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TAXONOMICAL STUDIES ON GENUS *Ptinus* (COLEOPTERA, PTINIDAE) IN EGYPT.

Abied, M.K.A.
Plant Protection Dept., Faculty of Agriculture, Al-Azhar University

ABSTRACT

This is the first paper of a designed series dealing with the taxonomy of Egyptian ptinidae. The present work treated seven species of genus *Ptinus* known to occur in Egypt. Diagnosis for family ptinidae and genus *Ptinus* . Keys were provide to separate the treated species.All species are diagnosed and provided with detailed drawings. Synonyms in addition to the geographical and local distribution of each species were provided.

INTRODUCTION

Members of the ptinidae are small sized, the family ptinidae comprises about 600 species under 70 genera. (Booth, 1990). Family ptinidae was divided into two subfamilies, Gibbinae and ptiniinae (Alfieri, 1976). The adults and larvae of some specie who belonged to this beetles for this family feeding on store wheat, cereals , opiumum, paste , hay and animal matter such as *Gibbium psylloides* Czemp, Cotton and Good (1937) . The hump beetle. *Gibbium psylloide* Czemp is oftenly .A minor insect and receives little attention as a stored product pest (Weidner , 1979; Bosman and Jonge , 1981 , Belles and Halstead, 1985 and lee et al, 1992) .The ptinidae was discovered a new subgenus *Leasphaericus* of (*Sphaericus*) with two new species ,*S (L) fladipennis* and *s(L) diversevillosus* (Belles 1998). The pitinidae was studied in South Africa , including both taxonomy and ecology (Philips 2009). The present investigation was carried out to test the effect of packaging material on the population growth of *Gibbium psylloides* Zmep and on the quality of essential oil in the flower heads of chamomile. This feature is shared in of family ptinidae description and diagnosis for some species. (Acoloque, 1896, Bedel, 1888, Ferrantei, 1911, Ferrante, 1930, paykul, 1939, and shahine, 1927). They are characteristically small bodied, antennae sometimes ten jointed; filiform, elongate, simple, or pectinated occasionally serrated; or short slightly thickened at the apex, with the three terminal joints suddenly elongated: mandibles short stout bifid or bidenatate at the tip : palpi short , nearly equal , the terminal joint rather largest : maxillae bilobed: labium emarginated: head rounded , deeply immersed in the thorax which is mostly cucullated : abdomen large , convex or gibbous: tarsi mostly short, five , rarely four – jointed.

The ptinidae consist of two apparently distinct groups, one of which has the antennae filiform , with the tarsi simple and always pentamerous, the other having the three a*Pic*al joints of the antennae considerably and suddenly elongated, and slightly inearssted, with the tarsi occasionally tetramerous and the penultimate joint sometimes bilobed. The present study aim to give a general *Pic*ture on the diversity , classification and distribution of ptinid beetles in Egypt .

MATERIALS AND METHODS

The present taxonomic work started by examining specimens in the Alfierii Collection , Faculty of Agriculture , Al-Azhar University to give a general *Pic*ture on the diversity and distribution of ptinid beetles in Egypt. All species which we have examiny are represented by one or more figures that are simples line drawings, in addition details in drawings .

RESULTS AND DISCUSSION

Genus : *Ptinus* Gorh , 1880

Diagnosis : Antennae approximating at the base, elongate , filiform , composed of subcylindric nearly equal articulations , the second alone being abbreviated : plapi unequal, subfiliform : maxillae unidentate at the origin of the plapi: head small: eyes globes, rather prominent : thorax cuculate , generally coarctate , pronotum florid and hairy, behind: abdomen much broader elytra with stria and punctuation than the head and thorax , sub oval or globes , legs long and slender, femora (especially in the males) clavate .

key to represented Egyptian species of *Ptinus* .

1- Head sub quadrate in shape ----------2.
- Head sub triangle in shape ----------3.
2- Elytra rectangle in shape ----------4.
- Elytra spherical in shape, labrum rectangle, antenna with ultimate not acuminated, pronotum like pear ---------- *Ptinus desertorum Reitter*.
3- Body length 1.4 mm, labrum rectangle, antenna with penultimate small ---------- *Ptinus fringialle Pic*.
- body length 1.2mm, labrum crescent like, elytra rectangle, lateral margins sub parallel, scarcely rounded at end ---------- ----------*Ptinus xylopertha* Reich.
4- Body length 1.8 mm, antenna with apex three antennal segment long, ultimate very long, not acuminate---------- *Ptinus soubroni Pic*
- body length, antenna not as above----------5
5- Elytra scarcely rounded at end, with stria, without punctuation, head sub quadrate, anterior margin concave, posterior margin sinuate ---------- *Ptinus varigatus duval* laryinae.
- Elytra with humeral protruding ----------6
6- Head sinuate anteriorly, concave posteriorly, antenna with ultimate acuminate, pronotum straight basal margin, sinuate anterior margin. Elytra with lateral margin sub parallel, scarcely rounded at end-------- ---------- *Ptinus varigatus* Ross.
- head straight anteriorly antenna with ultimate long not acuminate, pronotum with sinuate basal margin. Elytra with lateral margins curved, rounded attend ---------- *Ptinus aureopilis* Desbrochers.

Description for species

1. *Ptinus fringialle PIC* .

plate (1) and (1-)

Diagnosis:

Body length : 1.4mm, width 0.7 mm ; head length : 0.2mm ; pronotal length 0.5 mm; elytra length : 0.8mm; width : 0.6 mm body very convex , not acuminate, spherical , covered with scales, head with dense punctuation sub triangle and small, eyes rounded and very protruding. labrum rectangle in shape.

Antennae with first segment swollen , penultimate small , ultimate acuminate . Pronotum large, swollen, huge anteriorly, small posteriorly , concave at posterior margin. Covered with dense punctuation. scutellum semi triangle , full with scales . elytra spherical, wide at middle , lateral margins curved. Covered with dense punctuation .

Distribution:

Local : Cairo and Giza

World: Egypt and North Africa.

***Ptinus varigatus* Ross**

Plate (2)

Ptinus varigatus Ross , mant I , 1793, P.20 , t.5 , f.6.

Synonyms :

- mauritanicus lucas , Expl. Alg. II, 1847 ,P 208 , T.20,F.6.
- insulairs Desbro. Mitt . schweiz
- ent. Ges . III , 1871, P. 342, abeilla XII , 1875, O.65.
- mutandus mars. Cat .col . 1886 , (Junk, 1926).

Diagnosis:

Body length 1.7mm, width 0.8 mm . head length: 0.1mm; pronotal length : 0.5mm ; elytral length 0.9mm; width 0.8 mm. body black, very swollen , spherical covered with scales. Head sub quadrate, sinuate anterioly , concave posteriorly, head with scales, without punctuation. Eyes large and very protruding. Labrum crescent like. Antennae with first segment swollen , ultimate acuminate. Pronotum large , swollen , huge anteriorly , small posteriorly, with straight basal margin , sinuate at anterior margin, covered with scales , without punctuation.

Scutellum semi circle , full with scales. Elytra rectangle , wide at middle, humeral protruding, lateral margins curved, rounded and retracted at end, covered with scales without punctuation .

Distribution:

Local : Cairo and Giza

World: Germany, North Africa, south Europa, Asia and Ostria.

3- *Ptinus varigatus duval* Laryine

plate (3)

Ptinus varigutus duval Laryine ann. Soc. En. Fr. P.127. t, 12.f ,12.

Diagnosis:

Body length: 1.7mm, width 0.8 mm, head length: 0.2 mm:

Pronotal length 0.5 mm, elytra length : 0.9 mm , width :0.8 mm. body brown reddish , very swollen , covered with scales, head sub quadrate, anterior margin concave , posterior margin sinuate, covered with scale, without punctuation Eyes large and very protruding. labrum crescent like. Antennae with first segment swollen , ultimate large and acuminate, pronotum large , swollen , huge anteriorly, small posteriorly, with sinuate basal margin , straight at anterior margin, covered with scales, without punctuate. scutellum semi circle , full with scales. Elytra rectangle , wide at middle , lateral margins sub parallel , scarcely rounded at end. Elytra with scales and stria, without punctuation. distribution:
Local : Cairo, Giza
World: Malta,

4- *Ptinus soubroni PIC*

plate (4)

Ptinus soubroni PIC , Echangext , 1895 , P.102

Diagnosis :

Body lenghth : 1.9 mm; width : 0.8mm ; Head length .0.2 mm .

Pronotal length : 0.4 mm , elyral length : 0.12 mm ; width 0.8 mm. body covered with scales like wheat ears . body brown reddish. head sub quadrate, straight anteriorly, concave posteriorly. eyes very large and very Protruding. Labrum rectangle In shape. antennae with first segment swollen, apex three antennal segments long, ultimate very long , not acuminate. pronotum large swollen , huge anteriorly , small posteriorly , with sinuate basal margin , straight at anterior margin. scutellum semi circle , full with scales, . elytra rectangle, wide at middle , lateral margins sub parallel , scarcely rounded at end .

Distribution:

Local : Cairo , Giza and Alexandria
World : Tunis , Algier and Egypt .

5. *Ptinus aureopilis* Desbrochers

plate (5)

Ptinus aureopilis Desbrochers.
Op. ent.1875, P.49 – Reitt . bes . tab . XI , 1884 , P.24 .

Diagnosis :

Body length : 1.6 mm , width : 0.6m , head length : 0.2 mm , pronotal, length : 0.4 mm , ELytral length : 0.1 mm , width : 0.6mm . body brown reddish; body covered like wheat ears, very swollen. Head quadrate, straight anteriorly, sinuate posteriorly. Eyes very large and very protruding , labrum crescent like.

Antennae with first segment semi swollen , ultimate long , not acuminate , pronotum swollen , huge anteriorly , small posteriorly, with basal margin sinuate , straight at anterior margin , lateral margins not parallel. Scutellum semi circle , full with scales. Elytra rectangle , wide at middle , humeral protruding, lateral margins curved, rounded at end .

Distribution:

Local : Cairo , Giza And matrouh.
World : Greece and Egypt

6- *Ptinus desertorum Reitter*

plate (6)

Ptinus desertorum Reitter Deutsche ENt. Zeitschr. XXXI, 1887, P.29

Synonym :

P. Damascenus Reitt. Verh . Nat. Ver Brunn XXII, 1884 , P.320, Best , Tab , Xl , 1884 ,

Diagnosis :

Body length : 1.2mm; width : 0.6mm; head length : 0.2mm; pronotal length : 0.4mm; Elytral length : 0.7mm; width : 0.6mm. body brown, convex, spherical, full with scales. Head sub quadrate, straight anteriorly, sinuate posteriorly, with scales, without punctuation. eyes large, very protruding. labrum rectangle. Antennae with first segment swollen, ultimate not acuminate. Pronotum pear like, swollen, huge anteriorly, small posteriorly, with sinuate basal margin, straight at anterior margin, with scales, without punctuation margin. Scutellum semi circle , full with scales. Elytra semi spherical, lateral margins curved, rounded at end, with scales and stria , without punctuation .

Distribution:

Local :Giza and South Sinai

World : S.Rossland, Gebiet and Orient

***Ptinus xylopertha* Reich**

Plate (7)

Ptinus Xylopertha Reich. P.14.

Ann. Soc . ENt . Fr (3) V,1857 , P.185 .

Boield. Mongr. 1856, P.310, t.13 , F.9 , 10 .

Synonym :

Ptinus fulvohirtus Reitt.

Deutsche ENt. Zeitschr. 1891, P.29 – *Pic* , Echanye XI, 1895 , P.103 .

Diagnosis :

Body length : 1.2 mm, width : 0.6mm, head length : 0.1 mm , pronotal length : 0.3 mm , Elytral length : 0.7mm. Width : 0.5mm. Body black, antennae and legs orangish brown. convex , sub rectangle, full with scales, head small , concave anteriorly, semi straight posteriorly, with scales , without punctuation. labrum crescent like. Antennae with first segment swollen , ultimate not acuminate . pronotum large , swollen , huge anteriorly, small posteriorly , with semi straight basal margin , semi straight at anterior margin, with scales, without punctuations. scutellum semi circle, full with scales. Elytra rectangle .

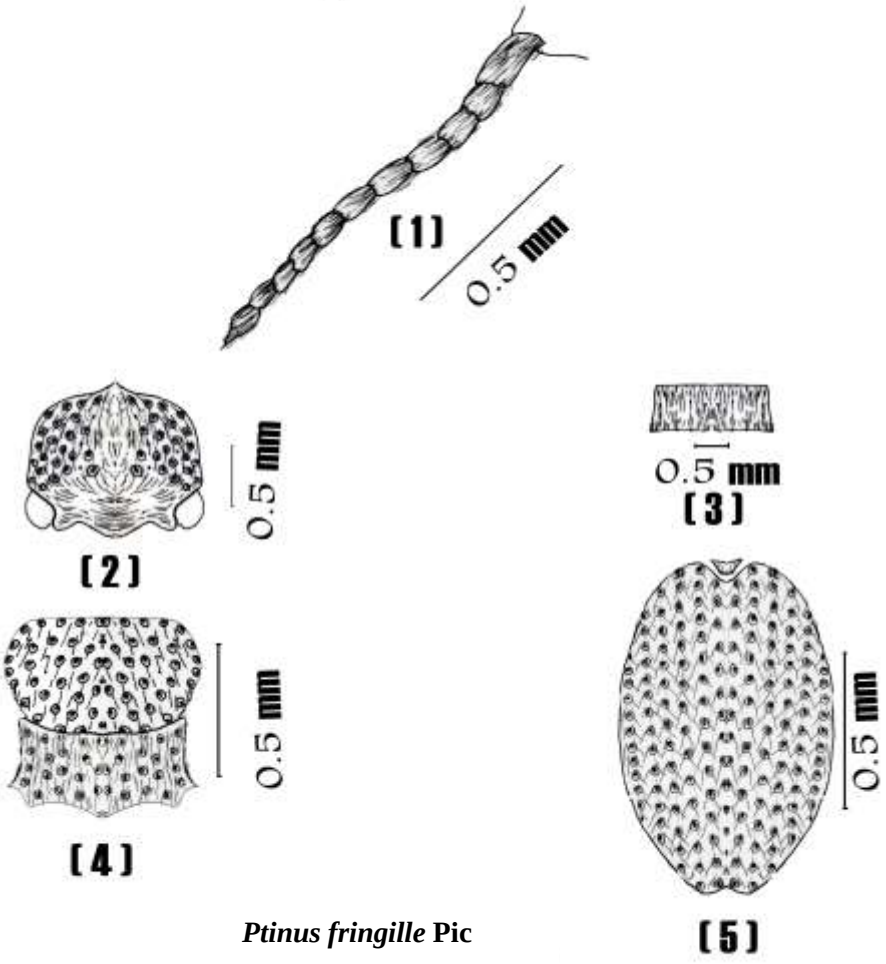
Wide at middle, lateral margins sub parallel , scarcely rounded at end, with scales, without punctuation .

Distribution:

Local: Cairo and Giza .

World : cyperna , Orient, Greece , North Africa , Tripolis and Egypt.

plate (1)

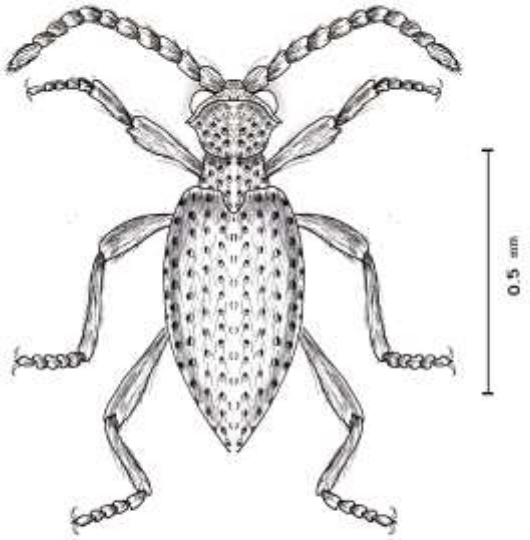


***Ptinus fringille* Pic**

(1) antenna
(3) labrum
(5) elytra

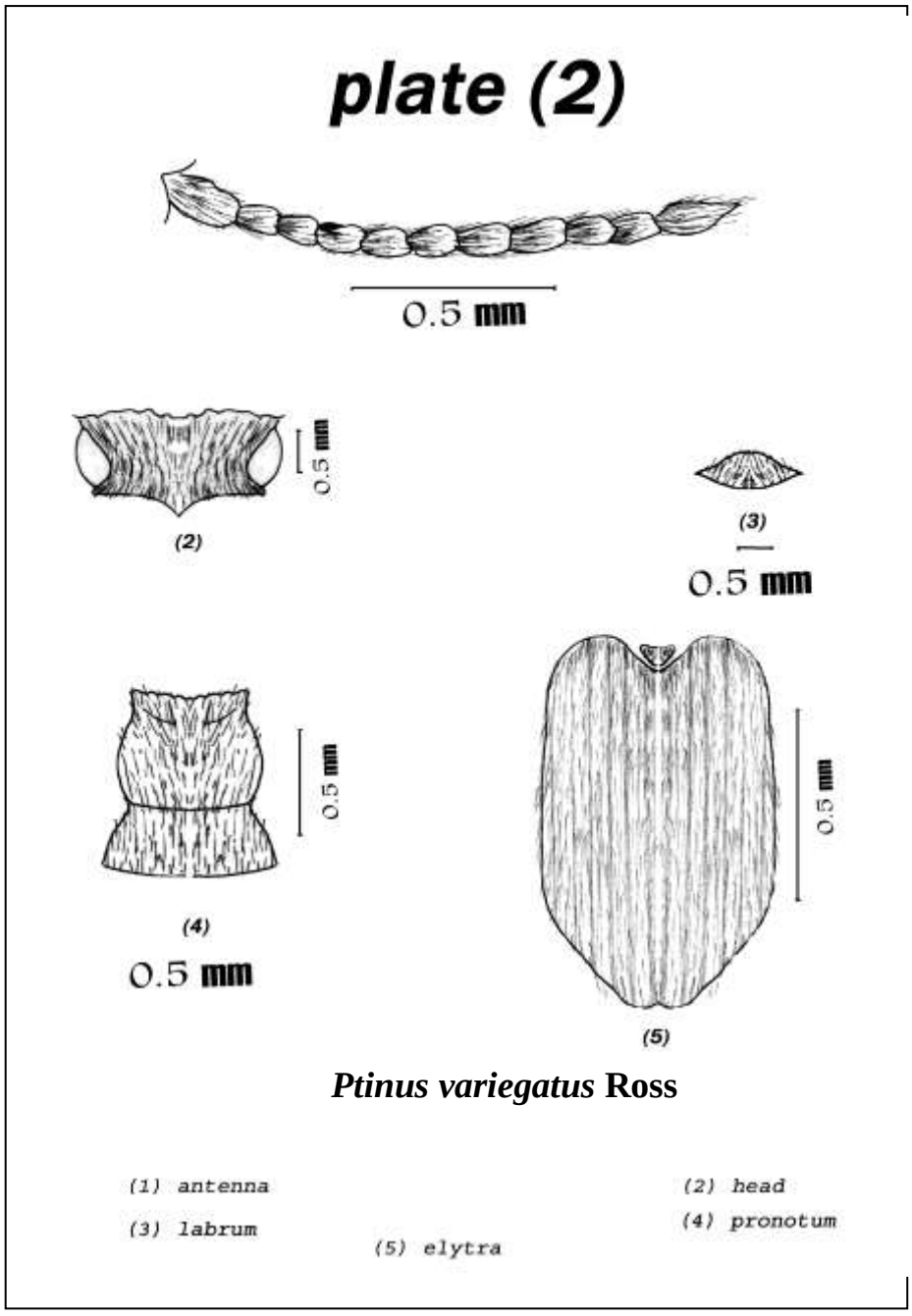
(1) head
(4) pronotum

plate (1)



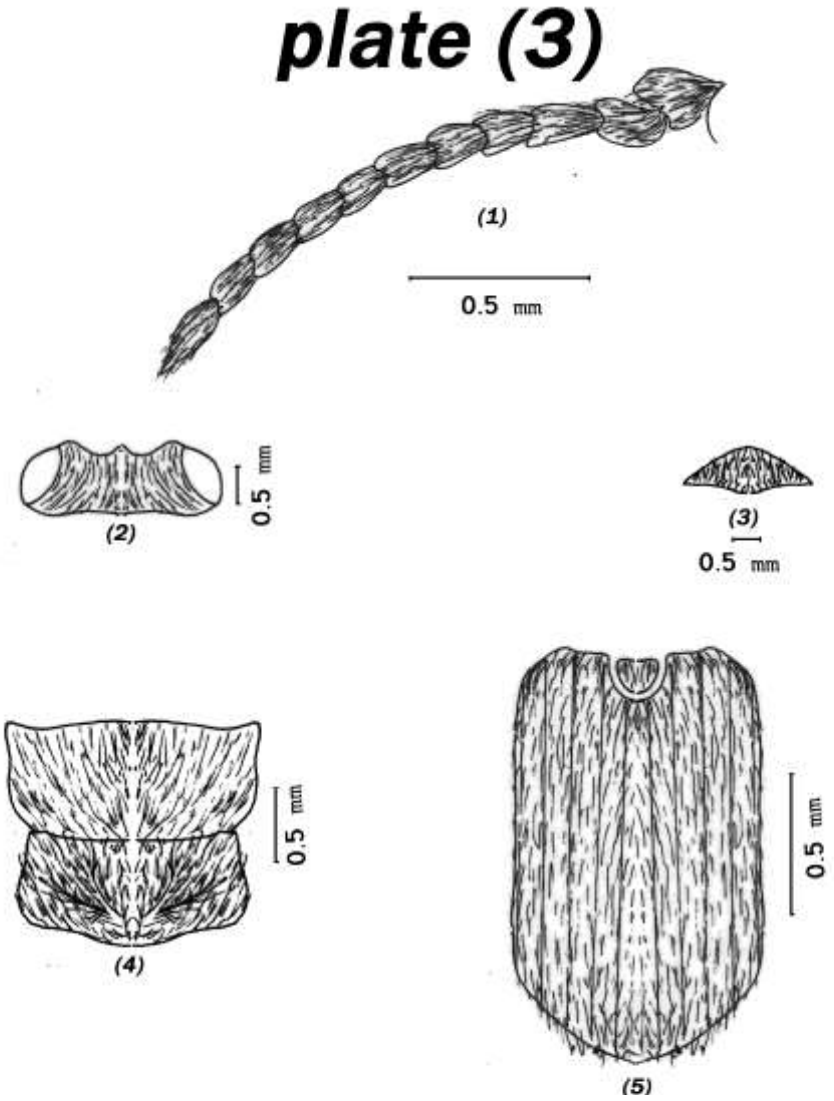
ptinus fringialle pic

Ptinus fringille Pic



***Ptinus variegatus* Ross**

(1) antenna (2) head
(3) labrum (4) pronotum
(5) elytra



***Ptinus variegatus duval* Laryinae**

(1) antenna (2) head
(3) labrum (4) pronotum
(5) elytra

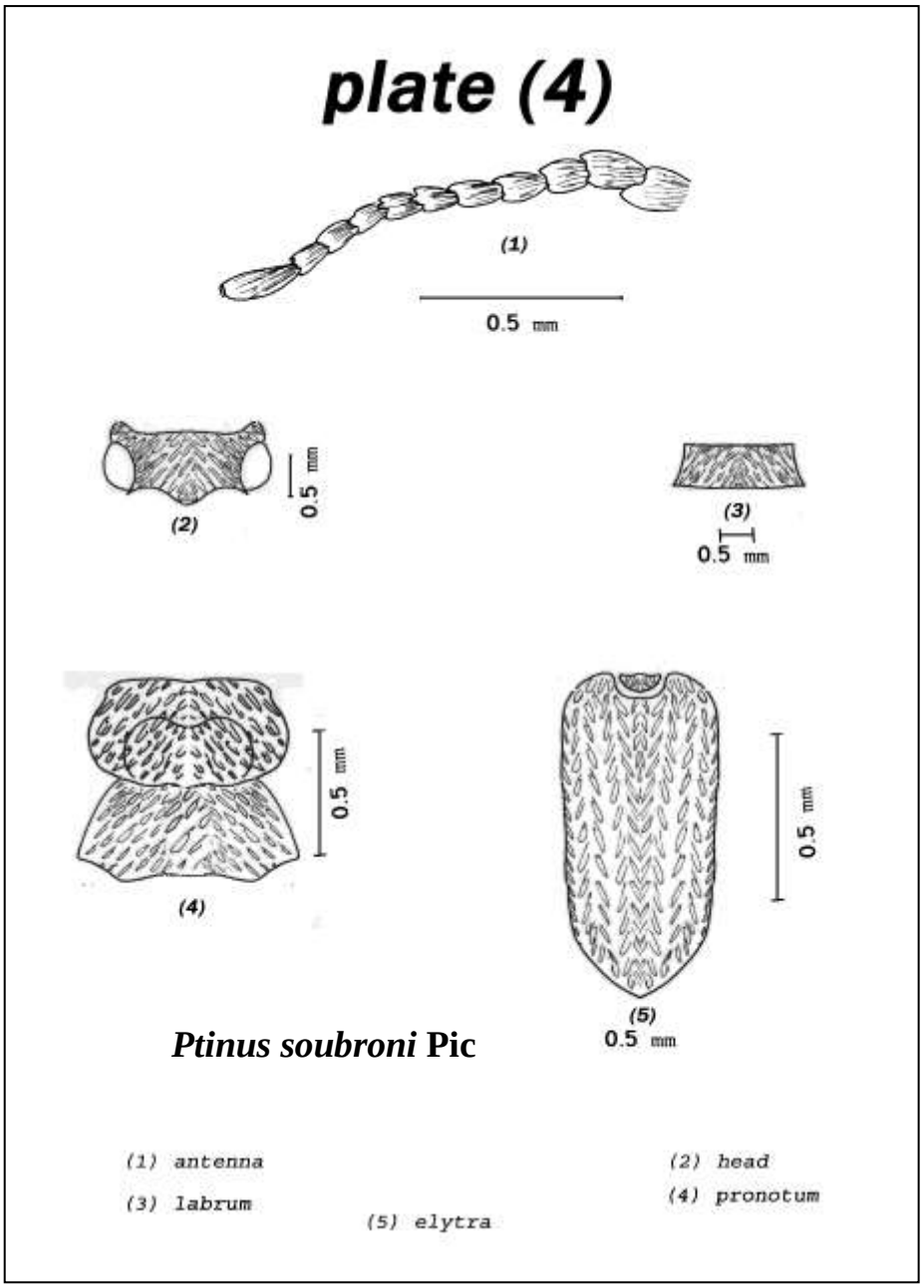


plate (4)
(1)
0.5 mm
(2)
0.5 mm
(3)
0.5 mm
(4)
0.5 mm
(5)
0.5 mm
0.5 mm
Ptinus soubroni Pic
(1) antenna
(2) head
(3) labrum
(4) pronotum
(5) elytra

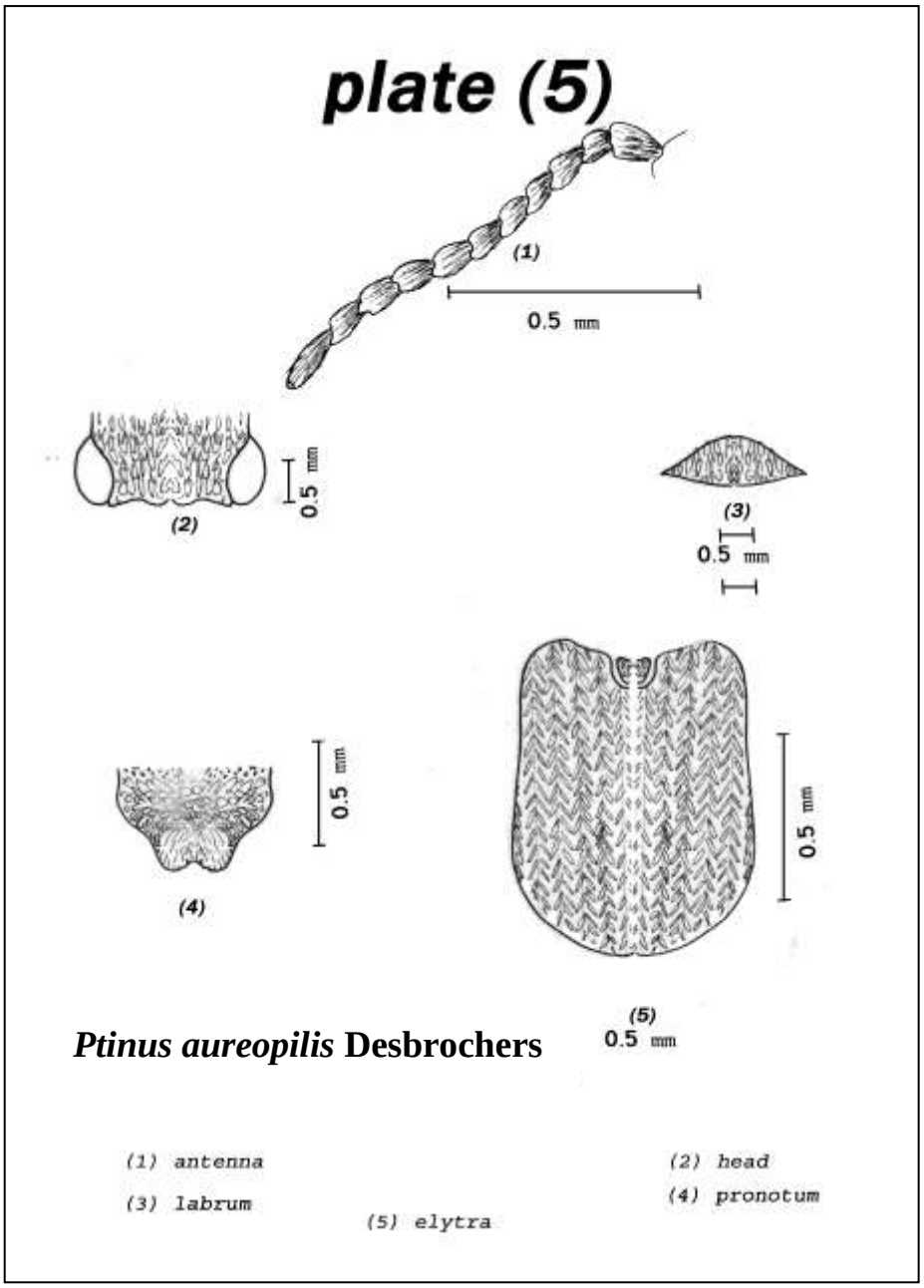
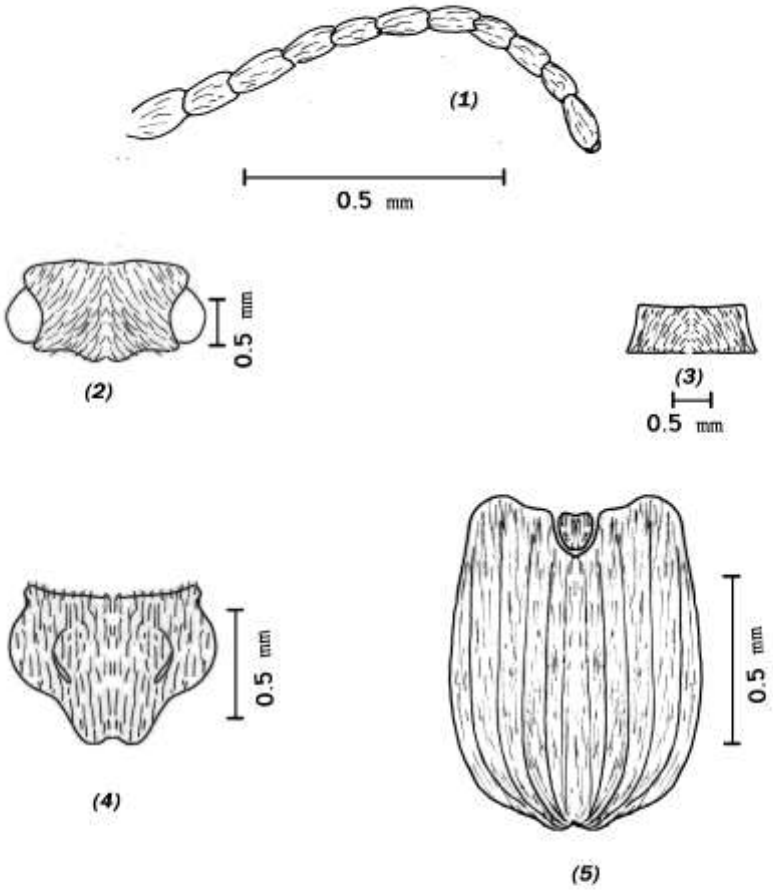


plate (5)
(1)
0.5 mm
(2)
0.5 mm
(3)
0.5 mm
(4)
0.5 mm
(5)
0.5 mm
0.5 mm
Ptinus aureopilis Desbrochers
(1) antenna
(2) head
(3) labrum
(4) pronotum
(5) elytra

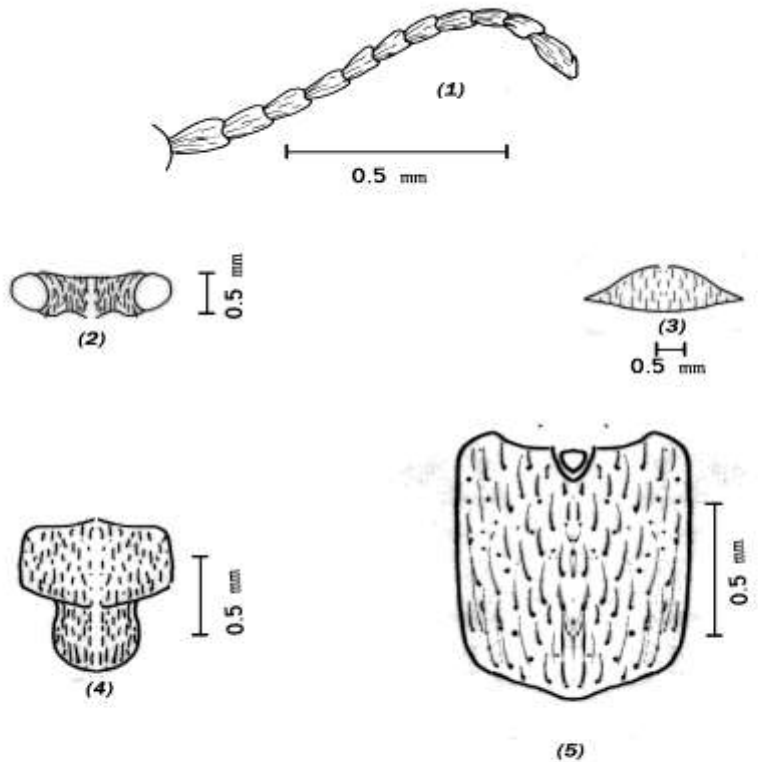
plate (6)



Ptinus desertorum Reitter

(1) antenna (2) head
(3) labrum (4) pronotum
(5) elytra

plate (7)



***Ptinus xylopertha* Reich**

(1) antenna (2) head
(3) labrum (4) pronotum
(5) elytra

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دراسات تقسيمية على جنس بتينس (بتينيدي – رتبة غمدية الأجنحة) في مصر

محمد كامل عامر عبيد

قسم وقاية النبات – كلية الزراعة بالقاهرة – جامعة الأزهر

هـذا العمـل يعتبـر أول عمـل فـي سلسـلة البحـوث فـى علـم تقسـيم الحشـرات بالنسـبة لفصيلة بتنيدى .

حيـث تـم بنـاء الدراسـات التقسـيمية الحاليـة علـى جـنس بتيـنس وذلـك بالاعتمـاد علـى العينـات المحفوظـة فـي المجموعـة الحشـرية المرجعيـة بكليـة الزراعـة - جامعـة الأزهـر بالقـاهرة وتـم إظهـار الصـفات المميـزة للفصـيلة وكـذلك جـنس بتيـنس ، وعمـل تمييـز مورفولـوجي للسـبعة أنـواع محـل الدراسـة معتمـداً علـى الصـفات المورفولوجيـة الخارجيـة للحشـرات الكاملـة مـزوداً بالرسـومات التوضـيحية لكـل الأنـواع ،وهـذه الأنـواع بيتـنس فرنجيلـي ، فريجـاتوس ، فريجـاتوس دوفـل ، سـوبروني ، أيـروبيلس ، ديسـرتورم ، اكسيلوبيرسـا . تـم اختيـار معظـم الصـفات الهامـة فـي الوصـف وتصـميم المفـاتيح التصـنيفية ، تـم عمـل المفتـاح التصـنيفي للأنـواع إضـافة إلـى ذلـك تـم تسجيل المرادفات والتوزيع الجغرافي لكل نوع في مصر والعالم .

قام بتحكيم البحث

أ.د / عبد البديع عبد الحميد غانم	**كلية الزراعة – جامعة المنصورة**
أ.د / محمد عبد الغفار محمود	**كلية الزراعة بالقاهرة – جامعة الأزهر**