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**Taxonomic Revision of Family Malachiidae (Coleoptera) in Egypt 2-
Genera: *Attalus*, *Attalusinus*, *Brachyattalus*, *Callotroglops*, *Cephalonicus*,
Clanoptilus, *Ebaeus* and *Hypebaeina***

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ABSTRACT

The present taxonomic revision of the family Malachidae (Genera: *Attalus*, *attalusinus*, *brachyattalus*, *Callotroglops*, *Cephalonicus*, *Clanoptilus*, *Ebaeus* and *Hypebaeinais* based mainly on the materials, represented in the main reference insect collections in Egypt and/or materials collected during the field survey. Diagnostic characters of the genera and species based on the external morphological characters of the adults. Synonyms, taxonomical notes, local and world distribution of each species are provided.

INTRODUCTION

Family Malachiidae, commonly known as soft winged flower beetles, represents a relatively small family of beetles belonging to the superfamily Cleroidea, with about 5000 described species in 150 genera (Wittmer, 1998). forty-three species within ten genera known to occur in Egypt (Alfieri, 1976). The family has a worldwide distribution with a marked preference for desert and arid biotopes. They are of minor harm to agriculture. Meanwhile, certain malachiids are considered pollinators, while others are beneficial for acting as predators attacking some insect pests. Adults are commonly found on flowers and foliage of herbaceous plants and feed on pollen or fungi and evidently feed on flower visiting insects during the course of normal adult feeding. In general, they are carnivorous or scavengers on dead animal material. Larvae occur in various habitats, but most commonly in soil, leaf litter or under bark as well as dead wood and in stems of plants.

The members of the family are small, elongate-oval, soft bodied beetles, 1.5 – 7 mm. in length or less; rather brightly coloured, black blue or green and often with brown or yellow, red or orange markings and covered with moderately dense, erect, stiff hairs; they have peculiar orange-coloured structures along the sides of abdomen.

The life history of malachiid members appear to be unknown and the available information on bionomics and immature stages are inadequate and often difficult to secure. From the taxonomic point of view, there is no satisfactory malachiid classification and have been changed by many workers and most authors limit their work to one geographical area. In general, the taxonomy of Malachiidae is still incomplete, with much more research being needed.

In Egypt, the family has never been monographed, except in the faunal work of Alfieri (1976), no additional work has been made and no taxonomic and / or biological work was done on this.

In the light of this view, it was found of importance to revise this family and to provide a guide to the species of this family in Egypt.

MATERIALS AND METHODS

The present taxonomic work started by examination of the main reference insect collections in Egypt that are: Collection of the Plant Protection Research Institute; Collection of the Faculty of Science, Cairo University; Collection of the Faculty of Science, Ain Shams University; Collection of Alfieri, Faculty of Agriculture, Al Azhar University and the Collection of the Egyptian Entomological Society.

Diagnostic characters of the family and a key to the genera and species were presented in the first part. In these part, diagnostic characters of the genera as well as the species are presented. Synonyms were reviewed and cited from coleopterum catalogue by Junk (1937) and Palaerctic catalogue by Löbl & Smetana (2007). The species which have never been collected during the field collection and not represented in any of the fore mentioned collections were treated depending on the original description or other sources. Taxonomical notes and distribution and habitus figures of all species are provided. All taxa are arranged in alphabetical order in the text.

RESULTS AND DISCUSSION

Genus *Attalus* Erichson, 1840

Type species: *Attalus lusitanicus*, Erichson, 1840.

Generic diagnosis: Body oblong, with head more or less as width of the pronotum, eyes slightly prominent, pronotum variable in shape, elytra slightly widened in rear. Head weakly impressed on frons. Clypeus short, transverse, and sometimes submembranous tough. Labrum transverse. Maxillary palp elongate, filiforme, the last segment longer than second, oblong or oval-oblong, attenuated towards the tip, weakly truncated to the extremity, the penultimate short. Antenna 11 segments inserted on sides of head, near to the anterior edge, about half length of body, filiforme or slightly serrate, sometimes flabellate in male and pectinate in female, second segment shorter than third, last segment slightly longer than the penultimate. Pronotum sometimes longer than wide, strongly impressed on front of base, it raised and covering basis of elytra, sometimes squared and sometimes more or less greatly transverse. Elytra slightly widened in rear, with the extremity simple, but sometimes with impression and appendiculate in male. Punctuation very fine or strong, even becoming rough, sometimes provided with pubescences, carrying long hair on lateral side. Legs mediocre, posterior leg longer than others, with weakly curved tibia. Tarsus with segments decreasing in length from 2 at 4, last segment longer than fourth, the second segment of the anterior tarsus of male prolonged than third in straight or curved blade shape, pectinate or not. Claws provided a membrane as long they are basally.

Remarks: This genus is represented in Egypt by 6 species: *Attalus aegyptiacus* Pic, *A. lutatus* Abeille, *A. mokattamensis* Pic, *A. mozabita* Chobaut, *A. mtaensis* Wittmer and *A. schatzmayri* Wittmer. The specimens of the first five species are available whereas, specimens of the last species are not available.

Attalus aegyptiacus Pic, 1911

Attalus aegyptiacus Pic, 1911:73.

Type locality: Wardan [Giza, Egypt].

Diagnosis: Body length 2- 2.5 mm, short and relatively wide, pubescent gray with a few long dark erect hairs on the body, dark bronze to metallic reflections. Head moderately punctuated, with clear depression between eyes; antenna robust, passing the middle of elytra, distinctly toothed median segments. Pronotum brilliant, short, slightly narrower than elytra, rounded on sides, with fine punctuations, except on the disk. Elytra rough, short, slightly wider than the pronotum at the basis, slightly widened posteriorly, with two longitudinal light bands laterally, over stretched by the extremity of abdomen. Legs black, with tibia and tarsus darkened in part.

Local distribution: Lower Nile Valley, Sinai.

World distribution: Egypt.

Attalus lutatus Abeille, 1890

Attalus lutatus Abeille, 1890: 46.

Attalus tournieri Pic, 1914: 50.

Type locality: Cairo [Egypt].

Diagnosis: Body length 1.8 - 2.2 mm, short, greatly widened behind; densely pubescence, colour yellow, slightly reddish. Eyes black, sub rounded and slightly transverse. Antenna short, hardly passing basis of pronotum. Pronotum transverse, short, with very rounded angles, within visible punctuation as well as head. Elytra with well-marked shoulders, wider than pronotum basally, slightly narrowed behind humeral callus, dilated at top, which is very broadly rounded; superficially and sparsely punctated. Legs and underside of body dark testaceous.

Local distribution: Lower & Upper Nile Valley.

World distribution: Egypt.

Attalus mitlaensis Wittmer, 1937

Attalus mitlaensis Wittmer, 1937: 168.

Type locality: Wadi Um-Mitla [Sinai, Egypt].

Diagnosis: Body length 2.9 - 3.3 mm, dark-green, metallic brilliant. Pronotum orange with black-green shadow and longitudinal band medially. Antennae black, basal segments 3-4 more or less brightened reddish. Labrum yellowish. Legs black, front and middle tarsi and sometimes the front-tibiae, slightly reddish black. Head wider than long, with eyes slightly narrower than pronotum; almost smooth; with 2 distinct longitudinal impressions between eyes; pubescence grey. Antennae filiform, passing base of elytra; second segment oval, as long as half first, third 1½ time as long as second, third and fourth sub equal, 5 and 6 equal in length. Pronotum slightly wider than long, narrow basally; anterior angles rounded, posterior angles strongly rounded; fine sparsely punctuation, pubescence dark grey. Elytra wider than pronotum, humeral callus prominent, widened apically; with sparse and wrinkled punctuation; pubescence black, with longhairs laterally.

Local distribution: Sinai.

World distribution: Egypt.

Attalus mokattamensis Pic, 1912

Attalus mokattamensis Pic, 1912: 33.

Type locality: Mokattam [Cairo, Egypt].

Diagnosis: Body length 2.8 - 3.2 mm. with black metallic reflections slightly bronze; elongate and widened posteriorly, pubescent gray with some darker hairs; labrum testaceous. Head large and long. Antennae dark reddish basally. Legs black with tibiae and tarsi more or less reddish. Pronotum brilliant, slightly large, sparsely punctuated. Elytra slightly brilliant, with dense rough punctuation, marked with a broad and deep depression behind scutellum.

Local distribution: Lower & Upper Nile Valley, Eastern Desert, Sinai.

World distribution: Egypt.

***Attalus mozabita* Chobaut, 1897**

Attalus mozabita Chobaut, 1897:278.

Type locality: Eion Moussa [Sinai, Egypt].

Diagnosis: Body length 2 - 2.6 mm, male large, short, brilliant, covered with a fine whitish pubescence, with long black hairs. Head small, triangular, depressed between eyes and black. Labrum and clypeus black. Mandibles reddish, with black tip. Maxillary palp black, last segment slightly truncate to the tip. Antennae much passing basis of elytra, slender, blackish with four basal segments reddish and with last segment extension in the shape of spearhead. Pronotum slightly transverse rounded on sides, narrower than elytra, black with a reddish peripheral border. Elytra depressed, black metallic along the suture and extend subapically; with a strong and tight punctuation which disappearing apically; with rough intervals. Ventral reddish, with each basal abdominal segment largely black. Legs reddish.

Local distribution: Lower Nile Valley, Sinai.

World distribution: Algeria, Egypt, Jordan and Morocco.

***Attalus schatzmayri* Wittmer, 1934**

Attalus schatzmayri Wittmer, 1934:453.

Type locality: Salloum [Egypt].

Diagnosis: (after Wittmer, 1934).

Body length 3 mm. In male, body dark green metallic, brilliant, covered with dark short, fine and sparsely pubescence. Head narrower than pronotum, bi-impressed in frons, smooth. Clypeus Clear, palp and mandibles black. Antennae black, first 3 or 4 segments more or less red, reaching half-length of elytra. First segment large, second slender and smaller two times than first, third as long as first, fourth slightly longer, the others all more or less of the same length, fourth to sixth segment slightly widened to the tip, seventh segment less widened than the previous three, the last segment parallel. Pronotum one and half time longer than wide, regularly rounded on all sides. Elytra two and half times longer than wide, widen in rear. Elytra rough sculptured. Abdomen covered by elytra. Legs black, tibiae and tarsi of all legs more or less cleared. In female, antennae shorter, reaching only the first third of elytra. Pronotum dark green, edged laterally by red band more or less broad. Anterior and posterior margins finely edged in red; sometimes a dark stains on each side in the middle of the lateral edge.

Local distribution: Coastal strip.

World distribution: Egypt.

Genus *Attalusinus* Leng, 1918

Attalusinus Leng, 1918: 206.

Type species: *Ebaeus submarginatus* Le Conte, 1852.

Generic diagnosis: Body size small, length less than 2mm; male head broadly and transversely impressed; pronotum saddle shaped, broadest in front of middle; elytra abbreviated, exposing three or more abdominal segments; protarsi 5-segmented in both sexes; male protarsomere II prolonged over III, and with a comb of black setae apically. Adults have been collected from desert shrubs.

Remarks: This genus is represented in Egypt by one species, *Attalusinus alfierii* Pic.

***Attalusinus alfierii* (Pic, 1909)**

Callotroglops alfierii Pic, 1909: 185.

Type locality: Mahmasha [Cairo, Egypt].

Diagnosis: Body length 1.6-2 mm, head black, distinctly punctuated, with eye wider than pronotum; antenna testaceous, reaching base of elytra, shaggy, first segment thick, following segments simple, top of last segment bright. Pronotum black or a little darkened, relatively shrunk and raised posteriorly, without distinct punctuation. Elytra black, brilliant, without distinct punctuation, wider than pronotum, short, sub rounded and sub truncated at apex, with a white median band leaving of external side but not reaching the suture. Abdomen black, obviously distinct several segments from elytra, ventral surface black, pygidium long and prominent. Anterior legs testaceous with base of femur slightly darkened, intermediate legs testaceous with femur and tibiae darkened in part, posterior legs slightly and entirely dark.

Local distribution: Lower Nile Valley.

World distribution: Egypt.

Genus *Brachyattalus* Wittmer, 1988

Brachyattalus Wittmer, 1988: 591.

Type Species: *Attalusinus leveimpressus* Wittmer, 1985, 25.

Generic diagnosis: Body slightly stronger than *Attalusinus* Leng in male; head large in male and short in female; between eyes more or less distinct impression visible in male and indistinct in female; last segment of maxillary palp oblong, parallel with slightly slanted at top. Antenna long, passing front-edge of pronotum in male and short in female; first segment short and thick, shorter than third segment. Hair in both sexes very sparsely, pronotum and elytra only at the shoulder with slightly pale, long hair. Pronotum in male wider than long, sides rounded narrowed, sometimes slightly cut into, normal curved, shortly before base, only with *anastasei* (Pic) become distinct and wider. Elytra short, 3 to 3 1/2 tergites uncovered; second segment of anterior tarsus with a small comb on the top.

Remarks: This genus is represented in Egypt by one species, *Brachyattalus anastasei* Pic. Specimens of this species are not available in The Egyptian Insect Collections.

***Brachyattalus anastasei* Pic, 1931**

Callotroglops anastasei Pic, 1931: 135.

Type locality: Wadi Beida [Sinai, Egypt].

Diagnosis: (after Pic, 1931)

Body length 2mm, black, oblong-stretched out, brilliant and slightly pubescent. Elytra ornate with small white spot toward the middle and extend to the external half of the base of male, wider and closer to shoulders in female. Head large in male, with extensively and transversely impression, longer and biimpressed in female; eye gray. Antennae thin, long, and pass half of the body in male, shorter in female. Pronotum in male wider, large, strangled and shrunk posteriorly, in female slightly narrow, longer than wide, constricted and narrowed posteriorly; Elytra wider than pronotum, slightly long, sub parallel, moderately punctuated; in female abdomen passing elytra of several segments. Legs thin.

Local distribution: Sinai.

World distribution: Egypt.

Genus *Callotroglops* Abeille, 1890

Callotroglops Abeille, 1890: 220.

Type species: *Troglops bisignatus* Abeille, 1885.

Generic diagnosis: Frons excavated, clypeus short, last segment of maxillary palp, securiforms; antenna 11 segments. Elytra with short white band. Last abdominal segment appeared, Coxae simple; anterior tarsi 4 segments, articulated second segment simple. Membranous of claws dark brown.

Remarks: This genus is represented in Egypt by two species: *Callotroglops*

atrithorax Pic and *C. convexicollis* Wittmer. Specimens of the first species are available in The Egyptian Insect Collections.

***Callotroglops atrithorax* Pic, 1920**

Callotroglops atrithorax Pic, 1920:54.

Type locality: Wadi El Tih [Sinai, Egypt].

Diagnosis: Head large deeply excavated between eyes. Two circular dimples near insertion of antennae, and with serrate two lateral bands on side of eye, forming V-shaped of pointed punctures. Head yellow, with posterior part dark from the middle of eyes, smooth with fine pubescence. Clypeus dark. Tip of mandibles and last segment of maxillary palp black, expanded and obliquely forward in the ax -shape. Antennae dark, except the first two or 3 segments light, reaching the two thirds of the elytral length; first segment globular, nearly larger two times than second, second segment shorter than first, third and fourth segment two times larger than the second, five to eight a few longer than precedents, slightly widened on top, eight to eleven parallel, last segment longer half than the ten. Pronotum dark, longer than wide, rounded to anterior side, reaching its bigger width at first third, greatly shrunk toward the basis which slightly elevated. Elytra parallel, two times and half longer than pronotum, black, decorated of every side with a white stains half note placed on lateral border, a few longer than wide. Hind wing longer two times than elytra. Abdomen dark, passing the elytra. Legs brownish black, tibia, and anterior tarsus yellow or clearer.

Local distribution: Lower Nile Valley, Eastern Desert, Sinai.

World distribution: Egypt.

***Callotroglops convexicollis* Wittmer, 1935**

Callotroglops Convexicollis Wittmer, 1935: 185.

Type locality: Wadi Hebran [Sinai, Egypt].

Diagnosis: (after Wittmer, 1935)

Body length 1.8 - 2 mm; head black in female, as long as wide; with sparse and short gray hairs, hardly shagreen; eyes slightly wider than pronotum, with indistinct transverse impression between eyes. Antenna brown, reaching half body length; first and second segments to fourth completely yellow, from third until seventh segments same length, 8 until 10 slightly shorter than the preceding, last segment slightly thickened, almost as long as the two preceding together. Pronotum strongly narrowed backward, posterior edge thickened, anterior 2/3 arched spherical, disc shagreen, base with strong punctuation forming furrowed. Scutellum square, slightly wider than long. Elytra black with one white spot on the anterior half, towards the margin slightly widened. Shoulder strongly prominent; each elytron rounded; Elytra with sparse and short gray hairs and clearly puncture. The last 3Tergites uncovered. Legs black, tibia and tarsus partly brown.

Local distribution: Sinai.

World distribution: Egypt.

Genus *Cephaloncus* Westwood, 1863

Cephaloncus Westwood, 1863: 178.

Type species: *Cephaloncus capito* westwood, 1863.

Generic diagnosis: Body oblong; with head greatly widened and excavated, pronotum transverse, sub parallel, elytra completely covering abdomen. Head narrowed before eyes, slightly sinuate between eyes, eyes slightly prominent; frons in male have widened vertex, excavated between eyes, tuber forward. Clypeus very narrow, horny. Labrum short, transverse, anterior border membranous. Mandibles acute, hidden by labrum. Maxillary palp short, with last segment more twice as long

as 2 precedents, oval, truncate the extremity, the penultimate short and transverse. Labial palp with last segment oval. Antenna inserted on the sides of the head, near the anterior border, filiform, oblong, first segment slightly thickened at top, second short, the 3rd and 4th shorter than the following, the last segment slightly longer than the penultimate. Pronotum transverse, rounded forward, with rounded sides and slightly shrunk in rear, posterior side truncated. Elytra slightly wider than base of pronotum, sub parallel, slightly convex, rounded entire extremity. Two sexes winged. Legs elongate, posterior tibia slightly sinuated; tarsus mediocre with five simple segments, the 2nd to 4th gradually shortened, the first little longer, the last elongated. Claws without a membrane or with very short one between them.

Remarks: This genus is represented in Egypt by two species: *Cephaloncus aegyptiacus* Abeille and *C. bispinus* Wittmer. Specimens of the first species are available in The Egyptian Insect Collections.

***Cephaloncus aegyptiacus* (Abeille, 1900)**

Troglops aegyptiacus Abeille, 1900: 20.

Type locality: Fayoum [Egypt].

Diagnosis: Female coloration almost identical to that of male, with testaceous coloration slightly bigger on head and pronotum, except a transverse black band on vertex; frons from middle grooved between eyes. Elytra black with a little longer and exceeded by abdomen.

Local distribution: Lower Nile Valley.

World distribution: Egypt.

***Cephaloncus bispinus* Wittmer, 1935**

Cephaloncus bispinus Wittmer, 1935: 181.

Cephaloncus interrupta Wittmer, 1935: 181.

Cephaloncus immaculate Wittmer, 1935: 182.

Cephaloncus bimaculata Wittmer, 1935: 182.

Type locality: Wadi Feran, Wadi Hebran [Sinai, Egypt].

Diagnosis: (after Wittmer, 1935)

Body length 2mm. Head red in male, eyes wider than pronotum, frons very slightly raise, bowl-shape hollowed, from middle of eyes black, in middle of excavate between eyes rise two consecutive standing teeth, yellow externally, and black or dark brown interiorly, slightly narrower than interior. Head with long silky hair antero-laterally, flat and smooth, constricted just before the middle. Antennae black, 2nd - 5th segments more or less yellow, 3rd as long as 1st, 4th - 10th equal in length, last segment almost as long as 1st and 2nd together. Pronotum red, with a black middle band, or black stain in middle of anterior margin of pronotum. Pronotum narrower than elytra at shoulder, wide in front corners, narrow rounded at rear. Elytra black, 2.5 times as long as wide of shoulders; with scattered punctuation, slightly hairy. Legs black, tibia and tarsi of front legs yellow, sometimes middle tibiae slightly light. Female differ on size and coloration from male.

Local distribution: Sinai.

World distribution: Egypt and Jordan.

Genus *Clanoptilus* Motschulsky, 1854

Clanoptilus Motschulsky, 1854: 32.

Type species: *Clanoptilus antennatus* Motschulsky, 1854.

Generic diagnosis: Body slightly elongated, third segment of maxillary palp shorter than the second; antennae flabellate or toothed or toothed- flabellate; both sexes are winged. Elytra at top with red or testaceous and carry appendix and or hair tufts (the excitators), folded in males. Claws long and provide each from within a narrow

membranous lobe slightly shorter than them.

Remarks: This genus is represented in Egypt by 4 species which are: *Clanoptilus abdominalis abdominalis* Fabricius, *C. sexplagiatus* Abeille, *C. insignis* Buquet and *C. aegyptiacus* Evers. The first two species only available in The Egyptian Insect Collections. However, the last two species of this genus were not available, but their diagnostic characters were introduced in this work after Peyron, 1877 and Evers, 1985.

***Clanoptilus abdominalis abdominalis* (Fabricius, 1798)**

Malachius abdominalis abdominalis, Fabricius, 1798: 71.

Malachius coeruleus Erichson, 1840: 82.

Malachius marginicollis Lucas, 1849: 191.

Malachius hilaris Rosenhauer, 1856: 150.

Malachius semilimbatus Fairmaire, 1862: 550.

Malachius lippus Chevrolat, 1866: 102.

Malachius serricornis Ballion, 1871: 352.

Malachius illus Abeille, 1890: 41.

Clanoptilus mozabitus Pic, 1898: 97.

Clanoptilus subcrucifer Pic, 1904: 90.

Clanoptilus cyrenaicus Pic, 1925: 2.

Malachius bimaculatus Pic, 1951: 4.

Clanoptilus pseudobimaculatus Pic, 1954: 1.

Type locality: South Algeria.

Diagnosis: Body length 4-5 mm. In male blue, brilliant, fine gray pubescence, without mixture dark hair, body short and large; front of head yellow, frons with weakly transversely furrow between eyes, base of antenna metallic; labrum entirely dark as well as mandibles and extremity of last segment of maxillary alp. Antennae 1st segment obconic, 2nd very short, nodiforme, 3rd as long as two times 2nd, equal 4th, conical, the following serrated, 1st and 2nd yellow below. Pronotum transverse, with lateral edge red, wide, notched at middle of inner edge. Elytra red at tip, with extremity pleated and folded underneath, the upper edge of the fold with few eyelashes (hairy) trimmed red-very short; the bottom of the cavity is occupied on either side by a black spots. Mesothorathic epimeres blades. Abdomen red, with black stain on side. Legs concolor, with base of anterior femur and anterior tarsus more or less testaceous. In female frons weakly impressed between eyes, Antennae simple, more weakly toothed, with first three segments yellow, the under side of the first and the second black. Elytra whole to the tip with small apical spot. Legs concolor, tibiae and tarsi of anterior and intermediate more or less testaceous.

Local distribution: Coastal strip.

World distribution: Algeria, Egypt, Libya, Morocco, Syria and Tunis

***Clanoptilus aegyptiacus* Evers, 1985**

Clanoptilus aegyptiacus Evers, 1985: 13.

Type locality: Lower Egypt.

Diagnosis: (after Evers, 1985)

Body length 4-5 mm. Male closely related to *Clanoptilus abdominalis*. They differ in the excitators and the colour of front-tibia. The excitators at top of elytra in *aegyptiacus* red in all parts. The front tibiae dark.

Local distribution: Lower Nile Valley.

World distribution: Egypt.

***Clanoptilus insignis* (Buquet, 1840)**

Malachius insignis Buquet, 1840: 242.

Type locality: Tenez, Constantine [Algeria].

Diagnosis: (after Peyron, 1877).

Body length 5mm. Male bluish-green, sometimes bronze-golden, brilliant; with very fine white pubescence and very-short. Body short. Frons with weakly transversely impression between eyes; with slightly longitudinal furrow on each side between antennae; mandibles prominent; front of head yellow until eyes and until the insertion of antennae, metallic colour advancing, between antennae, until a few forward of their base where it is obtusely rounded forward; extremity of mandibles and maxillary palp black. Antennae with 1st segment obconic, 2nd short and thick, triangular, the following long flabellate. Pronotum transverse with sides very-closely edged testaceous. Elytra with small yellow stain on tip, placed on the internal angle of superior fold, pleated and folded at extremity, garnished with spiny yellow eyelashes to angular extremity of superior fold; the underside of fold is provided with appendage linear, thin, horizontally directed and black; all cavity and side apical black, yellow stain surrounded of iridescent hue. Mesothoracic epimeres blades. Abdominal segments with yellow margin, the first fourth yellow to the middle. Legs bronze. In female forms without transversely impression between eyes. Second antennal segment obconic, from 3rd to 9th greatly toothed serrate, the 1st and 2nd segment yellow below. Elytra concolor and entire extremity. Tibia of anterior leg testaceous.

World distribution: Algeria, Egypt and Tunis.

***Clanoptilus sexplagiatus* (Abeille, 1882)**

Malachius sexplagiatus Abeille, 1882: 115.

Malachius fourtaui Pic, 1920: 42.

Type locality: Jéricho [Syria].

Diagnosis: Body length 3.5 - 4 mm. Male Parallel sided, matt, dark greenish, more bronze on pronotum, covered with fine white hairs. Frons with depression between eyes, bidepression near insertion of antennae; clypeus dark reddish. Antennae 11-segments, first short, thickened from basis to top, second no diform and transverse, 3rd triangular, as long as wide, rounded at top, 4th sub equal to the precedent, hollowed externally, 5th – 10th flabellate. Pronotum finely coarse- rugose, transverse, with rounded angles. Elytra slightly as wide as pronotum basely, sub parallel and rugose; decorated with two testaceous spots on each elytron, the first one sub basely on shoulder rounded and near the lateral edge and extended with a long line to the middle of elytron, the second transverse apically. Elytra are pleated at the top and replies from below, from inside the fold out a thin dark appendage curved inward like a scythe; with fold develops in shape of appendix, In female, antennae simply toothed; elytra widened to point posteriorly, simple to the tip.

Local distribution: Sinai.

World distribution: Egypt and Syria.

Genus *Ebaeus* Erichson, 1840

Ebaeus Erichson, 1840:113.

Type species: *Cantharis pedicularius* Linnaeus, 1758.

Generic diagnosis: Body oval-oblong, with the head less large than the pronotum, eyes not prominent, pronotum strongly transverse, elytra convex. Head depressed forward in male. Clypeus short, transverse and membranous. Labrum transverse. Maxillary palp filiform, the last segment as long as the two united precedents, oval, more obtuse in females, large truncated to the tip, the penultimate very short. Antenna inserted on sides of the head, near to anterior side, slightly longer than the half of the body, slightly compressed and serrate from third segment, second segment shorter than half of the first and shorter than third, the last segment longer than the penultimate. Pronotum transverse, very-slightly impressed on each side interiorly to

the posterior angles. Elytra convex, subparallel, impressed on extremity and appendicle in male, very finely punctuated and pubescent. Legs moderate, the posterior longer than others, with their bent tibia. Tarsus having their segment decreasing length from second to forth, the fifth longer than the forth; in male second segment of the anterior tarsus prolonged, third blade and attenuated to the tip. Claws provided with membrane at the basis and longer than them.

Remarks: This genus is represented in Egypt by one species: *Ebaeus laterinodosus* Wittmer, and not represent in The Egyptian Insect Collections, but its diagnostic character was introduced in this work after Wittmer, 1960.

***Ebaeus laterinodosus* (Wittmer, 1936)**

Hypebaeus laterinodosus Wittmer, 1936: 153.

Type locality: Wadi Luotaie [Sinai, Egypt].

Diagnosis: (after Wittmer, 1960)

Body Length 2 mm. Clypeus black, basal segment of antennae, pronotum, sides and top of elytra, and legs yellow or yellow-orange. Head with eyes almost as wide as pronotum. Antennae as half long body, segments from 3-10 little differently in length, last segment as long as the two preceding together. Pronotum wider than long, all corners rounded, the biggest width in anterior half, so that pronotum narrowed slightly in rear appear. Elytra wider than pronotum, widened slightly to back; the yellow colour of sides take place under the shoulders up to the basis, band widened slightly before the shoulders, approximately in the first third, appendages hump shaped arched. Pygidium dominated.

Local distribution: Sinai.

World distribution: Egypt.

Genus *Hypebaeina* Wittmer, 1995

Hypebaeina Wittmer, 1995: 280.

Type species: *Hypebaeus discifer* Abeille, 1881.

Generic diagnosis: A short mobile stem attached to elytra. The appendage of *Hypebaeina* very small mostly covered by short hairs and is not movable. The genus *Hypebaeina* was separated from genus *Hypebaeus* by Wittmer (1995) the main characters of male differentiates this genus from others: apical appendage of elytra small, bearing a bunch of short, curved hairs; tergite 8 undivided, sternite 8 toothed or cut.

Remarks: This genus is represented in Egypt by one species: *Hypebaeina torretassoi* Wittmer.

***Hypebaeina torretassoi* (Wittmer, 1935)**

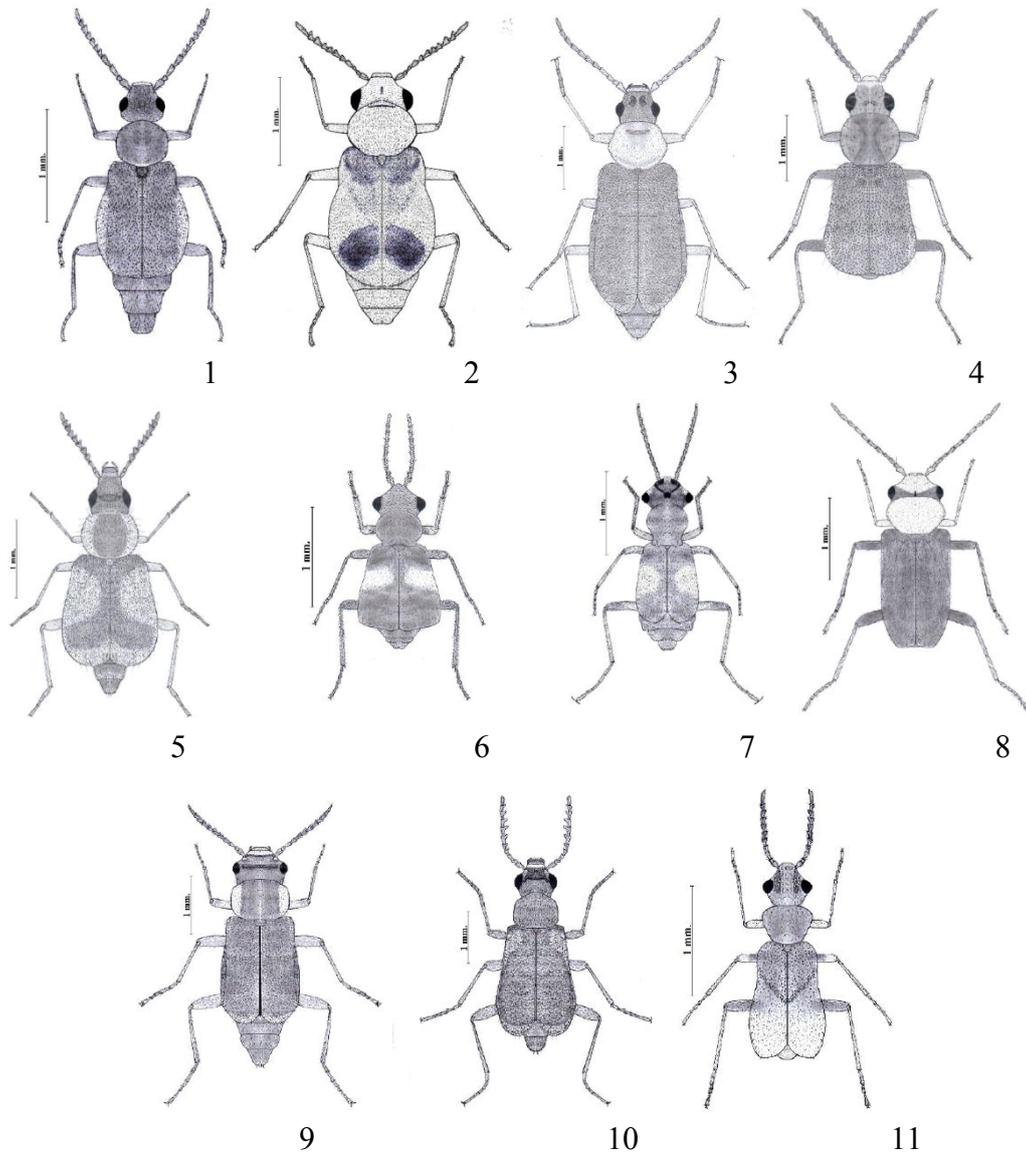
Hypebaeus torretassoi Wittmer, 1935: 187.

Type locality: Wadi Hebran [Sinai, Egypt].

Diagnosis: Body length: 1.5- 1.75 mm. Male black with weak metal appearance, first 4 antennal-segments yellow, upper half of hind leg, most of four front legs, all tibiae and tarsis, the last third of elytra, and a narrow border, extending on each side below the shoulders tops of appendage black. Whole uppers ides of body with fine, dust-like hairs. Head with eyes as wide as pronotum, wider than long, with flat impression beside each eye, Antennae longer than half body, first segment doubles as long as second, third almost as long as first, next up to ten each one a track shorter than the preceding segment, last segment as long as first, Pronotum wider than long, widest in front half, narrowed to rear and to base rounded, very finely punctuated. Elytra 21/4 times as long as wide at shoulders slightly widened apically, strongly punctuated. Elytra with elevated large V shaped at middle. The last tergite truncated. Female black with weak greenish glimmer, only antennae and legs yellow. Antennae slightly shorter.

Local distribution: Sinai.

World distribution: Egypt.



- Fig. 1 : *Attalus aegyptiacus*
 Fig. 2 : *Attalus lutatus*
 Fig. 3 : *Attalus mitlaensis*
 Fig. 4 : *Attalus mokattamensis*
 Fig. 5 : *Attalus mozambita*
 Fig. 6 : *Attalus alferii*
 Fig. 7 : *Callotroglops atrithorax*
 Fig. 8 : *Cephalonicus aegyptiacus*
 Fig. 9 : *Clanoptilus abdominalis*
 Fig. 10 : *Clanoptilus sexplagiatus*
 Fig. 11 : *Hypebaeina torre*

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ARABIC SUMMERY

مراجعة تصنيفية لفصيلة الملاكيدى (رتبة غمدية الاجنحة) فى مصر ٢- اجناس : أتالس، أتاليوسيناس، براكى أتالس، كالوتروجلوبس، سيفالونيكاس، كلانوبتيلاس، ايبباس وهايبيينا

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اشتملت الدراسة التصنيفية الحالية على مراجعة تصنيفية لحشرات فصيلة الملاكيدى (خنافس الأزهار رقيقة الأجنحة) التابعة لأجناس: أتالس، أتاليوسيناس، براكى أتالس، كالوتروجلوبس، سيفالونيكاس، كلانوبتيلاس، ايبباس وهايبيينا فى مصر. أتمت هذه الدراسة اساسا على العينات الحشرية الممثلة للأنواع والاجناس المدرجة فى المجاميع الحشرية المرجعية الرئيسية فى مصر وكذلك على العينات التى تم جمعها ميدانيا . تم تقديم الوصف التشخيصى للأجناس المذكورة والانواع التابعة لها بالاعتماد على الصفات المورفولوجية الخارجية للاطوار الكاملة، كما تم تقديم المرادفات للأسماء العلمية لكل من الاجناس والانواع مع ذكر بعض الملاحظات التقسيمية لها وكذلك تم ذكر التوزيع الجغرافى المحلى والعالمى لكل الانواع .