sides of segment IX elongated anteriorly; in lateral view, from the posterior edge protrudes two triangular projections, which are nearly equal in breadth and length; in dorsal view, segment X is long, the sides are gradually dilated towards the apical margin; the apical margin is asymmetric, the right corner is somewhat longer than the left one, both pointed at the tips, the rest of the apical margin is almost smooth, with a rather deep excision on the left side; the prolongations of segment X are long and thin, curving towards dorsal, almost the same level with the apical margin of segment X; in dorsal view, they are nearly parallel to each other. In lateral view, the

inferior appendages are as long as segment X, almost equal in breadth and the ventral edge is nearly straight. The phallic apparatus is thin and long.

Female genitalia (Fig. 5): The ventral plate is rather thin, becoming thinner on the sides.

Remarks: *Hydroptila tifica* sp. n. belongs to the *occulta* species group and is closely related to *H. occulta* Eaton, 1873 (Malicky, 2004). The following differences are seen in the male genitalia: the upper projection of the posterior edge of segment IX of *H. occulta* is large and long, the ventral projection is much smaller, while in *H. tifica* sp. n. they are almost equal in width and length, smaller than the upper projection of *H. occulta*. The posterior edge of segment X is symmetric, with a broad median lobe that is as long as the side lobes; in the new species the posterior edge is asymmetric, with an excision on the left side. The prolongations of segment X of *H. occulta* are shorter and roundly curved towards dorsal; in *H. tifica* sp. n., they are long and curved at an angle towards dorsal; the shape of the inferior appendage of the related species is dilated on the subdistal portion, while in the new species it is almost equal in breadth.

Etymology: This species is named after the stream, where the specimens were collected.

***Stactobia alaplica* sp. n.**

(Figs. 6–11)

Material: Holotype male and paratypes 4 males, 1 female: Turkey, Zonguldak, Alaph, Gümeli, Bölüklü Yaylası direction, 40° 04' N / 31° 39' E, 690 m, 12.7.2011; same place, 21.8.2011, 4 males, 3 females; 20.9.2011 1 female, leg. and coll. Sipahiler.

Antennae and palps are black, wings blackish, with dense black hairs, legs are dark brown-blackish. The length of the anterior wing of males and females is 2–2.5 mm.

Male genitalia (Figs. 6–10): The median projection of sternite VII is long, reaching half of the length of sternite VIII; sternite VIII is not long on the ventral part. In lateral view, tergite IX is long on the ventral portion, the lateral prolongations are short, almost half of the length of the dorsal edge; the posterior edge is straight, protruding towards the ventral corner at a right angle; the ventral corner is strongly sclerotized, with a small projection on the ventral half. Segment X is membranous, in lateral view, with a sclerotized thin band, located diagonally; in dorsal view, almost rounded, with a small excision in the middle of the apical margin. The superior appendage is strongly sclerotized, rather thick, almost hook-shaped. From the inferior appendages protrude three small sclerotized projections on the apical edges; in ventral view, the sides are somewhat rounded. The phallic apparatus is narrow at the base, dilated medially, narrowing towards the tip; inside possesses two straight spines, of which the apical half is strongly sclerotized, the right one is as long as the length of the apparatus and the left one is shorter, reaching two-third of the right spine; in addition, a transversal sclerotized band is located near the base.

Female genitalia (Fig. 11): The basal portion of the internal apparatus is thick on the sides; the posterior prolongations are broadly curved in the middle.

Ecology: *Stactobia alaplica* sp. n. is a hygopetric species, found in forests on rocks with surface water.

Remarks: *Stactobia alaplica* sp. n., which belongs to *furcata* species group is closely related to *S. livadia* Malicky, 1984 (Malicky, 1984), described from Serifos

Island, and *S. maclachlani* Kimmins, 1949 (Schmid, 1959), which is widely distributed in Europe, but differs from these species in the following features: in *S. livadia* the posterior edge of segment IX is broad and rounded near the ventral margin, in *S. alaplica* sp. n. the posterior margin of segment IX is straight and narrow; the sclerite spines of *S. livadia* are short, located on the distal half of the phallic apparatus, and apically curved on the sides, while in the new species they are straight and long. *S. alaplica* sp.n. differs from *S. maclachlani* in the following features: in lateral view, the apical edge of segment IX is broadly rounded towards the ventral edge in *S. maclachlani*, while it is narrow and ends with in a right angle in the new species; the inferior appendages of the new species have three pointed projections on the apical edge; in *S. maclachlani* the apical edge is rounded and the apical projections are not seen in lateral view. The paired spines of the phallic apparatus of the related species are strongly sclerotized, long, and the left one is slightly shorter than the right, while in the new species the left spine is much shorter than the right and only half of them are strongly sclerotized.

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

***Stactobia kiziroglui* sp. n.**

(Figs. 12–16)

Material: Holotype male and paratypes 36 males, 17 females: Turkey, İzmir, Salihli, Birgi direction, 21. km Bozdağ, 29.5.1988, leg. and coll. Sipahiler.

The color of the body and wings become paler over 23 years, the antennae and the palps are yellowish, the wings and the body are brown. The length of the anterior wing of males and females is 2-2.5 mm.

Male genitalia (Figs. 12-16): Segment IX is long the side projections are somewhat shorter than the dorsal edge; in lateral view, the posterior edge broadly protrudes at the ventral corner; segment X is short, becoming narrower at the posterior end, in dorsal view, broadly oval; the superior appendage is short, the basal portion is straight, the distal half is curved towards the ventral; the inferior appendage is broad the posterior edge excised forming two lobes, of which the ventral lobe is smaller. In ventral view, they diverge, narrowing towards the tips. The phallic apparatus is rather broad and long, possesses one long and rather thin spine, the second spine is thicker and shorter than the long spine, reaching to half the length of it; both spines are strongly sclerotized; there are additional spines, located on the basal portion, namely an U-shaped sclerite and a short spine found in it, of which the tips are sclerotized, and a ridge of very small spines is found transversally at the base.

Ecology: This new species was collected from a small mountain spring, probably not a hygropetric species.

Remarks: *S. kiziroglui* sp. n. belongs to *furcata* species group and it is related to *S. maclachlani* Kimmins, 1949. The following differences are seen in the male genitalia: the inferior appendage of *S. maclachlani* laterally is broad, the apical edge rounded, in ventral view, they are broad on the apical portions, close to each other and the apical edge with three projections, while in *S. kiziroglui* sp. n. the inferior appendage is laterally bilobed and ventrally directed on the sides, narrowing towards the tips; in *S. maclachlani* the phallic apparatus possesses two long spines, of which the left one is slightly shorter; in the new species there are two spines, which are parallel to each other, one of which is short, reaching half of

the length of the longer one and additional sclerites are found at the base of the phallic apparatus.

Etymology: This new species is dedicated to Prof. Dr. İlhami Kızıroğlu (Hacettepe University).

***Stactobia yenicensis* sp. n.**

(Figs. 17–20)

Material: Holotype male, paratype 1 female and 1 larval case: Turkey, Karabük, Yenice, Karakaya, 41° 13' N / 32° 28' E, 958 m, 21.9.2011, leg. and coll. Sipahiler.

Antennae, palps, wings and legs black, head, thorax and abdomen blackish, inter segmental areas are yellow. The length of the anterior wing of male and female is 2 mm.

Male genitalia (Figs. 17-20): The median projection of sternite VII is long, reaching half of the length of sternite VIII. The posterior edge of tergite IX is broadly dilated in a triangular manner, the lateral prolongations of tergite IX are long. In dorsal view, segment X is almost quadrangular in shape; the posterior edge is broadly and shortly excised, forming short and obtuse lobes on the corners; the sides of segment X have strongly sclerotized narrow bands. In lateral view, the superior appendage is thin and straight, the inferior appendage is broad on the posterior edge, narrowing anteriorly. The phallic apparatus is long, almost equal in breadth, becoming narrower at the apex; there are a short and curved spine at the apex and three longer spines located subdistally and a long and broad spine on the basal half.

Female genitalia (Fig. 21): The basal portion of the internal apparatus is narrow on the sides; the posterior prolongations are narrow.

Ecology: *Stactobia yenicensis* sp. n. is a rhitrobiont species, found in mountain streams 10-15 m wide.

Remarks: *Stactobia yenicensis* sp. n., which belongs to the *martynovi* species group (Schmid, 1959), is closely related to *S. lekoban* Sipahiler, 1998 (Sipahiler 1998), described from north easternmost Turkey, from Camili (Borçka). The main differences are seen in the shape of segment IX, of which the apical margin is slightly rounded on the ventral half in *S. lekoban* and broadly triangular in the new species. The inferior appendages of *S. lekoban* are ventrally broad, apically bilobed; in *S. yenicensis* sp. n., they are long and narrow. The sclerotized spines of the phallic apparatus are also different. In addition, *S. yenicensis* sp. n. is a rhitrobiont species while *S. lekoban* is a hygropetric species.

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

***Stactobia forsslundi* Schmid, 1959**

This species is newly recorded for the Turkish fauna.

Material examined: Turkey, Adıyaman, Kahta, 15.7.1993, 1 male, 1 female, leg. Chivojka, coll. Sipahiler.

ACKNOWLEDGEMENT

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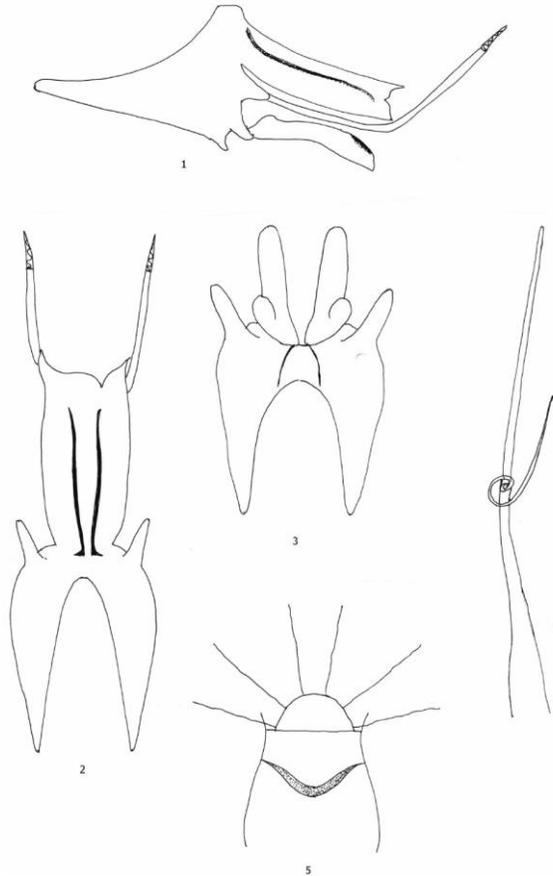
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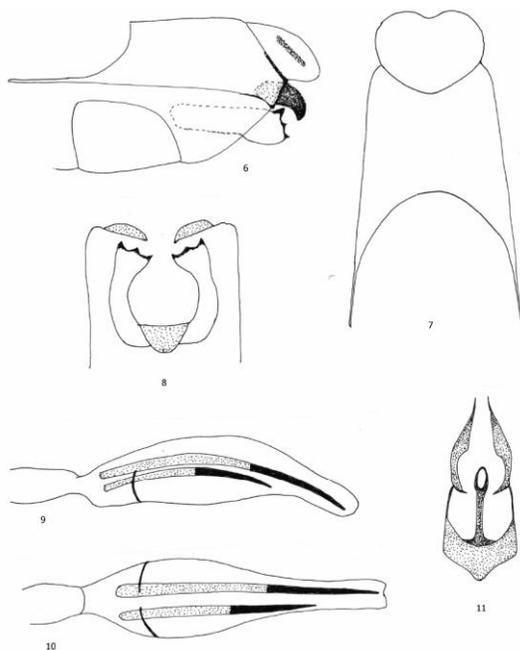
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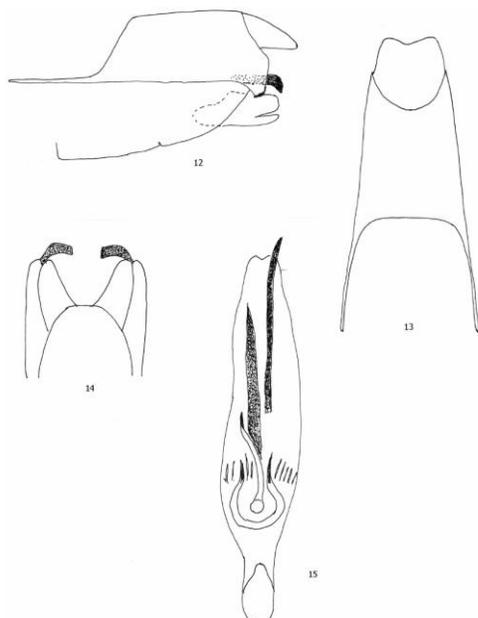
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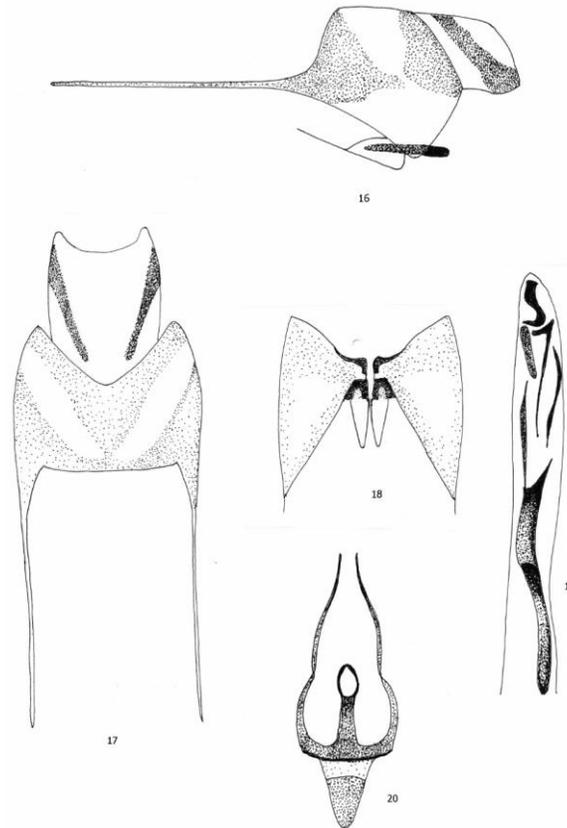
Figures 1-5: *Hydroptila tifica* sp. n., Male genitalia: 1, lateral; 2, dorsal; 3, ventral; 4, phallic apparatus, lateral; 5, female genitalia, ventral.



Figures 6-11: *Stactobia alaplica* sp. n., Male genitalia: 6, lateral; 7, dorsal; 8, ventral; 9, phallic apparatus, lateral; 10, phallic apparatus, dorsal; 11, female, internal sclerite, dorsal.



Figures 12-15: *Stactobia kiziroglui* sp. n., Male genitalia: 12, lateral; 13, dorsal; 14, ventral; 15, phallic apparatus, dorsal.



Figures 16-20: *Stactobia yenicensis* sp. n., Male genitalia: 16, lateral; 17, dorsal; 18, ventral; 19, phallic apparatus, dorsal; 20, female, internal sclerite, dorsal.