

**CLASSIFICATION OF SUB FAMILY ALTICINAE
(CHRYSOMELIDAE- COLEOP TERA)
PART II- GENERA: LONGITARSUS, OCHROSIS, PHYLOTRETA,
PODAGRICA AND SPHAERODERMA**

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Abstract

In Egypt, subfamily Alticinae represented by 44 species within 13 genera (Alfieri, 1976). Twenty four species, in eight genera, including three new record species have been treated in part I. Accordingly, the present study was planned to cover the remaining part of Alticinae, twenty three species in five genera, in addition two species were introduced as new records in Egypt during this work. Determination of the recent taxonomic status of this group of alticins, generic and specific diagnosis and key to the species in each genus are investigated.

INTRODUCTION

Once more with the systematic of the subfamily Alticinae, which represents the largest chrysomelid subfamily. This group of leaf beetles feed on a wide range of primitive to higher plant groups, including the foliage of herbaceous plants and trees of angiosperm and gymnosperm families. The most important works dealing with classification, determination and economic importance of this group of alticins were investigated by Scherer (1960, 1961, 1962 a & b, 1963, 1969 and 1983), Gressitt and Kimoto (1963), Kimoto (1965 b & c and 1966a), Samuelson (1965, 1966, 1967, 1969, 1971, 1973 and 1975), Kimoto and Gressitt (1966), Furth (1979 and 1980b), Medvedev and Roginskaya (1988), and Konstantinov and Vandenberg (1996).

MATERIALS AND METHODS

The present taxonomic work started by examination of the Egyptian Reference Insect collections for materials regarded as alticin beetles. Also, field trips and excursions were made to localities where chrysomelids had been recorded as well as to some other localities searching for these beetles. The specimens belonging to chrysomelid species under investigation were collected either directly by hand from the host plants and sweeping vegetation or indirectly using light traps fixed in different regions. The specimens of most alticin species under consideration were collected

during this work, these specimens were preserved in the private A. Torkey Collection.. Other species were available depending on their preserved materials in Egyptian Insect Collections. Preliminary determination along with materials were confirmed by Dr. Furth (Smithsonian Institute, U.S.A.) and Dr. Doberl (Museum Slovenia).

CLASSIFICATION

Subfamily Alticinae

Diagnostic features and key to the genera of Alticinae were treated in the first part (part I)

Genus *Longitarsus* Latreille, 1829

Synonyms (after Konstantinov & Vandenberg, 1996).

Longitarsus Latreille, 1829, *Thyamis* Stephens, 1831, *Teinodactyla* Chevrolat, 1836, *Inopelonia* Broun, 1893, *Testergus* Weise, 1881-1893 (1893), *Truncatus* Pali, 1970.

Key to the species of genus *Longitarsus* Latreille

- 1-Elytra covered all abdominal tergites, pygidium not exposed -----2
 - Pygidium exposed -----3
- 2-Insect body yellow dorsally and ventrally, pronotum and elytra with superficial dense punctation, hind tibia with large teeth and short spur, humeral callus distinct.--
 ----- *Longitarsus candidula* (Foudras)
- Head, pronotum, longitudinal band along the suture line of elytra and ventral surface of the body black, rest of elytra yellow, pronotum sparsely punctate and elytra deep densely punctate, hind tibia with small teeth and long spur, humeral callus indistinct ----- *L. stragulatus* (Foudras)
- 3-Hind tibia with short spur, Insect body brilliant red, aedeagus -----
 ----- *L. jacobaeae* (Waterhouse)
- Hind tibia with long spur, body colour variable, aedeagus not as such ----- 4
- 4-Body shiny black, pronotum shagreen, aedeagus and spermatheca -----
 ----- *L. eminus* Warchalowski
- Body and pronotum not as such -----5
- 5-Elytra with strong deep regular punctation basally and irregularly punctate at 2/3 of elytra apically -----6
 - Elytra irregularly punctate or irregularly punctate at 2/3 of elytra apically and indistinct regularly basally -----7
- 6-Vertex with fine transverse wrinkles, humeral callus strongly prominent, aedeagus and spermatheca, head, pronotum and two band on elytra black -----
 ----- *L. nigrofasciatus* (Goeze)
- Vertex covered with fine punctures, humeral callus indistinct, aedeagus and spermatheca, insect body brilliant dark brown ----- *L. obliteratus* (Rosenhauer)

7-Vertex with fine transverse wrinkles, humeral callus indistinct, body colour metallic bronze (sometimes violet green or blue) ----- ***L. echii* (Koch)**

- Vertex without such wrinkles, humeral callus distinct, body colour not as such --- **8**

8-Elytra irregularly punctate at 2/3 apically and indistinct regularly basally, hind tibia with obviously long and arched spur ----- ***L. pellucidus* (Foudras)**

- Elytra irregularly punctate, hind tibia with moderate spur ----- **9**

9-Frontal genal suture (furrow) obviously distinct and not attached to antennal calli, body finely sparsely punctate, body colour testaceous ----- ***L. albineus* (Foudras)**

- Frontal genal suture (furrow) slightly distinct and attached to antennal calli, body deeply densely punctate or finely sparsely punctate on head and pronotum and deeply punctate on elytra, body colour not testaceous ----- **10**

10-Head and pronotum deeply densely punctate, pygidium slightly exposed, humeral callus slightly prominent, hind tibia with distinct teeth, body colour brown -----

----- ***L. alfieri* Pic**

- Head and pronotum finely sparsely punctate, pygidium obviously exposed, humeral callus prominent, hind tibia with indistinct teeth, body colour dark brown -----

----- ***L. aeneus* Kutschera**

***Longitarsus aeneus* kutschera, 1862 (Pl. I, fig. 1 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Longitarsus aeneus Kutschera, 1862, *Teinodactyla fuscoaenea* Foudras, 1860, *Longitarsus fuscoaeneus* Wollaston, 1860, *Longitarsus aeneus* ab. *Involucer* Heikertinger, 1930.

Diagnosis : Body dark brown, 1st – 5th antennal segments, fore- and mid legs, tibiae and tarsi of hind legs light brown. Vertex finely punctate. Pronotum wide and convex, with lateral margins sinuated anteriorly. Elytra wider than pronotum basally, with fine, irregular and dense punctures. Hind tibia with short bristles, and with long spur at middle of its apex.

Material examined : 5 specimens from El-Borg (Mersa Matrouh), during Feb., King Mariout (Alex.), Dec. {**Coll. Alfieri**}. King Mariout (Alex.), Dec. {**Coll. Society**}.

World distribution: Libya, Tunisia, Algeria, Morocco, Jordan, Palestine, Aeden, South Yemen, Greece, Portugal, Spain, Malta, Italy, France and Croatia.

***Longitarsus albineus* (Foudras, 1860) (Pl. I, fig. 2 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Teinodactyla albinea Foudras, 1860, *Thyamis albinea* Allard, 1866.

Diagnosis : Body testaceous, labrum dark brown, pronotum, hind femora and abdomen reddish brown. Vertex with very fine punctation. Pronotum very finely and sparsely punctate. Elytra with irregular sparse punctation.

Material examined : 24 specimens from Shabrament & Beni Youssef (Giza), during Jan., May, July and Oct. **{Coll. Agr.}**. Luxor (Assiut), Sep., Giza, Nov. **{Coll. Alfieri}**. Wadi Gbal (Sinai), June (2002), on *Heliotropium digynum* (Forssk.), Borg El-Arab (Alex.), May (2002), on *Plantago lagopus* L., Kafr Hakim (Giza), Nov. (2002), on *Plantago ovata* Forssk. **{Coll. A. Torkey}**.

World distribution: Tunisia, Algeria, Morocco, Palastine, Iran, Iraq, Greece, Cyprus, Turkey, Portugal, Spain, Italy, France, Bulgaria, Hungaria, Rumania, Afghanistan, Caucasus and Uzbekistan.

***Longitarsus alfieri* Pic, 1923 (Pl. I, fig. 3 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Longitarsus alfieri Pic, 1923, *Longitarsus klapperichi* Mohr, 1962.

Diagnosis : Body brown, 1st – 5th antennal segments, fore- and mid legs, tibiae and tarsi of hind legs light brown. Head densely punctate. Pronotum slightly convex, with numerous deep punctures. Elytra with deep, irregular and dense punctation.

Material examined : 53 specimens from Wadi Um Fiala **{Coll. Agr.}**. Rashid (Beheira), April, Helwan (Cairo), Jan. – May, Wadi isla, Gabal Catherin (Sinai), April **{Coll. Alfieri}**. Kharga Oasis (El-Wadi El-Dedeid), Nov. (1999), on *Achillea fragrantissima* (Forssk.), Wadi El-Lega (Sinai), Sep. (2002), on *Anchusa aegyptiaca* (L.), Wadi Aeideib (Gabal Elba), Jan. (2000), on *Salvia aegyptiaca* L. **{Coll. A. Torkey}**.

World distribution: Jordan, Palestine, Lebanon, Syria, Iran, Greece, Turkey and Afghanistan.

***Longitarsus candidulus* (Foudras, 1860) (Pl. I, fig. 4 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Teinodactyla candidula Foudras, 1860, *Thyamis candidula* Allard, 1866, *Thyamis latifrons* Allard, 1866, *Thyamis candidula thymelaeorum* Peyerimhoff, 1911, *Longitarsus candidulus thymelaeorum* Heikertinger, 1930, *Longitarsus candidulus* var. *thymelaeorum* Normand, 1937.

Diagnosis : Body yellow, labrum black, head and femora of hind legs brown, 5th – 11th antennal segments dark brown. Frons and vertex with fine wrinkles. Pronotum slightly convex, superficially and densely punctate. Elytra with numerous irregular punctures. Pygidium hidden.

Material examined : 8 specimens from King Mariout (Alex.), during June **{Coll. Alfieri}**. Wadi Isla (Sinai), June (2002), on *Thymelaea hirsuta* (L.) **{Coll. A. Torkey}**.

World distribution: Libya, Tunisia, Algeria, Morocco, Spain, Italy, France and Montenegro.

***Longitarsus eminus* Warchalowski, 1967 {New record} (Pl. I, fig. 5 A - D)**

Synonyms (after Gruev & Doberl, 1997).

Longitarsus eminus Warchalowski, 1967, *Longitarsus obliterated eminus* Warchalowski, 1973.

Diagnosis : Body shiny black, 1st – 6th antennal segments, mandibles, fore- and mid legs, tibiae and tarsi of hind legs all brown, 7th – 11th antennal segments dark brown. Frons and vertex with fine wrinkles, labrum slightly emarginated medially. Pronotum with slightly fine wrinkles, restricted in lateral sides. Elytra with irregular, deep and dense punctation. Aedeagus and spermatheca (after Warchalowski, 1967).

Material examined : one specimen Wadi Gbal (Sinai), during Sep. (2002), on *Mentha microphylla* Koch {**Coll. A. Torkey**}.

World distribution: Palestine, Iran, Afghanistan, Kazakhstan, Kirghizstan and Tajikistan.

***Longitarsus obliterated* (Rosenhauer, 1847) (Pl. II, fig. 1 A - D)**

Synonyms (after Gruev & Doberl, 1997).

Teinodactyla obliterated Rosenhauer, 1847, *Thyamis obliterated* Allard, 1860, *Longitarsus obliterated meridionalis* Heikertinger, 1930, *Longitarsus obliterated* Normand, 1937.

Diagnosis : Body brilliant dark brown, 1st – 5th antennal segments, fore- and mid legs, tibiae and tarsi of hind legs all brown. Pronotum finely and densely punctate. Scutellum smooth. Elytra with deep dense punctation, irregular at 2/3 apically and regular at 1/3 basally. Hind tibia with strong and very long arched spur. Aedeagus and spermatheca (after Furth, 1980).

Material examined : 6 specimens from France {**Coll. Society**}.

World distribution: Morocco, Jordan, Palestine, Syria, Greece, Spain, Italy, France, Austria, Bosnia, England, Germany, Hungary, Poland, Russia, Switzerland, Armenia, Iran and Turkey.

Remark : This species was recorded during May, from Wadi El-Arish (Sinai), on *Mentha microphylla* C.Koch (Alfieri, 1976) .

***Longitarsus pellucidus* (Foudras, 1860) (Pl. II, fig. 2 A - C)**

Synonyms (after Gruev & Doberl, 1997).

Teinodactyla pellucida Foudras, 1860, *Longitarsus testaceus* Stierlin, 1861, *Thyamis pellucida* Allard, 1866, *Longitarsus paleaceus* Heikertinger, 1912, *Longitarsus lonius* Mohr, 1962.

Diagnosis : Body testaceous, 1st – 5th antennal segments, labrum and mandibles dark brown. Vertex with indistinct fine punctures. Pronotum finely and densely punctate. Humeral callus slightly prominent. Aedeagus (after Lopatin, 1984).

Material examined : 3 specimens from France {Coll. Society}.

World distribution: Tunisia, Algeria, Morocco, Jordan, Palestine, Syria, Greece, Portugal, Spain, Italy, France, Austria, Belgium, Bosnia, Bulgaria, Denmark, England, Germany, Hungary, Netherlands, Norway, Poland, Rumania, Russia, Sweden, Switzerland, Afghanistan and Iran.

Remark : This species was recorded during March, From Wadi Isla (Sinai), (Alfieri, 1976).

***Longitarsus stragulatus* (Foudras, 1860) (Pl. II, fig. 3 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Teinodactyla stragulata Foudras, 1860, *Thyamis stragulata punica* Peyerimhoff, 1915, *Longitarsus stragulatus punicus* Heikertinger, 1930, *Longitarsus stragulatus* ab. *sellatus* Csiki & Heikertinger, 1940.

Diagnosis : Head, pronotum, longitudinal band along the suture line of elytra and ventral surface of the body all black, rest of elytra testaceous, 1st - 4th antennal segments, fore- and mid legs, tibiae and tarsi of hind legs brown, 5th - 11th antennal segments and femora of hind legs dark brown. Vertex with very fine punctures. Pronotum and scutellum finely sparsely punctate. Elytra with irregular, deep and dense punctuation. Hind tibia with short spur at middle of its apex.

Material examined : 8 specimens from El-Borg (Mersa Matrouh), during Jan., July {Coll. Alfieri}. Mersa Matrouh, Nov. {Coll. Cairo}. Mersa Matrouh, Jan. {Coll. Ain Shams},

King Mariout (Alex.), Feb. (1999), on *Senecio desfontainei* Druce {Coll. A. Torkey}.

World distribution: Libya, Tunisia, Algeria, Morocco, Jordan, Palestine, Spain and Italy.

***Longitarsus echii* (Koch, 1803)**

Synonyms (after Gruev & Doberl, 1997).

Haltica echii Koch, 1803, *Altica echii* Olivier, 1808, *Haaltica tibialis* Duftschmid, 1825, *Teinodactyla echii* Kuster, 1845, *Longitarsus excurvus* Wollaston, 1857, *Thyamis echii* Allard, 1860, *Longitarsus echii* var. *nigrescens* Weise, 1888, *Longitarsus echii* var. *coerulescens* Gerhardt, 1909, *Thyamis echii* var. *coerulescens* Portevin, 1934, *Longitarsus echii* ab. *nigrescens* Csiki & Heikertinger, 1940, *Longitarsus echii* ab. *tibialis* Warchalowski, 1996.

Diagnosis (after Allard, 1866). Body metallic bronze (sometimes violetgreen or blue), antennal segments and fore- & mid legs brown, 2nd - 3rd antennal segments red. Clypeus oblong, antennal segments densely pubescent. Pronotum highly convex, covered with dense punctures, scattered laterally and confused medially. Elytra a little wider than pronotum basally, with deep irregular dense

punctuation, humeral callus indistinct. Hind tibia with strong and very long arched spur.

World distribution: Tunisia, Algeria, Morocco, Syria, Greece, Portugal, Spain, Malta, Italy, France, Croatia, Montenegro, Macedonia, Austria, Albania, Belgium, Germany, Hungary, Netherlands, Poland, Rumania, Russia, Switzerland, Afghanistan, Turkey and Cape Verde Islands .

Remark : This species was recorded during Feb. and July, from King Mariout (Alex.) and Sinai (Egypt) (Alfieri, 1976).

***Longitarsus jacobaeae* (Waterhouse, 1858) (Pl. II, fig. 4)**

Synonyms (after Gruev & Doberl, 1997).

Thyamis jacobaeae Waterhouse, 1858, *Altica tabida* Fabricius, 1775, *Haltica laevis* Duftschmid, 1825.

Diagnosis (after Allard, 1866). Body brilliant red, labrum and femora of hind legs black. Vertex finely punctate. Pronotum very finely punctate and entirely slightly wrinkled. Elytra with very fine irregular punctures, suture line slightly rounded apically. Hind tibia with short spur at middle of its apex. Aedeagus (after Lopatin, 1984).

World distribution: Austria, Belgium, Bulgaria, Byelorussia, Croatia, Czechia, Denmark, England, France, Germany, Greece, Hungary, Ireland, Italy, Montenegro, Netherlands, Norway, Poland, Rumania, Russia, Spain, Switzerland, Afghanistan, Caucasus, China and Kazakhstan.

Remark : This species was recorded during June, from King Mariout (Alex.) (Alfieri, 1976).

***Longitarsus nigrofasciatus* (Goeze, 1777) (Pl. II, fig. 5 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Chrysomela nigrofasciata Goeze, 1777, *Haltica lateralis* Illiger, 1807, *Teinodactyla trilineolata* Foudras, 1860, *Thyamis fracta* Allard, 1866, *Longitarsus lateralis* var. *patruelis* Weise, 1893, *Thyamis nigrofasciata secutoria* Peyerimhoff, 1911, *Longitarsus nigrofasciatus* ab. *patruelis* Csiki & Heikertinger, 1940, *Longitarsus nigrofasciatus* var. *rudipennis* Mohr, 1965.

Diagnosis (after Allard, 1866). Head, pronotum and two bands on elytra black, basal antennal segments and legs reddish brown, apical antennal segments, hind femora and tibiae brown. Clypeus slightly curved and obtuse. Pronotum with strong deep dense punctuation. Elytra convex, with slightly regular punctuation basally and irregularly punctate at 2/3 of elytra apically, strong deeply densely punctate than pronotum, with two oblong bands, one on the suture line and the second on the

margin. Hind tibia with strong and very long arched spur. Aedeagus (after Lopatin, 1984) and spermatheca (after Furth, 1980).

World distribution: Tunisia, Algeria, Morocco, Armenia, Syria, Austria, Belgium, Bosnia, Bulgaria, Czechia, England, France, Germany, Greece, Hungary, Ireland, Italy, Montenegro, Netherlands, Norway, Poland, Portugal, Rumania, Russia, Spain, Switzerland, Ukraine, Afghanistan, Turkey and Cape Verde Islands.

Remark : This species was recorded from Sinai (Egypt) (Alfieri, 1976).

Genus *Ochrosis* Foudras, 1860

Diagnosis : Body small, oval, more or less convex from lateral view. Colour yellow, head and last antennal segments sometimes darker, metasternum and abdomen dark brown or black. Head hypo-prognathous, oval, short. Frontal ridge wide, flat, forming low, angular T-shaped ridge with anterior margin of head capsule. Antennal calli slightly raised, contiguous, not delineated from vertex and frontal ridge by furrows. Orbital line situated very close to eye margin. Pronotum more or less wide, convex from lateral view, with transverse impression basally. Procoxal cavity closed behind. Intercoxal prosternal process narrow, convex. Mesosternum wide. Elytra oval, convex. Elytral punctures arranged in striae, interspaces more or less narrow, flat. Epipleuron subvertical, not reaching posterolateral elytral margin. Metatibia long, cylindrical, slightly thickened and flat apically. Metatarsus inserted apically. First metatarsal segment not longer than the following two segments combined.

***Ochrosis ventralis* (Illiger, 1807) (Pl. II, fig. 6 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Haltica ventralis, Illiger, 1807, *Haltica ventralis*, Kutschera, 1860, *Crepidodera pisana*, Allard, 1861, *Ochrosis kruperi*, Weise, 1886, *Ochrosis ventralis* var. *corcyrea*, Pic, 1909, *Ochrosis ventralis* var. *lubrica*, Heikertinger, 1911, *Ochrosis ventralis* var. *obscuricollis*, Heikertinger, 1911, *Ochrosis ventralis* ab. *nigriventris*, Heikertinger, 1912, *Ochrosis ventralis* *krueperi*, Gruev & Kasap, 1985.

Diagnosis : Body testaceous, 6th – 11th antennal segments, metasternum and abdomen dark brown. Head finely and sparsely punctate, labrum short and slightly curved, clypeus wide. Pronotum with fine dense punctation, anterior angles slightly rounded, posterior angles pointed. Elytra with numerous deep punctures, arranged in regular striae, epipleura wide basally, thin subapically and not reaching elytral apices.

Material examined : 3 specimens from Lebanon {Coll. Society}.

World distribution : Worldwide .

Remark : This species was recorded from Egypt (Alfieri, 1976).

Genus *Phyllotreta* Chevrolat, 1836

Synonyms (after Konstantinov & Vandenberg, 1996).

Phyllotreta Chevrolat, 1836, *Orchestris* Crotch, 1873, *Tanygaster* Blatchley, 1921.

Key to the species of genus *Phyllotreta* Chevrolat

- 1- Elytra with well developed humeral calli ----- 2
 - Elytra without humeral calli ----- 5
- 2- Frons between eyes with distinct band of coarse dense punctation, elytron somewhat rectangular, aedeagus, body colour bronze brown or coppery -----
 ----- ***Phyllotreta corrugata* Reiche**
- Frons between eyes without such band of punctation, elytron not rectangular, rounded apically, body colour not as such ----- 3
- 3- Disc of pronotum and elytra with transverse wrinkles, pygidium obviously exposed, head with a few deep punctures near margin of eyes, aedeagus, body colour metallic bronze. ----- ***Ph. florieni* Pic**
- Pronotum and elytra punctate, pygidium slightly exposed, head without punctures near margin of eyes, body colour not as such ----- 4
- 4- Insect body deeply and densely punctate, 2nd antennal segment smaller than other segments, aedeagus, body colour bluish green ----- ***Ph. cruciferae* (Goeze)**
- Body finely densely punctate, 2nd antennal segment subequal each other segments, body colour metallic black ----- ***Ph. nigripes* (Fabricius)**
- 5- Second antennal segment longer than 3rd or 4th, 5th antennal segment obviously longer than each other segment, body colour dark brown and each elytron with obviously broad elongate yellow stripe ----- ***Ph. variipennis* (Boieldieu)**
- Second and third antennal segments subequal in length and shorter than others, body colour light bronze ----- ***Ph. procera* (Redtenbacher)**

***Phyllotreta corrugata* Reiche, 1858 (Pl. II, fig. 7 A - C)**

Synonyms (after Gruev & Doberl, 1997).

Phyllotreta corrugata Reiche, 1858, *Phyllotreta corrugata* var. *galloprovincialis* Caillol, 1908, *Phyllotreta rufitarsis* var. *beauprei* Pic, 1909, *Phyllotreta bella* Palu, 1970.

Diagnosis : Body bronze-brown or coppery, 1st - 5th antennal segments rusty red, darkening toward apices, tibiae and tarsi red. Vertex smooth. Pronotum finely and sparsely punctate, anterior angles pointed, posterior angles rounded. Elytra flat, finely densely punctate, humeral callus slightly protruding, epipleura wide basally and thin apically. Aedeagus.

Material examined : 18 specimens from El-Borg (Mersa Matrouh), during Jan., King Mariout (Alex.), March {Coll. Agr.}. El-Borg, Jan., King Mariout (Alex.),

March {Coll. Alfieri}. Cairo, April {Coll. Society}. Kafr el Sheikh, April (2000), on *Brassica napus* L. {Coll. A. Torkey}.

World distribution : Libya, Tunisia, Algeria, Morocco, Greece, Italy, France, Malta, Bulgaria, Spain, Ukraine, Afghanistan, Armenia, Cyprus, Iran, Iraq, Palestine, Turkey and Uzbekistan.

***Phyllotreta cruciferae* (Goeze, 1777) (Pl. III, fig. 1 A - C)**

Synonyms (after Gruev & Doberl, 1997).

Chrysomela cruciferae Goeze, 1777, *Altica hortensis* Olivier, 1798, *Phyllotreta nigroaenea* Stephens, 1831, *Phyllotreta poeciloceras* Allard, 1860, *Phyllotreta atra* var. *obscura* Reitter, 1870, *Phyllotreta atra* var. *cruciferae* Heikertinger, 1930, *Phyllotreta scheuchi* Warchalowski, 1974.

Diagnosis : Body blueish green, 1st – 5th antennal segments, labrum, mandibles and tibiae brown, 6th – 11th antennal segments dark brown. Frons, vertex and pronotum with deep dense punctation. anterior and posterior angles of pronotum pointed. Elytra with deep dense punctation. Aedeagus.

Material examined : 558 specimens from Shebin el-Kanater (Qalioubiya), during July, Maghagha (Beni Souf), May & June, Kerdasa (Giza), April, Wasta (Minia), March {Coll. Agr.}. Ezbet el Nakhl (Qalioubiya), July, March, Hawamdia (Giza), April {Coll. Alfieri}. Luxor (Qena), May – July, Beni mazar (Minia), March, King Mariout (Alex.), Aug. {Coll. Society}. Helwan (Cairo), Nov., Giza, Feb. {Coll. Cairo}. Cairo, Nov. {Coll. Ain Shams}. Manashi (Giza), May – Dec. (1999), on *Brassica oleracea* var. *botrytis* L. & *Brassica oleracea* var. *capitata* L., Kafr el Sheikh, April (2000), on *Brassica napus* L., Dokki (Giza), May (2000), On Light trap, Tanta (Gharbiya), Oct. (2002), on *Corchorus olitorius* L., & Kerdasa (Giza), Nov. (2002), on *Eruca sativa* L. {Coll. A. Torkey}.

World distribution : Worldwide .

***Phyllotreta floriensis* Pic, 1910 (Pl. III, fig. 2 A - C)**

Diagnosis : Body metallic bronze, antennae, mandibles, labrum, tibiae and tarsi brown. Frons and vertex impunctate, except a few punctures near eyes. Pronotum shagreen medially on disc and punctated on sides. Elytra shagreen. Hind tibiae with long spure. Aedeagus (Medvedev, 1996).

Material examined : 21 specimens from Qouseir (Red Sea), during Feb. {Coll. Agr.}. King Mariout (Alex.), Dec. {Coll. Alfieri}. Cairo, April {Coll. Society}.

World distribution : Saudi Arabia and Palestine.

***Phyllotreta nigripes* (Fabricius, 1775) (Pl. III, fig. 3 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Altica nigripes Fabricius, 1775, *Chrysomela nigripes* Fabricius, 1781, *Galleruca nigripes* Fabricius, 1792, *Haltica nigripes* var. *lens* Gyllenhal, 1813, *Phyllotreta lepidii* var. *lens* Stephens, 1831, *Phyllotreta nigripes* var. *arabidis* Hoffmann, 1953, *Phyllotreta thalassicola* Medvedev, 1983.

Diagnosis : Body metallic black, legs dark brown. Frons, pronotum and elytra with numerous fine punctation.

Material examined : 7 specimens from Germany {Coll. Society}.

World distribution: Tunisia, Algeria, Morocco, Armenia, Syria, Austria, Albania, Belgium, Bosnia, Bulgaria, Byelorussia, Czechia, England, France, Germany, Greece, Hungary, Ireland, Italy, Macedonia, Montenegro, Netherlands, Norway, Poland, Portugal, Rumania, Russia, Spain, Switzerland, Ukraina, Afghanistan, Turkey, Turkmenistan, Uzbekistan and Cape Verde Islands.

Remark : This species was recorded during May from El-Kontella (Sinai)(Alfieri, 1976).

***Phyllotreta procera* (Redtenbacher, 1849) (Pl. III, fig. A & B)**

Synonyms (after Gruev & Doberl, 1997).

Haltica procera Redtenbacher, 1849, *Phyllotreta subtilis* Wollaston, 1864, *Phyllotreta ruffitarsis* Weise, 1888, *Phyllotreta carreti* Monnot, 1913, *Phyllotreta nodicornis* Apfelbeck, 1914, *Phyllotreta procerior* Peyerimhoff, 1941, *Phyllotreta procera* var. *procerior* Doguet, 1984.

Diagnosis : Body light bronze, 1st – 5th antennal segments, mandibles, labrum and tarsi brown, 6th – 11th antennal segments dark brown. Frons, vertex and elytra with fine dense punctation. Pronotum finely sparsely punctate.

Material examined : 12 specimens from Helwan (Cairo), during March, King Mariout (Alex.), March, Sinai, May {Coll. Agr.}. Quseir (Red Sea), Feb. {Coll. Alfieri}.

World distribution : Tunisia, Algeria, Morocco, Armenia, Syria, Austria, Albania, Belgium, Bulgaria, Czechia, England, France, Germany, Greece, Hungary, Ireland, Italy, Montenegro, Netherlands, Poland, Rumania, Russia, Spain, Switzerland, Turkey, and Cape Verde Islands.

***Phyllotreta variipennis* (Boieldieu, 1859) (Pl. III, fig. 5 A - C)**

Synonyms (after Gruev & Doberl, 1997).

Haltica variipennis Boieldieu, 1859, *Phyllotreta varians* Foudras, 1860, *Phyllotreta variipennis* var. *guttata* Weise, 1888, *Phyllotreta variipennis* ab. *guttata* Csiki & Heikertinger, 1940.

Diagnosis : Body flat, dark brown, 1st – 6th antennal segments, fore- and mid legs, tibiae and tarsi of hind legs testaceous, each elytron with yellow longitudinal

stripe. Head with very fine punctures. Pronotum deeply and densely punctate. Elytra with fine dense punctation. Aedeagus.

Material examined : 93 specimens from Helwan (Cairo) during June – Aug. {**Coll. Agr.**}. Helwan (Cairo), June – Aug. {**Coll. Alfieri**}. Cairo, April, Sep. – Oct. {**Coll. Society**}. Birgash (Giza), May (1999), on *Brassica napus* L. {**Coll. A. Torkey**}.

World distribution : Algeria, Morocco, Greece, Italy, France, Malta, Bulgaria, Spain, Afghanistan, Armenia, Caucasus, Cyprus, Iran, Iraq, Palestine, Kazakhstan, Turkey and Uzbekistan.

***Phyllotreta consobrina springeri* Wittmer, 1936**

Synonyms (after Gruev & Doberl, 1997).

Phyllotreta springeri Wittmer, 1936, *Phyllotreta consobrina* Lopatin, 1967.

Diagnosis (after Wittmer, 1936). 2 mm. in length. Body black, with green or blue metallic. In male, head with the eyes on the same level in front. Frontal ridge distinct clearly. Antennae longer than the half body. Head finely punctate than those of the pronotum. Pronotum more broadly than head, with deep punctation. In male, pronotum somewhat more broadly than that of female. Elytra with deep irregular punctation.

World distribution : Palastine, Jordan and Lebanon.

Remark : This species was recorded during March and April, from Helwan (Cairo), Kontella and Wadi El-Arish (Sinai, Egypt) (Alfieri, 1976).

***Phyllotreta lativittata* Kutschera, 1858 (Pl. III, fig. 6)**

Synonyms (after Gruev & Doberl, 1997).

Phyllotreta lativittata Kutschera, 1858, *Phyllotreta latevittata* Weise, 1888, *Phyllotreta ruficollis* Weise, 1888, *Phyllotreta lativittata* var. *bisbinotata* Pic, 1909, *Phyllotreta aegyptiaca* Pic, 1915, *Phyllotreta latevittata* ab. *orientalis* Csiki & Heikertinger, 1940, *Phyllotreta latevittata* var. *ruficollis* Heikertinger, 1941, *Phyllotreta latevittata* var. *nigrosuturata* Heikertinger, 1941.

Diagnosis (after Lopatin, 1984b). Head and pronotum metallic green, bronze, or oily brown with metallic luster, elytron with very broad yellow band which narrows slightly in posterior third, humeral callus yellow, suture margin of elytra posterior to center broadly black. Pronotum and elytra with fine dense punctures. Aedeagus (after Lopatin, 1984b).

World distribution : Greece, Italy, Malta, Afghanistan, Armenia, Azerbaijan, Caucasus, Cyprus, Daghestan, Iran, Iraq, Palestine, Kazakhstan, Turkey, Turkmenistan and Uzbekistan.

Remark : This species was recorded during May, from King mariout (Alex.) (Alfieri, 1976).

***Phyllotreta rufitarsis* Allard, 1859**

Synonyms (after Gruev & Doberl, 1997).

Phyllotreta rufitarsis Allard, 1859, *Phyllotreta procera* var. *rufitarsis* Weise, 1888.

Diagnosis (after Allard, 1866). Body dark blue or bronze copper, antennae and base of tibiae ferruginous. Antennae similar in both sexes, 2nd and 3rd segments elongate, vertex smooth. Pronotum with sparse punctuation, elytra deeply densely punctate. Abdomen smooth.

World distribution : Tunisia, Algeria, Morocco, Palastine, Jordan, Italy, Spain, Canary Islands and Cape Verde Islands.

Remark : This species was recorded during April, from King Mariout (Alex.) and Sinai (Egypt), on *Reseda* sp. (Alfieri, 1976).

Genus *Podagrica* Chevrolat, 1836

Key to the species of genus *Podagrica* Chevrolat

1- Pronotum finely and sparsely punctate, without sinuation, aedeagus, body colour pale testaceous ----- ***Podagrica pallidicolor* Pic**

- Pronotum finely and densely punctate, with two sinuations in anterior margin, aedeagus and body colour not as such ----- **2**

2- Insect body pale testaceous, aedeagus and spermatheca, elytra finely and densely punctate, abdominal process between hind legs straight medially -----

----- ***Pod. puncticollis* Weise**

- Head and pronotum testaceous, elytra black, aedeagus and spermatheca, elytra deeply and densely punctate, irregularly at 1/3 apically and regularly basally, abdominal process sinuated medially ----- ***Pod. malvae* (Illiger)**

***Podagrica malvae* (Illiger, 1807) {New record} (Pl. IV, fig. 1 A - E)**

Synonyms (after Gruev & Doberl, 1997).

Haltica malvae Illiger, 1807, *Podagrica tristicula* Allard, 1860, *Podagrica malvae* var. *aenescens* Weise, 1886, *Podagrica angusticollis* J. Sahlberg, 1913, *Podagrica malvae* var. *saracena* Heikertinger, 1930, *Podagrica malvae* ab. *flaviceps* Csiki, 1952, *Podagrica malvae semirufa* Mohr, 1965.

Diagnosis : Body black, vertex, frons, prothorax and legs testaceous. Head finely superficially punctate, labrum curved, clypeus straight. Pronotum wide, fine densely punctate, anterior margin sinuated on each side, anterior and posterior angles pointed and sharp, basal and lateral margins edged. Claws bifid. First abdominal sternite as long as the following three sternites in middle. Last abdominal

sternite sinuated on each side and curved medially in male, curved and not sinuated in female. Aedeagus and spermatheca.

Material examined : 3 specimens from Gabal serbal (Sinai), during May (1999), on *Malva parviflora* L. {Coll. A. Torkey}.

World distribution : North Africa, Asia and Europe.

***Podagrica pallidicolor* Pic, 1909 (Pl. IV, fig. 2 A & B)**

Diagnosis : Body pale testaceous, mandibles, labrum, 5th – 11th antennal segments black. Head and pronotum fine sparsely punctate. Anterior margin of pronotum without sinuation on each side. Elytra with fine irregular punctures. Abdominal process straight medially. Aedeagus.

Material examined : 15 specimens from Gabal Elba (Red Sea), during Jan. {Coll. Agr.}. Gabal Elba (Red Sea), Jan. {Coll. Cairo}. Wadi Isla (Sinai), May (1999), on *Althaea ludwigii* L. {Coll. A. Torkey}.

World distribution : Saudi Arabia, Yemen and Ethiopia.

***Podagrica puncticollis* Weise, 1902 (Pl. IV, fig. 3 A - E)**

Diagnosis : Body pale yellow, tip of mandibles and 5th – 11th antennal segments black. Head slightly superficially punctate. Elytra with fine, dense and irregular punctation. Abdominal process straight medially. Aedeagus and spermatheca.

Material examined : 31 specimens from Wadi Isla (Sinai), during Aug. (1999), on *Althaea ludwigii* L., Gabal serbal (Sinai), May (1999), on *Malva parviflora* L. {Coll. A. Torkey}.

World distribution : Kenya, Tanzania, Saudi Arabia, Yemen and Oman.

Genus *Sphaeroderma* Stephens, 1831

Synonyms (after Konstantinov & Vandenberg, 1996).

Sphaeroderma Stephens, 1831, *Argosomus* Wollaston, 1867.

Diagnosis : Body small to medium sized, broadly oval. Colour orange-yellow, reddish brown, brown or black, usually without metallic lustre, with spots or stripes on elytra.

Head hypognathous, broadly oval, flat from lateral view. Frontal ridge comparatively narrow, sometimes flat, forming elevated angular T-shaped ridge. Antennal calli separated from each other, slightly raised and slightly separated from frontal ridge and laterally, strongly delineated from vertex by deep furrows. Pronotum wide, narrowly explanate laterally. Procoxal cavity open behind. Intercostal prosternal process narrow, narrowly explanate posteriorly. Mesosternum broad and short. Elytra broad, oval, irregularly punctate. Epipleuron subhorizontal, almost reaching elytral apex. Metafemora typical. All tibiae comparatively short, thickened apically. Metatibia subcylindrical, apical 1/3 flat, with irregular longitudinal ridges and long bristles along

dorsolateral margin. Metatarsus inserted apically. First metatarsal segment comparatively short, shorter than the following three and not longer than the following two segments combined.

***Sphaeroderma rubidum* (Graells, 1858) (Pl. IV, fig. 4 A & B)**

Synonyms (after Gruev & Doberl, 1997).

Argopus rubidus Graells, 1858, *Sphaeroderma ocularia* Allard, 1860, *Sphaeroderma rubidum* var. *testaceum* Kuhnt, 1913, *Sphaeroderma nitidum* Portevin, 1934, *Sphaeroderma rubidum* ab. *gyllehali* Csiki & Heikertinger, 1940, *Sphaeroderma rubidum gyllehali* Muller, 1953.

Diagnosis : Body reddish brown. Head impunctate, 1st antennal segment prolonged and longer than each of the following segments, 2nd shorter than others, 6th – 10th slightly broadened apically. Pronotum wide basally and narrow apically, anterior angles rounded, posterior angles pointed. Elytra with irregular, fine and dense punctation, epipleura wide basally and thin apically.

Material examined : 4 specimens from Lebanon {Coll. Society}.

World distribution : Worldwide.

Remark : This species was recorded during Nov., from Ismailia (Egypt) (Alfieri, 1976).

REFERENCES

1. Alfieri, A. 1976. The Coleoptera of Egypt. Bull. Soc. Ent. Egypt, 5 : 225 – 238.
2. Furth, D. 1979. Zoogeography and host plants ecology of the Alticinae of Israel, especially *Phyllotreta* : with Description of three new species (Col.: Chrysomelidae). Israel J. Zool., 28 : 1 – 37.
3. ----- 1980b. Zoogeography and host plants of *Longitarsus* in Israel, with Description of six new species (Col. : Chrysomelidae). Israel J. Ent., 13 : 79 – 124.
4. Gressitt, J. L. and S. Kimoto, 1963. The Chrysomelidae(Col.) of China and Korea, Part 2. Pacific Insects Monograph, 1B : 301 – 1026.
5. Kimoto, S. 1965b. The Chrysomelidae of Japan and Ryukyu Islands VIII. (Alticinae). Jor. Fac. Agr., Kyushu Univ., 13 (1) : 401 – 429.
6. ----- 1965c The Chrysomelidae of Japan and Ryukyu Islands IX. (Alticinae). Jor. Fac. Agr., Kyushu Univ., 13 (1) : 431 – 459.
7. ----- 1966a. The Chrysomelidae of Japan and Ryukyu Islands X. (Alticinae). Jor. Fac. Agr., Kyushu Univ., 13 (4) : 601 – 633.
8. Kimoto, S. and J. L. Gressitt, 1966. The Chrysomelidae of the Ryukyu Archipelago. Pacific Insects, 8(2) : 467 – 577.
9. Konstantinov, A. S. and N. J. Vandenberg, 1996. Handbook of Palearctic Flea Beetles (Coleoptera : Chrysomelidae), 238 – 439.

10. Medvedev, L. and E. Roginskaya, 1988. Catalog of Leaf Beetles host plants of the USSR fauna. Moscow, 191 pp.
11. Samuelson, G. A. 1965. Alticinae of New Guinea I. *Micrepitrix* (Coleoptera:Chrysomelidae). Pacific Insects, 7(2) : 219 – 224.
12. ----- 1966. Alticinae of New Guinea II. *Amphimeloides* (Coleoptera : Chrysomelidae). Pacific Insects, 8(2) : 403 – 445.
13. ----- 1967. Alticinae of the Solomon Islands (Coleoptera: Chrysomelidae). Pacific Insects, 9(1) : 139 - 174.
14. ----- 1969. Alticinae of New Guinea, HI. *Schenklingia* and allies (Coleoptera: Chrysomelidae). Pacific Insects, 11(1) : 33 – 47.
15. ----- 1971. Alticinae of New Guinea IV (Coleoptera: Chrysomelidae). Pacific Insects, 13(3 - 4) : 513 – 518.
16. ----- 1973. Alticinae of Oceania (Coleoptera. Chrysomelidae). Pacific Insects Monograph, 30 : 1 – 165.
17. ----- 1975. Alticinae of Oceania, Supplement 1. Pacific Insects, 16(4) : 463 – 464.
18. Scherer, G. 1960. Beitrag zur Kenntnis der Alticiden fauna Brasiliens (Col. Phytophaga.). Entomologische Arbeiten aus dem Museum G. Frey, 11(1): 180 – 272.
19. ----- 1961. Bestimmungsschlüssel der Alticinen-Genera Afrikas (Col. Phytoph.). Entomologische Arbeiten aus dem Museum G. Frey, 12(1) : 251 – 289.
20. ----- 1962a. Beitrag zur Kenntnis der Alticiden-Fauna Zentral Afrikas (Coleoptera Chrysomelidae Alticinen). Annales Musee Royal de l'Afrique Centrale, Tervuren, Serie in- 8 Sciences Zool., 113 : 1 – 82.
21. ----- 1962b. Bestimmungsschlüssel der neotropischen Alticinen- Genera (Coleoptera: Chrysomelidae: Alticinae). Entomologische Arbeiten aus dem Museum G. Frey, 13(2) : 497 – 607.
22. ----- 1963. Beitrag zur Kenntnis der Alticiden fauna Afrikas. (Coleoptera, Chrysomelidae, Alticinae). Entomologische Arbeiten aus dem Museum G. Frey, 14(2) : 648 – 684.
23. ----- 1969. Die Alticinae des indischen Subkontinentes (Coleoptera-Chrysomelidae). Pacific Insects Monograph, 22 : 1 – 251.
24. ----- 1983. Diagnostic key for the Neotropical Alticine Genera (Coleoptera:Chrysomelidae: Alticinae). Ent. Arbeiten aus dem Museum G. Frey, 31/32 : 1 – 89.

PLATE I

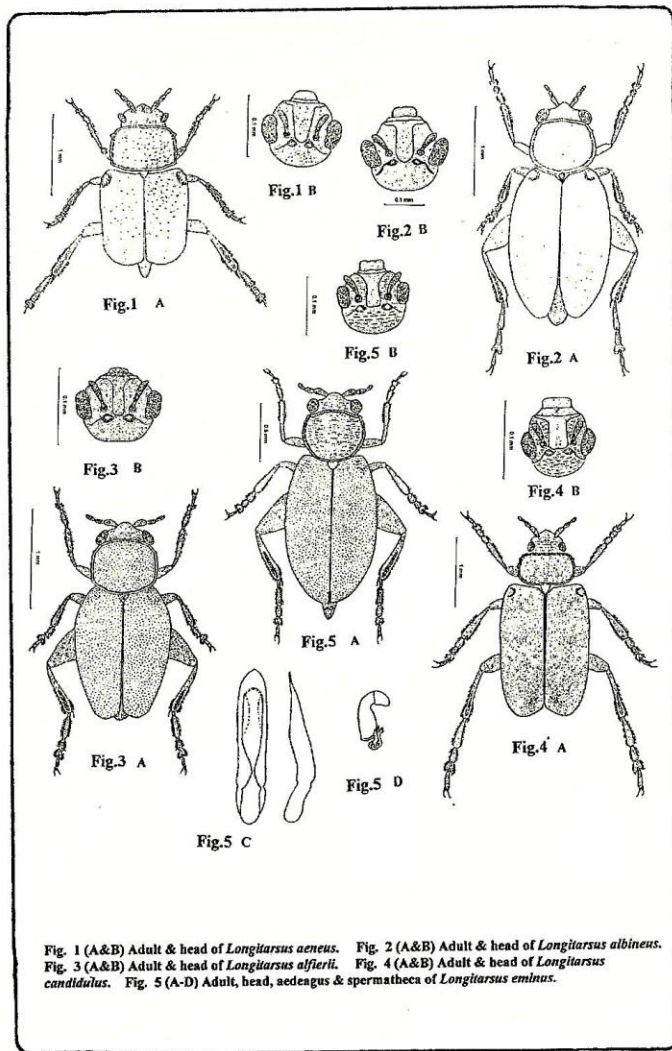


PLATE II

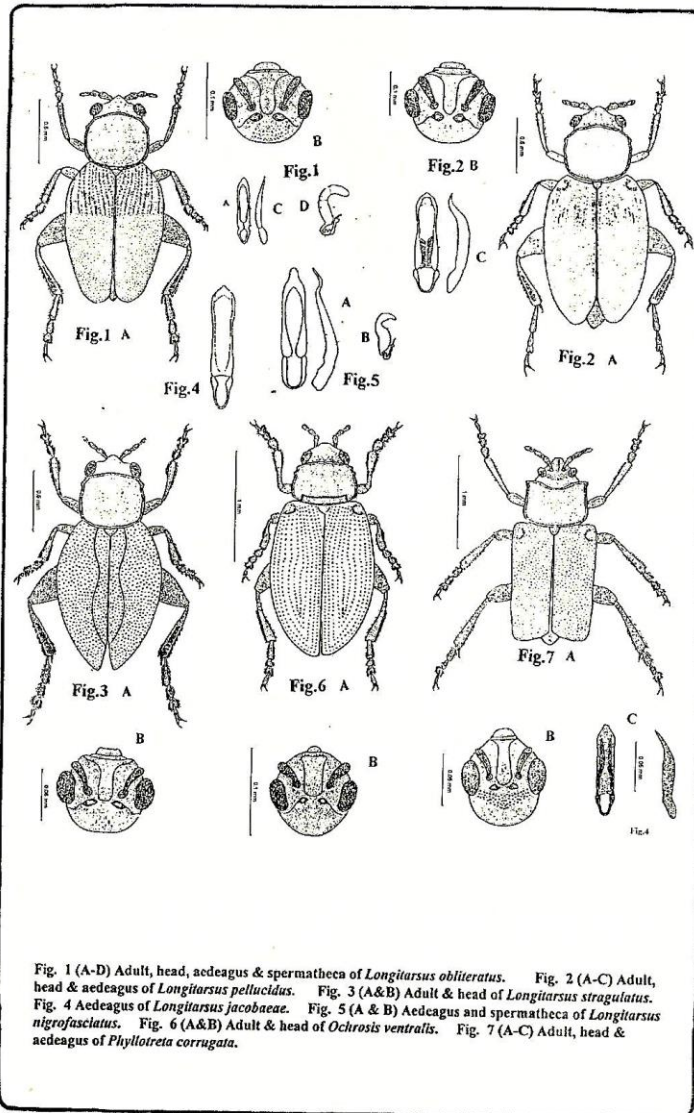


PLATE III

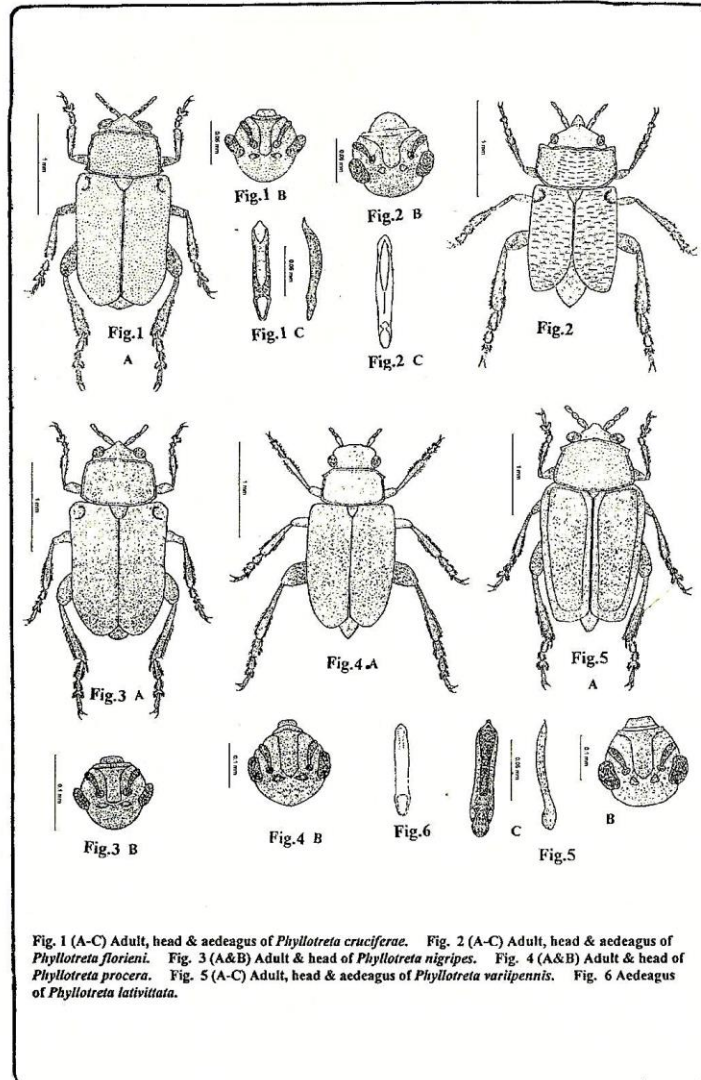
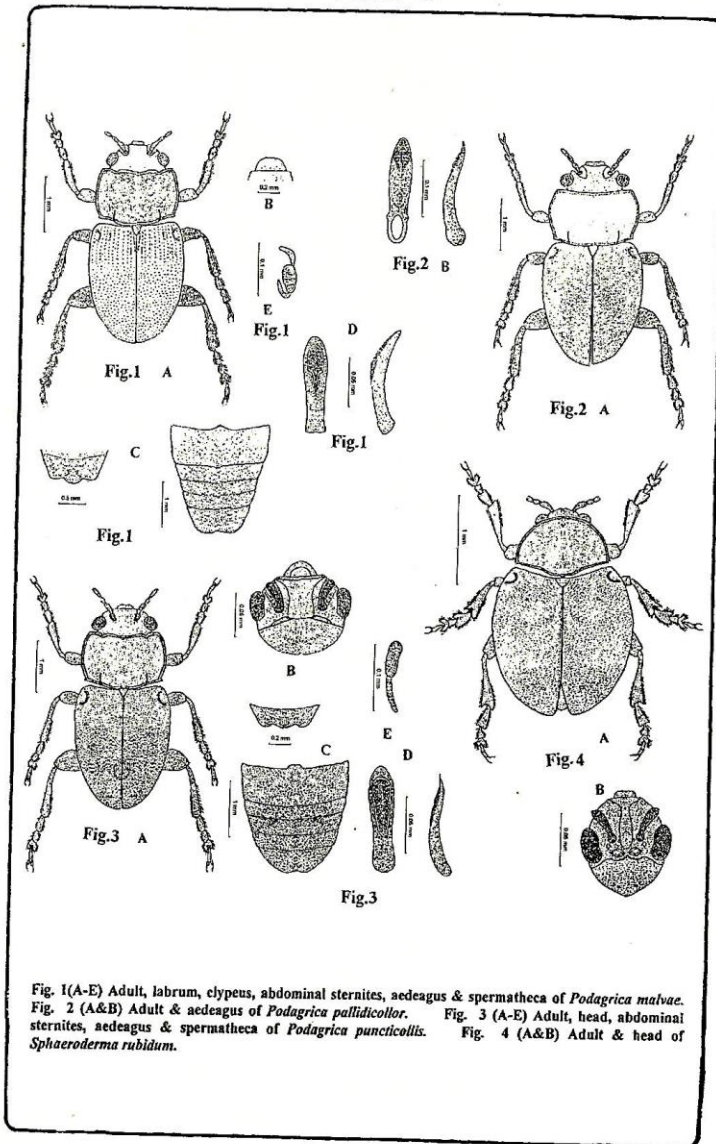


PLATE IV



تصنيف تحت فصيلة ألتيسينى (كريزوميلىدى - غمدية الأجنحة)
الجزء الثانى - الأجناس: لونجستارسس ، أوكروسيس ، فيلونريتا ،
بوداجريكا وسفيروديرما

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تحت فصيلة ألتيسينى تمثل فى مصر بأربعة و أربعين نوعا يتبعون ثلاثة عشر جنسا. تم دراسة و تصنيف إحدى و عشرون نوعا بالاضافة إلى ثلاثة أنواع كنتسجيلات جديدة فى الجزء الأول من هذه الفصيلة. تمثل هذه الدراسة تغطية الجزء المتبقى من الفصيلة و الذى يضم ثلاثة و عشرون نوعا فى خمسة أجناس بالاضافة إلى نوعين تم تسجيلهما لأول مرة فى مصر خلال هذا العمل. تم تحديد الوضع التصنيفى الحديث لهذه المجموعة من الحشرات، مع عرض للصفات المميزة للأنواع المدروسة مدعمة برسوم إيضاحية دقيقة، و مفتاح للفصل بين الأنواع الممثلة فى كل جنس.