ABSTRACT:
A new pygmephorid mite species, Pediculaster egypticus n. sp. (Acari: Tarsonemida), associated with the housefly, Musca vicina (Macquart) (Insecta: Diptera) is illustrated and described morphologically along with a revision and a key to the recorded Egyptian species, P. gallinae Zaher & Kandeel; P. arabicus Zaher & Kandeel; P. monoufiensis Sevastianov & Abo-Korah; P. amerahae Sevastianov & Abo-Korah and P. zaheri Sevastianov & Abo-Korah.

Key words: Taxonomy, Pediculaster egypticus n. sp., Musca vicina, Egypt.

INTRODUCTION

Therefore, the present work aims to describe Pediculaster egypticus n. sp., phoretic on the house fly, Musca vicina (Macquart) (Diptera: Muscidae), Zagazig, Egypt. Also, to establish a key to the new species along with its Egyptian representatives in the genus Pediculaster.
Individuals of genus *Pediculaster* were collected from the housefly, *Musca vicina* (Macquart). Mites were cleared in lactophenol, mounted in Hoyer's medium, examined and drawn through a compound binocular microscope (oil immersion). Terminology of structures and setal notation were taken from Lindquist (1986) and Dastych & Rack (1993). Measurements are in µm and were taken with a calibrated micrometer. Type material is deposited in Faculty of Technology & Development microfauna collection, Zagazig University, Zagazig, Egypt.

**Genus Pediculaster Vitzthum, 1927**

**Diagnosis:**

Females of the genus *Pediculaster* are distinguished from those of other genera in the family Pygmephoridae by the following combination of characters: Leg I with four segments, claw I sessile and often deformed, Seta c of trochanter I stout and straight, blunt or spatulate apically; Propodosoma with three pairs of dorsals. Sensillus on posterior third. Anterior sternal plate with four (usually) to six pairs of setae, if five pairs then coxal plate II with only two pairs. Sejugal apodeme well-developed. Posterior sternal plate entire, or (rarely) divided by a single transverse line between centers of trochanter III, with 4–6 pairs of setae. Opisthosoma longer than posterior sternal plate.

**Key to species of genus Pediculaster in Egypt:**

*(Phoretic non-gravid females)*

1. Propodosoma convex anteriorly, not covering gnathosoma, sensillus with a smooth spherical head .........................................................(2)

* Propodosoma truncate anteriorly, covering most of gnathosoma, sensillus with a calyciform head with dentated anterior margin................................................................. *Pediculaster arabicus*

2. Third propodosomal seta arising from distinctive tubercle.............................................................. *Pediculaster gallinae*

* Third propodosomal seta v₁ arising on normal alveoli .................................................(3)

3. Tergite C with seta c₁ shorter than c₂ ................................................................. (4)

* Tergite C with seta c₁ longer than c₂ ............ *Pediculaster monofiensis*

4. Prosternal apodeme (appr) thin; sensillus with a short stalk................................................................. *Pediculaster zaheri*

* Prosternal apodeme (appr) thick; sensillus with a long stalk.............(5)

5. Sensillus with a leaf-like head, longer than its long stalk; seta c of trochanter I spoon-shaped........................................ *Pediculaster amerahae*
* Sensillus with a smooth spherical head, shorter than its long stalk; seta c of trochanter I thick with a straight blunt apical margin………………………………………………

_Pediculaster egypticus_ n. sp.

(Figures, 1-6)

**Phoretic non-gravid female:**

**Dorsum (Figure 1):**

Body elongated oval, pale yellowish in colour when alive. Gnathosoma quadrate, broadly ovate, with two pairs of setae of the same length, the apical pair simple, the second is finely barbed. Palp elongate, stout, consisting of two segments, the basal segment with two setae and broad than the apical which having one seta. Propodosoma semi-triangular, with a truncate anterior edge. Peritreme elongate, peanut like, located between setae p1. Sensillus spherical, smooth, with a long stalk, arising from a rounded bothridium, occurring between the level of trochanters I & II.

All propodosomal dorsals finely feathered, seta p1 slightly shorter than p2, seta p3 the longest propodosomals and hardly reaching the base of seta d1 and subequals it. Hysterosoma, elongated oval, truncate posteriorly, covered by five segments. Segment I (clypeus) extending anteriorly covering the basal portion of the propodosoma, approaching the posterior part in the level of trochanter II, measuring more than half length of the hysterosoma; segment II shorter than the former; segment III slightly longer than the former; segment IV trapezoidal, equals one third the former; segment V, the narrowest, nearly covered by the former.

All dorsal hysterosomal setae finely feathered and of the usual number; seta c2 and seta f the longest hysterosomals and of the same length.

_Figures (1-6): P. egypticus_ n. sp.; 1: dorsum, 2: venter, 3-6: legs I-IV, respectively.
Venter (Figure 2):

Gnathosoma with the internal gnathosomal ventral seta, simple; palpal proximal segment having a spatulate solenidion, destal segment having a basal solenidion. Apodeme I inverted v-shaped, well developed, not reaching trochanter I; apodeme 2, transverse and of the same broad of the former, extending anteriorly ending just anterior to trochanter II; sternum I broad, thin at coxisternal plate I, much broad at coxisternal plate II, connecting with a well-developed sejugal apodeme, sejugal apodeme thin posterior to coxa II; apodeme 3 well developed; apodeme 4 much narrower than the former; apodeme 5 reduced; sternum II wide, being thin and pointed posteriorly.

Coxisternal plates I & II having six pairs of simple setae, three of which occurring on each plate, normally of the same length except the long seta coxalis I externae (1c) and the shorter one coxalis II mediae(1b); coxisternal plates III&IV with five pairs of simple setae, nearly subequall except setae coxales III externae (3c) which highly exceed the length of any of the former setae.

Opisthoma elliptica, longer than the coxisternal plates III&IV, having a pair of long, simple metasternals.
Genital opening spindle-shaped having eversible v-shaped pre-genital plate; vulva longitudinal.

Legs I- IV (Figures 3-6, respectively):

Leg I four segmented, Legs II- IV five segmented, setal formula of trochanters (1-1-1-1), seta of trochanter I finely barbed; the setal formula of femora (4-3-2-2), genua (4-3-3-1), tibiae II- IV (4-4-4-4), tarsi II- IV (6-6-6), tibiotarsus I (15 seta + 4 solenedia), each of tibiae II- IV and tarsus II with one solenidion, seta c of femur I broad with a blunt apical margin. Leg I with a single stout senssile, anchor-shaped claw; leg II- IV with a curved narrow terminus; empodia II- IV calyciform.
Body 290 µ long and 112 µ wide.

Type specimens:
Holotype: Phoretic, non-gravid female attaching with the abdomen of the house-fly, Musca vicina (Macquart), Sharkeia Governorate, Egypt, around January 2013.
Paratypes: Several Phoretic non-gravid females from the same habitat and locality of holotype.
Allotype: Male not captured.

(Figures: 7-12)

Phoretic non-gravid females of this species were found in soil under chickens at Dakahleia Governorate, Egypt, described by Kandeel (1977) and published by Zaher 1986 where he recorded it form the same habitat.

Figures (7-12): P. gallinae: 7:dorsum, 8: venter, 9-12: legs I-IV, respectively.

After Zaher, 1986

Pediculaster arabicus Zaher & Kandeel, 1986

(Figures: 13-18):

Phoretic non-gravid females of this species were found in organic manure at Giza, Egypt, described by Kandeel (1977) and published by Zaher 1986 where he recorded it form the same habitat.

*Pediculaster amerahae* Sevastianov & Abo-Karah, 1984

(Figures: 19-23)

Sevastianov & Abo-Karah (1984) described *Pediculaster amerahae* from vicinity of Shibin-el-Kom, soil under cabbage, Egypt. Later, Sevastianov et al. (1994) described *Pediculaster crassipes* Sevastianov et al., 1994 from Turkmenistan. Khaustov (2011) examined holotypes of both species and revealed their conspecificity. Therefore he considered *P. crassipes* syn. nov. as a junior synonym of *P. amerahae*.

Pediculaster monofiensis Sevastianov&Abo-Korah,1985

(Figures.: 24-27)

Sevastianov & Abo-Korah (1985) described Pediculaster monofiensis from vicinity of Shibin-el-Kom, Egypt on jimson weed, Datura stramonium (Dicotyledones : Solanaceae). Wicht, 1970 described three new species of pyemotid mites associated with commercial mushroom of them Pygmephorous kneeboni. Khaustov (2011) examined phoretic female holotype of P. monofiensis and revealed its conspeccificity with P. kneeboni Wicht, which was also redescribed by Martin (1978). Therefore, he considered P. monofiensis syn. nov. as a junior synonym of P. kneeboni (Wicht).


Pediculaster zaheri Sevastianov&Abo-Korah,1984

(Figures.: 28-31)

Sevastianov & Abo-Korah(1984) described Pediculaster zaheri from vicinity of Shibin-El-Kom, Egypt under wheat.
The new species *P. egypticus* n. sp. is close to *P. gallinae* Zaher & Kandeel but differs in having seta p₁ finely serrate, all dorsal setae arise from normal alveoli; sensillus with a long stalk and a rounded head; seta c of trochanter I broad with a blunt apical margin in addition to many other features.

Martin (1978) described *Pediculaster portatus* from New Zealand where it was collected from the fly, *Musca domestica*. Khaustov (2008) considered that species as a new record for the European and Ukrainian fauna.

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REFERENCE


Musca vicina و Pediculaster Vitzthum, 1927

وصف نوع جديد

نبيل عبد الله عمر
قسم الإنتاج النباتي - كلية التكنولوجيا والتنمية - جامعة الزقازيق- مصر.