

A new species and new record of *Hypoaspis* Canestrini (Acari: Laelapidae) on *Oryctes* sp. (Coleoptera: Scarabaeidae) from Iran

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Abstract

Hypoaspis alborzensis Razavi Susan & Joharchi **sp. nov.** and *H. rhinocerotis* Oudemans, 1925 were collected on adult female *Oryctes* sp. (Coleoptera: Scarabaeidae) in Karaj, Alborz province, Iran. The new species is described and illustrated from adult females. *Hypoaspis rhinocerotis* is reported for the first time from Iran.

Key words: Mesostigmata, *Hypoaspis alborzensis* **sp. nov.**, *Hypoaspis rhinocerotis*, *Oryctes*, Karaj, Iran

Introduction

The classification of the mite family Laelapidae is unstable as a result of continued discussion about the definition and status of some of its genera and subgenera. Different generic and subgeneric concepts have been used by authors, for example, Evans and Till (1966), van Aswegen and Loots (1970), Tenorio (1982) and Karg (1993). Species have been described in up to 10 subgenera of a very loosely-defined genus *Hypoaspis* Canestrini. Recently, authors have attempted to reassess and stabilize the diagnosis and taxonomic rank of several of the subgenera (Beaulieu 2009, Joharchi & Halliday 2011). The nominotypical subgenus, i.e., *Hypoaspis sens. strict.*, is most easily recognised by the greatly elongate setae Z4 on the dorsal shield (3–5 times longer than J4) and greatly elongate setae on some of the leg segments (Evans & Till 1966, Karg 1979). It now comprises about 32 species worldwide.

Before the start of this study, 11 species regarded to belong to *Hypoaspis sens. strict.* had been reported from Iran: *H. campestris* (Berlese, 1887); *H. integer* Berlese, 1911; *H. krameri* (G. & R. Canestrini, 1881); *H. larvicolus* Joharchi & Halliday, 2011; *H. maryamae* Joharchi & Halliday, 2011; *H. melolonthae* Joharchi & Halliday, 2011; *H. neokrameri* Costa, 1971; *H. pentodoni* Costa, 1971; *H. phyllognathi* Costa, 1971; *H. polyphyllae* Khanjani & Ueckermann, 2005, and *H. terrestris* (Leonardi, 1899). In this paper, we describe a new species and also report one that is new to the mite fauna of Iran. We follow Joharchi and Halliday (2011) in treating *Hypoaspis* as a genus equivalent to *Hypoaspis (Hypoaspis)* (= *Hypoaspis sens. strict.*) of other authors (e.g., Evans & Till 1966, Karg 1979, 1982, 1993).

Hypoaspis rhinocerotis: Costa, 1971: 78.

Hypoaspis (Hypoaspis) rhinocerotis: Karg, 1979: 70, 1982: 236.

Specimens examined

Two females, Karaj, Iran, 35°48' N, 50°59' E, alt. 1384 m a.s.l., 1 July 2012, N. Razavi Susan coll., on adult female of *Oryctes* sp. (Coleoptera: Scarabaeidae) under plane trees (Platanaceae: *Platanus* sp.) (on different beetle to host of new species), deposited in JAZM and ACASI (abbreviations in *Hypoaspis alborzensis*: *Type material*).

Notes

This species was described by Oudemans (1925) from the beetle *O. rhinoceros* (Linnaeus) collected on Ambon Island, which is a part of the Maluku Islands of Indonesia. It has also been recorded from Apia, Samoa (Teng & Luo 1983, Costa 1971), China and United Arab Emirates (Al-Deeb *et al.* 2012) on the beetle *O. rhinoceros*. There are no published records of this species from any other host. *Hypoaspis rhinocerotis* may be highly host-specific and its geographical distribution is probably influenced by its host specificity. The species is easily recognised by the short setae of the central area of the dorsal shield (reach to less than half distance to bases of posterior setae), sternal setae reaching well past the base of the next posterior setae and the slightly long dorso-distal seta *ad1* on genu IV (about the same length as genu IV) as well as one macroseta on femora II–IV. It is recorded for the first time from Iran.

Discussion

The ecological role of *Hypoaspis* in Iran is unknown. Some authors have reported that species of *Hypoaspis* found elsewhere are predators or parasites of the eggs and larvae of plant-feeding Scarabaeidae, and therefore may be potential candidates as biological control agents. Swan (1974) reported that *Hypoaspis* can feed on the eggs and larvae of rhinoceros beetles in the genus *Oryctes*, which includes serious pests of coconut. Furthermore, Khanjani and Ueckermann (2005) reported that *H. polyphyllae* punctured the integument of larvae of *Polyphylla olivieri* Castelnau (Coleoptera: Scarabaeidae: Melolonthinae), a serious pest of fruit and other trees, and allowed the escape of droplets of haemolymph. Çobanoğlu *et al.* (2003) suggested that injuries of this type might allow the entry of pathogenic microorganisms into the beetle larva. A species of *Hypoaspis* was introduced from West Africa into the Tokelau Islands for controlling scarabs which attack coconut plants (Swan 1974). Mites of the genus *Hypoaspis*, therefore, appear to offer rich opportunities for exploring for biological control agents of pest insects.

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