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## A NEW SPECIES OF *CHYLIZA* (DIPTERA, PSILIDAE) FROM IRAN

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**A New Species of *Chyliza* (Diptera, Psilidae) from Iran. Khaghaninia, S., Gharajedaghi, Ya.** — *Chyliza* (*Dasyna*) *qaradaghi* from Iran (type locality: Qaradagh Forests (Qala Deresi), East Azerbaijan Province) is described. *C. qaradaghi* Khaghaninia et Gharajedaghi, sp. n. is similar to *Chyliza* (*Dasyna*) *extenuata* (Rossi, 1790) in having arista thickened in basal third with dense black hairs and lacking anteroventral comb of black spinules on male fore tibia. New species differs from *C. extenuata* by head yellow, only occiput partly black and hind tibia largely black; *C. extenuata* has head completely black and hind tibia yellow. Both species differ also by the shape of male genitalia.

Key words: Psilidae, *Chyliza*, *Dasyna*, Iran, new species.

**Новый вид рода *Chyliza* (Diptera, Psilidae) из Ирана. Хаганинья С., Гараджедаги Я.** — Описана *Chyliza* (*Dasyna*) *qaradaghi* из Ирана (типовая местность: лесной массив Карадаг (Кала Дереси), провинция Западный Азербайджан). *C. qaradaghi* Khaghaninia et Gharajedaghi, sp. n. сходна с *Chyliza* (*Dasyna*) *extenuata* (Rossi, 1790) наличием утолщённой в базальной трети аристы с густыми чёрными волосками и отсутствием антеровентрального гребня чёрных шипиков на передних голених самца. От *C. extenuata* новый вид отличается жёлтой головой (только затылок частично чёрный), а также широко зачёрнёнными задними голеними; у *C. extenuata* голова целиком чёрная и задние голени жёлтые. Виды отличаются также формой гениталий самцов.

Ключевые слова: Psilidae, *Chyliza*, *Dasyna*, Иран, новый вид.

### Introduction

*Chyliza* Fallén, 1820 comprises over 117 species, being the largest genus of the family Psilidae; it belongs in the subfamily Chylizinae and occurs predominantly in the Afrotropical and Oriental Regions, to the lesser degree in the Palaearctic Region with 27 species (Shatalkin, 1997; Freidberg, Shatalkin, 2008). Larvae of *Chyliza* species are phytophagous, develop in roots, stems, under the bark or induce gall on some plants such as *Neottia* spp., *Orobanch*e spp., *Picea* spp., *Pinus* spp. and *Spiraea* sp. (Chandler, 1975; Collin, 1944; Lyneborg, 1987). The European and Asian species of *Chyliza* have been revised and keyed (Hennig, 1941; Stackelberg, 1988; Greve, Midtgaard, 1989; Iwasa, 1989; Shatalkin, 1997). The genus *Chyliza* includes mainly medium-sized flies, which can be recognized by the combination of the following characters: head not deltoid in profile, face concave in profile, antenna normal, occiput not swollen, cell cup clearly shorter than cell bm, anatergite swelling, 6 distinct scutellar bristles, postcoxal bridge developed, male genitalia with well developed surstyli (Iwasa, 1989; Freidberg, Shatalkin, 2008). The genus *Chyliza* includes two subgenera, *Chyliza* Fallén, 1820 and *Dasyna* Robineau-Desvoidy, 1830 (Soós, 1984). The subgenus *Dasyna* Robineau-Desvoidy, 1830 erected for *Chyliza extenuata* (Rossi, 1790) is characterized by the modified arista and lacking anteroventral comb of black spinules in basal part of fore tibia in males. The larvae of *C. extenuata* develop in the galls of underground parts of broomrapes, *Orobanch*e spp. (Chandler, 1975).

During the study of the psilid flies in East Azerbaijan province (NW Iran) in 2010–2012, a previously unknown species of the genus *Chyliza* was collected on Qaradagh Forests habitats. This species *Chyliza qaradaghi* Khaghaninia et Gharajedaghi, sp. n. is similar to *C. extenuata* and we include it in subgenus *Dasyna*.

### Material and methods

The holotype of the new species described in this study is deposited in the collection of Insect Museum of Tabriz University (IMTU). The material is preserved in 75 % ethanol in glass vials. Male and female genitalia were cleared in 10 % KOH. Morphological terminology and abbreviations generally follows McAlpine (1981) and White et al. (1999). Body length is measured from the base of the antenna to the tip of abdominal segment 7. Wing length is measured from the base to the wing apex.

**Key to the species of the subgenus *Dasyina* Robineau-Desvoidy, 1830**

1. Arista thickened in basal third of last aristemere with dense black hairs (fig. 8) Male fore tibiae without anteroventral comb of black spinules. .... Subgenus *Dasyina* (2)
- Arista slender. Male fore tibiae with anteroventral comb of black spinules in basal third or half. .... Subgenus *Chyliza* Fallen
2. Head mainly yellow, only occiput partly black (fig. 2–5); antennal postpedicel 2 times longer than high at base, hind tibia with large lateral black area on 2/3 apical part (fig. 7), 4.5–5 mm, from Iran. .... *Chyliza qaradaghi* Khaghaninia et Gharajedaghi
- Head completely black (fig. 13), antennal postpedicel more than 2 times longer than high at base, hind tibia without black area, 5–5.5 mm, from Europe, Middle East and Turkmenistan. .... *Chyliza extenuata* (Rossi)

***Chyliza qaradaghi* Khaghaninia et Gharajedaghi, sp. n. (fig. 1–11)**

Type-locality. Iran: East Azerbaijan Province, Qaradagh Forests: Qala Deresi, 38°51' N, 46°59' E, h = 1647 m a. s. l., 13:00, 6 Jun. 2011.

Material. Holotype ♀. Iran. East Azerbaijan province, Qaradagh Forests: Qala Deresi, 38°51' N; 46°59' E, 1647 m, 06.06.2011 (Gharajedaghi and Khaghaninia leg.) (IMTU). 1 ♂ (partially damaged), label as in the holotype (IMTU).

**Etymology.** Named after its type locality, Qaradagh (Turkish: “black mountain”) Forests massive located in north of East Azerbaijan province in northwestern Iran 147 km northwest of Tabriz. It has the richest flora in Iran with about 775 known plant species.

**Diagnosis.** This species is similar to *C. exenuata* in having arista thickened in basal third with dense black hairs and lacking anteroventral comb of black spinules in male fore tibia; hind femur with black subapical spot (fig. 7). New species is characterized by the following combination of characters: head yellow (except occiput); antennal postpedicel 2 times longer than high at base; hind tibia having large lateral black area on 2/3 apical half; surstyli with straight lateral margin (fig. 10), apical lobes of aedeagus rhombic, triangular to top (fig. 11). In *C. exenuata* head completely black (except antennae); antennal postpedicel more than 2 times longer than high at base; hind tibia entirely yellow (fig. 12); surstyli with concave lateral margin (fig. 14), apical lobes of aedeagus rectangular with chopping straight apex (fig. 15).

**Description**

**Female.** Body length: 5 mm, wing length: 3.6 mm, wing width: 1.4 mm, antenna length: 0.6 mm. General coloration of body shiny black covered with mainly white tomentous hairs and yellow legs. **Head:** Antenna mainly yellow; scapus red-brownish; pedicel shiny red-brownish dorsally and yellow ventrally, with shiny yellow setules; postpedicel



Fig. 1. *Chyliza qaradaghi* sp. n., holotype ♀: total view, right. Scale bar 1 mm.

Рис. 1. *Chyliza qaradaghi* sp. n., голотип ♀: общий вид справа. Масштабная линейка 1 мм.



Fig. 2–5. *Chyliza qaradaghi* sp. n., head: 2, 3 — female (2 — lateral view, 3 — dorsal view), 4, 5 — male (4 — lateral view, 5 — dorsal view).

Рис. 2–5. *Chyliza qaradaghi* sp. n., голова: 2, 3 — самка (2 — вид сбоку, 3 — вид сверху), 4, 5 — самец (4 — вид сбоку, 5 — вид сверху).

about 2 times longer than high, narrowed apically, with slightly concave dorsal margin; arista basidorsal, thickened in basal third with dense black hairs. Ratio of postpedicel length to its width to stylus length —  $2/1/4$ . Frons yellow, weakly pollinose, *frontorbital plate* in the upper portion of the frons with triangular black patch, its acute angle reaches the middle of frons; ocellar triangle black, reaches anterior margin of frons. Face red-brownish, weakly white pollinose. Cheeks under an eyes with a weak brownish spot. Occiput black and postgena yellow. Lower postocular setules pale yellow. Eyes finely haired, high of eyes 1.6 times longer than wide. mouthparts darkish, with white setulae; palpi black. With one pair of divergent postocellar setae, one pair of convergent inner vertical setae, one pair of outer vertical setae, two pairs of orbital setae. Length: height: width ratio —  $1.5/2/1$  (fig. 2, 3). **T h o r a x**: Black, with pale yellow and white pubescent; one pair of dorsocentral, one pair of acrostichal, one pair of supralar, one pairs of postalar, 3 pairs of scutellar bristles. **L e g s**: Mainly yellow, with fine light hairs; fore and mid legs yellow; hind leg yellow, femur with latero-dorsal black subapical spot, tibia latero-ventrally blackish in apical  $2/3$ , hind basitarsus about equal in length to rest tarsomeres combined (fig. 7). **W i n g s**: Evenly brownish; veins brown. Lower calypter bare (except margin, with yellow cilia). Halter mainly yellow, black in basal (fig. 6). **A b d o m e n**: Length: 2.7 mm, blackish and shiny, mainly with black and white tomentous. Genitalia: Length of ovipositor (segments 8 to 10 and cerci) 0.8 m. Epiproct and cerci fused, length 0.25. Sternite 8 with one distinct apical setae. Epiproct and

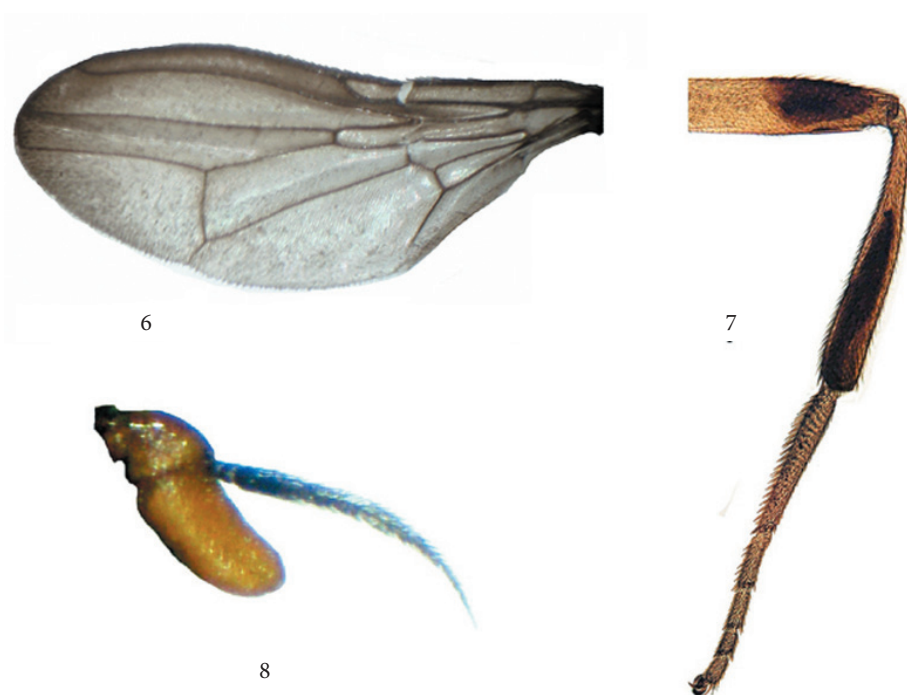


Fig. 6–8. *Chyliza qaradaghi*, sp. n., holotype ♀: 6 — left wing, 7 — pattern of hind leg, 8 — antenna, lateral view.

Рис. 6–8. *Chyliza qaradaghi*, sp. n., голотип ♀: 6 — левое крыло, 7 — окраска задней ноги, 8 — антенна, вид сбоку.

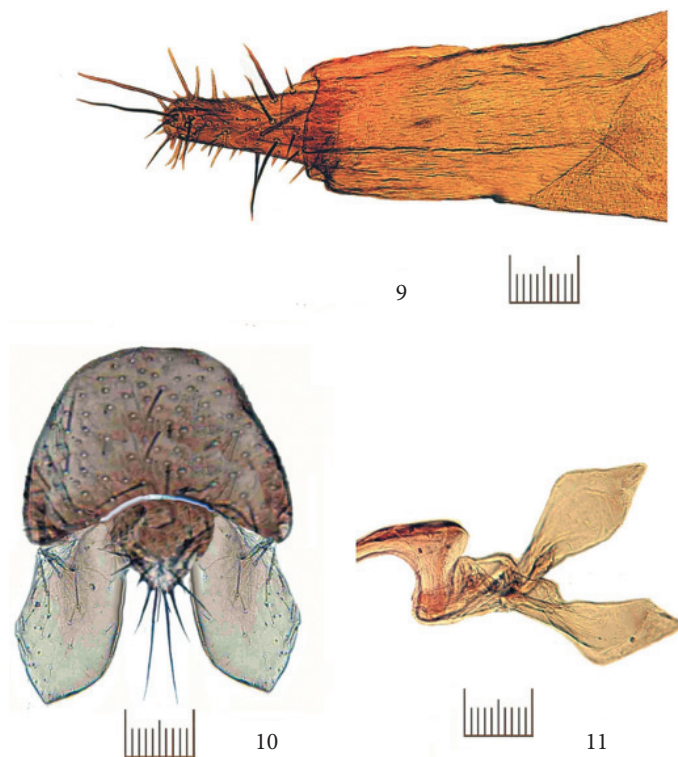


Fig. 9–11. *Chyliza qaradaghi*, sp. n., genitalia: 9 — ovipositor, lateral view, 10 — hypopygium, dorsal view, 11 — aedeagus. Scale bar 0.1 mm.

Рис. 9–11. *Chyliza qaradaghi*, sp. n., гениталии: 9 — яйцеклад, вид сбоку, 10 — гипопигий, вид сверху, 11 — эдеагус. Масштабная линейка 0,1 мм.

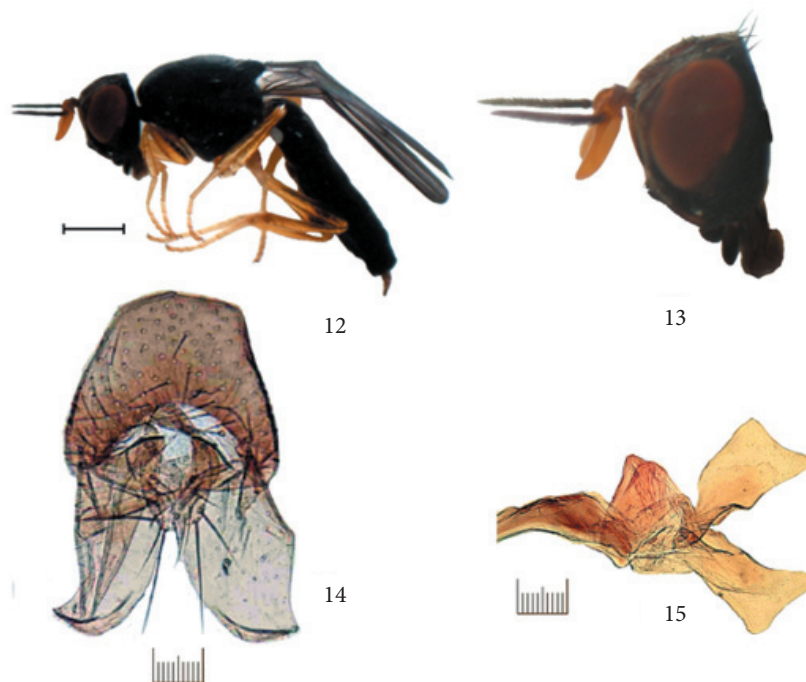


Fig. 12–15. *Chyliza extenuata*, ♀: 12 — total view, left; 13 — head, lateral view; 14 — hypopigium, dorsal view; 15 — aedeagus. Scale bar 0.1 mm.

Рис. 12–15. *Chyliza extenuata*, ♀: 12 — общий вид слева; 13 — голова, вид сбоку; 14 — гипопигий, вид сверху; 15 — эдеагус. Масштабная линейка 0,1 мм.

hypoproct with some short setae and 4 pairs of long hairs, length of apical pair (0.17 mm) two times longer than supapical pairs. Segment 8 without any setulae on surface (fig. 9).

**Male.** Body length: 4 mm, wing length: 3.25 mm, wing width: 0.9 mm, antenna length: 0.4 mm. **Head:** Length of ocellar triangle about 2 times longer than wide. Ocellar triangle black short, length relatively equal as wide. Cheeks under an eyes with a distinct brownish spot. Occiput mostly black. High of eyes 1.48 times longer than wide (fig. 2, 3). Fore tibiae without anteroventral comb of black spinules. **Genitalia:** Surstyli well developed, with straight lateral margin, apical lobes of aedeagus rhombic, triangular to apex (fig. 10, 11). Other characters as in female.

**Host plant unknown.**

**Etymology.** Named after its type locality, Qaradagh (Turkish: “black mountain”) Forests massive located in north of East Azerbaijan province in northwestern Iran 147 km northwest of Tabriz. It has the richest flora in Iran with about 775 known plant species.

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