

A new species of *Eupholidoptera* Maran (Orthoptera: Tettigoniidae) from South Turkey

Новый вид рода *Eupholidoptera* Maran (Orthoptera: Tettigoniidae) из Южной Турции

M. Ünal

М. Унал

Mustafa Ünal, Bolu Abant İzzet Baysal Üniversitesi, Fen-Edebiyat Fakültesi, Biyoloji Bölümü, 14030 Bolu, Turkey;
e-mail: unal@ibu.edu.tr

Abstract. The Eastern Mediterranean Region of Turkey and Crete Island in Greece are richest in species of the genus *Eupholidoptera* with ten and eleven reported species, respectively. One additional new species, *E. gocmeni* **sp. nov.**, from the first region is described and compared with its relatives.

Резюме. Восточно-средиземноморский регион Турции и остров Крит в Греции наиболее богаты видами рода *Eupholidoptera* – для них отмечены десять и одиннадцать видов соответственно. Один дополнительный новый вид из первого региона – *E. gocmeni* **sp. nov.** – описывается и сравнивается со своими родственниками.

Key words: tettigoniids, taxonomy, Turkey, Orthoptera, Tettigoniidae, Tettigoniinae, Pholidopterini, *Eupholidoptera*, new species

Ключевые слова: кузнечики, таксономия, Турция, Orthoptera, Tettigoniidae, Tettigoniinae, Pholidopterini, *Eupholidoptera*, новый вид

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Introduction

The Mediterranean genus *Eupholidoptera* Maran, 1953 is the most species-rich genus in the tribe Pholidopterini, with 56 species and subspecies (Cigliano et al., 2019). Zoogeographically, some small and restricted areas are very significant for species diversification in this genus. According to the late Fer Willemse, Crete Island is an *Eupholidoptera* paradise (personal communication after his last exploration of new species from Crete). He was completely right, because 11 species are presently known from this island. Similarly of two more regions are also conspicuous. It seems that another *Eupholidoptera* paradise is the Eastern Mediterranean Region of Tur-

key with ten known species. Moreover, the Teke Peninsula between Antalya and Muğla Provinces in Turkey is the third remarkable region with seven known species (Brunner, 1882; Ramme, 1930, 1939, 1951; Uvarov, 1939; Karabağ, 1958, 1961, 1964; Salman, 1983; Willemse, 1985; Willemse & Willemse, 2008; Naskrecki & Ünal, 1995; Çıplak et al., 2009; Ünal & Naskrecki, 2002; Ünal, 2011, 2018).

One more new species was found from the eastern slopes of Amanos Mountains in the Eastern Mediterranean Region of Turkey by Kaan Yılmaz who is an undergraduate student of the department of Biology at the Ege University. In the present paper, this distinct new species is described, illustrated and compared with its relatives.

Material and methods

The only specimen of this species was collected in the Gaziantep part of Amanos Mountains. It was collected in alcohol and sent to the author. Now, this specimen is prepared as dry museum material using standard entomological methods. Photographs were taken with a SLR digital camera. Drawings were made by the author using a stereo microscope with an ocular tube for drawing. Measurements were made using a ruler and a micrometer attached to a stereo microscope. The holotype is preserved in the Abant İzzet Baysal Üniversitesi Entomoloji Müzesi, Bolu (AİBÜEM).

Taxonomy

Subfamily Tettigoniinae Krauss, 1902

Tribus Pholidopterini Ramme, 1951

Genus *Eupholidoptera* Maran, 1953

Eupholidoptera gocmeni sp. nov.

(Figs 1A–G, 2A–F)

Holotype. Male (right antenna and hind leg missing), Turkey, Gaziantep Prov., İslahiye Distr., Amanos Mountains, near Tandır Vill., 36°38.27'N, 36°29.45'E, 1635 m, 26 July 2018, 1 male, K. Yılmaz (AİBÜEM).

Description. *Male* (holotype). Fastigium of vertex 1.2 times as wide as eye, 2.2 times as wide as frontal groove. Pronotum (Figs. 1A, B) 1.8 times as long as high, with smooth surface; first and third transversal sulci distinct; prozona 1.2 times as short as metazona in dorsal view; prozona cylindrical, metazona slightly flattened; anterior pronotal margin weakly concave, but posterior one widely convex and with weak median concavity; metazona extended posteriorly, extending beyond half of first abdominal tergite; shoulder incision distinct. Femora unarmed except for 1–2 genicular spinules. Hind femur (Figs 1A, B) 4.5 times as long as wide in lateral view, extending far beyond apex of abdomen; widened proximal part and narrowed distal part almost equal in length. Last abdominal tergite very short (almost one mm in length excluding posterior lobes, i.e. as long as eighth abdominal tergite and only slightly longer than ninth one), with 2 short and very sharp spine-like posterior lobes directed backwards (not downwards) and having wide incision between them [Figs 1C,

2A (in dry specimen; but in undried specimen, this incision slightly wider)]. Cerci (Fig. 2B) almost straight; their apical third narrow and barely incurved; their proximal part gradually narrowing to middle, at base with large and inflated inner tooth having short and sharp spine. Subgenital plate (Figs 1D, 2C) slightly wider than long, very deeply notched (divided into right and left lobes, but undivided in basal part); these lobes wide, with each inner margin having distinct protuberance not far from apical part, and with two short apical spines near base of each stylus (Fig. 2D); styli very short, 5.5 times as short as subgenital plate (they seeming slightly shorter in Figs 1D and 2C than in reality). Titillator (Figs 1E–G, 2E, F) large; fused part of its distal arms almost triangular, narrow at base; unfused parts of these arms thin and long, distinctly curved forwards, with apices strongly thinned and sharply pointed; these unfused parts longer than fused part (but in Figs. 1E, G and 2E, titillator given in such position than unfused and fused parts seeming equal to each other in length); basal arms narrow, strongly curved, not reaching unfused parts of apical arms.

Colouration of dry specimen. Body milky yellowish with black stripes, spots, bands and some other marks. Dorsal part of head behind each eye with black band reaching pronotum; fastigium of vertex bordered by narrow black stripe anteriorly; antennal scape milky brownish with black and brown spots; antennal flagellum brown; face almost whitish with 12 symmetrical black spots and stripes, four symmetrical rounded spots of same colour on clypeus, and thin and short black stripes on labrum and mandibles. Dorsal surface of pronotum with a few small brownish marks; lateral pronotal lobe black but with whitish (cream) band along ventral edge (posterior part of latter band turning to orange). Tegmina brown in visible part of their dorsal surface but cream in proximal half of their lateral surface (between subcostal and medial veins). Fore and mid legs with many distinct black spots and stripes. Hind femur with three large black spots; first of them on anterodorsal part, second one near middle (it reaching inner side but with narrow interruption along dorsal edge), and third one in distal part (it occupying all sides of this part around lighter apex). Abdomen milky yellowish to whitish, but posterior part

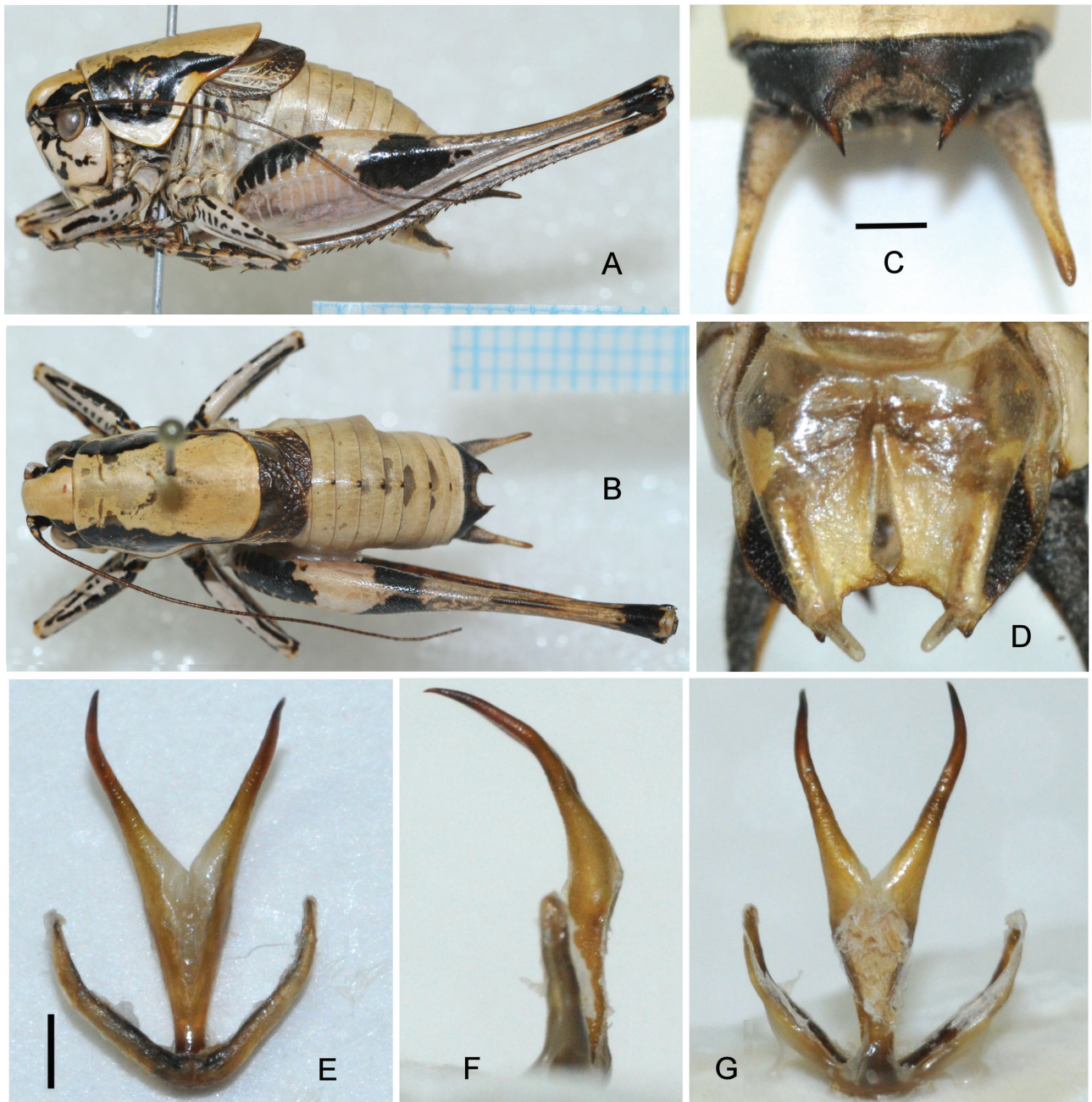


Fig. 1. *Eupholidoptera gocmeni* sp. nov., male: A – habitus, lateral view; B – habitus, dorsal view; C – last abdominal tergite, dorsal view; D – subgenital plate, ventral view; E–G – titillator, anterior (E), lateral (F) and posterior (G) views. Scale bars: 1 mm.

of its eight anterior tergites with small black spot at middle, and last tergite black with middle part and posterior lobes brownish (latter lobes having black tips). Cercus cream with dark brown band along ventromedial edge and with blackish ventral and partly lateral surfaces. Subgenital plate cream with a pair of large black lateral bands.

Female. Unknown.

Measurements (mm). Holotype: body length 23.1; pronotal length 8.5; pronotal height 4.8; length of hind femur: 21.8; length of visible part of tegmen (in dorsal view) 2.5.

Comparison. This new species is recognizable by the very short last tergite and its short posteri-

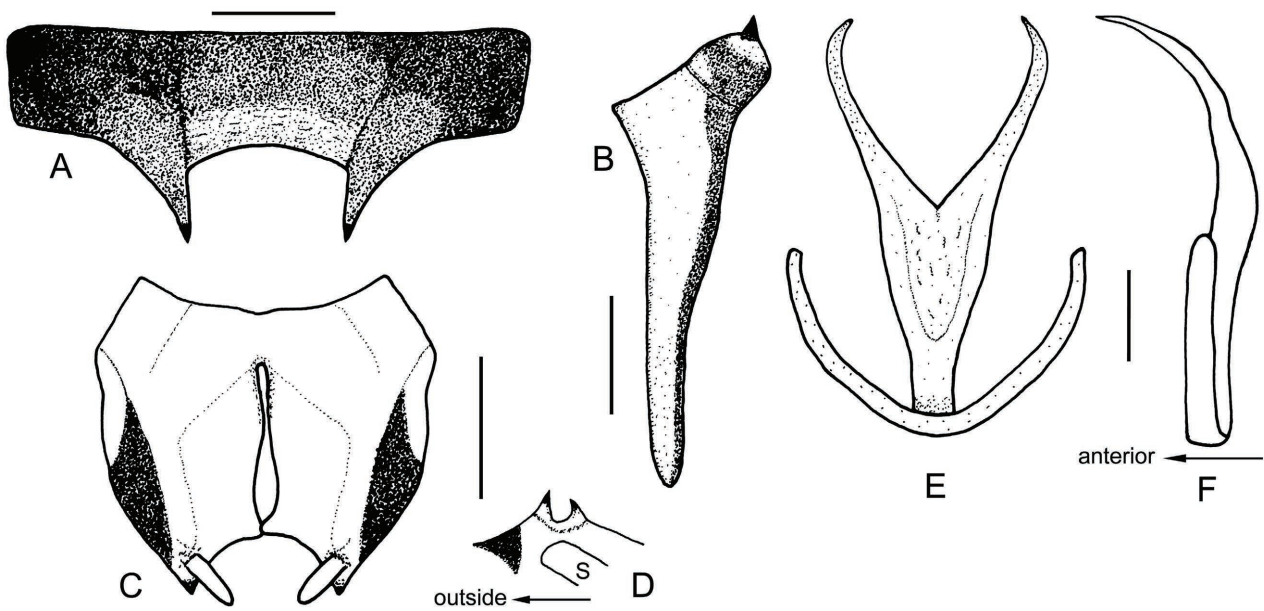


Fig. 2. *Eupholidoptera gocmeni* sp. nov., male: A – last abdominal tergite, dorsal view; B – left cercus, ventromedial view; C – subgenital plate, ventral view; D – posterior part of left lobe of subgenital plate with base of stylus, posteroventral view; E–F – titillator, anterior (E) and lateral (F) views. Scale bars: 1 mm.

or lobes directed backwards (not downwards), the shape of cerci with inflated inner tooth at base, the shape of titillator with long unfused part of apical arms (longer than fused part).

It is most similar to *E. palaestinensis* Ramme, 1939, *E. weneri* Ramme, 1951 and *E. lyra* (Uvarov, 1942) in the long male tegmina extending far beyond apex of pronotum, the shape of male cerci with inner tooth at base, and the general structure of subgenital plate. It also has short posterior lobes of last abdominal tergite as in *E. palaestinensis*. But the new species is different from it by the shorter male pronotum, the last tergite of male with stronger, closer and directed backwards posterior lobes (in *E. palaestinensis*, last tergite longer with more slender, more distant and downcurved posterior lobes), the shape of male cerci with much shorter and more inflated inner tooth [in *E. palaestinensis*, inner tooth of cerci much more slender, longer and gradually narrowing to the tip of apical spine; Ramme, 1939: 99; Uvarov, 1939: 223; Cigliano et al, 2019: photographs of the holotypes of *E. palaestinensis* and its junior synonym *E. ledereri hebraea* (Uvarov, 1939)], the more slender titillator with much narrower fused part of distal arms as well as less curved and closer unfused parts of these arms (in *E. palaestinensis*, titillator much

more stout, fused part very wide, and unfused parts strongly divergent and strongly downcurved), the male subgenital plate with very deep posterior incision (it is shallower in *E. palaestinensis*), and the colouration of hind femur with two large separated black spots in proximal half (in *E. palaestinensis*, this femoral half with several smaller blackish spots only); compare with the photographs in Cigliano et al. (2019: holotypes of *E. palaestinensis* and its junior synonym *E. l. hebraea*).

The new species is separated from *E. weneri* by the shorter male pronotum, the very shorter last abdominal tergite of male with short and directed backwards posterior lobes (in *E. weneri*, this tergite distinctly longer and with very long and strongly downcurved posterior lobes), the shape of male cerci with smaller inner tooth (in *E. weneri*, this tooth long and narrow, much larger comparing the total length of cercus, gradually narrowing to the tip of apical spine), the male subgenital plate with smaller styli and very deep posterior incision (in *E. weneri*, styli distinctly longer and posterior incision shallow), the shape of titillator with longer and slightly convergent unfused parts of distal arms (in *E. weneri*, unfused parts of these arms divergent and shorter than their fused part), and the colouration of outer surface of hind femur

(in *E. werneri*, this surface with one large black band consisting of numerous spots and running from anterodorsal part of femur to its narrowing part, i.e. almost to femoral middle); compare also with the illustrations in Ramme (1951) and Cigliano et al. (2019).

From *E. lyra*, the new species is distinguished by the shorter male pronotum, the very different shape of last abdominal tergite of male (in *E. lyra*, last tergite longer and with posterior lobes strongly outcurved), the male cerci with stout and inflated inner tooth (in *E. lyra*, inner tooth much more slender and smaller), the male subgenital plate with much deeper posterior incision and shorter styli (in *E. lyra*, posterior incision very shallow, and styli longer), the more slender titillator (in *E. lyra*, unfused parts of distal arms much wider), the colouration of outer surface of hind femur (in *E. lyra*, it is similar to *E. werneri* but with smaller black band), and the shape of posterior margin of pronotum (in *E. lyra*, posterior margin more narrowly rounded); compare with the illustrations in Uvarov (1942), Çıplak et al. (2009) and Cigliano et al. (2019).

This new species is very different from *E. ledereri* (Fieber, 1861) by the shape of last abdominal tergite of male (in *E. ledereri*, posterior lobes downcurved and more distant from each other), the male cerci with inner tooth at base (in *E. ledereri*, this tooth located distinctly in more proximal part, after cercal base), the shape of titillator (in *E. ledereri*, unfused parts of distal arms very strongly downcurved and divergent; compare with the figures of Ramme, (1930, 1951) and Çıplak et al. (2009). It is also easily separated from *E. akdeniz* Ünal & Naskrecki, 2002, *E. smyrnensis* (Brunner, 1882), *E. helina* Çıplak, 2009, *E. cypria cypria* Ramme, 1951, *E. cypria turcica* Salman, 1983 by the shapes and structures of last abdominal tergite, cerci, subgenital plate, titillator and posterior margin of pronotum in male, as well as colouration of outer surface of hind femur; compare with the illustrations in Ramme (1930, 1951), Salman (1983), Ünal & Naskrecki (2002), Çıplak et al. (2009) and Cigliano et al. (2019).

Etymology. At the suggestion of the collector, Kaan Yılmaz, this new species is named in memory of the zoologist Prof. Dr. Bayram Göçmen (1965–2019), who passed away on 22 March, for his very important contributions to the fauna of Turkey.

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