

Short communication

### First report of *Gelis declivis* (Hym.: Ichneumonidae, Cryptinae) from different regions of Iran

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#### *Gelis declivis* (Hym.: Ichneumonidae, Cryptinae) گزارش اولین

##### از نقاط مختلف ایران

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#### چکیده

گونه *Gelis declivis* (Hym.: Ichneumonidae, Cryptinae) از سه استان ایران (گیلان، البرز و فارس) جمع‌آوری و به عنوان یک رکورد جدید برای فون ایران، گزارش می‌گردد. ویژگی‌های ریخت‌شناسی افتراقی و نواحی پراکنش گونه *G. declivis* ارائه می‌گردد.

واژگان کلیدی: پارازیتوئید، تاکسونومی، کنترل زیستی.

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Apterous species of the family Ichneumonidae (Insecta: Hymenoptera) are found in the subfamilies Orthocentrinae, Ichneumoninae and Cryptinae. The subfamily Cryptinae comprises three genera with apterous females in the Palaearctic realm: *Gelis* Thunberg 1827, *Thaumtogelis* Schwarz 1995 and *Polyaulon* Förster 1869 (Schwarz, 1995) of which *Gelis* is the most species-rich genus containing 94 species with apterous females in the west Palaearctic (Schwarz, 2002; Schwarz, 2003). Up to now, ten species of the genus *Gelis* have been reported from Iran six species of which (*G. agilis* (Fabricius), *G. exareolatus* (Förster), *G. fallax* (Förster), *G. formicarius* (Linnaeus), *G. proximus* (Förster) and *G. rufipes* (Förster)) have apterous females and the others (*G. areator* (Panzer), *G. caudator* Horstmann,

*G. kermaniae* Schwarz and *G. vicinus* (Gravenhorst)) are macropterous (Van Achterberg & Mehrnejad, 2002; Schwarz, 2009; Ghahari & Jussila, 2010; Barahoei *et al.*, 2012; Ghahari & Schwarz, 2012; Barahoei *et al.*, 2013; Barahoei *et al.*, 2015; Schwarz, 2016). The records of *Gelis liparae* (Giraud) (Mehrnejad, 2002; Van Achterberg & Mehrnejad, 2002) (now

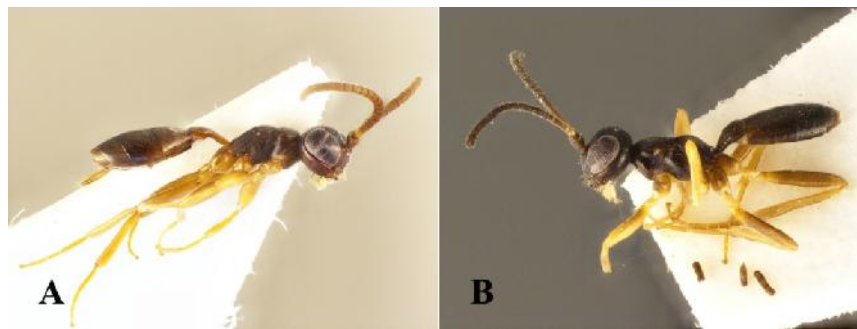
treated as a junior synonym of *G. areator* (Schwarz, 2016)) are very probably based on misidentifications of *G. kermaniae* Schwarz, a species described in 2009. *Gelis declivis* is the seventh apterous ichneumonid species reported from Iran. Specimens of this species are deposited in the private insect collection of Martin Schwarz, Eben 21, A-4202 Kirchschlag, Austria.

***Gelis declivis* (Förster, 1850) (Figure 1A, 1B)**

Material examined: IRAN: Guilan province, Bandar-e-Anzali, TazeAbad (N37°34', E49°11', 22 m a.s.l.), 1 ♂, 1 ♀, 5. August 2005, sweep netting, leg.: S. Hesami; Fars province, Darab (N28°45', E54°26', 1107 m a.s.l.), 1 ♂, 4. May 2014, water light trap, leg.: A. Mohammadi-Khoramabadi, Alborz province, Sarziarat village (N35°55', E51°06', 1987 m a.s.l.), 1 ♀, 26 April - 3. May 2010, Malaise trap, leg.: A. Mohammadi-Khoramabadi.

Distribution: Austria, Cyprus, Czech Republic, Germany, Hungary, Italy, Latvia, Poland, Romania, Sweden, Ukraine (Yu *et al.*, 2012) and Iran (current study) (Figure 2).

Diagnosis of the female (Figure 1A): Malar space with a distinct and narrow furrow; lower margin of clypeus straight medially; mandibular teeth of about equal length; mesonotum approximately as long as wide, approximately flat and densely hairy; mesopleuron entirely fused with metapleuron and not separated by a carina; propodeum in lateral view somewhat higher than mesonotum, without transverse carina; hind femur 4.3-5.1 x longer than wide; first metasomal tergite without dorsolateral carina, 1.4-1.6 x longer than wide; laterotergite of second metasomal tergite separated from the tergite, about 4 x longer than wide; ovipositor sheath 0.3-0.4 x the length of the hind tibia; ovipositor tip with hardly visible teeth; legs nearly always entirely yellow-orange; thorax, propodeum and gaster black or brown (Schwarz, 2002).



**Fig. 1.** *Gelis declivis*. A. Female, B. Male.

With the discovery of *G. declivis* in Iran the known distribution of this species is extended to the eastern end of the western Palaearctic realm. Iran is located at the border of the western and eastern Palaearctic (Figure 2). It is very probable that *G. declivis* will be discovered also in other countries located between latitude 35° and about 56°N in the western Palaearctic.

The results show that *G. declivis* could be adapted to different climate conditions. Bandar-e-Anzali is located at the south of the Caspian Sea and the northern slopes of the Alborz Mountains. This region has the most humid climate of any regions in Iran. The average 50-year rainfall, average annual relative humidity and average annual temperature of Bandar-e-Anzali are 1850 mm, 84% and 16.2°C, respectively. Such climate conditions caused the creation of a unique and one of the most diverse biomes in the world which is known as the Hyrcanian forests. The village of Sarziarat in the province of Alborz is located at the southern slopes of the central Alborz Mountain range. Sarziarat has an alpine climate with cold and long winters. On the other hand, Darab County in the south of the province of Fars is climatologically a temperate region with an average annual rainfall of about 350 mm. The altitude of these three localities varies from 22 m a.s.l. in Bandar-Anzali to 1987 m a.s.l. in Sarziarat.



**Fig. 2.** Known distribution of *Gelis declivis* in the western Palearctic. Countries from which *G. declivis* is known are marked with a dot, but Iranian records are marked more precisely.

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