

A NEW SUBGENUS OF PHORETIC MITE (ACARI: SCUTACARIDAE) ASSOCIATED WITH AFRICAN HALICTID BEES (HYMENOPTERA: HALICTIDAE)

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ABSTRACT - *Imparipes (Apidacarus) paulyi* n. subgen., n. sp. is described from different parts of Africa. This species was collected from the solitary bee species, *Halictus (Vestitohalictus) pollinosus thevestensis* Perez, 1903 from Algeria, *Halictus (Seladonia) foanus* Vachal, 1899 from Uganda and *Halictus (Seladonia) jucundus* Smith, 1853 from Namibia.

Key words - Acari, Scutacaridae, *Imparipes (Apidacarus) paulyi* n. subgen., n. sp., phoretic mites, solitary bees, Algeria, Namibia, Uganda.

INTRODUCTION

Phoretic associations between solitary bees and mites of the family Scutacaridae have been discovered before in the Americas (Delfinado and Baker, 1976), Europe (Mahunka, 1974; Dastych, 1978; Kuhlmann, 1998), Asia and Australia (Beer and Cross, 1960). However, no such findings have been reported from Africa.

Search of the collection of wild bees of the Institut Royal des Sciences naturelles de Belgique (Bruxelles, Europe) by Dr. A. Pauly, yielded several specimens of mites in the family Scutacaridae, among them some new species. Herein we present the description of one of these new species collected from African halictid bees.

Abbreviations: Fe = femur, Ge = genu, lTa = length of tarsus, lPrTa = length of pretarsus, PrTa = pretarsus, sol = solenidion, Ta = tarsus, Ti = tibia, TiTa = tibiotarsus, Tr = trochanter, x = average, \cong = about the same length, < = shorter than, > = longer than.

All measurements in the description are given in micrometers (μm).

Imparipes Berlese, 1903 *Apidacarus* n. subgen.

Type species - *Imparipes (Imparipes) apidophilus* Mahunka, 1974, locality: "Hungary", phoretic on *Halictus geminatus* Per., coll. Hungarian Natural History Museum, Budapest (Hungary, Europe).

Diagnosis (Female) - Tarsus of leg IV extremely short as in subgenus *Telodispus* but with pretarsus stalked, with suckerlike pulvillus, claws absent. Setae 2b setiform, barbed.

Etymology - The name "*Apidacarus*" refers to close relationship of the known species to solitary bees belonging to the Halictidae.

Species of the new subgenus *Apidacarus*

The following species are included in the new subgenus:

Imparipes (Apidacarus) apidophilus Mahunka, 1974.

Imparipes (Apidacarus) paulyi n. sp.

DESCRIPTION

Imparipes (Apidacarus) paulyi n. sp. (Figs. 1-3)

FEMALE - Body length: 170-226, x = 206 (n = 7, holotype 170); specimens from locality A: 170-204 (n = 2); specimens from locality B: 214-226 (n = 2); specimens from locality C: 206-213 (n = 3). Width of anterior sternal plate (measured as distance between insertion points of setae 1b): 40-50, x = 47 (n = 6), holotype 40. Width of posterior sternal plate (measured as distance between insertion points of setae 3c): 66-82, x = 74 (n = 6), holotype 66. Entire surface of idiosoma with tiny pores; cupulae ia and ih large, roundish.

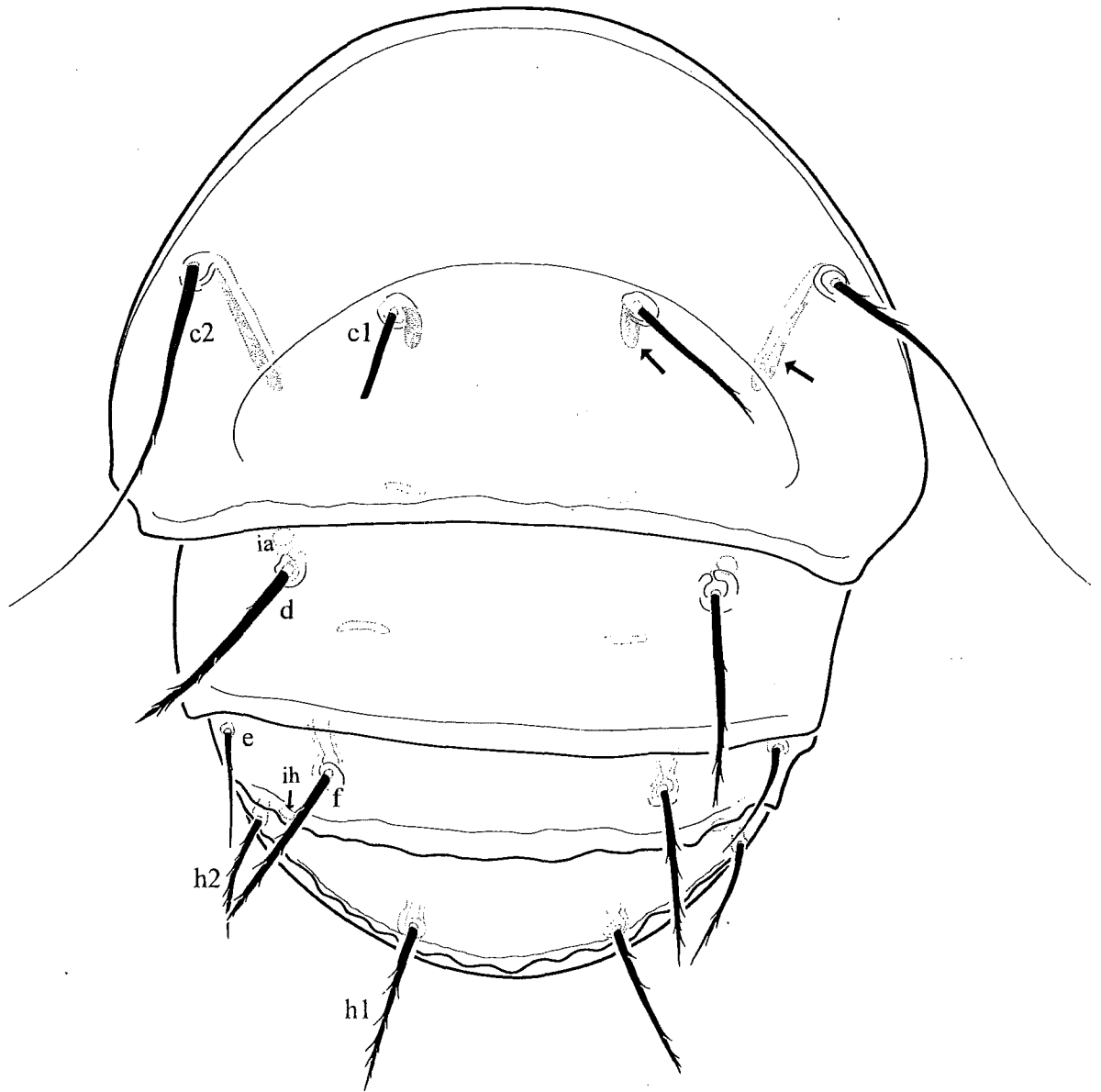


Fig. 1. *Imparipes (Apidacarus) paulyi* n. sp. (holotype female) - dorsal view; body length 170 μm . Arrows: a drop-shaped sclerotized structure arising from setal base of *c1*, alveolar canal of *c2* accompanied by an extended drop-shaped sclerotized structure.

Dorsum (Fig. 1) - Free margin of tergite C broad, with fine radiating stripes (not illustrated in Fig. 1); a drop-shaped sclerotized structure arising from base of seta *c1* (arrow), alveolar canal not visible, alveolar canal of *c2* accompanied by an extended drop-shaped sclerotized structure (arrow). Dorsal setae moderately barbed or smooth. Homologous setae of specimens from different localities may differ considerably in length (specimens of locality B rather damaged, e.g., most of dorsal and ventral setae broken; these three specimens not considered in the following comparison). Relative length: $c2 > c1$ (*c2* more than two times longer than *c1*), $c1 < d \cong f$ (locality C) or

$d > f$ (locality A), $f \cong h1$ or $f > h1$, $h1 > e \cong h2$ or $e < h2$, difference in length between *h1* and *e/h2* much more pronounced in specimens from locality A: length of *e* and *h2* more than half the length of *h1*, in locality C: length of *e* and *h2* less than half the length of *h1*.

Venter (Fig. 2) - Apodemes 1, 2, 3 strongly developed, ap 4 extended, but does not reach acetabula of leg III, ap 5 reduced. Ventral setae barbed, varying considerably in length. Relative length: $1a \cong 1b \cong 2a > 2b < 3a < 3b > 3c$ or $3b < 3c$. *2b* subgeneric specific "setiform," barbed. *3a*, *3b*, *3c* stand nearly in one line, $4a < 4b > 4c$, $ps1 > ps2 > ps3$ or $ps2 \cong ps3$. In locality A: length *ps1*