A NEW SPECIES OF *GUGOLZIA* DELUCCHI & STEFFAN (HYM., PTEROMALIDAE) FROM IĞDIR, TURKEY, REARED FROM FRUIT OF *SOPHORA ALOPECUROIDES* L. (FABACEAE)

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ABSTRACT: A new species of *Gugolzia* Delucchi & Steffan, 1956 (Hymenoptera, Chalcidoidea, Pteromalidae) reared from fruit of *Sophora alopecuroides* L. (Fabaceae) is described from Iğdır, Turkey and its diagnostic characters are illustrated.

KEY WORDS: *Gugolzia tuzlucanensis* n. sp., *Sophora alopecuroides,* Turkey

The genus *Gugolzia* (Hymenoptera, Chalcidoidea, Pteromalidae) was described by Delucchi & Steffan (1956) with its type species *G. harmolitae* Delucchi & Steffan, 1956, as a solitary parasite of *Harmolita (=Tetramesa) romana* (Walker, 1873) which feeds in shoots of *Arundo donax* L. (Graminae) in France. Since its description, several authors have recorded *Gugolzia* as a monotypic genus (Graham, 1969; Dzhanokmen, 1978; Boucek & Rasplus, 1991). Boucek & Rasplus (1991) discussed the generic characteristics of the genus. Doğanlar & Bolu (2004) discovered a second species, *G. bademia* Doğanlar, 2004 in Elazığ province, Turkey, as a parasite of *Eurytoma amygdali* Enderlein, 1907 (Eurytomidae). Later, Doğanlar & Doğanlar (2010) revised the species of *Gugolzia* in Europe and Turkey, and gave additional diagnostic features for the genus and provided an identification key for the species by adding two more species.

The aim of the present study is to describe a new species of the genus, reared from fruit of *Sophora alopecuroides* L. (Fabaceae) collected from Tuzluca, Iğdır, Turkey and to give its diagnostic characters and discussed its placement in the genus.

MATERIAL AND METHODS

This study is based upon examination and identification of the specimens collected from Tuzluca, Iğdır of Turkey. The examined specimens and types of the new species were deposited in Insect Museum of Biological Control Station, Yüreğir, Adana, Turkey (IMBC). Specimens were reared from fruits of *Sophora alepocoreides* and put directly into 96 % ethanol. Later individuals were mounted on cards, and antenna and forewings of the paratype were slide mounted in Canada Balsam for further morphological studies.

The species were identified by following the keys of Graham (1969), Boucek & Rasplus (1991) and Doğanlar & Doğanlar (2010). Photographs of diagnostic characters of the genera were taken by using of Leica DM 500 microscopes with a digital Leica ICC 50 camera attached to it.

RESULTS AND DISCUSSION

Gugolzia Delucchi & Steffan, 1956

Gugolzia Delucchi & Steffan, 1956: 30-34. Type species: *Gugolzia harmolitae* Delucchi & Steffan, 1956 by monotypy and original designation.
Gugolzia: Graham, 1969: 386, 430; Dzhanokmen, 1978: 233, 400; Boucek & Rasplus, 1991: 95, 97; Doğanlar & Bolu, 2004: 75; Doğanlar & Doğanlar, 2010: 24.

Diagnosis: Body 3.0-8.0 mm long. Antennae inserted far above centre of face; tip of scape reaches upper level of the vertex; antennal formula 1:1:3:5:3in females and 1:1:2:7:2 or 1:1:2:6:3 in males; clypeus with lower margin slightly emarginated, its surface distinctly longitudinally and densely striated; remainder of the face reticulated; flagellum in both sexes vary from as long as width of head to 2.5× head width; funicular segments 1-3 at least slightly longer than wide; scutellum with slightly indicated or a distinct cross-furrow and frenum; mesepimeron with 8-shaped smooth area on its upper part; propodeum without plicae; forewing with stigmal vein forming about a 45° angle with postmarginal vein, stigma large; speculum very wide, basal half of forewing with a few hairs on basal vein; costal cell on lower surface with a complete line of setae; metasoma in female as long as mesosoma or longer than the combined length of head and mesosoma.

Biology: Larval parasitoids of various phytophagous species of the family Eurytomidae (Hymenoptera).

Gugolzia tuzlucanensis n. sp.

(Fig 1)

Etymology: The name is derived from the name of the place from which the types of new species were collected.

Material examined: Holotype female: Turkey: Iğdır province. Tuzluca, 40°2′59″N, 43°38′60″E, 1190 m, July 2007 (leg. Y. Subaşı) Cat. No: 165-31. Paratypes: 1 female, same data as the holotype.

Diagnosis: width of head in frontal view 1.18x its height; malar space about 0.44×height of eye; flagellum in both sexes short, combined length of pedicellus and flagellum almost as long as the width of head; 1-4 funicular segments with 3, 5th segment with 2 rows of sensillae; scutellum with distinct cross-furrow differentiating frenum; propodeum with median carina; mesosoma about 1.52x longer than wide, pronotum medially 4.4x as wide as long.

Description

Female: Body 3.4 mm. Body black, with bluish- green reflections; scape, pedicel, and anelli yellow, flagellum brown, legs concolorous with body, except apical tip of femora, tibiae and tarsi pale yellow, tips of pretarsi black. Wings hyaline, veins yellow, stigmal vein and stigma brown.

Head in dorsal view slightly wider than thorax (3.6:3.4), almost 2× as wide as long; occiput rounded and slightly incurved; temple about 0.5× eye width; in frontal view (Fig. 1b) width of head 1.18× its height; eye about 1.5× as high as wide, malar space about 0.44×height of eye; margin of clypeus almost truncate; OOL 0.5× POL. Right mandible with 4, left mandible with 3 teeth. Antennae (Fig. 1c) inserted closer to median ocellus than to lower margin of clypeus (1.5:2), tip of

scape reaches dorsal level of vertex; combined length of pedicellus and flagellum almost as long as the width of head, scape 0.8× as long as the height of eye and 4× length of pedicellus, the latter 2× longer than wide; relative measurement of segments as follows (length: width): scape (36:5), pedicel (8:4.5), A1 (1.5:3.0), A2 (1.5:3.5), A3 (2.5:5), F1 (18:6.5), F2 (11:6), F3 (11:6), F4 (10:6.5), F5 (9:7), and clava (17(7:4.5:4.5):7). Anelli transverse, 3rd anellus 2× as wide as long; F1 about 2.8×longer than wide and 0.5× as long as length of scape, F2 and F3 equal in length, 0.6x as long as F1, 1.83x as long as width; F4 and F5 distinctly longer than width, F4 1.54×, F5 1.3x as long as width, F5 1.3x as long as 1st claval segment; club slightly shorter than F1. Sensillae arranged in 3 regular rows on F1-F4, and in 2 rows on F5.

Mesosoma (Fig. 1d) about 1.52× longer than wide, pronotum medially 4.4× as wide as long; parapsidal furrows distinct. Scutellum slightly convex, as long as wide with a distinct cross-furrow differentiating reticulate frenum, length of frenum 0.31× the length of scutellum, the latter distinctly margined posteriorly. Propodeum (Fig. 1e) with distinct median carina and raised transverse strip; area between median carina and spiracles smooth; nucha shortly developed, with distinct small foveae medially, posterior margin sharply margined; propodeal callus and supracoxal flanges covered with dense white hairs. Forewing (Fig. 1g) ratio of costal cell: post marginal: marginal: stigmal vein is 75:27:30:19. costal cell 2.5x as long as marginal vein; post marginal vein 0.9x marginal vein, 1.42x stigmal vein; marginal vein 1.58x as long as stigmal vein.

Metasoma (Fig. 1h) 0.75x as wide as mesosoma (36:48), elongated, pointed, its dorsal length about 1.46× combined length of head and mesosoma, and about 2.5× as long as wide. First tergite distinctly shorter than scutellum, smooth only basally, other parts and other terga with minute transverse reticulations over entire surface; last tergum almost 1.3× longer than basal width; ovipositor hardly projecting.

Male: unknown.

Biology: unknown.

DISCUSSIONS

Gugolzia tuzlucanensis n. sp. is similar to *Gugolzia harmolitae* Delucchi & Steffan in having metasoma with hind margin of the first tergite and entire flagellum with first funicular segment about 3x as long as wide, funicular segments 2-5 distinctly longer than wide But it differs from *G. harmolitae* in having width of head in frontal view 1.18x its height; malar space about 0.44×height of eye; combined length of pedicellus and flagellum almost as long as the width of head, pedicellus 2x longer than wide; F2 and F3 equal in length, 1.83x as long as width; F4 and F5 distinctly longer than width, F4 1.54x, F5 1.3x as long as width; mesosoma about 1.52x longer than wide, pronotum medially 4.4x as wide as long; forewing ratio of costal cell: post marginal: marginal: stigmal veins is 75:27:30:19; costal cell 2.5x as long as marginal vein; post marginal vein 0.9x marginal vein, 1.42x stigmal vein; marginal vein 1.58x as long as stigmal vein; length of metasoma 1.46x combined length of head and mesosoma; last tergum almost 1.3x longer than basal width (in *G. harmolitae* head in frontal view 1.4x as wide as high; malar space 0.7x height of eye; combined length of pedicellus and flagellum about 1.3x as long as head width; pedicellus about 1.3x longer than wide; F2 slightly shorter than F1, 2.7x longer than wide, F3 and F4 equal in length, 2.5x, F5 1.7x as long as wide, mesosoma only 1.4x longer than wide, pronotum medially about 7.7x as wide as long;. forewing ratio of costal cell: post

marginal: marginal: stigmal veins is 30:15:15:8; costal cell 2x as long as marginal vein; post marginal vein equal to marginal vein, 1.88x stigmal vein; marginal vein 1.88x as long as stigmal vein. Length of metasoma 1.2x combined length of head and mesosoma; last tergum almost 2x longer than basal width).

Biology: Reared from fruit of *Sophora alopecuroides* L. (Fabaceae).

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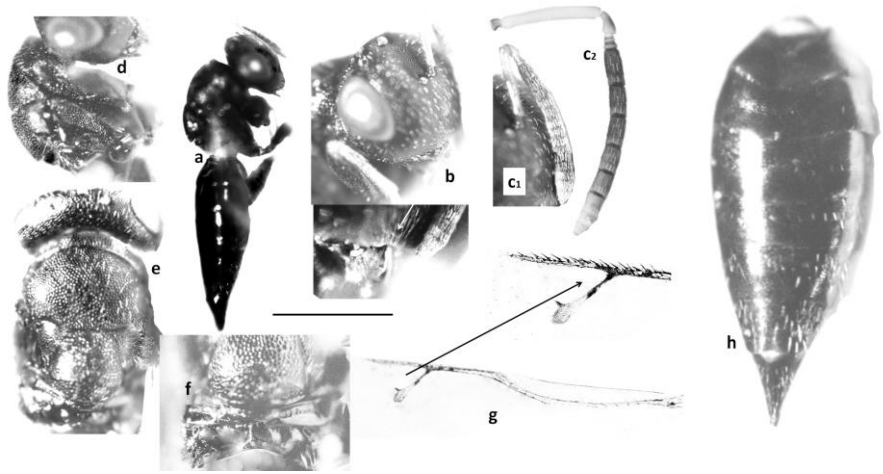

Figure 1. *Gugolzia tuzlucanensis* n. sp., Female. a. body in lateral view; b. head in fronto-lateral view; c1, c2. Antennae. d, e. mesosoma and head, d. in lateral view, e. in dorsal view; f. part of scutellum and propodeum, in dorsal view; g. forewing veins; h. metasoma, in dorsal view.