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## ***Colletes alborzensis* nov.sp., a new bee species from Iran (Hymenoptera, Colletidae)**

Michael KUHLMANN

**A b s t r a c t :** A new bee species of the genus *Colletes* LATREILLE, 1802 from Iran is described: *Colletes alborzensis* nov.sp., that is most closely related to *C. inexpectatus* NOSKIEWICZ, 1936.

**K e y w o r d s :** *Colletes*, new species, Iran.

### **Introduction**

Iran has a rich but understudied bee fauna of 888 currently recorded species (ASCHER & PICKERING 2018). In the first summarizing publication on the genus *Colletes* in Iran WARNCKE (1979) listed 18 taxa and described *C. persicus* WARNCKE. In the last years another five species have been described partly or solely based on specimens from Iran, namely *C. alfredjohni* KUHLMANN, *C. hakkari* KUHLMANN, *C. warncke* KUHLMANN (KUHLMANN 2002), *C. comatoides* KUHLMANN & PROSHCHALYKIN (KUHLMANN & PROSHCHALYKIN 2013) and *C. comaticus* KUHLMANN (KUHLMANN & PROSHCHALYKIN 2015). The total number of *Colletes* species recorded from Iran now is 41 (Kuhlmann unpubl.). Due to the topographic and climatic diversity of this vast country as well as its position at the crossroads of biogeographic regions even greater bee species diversity can be expected. Thus, it did not come as a surprise when Wolf-Harald Liebig, Bad Muskau, among other interesting *Colletes* presented to me specimens of a new species that he collected in northeastern Iran. They were found in the upper reaches of the Caspian Hyrcanian Forests at the northern slopes of the Alborz Mountains near the southern shores of the Caspian Sea. The Hyrcanian Forest forms a narrow belt with a moist and warm climate surrounded by drier steppe and desert regions and is known to harbour a rich relict fauna and flora (WALTER & BRECKLE 1991). In the present paper the new species is described as a part of an attempt to completely document the *Colletes* species of the Palaearctic Region.

### **Material and Methods**

Terminology as well as measurements used in the descriptions follows those of MICHENER (2007). Puncture density is expressed as the relationship between puncture diameter (d) and the space between them (i), such as  $i = 1.5d$  or  $i < d$ . T is used as abbreviation of metasomal tergum. Body length is measured from the vertex to the apex of the metasoma. The definition of species groups in *Colletes* follows NOSKIEWICZ (1936) and KUHLMANN et al. (2009).

## Description of the new species

### *Colletes alborzensis* nov.sp.

**Type material:** (13 specimens). Holotype: ♂ "Iran, Golestan, Ziarat, 2299m, Geröll mit *Euphorbia*, 36°40'12"N 54°33'27"E, 05.07.2018, W.H. Liebig" (Coll. Kuhlmann, Zoological Museum of Kiel University).

Paratypes: 2♂♂, same dates as Holotype (Coll. Liebig, Bad Muskau; Coll. Kuhlmann, Zoological Museum of Kiel University); 2♀♀, 8♂♂ "Iran, Golestan, Shakuh-e Sofla, 2696m, Staudenflur, KF, 36°32'25"N 54°26'13"E, 10.07.2018, W.H. Liebig" (Coll. Liebig, Bad Muskau; Coll. Kuhlmann, Zoological Museum of Kiel University).

**Diagnosis:** *Colletes alborzensis* belongs to the *Colletes fodiens* species-group and is most closely related to *C. inexpectatus* NOSKIEWICZ. The female of the new species is very similar to *C. inexpectatus* and only differs by a combination of the following subtle characters: Eyes slightly more converging below and clypeus more convex with apical grooves a bit larger (Figs 1, 4), punctuation on the disc of T1 slightly finer (Figs 2, 5). The male is identifiable by the characteristic shape of S7 (Figs 8, 11), denser punctuation of metasomal terga (Figs 7, 10) and slightly longer but narrower hind basitarsi (Figs 3, 6).

### Description

**Female:** Body length: 8.0–8.5 mm. Head distinctly wider than long (Fig. 1). Integument black, mandible apically dark reddish-brown. Face sparsely covered with moderately long greyish, erect hair, on vertex hair shorter (Fig. 1). Clypeus strongly convex, with a shallow longitudinal median depression, supraclypeal area almost rectangular, large and slightly convex in profile. Clypeus finely, regularly and densely punctate ( $i < 0.5d$ ); surface between punctures smooth and shiny, inconspicuous pair of apical clypeal depressions (Fig. 1). Malar area medially narrow, about 1/2 as long as width of mandible base, finely punctate and partly shiny. Antenna black. Scutum on disc impunctate and shiny, laterally finely and densely punctate ( $i < 0.5d$ ), between punctures smooth and shiny. Scutellum anteriomedially impunctate, smooth and shiny; rest of scutellum densely and coarsely punctate ( $i < 0.5d$ ). Thorax sparsely covered with long greyish hair. Wings fuscous, venation blackish-brown. Legs black, vestiture whitish, scopa white. Integument of metasoma black, apical tergal depressions narrowly translucent dark yellowish-brown (Fig. 2). Terga on disc with few short, erect, greyish hairs, apical depressions apical hair bands (Fig. 2). T1 apically only very slightly depressed, depression superficially and finely punctate, apical margin impunctate (Fig. 2). T1 on disc moderately dense ( $i = 0.5–1.0d$ ) and relatively finely punctate, between punctures smooth and shiny (Fig. 2). No apical sternal hair bands but instead some long, erect ciliae.

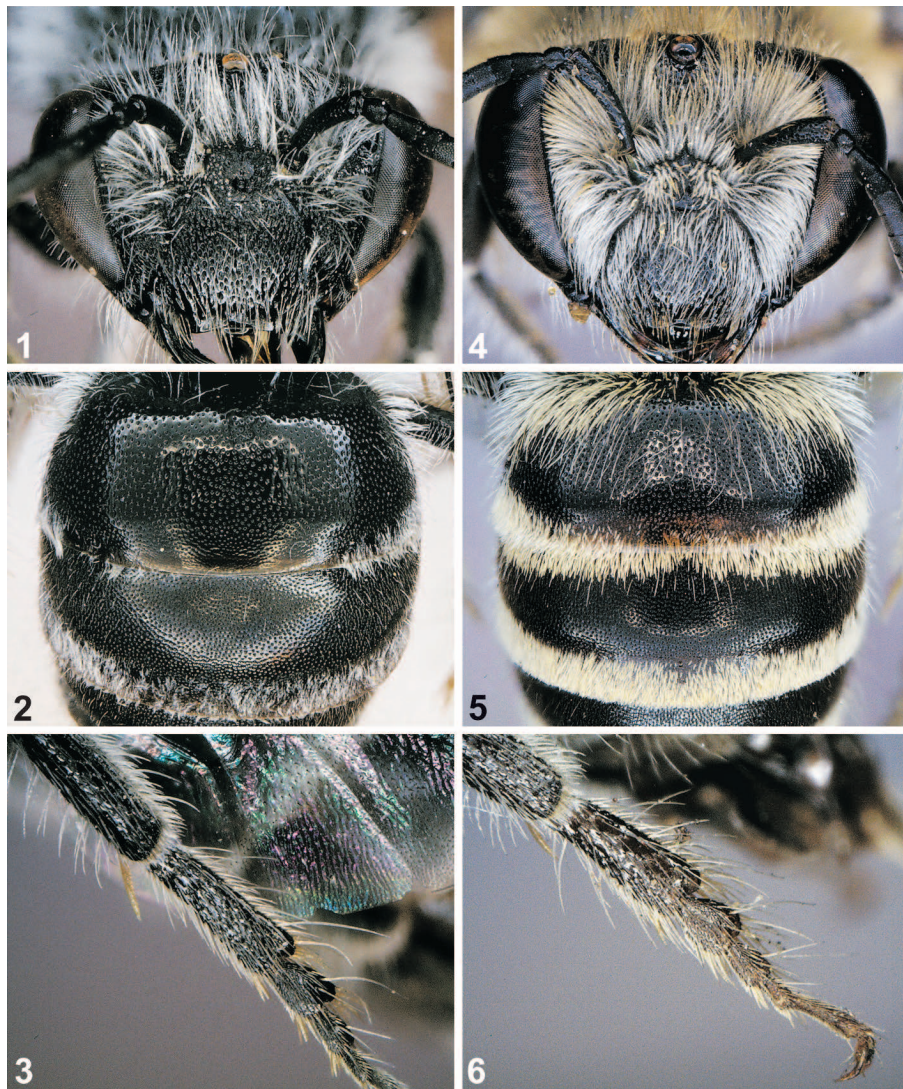
**Male:** Body length: 8.0–8.5 mm. Head distinctly wider than long. Integument black except tips of mandible partly dark reddish-brown. Face densely covered with long, yellowish-white, erect hairs. Malar area medially about half as long as width of mandible base, finely striate. Antenna black. Mesosoma. Integument black. Mesoscutal disc coarsely and sparsely punctate ( $i = 1–2d$ ), smooth and shiny. Mesoscutum, scutellum, metanotum, mesepisternum and propodeum covered with long yellowish-white, erect hairs. Wings transparent; wing venation blackish-brown. Legs. Integument black. Hind basitarsus apically broadened (Fig. 3). Vestiture whitish to greyish-brown. Metasoma. Integument black except narrow apical margins of terga reddish translucent. Discs of T1 – T2 covered with long, erect whitish hairs that are apically successively shorter (Fig. 7); apical tergal hair bands broad, white. Terga densely and finely punctate ( $i < d$ ), between punctures

smooth and shiny (Fig. 7). Terminalia. Genitalia and S7 as illustrated (Figs 8–9).

**E t y m o l o g y :** The species is named after the Alborz Mountains in northern Iran where specimens of the new species were collected.

**G e n e r a l d i s t r i b u t i o n :** Only known from the type locality in northeastern Iran.

**F l o r a l h o s t s :** Unknown.



**Figs 1-6:** *Colletes alborzensis* nov.sp., female: (1) head; (2) metasomal terga T1-T2; *C. alborzensis* nov.sp., male: (3) hind basitarsus; *C. inexpectatus* NOSKIEWICZ, female: (4) head; (5) metasomal terga T1-T2; *C. inexpectatus*, male (6) hind basitarsus.





**Figs 7-11:** *Colletes alborzensis* nov.sp., male: (7) metasomal terga T1-T2; (8) metasomal sternum S7; (9) gonostylus; *Colletes inexpectatus* NOSKIEWICZ, male: (10) metasomal terga T1-T2; (11) metasomal sternum S7.

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### Zusammenfassung

Eine neue Bienenart der Gattung *Colletes* LATREILLE, 1802 wird aus dem Iran beschrieben: *Colletes alborzensis* nov.sp.. Die Art ist nächst verwandt mit *C. inexpectatus* NOSKIEWICZ, 1936.

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Author's address: Prof. Dr. Michael KUHLMANN  
 Zoological Museum  
 Christian-Albrechts-University Kiel  
 Hegewischstr. 3, D-24105 Kiel, Germany  
 E-mail: mkuhlmann@zoolmuseum.uni-kiel.de

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