

**PARAPLODONTOPUS EGYPTIACUS, A NEW GENUS AND  
NEW SPECIES FROM EGYPT (ACARI : ACARIDIDA :  
CHORTOGLYPHIDAE)**

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**Abstract**

A new chortoglyphid genus *Paraplodontopus* is established on the basis of holotype species of *Paraplodontopus egypticus* sp.n. This species was collected from stored mill and dust of cow pen feeders. This genus is very near to genus *Aplodontopus*, but differs in absence of anal male suckers, anal plate with six pairs of fine setae, male genital plate located between coxae II, anal plate of female with seven pairs of setae and located directly posterior of triangular and large genital plate.

**INTRODUCTION**

Chortoglyphid mites are considered as stored product pests, where they generally attack many stored grains, mills, flour, ground cereals, red clover, rye, oats, grass seeds and stored poultry mixtures (Zachvatkin, 1941; Robertson, 1946; Gerald, 1955; Wasyluk, 1959; Zdarkova, 1967; Mumcuoglu, 1977).

O'Farrell and Butler (1948) and Hughes (1961) isolated the species *Chortoglyphus arcuatus* Troupeau from rice. Hughes (1961) reported that chortoglyphid mites were found in different habitats; flour, dust of barns, mills, stables and granaries. Brady (1970) found *C. arcuatus* in the litter of broiler houses. Fain and Spika (1977) stated that genus *Aplodontopus* is restricted only with the mountain beaver.

Fain and Lukoschus (1977) reported that family Chortoglyphidae contained three genera. The deutonymphs are endofollicular parasites. Two genera of the aforementioned family were known from adults and deutonymphs; *Chortoglyphus* and *Aplodontopus*, while the third genus *Alabidopus* which recorded by Lukeschus *et al.* (1979) was known from deutonymph. This deutonymph was associated with murid rodents in Asia.

A new genus and new species *Paraplodontopus egypticus* sp.n. were described from adults found in dust of cow food pens. A key of the known international genera is given. The nomenclature and idiosomal chaetotaxy followed those used by Attia

(1969) and Hughes (1976).

## MATERIAL AND METHOD

Samples of stored mill and dust of cow pens were collected from El-Mehtemedia, Giza governorate. Mites were extracted by using the modified Tullgren funnel. Mites were cleared in Nesbitt's solution, mounted on slides in Hoyer's medium, then identified by using light microscope.

## RESULTS

### Family Chortoglyphidae Berlese, 1897

Free livings, ventrum with a pair of lateral paragynial shields forming a crescent bounded posteriorly by epigynial flap fused to the venter at its posterior margin. Idiosoma entirely sclerotized, weakly tanned with dorsal simple and minute setae.

#### Key to genera of the family Chortoglyphidae Berlese, 1897

##### according to adult

1. Body fusiform; cuticle strongly tanned; dorsal body setae short and simple; male with aedeagus situated between coxal fields I .....  
Subfam. Chortoglyphinae ..... 2
- Body rounded; cuticle not strongly tanned; dorsal body setae strongly barbed; male with aedeagus situated between coxal fields III-IV; in nests of rodents (*Rattus* spp. and relatives) rarely insectivores or primates; Asia, Australia, Madagascar .....  
Subfam. Alabidopodinae ..... *Alabidopus*
2. Female with 6 pairs of setae in anal region; male with 3 pairs of setae and para-anal suckers; aedeagus short; not dividing fused coxal apodemes I; tarsus IV of male without modified, sucker like setae; in nests of mountain beaver *Aplodonta rufa*; Nearctic ..... *Aplodontopus*
- Female with 7 pairs of anal setae; male with 6 pairs and para-anal suckers absent; aedeagus short, between coxae II, female anal plate located directly posterior to genital plate; tarsus IV of male without modified, sucker like setae; in stored mill of cows and in the dust of its pens feeders ..... *Parapodontopus*

- Female with 5 pairs of setae in anal region, male with 2 pairs plus para-anal suckers, aedeagus large, dividing coxal apodemes 1; tarsus IV of male with 2 sucker-like setae or with a sucker-like seta small and spine-like; in nests of rodents in North and Central America; 1 species, *C. arcuatus*, cosmopolitan in stored products and house dust ..... *Chortoglyphus*

#### **Genus *Paraplodontopus* n.gen.**

This genus can be distinguished from the other genera of the family by female with seven pairs of anal setae; anal plate located directly posterior to genital plate, the anal and tarsus suckers of male absent and male genital plate between coxae II.

#### **Description of adults of *Paraplodontopus egyptiacus* sp.n.**

##### **Female, Figs. 1 & 2**

**Dorsum, Fig. 1, A :** Body moderately sclerotized, pale-brown, with two longitudinal striations on each side of the idiosoma and transversal striation between the propodosoma and hysterosoma. Integument wholly covered with punctures. Idiosomal length 315  $\mu\text{m}$  and width 192  $\mu\text{m}$ .

Chelicerae chelate, 72  $\mu\text{m}$  long. External vertical setae (ve) absent, while internal vertical setae (vi) located anteriorly, very short, simple and fine. Internal scapular setae (sci) absent, while external scapular setae (sce) present and very fine. The humeral pair of setae found laterally out of the longitudinal striations and beside the transversal striation. Dorsal setae three pairs  $d_1$ ,  $d_2$  and  $d_3$ , with the same shape of the previous setae. Three pairs of lateral setae  $l_1$ ,  $l_2$  and  $l_3$  located out of longitudinal striation on each side of idiosoma. The supra-coxal setae (scx) located at the coxae of leg I, 19  $\mu\text{m}$  long and heavily barbed, Fig. 2, A. A bent in the outline of the cuticle on each side of the body between propodosoma and hysterosoma present.

**Ventrum, Fig. 1, B :** Integument with regular distribution of punctures, one pair of gnathosomal setae short and fine. Epimeres 1 fused to form a short thick sternum, Y-shaped and more sclerotized, but epimeres 2 free. Sternal setae distinct, fine and smooth. Genital plate triangular and sclerotized, with two pairs of small triangular genital discs and three pairs of smooth and short genital setae;  $g_1$ ,  $g_2$ ,  $g_3$  on the sides. Epimeres 3 thick, short and Y-shaped. Coxae I, II and IV without setae, while coxae III with fine pair of short smooth setae. Anal plate sclerotized with seven pairs of very fine smooth setae, Fig. 2, C and with some striations surrounding its lower part. A pair of subhumeral setae beside coxae III.

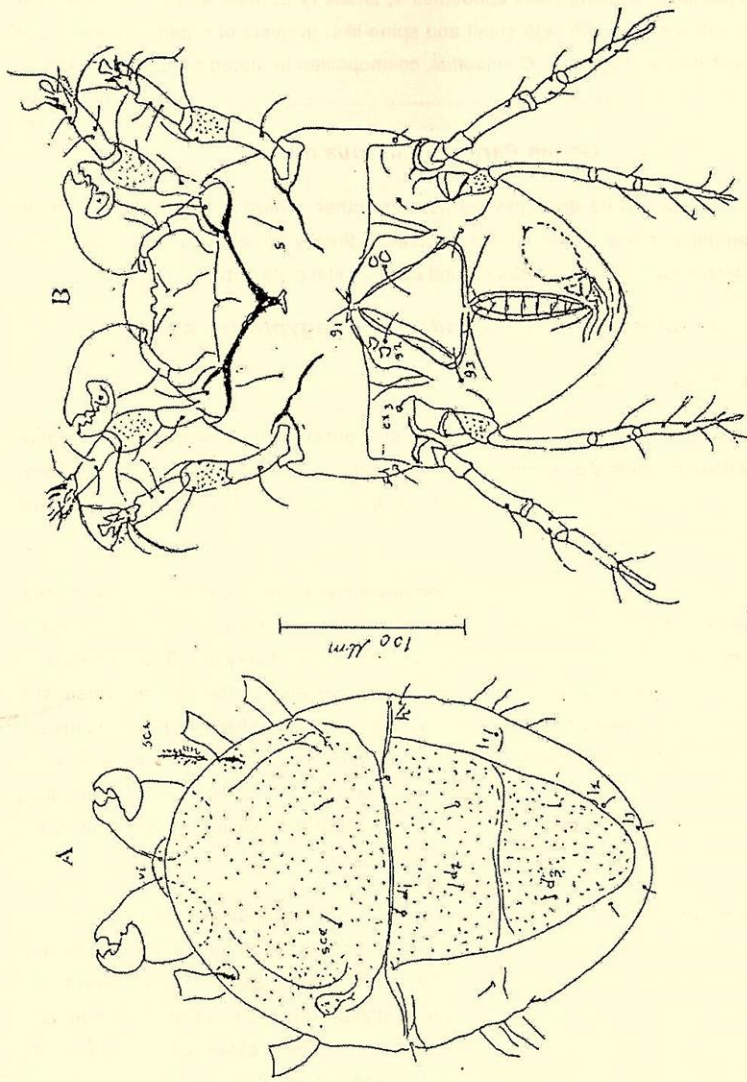


Fig. 1. *Paraploodontopus egyptiacus* sp. n. adult female  
A. Dorsum B. Ventrum

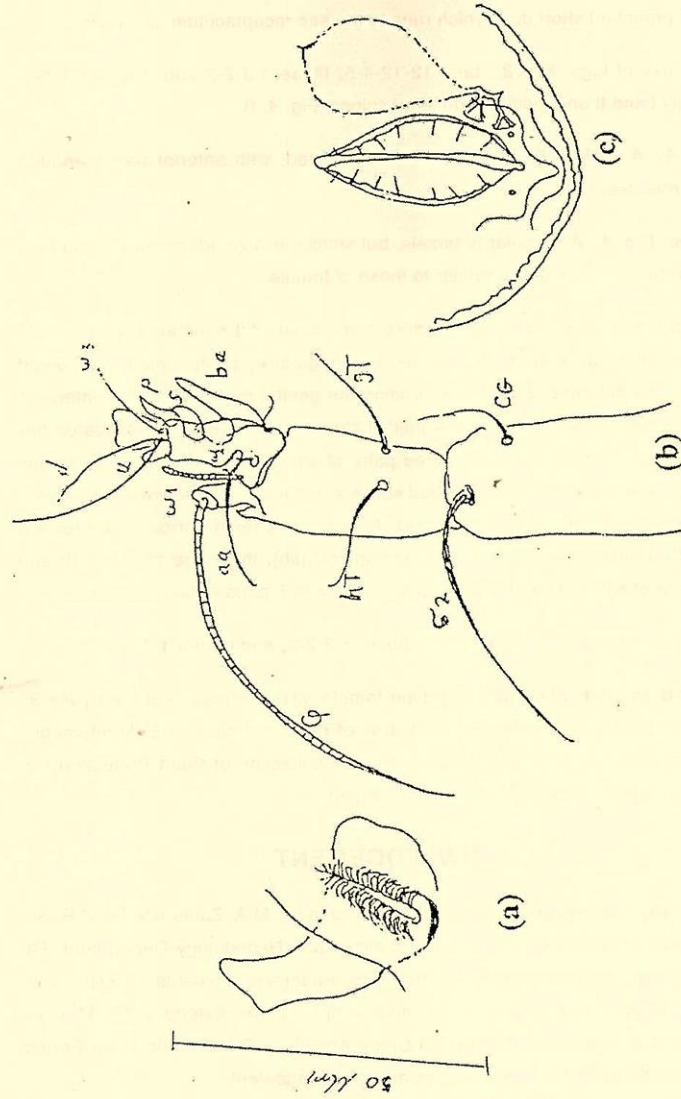


Fig. 2. *Paraplodontopus egyptiacus* sp.n. legs of female  
A. Supra coxal setae B. Seta tarsus, tibia and genu of leg 1  
C. Anal region

A pair of pores located beside the end of anal plate. The bursa copulatrix, Fig. 2, C situated on the posterior margin of opisthosoma behind the anal opening, attached internally with branched short duct which runs to the sac receptaculum seminalis.

Chaetotaxy of legs, Fig. 3 : tarsi 12-12-4-5, tibiae 3-3-2-2 and genua 1-1-1-0. Setae on tarsus I and II enlarged to form stout spines, Fig. 4, B.

**Male, Fig. 4, A & B :** Body moderately sclerotized, with anterior part triangular and posterior rounded.

**Dorsum, Fig. 4, A :** Similar to female, but smaller in size; idiosoma 290  $\mu\text{m}$  long and 170  $\mu\text{m}$  wide; all dorsal setae similar to those of female.

**Ventrum, Fig. 4, B :** Integument more sclerotized and punctated. Epimeres 1 fused to form a short, thick sternum attached to triangular epigynium plate and joined with epimeres 2 by sclerotized ridge surrounding the genital plate. Each of epimeres 1 and 2 more sclerotized and Y-shaped. A pair of sternal setae smooth and located between  $ep_1$  and  $ep_2$ . Genital plate with three pairs of smooth, minute setae; aedeagus more elongated with 2 pairs of round genital suckers. Genital plate between epimeres 1 and 2. Epimeres 3 sclerotized and Y-shaped. A sclerotized ridge surrounding coxae 3 and 4 and with 3 setae; the lateral setae subhumeral (sh), the setae of coxae III and the pre-anal pair of setae. The anal plate sclerotized with 6 pairs of fine smooth setae.

Chaetotaxy of legs : tarsi 12-12-4-5, tibiae 3-3-2-2, and genua 1-1-1-0.

**Locality and type material :** Holotype female, allotype male and paratypes 35 females and 27 males were collected from dust of cow food pens in El-Mehtemedia, Giza, Egypt on June 12, 1998 and deposited in the collection of Plant Protection Research Institute, A.R.C., Ministry of Agriculture, Egypt.

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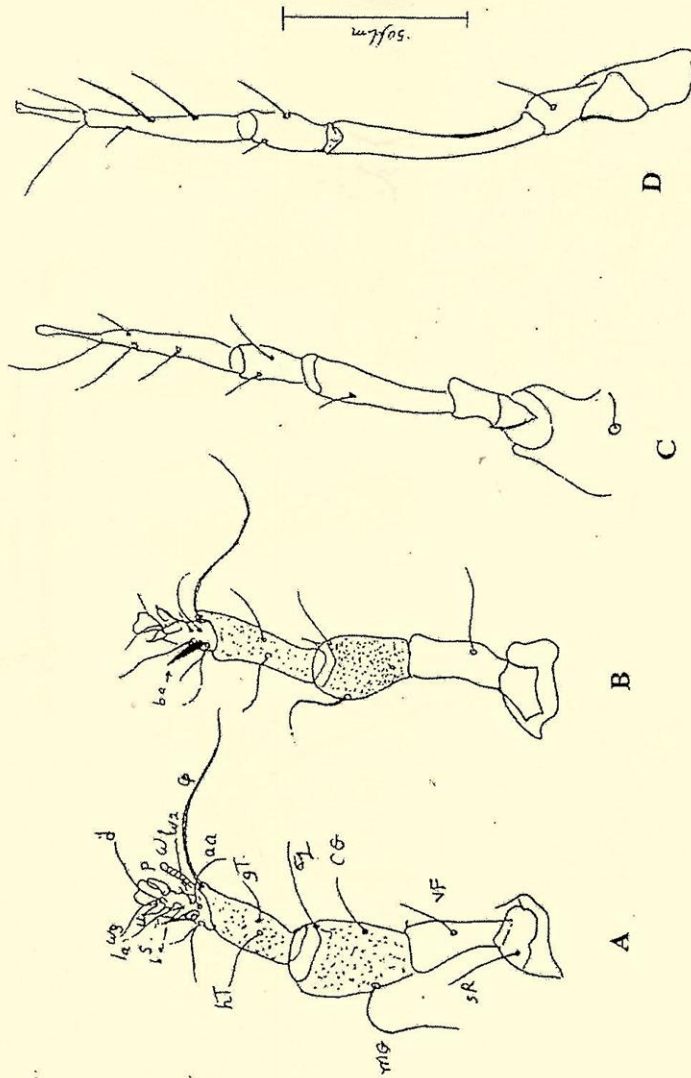


Fig. 3. *Paraplodontopus egyptiacus* sp.n. legs of female  
A. Seta leg 1 B. Leg 2 C. Leg 3 D. Leg 4

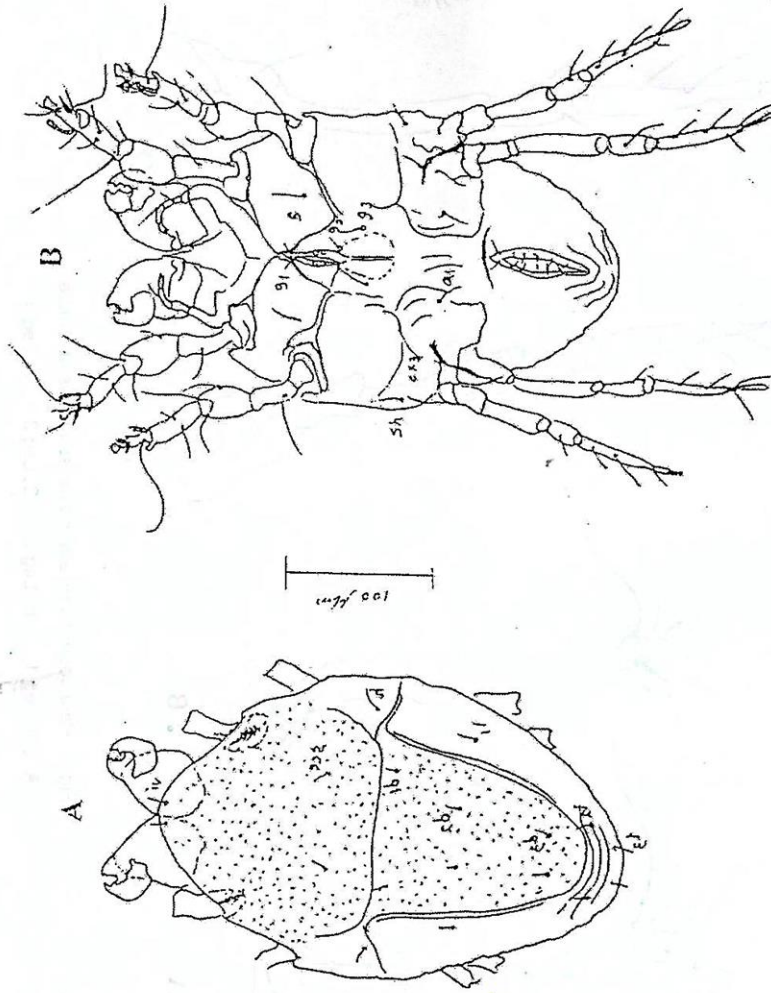


Fig. 2. *Paraplodontopus egyptiacus* sp. n. adult male

A. Dorsum    B. Ventrum



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## جنس جديد ونوع جديد من الأكاروس في مصر

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معهد بحوث وقاية النباتات - مركز البحوث الزراعية - الدقى - مصر

تم وصف جنس جديد من الأكاروس تابع لعائلة Chortoglyphidae وهو جنس *Paraplodon* وهذا النوع الجديد تم *Paraplodontopus egyptiacus* sp.n. على أساس النوع الجديد *topus* فصله من الأعلاف المخزونة وتراب أماكن تغذية الأبقار. ويعتبر هذا الجنس قريباً من جنس *Aplo-* ولكن يختلف عنه فى عدة صفات وهى غياب المصحات الشرجية فى الذكر وأن *dontopus* الصفيحة الشرجية فى الذكر عليها ستة أزواج من الشعيرات الدقيقة، كما أن الصفيحة التناسلية للذكر تقع بين حرقفات الزوج الثانى من الأرجل. الصفيحة الشرجية للأنثى عليها ٧ أزواج من الشعيرات الدقيقة وتقع مباشرة خلف الصفيحة التناسلية والتي تكون مثلثة الشكل وكبيرة.