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MUSTAFA CEMAL ÇİFTÇİ

ABDULLAH HASBENLİ

HASAN KOÇ

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## Three new species of *Hilara* Meigen (Diptera: Empididae) from Turkey

Mustafa Cemal ÇİFTÇİ<sup>1\*</sup>, Abdullah HASBENLİ<sup>1</sup>, Hasan KOÇ<sup>2</sup>

<sup>1</sup>Department of Biology, Faculty of Science, Gazi University, 06500 Teknikokullar, Ankara – TURKEY

<sup>2</sup>Department of Biology, Faculty of Science, Muğla University, 48170 Kötekli, Muğla – TURKEY

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**Abstract:** Three new species from the Marmara region of Turkey are described: *Hilara sakaryensis* sp. nov. (*Hilara abdominalis*-group), *Hilara truva* sp. nov. (*Hilara canescens*-group), and *Hilara balikesirensis* sp. nov. (*Hilara intermedia*-group). Males and females are described and compared with related species, and male genitalia and forelegs are illustrated. The systematic position of the new species within the species groups is discussed, and a key to the Turkish species of *Hilara* Meigen is given.

**Key words:** Taxonomy, Empididae, new *Hilara*, Turkey

### Introduction

*Hilara* Meigen, 1822 is among the largest genera within Empididae, with more than 250 species from the Palearctic Region; most of them (about 200 species) are only known in Europe (Chvála, 2008). Chvála (2008) evaluated 82 species and described 31 new species from the Mediterranean region. In his monograph, he mentioned only 9 species from Turkey. There were only 14 species of *Hilara* known from Turkey (Çiftçi and Hasbenli, 2007, 2011; Raffone, 2007; Chvála, 2008; Çiftçi et al., 2008).

In this study 3 new species are described and assigned to the following 3 groups. The *Hilara abdominalis*-group comprises large, light gray dusted species with extensively yellow legs and halteres. Chvála (2001) revised the Palearctic species of this group, finding 8 species and dividing the group into 3 complexes: the *discolor*-complex, *abdominalis*-

complex, and *mediasiatica*-complex. Later, Chvála (2008) added 2 new species of the *H. abdominalis*-group from the Mediterranean.

The *H. canescens*-group is characterized by a small- to medium-sized body and a strongly black bristled thorax with distinct humeral, posthumeral, and intrahumeral bristles. Acrostichals and dorsocentrals are long and bristle-like, at most 10 bristles in a row; mid femur with a row of bristles anteriorly and abdomen with well-developed hind marginal bristles (Chvála, 2005). Chvála defined the *H. canescens*-group with 13 species from cold and temperate Europe. Later, following studies from the East Mediterranean (Chvála, 2008) and central European faunas (Chvála and Merz, 2009), the number of species in the group reached 30.

The *H. intermedia*-group, formerly known as the *H. quadrivittata*-group, was defined by Collin (1961)

\* E-mail: empididae@gmail.com

with 11 species. Species of *H. intermedia*-group are medium-sized to large, from very light gray to extensively dull brownish black with a distinctly striped or blackish scutum, large thoracic bristles rather small and fine, and legs devoid of distinct bristles (Chvála, 2002, 2005). Previously, Chvála (2002) revised the European *H. intermedia*-group and recognized 17 species within 3 well-defined species complexes. Up until now there were 23 species known from Europe and the Middle East (Chvála, 2002, 2005, 2008; Chvála and Merz, 2009).

### Materials and methods

This study is based on 28 male and 8 female specimens collected from Sakarya, Kocaeli, Çanakkale, and Balıkesir provinces (Marmara region, Turkey) in 2009 and 2010. For illustration purposes, male genitalia and forelegs were dissected and cleared in 10% KOH for 24 h at 30 °C. After drawing, the genitalia and forelegs were stored in small capsules with glycerol and pinned beneath the specimens. In this study, the morphological nomenclature of Chvála (2005, 2008) is followed.

While creating the key to the *Hilara* species of Turkey, the authors did not see the specimens of some species. In these cases the characters used in the key were taken from the detailed descriptions of Chvála (2005, 2008).

The specimens were collected during field studies for the PhD thesis entitled “Empididae (Diptera) of Marmara Region” by the senior author, and all specimens are deposited in the Zoological Museum of Gazi University (ZMGU).

### Results

#### *Hilara sakaryensis* sp. nov. (Figure 1)

**Diagnosis:** Large species of *H. abdominalis*-group, body about 4.2–5 mm long, with mostly yellow legs. Antenna black with blackish brown basal segment, palpus brownish yellow with 2 preapical bristles. Haltere yellow with darkened knob. Male fore basitarsus long cylindrical (Figure 1a), scarcely thicker than tibia, female hind tibia slightly curved.

**Description:** *Male.* Frons dark gray, as wide as the width of 2nd antennal segment. Face slightly wider than frons, lighter gray colored, and lower margin shining black. Pair of ocellar bristles long, frontal bristles shorter than ocellar pair. Occiput gray dusted, dark gray and dull black from some points of view. Occipital bristles black. Antenna black, 1st and 2nd antennal segments blackish brown, stylus longer than 3rd antennal segment. Palpus brownish yellow, with long hairs ventrally and 2 preapical bristles. Labrum shiny black, slightly longer than half the length of height of head.

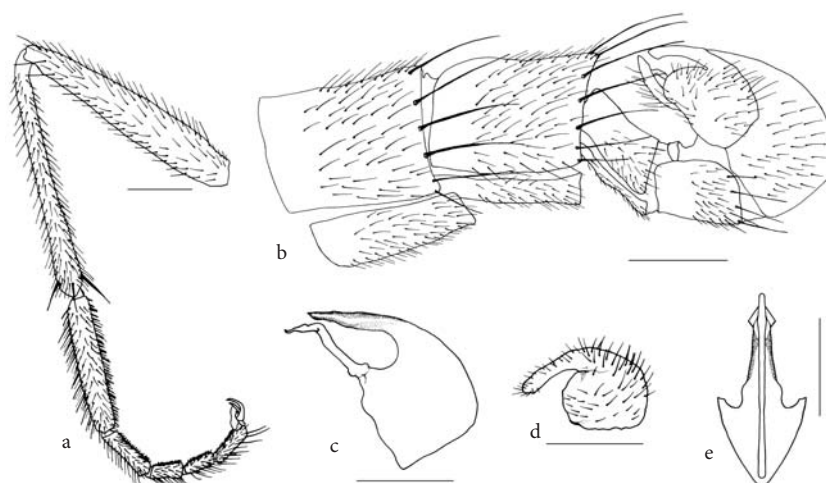


Figure 1. *Hilara sakaryensis* sp. nov.: a) foreleg in posterior view, b) postabdomen, c) hypandrium, d) lateral lamella, e) tip of hypandrium in dorsal view. Scale = 0.3 mm.

Thorax light gray dusted with slightly brownish scutum. Thoracic bristles and hairs black. Scutum with 4 faintly visible blackish stripes in dorsal view. Acrostichal and dorsocentral bristles short, hair-like. Acrostichal bristles 4-serial, longer than dorsocentral bristles; dorsocentral bristles uniserial, ending with 2 very long prescutellar pairs. Large marginal bristles long: 1 fine humeral, 1 short intrahumeral, 1 posthumeral, 3 notopleural, 1 supraalar, 1 postalar, and 2 pairs of scutellar bristles. Pronotum with black bristle on each side with a few short black hairs between them. Proepisternum covered with black short hairs and long bristle as long as humeral bristle. Prosternum with brownish pubescence.

Wings almost clear, only costal area slightly brownish with contrasting black veins. Anal vein indistinct. Stigma long and brown, costal bristle quite long and strong. Squama pale with dark margin and black fringes. Haltere yellow with darkened knob.

Legs long, mostly yellow but tip of fore and mid tibiae and hind tibia darkened, tarsal segments almost black. Coxae slightly gray dusted. All hairs and bristles on legs black. All femora with short hairs, only apical hairs slightly longer. Mid femur with 5 long anterior bristles. All tibiae with short hairs and distinct preapical circlet of bristles. Preapical bristles on fore tibia longest (Figure 1a). Fore and mid tibiae without distinct bristles except for preapical circlets. Hind tibia with row of short dorsal and anteroventral bristles. Tarsal segments with dense dorsal hairs as long as depth of segments, with dense pubescence ventrally. Fore basitarsus (Figure 1a) long cylindrical, scarcely thicker than tibia at tip and two-thirds the length of fore tibia. All basitarsi with short but strong spine-like bristles ventrally.

Abdomen dark gray, sterna yellowish brown (anterior 4 sterna translucent yellowish, terga 1–2 lighter colored than others), distal 2 segments black. Hairs on terga black, hairs on sterna very short and brownish yellow. Hind marginal bristles distinct but not very long. Genitalia small (Figures 1b–1e), tip of hypandrium (Figures 1c and 1e) arrow-shaped in dorsal view. Lateral lamella (Figure 1d) with long finger-like process.

*Female.* All main differential characters as in male but all hairs and bristles shorter. Wings darker colored, squama with yellow fringes. Acrostichal and

dorsocentral bristles short and equally long. Fore tibia anteroventrally, mid tibia posteroventrally with short strong bristly hairs. Hind tibia slightly curved. Abdominal hairs pale and hind marginal bristles absent.

Holotype male: body length 4.8 mm, wing length 5.1 mm. Paratypes: body length, male, 4.5–5 mm; female, 4.2–5 mm. Wing length: male, 4.8–5.2 mm; female, 5.4–5.9 mm.

**Remarks:** *Hilara sakaryensis* is a species of *H. abdominalis*-group on the basis of the large and light gray body, extensively yellow legs, and 4-serial acrostichal bristles short and hair-like, dorsocentral bristles uniserial. *H. sakaryensis* is very closely related to *H. cypriana* Chvála in the *H. abdominalis*-group, sharing darkened haltere but differing in its short labrum, proepisternum with long bristle, wings faintly brownish, squama yellow with darker edges, and fringes black. In *H. sakaryensis* the fore coxa have brownish hairs, mid femur with 5 anterior bristles in the male; fore basitarsus (Figure 1a) without dorsal bristly hairs; anterior 4 sterna translucent yellowish, terga 1–2 lighter colored, and genitalia small, dull gray, but in *H. cypriana* all coxae have yellow hairs, mid femur with 4 anterior bristles, fore basitarsus with dorsal bristly hairs; abdomen finely grayish, not translucent yellow, hypandrium and lateral lamella shining black towards tip.

*H. sakaryensis* leads to section 21 in the monograph of Chvála (2008). The morphological characters written in bold were added by the present authors to clearly differentiate *H. sakaryensis* from *H. cypriana*.

21a) Legs blackish brown on tarsi. Antennae black also on basal segments, frontal pair of bristles much shorter and finer than ocellars. **Labrum as long as height of head, palpus with a long preapical bristle.** Haltere with knob very darkened, dark grayish. **Male squama with whitish fringes, fore basitarsus with several bristly hairs dorsally.** Female: hind tibia laterally flattened and very darkened ... *H. cypriana* Chvála

21b) Legs blackish brown on tarsi. Antennae black, basal segments blackish-brown, frontal pair of bristles shorter but not much shorter than ocellars. **Labrum slightly longer than half length of height of head, palpus with 2 preapical bristles.** Haltere with

knob very darkened, dark grayish. **Male squama with black fringes, fore basitarsus (Figure 1a) without dorsal bristly hairs.** Female: hind tibia very darkened, only yellowish at base, slightly curved and flattened ... *H. sakaryensis* sp. nov.

**Type material:** HOLOTYPE ♂, TURKEY, Sakarya, Karasu, Taşlıgeçit village, 41°07'N, 30°28'E, 20 m, 17.V.2010, leg. M. Çiftçi (ZMGU). PARATYPES: 13♂♂, 2♀♀, TURKEY, Sakarya, Karasu, Taşlıgeçit village, 41°07'N, 30°28'E, 20 m, 17.V.2010, leg. M. Çiftçi (ZMGU); 2♀♀, TURKEY, Kocaeli, İzmit, Servetiyecami village, 40°39'N, 29°56'E, 340 m, 19.V.2010, leg. M. Çiftçi (ZMGU).

**Etymology:** This species is named after Sakarya Province, where the type material was collected.

***Hilara truva* sp. nov. (Figure 2)**

**Diagnosis:** Medium-sized species of *H. canescens*-group, body 3.6–4.3 mm long. Occiput densely gray dusted; palpus, haltere, and legs black. Scutum with 2 black stripes, acrostichals biserial and bristle-like. Fore basitarsus (Figure 2a) thickened, with 6 long thin bristles dorsally. Male genitalia (Figures 2b–2e) very large with laterally flattened hypandrium (Figure 2c).

**Description:** *Male.* Frons and face with gray dusting, frons wider than face, lower edge of face with a shiny black patch at middle. Pair of ocellar and frontal bristles long, ocellar pair longer than frontal

pair. Occiput densely gray dusted, not black from any point of view. Upper part of occiput with bristles long and black, bristles on lower half short, brownish and thin. Antenna black, stylus thickened, as long as 3rd antennal segment. Palpus black with sparse, short brownish hairs; preapical bristle longer than 3rd antennal segment with stylus. Labrum shining black, as long as two-thirds height of head.

Thorax dark gray dusted. Pleura lighter gray than scutum. Scutum black, slightly brownish dusted with 2 black stripes between the lines of acrostichals and dorsocentrals; lateral edges of scutum, prescutellar area, and scutellum with light gray dusting. Acrostichal and dorsocentral bristles equally long and bristle-like. Acrostichals biserial, forming row of about 9 setae, dorsocentral uniserial, and ending with pair of long prescutellar bristles. Large marginal bristles distinct: 1 humeral, 1 intrahumeral, 1 posthumeral, 3 notopleural, 1 supraalar, 1 postalar, and 2 pairs of scutellars. Humeri and notopleural depression with a few blackish brown hairs anteriorly. Pronotum with black bristle on each side and between them a row of short brownish hairs. Sides of prosternum with pale hairs, proepisternum bare.

Wings faintly brownish, almost clear with black veins. Costal bristle long, stigma black, moderately distinct. Anal vein only distinct at base, faintly extended to but not reaching wing margin. Squama

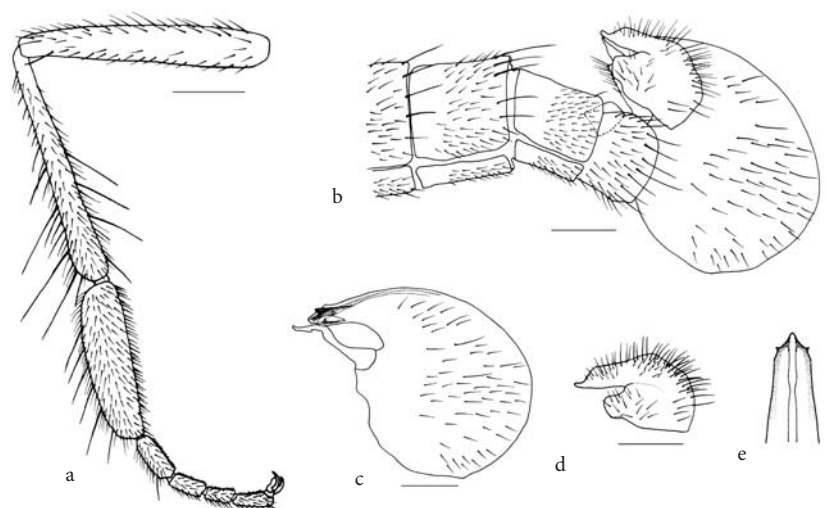


Figure 2. *Hilara truva* sp. nov.: a) foreleg in posterior view, b) postabdomen, c) hypandrium, d) lateral lamella, e) tip of hypandrium in dorsal view. Scale = 0.3 mm.

dark yellow with pale fringes. Haltere black with brownish stem.

Legs black with slightly gray dusting, “knees” (tip of femora and base of tibiae) yellow. Coxae gray dusted, same coloration as pleura with black hairs, only upper part of fore coxae with brownish yellow hairs. Femora with short black hairs, only preapical hairs slightly longer. Mid femur with row of bristles anteriorly, slightly shorter on apical half. All tibiae with short black hairs and pale pubescence; preapical cirlet of bristles long on fore tibia (Figure 2a), shortened on mid and hind tibiae. Fore tibia (Figure 2a) on apical half with 4 bristles dorsally, with 3 long bristles at middle anteroventrally. Mid tibia on apical half anteroventrally with 2 short spine-like bristles. Hind tibia dorsally with 3 rather long bristly hairs and on apical half anteroventrally with 2 short spine-like bristles. All tarsal segments with short hairs. Fore basitarsus (Figure 2a) thickened, as long as following 3 tarsal segments. Fore basitarsus (Figure 2a) with 6 long thin bristles dorsally.

Abdomen black, same coloration as thorax. Hairs on terga black, sterna with sparse pale hairs; hind marginal bristles fine, tergum 5 with rather long bristles. Genitalia (Figures 2b–2e) very large, hypandrium (Figure 2c) laterally flattened and semicircular. Lateral lamella (Figure 2d) deeply cleft, apical process broad but pointed towards tip.

*Female.* Unknown.

*Holotype:* male body length 3.7 mm, wing length: 4.4 mm. *Paratypes:* body length 3.6–4.3 mm, wing length: 4.2–4.7 mm.

**Remarks:** *Hilara truva* is a species of *H. canescens*-group very similar to *H. tabarkensis* Chvála with black legs, haltere, and especially by the almost circular and laterally flattened hypandrium. *H. tabarkensis* has scutum unstriped, fore tibia with 2 preapical bristles; fore basitarsus narrowly oval, rather cylindrical, and clothed with short hairs. *H. truva* has 2 black stripes on scutum, fore tibia (Figure 2a) with 4 bristles on apical half dorsally and with 3 long bristles at middle anteroventrally, fore basitarsus (Figure 2a) thickened, with 5 long bristles dorsally.

*H. truva* leads to the first couplet of section 73 in the monograph of Chvála (2008) and it is differentiated from *H. tabarkensis* as follows:

73a) Smaller, body about 2.5–3 mm long. Antennal style long, at most only slightly shorter than 3rd segment; acrostichals and dorsocentrals long and bristle-like, as long as antennal style. Abdomen brownish-gray dusted, pubescence sparse and long, black, with very long but thin hind marginal bristles. Male fore basitarsus long ovate and rather narrow, only slightly wider than tibia at tip, covered with short hairs only, no bristles. Female unknown ... *H. tabarkensis* Chvála

73b) Larger, body about 3.6–4.3 mm long. Antennal style thickened, as long as 3rd segment; acrostichals and dorsocentrals long and bristle-like, slightly shorter than antennal style. Abdomen dark gray dusted, abdominal hairs on terga black, sterna yellowish, hind marginal bristles short and fine, only tergum 5 with rather long bristles. Male fore basitarsus (Figure 2a) thickened, as long as following 3 tarsal segments, with 6 long bristles dorsally. Female unknown ... *H. truva* sp. nov.

**Type material:** HOLOTYPE ♂, TURKEY, Çanakkale, Yenice, Bayatlar village, 39°50'N, 27°18'E, 255 m, 26.IV.2010, leg. M. Çiftçi (ZMGU). PARATYPES: ♂, TURKEY, Çanakkale, Ayvacık, Gülpınar Tuzla village, 39°34'N, 26°10'E, 12 m, 10.IV.2010, leg. M. Çiftçi (ZMGU); 2♂♂, TURKEY, Balıkesir, Akçakısrak, 39°20'N, 27°56'E, 385 m, 23.IV.2010, leg. M. Çiftçi (ZMGU).

**Etymology:** The species is named after the ancient city of Truva (Troy) within the border of Çanakkale Province, where the type material was collected.

***Hilara balikesirensis* sp. nov. (Figure 3)**

**Diagnosis:** Large and light gray dusted species of *H. intermedia*-group, body about 4.2–4.8 mm long. Antenna and palpus black, haltere yellow. Acrostichals and dorsocentrals very short and hair-like. Scutum with 4 black stripes in dorsal view. Legs completely black, only the knees slightly yellowish.

**Description:** *Male.* Face and frons wide with gray dusting, occiput dull black, lower part of occiput gray dusted in lateral view. Frons and occiput dull black in dorsal view, upper part of occiput brownish and dark gray dusted in posterior view. Ocellar and frontal bristles equally as long as 3rd antennal segment excluding stylus. Occipital bristles short; on lower half long and yellow, on upper half only black

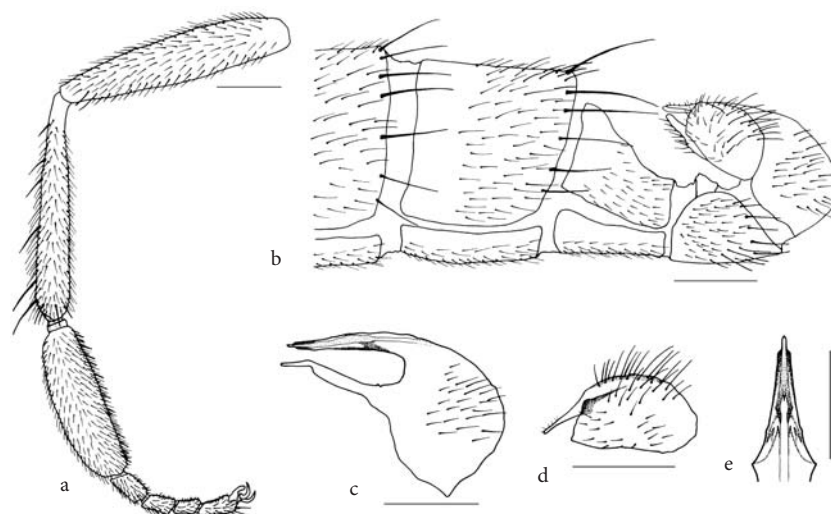


Figure 3. *Hilara balikesirensis* sp. nov.: a) foreleg in posterior view, b) postabdomen, c) hypandrium, d) lateral lamella, e) tip of hypandrium in dorsal view. Scale = 0.3 mm.

postocular row present. Antenna black, slightly gray dusted. Third antennal segment and stylus long and thick, stylus three-quarters as long as 3rd antennal segment. Palpus black, gray dusted, with sparse brownish hairs ventrally and a bristly ventral hair at middle as long as stylus; preapical bristle nearly as long as 3rd antennal segment. Labrum shiny black, as long as height of head.

Thorax brownish gray on scutum, pleura and lateral edge of scutum light gray dusted. Scutum in frontal view with 2 broad blackish brown stripes and light gray very narrow median stripe; in dorsal view with 4 dull black stripes, inner stripes narrower, outer stripes broader and anteriorly coalescent with inner stripes; viewed from behind scutum dull black with light gray median stripes as in frontal view but broader. Acrostichal and dorsocentral bristles black, short, as long as length of 2nd antennal segment. Acrostichals irregularly 4-serial, uniserial dorsocentrals becoming longer posteriorly and ending with very long prescutellar pair. Large marginal bristles: humeral, posthumeral, and intrahumeral bristles fine, other bristles long and strong; 1 humeral, 1 posthumeral, 1 intrahumeral, 3 notopleural, 1 supraalar, 1 postalar, and 2 pairs of scutellar (outer pair short) bristles. Humeri and notopleural depression anteriorly with short yellow hairs. Postalar bristle with 5 small bristly

hairs anteriorly. Pronotum with brownish bristle on each side and inner side of pronotal bristles with row of short pale hairs. Proepisternum and sides of prosternum with pale hairs.

Wing faintly brownish with blackish brown veins and faint brownish stigma, veins lighter colored at base. Anal vein only distinct at base. Costal bristle as long as ocellar bristles. Squama dirty yellow with pale fringes. Haltere completely yellow.

Legs long, stout, blackish brown, and finely grayish pollinose, only knees yellowish. Coxae light gray like pleura, slightly darker colored; with dense pale hairs and long brownish yellow bristly hairs. Bristles on legs very reduced, only dorsal bristles and preapical circlets present on tibiae. Femora covered with short hairs. Fore tibia (Figure 3a) slightly thickened towards tip, with short bristles dorsally. Mid tibia with short spine-like bristles anteroventrally. Hind tibia with bristles as long as width of tibia dorsally and anteroventrally, anteroventral bristles slightly thicker than dorsal bristles. Tarsal segments with short hairs, ventral hairs on first tarsomeres slightly thicker than the other hairs. Fore basitarsus (Figure 3a) thickened, longer than rest of tarsus.

Abdomen densely brownish dusted on terga, gray and slightly brownish dusted on sterna. Abdominal hairs short and mostly yellow, only median part of

terga with black hairs, sternum 1 with very long hairs. Hind marginal bristles fine, only segment 6 with very long hind marginal bristles as long as postalar bristle. Genitalia (Figures 3b–3e) small, brownish with brownish yellow hairs. Hypandrium simple (Figures 3c and 3d), lateral lamella small (Figure 3d), apical process very narrow and needle-like.

*Female.* General appearance as in male, but scutum less brownish dusted, costal stigma distinct and bristles on tibia shorter than male. Hind tibia distinctly curved, fore basitarsus simple. Haltere yellow with brownish stem. Labrum longer than height of head.

*Holotype:* male body length 4.7 mm, wing length: 4.9 mm. *Paratypes:* body length, male, 4.3–4.7 mm; female, 4.2–4.8 mm. Wing length: male, 4.6–4.9 mm; female, 4.5–4.8 mm.

**Remarks:** *Hilara balikesirensis* is a species of *H. intermedia*-group and closely resembles *Hilara beckeri* Strobl because of the thoracic pattern, dull black occiput, and very short haired legs. *H. beckeri* has black bristles on head, pronotal bristles black, wings clear, fore tibia with 1–2 dorsal bristly hairs and mid tibia dorsally and anteroventrally with very small bristles, whereas *H. balikesirensis* has pale hairs on lower half of occiput, pronotal bristles brownish yellow, wings faintly brownish, fore tibia (Figure 3a) with row of bristly hairs dorsally, and mid tibia without dorsal bristles. However, the main difference between *H. balikesirensis* and *H. beckeri* is the shape of the apical process of the lateral lamella: *H. beckeri* with long, slender, curved apical process, which is small and pointed in *H. balikesirensis* (Figure 3d). The shape of the lateral lamella (Figure 3d) of *H. balikesirensis* is also similar to *H. hirta* Strobl, but the biserial acrostichal bristles, dull gray occiput, and thoracic pattern of *H. hirta* clearly separate these 2 species.

*H. balikesirensis* leads to the first couplet of section 101 in the monograph of Chvála (2005). This section separates the species due to their thoracic pattern, but the thoracic pattern of *H. beckeri* and *H. balikesirensis* are identical. For this reason *H. balikesirensis* is differentiated from *H. beckeri* as follows:

101a) Bristles and hairs on head black; pronotal bristles black. Wings clear; fore tibia with 1–2 bristly

hairs dorsally, mid tibia with very small dorsal and anteroventral bristles ... *H. beckeri* Strobl

101b) Hairs on lower half of occiput yellow; pronotal bristles brownish yellow. Wings faintly brownish; fore tibia (Figure 3a) with row of bristly hairs dorsally, mid tibia without dorsal bristles ... *H. balikesirensis* sp. nov.

**Type material:** HOLOTYPE ♂, TURKEY, Balıkesir, Edremit, Güre town, Avcılar village, Dedepınarı site, 39°35'N, 26°48'E, 260 m, 16.V.2009, leg. H. Koç (ZMGU). PARATYPES: 9♂♂, 4♀♀, same locality and date as holotype (ZMGU).

**Etymology:** The name of the species is derived from the type locality.

## Discussion

Up until now, there were 14 species of *Hilara* recorded from Turkey, resulting from relatively few studies (Çiftçi and Hasbenli, 2007, 2011; Raffone, 2007; Chvála, 2008; Çiftçi et al., 2008). There is no comprehensive study of the Turkish *Hilara*, the most detailed to date being that of Chvála (2008), who reported 9 species, 5 of them described as new.

*Hilara sakaryensis* is very similar to *H. cypriana* within the *H. abdominalis*-group. They both share the defining characters of this group, including a large body with light gray dusting, extensively yellow legs and haltere, acrostichals 4-serial and small and hair-like. However, unlike members of the *Hilara abdominalis*-group, *H. sakaryensis* has narrow frons (as wide as 2nd antennal segment), occiput dark gray to dull black from some points of view, and females with slightly curved hind tibia.

*Hilara truva* is assigned to the *H. canescens*-group with medium-sized body, biserial acrostichal bristles (9 bristles in 1 row), all thoracic bristles strong and distinct, mid femora with complete row of bristles anteriorly; but it has slight differences such as black legs and haltere like *H. tabarkensis* and *H. nigrina* (Fallén) within the *H. canescens*-group.

*H. balikesirensis* is definitely a species of *H. intermedia*-group because of the densely light gray body, 4 striped scutum, fine large thoracic bristles (humeral, posthumeral, and intrahumeral), and reduced bristles on legs.



**Key to Turkish species of *Hilara***

1. Legs yellow, at least foreleg partly yellow on coxa and base of femur ..... 2
  - Legs uniformly black, blackish brown, or only knees yellow ..... 6
2. Acrostichals 4-serial ..... 3
  - Acrostichals 2-serial ..... 4
3. Smaller species, body 3 mm long. Occiput dull gray, not black from any point of view, stylus as long as 3rd antennal segment, scutum unstriped. Abdomen dull blackish gray, first segments translucent brownish, abdominal hairs white. Male hind basitarsus with 3–4 bristles anterodorsally. Female hind tibia slender but distinctly curved, hind marginal bristles on abdomen very fine ..... *H. antalyensis* Chvála
  - Larger species, body about 4–5 mm long. Occiput dull black at least in some lights, stylus longer than 3rd antennal segment, scutum with 4 black stripes faintly visible in dorsal view. Abdomen dark gray, 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* sp. nov.
4. Smaller species, body 3–3.5 mm long. Occiput dull black at least in some lights, palpus yellow, stylus longer than 3rd antennal segment. Acrostichals and dorsocentrals long and bristle-like, wings clear or slightly brownish. Female hind tibia slightly curved ..... 5
  - Larger species, body 5 mm long. Occiput dull brownish gray, not black from any point of view, palpus black, stylus as long as 3rd antennal segment. Acrostichals and dorsocentrals short and hair-like, wings brown. Female hind tibia simple ..... *H. regnealai* Parvu
5. 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 2nd antennal segment, 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 3rd antennal segment, 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
6. Acrostichals 4-serial (at least on anterior part)..... 7
  - Acrostichals 2-serial ..... 11
7. Occiput dull gray, not black from any point of view, ocellar bristles long, frontal bristles short and thin, acrostichals widely 4-serial, 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 ..... 8
8. Legs blackish brown with slightly gray dusting, knees yellow. Frons and face gray, haltere yellow. Thorax light gray dusted, scutum brownish. Bristles on legs reduced ..... *H. balikesirensis* sp. nov.
  - Legs completely black, even on knees. Frons dull black, face gray, haltere black or yellowish brown to dark brown. Scutum slightly brownish or blackish gray. Legs with distinct bristles ..... 9
9. Smaller species, body 2.5–3 mm long. Labrum short. Innermost 2 rows of acrostichals almost uniserial, alternating and very divergent, scutum with a broad brownish median stripe, scutellum with 2 bristles. Mid femur with a row of long bristles anteriorly. 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 long. Labrum half the 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 ..... 10
- 10. Labrum slightly longer than half the length of height of head. Acrostichals 2- to 4-serial, dorsocentrals 2- to 3-serial, scutum with 3 more or less distinct reddish brown stripes in frontal view, in dorsal and posterior view scutum almost subshining black. Mid femur with 3 fine short bristles anteriorly. Male fore tibia with very long bristles posterodorsally, 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 with short bristly hairs anteroventrally. Male fore tibia with bristly hairs becoming longer towards tip dorsally, fore basitarsus unusually swollen as long as fore tibia, with long hairs dorsally. Female hind tibia spindle-shaped ..... *H. megalochira* Collin
- 11. Occiput dull gray, not black from any point of view ..... 12
- Occiput dull black at least in some lights ..... 13
- 12. Knees yellow. Ocellar bristles longer than frontal bristles, stylus as long as 3rd antennal segment. 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 (Figure 2a) with 6 long and thin bristles dorsally, genitalia large (Figures 2b–2e), hypandrium (Figure 2c) laterally flattened and semicircular. Female unknown ..... *H. truva* sp. nov.
- Legs completely black. Frontal bristles as long as ocellar bristles, stylus short. Scutum unstriped, acrostichals and dorsocentrals short, hair-like. Abdominal hairs black, hind marginal bristles short, indistinct. Male fore basitarsus with a row of long bristles dorsally, genitalia smaller, hypandrium simple and apically narrowed. Female hind tibia slightly curved ..... *H. moceki* Chvála
- 13. Legs with yellowish knees ..... 14
- Legs completely black ..... 15
- 14. Labrum as long as height of head, haltere yellow, stylus as long as 3rd antennal segment. Scutum densely gray dusted, scutum with stripes altering according to point of view, 3 black stripes in frontal view, additional 2 stripes appear at sides of scutum in posterior view. Legs robust, fore femur with short bristles ventrally. Abdominal hairs black on terga, yellowish on sterna. Male wings brown, tip darkened apically, fore tibia with 5 bristles dorsally; 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 and Hasbenli
- Labrum shorter than height of head, haltere black, stylus as long as half the length of 3rd antennal segment, wings brown. Scutum dark gray with brownish dusting, 2 black stripes faintly visible in frontal view. Legs slender, fore femur without bristles. Abdominal hairs black. Male fore tibia with long bristles on apical half dorsally; fore basitarsus swollen, with very long bristles on apical half dorsally. Female tergum 2 at sides with rather dense dark hairs ..... *H. deryae* Çiftçi and Hasbenli
- 15. Larger species, body 4–5 mm long. Acrostichals and dorsocentrals short, hair-like. Wings dark 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 ..... 16
- Smaller species, body 2.5 mm long. 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

16. Labrum short, palpus with 2 preapical bristles. Scutum dark gray with slightly brownish dusting, 2 stripes faintly visible, pleura gray dusted, dorsocentrals uniserial. Abdominal hairs black but first 4 segments also with yellowish hairs. Male fore basitarsus very swollen, longer than tibia and with very long and multiserial bristles dorsally. Female wings long, not widened apically, hind tibia swollen, as deep as femur ..... *H. bolkarensis* Çiftçi et al.
- Labrum longer than half the length of height of head, palpus with 1 preapical bristle. Scutum almost uniformly subshining black, pleura slightly gray dusting, dorsocentrals 1- to 2-serial. Abdominal hairs sparse and dark. Male unknown. Female wings rather short, apically widened, and very broadly blunt at tip; hind tibia very swollen towards tip, deeper than femur ..... *H. turcica* Chvála

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