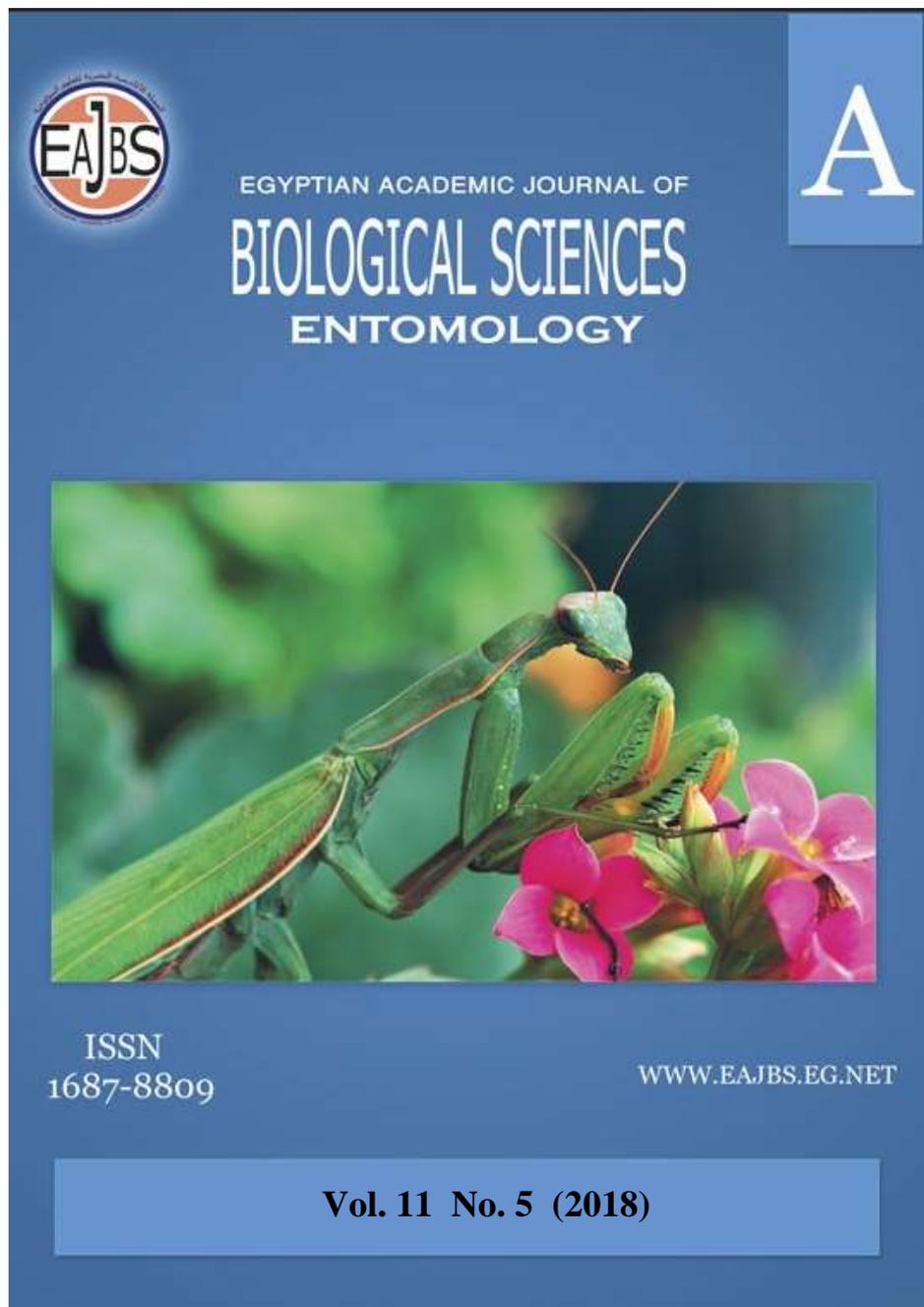


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**Taxonomic revision on subfamily Eremazinae, (Coleoptera: Scarabaeidae)  
in Egypt**

**Dalia A.Elshehy**

Insect classification and survey Dept., Plant Protection Res. Inst., Agric. Res. Center  
E.Mail: [elshehy4@yahoo.com](mailto:elshehy4@yahoo.com)

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**ABSTRACT**

Two species and one genus belonging to subfamily Eremazinae are revised in present work. A key is presented to differentiate between the two species, diagnosis for family, genera, description of species and illustration of taxonomic character for each species are given.

**INTRODUCTION**

Eremazinae sometimes known as the fossorial beetles; little life history information is known for it; adult feed on both invertebrate and vertebrate carrion in the early stages of decomposition; some species are found in dung and other are attracted to lights at night. It consider as a new subfamily of family Scarabaeidae. Previously genus *Eremazus* was belong to subfamily Aegialiinae Gardner (1935), Paulian (1939), Alfeiri (1976) and Lawrence and Newton (1995). Recently genus *Eremazus* was belong to subfamily Eremazinae which is new subfamily in family Scarabaeidae Stebnicka (2006). It contains one genus and 5 species worldwide Stebnicka (2006). In Egypt, it contains *Eremazus punctatus* (Harold) and *Eremazus unistriatus* Mulsant, Alfeiri (1976).

**MATERIALS AND METHODS**

The present work is based on examination of all specimens which were collected during occasional trips to different regions of Egypt by using various method including sweeping net, pitfall traps or light traps, in addition to the preserved specimens in the five insect collections namely: Ain shams Univ. Collection, Entomology Dept., Faculty of Science [ASUC]; Alfieri collection, Entomology Dept., Faculty of Science, Al-Azhar Univ. [AZUC]; Egyptian Entomological Society [EESC]; Cairo Univ. Collection, Entomology Dept., Faculty of Science [CUC]; Ministry of Agriculture collection, plant protection Research Institute [MAC].

## RESULTS AND DISCUSSION

### Family Scarabaeidae

#### Diagnosis:

It is the largest group of the superfamily, vary greatly in size, color and habits. The Scarabs are heavy bodied, globular or elongate, usually convex. Mouth parts variable from the nearly membranous to the hard well developed mandibles; maxillary palpi slender and four segmented, its apical segment is the largest; labial palpi three segmented. In many groups horns are well developed, some of them are fantastically large and bizarre, help in combating and transporting the opponent. All species have arranged lamellate antennal club, expressed or expanded to form a compact club from seven to eleven segments. Legs, especially the anterior ones, adapted for digging (fossorial); anterior coxae large, transverse, prominent and conical; the anterior tibiae usually broad flattened and dentated from outside; apex of the anterior tibiae contain a single spur often modified in males; middle and posterior tibiae vary in form, they are narrow and curved; prosternum small hidden between anterior coxae; tarsal formula is 5-5-5; pygidium and propygidium appear under the elytra.

#### Subfamily Eremazinae Lablokoff-Khznorian, 1977

#### Diagnosis:

Body oblong –oval in shape, slightly flattened in some forms; yellowish brown to reddish brown in color. Head fattened and wide or slightly convex; eye small mostly invisible; antennae 8-segmented; mandible sclerotized; last segment of maxillary palp cylindrical; mouth parts shortly exposed. Pronotum moderately convex, clothed with fine hairs laterally, more or less punctated dorsally and margined on all its sides; anterior angles of pronotum prolonged and its posterior angles rounded or obtuse. Elytra elongated, almost covering pygidium, punctated dorsally, without striae; protibia toothed laterally with an apical spur; meso- and metatibiae mostly slender, slightly widened at end, with more or less pronounced transverse ridge or denticles and slender sharp apical spurs.

#### Genus *Eremazus* Mulsant, 1851

*Millingenia* Sharp, 1874: 139

*Tolius* Sharp, 1874: 125

**Type species:** *Eremazus unistriatus* Mulsant, 1851.

#### Diagnosis:

Body oblong, moderately to strongly convex; shining, yellowish to dark brown. Terminal segment of maxillary palpus cylindrical; edge of clypeus, pronotum and elytra clear and thickly piliferous. Head wide and punctated. Pronotal length about one-third as long as elytra, pronotum margined at sides and basis, more or less strongly punctated dorsally. Elytra smooth without striae or carina, punctated dorsally. Legs rather short, robust, piliferous and setaceous; protibia with four or five lateral teeth; sides of meso- and metatibia distinctly dentate; tibiae fringed with rows of short setae; terminal spurs cylinder and pointed; tarsal segments triangular and setaceous on sides; metafemur wide. Abdomen with five visible sterna, finely punctated and shortly piliferous.

#### Key to Egyptian species of genus *Eremazus*

- Body with fine superficial punctation dorsally and short dense hairs laterally (fig.1); labrum widely emarginated (fig.2); two basal antennal segments densely hairy (fig.5); elytra parallel and finely punctated (fig.3). Body ventrally finely hairy (fig.4)  
 ..... *Eremazu sunistriatus* Mulsant

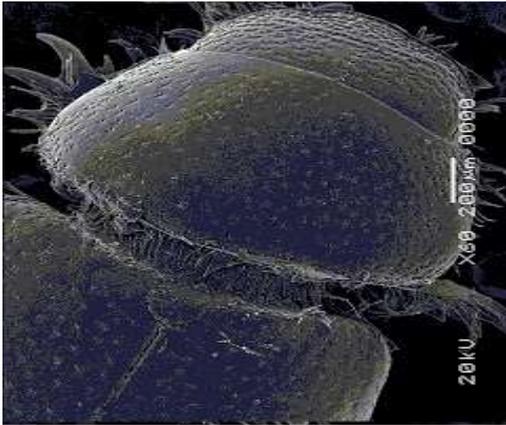


fig.1

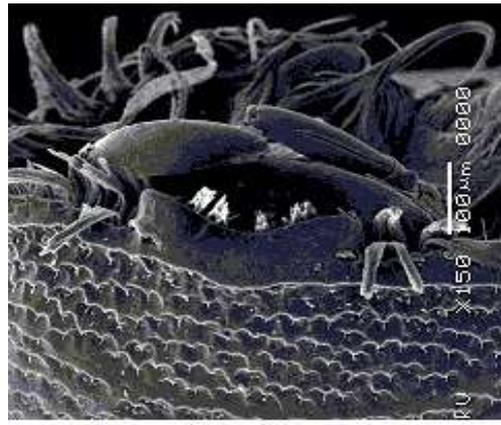


fig.2

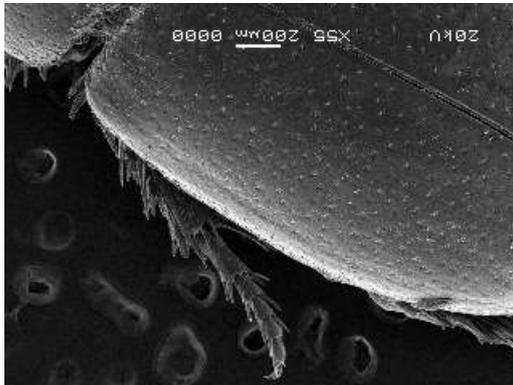


fig.3



fig.4



fig.5

- Body with fine deep punctation dorsally and long dense hairs laterally(fig.6);  
labrum deeply emarginated (fig.7); two basal antennal segments not as such (fig.10);  
elytra oblong and strongly punctated (fig.8). Body ventrally finely hairy (fig.9)  
..... *Eremazus punctatus* (Harold)

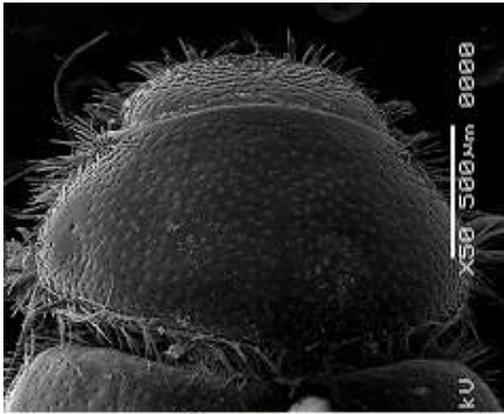


fig.6

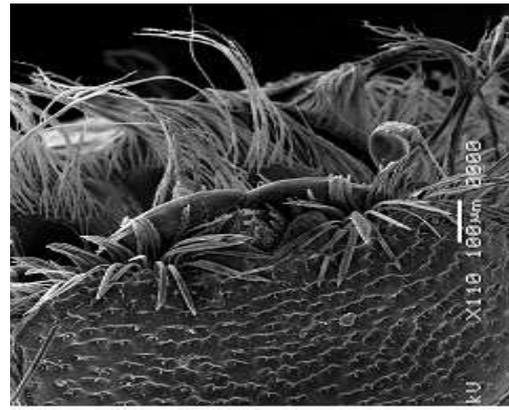


fig.7

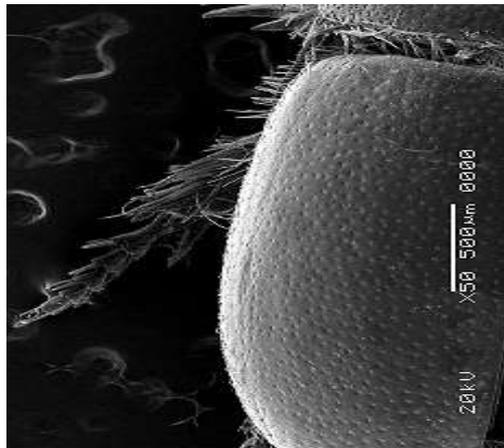


fig.8

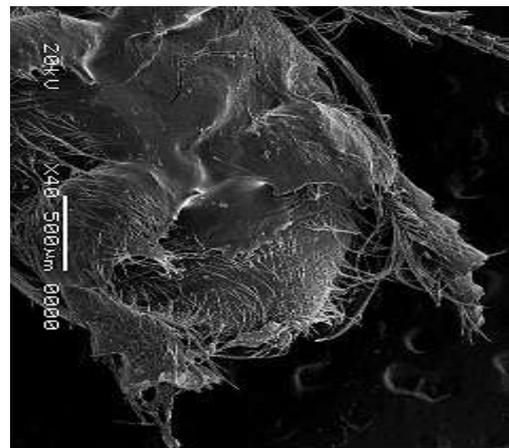


fig.9



fig.10

***Eremazus punctatus* (Harold, 1869)**

(figs. 11-13)

*Aegialia punctatus* Harold, 1869: 103

*E. fossor* Sharp, 1874: 125.

**Description:**

Body about 3.5-4.5 mm. in length; strongly convex; brownish-yellow to dark-brown and shiny oblong and slightly convex; head large, clypeus short; labrum strongly emarginated anteriorly, mouth parts hidden under clypeus; gena not prominent; head with strong fine punctation dorsally and hairy around. Pronotum

wide with enlarged marginated sides; anterior angles prolonged, posterior angles strongly rounded; pronotum strongly punctated dorsally and with dense long hairs laterally. Scutellum small, smooth and rounded apically. Elytra oblong, twice and half the length of pronotum; rounded apically, strongly punctated dorsally, with dense long hairs laterally; protibia dentated with five external dents, basal two dents small, anterior tarsal segments as long as apical dent; outer spur of mesotibia equal to first tarsal segment; mesotibiae densely hairy, metatibial spur shorter than first tarsal segment; sternites densely hairy.

**Material examined:**

GabalAsfar, 3-2-1933 (10); without lable(3). ..... [ MAC. Collection]  
 Giza, -10- (15); -8- (2); -10- (16); Dahshur, -1- (1); 10-4-1914 (1); Pyramid, 1-11-1914(1); 3-11-1912 (8); 13-5-1914 (15); 12-6-1913 (7); 1-6-1913 (8); Saqqara, 16-2-1917 (1); Zeitoun, -4-1906 (1); Maasra, 10-4-1908 (1); Mazghuna, 5-6-1910 (1); Tura, 27-12-1913 (1); Elmag, -4- (9); Gharga, -3- (1); Ismailia, -3- (2). ..... [EESC. Collection]

**Distribution:**

**Local:** Lowe Nile Delta, Upper Nile Delta, Eastern Desert and Western Desert.

**World:** Egypt, Tunisia.

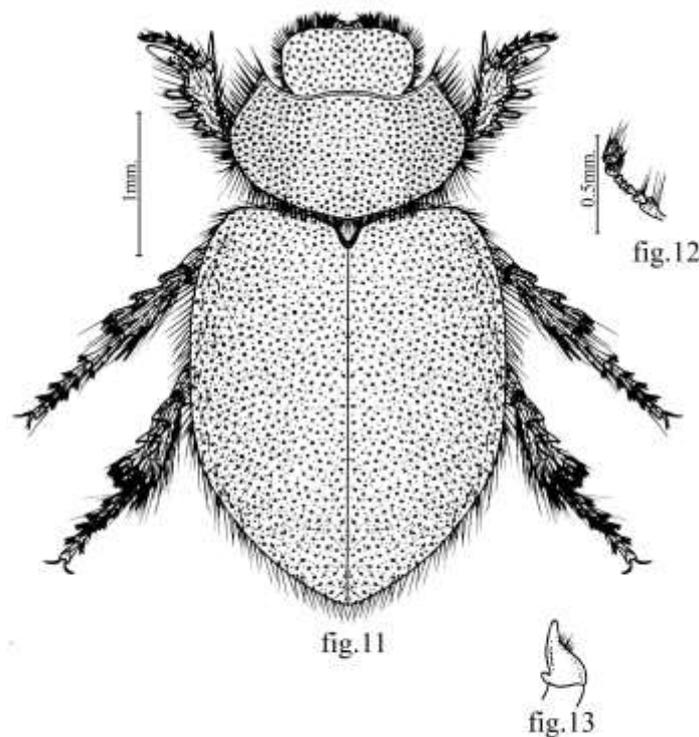


fig.11 Habitus of *Eremazus punctatus* (Harold)  
 fig.12 antenna  
 fig.13 lateral view of paramer

***Eremazus unistriatus* Mulsant, 1851  
 (figs. 14-16)**

- E. aeneus* Sharp, 1874:126.
- E. cloueti* Semenov & Medvedev,1938: 241.
- E. minor* Sharp, 1874:126.

**Description:**

Body about 3-5 mm. in length, oblong and slightly convex; shining, yellowish-brown to dark brown. head large, clypeus short and rounded anteriorly; labrum widely emarginated. Pronotum wide with fine and superficial punctation dorsally and short hairs laterally. Scutellum small, smooth and rounded apically. Elytra with parallel sides and rounded apically, finely punctated dorsally; legs as in *Eremazu spunctatus*.

**Material examined:**

Kharga Osis, 22-3-28 (4); Dakhla Osis, 20-3-28 (6); Ogret el Shekh (1); El Kosseima (Nord Sinai) 23-5-1935 (7); Burg, 20-3-28 (1); Bir Odeibat 17-4-27 (1); Gabal Asfar, 15-3-1933 (1); without label (2) .....[ MAC. Collection]  
 Mataria, -11- (1); Wadi Hoff, 11-4-1915 (1); Shobra, 25-9-1912 (2); Alexandria, 1910 (5); El-Hammam, -5-1909 (32); 20-4-1908 (1); Egypt, 1910 (2); Abu Rawash 25-12-1910 (4); Aswan, -12-1910 (1); Maadi, 16-5-1909 (1). ... [EESC. Collection]  
 Mataria, -4-1909 (4); Ain Shams, -4-1911 (5); Ismailia, -4-1913 (1); Wadi Mezra & Um Shousha, -6-1920 (1); Bir Aideib, -4-1927 (1); El-Kontella, -3-1929 (1); Wadi El-Gudirat, -4-1937 (1). ..... [ALFC. Collection]

**Distribution:****Local:**

Lower Nile Delta, Upper Nile Delta, Eastern Desert, Western Desert, Gabal Elba, Coastal strip and Sinai.

**World:**

**E:** Armenia, Georgia, Turkey **N:** Egypt, Libya, Algeria, Morocco, Tunisia, Canary Islands **A:** Arab Emirates, Afghanistan, Iran, Iraq, Israel, Kazakhstan, Pakistan, Saudi Arabia, Tajikistan, Turkmenistan, Uzbekistan.

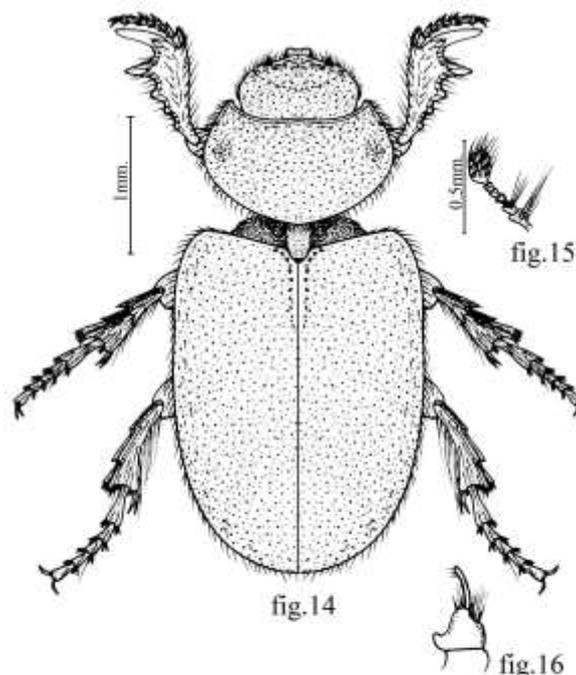


fig.14 Habitus of *Eremazu unistriatus* Muls.

fig.15 Antenna

fig.16 Lateral view of paramer

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