

A NEW SPECIES OF THE PARASITIC GENUS *Podapolipoides* REGENFUSS WITH A KEY TO THE EGYPTIAN KNOWN SPECIES (TARSONEMIDA: PODAPOLIPIDAE)

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ABSTRACT

A new species of ectoparasitic mite, *Podapolipoides egyptiacus* n.sp. (Fam. Podapolipidae) is collected from the tracheae of the grasshopper, *Acrotylus insubricus* (Scop.), (Insecta: Orthoptera, Acrididae) in Sharkia Governorate, Egypt around June, 2006. The new species is illustrated and described along with a key to the already known Egyptian representative.

Keywords: Acari, Podapolipidae, *Podapolipoides*, grasshopper parasite, Systematics, Egypt.

INTRODUCTION

Regenfuss (1968) erected the podapolipid genus *Podapolipoides* to accommodate the three species *Podapolipoides grassii* (Berlese 1897), *P. bacillus* (Berlese 1911) and *P. locustanus* (Lavoipierre 1941) which were previously described under genus *Podapolipus* Rovelli and Grassi.

Naudo, (1967) described *Podapolipus madagascariensis*, while Husband 1972 declared that this species is close relative to *P. grassii* and assigned it to genus *Podapolipoides* as the adult females has paired anterior bilobed processes and the male has the short middorsal aedeagus characteristic of the genus *Podapolipoides*. Husband, 1972 described *Podapolipoides porteri* from grasshopper, Lawrence, Kansas. Kandeel *et al.*, (1993) added the new species, *Podapolipoides acrotylusi*, collected from tracheae of the grasshopper, *Acrotylus insubricus* (Scop.) in Egypt. Husband and Martin (2005) described *Podapolipoides cohni* from *Aidemona azteca* (Saussure) (Orthoptera: Acrididae) collected in Honduras. They also redescribed the genus *Podapolipoides* and gave a key to the American species based on new discoveries.

The present study described a new parasitic species, *Podapolipoides egyptiacus* n.sp. (Fam. Podapolipidae), collected from the thoracic trachea of the grasshopper, *Acrotylus insubricus* (Scop.) (Orthoptera, Acrididae), in Sharkia Governorate, Egypt, around June 2006. The terminology used by Husband and Sinha (1970) is adapted to describe the new species. Genus *Podapolipoides* Regenfuss, 1968 Type species- *Podapolipoides (Podapolipus) grassii* (Berlese, 1897)

Diagnosis- Female with one pair of legs; femur I with a long, thick seta; tibia I with or without a seta; tarsus I with a terminal clawlike seta typically with an opposing short stout seta and a dorsal blunt seta. Conspicuous stigmata and wide tracheae leading to branching tracheoles, urstigmata present or absent.

Male with three pairs of legs, and ambulacrum I with a single small claw, ambulacra II, III without claws or with very small claws; cheliceral stylets short (10-14) and thick. Genital capsule typically middorsal, dividing fused plates C/D or emerging from under the anterior border of plates C/D, may project to and slightly beyond the level of prodorsal setae sc_2 , often with a pair of setae lateral to the distal portion of the genital plate, with tibia I seta k. Tibia I solenidion ϕ and tarsi II, III setae pv' not present, tibiae I, II, III setae l' spinelike, tibia II with two spinelike setae, tibia III with two or three spinelike setae, tarsi II, III with two or three spinelike setae. Typically with femur II seta l' and tarsi II, III setae pv' , without genua I, II, III setae (one exception).

Larval female with ambulacrum I with two small claws; ambulacrall, III" with no claws or very small claws; cheliceral stylets typically exceed 40; seta V2 vestigial or not present; seta c typically not present; plate D separate from plate C; setae d, e and h_2 thick and with microspines; with tibia I seta k and genua I, II, III setae. Solenidion ϕ and tarsi 11, III pv'' not present, typically with femur 11 setae l' and tarsi II, III setae pv'' (one exception). (Husband and Martin, 2005).

Key to larviform females

* Mesal solenidium on tarsus I about twice as the length of distal solenidia on tarsus I *P. acrotylusi* Kandeel et al.

* Mesal solenidium on tarsus I near 1/3 the length of the distal solenidia on tarsus I *P. egyptiacus* n.sp

***Podapolipoides egyptiacus* n. sp.**

(Figs. 1-5)

The new species may be separated from all known representatives of the genus *Podapolipoides* by length of seta s.v.i more than 2.5 times as long as seta s.v.e. instead to be nearly equal in the closely related species, *P. grassii* or to slightly longer than seta s.v.e. in *P. acrotylusi* Kandeel, El. Zohairy, Amir and Ibrahim

Larviform female:

Gnathosoma: As long as the longest part of its wide, length about 1/4 wide of idiosoma ; ventral gnathosomal seta about less than 1/2 length of dorsal gnathosomals. Pedipalps ventral, two-segmented, each segment with a seta shorter than the length of the segment. Chelicerae long and developed, bases at anterolateral margins of gnathosoma.

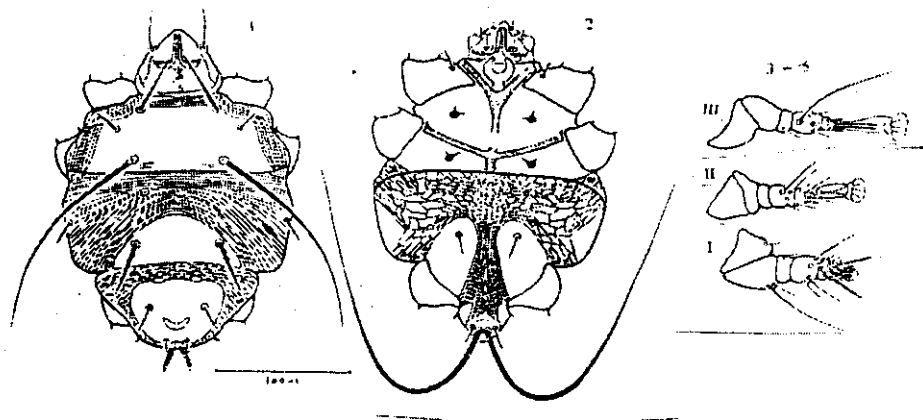
Propodosoma: Plate semi-ovate, with three pairs of setae s.sc.e., s.v.e. and s.v.i .. Seta s.sc.e. the longest and equals 3 1/3 times as long as s.v.e. and 8 1/2 times as long as s.v.i., while it is shorter than the length of idiosoma, but equals about 3/4 the idiosomal length.

Metapodosoma: Targite I, with seta humerales externae simple and subequals length of seta s.v.i.; seta humerales internae subequals length of seta s.v.e .. Targite II, hemispherical, seta dorsales pectinate and about the same length of seta s.v.i.; seta sacrales and caudal accessory setae as figured and subequal.

Opisthosoma: Plate I hemispherical and wide, plate II shorter than plate I, opisthosomal setae equals about 1 1/4 times as length of idiosoma.

Sternum: Coxal sternites I and II separated from sternite by a reticulated area. Coxal setae I and II as figured, coxal setae I simple.

Legs: Leg I shorter than width of idiosoma, leg III subequals width of idiosoma, tarsus III with two spines ; femur I with 2 setae, one of them $3 \frac{1}{4}$ times as the length of the other setae arising on tibia III with a long seta equals about the length of both tibia III plus tarsus III ; ambulacrum I with a pair of reduced claws, ambulacra II and III elongate without conspicuous claws.



Figs.(1-5): *Podapolipoides egypticus* n. sp., larviform female. 1- Dorsum, 2- Venter and 3-5: Legs I-III, respectively.

Type material:

Holotype: Larviform female collected from tracheae of the grasshopper, *Acrotylus insubricus* (Scop.) (Orthoptera: Acrididae), from Sharkia Governorate, around August 2000.

Paratypes: Several larviform females, with the same data of holotype .

Allotype: Males, not captured .

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