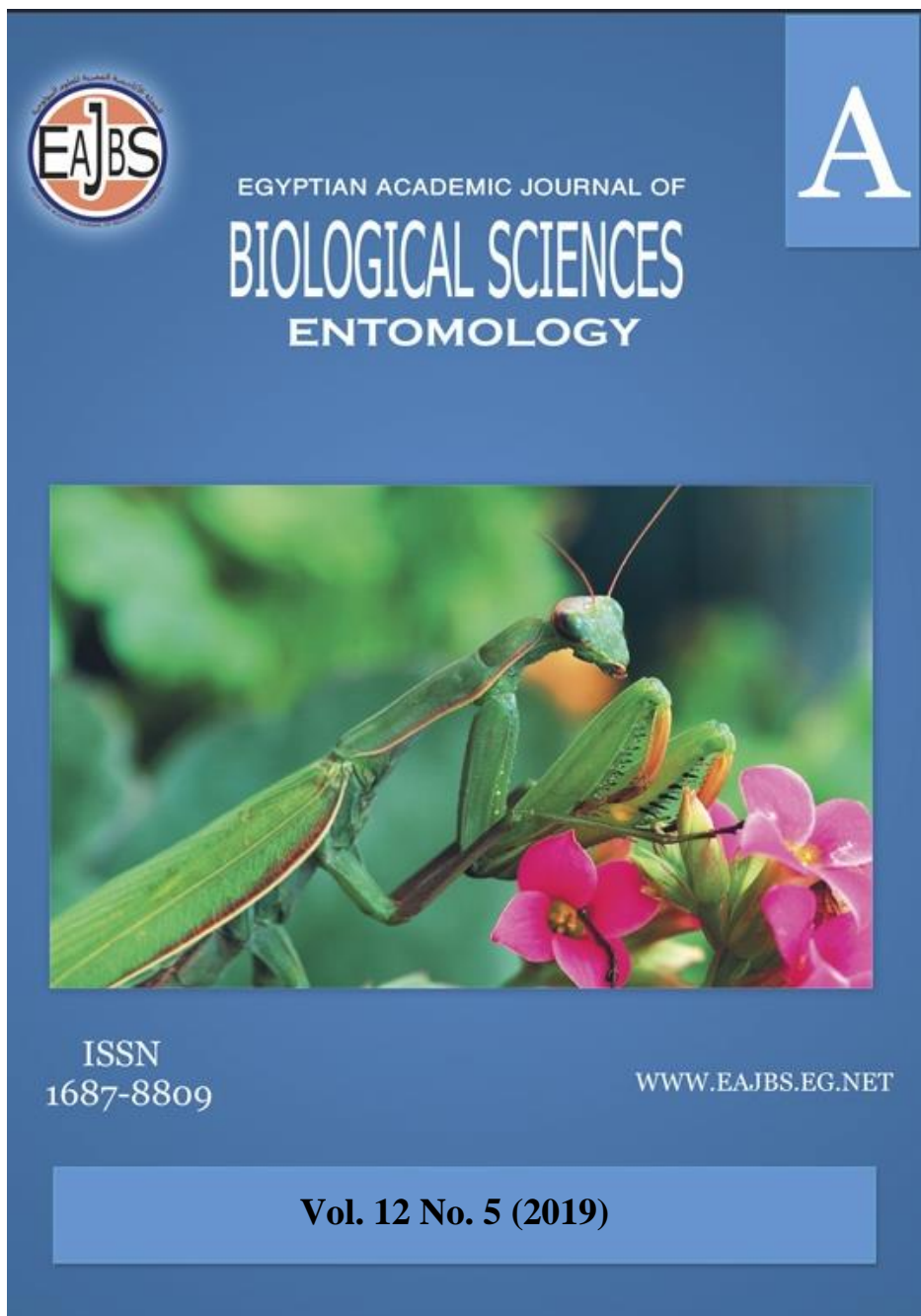
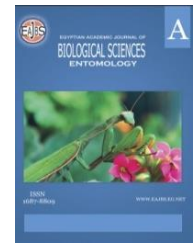


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A Taxonomic Review of Anobiinae and Dorcatominae (Ptinidae: Coleoptera) In Egypt

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ABSTRACT

Two subfamilies of Egyptian Ptinid were taxonomically studied during this work, the first subfamily Dorcatominae represented by one species, *Synanobium parmatum* and the second subfamily Anobiinae represented by five species, *Oligomerus ptilinoides*, *Stegobium paniceum*, *Gastrallus pubens*, *Nicobium castaneum*, and *Anobium punctatum*. A key to the species together with diagnostic characters and illustrations are given for each species

INTRODUCTION

Family Ptinidae (or Anobiidae is known the deathwatch beetle) is member of Bostrichiformia, is a worldwide distributed, represented by approximately 250 genera, about 2800 species, present in different habitats, from forest to steppe, where they develop in living or dead tree or shrubs (in wood and trunk of stems, branches and roots), in fungi or in other plants; some species are synanthropic, Zahradnik, (2009). The most ptinids feed on accumulated dried animal or plant material, Howe (1959). Some species are common bird or mammal nest inhabitants, also some species found in solitary bee nests, where they feed upon pollen stores, Linsley, and Macswaine (1942). Others commonly breed in dung while at least one species is a leaf miner, Philips, *et al.* (1998). When in houses and other buildings, the larvae live in many sorts of dried vegetable or animal substances, such as stored flour, wool, and similar products, Hinton (1941), and Howe (1959). Some ptinids pupate within cocoons formed from their peritrophic membrane, Tristam (1977). The larvae bore in bark, dry wood, twigs, seeds, woody fruits, galls, and fungi, or more rarely in the young stems or shoots of growing trees, the species *Anobium punctatum* causes great damage to furniture, the woodwork of houses, book bindings, and similar products, also species *Stegobium paniceum* (L.), the drug store beetle, harass the home-owner by breeding in stored products, tobacco, spices, and even cayenne pepper, Philips (2002).

The drugstore beetle, *Stegobium paniceum* (L.), is a serious pest of a great variety of stored organic materials of plant and animal origin, including drugs, tobacco, seeds, spices, cereal products, leather, and museum specimens. Larvae of most of the species for which the habits are known bore into dead hardwoods and softwoods; some of them, as the furniture

beetle *Anobium punctatum* (DeG.), damage woodwork and structural wood of buildings. The beetles often produce a tapping sound in their burrows, superstitiously interpreted as a warning of death, which is the basis for the common name, deathwatch beetles. Larvae of several species feed in various kinds of fungi. Some species feed in cones of conifers, some in twigs or vines, others in seeds, some in plant stems, a few in bark of various trees, and a very few have been bred from galls, White (1982).

MATERIALS AND METHODS

The present taxonomic work started by examining the Egyptian reference insect collections for material to obtain a general knowledge of the diversity and distribution of pitinids beetles in Egypt. These collections are: Alfieri collection, Faculty of Agriculture, Al-Azhar University (ALFC), Ministry of Agriculture collection, Plant Protection Research Institute (MAC), Ain Shams University collection, Department of Entomology, Faculty of Science (ASUC) and Cairo University collection, Department of Entomology, Faculty of Science (CUC). A field survey of pitinids beetles was carried out to cover practically different geographical localities of Egypt.

Examination and illustrations of the external features of specimens were achieved using M6C-9 (made in USSR) stereo binocular microscope. All drawings were made by a square eyepiece. The ocular micrometer was used in making measurements. The source of local distribution for each species is based on the material examined and published data. Total length (TL) of specimens is here defined as the distance between anterior margin of clypeus and posterior apex of pygidium. Pronotal length (PL) is the distance between anterior and posterior margins of pronotum. Pronotal width (PW) is the distance between the larger points of lateral margins of pronotum. Elytral length (EL) was considered the distance between posterior apex of scutellum and elytral distal apex. Elytral width (EW) is the distance between the larger points of lateral margins of elytra.

Mounting of specimens preparation with drawing of some species was made in the laboratory of insect research, Plant Protection Department, College of Agriculture, Al-Azhar University.

The taxonomic keys used in identification, terminology used in species descriptions and nomenclature and the systematic adopted are according to Fall (1905); Sharp, and Muir (1912); Forbes (1922, and 1926); Blackwelder (1945); Hatch (1961); Lawrence, and Reichardt (1966); Spilman (1975); White (1982); Mcnamara (1991); Lawrence, and Newton (1995); Downie, and Arnett (1996), and Philips (2000).

RESULTS AND DISCUSSION

Family Pitinidae Latreille, 1802

Diagnosis: **Body** strongly convex, elongate and cylindrical to oval; length 1.1 to 9.0 mm; color red, brown or piceous, some with lighter patches of setae or scales in various patterns; vestiture fine, mostly recumbent and / or erect. **Head** deflexed, inserted into prothorax, in some covered by pronotum; surface smooth, punctate, or rugose. **Antennae** with 11, 10 or 3 antennomeres, the last 1, 2 or 3 segmented clubs, or elongate, filiform, serrate, pectinate, or flabellate; inserted on frons in front of eyes, narrowly to widely separated at base. Labrum small, transverse or emarginated anteriorly; mandibles small, curved; maxillary palp with four short and slender, or expanded and truncate palpomeres; gula distinct, gular sutures distinct and separate, mentum mostly quadrate; labial palp with 3 small and slender palpomeres, terminal one truncate or emarginated. Eyes lateral, small to large or reduced. **Pronotum** as wide or wider than head, broadly oval to subquadrate, borders margined laterally, or absent basely; surface smooth, punctate, or rugose; prosternum very short, in some deeply excavated with mesosternum in front for head; procoxal cavities externally

open, internally closed. **Elytra** entire, rarely connate, striae punctate or absent; intervals smooth, punctate, or rugose. Scutellum triangular, small, hidden in some. Legs short to long, with trochantins partially exposed to completely hidden on fore and middle legs; tarsal formula 5-5-5. Abdomen with five, four or three ventrites, strongly reduced in some, sutures entire or obsolete.

In Egypt, the Family Pitinidae is represented by six subfamilies, of them, Anobiinae and Dorcatominae, are studied. According to Alfieri, (1976), Subfamily Anobiinae represented by six species, only one species, *Xystrophorus barbarus* Pic, not present in the Egyptian insect collections, in addition to one species in subfamily Dorcatominae.

Key to the genera and species of Subfamilies Anobiinae and Dorcatominae

- 1- Body round or oval. Antennae with three terminal segments enlarged, asymmetrical, flattened.....**Subfamily Dorcatominae***Synanobium parmatum*
 - Body elongate, cylindrical in shape. Antennae untoothed, last three segments elongate, much longer than previous.....**Subfamily Anobiinae****2**
 2 (1)-Procoxae touching or very narrowly separated,.....*Oligomerus ptilinooides*
 - Procoxae distinctly to widely separated.....**3**
 3(2). Prosternal intercoxal piece V-shaped; punctures of elytral striae obscure, elongate and longitudinally closely spaced.....*Stegobium paniceum*
 - Prosternal intercoxal piece parallel-sided, apex not pointed; punctures of elytral striae not as above**4**
 4(3). First abdominal ventrite suture feeble, curving posteriorly in the middle. Lateral margin of pronotum present only in basal half..... *Gastrallus pubens*
 - First abdominal ventrite suture distinct, straight or not curving posteriorly in the middle. Tarsal claws each without a basal tooth. Antennomeres 4 through 8 filiform, cylindrical, or subtriangular..... **5**
 5(4). Dorsal surface and legs covered with long and erect hairs. Metasternum not excavate anteriorly; punctures at apical 1/3 of elytra forming distinct striae*Nicobium castaneum*
 - Dorsal surface and legs covered with recumbent or short and erect hairs. Abdominal ventrite sutures 2, 3, and 4 evenly distinct throughout. Metasternum deeply excavates anteriorly..... *Anobium punctatum*

Subfamily Anobiinae

Diagnosis: Hind coxae elongate with a furrow along their rear margin into which the hind femur can be inserted lengthways. Metasternum and the first segment of the abdomen on different levels and without grooves to accommodate the middle and hind legs. The shape more elongated, oval or rounded with a smooth outline. Antennae slim, the last three segments elongate, much longer than those before them. Sides of the pronotum with a border, at least in the rear half. Prosternum hollowed out at the front to accommodate the head.

Genus *Anobium* Fabricius, 1775

Anobium Fabricius, 1775: Systema entomologiae, sistens insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus. Flensburgi et Lipsiae: Korte, p. 62

Byrrhus Müller, 1776: Zoologiae Danicae prodromus, seu animalium Daniae et Norvegiae indigenarum characteres, nomina et synonyma imprimis popularium. Hafniae: Hallageriis, p. xxii.

Type species *Anobium punctatum* DeGeer, 1774

Generic diagnosis:

Body surface with short hairs. Antennae filiform, with eleven segments, the three last segments considerably lengthened. Pronotum with tubercles, the sides completely bordered (rarely shortly interrupted in the middle). Elytra thickened, short, and provided with hairs and stripes of punctures. Front coxae divided from one another. Ventral surface with a deep hollow between the middle coxae, which extends through the whole of the mesosternum and

almost all of the metasternum and is steep at the sides. The first segment of abdomen ventrally longer than the third.

Anobium punctatum DeGeer, 1774 (Figs. 1 & 2)

Anobium punctatum DeGeer, 1774: Mémoires pour servir a l'histoire des Insectes. Tome quatrième. Stockholm: P. Hesselberg. P. 230.

amplicolle Broun, 1880: Manual of the New Zealand Coleoptera. Wellington: James Hughes. P. 339.

caelatum Mulsant & Rey, 1864: Histoire Naturelle des coléoptères de France. Térédiles. Paris: F Savy [8]. P. 81.

cylindricum Marsham, 1802: Entomologia Britannica, sistens insecta britanniae indigena, secundum methodum linnaeanam disposita. Tomus I. Coleoptera. Londini: Wilks et Taylor, J. White. P. 83.

domesticus Geoffroy, 1785: Fourcroy A. F. de.: Entomologiapariensis; sive Catalogus Insectorum quae in Agro Parisiensi reperiuntur; Secundum methodum Geoffraeanam in sectiones, genera et species distributus: cui addita sunt nomina trivialia et fere trecentae novae Species. Pars prima. Parisiis: Privilegio Academiae, vii. P. 26.

pubescens Herbst, 1793: Natursystem aller bekannten in- und ausländischen insecten, als eine Fortsetzung der von Büffonschen Naturgeschichte. Der Käfer fünfter Theil. Berlin: Paulischen Buchhandlung, xvi. P. 67.

pumilum LeConte, 1865: Prodomus of a monograph of the species of the tribe Anobiini, of the family Ptinidae, inhabiting North America. Proceedings of the Academy of Natural Sciences of Philadelphia 17: P. 232.

mficolle Herbst, 1793: Natursystem aller bekannten in- und ausländischen insecten, als eine Fortsetzung der von Büffonschen Naturgeschichte. Der Käfer fünfter Theil. Berlin: Paulischen Buchhandlung, xvi. P. 65.

ruficorne Broun, 1880: Manual of the New Zealand Coleoptera. Wellington: James Hughes, xix. P. 340.

striatum Olivier, 1790: no 16: Entomologie, ou Histoire Naturelle des Insectes, avec leurs caractères génériques et spéciflques, lew description, leur synonymie, et leur figure enluminée. Coléoptères. Tome second. Paris: de Baudouin. P. 9.

Diagnosis: Length 2.5-5.0 mm. cylindrical body, Pale or dark brown colored. Upper surface densely hair with a slight silky sheen; the hairs on the elytra usually give a stripy appearance. Antennae more elongate (in males segments 9-10 together are as long as segments 1-8 combined); the middle segments of the antennae are as rounded on the inner as on their outer surface. Head and eyes are invisible beneath the thorax. Elytra with parallel sides, covered with fine yellowish hairs and longitudinal rows of pits. Vestiture of dorsal surface and legs recumbent or with short erect setae; Antennae 4-8 filiform, cylindrical, or subtriangular.

Genus *Gastrallus* J. du Val, 1860

Gastrallus J. du Val, 1860: Description de deux espèces nouvelles. Glanures Entomologiques 2. P. 142.

Type species *Anobium immarginatum* Miiller, 1821

Generic diagnosis:

Body cylindrical, short, covered with dense pubescent. The surface completely, or at sides only, covered with lighter hairs, in addition to regular rows of pits. Antenna with the three last segments strongly elongated and flattened. Pronotum with a lateral margin well developed in basal half only. Anterior margin of prosternum with distinctly impressed between coxae. Prosternal intercoxal piece parallel-sided, apex not pointed.

Gastrallus pubens Fairmaire, 1875 (Figs. 3- 6)

pubens Fairmaire, 1875: Coléoptères de la Tunisie récoltés par Mr. Abdul Kerim. Annali del Museo di Storia Naturale in Genovd 7. P. 515.

striatus Zoufal, 1897: Zwei neue Gastrallus-Arten. Wiener Entomologische Zeitung 16: 206.

subtuberculatus Pic, 1948: Captures et coléoptères nouveaux. Diversités Entomologiques 3. P. 16.

Diagnosis: body length: 2.5 mm, pronotal length: 0.8 mm, pronotal width: 0.9 mm, elytral length: 2.1 mm, elytral width: 0.8 mm. Color deep rufopiceous to black.

Material examined: (1 specimen) Giza, 7. VIII. 1917; (1) Cairo, 18. X. 1909 (ALFC) and (3) Alexandria, on Ancient books, 1976 (MAC)

Genus: *Nicobium* LeConte, 1861

Nicobium LeConte, 1861: Classification of the Coleoptera of North America. Prepared for the Smithsonian Institution. Part I. Smithsonian Miscellaneous Collections 136. P. 204

Neobium Mulsant & Rey, 1863: Essai Sur la Famille des anobides proprement dits. Opuscles Entomologiques 13. P. 58.

Type species: *Anobium hirtum* Illiger, 1807 (= *Anobium castaneum* Olivier, 1790)

Generic diagnosis:

Body surface Pubescence dorsally and legs with intermixed, long, erect hairs. Antennomeres from 4 to 8 filiform, cylindrical, or subtriangular. Elytra at apical 1/3 of length, punctate and striaed distinctly. Last abdominal segment not conical, prominent, or granulate.

***Nicobium castaneum* Olivier, 1790** (Figs. 7- 10)

castaneum Olivier, 1790: Entomologie, ou histoire naturelle des insectes, avec leurs caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères. Tome second. Paris: de Baudouin, 485 pp., 63 pis. [Note: each genus with separat pagination]. no 16: 7.

fasciatum Dufour, 1843: Excursion entomologique dans les montagnes de la vallée d'Ossau. Bulletin des Sciences, Lettres et Arts de Pau 8. P. 47.

hirtum Illiger, 1807: Portugiesische Käfer. (Fortsetzung). Magazin für Insektenkunde 6. P. 19.

tomentosum Mulsant & Rey, 1863: Essai sur la famille des anobides proprement dits. Opuscles Entomologiques 13. P. 81.

Diagnosis: body length: 3.5 mm, pronotal length: 1.0 mm, pronotal width: 1.1 mm, elytral length: 2.6 mm, elytral width: 0.8 mm. Color deep brown to reddish.

Material examined: (2) Alexandria, 14. VI. 1948; (1) Cairo, 14. VI. 1949; (1) Without label (ALFC)

Genus: *Oligomerus* Redtenbacher, 1849

Oligomerus Redtenbacher, 1849: Fauna Austriaca. Die Käfer. Nach der analytischen Methode bearbeitet. Wien: Carl Gerold. P. 347.

Type species: *Anobium brunneum* Olivier, 1790

Octophorus Iablokoff-Khnzorian, 1960: Coléoptères nouveaux de Arménie Soviétique. Notulae Entomologicae 40. P. 151.

Type species: *Oligomerus fraxini* Iablokoff-Khnzorian, 1960.

Oligomerinus Portevin, 1931: Histoire naturelle des coléoptères de France. Tome II. Polyphaga: Lamellicornia, Palpicornia, Diversicornia. In: Encyclopédie Entomologique. Paris: Paul Lechevalier et Fils. P. 484.

Type species: *Anobium ptilinoides* Wollaston, 1854

Generic diagnosis:

Body surface covered with fine pubescent dorsally. Antenna with last 3 segment combined as long as or longer than all preceding segments. Pronotum convex to flat at middle, lateral margin present throughout. Elytral with distinct striae. Mesocoxae nearly touching. Legs with the third tarsomere emarginated. The third and fourth abdominal ventrites subequal in length.

***Oligomerus ptilinoides* Wollaston, 1854** (Figs. 11- 13)

ptilinoides Wollaston, 1854: Insecta Maderensia; being an account of the insects of the Islands of the Madeiran Group. London: J. van Voorst. P. 278.

brunneus Duftschmid, 1825: Fauna Austriae. Oder Beschreibung der sterreichischen Insecten, für angehende Freunde der Entomologie. Drifter Theil. Linz: Priv. k. k. akademischen Kunst-, Muster- und Buchhandlung. P. 54.

oculatum Wollaston, 1865: Coleoptera Atlantidum, being an enumeration of the coleopterous insects of the Madeiras, Salvages, and Canaries. London: J. van Voorst. P. 36.

reyi Brisout de Barneville, 1867: Grenier A. (ed.): Matériaux pour servir a la faune des coléoptères de France, recueillis et publiés par le Dr. A. Grenier. 2e Cahier. Paris: A. Grenier. P. 180.

Diagnosis: body length: 6 mm, pronotal length: 1.25 mm, pronotal width: 2.0 mm, elytral length: 4.25 mm, elytral width: 1.1 mm. Color deep red.

Material examined: (1) Cairo, 26. VI. 1950; (1) Alexandria, 12. VI. 1922 and (1) Without label (ALFC).

(3) Edfina, on Parkee wood, 17. XI. 1949 (MAC).

Genus: *Stegobium* Motschulsky, 1860

***Stegobium* Motschulsky, 1860:** Coléoptères rapportés de la Sibérie orientale et notamment des pays situés sur les bords du fleuve Amour par MM. Schrenck, Maack, Ditmar, Voznessenski, etc. P. 154.

***Artobium* Mulsant & Rey, 1863:** Essai sur la famille des anobides proprement dits. Opuscules Entomologiques 13. P. 58.

***Sitodrepa* C. G. Thomson, 1863:** Skandinaviens Coleoptera, synoptisk bearbetade. Tom V. Lund: Lundbergska Boktryckeriet. P. 166.

Type species: *Dermestes paniceus* Linnaeus, 1758

Generic diagnosis:

Antenna with the last three segments Combined much longer than preceding five segments. Punctures of elytral striae obscure, elongate and longitudinally closely spaced. Procoxae widely separated.

***Stegobium paniceum* Linnaeus, 1758 (Figs. 14- 17)**

***paniceum* Linnaeus, 1758:** Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Editio decima, reformata. Holmiae: Laurentii Salvii. P. 357.

***bonariensis* Steinheil, 1873:** Symbolae ad historiam Coleopterorum Argentinae meridionalis, ossia enumerazione dei coleotteri dal prof. P. Strobel nelP Argentina meridionale, e descrizione delle specie nuove. Atti della Societa Italiana di Scienze Naturalle 15. P. 575.

***ferrugineum* Herbst, 1783:** Kritisches Verzeichniss meiner Insektensammlung. Archiv der Insectengeschichte (Zürich: J. C. Fuessly) 4. P. 27.

***ireos* A. Villa & G. B. Villa, 1833:** Coleopterorum species novae in catalogo dupletorum extantes. Diagnosibus, adumbrationibus atque observationibus illustratae. Pp. 32-36. In: Coleoptera europae dupleta in collectione

Villa quae pro mutua commutatione offerri possunt. Mediolani: Villa. P. 33.

***minutum* Fabricius, 1792:** Entomologia systematica emendata et aucta. Secundum classes, ordines, genera, species adjectis synonymis, locis, descriptionibus, observationibus. Tom I. Pars I. Hafniae: Christ. Gottl. Proft. P. 238.

***nanum* Kiister, 1849:** Die Käfer Europa's. Nach der Natur beschrieben. MU Beitragen mehrerer Entomologen. P. 45.

***obesum* Melsheimer, 1846:** Descriptions of new species of Coleoptera of United States. Proceedings of the Academy of Natural Sciences of Philadelphia 2. P. 309.

***rubellum* Marsham, 1802:** Entomologia Britannica, sistens insecta britanniae indigena, secundum methodum linnaeanam disposita. Tomus I. Coleoptera. Londini: Wilks et Taylor, J. White. P. 85.

***striatopunctata* Steinheil, 1873:** Symbolae ad historiam Coleopterorum Argentinae meridionalis, ossia enumerazione dei coleotteri dal prof. P. Strobel nel Argentina

meridionale, e descrizione delle specie nuove. Atti della Societa Italiana di Scienze Naturali 15. P. 574.

tenuicorne Marsham, 1802: Entomologia Britannica, sistens insecta britanniae indigena, secundum methodum linnaeanam disposita. Tomus I. Coleoptera. Londini: Wilks et Taylor, J. White. P. 84.

tenuestriatum Say, 1825: Descriptions of new species of coleopterous insects inhabiting the United States. Journal of the Academy of Natural Sciences of Philadelphia 5. 173.

testaceus Thunberg, 1784: Novae insectorum species. Nova Acta Regiae Societatis Scientiarum Upsaliensis 4. P. 6.

upsaliensis Gmelin, 1790: Caroli a Linné Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio decima tertia, aucta, reformata. Tomus I Pars IV. Classis V. Insecta. Lipsiae: Georg Enanuel Beer. P. 1608.

villosum Melsheimer, 1846: Descriptions of new species of Coleoptera of United States. Proceedings of the Academy of Natural Sciences of Philadelphia 2. P. 309.

Diagnosis: body length: 2.5 mm, pronotal length: 0.6 mm, pronotal width: 1.1 mm, elytral length: 2.0 mm, elytral width: 0.7 mm. Color deep brown to reddish. Antenna with the last three segments Combined much longer than preceding five segments. Body dorsally covered with a mix of long hairs and fine hairs. Punctures of elytral striae obscure, elongate, and longitudinally closely spaced. Procoxae distinctly separate. Prosternal process V-shaped. Prothorax ventrally concave to excavate beneath, more or less enclosing head.

Material examined: (1) Tawfikia (Behera), 15.X. 1924 (ALFC).

Subfamily Dorcatominae

Diagnosis: Body short, oval and strongly convex. Antennae 11-segments, serrate type with three last segments enlarged, asymmetrical and flattened. Eyes near the base slightly dented. Hind coxae elongate with a furrow along their rear margin into which the hind femur can be inserted lengthways. Metasternum and the first segment of the abdomen on different levels. Metasternum and the front of the first segment of the abdomen with grooves to accommodate the middle and hind legs, these grooves with a sharply raised edge.

Genus: *Synanobium* Schilsky, 1898

***Synanobium* Schilsky, 1898:** Die Käfer Europa's. Nach der Natur Beschrieben. Heft 35. Nürnberg: von Bauer und Raspe (E. Küster). P. 22.

Type species: *Synanobium ganglbaueri* Schilsky, 1898 (= *Rhadine parmatum* Baudi di Selve, 1874)

Generic diagnosis:

First, ventrite depressed or grooved for reception of hind legs, posterior margin frequently distinctly carinate or appearing raised above second ventrite. During body retraction procoxae visible. Metasternum produced into a broadly rounded lobe, grooved laterally for mesotarsi, and which nearly conceals mandibles during retraction. Second ventrite approximately as long as third through fifth combined.

Synanobium parmatum Baudi di Selve, 1874 (Figs. 18- 21)

***parmatum* Baudi di Selve, 1874:** Coleopterorum messis in insula Cypro et Asia minöre ab Eugenio Truqui congregatae recensitio: de Europaeis notis quibusdam additis. Pars quinta. Berliner Entomologische Zeitschrift 17. P. 332.

***ganglbaueri* Schilsky, 1898:** Die Käfer Europa's. Nach der Natur Beschrieben. Heft 35. Nürnberg: von Bauer und Raspe (E. Küster). P. 22.

Diagnosis: body length: 2.0 mm, pronotal length: 0.4 mm, pronotal width: 0.5 mm, elytral length: 1.6 mm, elytral width: 0.5 mm.

Color deep red to black.

Material examined: (1) Marg, VII. 1908; (1) Mahmsha, VII. 1909; (3) Nozha, 2.VI. 1918, 23. V. 1918 and 7.V. 1918; (1) Fayoum, 27. V. 1918; (1) Pyramids, 6. VI. 1918 (ALFC).

(2) Nozha, 2.VI.1918 (MAC).



Fig. 1



Fig. 2



Fig. 3

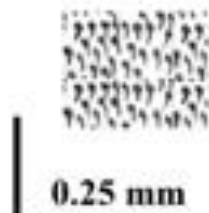


Fig. 4



Fig. 5

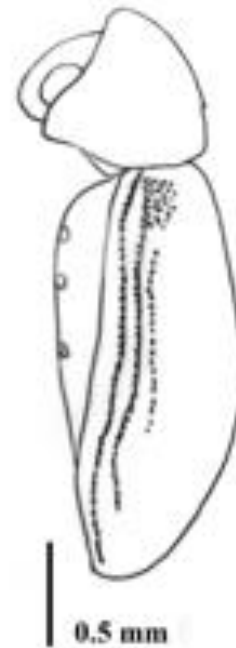


Fig. 6

Figs. 1 & 2: Dorsal and lateral view of *Anobium punctatum*; **Figs. 3- 6:** Dorsal view, punctures and setae of pronotum, punctures, and setae of elytra and lateral view of *Gastrallus pubens*.

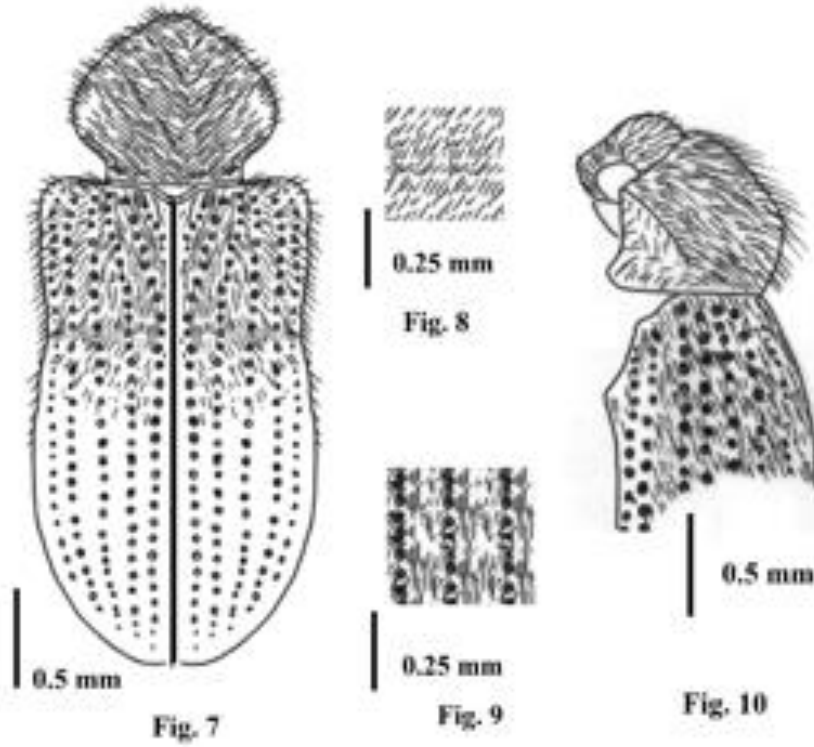


Fig. 7

Fig. 8

Fig. 9

Fig. 10

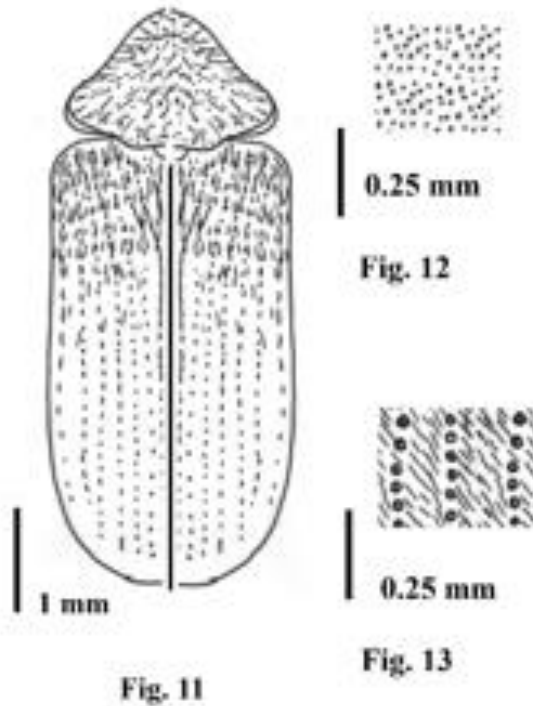
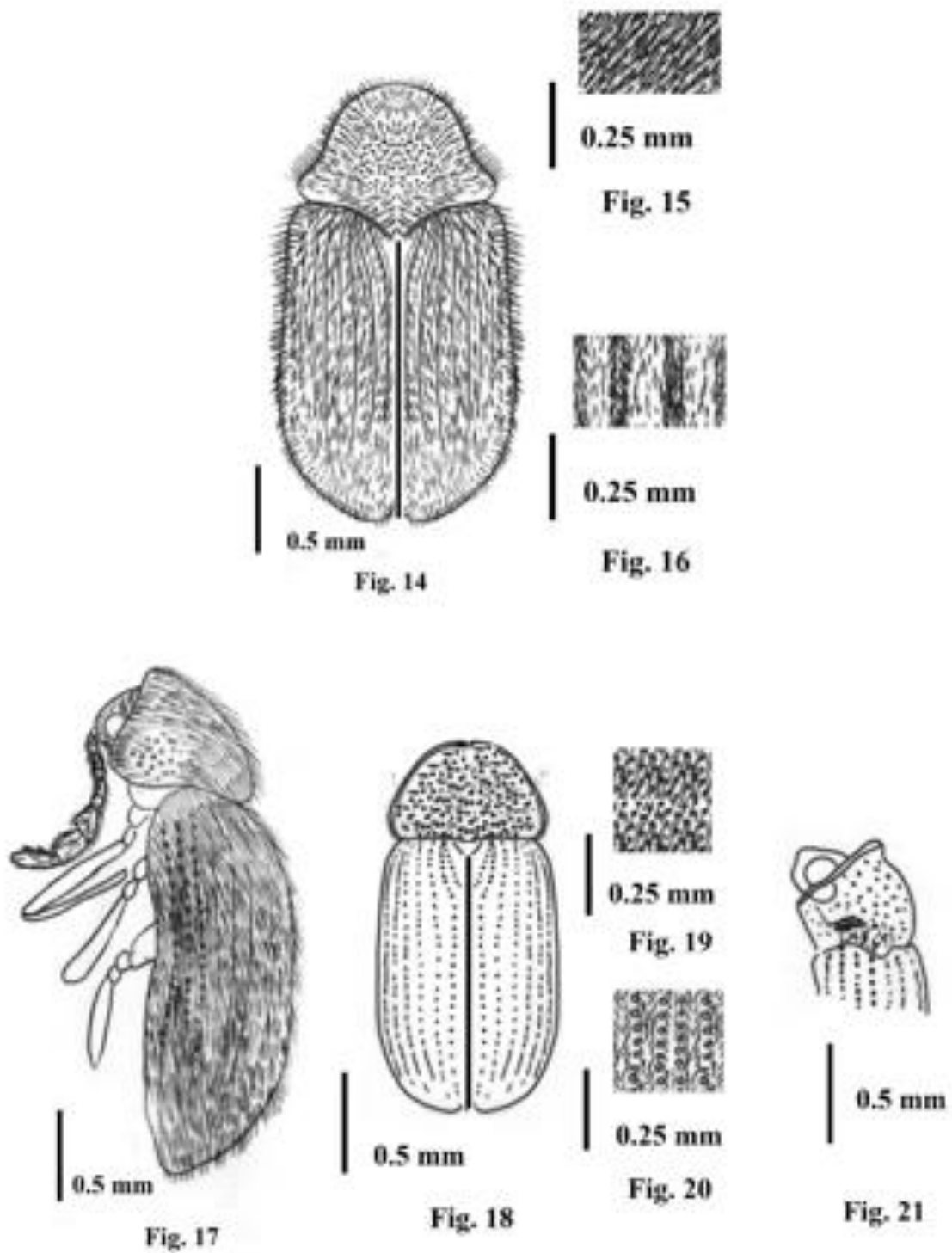


Fig. 11

Fig. 12

Fig. 13

Figs. 7- 10: Dorsal view, punctures, and seatae of pronotum, punctures, and seatae of elytra and lateral view of *Nicobium castaneum*; **Figs. 11- 13:** Dorsal view, punctures, and seatae of pronotum, punctures, and seatae of elytra of *Oligomerus ptilinoides*.



Figs. 14- 17: Dorsal view, punctures, and setae of pronotum, punctures, and setae of elytra and lateral view of *Stegobium paniceum*; **Figs. 18- 21:** Dorsal view, punctures, and setae of pronotum, punctures, and setae of elytra and lateral view of *Synanobium parmatum*.

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ARABIC SUMMARY

مراجعة تصنيفية أنوبييني و دوركاتوميني (بتينيدي: غمدية الأجنحة) في مصر
مراجعة تصنيفية لأنوبييني ودوركاتوميني

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تمت دراسة فصيلتين من فصيلة بتينيدي في مصر تصنيفيا خلال هذا العمل، الفصيلة الأولى دوركاتوميني والممثلة بنوع واحد، سينانوبيم بارماتم، والفصيلة الثانية أنوبييني ممثلة بخمسة أنواع، اوليجوميرس بتيلينويدس، ستيجوبيم بانيسيم، جاستر اللس بوبيس، نيكوبيم كاستانم وانوبيم بانكتانم. كما زود البحث بمفتاح تصنيفي لتمييز وفصل الفصيلتين والأجناس والأنواع قيد الدراسة، بالإضافة الى الصفات التشخيصية والرسوم التوضيحية لكل نوع.