

## **Two New Species of the Hilara Maura-Group (Diptera: Empididae) from Turkey**

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## TWO NEW SPECIES OF THE *HILARA MAURA*-GROUP (DIPTERA: EMPIDIDAE) FROM TURKEY

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### ABSTRACT

Two new species, *Hilara metinaktasi* Çiftçi, Hasbenli and Özgül **sp. nov.** and *Hilara barlasi* Çiftçi, Hasbenli and Özgül **sp. nov.**, of the *Hilara maura*-species group are described from Turkey. Both sexes of the new species are described, genitalia and forelegs are illustrated. The relationships between the new species and related species are compared, and the systematic positions of the new species within the complexes of the *H. maura*-group are discussed. An updated key to species of *Hilara* of Turkey is given.

Key words: taxonomy, Empididae, *Hilara*, Turkey, new species, key

### RESUMEN

Se describen dos nuevas especies de Turquía, *Hilara metinaktasi* Çiftçi, Hasbenli y Özgül **sp. nov.** y *Hilara barlasi* Çiftçi, Hasbenli y Özgül **sp. nov.** del grupo *Hilara maura*. Se describen e ilustran la pata anterior y la parte genital de ambos sexos de las nuevas especies. Se compara la relación entre las nuevas especies y especies relacionadas. Se discute la posición sistemática de las nuevas especies dentro de los complejos del grupo *H. maura*. Se provee una clave actualizada para las especies de *Hilara* de Turquía.

Palabras clave: taxonomía, Empididae, *Hilara*, Turquía, nuevas especies, clave

The *Hilara maura*-group is a well-defined natural species group of *Hilara* Meigen, being defined based on the secondary loss of sensory bristles on the body (Chvála 2005). Species of the *H. maura*-group are characterized by the following: humeral, intrahumeral and posthumeral bristles absent, legs devoid of distinct bristles, hind marginal bristles on abdomen absent, prothoracic episterna and whole prosternum covered with fine hairs and a distinct sensory pit below prothoracic spiracle (Chvála 2005).

Chvála (1996) revised the European species of the *H. maura*-group and included 15 species, divided into 4 species complexes: *media*-complex, *clypeata*-complex, *maura*-complex and *nitidula-femorella*-complex. Two additional species of this group from the Middle East (Israel) were recently added (Chvála 2008). Together with these studies there are 17 species of this group from the West Palearctic region. Before this study, there were no representatives of *H. maura*-group known from Turkey.

provinces in 2002 and 2010. For illustration, male genitalia and forelegs were dissected and cleared in 10% KOH for 24 h at 30 °C. Illustrated morphological parts were stored in small capsules with glycerol and pinned beneath specimens. In this study, the morphological nomenclature of McAlpine (1981), Stuckenberg (1999) and Sinclair (2000) were followed.

*HILARA METINAKTASI* ÇİFTÇİ, HASBENLİ AND ÖZGÜL  
**SP. NOV.** (FIGS. 1-5)

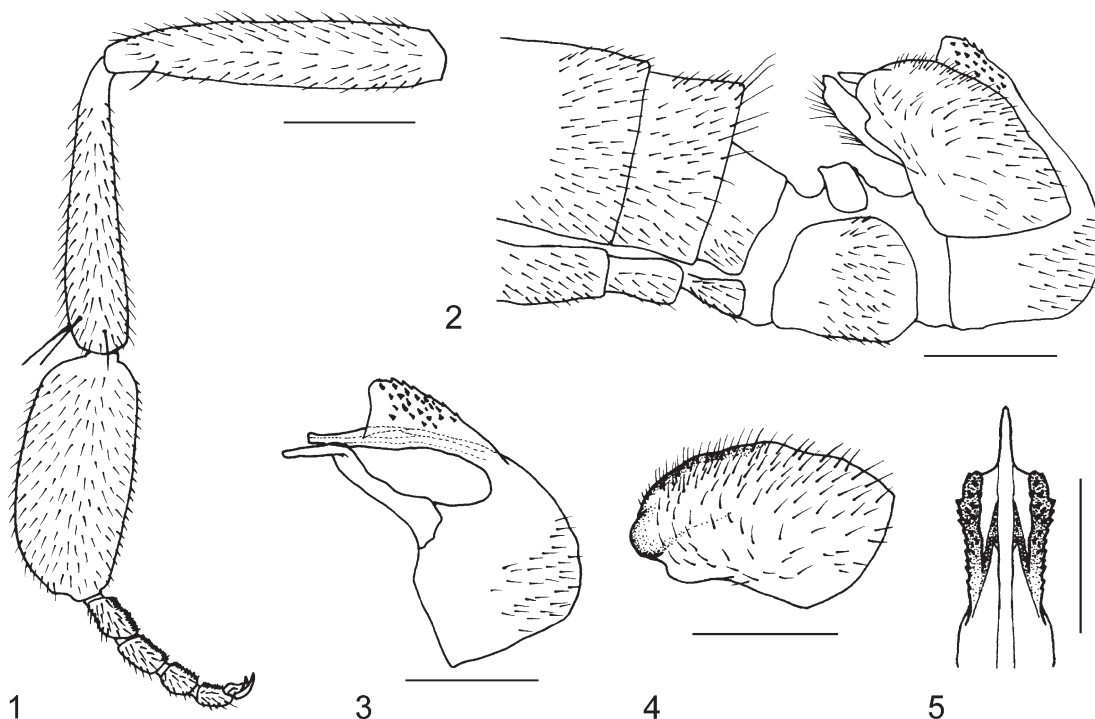
Diagnosis. A medium sized species of the *Hilara maura*-group. Legs short and robust, simple, brownish-black with slightly greyish dusting. Body subglossy black with slightly grey dusting, distinct bristles absent. Haltere black, antennal stylus short and stout. Scutum slightly greyish and brownish dusted with 3 black stripes. Acrostichals and dorsocentrals very short, acrostichals 2- to 4-serial, dorsocentrals biserial. Abdominal hairs short and yellowish-white.

### MATERIALS AND METHODS

This study is based on 14 male and 17 female specimens collected from the Adana and Uşak

### Male

Frons and face wide, face grey dusted and wider than long, frons dull black with silvery grey



Figs. 1-5. *Hilara metinaktasi* 1. Foreleg in posterior view; 2. Postabdomen; 3. Hypandrium; 4. Epandrial lamella in lateral view; 5. Tip of hypandrium in dorsal view. Scale = 0.3 mm.

triangular patch above antennae. Ocellar pair shorter than postpedicel without stylus, frontal pair half-length of ocellar pair and finer. Occiput dull black from any point of view, occipital hairs black; upper postocular bristles little longer than frontal pair, lower part of occiput below neck with shorter and finer brownish hairs. Antenna black, postpedicel long, stylus stout and one-third length of postpedicel. Palpus black, silvery dusted; ventrally black short haired and single preapical bristle as long as ocellar pair. Labrum slightly longer than half-length of height of head.

Thorax black, pleura grey dusted, scutum subglossy, slightly grey and brownish dusted with 3 wide faintly visible blackish stripes on lines of bristles in both anterior and posterior views. Scutum subglossy and nearly black in dorsal view. Acrostichals and dorsocentrals numerous and very short; acrostichals anteriorly biserial, 3- to 4-serial at middle and posterior part of scutum. Dorsocentrals biserial and ending with pair of short bristle-like prescutellar hairs. Large lateral bristles short and fine; humeral, intrahumeral and posthumeral bristles absent, 2-3 notopleural as long as ocellar pair, 1 supra-alar, 1-2 postalar and 2 pairs of scutellar (inner pair long) bristles. Prothorax including sides of pronotum covered with somewhat long whitish hairs, pronotum without bristles. Sensory pit below prothoracic spiracle bare, not guarded by hairs.

Wings almost clear, slightly brownish with dark brownish veins, radial fork ( $R_{4+5}$ ) not acute, anal vein only distinct at base. Stigma long and brownish, costal bristle short. Squama dark with yellowish fringes. Haltere black, stem brownish at base.

Legs brownish to brownish-black, robust and simple, slightly grey dusted, coxae greyish concolorous with thoracic pleura. Coxae covered with yellowish-white hairs, hairs on lower edge of coxae longer, mid coxa with 1-2 blackish bristly hairs. Other parts of legs with short yellow and black hairs, apical part of front tibia with slightly longer hairs, hind femur at apical half ventrally with long hairs longer than width of hind femur. Legs without distinct bristles except for preapical circlet of short bristles on all tibiae, mid femur anteriorly at base with bristly hair, mid tibia anteroventrally and hind tibia dorsally on apical half with row of bristly hairs. Preapical circlet of bristles on tibiae very short, only dorsal hair on fore tibia (Fig. 1) fairly long. Fore basitarsus (Fig. 1) very thickened with short pubescence like other tarsal segments.

Abdomen dark brownish-black, subglossy and slightly grey dusted. Abdominal hairs very short, yellowish-white, hind marginal bristles absent, only tergum 5 (Fig. 2) with bristle-like hairs on hind margin. Genitalia covered with fine hairs. Tip of hypandrium (Figs. 3 and 5) at middle very

enlarged laterally and bent upwards, tip simple and pointed. Epandrial lamella (Fig. 4) large without apical process.

Holotype. Male body length: 3.7 mm, wing length: 4.5 mm. Paratypes body length: male 3.5-3.9 mm; female 3.8-4.2 mm. Wing length: male 4.3-4.8 mm; female 4.3-4.8 mm.

#### Female

Very much like male, frontal bristles nearly indistinct, labrum longer, stripes on scutum more visible, wings more brownish clouded. Legs lighter colored, "knees" yellowish, bristly hairs on legs absent except for single anterior bristly hair on base of mid femur and preapical circlets on tibiae. Hind femur and fore basitarsus simple. Abdomen brownish with short yellowish-white hairs, hind marginal bristles absent and last abdominal segment greyish dusted.

#### Remarks

*Hilara metinaktasi* is a species of *H. clypeata*-complex and resembles *H. clypeata* Meigen because of completely black legs, the sensory pit below the prothoracic spiracle without hairs, very thickened fore basitarsus (Fig. 1) in male and simple and slender female hind tibia. Unlike *H. metinaktasi*, the radial fork ( $R_{4+5}$ ) is very acute,

acrostichal bristles narrowly biserial, and abdominal hairs black in *H. clypeata*.

#### Etymology

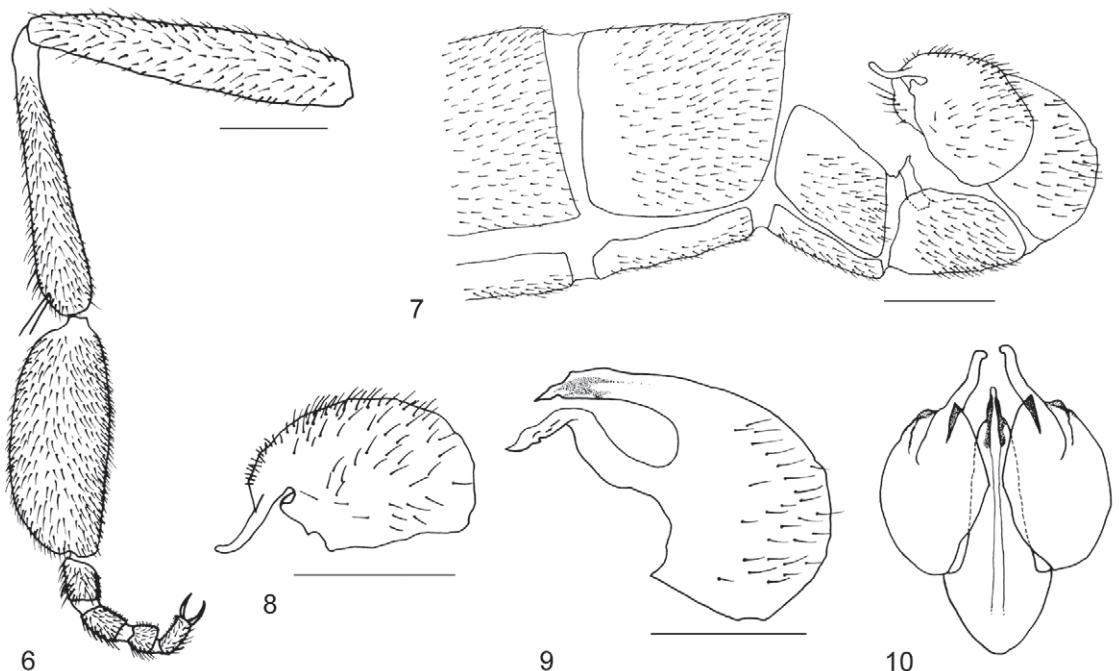
This species named in memory of Prof. Dr. Metin Aktaş (1955-2012), the chief editor of the "Journal of the Entomological Research Society" and a member of Gazi University, Department of Biology.

#### Material Examined

**HOLOTYPE:** ♂, TURKEY: Adana, Saimbeyli, Obrukbaşı plateau, 38° 02' N / 36° 06' E, 1491 m, 19.V.2002, leg A. Hasbenli. **Paratypes:** 4♂♂, 6♀♀ Adana, Saimbeyli, Obrukbaşı plateau, 38° 02' N / 36° 06' E, 1491 m, 19.V.2002, leg A. Hasbenli; 1♀, Adana, Tufanbeyli, Güzelimköyü, 38° 06' N / 36° 09' E, 1476 m, 19.V.2002, leg A. Hasbenli; 1♀, Adana, Tufanbeyli, Hanyeri village, 38° 12' N / 36° 00' E, 1775 m, 20.V.2002, leg A. Hasbenli.

#### *HILARA BARLASI* ÇİFTÇİ, HASBENLİ AND ÖZGÜL SP. NOV. (FIGS. 6-10)

**Diagnosis.** A medium sized species, antennae, haltere and legs black, only "knees" yellowish, sensory bristles on body very reduced or absent. Scutum with 3 black stripes on the lines of the bristles, acrostichal and dorsocentral bristles irregularly 2- to 4-serial. Occiput



Figs. 6-10. *Hilara barlasi* 6. Foreleg in posterior view; 7. Postabdomen; 8. Epandrial lamella in lateral view; 9. Hypandrium; 10. Genitalia in dorsal view. Scale = 0.3 mm.

dull black, stylus very short and stout. Abdominal hairs yellowish-white.

#### Male

Face and frons wide, face silvery-grey dusted, frons brownish grey dusted in anterior view, nearly dull black, only sides grey along thin line in dorsal view. Occiput dull black, brownish dusted behind ocellar area and sides of upper half of occiput grey dusted in posterior view. Ocellar pair as long as postpedicel without stylus, frontal pair fine, half-length of ocellar pair. Postocular occipital bristles on upper half black, as long as frontal pair but thicker, lower part of occiput below neck with fine and yellowish hairs. Antennae black, postpedicel as long as ocellar pair, stylus short and stout nearly one-third length of postpedicel. Palpus black, greyish dusted with yellowish tip. Palpus ventrally with black sparse hairs, preapical bristle distinct and slightly longer than other hairs on palpus. Labrum shorter than half-length of height of head.

Thorax black, scutum nearly dull black only slightly dark-grey dusted on lateral view, upper half of pleura dark-grey, lower half densely grey dusted. Scutum brownish-grey dusted with 3 distinct wide and black stripes, stripes faintly indistinct and prescutellar area brownish in dorsal view, scutum nearly subglossy black with indistinct stripes in posterior view. Acrostichals and dorsocentrals black, numerous, as long as length of pedicel. Acrostichals biserial in front, 2- to 4-serial and widely placed posteriorly, dorsocentrals 3-4 serial anteriorly, biserial at middle and 3-4 serial posteriorly and ending with normal short hairs, prescutellar bristles absent. Large lateral bristles short and fine; humeral bristle very short but distinct, intrahumeral and posthumeral bristles absent, 2 notopleural, 1 supra-alar, 1 postalar and 3 pairs of scutellar (inner pair longest and thickest) bristles. Postpronotum and notopleural depression anteriorly with short yellowish hairs. Pronotum without bristles at sides, only covered with yellowish-white hairs. Prosternum and prothoracic episterna with fairly long yellowish-white hairs; sensory pit below prothoracic spiracle bare, not guarded by hairs.

Wings almost clear, slightly brownish with blackish-brown veins. Anal vein only distinct at base, not reaching wing margin. Stigma brownish, costal bristle short. Squama blackish-brown with yellowish-white fringes. Haltere black, stem brownish at base.

Legs blackish-brown, simple, slightly grey dusted with yellowish "knees". Coxae greyish dusted concolorous with thoracic pleura with yellowish-white hairs. Fore coxa with 2 black bristles at lower edge; sides of mid and hind coxae with yellowish-brown bristly hairs. Legs with blackish short hairs, bristles absent, only mid femur

anteriorly at base with single bristly hair; preapical circlet of bristles on tibiae very short with exception of long dorsal hairs on fore tibia. Femora with short hairs, preapical hairs slightly longer. Tibiae with short hairs, hind tibia with slightly longer hairs and dorsally with row of bristly hairs as long as depth of tibia. Tarsal segments covered with short hairs, fore basitarsus (Fig. 6) thickened, ventral hairs slightly thickened.

Abdomen black, sterna grey dusted, terga subglossy and slightly brownish dusted. Abdominal hairs very short and yellowish-white, first two segments with longer hairs. Hind marginal bristles absent. Genitalia (Figs. 7-10) small, epandrial lamella (Fig. 8) oval. Tip of hypandrium slightly broad (Fig. 9), only extreme tip narrowed. Apical projection of epandrial lamella (Fig. 10) thin, long, slightly bent upwards and hook-like in dorsal view.

Holotype male body length: 4.2 mm, wing length: 4.5 mm. Paratypes body length: male 3.8-4.4 mm; female 3.6-4 mm. Wing length: male 4-4.6 mm; female 4.2-4.5 mm.

#### Female

Very much like male with shorter body length, basal half of wings more brownish and stigma more distinct. Coxae with yellowish hairs only; fore basitarsus, hind tibia and hind femur simple; preapical circlet of bristles short.

#### Remarks

*Hilara barlasi* is assigned to *H. clypeata*-complex and very similar to *H. alboclypeata* Chvála by black haltere, bare sensory pit below prothoracic spiracle, simple and unmodified black legs and yellowish-white abdominal hairs. *Hilara barlasi* has scutum brownish-grey in anterior view, humeral bristle short and fine; anal vein only distinct at base, mid femur with anterior bristle-like hair at base, hind tibia with dorsal row of hairs as long as depth of tibia, but in *H. alboclypeata*, scutum silvery-grey in anterior view, humeral bristle absent; anal vein abbreviated before wing margin, legs without distinct bristles. Also epandrial lamella and tip of hypandrium (Figs. 8-10) of *H. barlasi* is somewhat similar to *H. albipilosa* Engel but the yellow haltere of *H. albipilosa* clearly differentiate these two species.

#### Etymology

This species named after Prof. Dr. Murat Barlas from Muğla Sıtkı Koçman University.

#### Material Examined

HOLOTYPE: ♂, TURKEY: Uşak, Eşme, Güllü, Hamam stream, 38° 16' N / 29° 07' E, 540 m,



22.IV.2010, leg O. Özgül. Paratypes: 6♂♂, 9♀♀ Uşak, Eşme, Güllü, Hamam stream, 38° 16' N / 29° 07' E, 540 m, 22.IV.2010, leg O. Özgül; 2♂♂, Uşak, Halilefendiçiftliği village, Zahman creek, 38° 46' N / 29° 08' E, 655 m, 22.IV.2010, leg O. Özgül.

DISCUSSION

These 2 new species belong to the *Hilara clypeata*-complex within the *H. maura*-group because of the slender and simple hind femora in both sexes and bare sensory pit below the prothoracic spiracle. Also the new species resemble the *H. media*-complex by dorsal hairs on the hind tibia, but species of the *H. media*-complex have distinct bristles on the pronotum. *Hilara meti-*

*naktasi* is clearly assigned to the *H. clypeata*-complex, although the presence of dorsal bristly hairs on the hind tibia suggests similarities with the *H. media*-complex, nevertheless other morphological features fit well with the *H. clypeata*-complex. Also *H. barlasi* has a short, fine humeral bristle and dorsal bristly hairs on the hind tibia as in the *H. media*-complex, but the absence of pronotal bristles indicates that *H. barlasi* is a member of the *H. clypeata*-complex.

*Hilara* is poorly known from Turkey, and currently is represented by only 19 known species (Çiftçi & Hasbenli 2011; Çiftçi et al. (in press)). The 2 new species described in this paper represent the first records of the *H. maura*-group from Turkey.

KEY TO TURKISH SPECIES OF *HILARA*

The key is an updated version of Çiftçi et al. (in press), and is mainly based on the key of Chvála (2008).

- 1. Bristles on body and legs very reduced; humeral, intrahumeral and posthumeral bristles absent (humeral bristles very small and fine in *H. barlasi*), pronotum lacking a bristle on each side. A distinct sensory pit present below the prothoracic spiracle . . . . . 2
- Body and legs with distinct bristles; humeral, intrahumeral and posthumeral bristles present even if fine, pronotum always with a bristle on each side. No sensory pit below prothoracic spiracle . . . . . 3
- 2. Legs completely black to blackish-brown. Frons dull black with triangular patch above antennae. Acrostichals and dorsocentral bristles shorter than length of pedicel, dorsocentral bristles ending with pair of prescutellar bristles, humeral bristle absent. Hind marginal bristles on abdomen mostly absent, only tergum 5 (Fig. 2) with bristly hairs on hind margin . . . . . *H. metinaktasi* **sp. nov.**
- Legs blackish-brown with yellowish knees. Frons brownish grey dusted in anterior view, nearly dull black with only sides grey in dorsal view. Acrostichals and dorsocentral bristles as long as length of pedicel, dorsocentral bristles ending with normal short hairs, humeral bristle short and fine. Hind marginal bristles on abdomen absent . . . . . *H. barlasi* **sp. nov.**
- 3. Legs yellow, at least foreleg partly yellow on coxa and base of femur . . . . . 4
- Legs uniformly black, blackish-brown or only knees yellow . . . . . 8
- 4. Acrostichals 4-serial . . . . . 5
- Acrostichals biserial. . . . . 6
- 5. Smaller species, body 3 mm. Occiput dull grey, not black from any point of view, stylus as long as postpedicel, scutum unstriped. Abdomen dull blackish grey, first segments translucent brownish, abdominal hairs white. Male hind basitarsus with 3-4 anterodorsal bristles. Female hind tibia slender but distinctly curved, hind marginal bristles on abdomen very fine . . . . . *H. antalyensis* Chvála
- Larger species, body about 4-5 mm. Occiput dull black at least in some lights, stylus longer than postpedicel, scutum with 4 black stripes faintly visible in dorsal view. Abdomen dark grey, first 4 sterna translucent yellowish, abdominal hairs on terga black, yellowish brown on sterna. Male hind basitarsus without bristles. Female hind tibia slightly curved, hind marginal bristles on abdomen absent . . . . . *H. sakaryensis* Çiftçi et al.
- 6. Smaller species, body 3-3.5 mm. Occiput dull black at least in some lights, palpus yellow, stylus longer than postpedicel. Acrostichals and dorsocentrals long and bristle-like, wings clear or slightly brownish. Female hind tibia slightly curved . . . . . 7

- Larger species, body 5 mm. Occiput dull brownish-grey not black from any point of view, palpus black, stylus as long as postpedicel. Acrostichals and dorsocentrals short and hair-like. Wings brownish. Female hind tibia simple . . . . . *H. regnealai* Parvu
- 7. Coxae, femora and basal half of tibiae mostly yellow, tarsal segments and apical half of tibiae brown to brownish-black. Frons narrowed, as wide as pedicel, ocellar bristles long, frontal bristles very small, indistinct. Male fore basitarsus slightly thickened, dorsally with long bristles. Hind marginal bristles on abdomen long and strong, sternum 8 with normal hairs. Female haltere yellow, hind marginal bristles on abdomen distinct . . . . . *H. spectabilis* Chvála
- Legs extensively darkened, only fore coxa and fore femur yellow. Frons wider, as wide as base of postpedicel, ocellar and frontal bristles long. Male fore basitarsus distinctly thickened without dorsal bristles. Hind marginal bristles on abdomen long but thin, sternum 8 with 5-6 long bristles on posterior margin. Female haltere black as male, hind marginal bristles on abdomen indistinct. . . . . *H. manicata* Meigen
- 8. Acrostichals 4-serial (at least on anterior part) . . . . . 9
- Acrostichals biserial. . . . . 13
- 9. Occiput dull grey, not black from any point of view, ocellar bristles long, frontal bristles short and thin, 4-serial acrostichals widely spaced between dorsocentrals, scutum unstriped. Female hind tibia simple . . . . . *H. platyura*, Loew
- Occiput dull black at least in some lights, ocellar and frontal bristles long, acrostichals normally 4-serial, scutum with stripes altering in different views. Female hind tibia distinctly or slightly curved . . . . . 10
- 10. Legs blackish brown with slightly grey dusting, knees yellow. Frons and face grey, haltere yellow. Thorax with light grey dusting, scutum brownish. Bristles on legs reduced. . . . . *H. balikesirensis* Çiftçi et al.
- Legs completely black even on knees. Frons dull black, face grey, haltere black or yellowish brown to dark brown. Scutum slightly brownish or blackish grey. Legs with distinct bristles. . . . 11
- 11. Smaller species, body 2.5-3 mm. Labrum short. Innermost two rows of 4-serial acrostichals appear almost uniserial, alternating and very divergent, scutum with broad brownish median stripe, scutellum with 2 bristles. Mid femur anteriorly with row of long bristles. Male fore tibia slender with 2 dorsal bristly hairs, fore basitarsus shorter than fore tibia. Female hind tibia slightly thickened and curved. . . . . *H. bernmerzi* Chvála
- Larger species, body 3.5-4.5 mm. Labrum half length of height of head or longer. Acrostichals irregularly 4-serial, pattern of scutum different, scutellum with 4-6 bristles. Bristling of male legs and structure of female hind tibia different . . . . . 12
- 12. Labrum slightly longer than half length of height of head. Acrostichals 2- to 4-serial, dorsocentrals 2-3 serial, scutum with 3 more or less distinct reddish brown stripes in frontal view, in dorsal and posterior view scutum almost subglossy black. Mid femur anteriorly with 3 fine short bristles. Male fore tibia posterodorsally with very long bristles, fore basitarsus swollen, distinctly produced at tip, terminal projection with several long bristles. Female hind tibia slightly laterally compressed from behind, slightly bent . . . . . *H. cothurnata* Engel
- Labrum as long as height of head. Dorsocentrals uniserial, scutum with 2 shiny lines faintly visible in frontal view, in dorsal and posterior view scutum almost uniformly dull velvety black. Mid femur anteroventrally with short bristly-hairs. Male fore tibia dorsally with bristly hairs becoming longer towards tip, fore basitarsus unusually swollen as long as fore tibia, dorsally with long hairs. Female hind tibia spindle-shaped . . . . . *H. megalochira* Collin
- 13. Occiput dull grey, not black from any point of view. . . . . 14
- Occiput dull black at least in some lights . . . . . 15
- 14. Knees yellow. Ocellar bristles longer than frontal bristles, stylus as long as postpedicel. Scutum with 2 black stripes, acrostichals and dorsocentrals long, bristle-like. Abdominal hairs on terga

- black, yellowish on sterna, hind marginal bristles short and fine longer on tergum 5. Male fore basitarsus dorsally with 6 long and thin bristles, genitalia large, hypandrium laterally flattened and semicircular. Female unknown. . . . . *H. truva* Çiftçi et al.
- Legs completely black. Frontal bristles as long as ocellar bristles, stylus shorter than postpedicel. Scutum unstriped, acrostichals and dorsocentrals short, hair-like. Abdominal hairs black, hind marginal bristles short, indistinct. Male fore basitarsus dorsally with row of long bristles, genitalia smaller, hypandrium simple, apically narrowed. Female hind tibia slightly curved . . . . . *H. moceki* Chvála
15. Legs with yellowish knees. . . . . 16
- Legs completely black . . . . . 17
16. Labrum as long as height of head, haltere yellow, stylus as long as postpedicel. Scutum densely grey dusted, scutum with stripes altering in different view, 3 black stripes in frontal view, additional 2 stripes appear at sides of scutum in posterior view. Legs robust, fore femur ventrally with short bristles. Abdominal hairs black on terga, yellowish on sterna. Male wings brown, tip darkened apically, fore tibia dorsally with 5 bristles; fore basitarsus slightly thicker than tip of tibia, without bristles. Female wings darker, haltere yellowish-brown or almost blackish, abdominal hairs as in male. . . . . *H. hasankoci* Çiftçi & Hasbenli
- Labrum shorter than height of head, haltere black, stylus as long as half the length of postpedicel. Wings brownish. Scutum dark grey with brownish dusting, 2 black stripes faintly visible in frontal view. Legs slender, fore femur without bristles. Abdominal hairs black. Male fore tibia dorsally with long bristles on apical half; fore basitarsus swollen, dorsally with very long bristles on apical half. Female tergum 2 at sides with rather dense dark hairs . . . . . *H. deryae* Çiftçi & Hasbenli
17. Larger species, body 4-5 mm. Acrostichals and dorsocentrals short, hair-like. Wings darks brownish. Hind marginal bristles on abdomen indistinct or short and fine. Female hind tibia very swollen towards tip, as deep as or deeper than femur . . . . . 18
- Smaller species, body 2.5 mm. Acrostichals and dorsocentrals long, bristle-like. Wings clear, slightly brownish. Hind marginal bristles on abdomen long and strong, male sternum 8 with long bristles on posterior margin. Female hind tibia slightly compressed and curved . . . . . *H. kervillei* Collin
18. Labrum short, palpus with 2 preapical bristles. Scutum dark grey with slightly brownish dusting, 2 stripes faintly visible, pleura grey dusted, dorsocentrals uniserial. Abdominal hairs black but first 4 segments also with yellowish hairs. Male fore basitarsus very swollen, longer than tibia and dorsally with very long and multiserial bristles. Female wings long, not widened apically; hind tibia swollen, as deep as femur . . . . . *H. bolkarensis* Çiftçi et al.
- Labrum longer than half length of height of head, palpus with 1 preapical bristle. Scutum almost uniformly subshining black, pleura slightly grey dusting, dorsocentrals 1-2 serial. Abdominal hairs sparse and dark. Male unknown. Female wings rather short, apically widened and very broadly blunt at apex; hind tibia very swollen towards tip, deeper than femur. . . . . *H. turcica* Chvála

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REFERENCES CITED

CHVÁLA, M. 1996. A taxonomic revision of the *Hilara maura*-group (Diptera: Empididae) in Europe. Systematic Entomol. 21(4): 265-294.

CHVÁLA, M. 2005. The Empidoidea (Diptera) of Fennoscandia and Denmark. IV Genus *Hilara*. Fauna Entomol. Scandinavica 40: 1-233. Brill, Leiden.

CHVÁLA, M. 2008. Monograph of the genus *Hilara* Meigen (Diptera: Empididae) of the Mediterranean region. Studia Dipterologica Suppl. 15, Ampyx-Verlag, Halle (S.).

ÇİFTÇİ M. C., AND HASBENLİ, A. 2011. Two new species of *Hilara* (Diptera, Empididae) from northwestern Turkey. Zootaxa 2928: 49-56.



- ÇİFTÇİ, M. C., HASBENLİ, A., AND KOÇ, H. 2012. Three new species of *Hilara* Meigen (Diptera: Empididae) from Turkey. *Turkish J. Zool.* (in press).
- MCALPINE, J. F. 1981 Morphology and terminology - Adults [Chapter 2], pp. 9-63 *In* J. F. McAlpine, B. V. Peterson, G. E. Shewell, H. J. Teskey, J. R. Vockeroth and D. M. Wood [eds.], *Manual of Nearctic Diptera*, Vol. 1. Monograph 27. Research Branch, Agriculture Canada, Ottawa, Canada.
- SINCLAIR, B. J. 2000. Morphology and terminology of Diptera male terminalia, pp. 53-74 *In* L. Papp and B. Darvas [eds.], *Contributions to a Manual of Palaearctic Diptera*, Vol. 1. General and Applied Dipterology, Science Herald, Budapest.
- STUCKENBERG, B. R. 1999. Antennal evolution in the Brachycera (Diptera), with a reassessment of terminology relating to the flagellum. *Studia Dipterologica* 61(1): 33-48.