

Hybrizon buccatus (de Brebisson, 1825), the first record of the subfamily Hybrizontinae (Hymenoptera: Ichneumonidae) from northern Iran

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Abstract. *Hybrizon buccatus* (de Brebisson, 1825) is newly recorded from Iran, as the first member of the subfamily Hybrizontinae (Hymenoptera: Ichneumonidae). This species has been collected from different locations in Northern Iran. Diagnostic characters and geographical distribution of the species are briefly discussed.

Key words: *Hybrizon buccatus*, Hybrizontinae, new record, Iran.

The taxonomic status of the small subfamily Hybrizontinae Achterberg, 1976 had been the matter of several debates for a long time (van Achterberg 1999). It was traditionally included in the family Braconidae Nees, 1812 due to lack of forewing transverse vein 2m-cu in extant genera (Donisthorpe & Wilkinson 1930, Watanabe 1935, van Achterberg 1976, Watanabe 1984). Some authors treated this group either as family Paxylomatidae (Mason 1981, Tobias 1988) or as subfamily Paxylomatinae of the family Ichneumonidae (Perrichot et al. 2009). Evidences from structure of the second and third metasomal tergites and the venation of the hind wing (Sharkey & Wahl 1987, Sharkey & Wahl 1992), and insights from the sequence of D2 variable region of the nuclear 28S rDNA gene (Belshaw et al. 1998, Quicke et al. 1999) confirmed the placement of Hybrizontinae as a subfamily of Ichneumonidae (Ronquist 1999). Despite of the unique structure of sensillae (MP sensillae without encircling groove) in the Ichneumonoidea, Basibuyuk and Quicke (1999) mentioned that Hybrizontinae is undoubtedly a small subfamily of Ichneumonidae.

The subfamily Hybrizontinae include three fossil genera (*Chilarovites* Kasparyan, 1988; *Tobiasites* Kasparyan, 1988 and *Paxylommites* Kasparyan, 1988) and three extant genera (*Eurypterna* Foerster, 1862; *Ghilaromma* Tobias, 1988; and *Hybrizon* Fallen, 1813) (van Achterberg 1999). The genus *Hybrizon* Fallen, 1813 comprises seven valid species worldwide (five species in Palaearctic Region and two in Nearctic Region; van Achterberg 1999).

16 malaise traps were used for surveying the species diversity of parasitoid wasps of the family Ichneumonidae (Insecta: Hymenoptera) in northern Iran. The traps were placed in different ecosystems, latitudes, and altitudes. The specimens were extracted from the traps and sorted weekly. The collected specimens were dehydrated and mounted on cards. Identifications were made using reliable keys and comparing with the original descriptions (Tobias 1988, van Achterberg 1999). The morphological terminology follows van Achterberg (1999). The specimens are deposited in the insect collection of Department of Entomology, Tarbiat Modares University, Tehran.

Hybrizon buccatus (de Brebisson, 1825) (Fig. 1.1) is recorded from Iran for the first time.

Material examined: Shahrestanak - Alborz province, (N: 35°57'583" E: 51°22'329", 2305m asl), 2♀ 22.VI.2010, 1♀ 29.VI.2010, 1♀ 6.VII.2010, 1♀ 13.VII.2010; Ziaz - Guilan province (N: 36°52'574", E: 50°13'290", 537m asl.), 1♂ 12.VII.2010;

Eshmankamachal- Guilan province (N: 37°21'175", E: 49°57'936", 2m asl), 1♀ 19.VII.2010, 1♀ 16.VIII.2010, 1♀ 29.VIII.2010, 1♀ 11.X.2010.

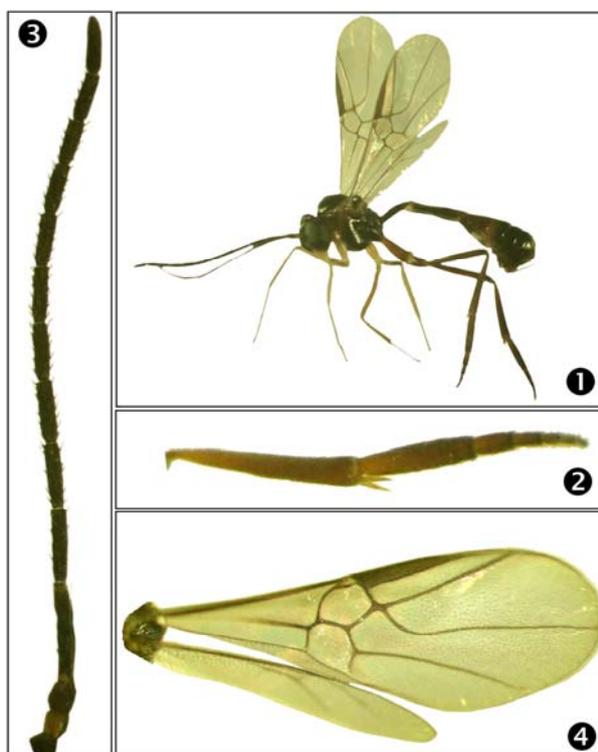


Figure 1. 1- *H. buccatus*, ♀; 2- hind leg, tibia and tarsus; 3- antenna; 4- fore wing.

Diagnosis: length of fore wing 2.9 mm, basal cell with 13 setae (less than 15 setae), vein r issued close to base of pterostigma, vein 1-M paler than vein 2-CU1 (Fig. 1.4); mesoscutum with pair of bands of distinct punctures, rarely punctures largely absent or obsolete; scapus somewhat smaller than pedicellus (Fig. 1.3); scutellum (except sometimes laterally) and notaulic area of mesoscutum usually dark brown; propodeum largely smooth or granulate, except for medial carina; hind tibia and basitarsus sub-cylindrical, hind basitarsus about 1.5 times as width of second hind tarsal segment (Fig. 1.2).

The biology of Hybrizontinae is poorly known. The larvae of these parasitic wasps live in ant nests and develop as endoparasitoid of ant larvae (Donisthorpe & Wilkinson 1930,

Watanabe 1935, 1984, Feener 2000). The host-parasitoid relationship between *Lasius alienus* (Foerster 1850) and *Paxylomma buccata* was detected for the first time by Donisthorpe & Wilkinson (1930).

H. buccatus is distributed in Eshmankamachal, (altitude: 2 m a.s.l.) adjacent to the Caspian Sea with rain forests, humid climate and structurally covered by dense grasses, shrubs and trees, in Ziaz, Gilan (altitude: 537 m a.s.l.) with cooler climates and lower humidity and mainly shrubs and trees, and finally Shahrestanak (altitude: 2305 m a.s.l.) (Alborz province) in central Alborz Mountains with mainly short rangeland grasses and shrubs where the climatic conditions are very different compared to the two other locations. It seems that this species is capable to spread in the upper half of Iran in different ecosystems wherever the host species are present. However, further studies are necessary to investigate the broader distribution and its biology.

Distribution: Austria, Bulgaria, Central Asia, European Russia, Finland, France, Germany, Italy, Japan, Mongolia, the Netherlands, Poland, Siberia, Sweden, Switzerland, Spain (van Achterberg, 1999) and Iran (new record).

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