

**A New Species of the Genus *Dactyloscirus* Berlese  
(Prostigmata: Cunaxidae) from Egypt**

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**ABSTRACT**

*Dactyloscirus egyptiacus* sp. nov. collected from debris under cotton cultivars at Qalyobia governorate Egypt is described and illustrated.

**Key words:** *Dactyloscirus*, Cunaxidae, Prostigmata; Egypt.

**INTRODUCTION**

Members of the family Cunaxidae are considered as predators suppressing some phytophagous pest's populations on plants, debris and soil. Different species were recorded all over the world, Berlese, 1888; Baker & Hoffmann, 1948; Cooreman, 1954; Smiley, 1975 & 1992 and Den Heyer, 1975 & 1979). In 1981a, Den Heyer discussed the historical background of this family and its morphological and taxonomical features. Swift, 1996 described & illustrated the two new species *Dactyloscirus hoffmanni* and *D. smileyi* from Hawaiian Islands and tritonymph of *D. inermis*.

In Egypt some studies were carried out concerning the occurrence, biology and morphology of some cunaxid species (Zaher *et al.*, 1970; Zaher *et al.*, 1975; Nassar, 1976; El-Bishlawy & Rakha, 1983; Zaher, 1986; El-Khateeb, 1998 & Khalil, 2000 and El-Naggar *et al.*, 2007).

Berlese (1916) recorded the subgenus *Dactyloscirus* under the genus *Scirus* by the new species *Scirus (Dactyloscirus) eupaloides*. Thor & Willmann (1941), elevated the subgenus to generic status, designating *Scirus (Dactyloscirus) eupaloides* Berlese, 1916 as its type species. Baker & Hoffmann (1948) considered *Dactyloscirus* a senior synonym of *Cunaxa* van Heyden, 1926. Smiley (1975) revised the family Cunaxidae, retaining *Dactyloscirus* and redescribed *D. eupaloides* (Berlese, 1916) and *D. machairodus* (Oudemans, 1922).

*Dactyloscirus* is a valid genus in the subfamily Cunaxiinae, characterized by the presence of short and stout tarsi I-IV that terminate in large, conspicuous lateral bilobed flanges, the presence of a special sensilla on tarsus I with an elongate-base, and a distinctive reticulate ornamentation on the propodosomal plate which has subrectangular shape with 340mm length and 110mm width; palpus with 5 segments extending beyond the apex of hypostome, and with or without an apophysis on the palpal telofemur and palpal genu. *Dactyloscirus egyptiacus* is

the first dactyloscirus species recorded in Egypt. All measurements are in microns. Terminology follows Smiley (1992).

Holotype and paratypes are deposited at Fruit mite research Department at Plant Protection Research Institute.

*Dactyloscirus egyptiacus* sp. nov. Figs 1-6

**Diagnosis:**

This species looks like *D. poppi* in having lateral small shield, reticulated and transverse between d1, d2 with length 68mm and not having a dorsal median hysterosomal shield. There is a difference in the measurements of idiosoma between *D. poppi* length and width 986 & 268; while in this species being 525  $\mu$  length 437  $\mu$  width.

**Female:**

Approximately 525 $\mu$  long, and 437 $\mu$  wide. Color orange. Dorsal setae designations follow those of Kethley (1990). Body length measured from posterior tip of hysterosoma to the anterior tip of propodosoma, length of leg segments from coxae to the tip of tarsal claws.

Dorsum (Fig.1): Covered with propodosoma reticulated subrectangular shield originating behind base of gnathosoma, with length 330 width 110 mm.

Chelicerae (Fig. 3): Elongate, located dorsally over the hypostome with 240 mm in length, consists of three segments, the base short, the blade elongate, strong, broad posteriorly and attenuate anteriorly and the movable digit which is chela. Gnathosoma length 297mm and width 175mm. Palpi (Fig. 6) five segments with length 343mm; while in *D. poppi* palpus length was 126mm; chaetotaxy of palpus as follows:

Hypostome (Fig. 5): Its length 297mm, width 175mm, ventral integument densely covered with reticulation around base of palp-coxal area, subrectangular, semicone shaped distally with 2 pairs adorsal setae, and 4 pairs hypostomal setae (hg 1-4).

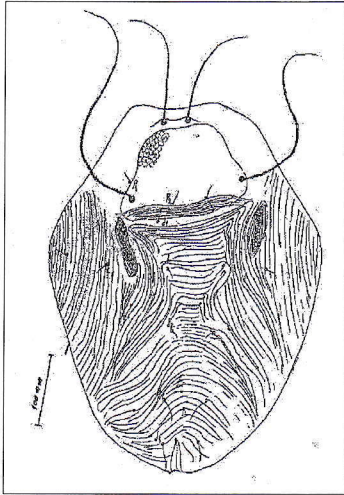


Fig. (1)

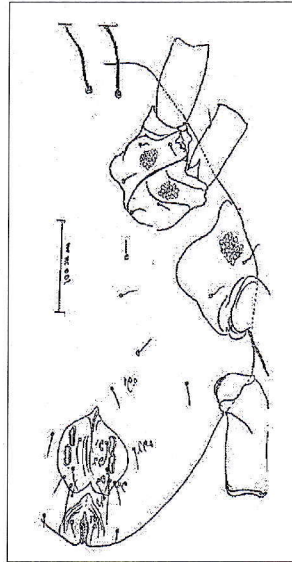


Fig. (2)

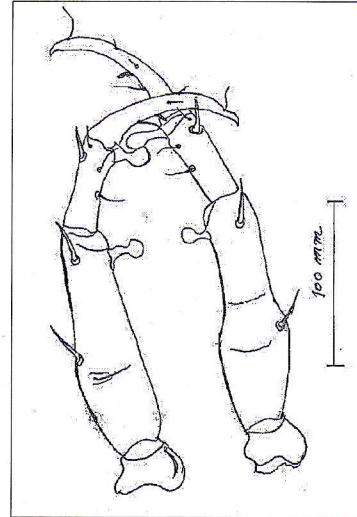


Fig. (3)

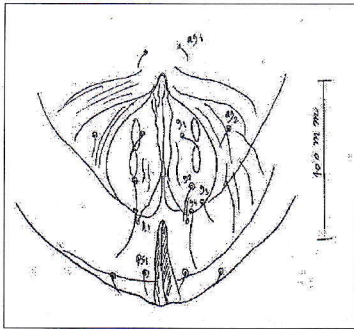


Fig. (4)

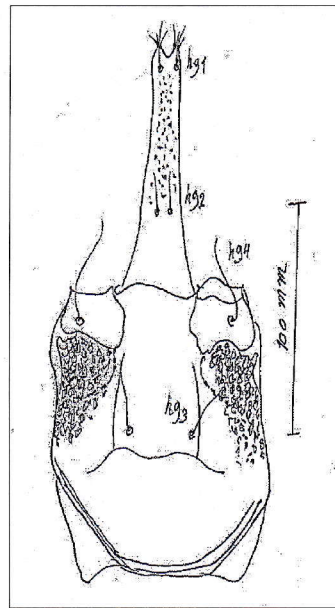


Fig. (5)

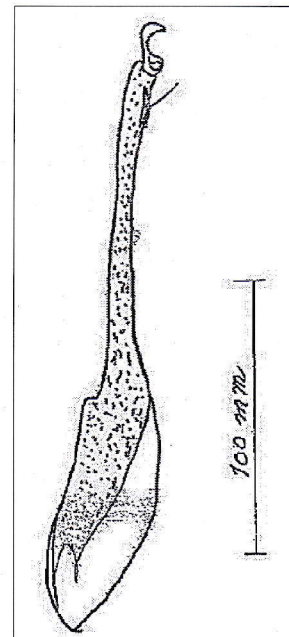


Fig. (6)

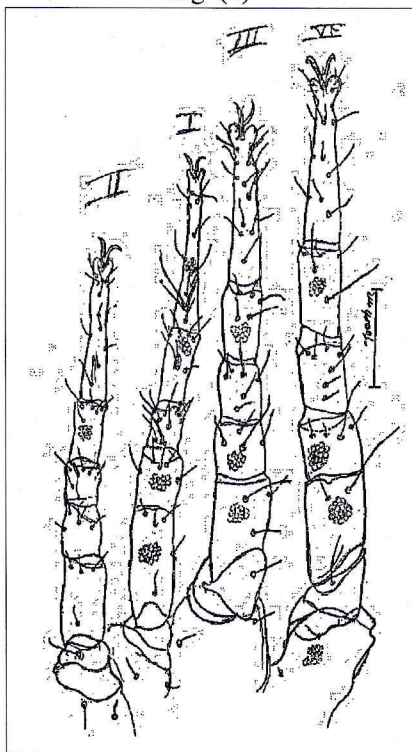


Fig. (7)

Fig. (1): Dorsum.

Fig. (2): Ventrum.

Fig. (3): Chelicerae.

Fig. (4): Genital setae.

Fig. (5): Hypostome.

Fig. (6): Palp.

Fig. (7): Legs.

Hypostomal setal distances: (hg1-hg2) 70 mm, (hg2-hg3) 90mm; hg4 a ciculate, long, located on hypostomal shoulder; 40mm length.

Propodosomal shield with anterior and posterior sensillae 163 and 340mm, two pairs of propodosomal setae P<sub>1</sub>, P<sub>2</sub> equal in length 8mm; while in *D. poppi* P<sub>1</sub>, about one-half as long as P<sub>2</sub>. Hysterosoma separated from propodosoma by small striae bearing dot-like lobes; without subrectangular reticulated mediam shield; with elongate reticulated lateral shields 68mm. Transverse striation between d<sub>1</sub>-d<sub>3</sub>, and a longitudinal between P<sub>1</sub> and the two lateral sides of idiosoma, a circle striation around lateral shields. Hysterosoma with smooth setae L<sub>1</sub>, D<sub>1</sub>-D<sub>5</sub>. Setae L<sub>1</sub>, D<sub>1</sub>-D<sub>3</sub> about equal in length 18-19mm setae D<sub>4</sub> and D<sub>5</sub> about four times the length of d<sub>1</sub>

Ventrum (fig.2): Coxae I-II contiguous, coxal shields densely covered with reticulation, connected by small lateral apodemes caxae III-IV separate, coxa III reticulate and broader than coxae I-II. Coxae I-IV setal formula 3-2-2-2; while in *D. poppi* 3-2-3-2. Three pairs of simple setae located between coxae II-IV increased in length from above to bottom. Four pairs of simple genital setae (Fig. 4), g<sub>1</sub>-g<sub>3</sub> arranged longitudinally, g<sub>4</sub> located laterally of g<sub>3</sub>, lengths; g<sub>1</sub> 9.5, g<sub>2</sub> 19, g<sub>3</sub> 32, g<sub>4</sub> 15; while in species *D. poppi* these setae subequal. Two pairs of agenital setae (ag 1-2); one pair of pseudo-anal setae (PS<sub>1</sub>) on lateral

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edge of anal shields, setae h<sub>2</sub> located ventrally, adjacent to anal shield cupule in aligned posteriorly nearby.

Legs (Fig. 7): Trochanter none; basifemur with one dorsal spinelike seta, telofemur with dorsomedial spine-like setae and inner lateral apophysis like mushroom; while in *D. Poppi* not as in *D. egyptiacus*; genu inner surface with one medially long simple seta; and a spine seta at its lateral tip; Tibiotarsus inner surface basally with mushroom apophysis, medially with long simple setae; above this setae a short rod-like apophysis; adjacently with ventral simple setae; outer surface with dorsolateral simple setae, terminal with simple setae and small claw.

Length of I-IV: 487, 450, 550 and 575 mm leg IV the longest tarsi I-IV not tapering. Number of setae on leg segments I-IV (setae on lateral lobed flanges of tarsus not included) coxae I-IV: 2,2,3,2, trochanters, 1,1,1,1; basifemora: 5,4,3,2; telofemora; 5,5,4,4 gena 1-4; 1 solenidia plus 8 setae; 1 solenidia plus 6 setae; 6 setae and 7 setae; tibiae I-IV: 7,5,5,5; tarsus I&II attenuate, 1 tapering solenidia in the base + 13 setae; while tarsus III and IV with: 13 and 10 setae.

#### Types:

Holotype female from debris under cotton cultivars in Qalyobia governorate, Egypt + 2 paratypes kept in the collection of Fruit Mite Research Department, Plant Protection these setae subequal. Two pairs of agenital setae (ag 1-2); one pair of pseudo-anal setae (PS<sub>1</sub>) on lateral edge of anal shields, setae h<sub>2</sub> located ventrally, adjacent to anal shield cupule in aligned posteriorly nearby.

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