Two new species and ten new records of Heteroptera from Turkey, including the first record of the potential alien Campylomma miyamotoi in the Western Palaearctic

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Abstract. In this paper, two new Miridae species are described from Turkey, Adelphophylus oenderi sp. nov. from Silifke (Mersin province) and Phytocoris (Exophytocoris) carapezzai sp. nov. from Merkez (Karaman province). Habitus of males and females and male genitalia of A. oenderi sp. nov. are illustrated. Additionally, 10 Heteroptera species are recorded from Turkey for the first time: Campylomma miyamotoi Yasunaga, 2001, Compsidolon (Compsidolon) elegantulum Reuter, 1899, Halloldapus concolor (Reuter, 1890), Maurodactylus kukuenensis V. G. Putshkov, 1978, Pinalitus viscicola (Puton, 1888), Platycranus alkestis Linnavuori, 1999, Zanchius breviceps (Wagner, 1951), Montandoniola moraguesi (Puton, 1896), Temnostethus (Temnostethus) gracilis Horváth, 1907, and Plinthusis (Isioscytus) minutissimus Fieber, 1864. Campylomma miyamotoi Yasunaga, 2001, an Eastern Palaearctic species bound to the ornamental Albizia julibrissin, is a new potentially alien species in the Western Palaearctic. The species status of Compsidolon (Compsidolon) parietariae V. G. Putshkov, 1984 is discussed.

Key words. Hemiptera, Heteroptera, Anthocoridae, Miridae, Rhyparochromidae, Albizia julibrissin, alien species, new records, new species, Turkey, Palaearctic Region

Introduction

Heteroptera is a suborder of Hemiptera which two years ago was considered to contain approximately 45,254 described species (HENRY 2017). Most true bugs are phytophagous, zoophagous, or zoophytophagous, though there is a minority of mycophagous and ectoparasitic, hematophagous species. Some of them are also adapted to unusual habitat types such as spider webs, ant and termite nests, caves, aquatic and semiaquatic habitats as well as intertidal zones (SCHUH & SLATER 1995). The Heteroptera fauna of Turkey was investigated by several researchers in recent years and these studies resulted in records of 54 new species previously unknown from Turkey (MATOCQ et al. 2014; ÇERÇI & KOÇAK 2016, 2017a,b; FENT & DURSUN 2016; YAZICI & YILDIRIM 2017; YILDIRIM & YAZICI 2018; ÖZGEN & ÇERÇI 2018; ÖZGEN & DIOLI 2018; DIOLI & ÖZGEN 2018; ARSLANGÜNDÜGÜDÜ et al. 2018; CARAPEZZA & KMENT 2018; BOLU et al. 2019). In this study, 10 Heteroptera species are new records for Turkey. Some of them were already known from the neighbouring countries, which suggests that they have already been present in Turkey for a long time and have been found only now thanks to a more intense research. Besides the newly recorded species, in the past 40 years 28 new species have been originally described from Turkey (MATOCQ 2000; MATOCQ & PLUOT-SIGWALT 2001, 2011; DOĞANLAR et al. 2007; MEMON & AHMAD 2008; MORKEL & WYNIGER 2009; ÇERÇI & DURSUN 2017; DURSUN & FENT 2017; GÜNTER & STRAUSS 2018; CARAPEZZA & KMENT 2018; MATOCQ 2019). In this paper, a new species of the genus Adelphophylus Wagner, 1959 and a new species of the genus Phytocoris Fallén, 1814 are described. The finding of a new species
of *Adelphophylus* from the South of Turkey is noteworthy considering that all known species of this genus are distributed in mountainous regions of the Balkans (Protic 2003, Matocq & Magnien 2009). The finding of a new *Phytocoris* species from Anatolia is not surprising since 10 out of 40 *Phytocoris* species known from Turkey were originally described from Anatolia (Kerzhner & Josifov 1999, Lodos et al. 2003, Onder et al. 2006, Dursun & Fent 2017, Cerçi & Koçak 2017).

**Material and methods**

Methods of specimen collection are mentioned as “collection circumstances” under each species if known. Habitus photos were taken with a Nikon D3200 DSLR camera combined with a macro bellow and a Lomo 3.7X 0.11 Microscope lens. Identification of the Miridae species was based on the following publications: Yasunaga et al. (2015), Wagner (1974); Linnenauer (1984), and Knyshev & Konstantinov (2013). Identification of the Rhyparochromidae species was based on Perciart (1998). Identification of the Anthocoridae species was based on Perciart (1972) and Pluot-Sigwart et al. (2009). The specimens examined are deposited in the following institutions and collections:

- AZMM: Alajehr Zoological Museum, Manisa, Turkey;
- LEMT: Lodos Entomological Museum, Izmir, Turkey;
- BCIT: Bank Cerçi collection, Izmir, Turkey.

**Description of new species**

*Adelphophylus oenderi* sp. nov.

(Fig. 1)

**Type locality.** Turkey, Mersin, Silifke, 36°22′39.1″N 33°56′10.7″E.

**Material examined.** **Holotype:** 1 ♀ (LEMT), TURKEY: MERSIN: Silifke, 36°22′39.1″N 33°56′10.7″E, 25.07.1984; glued on a pointed cardboard with male genitalia inside a tube filled with glycerol, labels as follows: ‘Turkey, Mersin prov./Silifke, on Verbascum sp./F. Onder coll. [white printed label]’ // Holotypus / Adelphophylus oenderi sp. n. / B. Cerçi det. 2019 / [red printed label]. **Paratypes:** TURKEY: MERSIN: Silifke, 36°22′39.1″N 33°56′10.7″E, 25.07.1984; glued on a pointed cardboard with male genitalia inside a tube filled with glycerol, labels as follows: ‘Turkey, Mersin prov./Silifke, on Verbascum sp./F. Onder coll. [white printed label]’ // Holotypus / Adelphophylus oenderi sp. n. / B. Cerçi det. 2019 / [red printed label].

**Diagnosis.** The new species is recognized by the combination of the following characters: shape oval, general coloration reddish brown to black, head always more or less brownish, antennae, legs, coxae and labium pale yellow, hemelytra unicolorous, slightly translucent and enlarged towards apical half, vesica (Fig. 1C) with one short and two long processes, short process without any neighbouring teeth, one of long processes thick and armed with small denticles, other one thin and unarmed. Both parameres very similar to that of congers. Dorsal view of bursa copulatrix as in Fig. 1D. Sclerotized rings large, slightly different from each other in shape. Sclerotized recess (SR) above rings small.

**Differential diagnosis.** The genus *Adelphophylus* consists of the following four species occurring in the mountainous areas of the Balkans: *A. balcanicus* Kormilev, 1939 from south Macedonia, south Bulgaria and Albania, *A. kormilevi* Protic, 2003 from south Macedonia, *A. serbicicus* Protic, 2003 from central Serbia and *A. pericarti* Matocq & Magnien, 2009 from south Bulgaria and the north of Greece (Matocq & Magnien 2009). *Adelphophylus oenderi* sp. nov. was discovered in Toros mountains in South Anatolia. Its remote distribution readily suggests that this separate population might belong to a separate species. As noted by Matocq & Magnien (2009), the species of *Adelphophylus* are almost undistinguishable from each other in appearance, and examination of male genitalia is necessary for a reliable identification. *Adelphophylus oenderi* is not an exception, being almost identical to the other species of the genus in general shape and coloration. With its length of 3.2–3.7 mm, *A. oenderi* is slightly smaller than the four Balkan species of the genus (among them the smallest one is *A. balcanicus*, with females 3.8 mm long) (Wagner 1959, Protic 2003). In addition to its small size, the new species might be distinguished from *A. pericarti* by the reddish brown to dark brown colored head (black in *A. pericarti*) and by the consistently...
enlarged hemelytra (parallel-sided in the other three species of the genus). However, these characters are not fully reliable and may vary substantially when a large number of specimens are examined. Consequently, the only reliable distinguishing feature is the structure of the vesica. As mentioned by Matocq & Magnien (2009), the four Balkan species can be divided into two groups with respect to the shape of their vesica which is short, thick, and robust in A. balcanicus, A. kormilevi, and A. serbicus, and long, thin, and U-shaped in A. pericarti. In this respect, A. oenderi belongs to the second group but is unique in the genus due to the presence of a third apical process of vesica. Additionally, the short apical process of the vesica is finger-shaped and mutic. In contrast, the short apical processes of A. balcanicus, A. serbicus, and A. pericarti are armed with numerous teeth which form a characteristic hand-like structure; A. kormilevi lacks the short process altogether (Protic 2003). The new species can also be distinguished from A. pericarti by the structure of bursa copulatrix. Sclerotized rings of A. oenderi are larger and broader than those of A. pericarti, and the sclerotized recesses above sclerotized rings (SR in Fig. 1D) are smaller.

**Biology.** The species of this genus are known to feed on Verbascum sp. (Scrophulariaceae) (Matocq & Magnien 2009). Specimens of A. oenderi were also found on Verbascum sp.

**Etymology.** The new species is dedicated to Prof. Dr. Feyzi Önder who was the finest Turkish entomologist that ever lived, contributed to the knowledge of the Heteroptera fauna of Turkey throughout his life and was the collector of this new species.

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**Phytocoris (Exophytocoris) carapezzai sp. nov.** (Figs 2, 5A)

Type locality. Turkey, Karaman, Merkez, 37°13′18.3″N 33°13′14.2″E.
Material examined. Holotype. 1 ♂ (AZMM), TURKEY: KARAMAN: Merkez, 37°13′18.3″N 33°13′14.2″E, 8.ix.2015; glued on a pointed cardboard with male genitalia on the same cardboard, labelled as follows: ‘Turkey, Karaman prov./ Merkez, with UV light trap / Ö. Koçak coll. [white printed label] // Holotypus / Phytocoris (Exophytocoris) carapezzai sp. n./ B. Çerçi det. 2019 [red printed label]’. Paratypes: TURKEY: KARAMAN: 2 ♂, Merkez, 8.ix.2015, light trap, Ö. Koçak leg., B. Çerçi det. (BCIT).

Diagnosis. The new species is recognized by the combination of the following characters: general coloration yellowish brown, pronotum darker than hemelytra and scutellum. First antennal segment white with dense red patterns, eyes very big, ocular index 0.6–0.8 in male. Posterior margin of pronotum with narrow white marginal band and wavy and uninterrupted brown submarginal band. Hemelytra with scattered reddish pattern, tip of clavus darkened, outer margin of corium and inner margin of cuneus with red dots interrupted by white coloration along their whole length, inner upper corner of cuneus with isolated red dot. Membrane brownish and translucent with dense small pale patches. Femora (Fig. 2B) dark brown with dense white dots. Left paramere edentate (Fig. 2E), hypophysis strongly enlarged before apex, vesica with marginally dentate lamellae apically (Fig. 2D), sclerotized process of vesica (Fig. 2C) stick-like, long and thick, edentate and slightly bent towards apex.

**Description. Male. Coloration.** General coloration yellowish brown (Fig. 2A). Head yellowish brown with reddish patterns. First antennal segment whitish, maturated in red, second antennal segment yellow except

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![Fig. 1. Adelaphophylias oenderi sp. nov.: A – male; B – female; C – vesica; D – bursa copulatrix. Abbreviation: SR – sclerotized recess. Scale bars: A, B – 1 mm; C – 0.5 mm; D – 0.1 mm.](image-url)
for white basal ring, third antennal segment black with white ring both basally and apically, apical ring sometimes absent, last segment unicolorous black. Pronotum pale brown, pronotal collar red maculated, posterior margin with narrow white marginal band and wavy and uninterrupted brown submarginal band. Scutellum unicor- norous yellowish brown. Hemelytra yellowish brown with scattered reddish pattern, outer margin of corium with red dots interrupted by white coloration along its whole length, very tip of clavus darkened. Outer and inner margins of cuneus with reddish dots interrupted by white coloration, upper inner corner of cuneus with isolated prominent red dot. Membrane brownish with dense pale maculation. Femora reddish brown with numerous white dots of different sizes, tibiae white with broad reddish ring basally and small and irregular reddish spots towards apex, tarsi and claws pale.

Vestiture. Upper surface with mostly suberect and rarely erect thick brown setae and adpressed silvery scale-like setae. First antennal segment with several long erect black spines in addition to adpressed brown setae, rest of antennal segments covered only with dense adpressed hyaline setae. Tibial spines pale, femora with long adpressed black setae, vestiture of tibiae as in last three antennal segments.

Structure. Body 4.00–4.60 mm long, macropteronous, elongate, parallel-sided, 3.5 times as long as basal width of pronotum, head transverse in dorsal view, twice as wide as long, 0.7 times as wide as posterior margin of pronotum and 1.7 times as wide as anterior margin of pronotum, in lateral view as high as long with shallow notch between frons and base of tylus, eyes very large, ocular index 0.6–0.8. Antennae as long as total length of body. First antennal segment 0.8 times as long as diatone, second antennal segment 1.3 time as long as basal width of pronotum. Ratio of antennal segments 12:30:21:12. Pronotum strongly trapezoid, posterior margin 2.4 times as wide as anterior margin, lateral margins straight. Rostrum reaching posterior coxae.

Vesica (Figs 2C–D) with stick-like long and thick sclerotized process bending slightly in apical third (Fig. 4A), primary membranous sac with weakly sclerotized wrinkles and marginally dentate lamellae (Fig. 2D), several strongly sclerotized structures present near secondary gonopore. Left paramere (Fig. 2E) with sensory lobe slightly produced, hypophysis strongly enlarged before apex. Right paramere elongate, with preapical bulge on right side, apex straight (Fig. 2F).

Female. Living specimen, see Fig. 5A. Unfortunately, this specimen was not available for description.

Differential diagnosis. The new species is placed in the subgenus Exophytocoris Wagner, 1961 of the genus Phy- tocoris Fallén, 1814 because of the combination of the following features: the first antennal segment ornamented, the third antennal segment brownish with a pale basal ring, head in lateral view as long as high with a shallow notch between frons and base of tylus, and left paramere edentate. The subgenus Exophytocoris includes 25 species (Kerzner & Josifov 1999, Pagola-Carte 2010, Carapez-
New records

Family Miridae
Subfamily Phylinae

Campylomma miyamotoi Yasunaga, 2001
(Figs 3A–B, 5B–C)


Collection circumstances. Light trap.

Comment. Campylomma Reuter, 1878 is a diverse genus with plenty of similar species (Konstantinov et al. 2016). In most cases, species of this genus can only be distinguished by the shape of their vesica. In recent years, four Campylomma species were recorded from Turkey for the first time (Konstantinov et al. 2016; Çerçi & Koçak 2017a,b).

Recently, the first author collected a series of a remarkably small Campylomma species by light traps. Examination of vesica showed that this species did not correspond to any Campylomma species known from the West Palaearctic Region. After considering the East Palaearctic species of Campylomma, we reached the conclusion that our specimens belong to Campylomma miyamotoi Yasunaga, 2001, a species known from Japan and Korea (Dunval et al. 2013, Yasunaga et al. 2015). The host plant of C. miyamotoi is Albizia julibrissin D., a tree whose original range extended from China and Korea to Azerbaijan and Iran (Karaer et al. 2015). Albizia julibrissin has been planted as an ornamental tree in Turkey since the 18th century. It grows on the whole coastline of Turkey as well as in regions with temperate climate (Karaer et al. 2015). Our light traps were located next to an A. julibrissin tree. The finding of C. miyamotoi in İzmir, Turkey is quite interesting. It is highly possible that this species was introduced to Turkey by man but there is also the possibility that the species, even if known only from East Asia, is present throughout the whole distribution range of the host plant, from Japan to Turkey. Living adults, male (Fig. 5B) and female (Fig. 5C), a mounted male (Fig. 3A) and vesica (Fig. 3B) are illustrated. An identification key to distinguish Campylomma species known from Turkey is provided below.

Distribution in Turkey. İzmir (this work).

Key to the species of Campylomma from Turkey
(adapted from Konstantinov et al. 2016)

   - Vesica with two apical blades. ......................................................... 2
2. Second antennal segment in male entirely dark brown or black. ......................................................... 3
   - Second antennal segment in male pale with a dark ring basally or entirely pale. ................................. 7
   - Anterior blade considerably shorter than posterior one. ................................................................................. 4
- Posterior blade distinctly elongated, anterior blade long and thin (cf. Konstantinov et al. 2016: Figs 5–6; Çerçi & Koçak 2017b: Fig. 2C). ......................... 5
5 Pronotum dark brown to black. On *Juniperus* sp. ................ C. vendicarinum Carapezza, 1991
- Pronotum pale. ............................................................... 6
6 Second antennal segment in female entirely black. Anterior blade of vesica almost straight, not curved at midpoint. ................. C. diversicorne Reuter, 1878
- Second antennal segment in female pale with a narrow black ring basally. Anterior blade of vesica bent at midpoint, on *Salix* spp. ... C. annulicorne (Signoret, 1865)
7 Lateral strap of vesica apically spine-shaped, giving impression of third apical blade in lateral view. ................. 8
- Lateral strap of vesica not spine-shaped. ......................... 9
- Spine-shaped lateral strap of vesica reaching apex of posterior blade (Fig. 3B), on *Albizia julibrissin*. ................. C. miyamotoi Yasunaga, 2001
9 Second antennal segment entirely pale colored. ..... 10
- Second antennal segment pale with a dark ring basally. ......................... C. verbasci (Meyer-Dür, 1843)
10 Entire clypeus contrasting dark brown. On *Populus* spp. ......................... C. nigronasutum Reuter, 1878
- Clypeus pale and immaculate. ........................................ C. unicolor Poppius, 1914

**Compsidolon (Compsidolon) elegantulum Reuter, 1899**
(Fig. 3C)


Comment. The genus *Compsidolon* Reuter, 1899 consists of small species with mostly dotted hemelytra (Wagner 1965). The subgenus *Compsidolon* consists of the following four species: *C. bicolor* (Reuter, 1883), *C. elegantulum* Reuter, 1899, *C. nebulosum* Reuter, 1878, and *C. parietariae* V. G. Putshkov, 1984. *Compsidolon elegantulum* is known to feed on *Parietaria* sp. (Urticaceae) and *Podonosma orientalis* (Boraginaceae) (Wagner 1975; Linnavuori 1993). It has a Syrio-Anatolian distribution and is known from Iran, Iraq, Israel, Jordan, and Syria.
(Kerzhner & Josifov 1999, Linnavuori & Modarres 1999). Compsidolon elegantulum and C. parietariae are two very similar species, and the latter was distinguished from the former by V. G. Pusthkov (1984) by the following characters: apex of second antennal segment obscured, black scutellum and large size (2.5–2.7 mm). Among the typical specimens of C. elegantulum that we examined, there was a male which had a second antennal segment with obscured apex and dark scutellum. Furthermore, Linnavuori (1951) described a female specimen of C. elegantulum [as a new species, Psallus badius Linnavuori, 1951 which he later synonymized with C. elegantulum (Linnavuori 1953)] that measured 2.7 mm. Linnavuori (1992) differentiated C. parietariae from C. elegantulum in his key to the species of the subgenus Compsidolon by the following additional characters: pale basal half of hemelytra immaculate, head 0.83 (♀) as broad as basal width of pronotum and ocular index 2.21 (♀). But in the original description V. G. Pusthkov (1984) mentioned the presence of indistinct brownish dots on pale basal half of the hemelytra. Also the ratios that are used to distinguish C. parietariae from C. elegantulum by Linnavuori (1992) are very close to those of C. elegantulum so they may vary when a large number of specimens are examined. Also both authors did not indicate any difference between the male genitalia of the two species. Considering all these remarks, C. parietariae can very well be a junior synonym of C. elegantulum. Since we were not able to examine the types of C. parietariae we cannot suggest a definite synonymy between these two species. However, we want to encourage the experts who have an easy access to the types of C. parietariae to re-examine these specimens and evaluate the status of C. parietariae with our remarks in mind.

**Distribution in Turkey.** Mersin (this work).

### Halodapus concolor (Reuter, 1890)
(Fig. 5D)

**Material examined.** TURKEY: Izmir: Urla, 38°18′33.9″N 26°43′47.8″E; 17.vii.2018, 2 ♀♀; 22.vii.2018, 1 ♂; 2.viii.2018, 1 ♀, B. Çerçi leg. and det. (BCIT).

**Collecting circumstances.** Light trap.

**Comment.** The genus *Halodapus* Fieber, 1858 is represented by two species in Turkey: *H. sutturalis* (Herrich-Schäffer, 1839) and *H. pseudoconcolor* (Linnavuori, 1984). While the former is widely distributed in the West Palaearctic Region, the latter is only known from Iraq and the South East of Turkey (Matocq et al. 2014). *Halodapus concolor* Reuter, 1890 is distributed in tropical Africa from Cameroon to Sudan and in Asia from Saudi Arabia and Azerbaijan all the way to Kirghizia and in Europe only in Crete (Greece) (Kerzhner & Josifov 1999). This species was observed to live on low grass vegetation in dry sandy areas (Linnavuori 1996). *Halodapus concolor* (Figs 8A, B) is most similar to *H. pseudoconcolor* but differs from it in the shape of the left paramere and theca (see Linnavuori 1984).

**Distribution in Turkey.** Izmir (this work).

### Maurodactylus kukuensis
V. G. Pusthkov, 1978
(Fig. 4A–B)


**Comment.** Maurodactylus Reuter, 1878 is a small genus with six species described so far (Kerzhner & Josifov 1999). Among them *Maurodactylus kukuensis* V. G. Pusthkov, 1978 and *Maurodactylus acanthophylli* V. G. Pusthkov, 1980 are the only two species with dark dorsal vestiture (V. G. Pusthkov 1978a, 1980). These two species can be easily distinguished from each other by the coloration of antennae which is uniformly black in both sexes of *M. kukuensis* and uniformly pale in both sexes of *M. acanthophylli*. The specimens we examined perfectly fit the description and illustrations of *M. kukuensis* morphologically but there is an important point to be noted about the male genitalia of our specimens. The apex of vesica of the specimens we examined is bifid unlike the illustration of the vesica of *M. kukuensis* in the original publication which has a long and sharp single tip (V. G. Pusthkov 1978a). This difference in the vesica either indicates that the apical part of the vesica is variable in different populations or that the illustrations of V. G. Pusthkov are incorrect. *Maurodactylus kukuensis* was originally described to be associated with the plant Grammosciadium platycarpum (Apiceae) (V. G. Pusthkov 1978a). Specimens we examined were collected from an undetermined plant species belonging to the family Apiceae. *Maurodactylus kukuensis* was described from Shakhbuz District of Nakhchivan Republic, Azerbaijan, and was only known from its type locality until now.

**Distribution in Turkey.** Bitlis (this work).

### Subfamily Mirinae

### Pinalitus viscicola
(Puton, 1888)
(Fig. 4C)


**Comment.** The genus *Pinalitus* Kelton, 1955 is represented by three species in Turkish fauna: *P. atomarius* Meyer-Dür, 1843, *P. cervinus* Herrich-Shäffer, 1841, and *P. conspurcatus* Reuter, 1875 (Önder et al. 2006). *Pinalitus viscicola* is widely distributed in most European countries and is also known from Morocco and doubtfully from Tunisia in North Africa (Kerzhner & Josifov 1999). However, the species was never recorded from any Asian country and its new record from Central Anatolia is the first record for the Asian continent. This species is known to be associated with *Viscum album*, and also the specimens we examined were collected from the same host plant. *Pinalitus viscicola* can be distinguished from its congeners known from Turkey by the presence of two broad transverse reddish brown bands, one on the posterior and one on the anterior third of corium.

**Distribution in Turkey.** Nevşehir (this work).

Subfamily Orthotylinae

*Platycranus* (*Genistocapsus*) *alkestis*
Linnavuori, 1999
(Fig. 4D)


Comment. The genus *Platycranus* Fieber, 1870 consists of green and broad headed species which are strictly associated with *Genista* spp. In Turkish fauna, *Platycranus* is represented by five species: *P. erberi* Fieber, 1870, *P. putoni* Reuter, 1879, *P. remanei* Wagner, 1955, *P. genistae* Lindberg, 1948, and *P. bicolor* (Douglas & Scott, 1868) (ÖNDER et al. 2006). While the first two species belong to the subgenus *Platycranus* s. str., the other three species belong to the subgenus *Genistocapsus* Wagner, 1956 which is identified by the long labium reaching at least the middle coxae (KNYSCH & KONSTANTINOV 2013). *Platycranus alkestis* Linnavuori, 1999 was originally described from the island of Rhodes and was known only from its type locality up to now. This species can be distinguished from other species of its subgenus by relatively long first antennal...
segment (0.7× as long as width of head) and brown colored pronotum and scutellum (KNYSHOV & KONSTANTINOV 2013). The specimens we examined have paler coloration with scutellum being pale brown and pronotum being yellowish to green (Fig. 4D).

**Distribution in Turkey.** Antalya (this work).

**Zanchius breviceps** (Wagner, 1951) (Fig. 11A)

**Material examined.** TURKEY: Muğla: Bodrum, 37°03′59.1″N 27°15′02.3″E, 31.vii.2012, 1 ☀, B. Çerçi det. and leg. (BCIT); Fethiye, 36°54′36.2″N 28°45′21.2″E, 30.viii.2015, 1 ☀, B. Çerçi det. and leg. (BCIT); İzmir: Urla, 38°18′33.9″N 26°43′47.8″E: 22.viii.2018, 1 ☀, B. Çerçi det. and leg. (BCIT).

**Collection circumstances.** On *Ficus* sp., attracted to light trap as well.

**Comment.** *Zanchius* is a very diverse genus with most species distributed in tropical Africa and the East Palaearctic Region (LINNAVUORI 1994b, KERZHNER & JOSIFOV 1999). *Zanchius alatanus* Hoberlandt, 1956, described from Turkey (Mersin: Alata), was considered the single representative of this genus in Turkey. *Zanchius breviceps* was originally described from Egypt (WAGNER 1951). Later it was discovered to occur in tropical Africa from Nigeria to Eritrea, in most parts of the Middle East, in Cyprus and Crete (KERZHNER & JOSIFOV 1999). It was reported to be associated with *Trichilia emetica* (Meliaceae) (LINNAVUORI 1975), *Abutilon* sp., *Gossypium* sp. (both Malvaceae) (LINNAVUORI 1994b), and *Calotropis procera* (Apocynaceae) (LINNAVUORI 2009). Recently, this species was discovered in Malta associated with a new plant, *Ficus* sp. (MIFSUD et al. 2012). The first author too observed this species on *Ficus* sp. in İzmir and Muğla (Figure 5E). They were abundant on every *Ficus* sp. tree checked in İzmir. This species can be easily distinguished from *Z. alatanus* by the lack of middle red rings on the second antennal segment.

**Distribution in Turkey.** İzmir, Muğla (this work).
Family Anthocoridae

*Montandoniola moraguensis* (Puton, 1896)  
(Fig. 5F)

Material examined. TURKEY: MERSIN: Anamur, 36°02’08.3°N 32°48’31.7°E, 17.vii.2018, 1 ♀, O. Koçak leg., B. Çerçi det. The specimen was only photographed but not collected.

Comment. *Montandoniola moraguensis* is an important biological control agent used to fight thrips invasions on economically important crops. It is unique among the Anthocoridae species known from Turkey because of its thrips-like appearance (Fig. 11B). It lives inside the galls or gall-like deformations caused by the thrips on which it feeds (PLUOT-SIGWALT et al. 2009). *Montandoniola moraguensis* is known from the following countries: the Balearic Islands, France, Italy, Spain, the Canary Islands, Israel, Morocco, Algeria, Tunisia, Egypt, Chad, Sudan, Burkina Faso, and South Africa (PLUOT-SIGWALT et al. 2009). Considering its wide distribution along the Mediterranean coasts, it is possible that this species has a stable population in Mersin, Turkey and was not introduced here by farmers.

**Distribution in Turkey.** Mersin (this work).

**Temnostethus (Temnostethus) gracilis**  
Horváth, 1907  
(Fig. 5G)

Material examined. TURKEY: ISTANBUL: Esenyurt, 41°03’01.7°N 28°40’34.2°E, 16.v.2018, 1 ♀, B. Çerçi leg. and det. (BCIT).

Collection circumstances. It was collected while it was wandering on a rock under a *Pyrus* sp. (Rosaceae).

Comment. *Temnostethus gracilis* is a widespread species known from most of Europe, including the Balkans. It is a predacious species known to feed on Sternorrhyncha species. It was observed to live on numerous deciduous tree species such as *Malus*, *Pyrus*, *Prunus*, *Crataegus* (Rosaceae), *Fraxinus* (Oleaceae), *Quercus*, *Fagus* (Fagaceae), *Betula*, *Corylus* (Betulaceae), *Acer* (Sapindaceae), *Salix*, *Populus* (Salicaceae) (PERICART 1972). *Temnostethus gracilis* differs from *T. winkelmanni* WAGNER, 1961 and *T. longirostris* (Horváth, 1907) in shorter clypeus and the presence of brachypterous form, from *T. pusillus* (Herrich-Schäffer, 1835) by pale second antennal segment, and from *T. tibialis* Reuter, 1888 by much shorter and sparser setae on hemelytra which are almost invisible (Fig. 5G) (PERICART 1972).

**Distribution in Turkey.** Istanbul (this work).

Family Rhyparochromidae

*Plinthisus (Isioscytus) minutissimus* Fieber, 1864  
(Fig. 5H)

Material examined. TURKEY: ZMIR: Zmir (this work).

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