

## A New Species of the Genus *Eremiaphila* Lefebvre, 1835 (Mantodea: Eremiaphilidae) from Turkey

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**Abstract:** From the genus *Eremiaphila* a new species, *E. dagi*, is described from Antakya-Hatay, Turkey, and some of its prey is obtained under laboratory conditions. Diagnostic characters of the new species are illustrated. The new species compared to its closest relatives from Turkey.

**Key words:**

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### INTRODUCTION

Ehrmann (2002) studied Mantodea of the world, and gave the species of genera of families. By this work it was stated that the genus *Eremiaphila* Lefebvre, 1835 (Eremiaphilidae) has 68 species from the world (58 species from Africa, 1 India and 12 Middle East, 3 of which from Turkey). Recently *Eremiaphila berndstiewi* was described from Egypt (Stiewe, 2004).

In Turkey Demirsoy (1977) worked on Mantodea species, and gave the characters of its families, genera and species, and provided identification keys for them. He stated that there are three species of Turkey: *Eremiaphila turcica* Westwood, 1889, *E. burmeisteri* Sausser, 1871 and *E. genei* Lefebvre, 1835 by following Giglio-Tos (1921), Uvarov (1934) and Karabag (1958). Ehrmann (2002) gave *E. burmeisteri* in the synonym list of *E. genei*, and add one more species, *E. persica persica* Werner, 1905 to fauna of Turkey.

In general the species of the genus *Eremiaphila* are perfectly adapted to the life in the deserts and semi deserts of North Africa and Middle Asia, except *E. persica* in Chorassan-Iran and Eastern Anatolia-Turkey, 1300 m. They live on the soil, where their long walking legs make very fast running for them possible. *Eremiaphila* feeds itself of other insects, for which actively she after-hunts.

Recently, another mountain species *Eremiaphila* was collected from Amanos Mountain, elevation is ranged between 800-1400 m. It was described as a new species

#### **Diagnosis for the genus *Eremiaphila* (Ehrmann 2002):**

Body compact, medium sized to large. Head wide, with long, slightly outwardly placed eyes. Vertex curved, frontal area quadrate, but rather elevated, dorsally rounded. Antennae filiform; of male long, of female short. Pronotum almost as long as broad or longer than broad, the side edges parallel or forward more broad on the corner, its disk more or less swollen, no supracoxal flange. Both sexes winged, tegmina short, the alae usually towering above. Alae usually short, with dark colored maculae. Fore coxae strong, without thorns, longer than the Pronotum, insides often with black dots. Fore femora broad and short, the upper margin curved, having 4 discoidal and 4 external thorns, usually 18 interior thorns, the claw pillosity placed basally. Thorn patterns of the tibiae short, outside few, interior numerously. The walking legs long and slim, femora with 1, tibiae with 2 apical thorns, tarsi five segmented. Abdomen broad and short. Subgenitalplate of the female with 2 long thorns, of male being missing. Supraanalplate of both sexes long, often the outside genital organs towering above. Cerci short, conical.

#### ***Eremiaphila dagi* n. sp.:**

(Figs. 1-27)

Holotypus: female, Turkey: Amanos Mountain, Antakya, Hatay, 14. 07. 2006, leg. M. Doganlar, deposited in the Museum of Plant Protection Department, Mustafa Kemal University, Antakya, Hatay.

Paratypes: 15 females, 9 males, same locality as the holotype, 14.-21. 07. 2006; 1 1 females, 6 males, 18. 08.

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2006; 14 females, 5 males, 05. 09. 2006. Some parasites are deposited as follows: 2 females, 1 male, in the Natural History Museum, London, 2 females, 2 males, in the Zoologische Staatssammlung München, Germany, and the others in the Museum of Plant Protection Department, Mustafa Kemal University, Antakya, Hatay. Derivation of the name: The species is named after the my friend Mr. Besir Dag who helped me to collect this interesting species

**Description:**

**Female (Body see fig. 1) 23-28 (25.75± 0.97) mm.:**

**Head** (fig.2) with many small tubercles on whole surface, about as broad as pronotum, twice as broad as long. Vertex curved, eyes in front view 1.5x as long as broad, without swollen near eyes. Antennae as long as breath of head. Scutellum transverse, slightly swollen, Clypeus large, almost divided by a furrow, which pulls itself onto labrum. Antennae filiform, long. Ocelli slightly swollen, button-like.

**Pronotum** (fig.3) as long as broad, side edges parallel, whole surface covered with many big tubercles and swellings and dotted granulations; prozone with anterior part slightly broad, basal margin angularly ending; metazone narrower, its posterior part slightly rounded, almost 1/3 length of pronotum.

**Wings.** Tegmina (figs.4,5) without distinct veins, with coarse reticulations, upper side (fig. 4) brown, without macula, lower side (fig. 5) with half moon-shaped black macula; alae bigger, well developed, with a large black macula, which covers nearly whole anal area and slightly reached to the discoidal area but not the distal outer margin, anal area with rounded outer edge; discoidal area reddish.

**Front legs.** (figs. 7-14). Fore coxae (fig. 7) with small thorns on inner margin, 1.6x as long as broad; fore femur (fig. 8) with the base with several thorns: 4 discoidal and 4 external thorns, 20 interior thorns, the second of which longer than the following ones, two last interior thorns again longer. The points of all of the thorns are dark brown colored. Tibia (fig. 9). with 13 short, closely standing interior and 4 exterior thorns, and with a long apical tibial claw. Tarsus (fig. 10) normally five-segmented.

**Legs.** thin, long walking legs; mid- and hind-femora with 1 apical thorn, mid- and hind-tibiae with 2 apical thorns, medial ones longer; basal lobes distinct, long (fig. 11); tibiae with distinct black rings (fig. 12), apical lobes distinct, bluntly pointed (fig. 13); metatarsus nearly as long as the remaining segments together, Tarsi five-segmented.

**Abdomen.** almost twice as long as broad, with 6 clear segments, hind margin of terga truncate, Subgenital plate normal, on the lower side with 2 long thorns (fig. 14), on upper side 1.5x as long as broad (fig. 15), Supraanal plate with conical, short cerci, genital organs with wide outer valves (fig. 16).

**Male (Body see fig. 17). Length 17-22 (18.71±0.86) mm.:**

Similar to female, excepts as follows: Antennae 1.25x as long as breath of head; Thorn pattern of the front legs (fig. 18): femur with 18 interior thorns; tibia with 11 interior thorns. Tegmina with more bigger swollen than that of female. Abdomen with hind margin of terga medially with distinct tooth like protuberance (fig. 17); subgenital plate in dorsal view as long as basal breath, distinctly tapering apically, with two short styli (figs. 19, 20); in ventral view supraanal plate narrow with two lobes (fig. 21).

**Genital organs** (figs. 22-23). Lateral Apophyses of the right Epiphallus with long finger-like formation, darkly pigmented. Apex of the right Epiphallus tongue-like and at the distal edge rounded. (figs. 22, 23), of left Epiphallus broad. Apex of the hypophallus slightly tongue-like appearances, with a small finger-like tooth on apex (fig. 22).

**Diagnosis:**

The new species is similar to *Eremiaphila genei* (Lefebvre, 1835) and *E. arabica* Saussure, 1871 in having wings with maculae. But it differs by the following characteristics from the both of them: femoral apical thorns of front legs of male of *E. dagi* sp. nov.(fig. 18) is are completely missing, like female (in the both species femora with distinct long apical thorns); alae of *E. dagi* sp. nov. with anal area completely blackish, and discoidal area reddish (fig. 6) (in *E. genei* alae with only marginal black macula). The other species of the fauna of Turkey, *E. turcica turcica* Westwood, 1889 with smooth pronotum having no tubercles. A safe characteristic of the new species are the male genital organs, which differ clearly from those of other species.

**Biology:**

*E. dagi* sp. nov. overwinters in egg-stage, and it lays eggs in a ootheca (fig. 24) made on rocks in October. Under laboratory conditions it feeds on the several stages of some species of ticks (Acari: Ixodidae)(19 specimens/day by a female), *Tabanus* sp. (Diptera:Tabanidae), Acrididae spp. (Orthoptera),

*Eurydema* spp. (Homoptera: Heteroptera: Pentatomidae).



Fig. 1



Fig. 2



Fig. 3

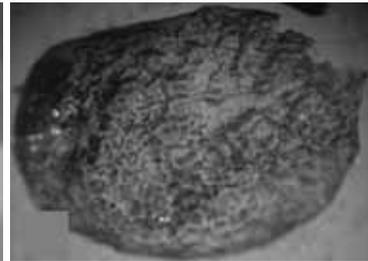


Fig. 4

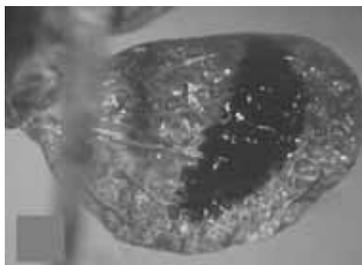


Fig. 5



Fig. 6

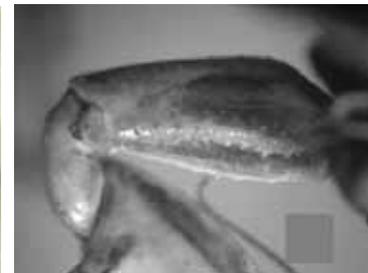


Fig. 7

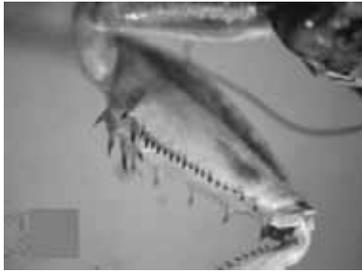


Fig. 8



Fig. 9



Fig. 10

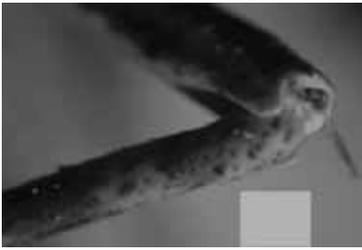


Fig. 11



Fig. 12



Fig. 13

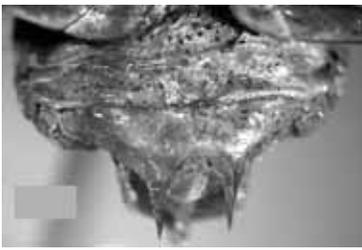


Fig. 14

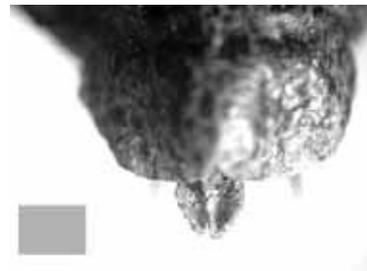


Fig. 15



Fig. 16



Fig. 17



Fig. 18

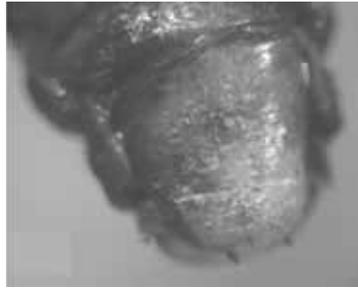


Fig. 19

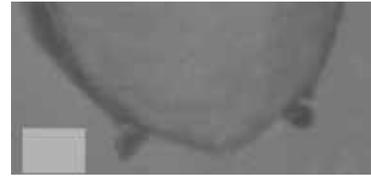


Fig. 20



Fig. 21

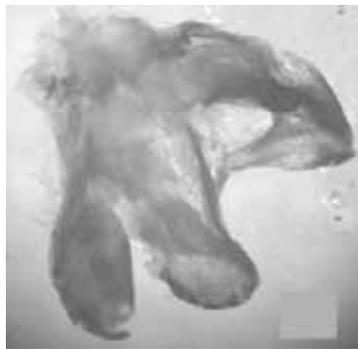


Fig. 22

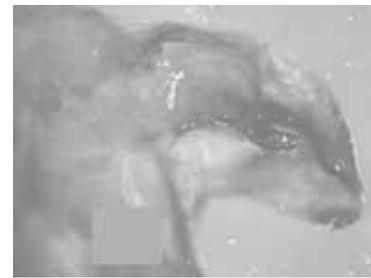


Fig. 23



Fig. 24

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