

First record and redescription of *Niptus hololeucus* (Faldermann, 1835) from Kangohar Cave (Coleoptera: Ptinidae)

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The Ptinidae or spider beetles, is a worldwide family of beetles especially distributed in the subtropical and temperate zones including Iran. The species *Niptus hololeucus* (Faldermann, 1836) collected from Kangohar cave in Fars Province, southern Iran, is described as new record for Iran with illustrations of adult as well as male and female genitalia. We regarded this beetle as a troglophile and guanophile species.

Key words: Iran, Ptinidae, *Niptus hololeucus*, Kangohar Cave.

INTRODUCTION

The Ptinidae, or spider beetles, are included in the superfamily Bostrichoidea within the suborder Polyphaga (Crowson, 1967; 1981), which also includes the families Bostrichidae, Lyctidae and Anobiidae. They are distributed throughout the major regions of the world (America, Asia, Europe, Australia) although they are especially abundant in the drier parts of the subtropical and temperate zones. These beetles are mainly scavengers, and many species feed on dried plant or animal materials (Harde and Hammond, 1984). A few species of Ptinidae are common pests of stored products but most species live in the wild state which usually found in the nests, borrows, or debris of animals or in dead plant matter. (Ebeling, 2002 and Cooter et al., 1991)

Currently about 220 genera and 2200 species of spider beetles are known in the world. Several Ptinids have previously been reported from caves, mostly in Europe (Arango and Young, 2012). However, little has known about the spider beetle fauna of Iran. The present contribution helps to cover a very small part of this gap in our knowledge about this interesting family.

This paper reports a part of results of the first faunal study on Fars province caves (Iran). We introduce this species as a new record from Kangohar, an Iranian cave. A brief introduction of this family included in the results.

MATERIAL AND METHODS

Study Area

The Fars Province is in south of Iran with geographical and climatic variation which leads to variation in habitats. There are about 51 known caves in Fars province generally in small or medium size (Salahi, 2009). Kangohar is one of these caves in medium size with historic values and a valuable fauna (www.Irancaves.com). This cave is located in east of the province (Figs.1-c) at 15km north-east of Bavanat city in a Hunting Forbidden Zone, Toot Siah, which is surrounded by mountains (30° 18.069'N; 053° 54.505'E, 2820m a.s.l.). We visited this cave on March 2013.

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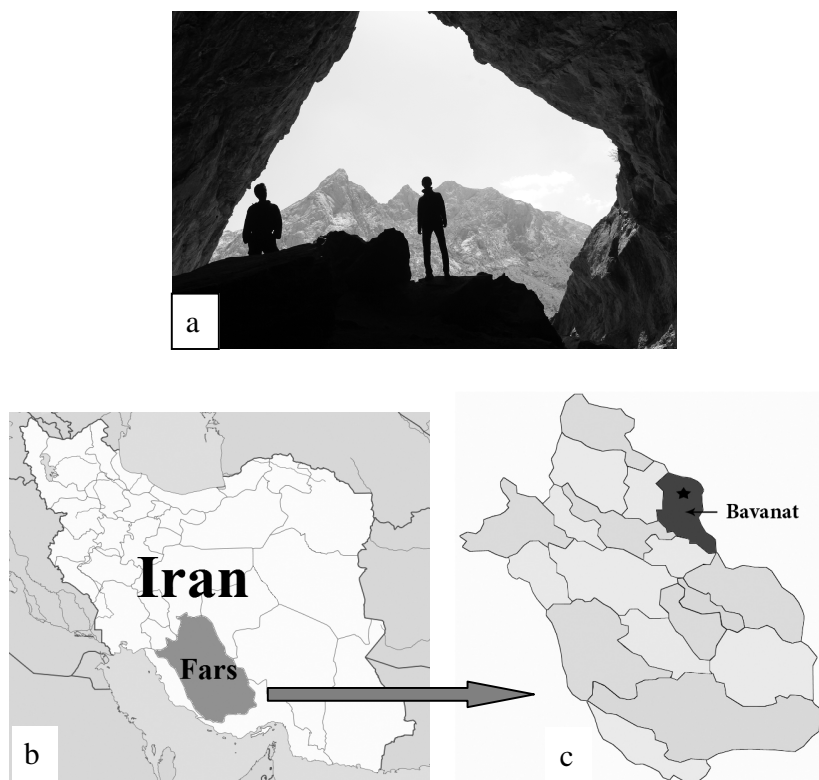


FIGURE 1. a) Kangohar cave entrance; b) Fars Province. c) Kangohar cave location in Bavanat, the asterisk

Collecting and identification methods

Most parts of this cave were precisely investigated. The studied specimens were collected by authors during two fieldtrips to the Kangohar cave in March 2013. The specimens were collected using common techniques and were preserved in %96 ethanol. Then, collected samples were transported to the entomology laboratory of Biology department of Shiraz University. Photos of the specimen and the cave were taken by a digital camera (Canon EOS 7D 18.0 mp Digital Camera DS126251) and genitalia of the species were drawn using camara lucida. Identification to species level was based on the external morphology as well as male genitalia (Figs.2-3), using available keys (Aalbu and Andrews, 1992). All samples are deposited in the collection of Biology department of Shiraz University.

RESULTS

Order Coleoptera

Family Ptinidae

Niptus hololeucus (Faldermann, 1835)

Material examined: Totally 20 specimens were sampled. Male and female have no observable superficially differences and only by scrutiny of genitalia are identifiable.

Diagnosis: Body length about 3.8 mm, oval in shape, golden entirely, head with vestiture of closely appressed, scale like setae with few longer setae on apical margin of clypeus. Antenna with setae and moderate length and ten segments. Pronotum lacking distinct tufts of setae and sharply constricted

where it meets the wing covers and with surface sculpture and punctures posteriorly forming small tubercles (Alabu and Andrews, 1992). Elytra with shiny vestiture golden to yellow with surface sculpture of impressed, contiguous striae punctures, equal in size. Abdomen in ventral surface with six visible sternites, fourth sternite only slightly shorter than third, sternal surface vestiture of long, golden, appressed, fine setae. Legs: short, stout and covered with short dense golden setae; femora clavate; tibiae short; tarsi with five segments (Aalbu and Andrews, 1992). The identification was confirmed by Dr. Xavier Belles (CSIC, Barcelona, Spain).

The golden spider beetle has luteous and globular body, about 3.8 mm length. The head is fully concealed under the prothorax when looked from above. The species clearly differs from the other Ptinids in having the pronotum and elytra entirely obscured by recumbent golden yellow setae (Bousquet, 1837) with scattered erect golden ones and prothorax extends over the head like a cowl. All parts of the body have the same color and the abdomen is covered with golden yellow hairs.

External genitalia: Aedeagus symmetrical, parameres strong and tapering. Their pubescence scant, with hairs but just at upper half of parameres (Fig. 3). Median lobe or penis from middle distinctly bent towards base. Basal piece more than half of parameres. Genitalia of female have two parallel coxostylus with several setae, in lateral parts of each median loop there is one seta in each side.

Distribution in the world: Throughout the temperate regions (almost all continents except Africa) (Rees, 2004).

DISCUSSION

Spider beetles are found throughout the world especially in temperate areas, including Iran. Species of genus *Niptus* are found in the whole world except Africa (Rees, 2004). The genus *Niptus* contains two species that have been found in caves; *N. hololeucus* was found in European caves (Jeannel, 1909).

We did not find any picture or line drawings of external genitalia for male or female of *Niptus hololeucus* in accessible books, literatures and internet searches, thus the presented drawings and description of the cave specimen in this article probably is the first report. Although we could not compare the genitalia of the species with other ones, the species was identified based on morphological features of its habitus and appendages using appropriate keys and clear descriptions of the species in literatures.

Although we have surveyed seven caves in Fars province but up to now, all studied *Niptus* specimens have been collected from Kangohar cave, where they develop in animal, especially bat, excrements as large and permanent populations. This species was observed in many parts of Kangohar cave in bats droppings (guano). It seems that the species has wide distribution in Europe but in Iran there is no informative data. We captured it only from one of the seven surveyed caves in the province; therefore, it needs much more studies.

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FIGURE 2. The species *Niptus hololeucus*, new record for Iran (dorsal view).

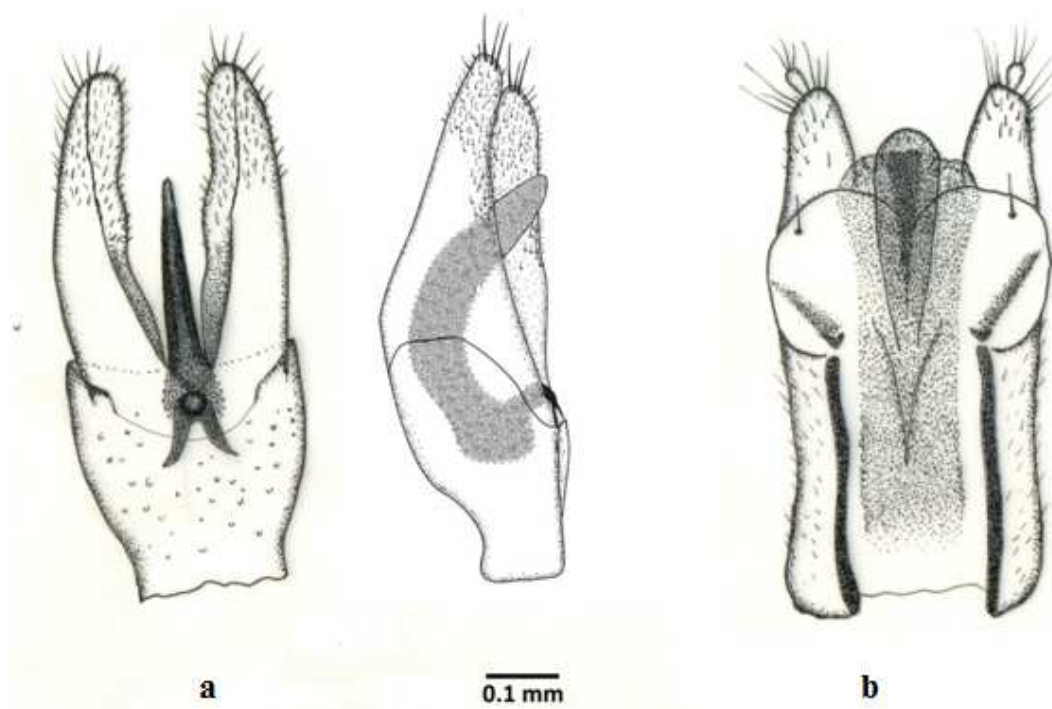


FIGURE 3. External genitalia, a) male, ventral and lateral view. b) female, ventral view.

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