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**FIRST RECORD OF *HELICTES FABULARIS* ROSSEM, 1987
(HYMENOPTERA: ICHNEUMONIDAE) FROM IRAN**

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Summary. *Helictes fabularis* Rossem, 1987 (Ichneumonidae: Orthocentrinae) is reported for the first time from Iran. The distribution of this species is extended toward the southern boundaries of the Palaearctic region. *Helictes fabularis* is considered as a cave visitor species in Tayegeh Cave where it spends its overwintering stage.

Key words: ichneumonid wasp, fauna, new record, cave, overwinter, Ilam province, Iran.

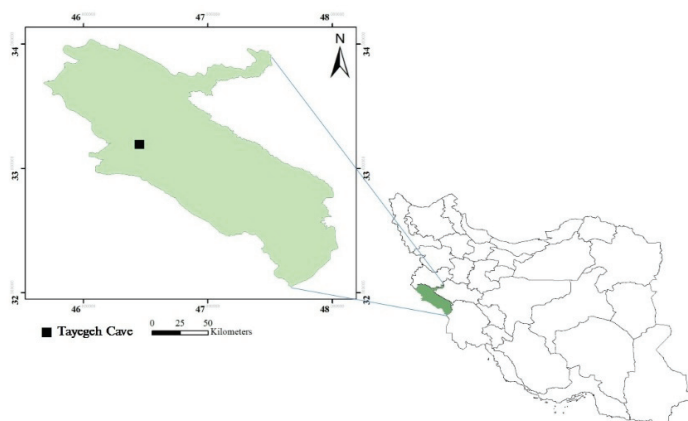
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Резюме. Впервые для Ирана приводится *Helictes fabularis* Rossem, 1987 (Ichneumonidae: Orthocentrinae). Ареал этого вида расширен до южных границ Палеарктики. Этот вид является временным обитателем пещер, где он находит подходящие условия для зимовки.

INTRODUCTION

The relatively stable conditions of caves, such as humidity and minimal variation of temperature, provide a suitable place for different groups of animals for overwintering, exploiting food, reproduction, hiding to escape predators, and avoiding extreme temperatures. Thus, the unique environment of caves can be considered as a natural laboratory for biological studies (Romero, 2009). Many invertebrates, especially arthropods, comprise cave-dwelling taxa in different parts of caves. Although there is no report of cave-dwelling species of hymenopterans, some species regularly exist in caves (Novak *et al.*, 2010) and use such stable environments to spend a short or long period of their life cycle in them (Moldovan, 2004). Some species of the family Ichneumonidae (Hymenoptera) inhabit caves to pass their overwintering phase and are known as troglaxene or cave visitors (Hamilton-Smith, 1967). Recently, a troglaxene ichneumonid wasp (*Exephanes tauricus*) has been reported from the Bare-zard Cave in the west of Iran (Darvishnia *et al.*, 2018).

Helictes fabularis has not already been listed in the Hymenoptera fauna of Iran (Ghahari & Jussila, 2010; Barahoei *et al.*, 2012; Mohammadi-Khoramabadi & Talebi, 2013; Sarafi *et al.*, 2015; Ghafouri Moghaddam *et al.*, 2016; Ghahari & Jussila, 2016; Mohammadi-Khoramabadi *et al.*, 2016; Mohebban *et al.*, 2016; Mohammadi-Khoramabadi & Talebi, 2018). This species was found during a field trip to Tayegeh Cave in the spring of 2016 from its twilight zone in Ilam province, west of Iran (Map 1). The specimen was collected using a sweep net. At the time of collecting, the air temperature, humidity, and CO₂ concentration (ppm) in the twilight zone were 20°C, 13.5%, and 1880 ppm, respectively. The identified specimen was deposited in the Zoological Museum and Collection of the Biology Department, Shiraz University (ZM-CBSU), Shiraz, Iran.



Map 1. Location of the Tayegeh Cave (black square) in Ilam Province of Iran.

NEW RECORD

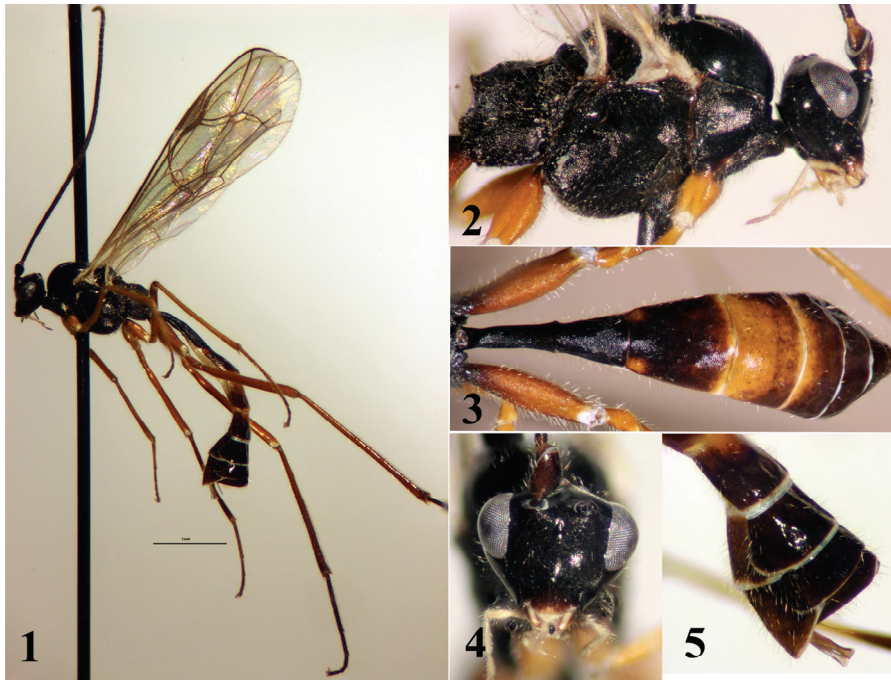
Helictes fabularis Rossem, 1987

Figs 1–5

MATERIAL. **Iran:** Ilam Province, Malekshahi County, Tayegeh Cave, 1239 m, 28.III 2016, 1♀ (ZM-CBSU Hym. 110), leg. H. Darvishnia.

FEMALE. Detailed description of the female specimen of *H. fabularis* is provided by Humala (2008). The main morphological characteristics of *H. fabularis* are as follows: body length 5.5 mm (Fig. 1); face and clypeus convex, apical margin of clypeus truncate (Fig. 4), antennae with 28 flagellomeres, first flagellomere 7x as long as wide, OOL (ocular-ocellus length) as long as 0.8x POL (postocellar length); mesosoma with epomia present (Fig. 2), epicnemial carina not interrupted, fore wing without an areolet, vein 2rs-m short, vein 2m-cu with two bullae, hind wing with nervellus intercepted below the middle, vein discoidella unpigmented, propodeum with posterior transverse carina well developed as a crest, legs long and slender, hind coxa elongate, hind femur 10x as long as wide, hind basitarsus about 0.31x as long as hind tibia; metasoma with first metasomal segment 2.3 as long as apical width (Fig. 3); first tergite and sternite fused; apical margin of tergite II, main parts of tergite III and basal part of tergite IV yellowish brown; ovipositor hardly surpasses tip of abdomen; ovipositor sheath apically widened and truncate (Fig. 5).

DISTRIBUTION. Iran (new record). – Canary Islands, Finland, Kazakhstan, Kyrgyzstan, Lithuania, Poland, NW Russia, Sweden (Yu *et al.*, 2012; Humala, 2015).



Figs 1–5. Female of *Helictes fabularis*. 1 – habitus, lateral view; 2 – mesosoma, lateral view; 3 – metasomal tergites, dorsal view; 4 – head, frontal view; 5 – apex of abdomen with ovipositor, lateral view.

DISCUSSION

The hymenopterans fauna of Iran is particularly diverse of which ichneumonid wasps are mainly not cave-dwellers. By reporting *Helictes fabularis*, the number of cave visitors from the family Ichneumonidae increases to two species. They occupy caves for hibernating based on the collecting date. The rate at which species are added to the list of the Iranian fauna would suggest that there remain more to be discovered and more samplings will provide a more complete picture of the cave fauna of this family in Iran.

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