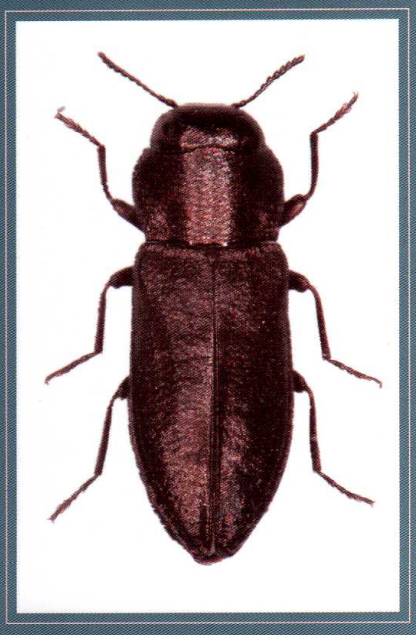
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A revision of the *Anthaxia* (*Anthaxia*) *funerula* species-group (Coleoptera: Buprestidae: Anthaxiini)

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Abstract. The *Anthaxia* (*Anthaxia*) *funerula* (Illiger, 1803) species-group is revised and 11 new species and four new subspecies are described and illustrated: *A.* (*A.*) *bercedoi* **sp. nov.** (Spain), *A.* (*A.*) *depressifrons* **sp. nov.** (Algeria), *A.* (*A.*) *fesana* **sp. nov.** (Morocco), *A.* (*A.*) *genistae* **sp. nov.** (Algeria), *A.* (*A.*) *hepneri* **sp. nov.** (Morocco), *A.* (*A.*) *lucia* **sp. nov.** (Spain), *A.* (*A.*) *mogadorica* **sp. nov.** (Morocco), *A.* (*A.*) *oborili* **sp. nov.** (Morocco), *A.* (*A.*) *pseudofunerula* **sp. nov.** (Morocco), *A.* (*A.*) *pseudogenistae* **sp. nov.** (Algeria), *A.* (*A.*) *verdugoi* **sp. nov.** (Morocco), *A.* (*A.*) *spinolae helladis* **subsp. nov.** (Greece), *A.* (*A.*) *spinolae hesperica* **subsp. nov.** (Algeria, Morocco, Tunisia), *A.* (*A.*) *spinolae rifensis* **subsp. nov.** (Morocco) and *A.* (*A.*) *tazaotana subatlassica* **subsp. nov.** (Morocco). New combination (*A.* (*A.*) *bedeli peloponesiaca* Obenberger, 1938, **comb. nov.**) and new statuses (*A.* (*A.*) *bedeli bedeli* Abeille de Perrin, 1893, *A.* (*A.*) *luctuosa* Lucas, 1849 and *A.* (*A.*) *tazaotana tazaotana* Cobos, 1955, **stat. nov.**) are suggested and 5 new synonyms are proposed: *A.* (*A.*) *cleopatra* Obenberger, 1913 = *A.* (*A.*) *glabrifrons freyi* Théry, 1939, **syn. nov.**, *A.* (*A.*) *ghazi* Obenberger, 1938 = *A.* (*A.*) *khnzoriani* Kalashian, 1988, **syn. nov.**, *A.* (*A.*) *impunctata* Abeille de Perrin, 1909 = *A.* (*A.*) *nereis* Schaefer, 1938, **syn. nov.**, *A.* (*A.*) *schoenmanni* Novak, 1984 = *A.* (*A.*) *mahri* Novak, 1984, **syn. nov.** and *A.* (*A.*) *tazaotana tazaotana* Cobos, 1955 = *A.* (*A.*) *funerula taddertensis* Baudon, 1958, **syn. nov.** Lectotypes are designated for *A.* (*A.*) *chevrieri* Gory & Laporte de Castelanu, 1839, *A.* (*A.*) *cleopatra* Obenberger, 1913, *A.* (*A.*) *funerula vseteckai* Obenberger, 1940, *A.* (*A.*) *impunctata* Abeille de Perrin, 1909 and *A.* (*A.*) *pygmaea* Brullé, 1832. All species of the group are illustrated and keyed and all available bionomical and distributional data are presented as well as the list of all specimens studied. A short catalogue of the species is included.

Taxonomy, Coleoptera, Buprestidae, Anthaxiini, *Anthaxia* (*Anthaxia*) *funerula* species-group, new species, new subspecies, new synonymy, lectotype designations, resurrections, western Palaearctic region

Introduction

Although the *Anthaxia* (*Anthaxia*) *funerula* species-group forms a rather well-defined group within the nominate subgenus *Anthaxia* Eschscholtz, 1829, the interpretation of species has varied in both classic and recent publications depending on the opinions of various authors. The group has been treated several times in the course of the last century (e.g. Abeille de Perrin, 1909; Schaefer, 1938, 1949; Obenberger, 1917, 1938; Cobos, 1965; Bílý, 1973; Niehuis, 1981; Novak, 1984; Brandl, 1993) and additionally several new species have been separately described quite recently. Unfortunately these studies ignored the historical type material and this

has caused the confusing situation within the group. Consequently, the interpretation of the species included was different in all comprehensive catalogues or monographs dealing with the buprestid fauna of the western Palaearctic (Obenberger, 1930; Théry, 1928, 1942; Schaefer, 1949, 1971; Richter, 1949; Cobos, 1986; Niehuis, 1988; Curletti, 1994; Bílý, 1997; Mühle, Brandl, Niehuis, 2000; Arnáiz & Bercedo, 2002; Brechtel & Kostenbader, 2002; Muskovitz & Hegyessi, 2002; Sakalian, 2003; Verdugo, 2005). Moreover Obenberger (1938) described several infrasubspecific taxa within the group which must be treated as unavailable names accordingly to the Code (ICZN, 1999) because he strictly distinguished in this work species, subspecies and infrasubspecific taxa (varieties and aberrations).

After having studied the syntypes of *A.* (*A.*) *funerula* (Illiger, 1803), I found this species to be distributed only in the southern portion of the Iberian Peninsula and missinterpreted and mixed with *A.* (*A.*) *chevrieri* Gory & Laporte de Castelnau, 1838 in Eastern, Central and Southern Europe (Bílý, 2002). This fact and the confused situation within the group, together with the totally different interpretations of the species used by various authors initiated this revision.

The group was partly characterised by Cobos (1965), Bílý (1973) and also by Richter (1949) as a part of his subgenus *Euanthaxia* Richter, 1949. At present the *A.* (*A.*) *funerula* species-group can be characterised as follows:

- small to medium-sized, usually dark bronze species sometimes with green lustre, rarely dark blue, blue-violet or black species;
- dorsal pubescence absent only head rarely with extremely short, nearly indistinct, white pubescence, setae usually shorter than the diameter of frontal cells;
- body flattened, rarely slightly convex, elytra subparallel, pronotum usually enlarged in anterior third, sometimes wider than elytra;
- frons flat, more or less grooved medially, rarely slightly convex;
- vertex 1.2-2.0 times as wide as width of eye, inner margins of eyes distinctly S-shaped;
- antennae short, hardly reaching posterior third of lateral pronotal margins, serrate to trapezoid from fourth antennomere;
- pronotal sculpture consisting of fine polygonal cells usually without central grains, lateral portions of pronotum sometimes with slightly prolonged cells, central portion of pronotum usually with rather indistinct ocellation, rarely with very fine, transverse rugae;
- laterobasal pronotal depressions usually well-developed, rarely nearly misssing;
- elytra nearly parallel-sided, rarely slightly wedge-shaped, usually only moderately convex;
- elytral apex with or without deep punctures or apical pores along the elytral margin, in some cases pores are deep and nearly merging each other and overlapped by dorsal surface of elytra (Figs 52-55, 94-95);
- elytral sculpture consisting only of fine microsculpture;
- legs relatively short, male metatibiae emarginate and serrate on inner margin (Figs 32-49) or rarely not modified, female metatibiae straight or feebly bent outwards (Figs 50-51), claws fine, short and very slightly enlarged at base;
- anal ventrite obtusely or sharply rounded in both sexes, very often with shallow, V-shaped depression following lateral margins of ventrite, in females sometimes indistinctly notched medially;
- aedeagus (Figs 1-31) usually subparallel, sometimes more or less spindle-shaped, membraneous apical portion of parameres well-developed; median lobe simple or with lateral (rarely dorsolateral) serration; aedeagus is more or less bent or arched dorsoventrally in most species (Fig. 30) but this character is rather variable within one species;

- sexual dichromatism slightly developed and expressed only by different coloration of frons in some species, very often not developed;
- western Palaearctic species with the centre of distribution in western Mediterranean area;
- larvae of the most species develope in Fabaceae, less frequently in Asteraceae.

From the morpho-ecological viewpoint, the group can be divided into three subgroups:

A Medium-sized, blue, blue-violet or blue-black (rarely blue-green), flattened species with rather deeply grooved frons and conspicuously enlarged pronotum with well-developed laterobasal depressions; male metatibiae not modified, aedeagus long and subparallel, median lobe without lateral serration (Figs 21-22), elytral apex with deep, simple apical pores; sexual dichromatism undeveloped; development in Asteraceae.

A. (*A.*) *bedeli bedeli* Abeille de Perrin, 1893 ..... → p. 13
A. (*A.*) *bedeli peloponesiaca* Obenberger, 1938 ..... → p. 14
A. (*A.*) *cyanescens* Gory, 1841 ..... → p. 12

B Small, convex, stout and usually bronze species; frons usually convex or flat with indistinct medial groove, laterobasal pronotal depressions poorly developed or indistinct; male metatibiae not modified, aedeagus short, spindle-shaped, median lobe without lateral serration (Figs 25-29), elytral apex without deep apical pores; frons of male and female often differently coloured; development in Asteraceae, rarely in Fabaceae.

A. (*A.*) *elberti* Brandl, 1993 ..... → p. 16
A. (*A.*) *ghazi* Obenberger, 1938 ..... → p. 17
A. (*A.*) *hozaki* Bílý, 1973 ..... → p. 18
A. (*A.*) *impunctata* Abeille de Perrin, 1909 ..... → p. 15
A. (*A.*) *tractata* Abeille de Perrin, 1901 ..... → p. 19

C Small or medium-sized, moderately flattened and bronze (rarely green-bronze or black) species; frons flat or slightly convex, usually feebely grooved; elytra with well-developed, deep, apical pores; male metatibiae always modified (Figs 32-49), aedeagus long and slender, subparallel or slightly spindle-shaped, median lobe with lateral (rarely dorso-lateral) serration (Figs 1-20, 22-24, 30-31); development in Fabaceae, less often in Asteraceae.

A. (*A.*) *blascoi* Murria & Murria, 2005 ..... → p. 22
A. (*A.*) *chevrieri* Gory & Laporte de Castelnau, 1839 ..... → p. 24
A. (*A.*) *cleopatra* Obenberger, 1913 ..... → p. 40
A. (*A.*) *funerula* (Illiger, 1803) ..... → p. 20
A. (*A.*) *gianassoi* Curletti & Magnani, 1992 ..... → p. 42
A. (*A.*) *luctuosa* Lucas, 1849 ..... → p. 44
A. (*A.*) *mamorensis* Théry, 1930 ..... → p. 39
A. (*A.*) *mendizabali* Cobos, 1965 ..... → p. 36
A. (*A.*) *meronica* Bílý, 1995 ..... → p. 45
A. (*A.*) *rungsi* Baudon, 1958 ..... → p. 45
A. (*A.*) *schoenmanni* Novak, 1984 ..... → p. 43
A. (*A.*) *spinolae spinolae* Gory & Laporte de Castelnau, 1839 .... → p. 28
A. (*A.*) *spinolae helladis* **subsp. nov.** ..... → p. 31
A. (*A.*) *spinolae hesperica* **subsp. nov.** ..... → p. 32
A. (*A.*) *spinolae rifensis* **subsp. nov.** ..... → p. 34
A. (*A.*) *tazaotana tazaotana* Cobos, 1955 ..... → p. 41
A. (*A.*) *tazaotana subatlassica* **subsp. nov.** ..... → p. 42
A. (*A.*) *bercedoi* **sp. nov.** ..... → p. 23
A. (*A.*) *depressifrons* **sp. nov.** ..... → p. 50
A. (*A.*) *fesana* **sp. nov.** ..... → p. 54
A. (*A.*) *genistae* **sp. nov.** ..... → p. 47

A. (*A.*) *hepneri* **sp. nov.** ..... → p. 46
A. (*A.*) *lucia* **sp. nov.** ..... → p. 35
A. (*A.*) *mogadorica* **sp. nov.** ..... → p. 49
A. (*A.*) *oborili* **sp. nov.** ..... → p. 53
A. (*A.*) *pseudofunerula* **sp. nov.** ..... → p. 22
A. (*A.*) *pseudogenistae* **sp. nov.** ..... → p. 48
A. (*A.*) *verdugoi* **sp. nov.** ..... → p. 51

Variability of the coloration is only poorly developed within the group except for the members of subgroup A which can vary from bright blue or violet to blue-green, green-bronze, bronze as far as to black. The rest of the species are unicolorously bronze or black but sometimes they can possess a green tinge on the pronotum. On the countrary, the variability of the male metatibiae in some species is curious; in *A.* (*A.*) *spinolae spinolae* Gory & Laporte de Castelnau, 1839 the form of male metatibiae varies in such a way that without checking a large quantity of specimens from the entire area, one can hardly believe in the conspecificity of some specimens (Fig. 56). This variability does not depend on the distribution of the species although the most enlarged tibiae were observed in the western populations. Nevertheless in one population (Fig. 57) nearly all forms of the tibiae can be found. It seems that the form of the male metatibiae in *A.* (*A.*) *spinolae spinolae* depends more on the size of specimens: the larger specimens the more enlarged and flattened metatibiae. It is interesting that in other species with much wider distribution (*A. mendizabali*, *A. chevrieri*), the form of male metatibiae does not vary.

The *A.* (*A.*) *funerula* species-group is closely related to both *A.* (*A.*) *glabrifrons* Abeille de Perrin, 1900 and *A.* (*A.*) *amasina* Daniel, 1903 species-groups. All three groups form one rather distinct branch of the subgenus *Anthaxia*, the development of which is connected with Fabaceae and Asteraceae. The *A.* (*A.*) *glabrifrons* group includes west Mediterranean species (*A. eggeri* Brandl, 2003 (?), *A. glabrifrons* Abeille de Perrin, 1900, *A. pardoi* Cobos, 1966, *A. retamae* Bílý, 1955) and *A.* (*A.*) *amasina* group includes east Mediterranean species (*A. alfieri* Théry, 1929, *A. amasina amasina* Daniel, 1900, *A. amasina maceki* Bílý, 1980, *A. idae* Obenberger, 1938, *A. tragacanthi* Khnzorian, 1957) and both of these species-groups differ from the *A.* (*A.*) *funerula* group by 1) completely asetose and usually lustrous, robust and convex body, 2) shape and sculpture of pronotum which usually bears central grains and 3) by the form of the male metatibiae and genitalia.

I have been gathering material for the present revision for years and I have studied thousands of specimens to be sure that some species are really so variable and others not but first of all I wanted to study all type material including notoriously known synonyms. Finally I have gathered all possible types except for the type of *A.* (*A.*) *banatica* Gory, 1841 (currently a synonym of *A. chevrieri*); this species was described from the collection of Dejean and the type specimen disappeared, probably into some local or private collection. The situation is discussed in the treatment of *A.* (*A.*) *chevrieri* below.

Measurements. The length of specimens was measured from the frons to the apex of the elytra, the width of species means the width of pronotum because in many species of the group the pronotum is the widest body-part.

Locality data for the type specimens are cited "verbatim", data on separate labels are divided by double slash (//) and the explanatory notes are enclosed in [square brackets]; data in the paragraphs "Further material studied" are slightly modified (e.g. provinces are added, citation is unified). The following codents are used for the deposition of the type specimens and material studied:

Institutions:

ABCB André Baudon's collection, Museum Béziérs, France;
ESUE Erewan State University, Armenia;
MMBC Moravian Museum, Brno, Czech Republic;
MNHN Muséun national d'Histoire Naturelle, Paris, France;
MNMS Museo Nacional de Ciencias Naturales, Madrid, Spain;
MSNC Museo Civico di Storia Naturale, Carmagnola, Italy;
NHMB Naturhistorisches Museum, Basel, Switzerland;
NMPC National Museum, Prague, Czech Republic;
NMWC National Museum of Wales, Cardiff, England;
ZINC Zoological Museum, Academy of Sciences, St. Petersburg, Russia;
ZMAN Zoologisk Museum, Amsterdam, The Netherlands;
ZMHB Museum für Naturkunde, Berlin, Germany;
ZSMC Zoologische Staatssammlung, Munich, Germany.

Private collections:

coll. Andrš ..... Andrš, Prague, Czech Republic;
coll. Arnaiz & Bercedo Lucía Arnaiz Ruiz and Pablo Bercedo Páramo, Vegas del Condado, Spain;
coll. Baiocchi ..... Daniele Baiocchi, Rome, Italy;
coll. Barries ..... Wolfgang Barries, Vienna, Austria;
coll. Brandl ..... Peter Brandl, Kolbermoor, Germany;
coll. Curletti ..... Gianfranco Curletti, Carmagnola, Italy;
coll. Gianasso ..... Domenico Gianasso, Castelnuovo don Bosco, Italy;
coll. Gigli ..... Maurizio Gigli, Rome, Italy;
coll. Kabátek ..... Petr Kabátek, Prague, Czech Republic;
coll. Kafka ..... Marek Kafka, Neratovice, Czech Republic;
coll. Mühle ..... Hans Mühle, Munich, Germany;
coll. Murria ..... Francesco Murria, Zaragoza, Spain;
coll. Navrátil ..... František Navrátil, Borkovany, Czech Republic;
coll. Niehuis ..... Manfred Niehuis, Albersweiler, Germany;
coll. Obořil ..... Martin Obořil, Brno, Czech Republic;
coll. Škorpík ..... Martin Škorpík, Znojmo, Czech Republic;
coll. TICB ..... TAMMIN, Insecta collection, Brno, Czech Republic;
coll. Trojan ..... Ilja Trojan, Brno, Czech Republic;
coll. Verdugo ..... Antonio Verdugo, Cádiz, Spain;
coll. Zbuzek ..... Bořivoj Zbuzek, Prague, Czech Republic;
coll. Znamenáček ..... Zdeněk Znamenáček, Prague, Czech Republic.

Taxonomic part

Key to species of the *Anthaxia* (*Anthaxia*) *funerula* species-group

1 (6) Frons widely depressed or grooved; pronotum 1.8-2.0 times as wide as long, lateral portion of pronotum flattened; median lobe of aedeagus without lateral serration; dark blue, blue, blue-green or rarely dark bronze species with intensive silky lustre; no distinct sexual dichromatism; male metatibiae not modified, sometimes only with quite indistinct inner, apical serration; development in Asteraceae (subgroup A).

2 (3) Frons not very deeply grooved, pronotal sides more regularly rounded, maximum pronotal width at anterior third; pronotal sculpture consisting of dense basal microsculpture and regular, polygonal cells which are somewhat less distinct on medial part of pronotum; dark blue species; aedeagus – Fig. 22; 3.5-5.0 mm; France, Spain, Algeria, Morocco, Tunis ..... Fig. 60; ***A. (A.) cyanescens*** Gory → p. 12

3 (2) Frons deeply, widely grooved; pronotum strongly expanded anteriorly, maximum width at anterior fourth; only lateral portion of pronotum with ocellate sculpture, medial portion of pronotum rather lustrous with indistinct sculpture, sometimes with extremely fine, transverse rugae; blue, blue-violet, dark bronze or rarely black species with green lustre; pronotum rarely with 2-3 indistinct, black longitudinal stripes.

4 (5) Bright blue or indigo-blue species with 2-3 indistinct dark stripes on pronotum; pronotum strongly expanded anteriorly, about twice as wide as long; frons very deeply grooved medially; aedeagus like that of *A. bedeli bedeli*; 4.3-4.8 mm; Greece (Peloponesos and Crete) . ..... Fig. 59; ***A. (A.) bedeli peloponesiaca*** Obenberger → p. 14

5 (4) Blue, blue-green, green-bronze species, rarely black with green lustre; pronotum less expanded anteriorly, 1.75-1.90 times as wide as long; frons less deeply grooved medially; aedeagus – Fig. 21; 3.5-5.4 mm; France, Italy, Portugal, Spain, Switzerland, Algeria, Morocco, Tunisia .... Fig. 58; ***A. (A.) bedeli bedeli*** Abeille de Perrin → p. 13

6 (1) Frons flat, slightly convex or flat with shallow, medial groove; pronotum somewhat narrower, usually 1.6-1.7(2.0) times as wide as long, lateral portion of pronotum not flattened, with more or less distinct laterobasal depressions; male metatibiae simple or modified; median lobe of aedeagus with or without lateral serration; less microsculptured and usually bronze, smaller species with more or less developed sexual dichromatism (different coloration of frons); development in Fabaceae, rarely in Asteraceae.

7 (16) Body small, convex, stout; frons convex, rarely flat and grooved (*A. tractata*); elytra without deep apical pores; male metatibiae not modified; aedeagus short, widely spindle-shaped, median lobe without lateral serration (Figs 25-29) (subgroup B).

8 (9) Lateral margins of pronotum slightly S-shaped, shallowly emarginate before posterior angles; lateral portion of pronotum with regular, polygonal cells, laterobasal pronotal depressions shallow but distinct; only anterior portion of frons green in male, frons of female bronze; aedeagus – Fig. 29; 3.3-4.5 mm; France (incl. Corse), Italy (incl. Sardinia and Sicily), Spain ..... Fig. 64; ***A. (A.) impunctata*** Abeille de Perrin → p. 15

9 (8) Lateral pronotal margins rounded or straight before posterior angles; lateral portion of pronotum with prolonged cells forming short, longitudinal rugae; laterobasal pronotal depressions indistinct; frons of male differently coloured.

10 (13) Frons distinctly convex, sometimes with very feeble medial groove; pronotum convex; elytra 1.7-1.8 times as long as wide; more convex and stouter, bronze and less lustrous species.

11 (12) Frons very slightly convex, somewhat longitudinally depressed medially; sculpture of lateral portion of pronotum consisting of very prolonged cells forming long rugae; nearly entire frons blue-green in male; aedeagus – Fig. 28; 3.3-3.9 mm; Cyprus .... Fig. 63; ***A. (A.) hozaki*** Bílý → p. 18

12 (11) Frons regularly convex; sculpture of lateral portion of pronotum consisting of short, prolonged cells not forming distinct longitudinal rugae; frons of male bronze only with slight greenish tinge; aedeagus – Fig. 27; 3.2-4.3 mm; Greece (incl. Crete), Bosnia & Herzegovina .... Fig. 61; ***A. (A.) elberti*** Brandl → p. 16

13 (10) Frons flat, more or less grooved medially; pronotum less convex, somewhat flattened latero-posteriorly; elytra 1.8-1.9 times as long as wide; less convex and more slender, lustrous and bronze species with violet tinge.

14 (15) Vertex twice as wide as width of eye; pronotum 1.8-2.0 times as wide as long; violet tinge of dorsal surface more intensive; frons of male bronze-violet sometimes with green lustre anteriorly, entire head of female bronze; aedeagus – Fig. 26; 3.4-4.6 mm; Armenia, Georgia, Iran, Iraq ..... Fig. 65; ***A. (A.) tractata*** Abeille de Perrin → p. 19

15 (14) Vertex 1.5-1.6 times as wide as width of eye; pronotum 1.6-1.7 times as wide as long; smaller, slender and bronze species with feeble violet tinge; frons of male intensively blue-green, frons of female violet; aedeagus – Fig. 25; 3.0-4.1 mm; Israel, Jordania, Lebanon, Syria, Turkey, Armenia ..... Fig. 62; ***A. (A.) ghazi*** Obenberger → p. 17

16 (7) Body longer, usually more or less flattened; frons flat, slightly concave or convex with medial groove; elytra with deep apical pores (Figs 52-55, 94-95); male metatibiae modified (Figs 32-49); aedeagus long, slender, subparallel, median lobe with lateral or dorsolateral serration (Figs 1-20, 23-24, 30-31) (subgroup C).

17 (18) Robust, convex, matt species; frons with distinct white pubescence, setae longer than the diameter of frontal cells; vertex 1.8 times as wide as width of eye; pronotum convex, 1.8 times as wide as long, regularly rounded laterally and wider than elytra; pronotal sculpture nearly homogeneous consisting of small, polygonal cells with tiny but distinct central grains on lateral portion of pronotum; male metatibiae – Fig. 33; aedeagus – Fig. 20; 4.2-5.3 mm; C and E Spain ..... Fig. 76; ***A. (A.) lucia* sp. nov.** → p. 35

18 (17) Less robust and usually less convex, lustrous species; frons asetose or with extremely short, white pubescence, setae always much shorter than diameter of frontal cells; vertex 1.2-2.0 times as wide as width of eye; pronotum less convex, straight or emarginate before posterior angles, as wide as elytra or narrower; pronotal sculpture always without central grains, usually not homogeneous.

19 (32) Apex of elytra with large, deep, pit-shaped apical pores which are often nearly horizontally situated; several most-apical pores usually merging into each other forming a deep rim which is dorsally covered by short lobe of elytral surface (Figs 52, 95).

20 (21) Pronotum very convex, only 1.6 times as wide as long without laterobasal depressions; lateral sides of pronotum regularly rounded, only slightly emarginate before posterior angles; maximum pronotal width at midlength; aedeagus – Fig. 19; 4.2 mm; W Morocco .... Fig. 75; ***A. (A.) hepneri* sp. nov.** → p. 46

21 (20) Pronotum flattened, distinctly cordiform, 1.7-2.0 times as wide as long; maximum pronotal width at anterior third, laterobasal depressions more or less distinct.

22 (23) Reddish-bronze species; entire frons and anterior pronotal angles of male bright golden green, vertex red-bronze; vertex only 1.5-1.6 times as wide as width of eye; lateral pronotal sides deeply emarginate before posterior angles; aedeagus – Fig. 18; 3.2-4.0 mm; Libya, Tunisia, Algeria ..... Fig. 69; ***A. (A.) cleopatra*** Obenberger → p. 40

23 (22) Dark bronze species, frons of male (usually only anterior half) golden, blue-green or golden-blue, anterior pronotal angles of male only with golden green or golden lustre; vertex 1.8-2.0 times as wide as width of eye.

24 (27) Frons slightly convex with indistinct medial depression; vertex of male twice as wide as width of eye; frons of male blue-green; black-bronze species.

25 (26) More robust, stout species; pronotal sides widely rounded anteriorly and deeply emarginate before posterior angles; elytra 1.8 times as long as wide; aedeagus – Fig. 17; 4.1 mm; E Algeria ..... Fig. 73; ***A. (A.) genistae* sp. nov.** → p. 47

26 (25) Slender, less stout species; pronotal sides less rounded anteriorly and slightly emarginate before posterior angles; elytra less convex, 1.95 times as long as wide, slightly caudiform; aedeagus – Fig. 16; 3.3-3.5 mm; Morocco (Essaouira) ..... Fig. 81; ***A. (A.) mogadorica* sp. nov.** → p. 49

27 (24) Frons flat, distinctly grooved or depressed medially; vertex of male 1.6-1.9 times as wide as width of eye; frons of male golden green or dark green.

28 (29) Black-bronze species; frons widely depressed, vertex of male 1.9 times as wide as width of eye; anterior part of frons dark green in male; male metatibiae slender, somewhat bent outwards (Fig. 34); lateral portion of pronotum with regular, polygonal cells; aedeagus poorly sclerotised (Fig. 31); female unknown; 3.3 mm; Algeria (Tell Atlas) ..... Fig. 70; ***A. (A.) depressifrons* sp. nov.** → p. 50

29 (28) Bronze species; frons only slightly grooved medially, vertex 1.6-1.8 times as wide as width of eye; frons of male (often only its anterior part) golden green; male metatibiae straight, somewhat flattened (Fig. 35); antero-lateral portion of pronotum with somewhat prolonged ocellation; aedeagus dark, well-sclerotized.

30 (31) Frons very feebly grooved medially, vertex 1.7-1.8 times as wide as width of eye; pronotum less emarginate before posterior angles; aedeagus – Fig. 15; mountain subspecies; 3.8-5.2 mm; Morocco (High Atlas) ..... Fig. 91; ***A. (A.) tazaotana tazaotana*** Cobos → p. 41

31 (30) Frons deeply, distinctly grooved medially, vertex 1.6-1.7 times as wide as width of eye; pronotum deeply emarginate before posterior angles; aedeagus like that of *A. tazaotana tazaotana*; lowland subspecies; 3.3-5.2 mm; Morocco (Subatlassic plains) ..... Fig. 92; ***A. (A.) tazaotana subatlassica* subsp. nov.** → p. 42

32 (19) Apex of elytra with simple, deep or shallow pores; elytral disc regularly declining towards elytral apex without any lobe overlapping apical pores (Figs 53, 94).

33 (36) Bronze species with rather intensive green, golden green or brass lustre; lateral margins of pronotum arched or nearly straight in posterior half, hind pronotal angles very obtuse; maximum pronotal width usually at midlength or just before the middle, pronotum never cordiform; pronotal sculpture homogeneous, composed of small, regular, polygonal cells which are somewhat less distinct on central part of pronotum; male metatibiae only very finely serrate on inner margin (Fig. 36); parameres with long and narrow membraneous apical portion (Fig. 14).

34 (35) Pronotum about twice as wide as long; anal ventrite only slightly depressed along apical margin; aedeagus – Fig. 14; 3.5-5-5 mm; circummediterranean species reaching northernly Germany and N France ..... Fig. 79; ***A. (A.) mendizabali*** Cobos → p. 36

35 (34) Pronotum only 1.8 times as wide as long; anal ventrite deeply depressed along posterior margin forming rather deep V-shaped depression; male unknown; 4.2 (-4.8) mm; S Morocco ..... Fig. 85; ***A. (A.) rungsi*** Baudon → p. 45

36 (33) Bronze, dark bronze or nearly black species; lateral margins of pronotum straight or emarginate before posterior angles; maximum pronotal width usually at anterior third, pronotum often more or less cordiform; pronotal sculpture very often prolonged along lateral margins, medial part of pronotum with nearly indistinct ocellation or with very fine, transverse rugae; male metatibiae straight and very finely serrate or more or less emarginate on inner margin; parameres with wide and semilunar membraneous apical portion.

37 (44) Central part of pronotum microsculptured or with very fine, transverse rugae, always without distinct ocellation; median lobe of aedeagus with very fine, lateral or dorsolateral serration (Figs 11-13, 23).

38 (39) Pronotum 1.8 times as wide as long without basal, lateral emargination, posterior pronotal angles very obtuse-angled; ocellation along lateral pronotal margins prolonged, forming longitudinal rugae; male metatibiae straight with indistinct inner serration (Fig. 37); aedeagus – Fig. 13; 3.5-4.4 mm; Israel ..... Fig. 80; ***A. (A.) meronica*** Bílý → p. 45

39 (38) Pronotum 1.6-1.7 times as wide as long, lateral pronotal margins distinctly emarginate before posterior angles which are rectangular; lateral pronotal ocellation only very slightly prolonged; male metatibiae distinctly emarginate and/or serrate at apical part of inner margins (Figs 32, 38-39); North Africa.

40 (41) Prolonged, slender, black species with blue tinge and silky lustre; frons widely depressed, bright blue-green in male; apical elytral pores large and deep; male metatibiae – Fig. 32; aedeagus – Fig. 23; 3.4-4.5 mm; Algeria ..... Fig. 77; ***A. (A.) luctuosa*** Lucas → p. 44

41 (40) More robust, bronze, lustrous species; frons very slightly and shallowly depressed or flat (rarely finely convex); anterior part of frons only slightly greenish in male; apical elytral pores small and shallow.

42 (43) Larger, more robust species, elytra 1.8-1.9 times as long as wide; frons feebly depressed with very short and white, microscopic pubescence; male metatibiae – Fig. 38; aedeagus spindle-shaped (Fig. 12); 3.5-5.0 mm; Algeria, Morocco, Tunisia ..... Fig. 78; ***A. (A.) mamorensis*** Théry → p. 39

43 (42) Small, more slender species, elytra twice as long as wide; frons flat or slightly convex, asetose; male metatibiae – Fig. 39; aedeagus nearly parallel-sided (Fig. 11); 2.9-3.2 mm; W Morocco ..... Fig. 93; ***A. (A.) verdugoi*** **sp. nov.** → p. 51

44 (37) Entire pronotum with distinct, polygonal ocellation which is finer and less distinct on medial part of pronotum; median lobe of aedeagus usually with well-developed lateral serration (Figs 1-11).

45 (56) Male metatibiae flattened, more or less emarginate, often serrate on inner margin, usually with inner apical spine (Figs 40, 47, 56); female metatibiae slightly widened and somewhat bent outwards, never straight (Fig. 51).

46 (53) Lateral portion of pronotum with quite homogeneous sculpture composed of small, regular, polygonal cells; some cells can be somewhat prolonged but their margins never form longitudinal or oblique rugae; male metatibiae usually deeply emarginate preapically with inner, terminal spine (Figs 40, 47, 56a-e).

47 (48) Robust, bright bronze species; frons of male bright blue-green, pronotum with green tinge laterally; pronotum convex with well-developed laterobasal depressions and somewhat "swollen" anterior angles; male metatibiae – Fig. 40; aedeagus – Fig. 10; female unknown; 3.9-4.2 mm; E Algeria ..... Fig. 84; ***A. (A.) pseudogenistae*** **sp. nov.** → p. 48

48 (47) Less robust, more flattened, dark bronze or black species; frons of male golden green or blue-green only in anterior half; pronotum completely bronze, more flattened with shallow, sometimes nearly indistinct laterobasal depressions.

49 (50) Vertex 1.5-1.7 times as wide as width of eye; laterobasal pronotal depressions nearly indistinct; black-bronze or bronze species; male metatibiae – Fig. 47; aedeagus – Fig. 9; 3.7-5.0 mm; Morocco (Middle Atlas) ..... Fig. 82; ***A. (A.) oborili*** **sp. nov.** → p. 53

50 (49) Vertex 1.8-1.9 times as wide as width of eye; laterobasal pronotal depressions wide and shalow; bronze or black species.

51 (52) Completely black subspecies, female sometimes with slight bronze lustre; anterior half of frons blue-green in male; frons distinctly more depressed; male metatibiae and aedeagus like those in *A. spinolae spinolae*; 3.6-4.3 mm; Morocco (Rif) ..... Fig. 90; ***A. (A.) spinolae rifensis*** **subsp. nov.** → p. 34

52 (51) Dark bronze subspecies, pronotum of male sometimes with brass lustre; anterior half of frons golden green in male; frons less depressed; male metatibiae more or less flattened, widened and emarginate with inner apical, terminal spine but generally very variable (Figs 56a-e, 57); aedeagus – Fig. 24; 3.2-5.5 mm; France, Italy, Portugal, Spain ..... Figs 87, 96; ***A. (A.) spinolae spinolae*** Gory & Laporte → p. 28

53 (46) Lateral portion of pronotum with more or less prolonged cells forming very often fine longitudinal or oblique rugae; male metatibiae only slightly emarginate on inner margin (Fig. 56f-i); aedeagus like that in *A. spinolae spinolae*.

54 (55) Cells on lateral portion of pronotum form longitudinal or oblique rugae; male metatibiae more emarginate on inner margin, resembling those in *A. spinolae spinolae*; pronotum distinctly cordiform, its lateral margins distinctly emarginate before posterior angles; larger subspecies; 3.6-5.1 mm; Algeria, Morocco, Tunisia ..... Fig. 89; ***A. (A.) spinolae hesperica*** **subsp. nov.** → p. 32

55 (54) Cells on lateral portion of pronotum only slightly prolonged, not forming distinct rugae; male metatibiae only very slightly emarginate on inner margin (Figs 56f-g); pronotum less cordiform, usually straight before posterior angles; smaller and stouter subspecies; 3.4-4.2 mm; Croatia, Greece, Macedonia, Yugoslavia, Turkey ..... Fig. 88; ***A. (A.) spinolae helladis* subsp. nov.** → p. 31

56 (45) Male metatibiae straight, slender, unarmed or very finely serrate on inner margin (Figs 41-46, 48-49); female metatibiae straight and slender (Fig. 50).

57 (58) Short, stout, completely bronze species; vertex twice as wide as width of eye; male metatibiae – Fig. 48; aedeagus – Fig. 6; 4.0 mm; Morocco (Fes) ..... Fig. 71; ***A. (A.) fesana* sp. nov.** → p. 54

58 (57) Slender, convex, subcylindrical species or flattened species with anteriorly enlarged pronotum; vertex 1.2-1.6 times as wide as width of eye.

59 (60) Larger, less cylindrical, bronze species; pronotum very widened anteriorly, 1.8-2.0 times as wide as long with well-developed, broad laterobasal depressions; maximum pronotal width at anterior third; entire frons of male bright blue-green, anterior pronotal angles of male with green lustre; male metatibiae – Fig. 49; aedeagus – Figs 8, 30; 3.7-5.6 mm; central- and easterneuropean species reaching westernly NE Spain, easternly W Siberia and southernly W Turkey ..... Fig. 68, 97; ***A. (A.) chevrieri*** Gory & Laporte → p. 24

60 (59) Smaller, subcylindrical, bronze, green-bronze or black species; pronotum less widened anteriorly, 1.6-1.8 times as wide as long with poorly developed laterobasal depressions; maximum pronotal width just befor its midlength or at anterior third.

61 (64) Vertex 1.2-1.4 times as wide as width of eye; bright bronze or green bronze species; entire frons of male bright blue-green or golden green.

62 (63) Frons slightly convex, pronotum less widened anteriorly, only 1.6 times as wide as long, laterobasal depressions nearly indistinct; more slender species; male metatibiae – Fig. 41; aedeagus – Fig. 7; 3.6-4.6 mm; W Morocco ..... Fig. 74; ***A. (A.) gianassoi*** Curletti & Magnani → p. 42

63 (62) Frons flat, shallowly grooved medially, pronotum more widened anteriorly, broadly rounded at anterior half, 1.7-1.8 times as wide as long; laterobasal depressions wide but shallow; more robust species; male metatibiae – Fig. 42; aedeagus – Fig. 5; 3.1-4.5 mm; Crete ..... Fig. 86; ***A. (A.) schoenmanni*** Novak → p. 43

64 (61) Vertex 1.5-1.6 times as wide as width of eye; dark bronze or black species, only anterior third of frons of male blue-green or only with green lustre.

65 (66) Black, lustrous species, scutellum sometimes with metallic tinge; vertex 1.6 times as wide as width of eye; central part of pronotum with well-developed cells with very lustrous bottoms; frons shallowly but widely depressed medially; male metatibiae – Fig. 43; aedeagus – Fig. 4; 3.6-4.3 mm; Spain (Jaén) ..... Fig. 66; ***A. (A.) bercedoi* sp. nov.** → p. 23

66 (65) Dark bronze, matt species with silky lustre; vertex 1.5 times as wide as width of eye; central part of pronotum with poorly developed cells with microsculptured bottoms; frons flat or slightly convex with indistinct medial depression.

67 (68) Dark bronze or black-bronze species; elytral apex more acumined; aedeagus longer and strongly sclerotised (Fig. 2); male metatibiae – Fig. 44; 3.2-4.2 mm; Portugal, S Spain ..... Fig. 72; ***A. (A.) funerula*** (Illiger) → p. 20

68 (67) Bronze species sometimes with green lustre; elytral apex widely rounded; male metatibiae like those in *A. funerula*; aedeagus shorter and less sclerotised.

69 (70) Bronze species with rather intensive brass-green lustre; apical elytral pores very fine; lateral pronotal margins rounded, maximum pronotal width at anterior third; aedeagus – Fig. 1; 2.0-3.5 mm; E Spain ..... Fig. 67; ***A. (A.) blascoi*** Murria & Murria → p. 22

70 (69) Bronze species with silky lustre; apical elytral pores deep; lateral pronotal margins subparallel, slightly emarginate before posterior angles; aedeagus – Fig. 3; 3.3 mm; Morocco (Middle Atlas) ..... Fig. 83; ***A. (A.) pseudofunerula* sp. nov.** → p. 22

Subgroup A

Anthaxia (*Anthaxia*) *cyanescens* Gory, 1841

(Figs 22, **60**)

Anthaxia cyanescens Gory, 1841: 284, t. 47, f. 276.
Type locality: Spain, Andalusia.

Anthaxia aeneiventris Küster, 1850: No. 31.
Type locality: Spain, Granada.

This species has been very often mixed with the sympatric species *A.* (*A.*) *bedeli bedeli*. From the previous treatments of this species by Abeille de Perrin (1909), Obenberger (1938), Schaefer (1949), Cobos (1986) or Verdugo (2005), it is quite obvious that these authors had problems with the interpretation of these two species. Both species differ from each other in so many important characters (see the key) that their separation into two distinct species is quite necessary. *A.* (*A.*) *cyanescens* differs from both subspecies of *A.* (*A.*) *bedeli*, besides its subcylindrical body-shape with less enlarged pronotum and rougher elytral sculpture, also by different male genitalia (Fig. 22), less depressed frons and by ocellate sculpture of medial portion of pronotum (this part of pronotum is lustrous and very finely, transversely rugose in *A. bedeli*).

This species also varies much less in its coloration than *A.* (*A.*) *bedeli* and its matt blue colour varies usually only in the intensity of blue.

Bionomy. All published data concerning the host plant should be revised because of a frequent missinterpretation of *A.* (*A.*) *cyanescens* and *A.* (*A.*) *bedeli* but Schaefer (1951, 1953-1954, 1972) who distinguished both species very well, reared this species several times from *Eryngium campestre* (Apiaceae).

Type material studied. Holotype (♀, MNHN) labelled "Anthaxia cyanescens, Andalusia".
Further material studied. **France:** Alsace: Colmar, St. Marie, 1874 (1 ♂, MNHN); Bouches-du-Rhône: Eyguieres, Perrot leg. (1 ♂, 1 ♀, NMPC); Lamanon, 30.v.1950, Schaefer leg. (32 ♂♂, 15 ♀♀, MNHN; 5 ♂♂, NMPC); Gard: Le Cailar, v.1978, Schaefer leg. (7 ♂♂, 19 ♀♀, MNHN; 2 ♀♀, coll. Curletti; 1 ♀, NMPC); Le Cailar. v.1976, Schaefer leg. (1 ♂, coll. TICB); Hérault: Celleneuve, 5.v.1953, Schaefer leg. (1 ♂, MNHN); Cournonterral, v.1958, Schaefer leg. (1 ♂, 1 ♀, NMPC; 1 ♂, coll. TICB); Londres, 25.iv.1953, Schaefer leg. (2 ♂♂, coll. Curletti; 2 ♂♂, 2 ♀♀, NMPC); Viols-le-Fort, iv.1981, Schaefer leg. (6 ♂♂, MNHN; 4 ♀♀, coll. Niehuis; 1 ♀, coll. TICB); Var: Lorgues (1 ♂, MNHN); **Spain:** Andalusia: Antequera, 23.iii.1993, Pucholt leg. (3 ♂♂, 1 ♀, coll. Kafka); Granada (1 ♀, NMPC); Guadix, 19.v.1991, Snížek leg. (1 ♂, coll. Kafka); Málaga, Sierra Almijara, 15.v.1992, Hebauer leg. (1 ♀, coll. Niehuis); Puerto del Viento, 8.iv.1992, Hirschfelder leg. (1 ♀, coll. Niehuis); serrania de ronda, 27.iv.1996, Fric leg. (1 ♂, coll. TICB); Andalusia (no precise locality) (2 ♂♂, 1 ♀, NMPC; 1 ♀, MNHN); Aragón: Albarracin, 1200 m, vi.1925 (1 ♀, NMPC); Zaragoza, Calatayud, 4.iv.2005, Coralleno leg. (61 ♂♂, 39 ♀♀, MNHN); Cuenca: Cuenca, 22.iv.1996, Korb leg. (1 ♀, NMPC); Madrid: Madrid (1 ♂, 2 ♀♀, MNHN; 3 ♀♀, NMPC); Hispania (2 ♂♂, 2 ♀♀, NMPC); Spain: (no precise locality) (2 ♂♂, 2 ♀♀, NMPC); **Algeria:** Alger: Alger (1 ♂, MNHN); Atlas: Bône [Annaba], (1♂, MNHN); Teniet el Haad, v.-vi.1874, Panc leg. (1 ♀, MNHN); Teniet el Haad, Bedel leg. (1 ♂, 2 ♀♀, MNHN); Constantine: Berda, 28.iv.1981, Constantin leg. (1 ♂, coll. TICB); Hamma Bouirane, 6.iv.1971 (1 ♂, MNHN); Constantine (1 ♂, MNHN); Oran: Tlemcen, 23.v.1984, Strnad leg. (1 ♂, coll. Navrátil); Tell Atlas: Mascara, Cros leg. (1 ♀, MNHN); Medjez –

Amar, Clouet leg. (1 ♀, MNHN); Saida (1 ♀, MNHN); ALGERIA (no precise locality), Théry leg. (1 ♂, 1 ♀, MNHN); **Morocco:** Rif: Sébou, Théry leg. (3 ♂♂, 1 ♀, MNHN); Tanger: Tanger (1 ♀, NMPC); **Tunisia:** Susah: Masakin, 20.iv.1998, 1 ♂, MNHN); Deneš leg. (1 ♀, coll. Navrátil).

Distribution: France, Spain, Algeria, Morocco, Tunisia.

Anthaxia (*Anthaxia*) *bedeli bedeli* Abeille de Perrin, 1893, stat. nov.

(Figs 21, **58**)

Anthaxia bedeli Abeille de Perrin, 1893: 132.
Type locality: Algeria, Misserghin.

Anthaxia cyanescens var. *parthenopea* Obenberger, 1938: 209 (unavailable name).
Type locality: Italy, Sicily.

This species was described from two localities in Algeria (Misserghin and Isly [now part of Alger City]) but only one syntype was found in MNHN (syntype from Misserghin).

Anthaxia (*A.*) *bedeli* had been confused with *A.* (*A.*) *cyanescens* (see comments in *A. cyanescens* part) or treated as its subspecies (e.g. Schaefer, 1944b). In the most recent catalogues or revisions it is supposed to be only a subspecies of *A.* (*A.*) *cyanescens* (e.g. Cobos, 1986; Curletti, 1994; Bílý, 1997; Verdugo, 2005). After having studied the type specimen (MNHN) and historical specimens determined by the author, as well as the rich recent material, I can confirm that *A.* (*A.*) *bedeli* is a well-characterized, distinct species sympatric with *A.* (*A.*) *cyanescens*.

Besides the characters mentioned in the key, it differs from *A.* (*A.*) *cyanescens* by more flattened body, more widely enlarged pronotum with very large and deep laterobasal depressions, deeper frontal depression, different form of male genitalia (Fig. 21) and by finer elytral sculpture which causes the silky lustre of the species. One of the most important diagnostic characters is the sculpture of the central portion of pronotum which is composed of very fine, transverse rugae.

The colour variability of *A.* (*A.*) *bedeli bedeli* is much wider than that of *A.* (*A.*) *cyanescens* ranging from dark bronze, nearly black specimens to gray-green, blue as far as to bright blue-violet specimens; some individuals possess two (very rarely three) indistinct, longitudinal, pronotal spots.

Bionomy. Parallel to the situation in *A.* (*A.*) *cyanescens*, all published data on the bionomy should be revised since both species were often mixed together. The only reliable data were published by Schaefer (1944b) who indicated *Foeniculum vulgare* (Apiaceae) as a host plant of *A.* (*A.*) *bedeli*.

Type material studied. Syntype (♀, MNHN): "Misserghin, 22 Mai 88//Type// A. bedeli"; holotype of *A. cyanescens* var. *parthenopaea* (♂, NMPC) labelled "Sicilia".
Further material studied. **France:** Gard: Nimes (1 ♀, MNHN); Gallia: no precise locality (1 ♀, NMPC); **Italy:** Calabria: Amendola, 1.v.1991, Izzillo leg. (1 ♀, coll. Kafka); Puglia: Massa, 10.v.1988, Montemurro leg. (1 ♂, coll. Curletti); Villaggio Amendola, 20.iv.1998, Izzillo leg. (2 ♀♀, NMPC; 2 ♂♂, coll. Kafka; 1 ♂, 1 ♀, coll. Baiocchi); Sardinia: Sardinia (1 ♂, NMPC); Sicily: Agrigento, Bivona, 300 m, 30.iii.1971, Marozzini leg. (1 ♂, NMPC); Boccodella, 25.v.1981, Sparacio

leg. (1 ♂, coll. Curletti); Palermo, Bosco di Ficuzza, 6.v.1984, Sparacio leg. (1 ♂, 1 ♀, NMPC; 1 ♂, 1 ♀, coll. Baiocchi); SICILY (no precise locality) (2 ♂♂, 3 ♀♀, NMPC); ITALIA bor. (no precise locality) (1 ♂, NMPC); **Portugal:** Algarve: Silves Odelouca, 10.v.1999, Ziegler leg. (1 ♀, coll. Niehuis); Portimao, Ribeira da Boina, 13.iv.1995, Persohn leg. (1 ♂, coll. Niehuis); Faro: Albufeira, 25.iii.1993, Veldkamp leg. (1 ♀, coll. Kafka); Lisboa: Chelas, 26.iii.1993, Esteves leg. (6 ♂♂, 3 ♀♀, coll. Gigli); Lisboa, iv.1910, Schatzmayr leg. (1 ♂, NMPC); **Spain:** Andalusia: Cádiz, San Fernando, 25.iii.1993, Coello leg. (2 ♂♂, 1 ♀, coll. Kafka); Cádiz, 1898, Navarro leg. (1 ♀, NMPC); Cordoba, Hornachuelos, 12.v.2003, Tichý leg. (1 ♀, coll. Kafka); Cordoba, 24.iv.1991, Šárovec leg. (1 ♂, coll. TICB); Gaucín, 9.iv.1993, Hirschfelder leg. (2 ♂♂, 1 ♀, coll. Niehuis); Málaga, San Antonio, v.1946, Cobos leg. (5 ♂♂, 2 ♀♀, NMPC; 2 ♀♀, MNHN); Málaga, Carratracos, 25.iv.1988, Beness leg. (1 ♂, coll. Niehuis); Málaga, El Chorro, 15.iv.1992, Mertlík leg. (1 ♂, coll. TICB); Málaga (1 ♂, 2 ♀♀, MNHN); Otiva, 1.v.2005, 1000 m, Mehl leg. (2 ♀♀, NMPC); Ronda, 16.v.1979, Pospíšil leg. (1 ♂, 1 ♀, coll. Navrátil; 1 ♂, 1 ♀, NMPC); Sevilla, Lebrija, 11.v.1991, Snížek leg. (5 ♂♂, 2 ♀♀, coll. Kafka); Sierra Nevada, 10 km W of Mulhacén, 27.iv.1992, Košťál leg. (1 ♀, coll. TICB); Sierra Nevada, Niguelas, 28.iv.19921, Krajčík leg. (3 ♂♂, coll. Navrátil; 1 ♀, NMPC; 3 ♂♂, 2 ♀♀, coll. Kafka); Sierra Nevada, Pudules, 17.iv.1996, Šigut leg. (2 ♀♀, coll. TICB); Ronda, 20.v.1980, Gianasso leg. (2 ♀♀, coll. TICB); Tarifa, iv.1992, Poot leg. (1 ♂, ZMAN); ANDALUSIA (no precise locality) (1 ♀, NMPC); Lusitania: Alvito, iv.1999, Poot leg. (1 ♂, 2 ♀♀, ZMAN); Murcia, Canton, 8.iv.1994, Gijswijt leg. (3 ♀♀, ZMAN); Murcia: Algezares (1 ♂, MNHN); Cartagena, v.1903 (1 ♂, NMPC); Valencia: Jativa, 11.v.1979, Pospíšil leg. (1 ♀, coll. Navrátil); Sevilla: Puente Oral, 1.iv.2000, Navarro leg. (1 ♂, NMPC); Pego, 31.v.2000, Benedikt leg. (1 ♀, coll. Kafka); SPAIN (no precise locality) (1 ♂, NMPC); **Switzerland:** Jura: Dole, vii.1955 (1 ♀, NMPC); **Algeria:** Alger: Isly, 1888 (1 ♀, NMPC); Tipasa, Djebel Chenoua, 18.v.1984, Bílý leg. (1 ♂, 1 ♀, NMPC); Tlemcen, Sebdou, 18.v.1996, Tesař leg. (1 ♀, NMPC); Tlemcen, 24.iv.1987, Kubáň leg. (1 ♂, coll. TICB); Zeralda, 12.iv.1971 (1 ♀, NMPC); Atlas: Mascara, Cros leg. (3 ♂♂, 2 ♀♀, MNHN); Teniet el Haad, Vauloger leg. (2 ♀♀, MNHN; 1 ♂, NMPC); Oran: Misserghine, 22.v.1888 (1 ♂, 4 ♀♀, MNHN); Saharan Atlas: Batna,1.vi.1913, Pastuchova leg. (1 ♂, ZINC); Tell Atlas: Constantine, 22.v.1984 (1 ♂, 2 ♀♀, MNPC); Laverdure, 30.iv.1927, Mařan leg. (1 ♂, 1 ♀, NMPC); Les Trembles, 20.iii,1932 (1 ♂, 2 ♀♀, MNHN); Teniet (2 ♂♂, NMPC); Djebel Djurdjura, 1000-2000 m, 15.vi.1971, Hoffer & Horák leg. (1 ♂, NMPC); Bouira, 12.vi.1971, Hoffer & Horák leg. (1 ♂, 1 ♀, NMPC); Bouira, 25.iv.1986, Pacholátko leg. (1 ♀, coll. TICB); Souk Ahras, Gaulle leg. (1 ♀, MNHN); ALGERIA (no precise locality) (2 ♂♂, 1 ♀, NMPC; 1 ♂, MNHN); **Morocco:** Atlas: Oudja, Cobdu Jereda, 1100 m, 26.iii.2005, Gigli leg. (1 ♂, coll. Baiocchi; 1 ♀, coll. Gigli); Oudja (1 ♀, MNHN); Fes: Fes, 29.iii.1932, Meyer leg. (2 ♂♂, 2 ♀♀, NMPC); Meknes, 16.iii.1961, Lindberg leg. (1 ♀, NMPC); Moyen Atlas: Azrou, 30.iii.1982, Niehuis leg. (2 ♂♂, 3 ♀♀, coll. Niehuis; 1 ♀, coll. Curletti; 1 ♀, coll. TICB); Ifrane, 1600 m, 16.v.1980, Gianasso leg. (1 ♀, coll. Gianasso); Ouezzane: Ksiri, Théry leg. (1 ♂, 2 ♀♀, MNHN); Ouezzane, 14.v.1980, Gianasso leg. (2♀♀, coll. Curletti); Rabat: Sidi Kacem, 4.iv.1995, Snížek leg. (1 ♀, coll. Kafka); Rif: Chefchaouen, 4.iv.1993, Pucholt leg. (1 ♀, coll. Kafka); Tanger: Tanger, 20.v.1901, Stöcklein leg. (1 ♀, NHMB); Morocco: (no precise locality), 15.iv.1982, Niehuis leg. (1 ♂, NMPC); Morocco, Théry leg. (1 ♂, MNHN); **Tunis:** Tunis: Udna (1 ♂, NMPC).

Distribution: France, Italy, Portugal, Spain, Switzerland, Algeria, Morocco, Tunis.

Anthaxia (*Anthaxia*) *bedeli peloponesiaca* Obenberger, 1938, comb. nov.

(Fig. **59**)

Anthaxia cyanescens peloponesiaca Obenberger, 1938: 209.
Type locality: Greece, Peloponesos, Diakophta.

This subspecies was described from a single female (NMPC) from Peloponesos (Greece) as a subspecies of *A.* (*A.*) *cyanescens* and differs from the nominotypic subspecies by the extremely enlarged pronotum which is twice as wide as long, by more deeply grooved frons and by its bright indigo-blue or violet-blue coloration with 2-3 indistinct, dark pronotal stripes.

Evidently this is a very rare subspecies which was recently collected on Crete; nothing is known about the bionomy.

Type material studied. Holotype (♀, NMPC) labelled "Diakophta, Pelop., Mař. et Táb., iv.1936, Coll. Bartoň".

Further material studied. **Greece:** Crete: Kastelli, 22.iv.1995, Jacob leg. (1 ♂, NMPC); Loutraki, Osiou Patapio, 26.iv.1996, Ziegler leg. (1 ♀, coll. Niehuis); Peloponesos: Achaia, Diakopto, iv.2002, Novak leg. (1 ♀, coll. Kafka).

Distribution: Greece (incl. Crete).

Subgroup B

Anthaxia (*Anthaxia*) *impunctata* Abeille de Perrin, 1909

(Figs 29, **64**)

Anthaxia funerula var. *impunctata* Abelle de Perrin, 1909: 22 (available by ICZN, 1999).
Type locality: France, Hyeres.

Anthaxia funerula nereis Schaefer, 1938: 81, **syn. nov.**
Type locality: France, Corse, Porto Vecchio.

Although the species was described as a variety of *A.* (*A.*) *funerula*, the name is available accordingly to the Code (ICZN, 1999, Article 45.6.4.1) since this species has been alternatively treated by various authors as a subspecies of *A.* (*A.*) *funerula* (Bílý, 1997; Cobos, 1965; Schaefer, 1953-1954, 1972) or as a distinct species (Baudon, 1958a).

There are 8 syntypes of *A.* (*A.*) *impunctata* in MNHN (7 males and 1 female) labelled "Hyeres", except for 1 male which is labelled "Marseille". The well-preserved male labelled "Hyeres" with extracted genitalia I hereby designate as a lectotype and the remaining syntypes (6 males and 1 female) as paralectotypes.

Anthaxia (*A.*) *funerula nereis* was recently treated as a distinct species (Cobos, 1965; Bílý, 1997), endemic of Corse, but after having studied the lectotype and paralectotypes of *A.* (*A.*) *funerula* var. *impunctata* and the holotype of *A.* (*A.*) *funerula nereis* I failed to find any difference and I suppose both species to be conspecific, *A.* (*A.*) *funerula nereis* Schaefer, 1938 being a younger synonym of *A.* (*A.*) *funerula* var. *impunctata* Abeille de Perrin, 1909.

There is no doubt that *A.* (*A.*) *impunctata* is a separate, well-characterised species due to its stout, convex body, absence of apical, elytral pores and quite characteristic form of male genitalia (Fig. 29). This species seems not to be very common, except for Corsica where it is the most common species of the group, and it is a western vicariant of other species of subgroup B (*A. elberti*, *A. ghazi*, *A. hozaki* and *A. tractata*).

Bionomy. Schaefer reared this species (sub *A. nereis*) from *Genista corsica* (Fabaceae) and the same host plant is mentioned in the description (Schaefer, 1938).

Type material studied. Lectotype (♂, MNHN) and 7 paralectotypes (6 ♂♂, 1 ♀, MNHN) of *A. funerula* var. *impunctata*; holotype of *A. nereis* (♂, coll. Schaefer in MNHN) labelled "Corse, Porto Vecchio, 31.v.1938, L. Schaefer".

Further material studied. **France:** Bouches-du-Rhône: Saint Chamas, v.1931, Schaefer leg. (1 ♀, coll. Gianasso); Corse: Ajacio, 27.iv.1929, Agnus leg. (1 ♂, 3 ♀♀, MNHN); Ajacio, v.1928, Pfeffer leg. (2 ♂♂, NMPC); Ajacio, 9.iv.1905 (7 ♂♂, 4 ♀♀, ZSMC; 11 ♂♂, 4 ♀♀, NMPC); Albertacce, 12.vi.1993, Knížek leg. (5 ♂♂, 6 ♀♀, coll. Kafka; 1 ♂, coll. Obořil); Bocognano, 1905, Leonhard leg. (1 ♂, NMPC); Porto Vecchio, vi.1963, Schaefer leg., ex *Genista corsica* (20 ♂♂, 43 ♀♀, MNHN; 3 ♂♂, 1 ♀, coll. Curletti; 2 ♀♀, NMPC; 6 ♂♂, 6 ♀♀, coll. Niehuis); Calacuccia, 14.vi.1993, Knížek leg. (1 ♂, coll. Kafka); Campo d'Oro, 8.iv.1905 (3 ♂♂, 2 ♀♀, ZSMC; 1 ♂, 1 ♀, NHMB); Porto Vecchio, 25.v.1985, Niehuis leg. (4 ♂♂, 1 ♀, coll. TICB; 1 ♀, NMWC); Corsica (no precise locality), Damry leg. (3 ♂♂, ZINC); iv.1904, Pfaundler leg. (1 ♀, ZSMC); Müller leg. (6 ♂♂, 2 ♀♀, ZSMC); (1 ♂, 1 ♀, coll. Navrátil; 11 ♂♂, 7 ♀♀, NMPC; 3 ♂♂, 5 ♀♀, NHMB; 10 ♂♂, 9 ♀♀, MNHN); Hyeres: Hyeres 1 ♂, 1 ♀, NMPC); Vaucluse: Avignon (1 ♀, MNHN); Gallia mer. (no precise locality) (1 ♀, coll. Mühle; 6 ♂♂, 2 ♀♀, NMPC; 1 ♂, ZINC); **Italy:** Sardinia: Aritzo, Mte Genargentru, Krüger leg. (1 ♀, NMPC); Aritzo, 10.vii.1904, Krüger leg. (1 ♀, NMPC); Fonni, P.ta Ninnieri, 1250 m, 16.v.1994, Meloni leg. (3 ♀♀, coll. Gianasso); Müller leg. (1 ♀, ZSMC; 1 ♂, NMPC); Monti Mannu, 3.vi.2000, Hamet leg. (1 ♀, NMPC); Nuoro, strada Bolotana-Burgos, 22.v.1995, Angelini leg. (1 ♂, coll. Gigli); Porto Vesme, 1891, Dodero leg. (1 ♂, NHMB); Sicily: Pineta di Linguaglossa, 1900 m, 5.viii.1995, Sparacio leg. (1 ♂, coll. Curletti); Etna, 20.vi.2003, Švec leg. (1 ♀, NMPC); San Argento, 13.vi.1996, Novotný leg. (1 ♀, NMPC); Tirol: Tirol (2 ♂♂, NMPC); ITALIA (no precise locality) (17 ♂♂, 17 ♀♀, NMPC; 1 ♂, NMPC); **Spain:** Valencia: Costa del Azahar, Oropesa de Mar, 1.vi.1992, Macek leg. (1 ♂, NMPC).

Distribution: France (incl. Corse), Italy (incl. Sardinia and Sicily), Spain.

Anthaxia (*Anthaxia*) *elberti* Brandl, 1993

(Figs 27, **61**)

Anthaxia elberti Brandl, 1993: 51-52.

Type locality: Greece, Peloponesos, Arkadia, Asea.

Species without taxonomic problems described from 7 specimens from Arkadia (Greece) and evidently overlooked in collections. Rather similar to *A.* (*A.*) *hozaki* from Cyprus from which it differs, except for the distribution, by more convex frons, pronotal sculpture, different sexual dichromatism and mainly by the different form of male genitalia (Fig. 27).

Bionomy. Accordingly to Brandl (1993) the type specimens were collected on *Spartium* sp., *Genista* sp., *Calycotome* sp. and *Sarothamnus* sp. (Fabaceae) which could be also host plants of this species.

Type material studied. Holotype and allotype (♂ and ♀, coll. Brandl) both labelled "Gr., Peloponnes, Asea (Arkadia), leg. Kochen, 5.90".

Further material studied. **Bosnia & Herzegovina:** Vrabac plan., 1905, Kniz leg. (1 ♀, NMPC); **Greece:** Achaia: Monastiri, 500 m, 9.vi.1965, Novak leg. (1 ♀, coll. Kafka); Athens: Athens, x.1982, Hrabovský leg. (1 ♀, coll. TICB); Attica: Lavrion, 10.xi.1982, Hrabovský leg. (4 ♀♀, coll. Navrátil); Crete: Chania, Azogires,12.v.1998, Hornburg leg. (2 ♂♂, 1 ♀, coll. Niehuis); Dodecanes:

Kos, 24.iv.1988, Liberto leg. (1 ♀, NMPC); Peloponesos: Lakonia, Anavriti, 27.iv.2001, Gianasso leg. (1 ♂, 1 ♀, coll. Curletti); Monemvasia, 8.v.1979, Hladilovi leg. (2 ♀♀, coll. Navrátil); Olympia, Marinka, 10.iv.1984 (1 ♂, NMWC); Taygetos, Asimis, 600-900 m, 14.vi.1991, Probst leg. (1 ♂, NMPC); GREECE (no precise locality) (1 ♀, MNHN).

Distribution: Bosnia & Herzegovina, Greece (incl. Crete).

Anthaxia (*Anthaxia*) *ghazi* Obenberger, 1938

(Figs 25, **62**)

Anthaxia funerula var. *ghazi* Obenberger, 1938: 213 (available by ICZN, 1999).
Type locality: Turkey, Amasia.

Anthaxia ghazi: Cobos, 1965: 119-120.

Anthaxia funerula vseteckai Obenberger, 1940: 168-169.
Type locality: Lebanon, Chtaura.

Anthaxia khnzoriani Kalashian, 1988: 139, **syn. nov.**
Type locality: Armenia.

This species was described as a variety of *A.* (*A.*) *funerula* but elevated by Cobos (1965) to the species level so the name remains available accordingly to the Code (ICZN, 1999, Article 45.6.4.1).

After having studied the holotype of *A.* (*A.*) *funerula* var. *ghazi* (NMPC), syntypes of *A.* (*A.*) *funerula vseteckai* (NMPC) and the holotype of *A.* (*A.*) *khnzoriani* (ESUE), I failed to find any essential differences and I suppose these species to be conspecific, *A.* (*A.*) *funerula vseteckai* Obenberger, 1940 and *A.* (*A.*) *khnzoriani* Kalashian, 1988 being younger synonyms of *A.* (*A.*) *ghazi* Obenberger, 1938. Moreover *A.* (*A.*) *funerula vseteckai* was already treated as a synonym of *A.* (*A.*) *funerula* by Bílý (1997).

Because *A.* (*A.*) *funerula vseteckai* was described from 2 males and 1 female (all labelled "Lib., Chtaura, 8.-20.v.36"), I hereby designate one male as lectotype and the remaining male and female as paralectotypes.

All differences given by Obenberger (1940) and Kalashian (1988) fall within the variability of *A.* (*A.*) *ghazi* which is rather widely distributed in the eastern Mediterrenean and the Near East reaching northern Armenia, and closely related with the more eastern species, *A.* (*A.*) *tractata*; the distributions of both species overlap only in Armenia.

Bionomy. Some specimens from Jordania and Syria were reared by Baiocchi and Gianasso (see below) from *Crataegus* sp. and *Prunus* sp. (Rosaceae).

Type material studied. Holotype (♂, NMPC) of *A. funerula* var. *ghazi* labelled "Amasia"; lectotype (♂, NMPC) and 2 paralectotypes (♂ and ♀, NMPC) of *A. funerula vseteckai* labelled "Lib., Chtaura, 8.-20.v.36, Dr. Všetečka"; holotype of *A. khnzoriani* (♀, ESUE) labelled "ASSR, Mikoian, Shatin, 17.vii.50".

Further material studied. **Israel:** Meron: W Zefat, 24.iv.1992, Niehuis leg. (3 ♂♂, 31 ♀♀, coll. Niehuis); N Golan: Mt. Hermon, 1350 m, 26.ii.1997, ex *Crataegus* sp., Gianasso leg. (3 ♀♀, coll. Gianasso); **Jordania:** Ajlun: S of Anjara, 27.iv.2002, Snížek leg. (1 ♂, coll. Obořil); Jerash 10 km N, 19.iv.2002, Snížek leg. (3 ♂♂, 9 ♀♀, coll. Obořil); Irbid, W of Jerash, 900-1000 m, ex larva

iii.1999, reared from *Crataegus* sp., Baiocchi (1 ♀, coll. Baiocchi); **Lebanon:** Bcharré, Tourza, 850 m, 2.vi.1997, Baiocchi/Gianasso leg. (1 ♂, 2 ♀♀, coll. Baiocchi; 1 ♂, 1 ♀, coll. Gianasso); Horshe Ehden Nat. Res., 1600 m, 29.v.2001, Levey leg. (1 ♂, 1 ♀, NMWC); **Syria:** Ahrne: Mt. Hermon, 1600 m, 1.vi.2000, Baiocchi leg. (1 ♂, 2 ♀♀, coll. Baiocchi); Al-Tawani, Jaraden, 1190 m, 21.v.2001, Reiter leg. (1 ♂, 2 ♀♀, coll. Škorpík); Anti Libanon: Bludan, 1500 m, 3.vi.1997, Kabátek leg. (1 ♂, coll. Kafka); Bludan, 1680 m, 9.v.2002, Barries leg. (1 ♂, NMPC); Bludan, 16.v.1995, Pucholt leg. (5 ♂♂, 1 ♀, coll. Kafka; 1 ♀, coll. Obořil); Bludan, 1750 m, 27.v.2000, Baiocchi leg., from *Prunus* sp. (2 ♀♀, coll. Baiocchi); Bloudan, 1200 m, 19.v.2002, Mehl leg. (1 ♂, 1 ♀, NMPC); Damascus: Burqush, 25.v.1998, Kadlec leg. (6 ♂♂, 1 ♀, coll. TICB; 2 ♀♀, coll. Kafka); Qatana-Burqush, 24.v.1998, Johanides leg. (1 ♂, coll. Niehuis); Zabadeni, 26.v.1980, Mühle leg. (1 ♀, NMPC; 1 ♂, 1 ♀, coll. Niehuis); Idlib, 1200 m, 1.v.1982, Navrátil leg. (1 ♂, 4 ♀♀, coll. Navrátil; 1 ♂, coll. TICB); Syria bor.-occ., Djebel Ansariya, Fakro, 600 m, 19.iv.1989, Macek leg. (1 ♂, 1 ♀, coll. TICB); Jebel el Ansár, v.1982, Kratochvíl leg. (1 ♂, 1 ♀, NMPC); Latakia: Zainie, 30.iv.1982, Navrátil leg. (1 ♀, coll. Navrátil); Syr. mer.-occ., Maalula, 17.v. 1995, Deneš leg. (1 ♂, 1 ♀, coll. Navrátil); Syr. occ., Yabrud-Maalula, 1200 m, 9.v.2002, Barries leg. (1 ♂, 3 ♀♀, NMPC); SYRIA (no precise locality) (1 ♂, NMPC; 1 ♂, ZINC; 1 ♂, MNHN); **Turkey:** Adana: Karatas, Ceyhan, 24.iv.1998, Martinová leg. (1 ♀, coll. Znamenáček); Misis, 10.v.1970, Holzschuh leg. (1 ♀, NMPC; 1 ♀, coll. TICB); Pozanti, 6.vi.1996, Zahradník leg. (2 ♀♀, coll. Kafka); Toprakkale, 23.v.1990, Krajčík leg. (1 ♀, coll. Navrátil); Osmaniye, 12.vi.2000, Deneš leg. (1 ♂, coll. Navrátil); 14.v.1969, Holzschuh leg. (1 ♂, coll. Navrátil); Adana (1 ♀, NMPC); Adana (6 ♂♂, 3 ♀♀; MNHN); Adiyaman: Nemrut Dag, 29.v.1983, Curletti leg. (4 ♂♂, coll. Curletti); Nemrut Dag, 23.vi.2002, Novák leg. (1 ♂, 1 ♀, coll. Obořil; 1 ♀, coll. Niehuis); Karadut env., 1000 m. 1.vi.2001, Deneš leg. (2 ♂♂, 4 ♀♀, coll. Navrátil); Nurdagi Gecidi, Hasanbeyli, 30.v.1995, Košťál leg. (1 ♂, 1 ♀, coll. TICB); Kuyucak, 30.v.1992, Chalupek leg. (2 ♂♂, 4 ♀♀, coll. TICB); Nurdagi Pass, 3.vi.1984, Curletti leg. (4 ♂♂, 3 ♀♀, coll. Curletti); Antalya: Sarigin, 16.v.1988, Rydh leg. (1 ♂, coll. Gigli); Termessos, 20.v.1992, Chalupek leg. (1 ♂, 2 ♀♀, coll. TICB; 1 ♀, coll. Kafka); Antalya, 8.v.1969, Holzschuh leg. (1 ♀, coll. Navrátil); Termessos, 20.vi.1992, Svoboda leg. (2 ♂♂, 1 ♀, coll. Škorpík; 2 ♂♂, 1 ♀, coll. Obořil); Bitlis: Akbas (1 ♂, NMPC); Bingöl, Genc, 17.vi.1990, Prepsl leg. (1 ♂, coll. TICB); Gaziantep: Birecik, 24.iv.1997, Vrabec leg. (1 ♂, coll. TICB); Feyzipasa, 1.vi.1992, Chalupek leg. (2 ♂♂, 2 ♀♀, coll. TICB; 1 ♂, 1 ♀, coll. Kafka); Hasanbeyli, 18.vi.1991, Kudrna leg. (3 ♂♂, coll. Obořil); Islahyie, 13.v.2002, Kantner leg. (1 ♂, coll. Obořil); Yamaçoba, 30.iv.2001, Šilinger leg. (1 ♀, coll. TICB); Yamaçoba, 29.iv.2001, Trojan leg. (4 ♂♂, 1 ♀, coll. Obořil); Yeselci, 24.v.1999, Peterson leg. (3 ♂♂, 1♀, NMPC); Gaziantep, 14.v.1984, Wellschmied leg. (1 ♂, 1 ♀, coll. Mühle; 1 ♂, coll. TICB); Gaziantep, 8.vi.1972 (1 ♂, NMPC); Hatay: Antakya, 17.v.1984, Wellschmied leg. (1 ♀, coll. Mühle); Hassa, 14.v.1969, Holzschuh leg. (1 ♂, coll. Navrátil; 1 ♀, NMPC); Isparta: Egridir, 4.vi.1991, Kovařík leg. (1 ♀, coll. Škorpík); Karaman: Bucakkisla, 26.iv.1979 (1 ♀, NMPC); Malatia: Güngüz, 14.vi.1972 (1 ♀, NMPC); Ordu: Side, 23.iv.1973, Wrancke leg. (1 ♀, NMPC); Pazarcik (Prov. ?), 28.v. (1 ♀, NMPC); Sirnak: Germik, 14.vi.1972, Lodos leg. (1 ♀, NMPC); Taurus-Toros: Tarsus, v., Muche leg. (1 ♀, coll. Mühle); Yozgat: Saraykent, 1300 m, 12.vi.2001, Deneš leg. (2 ♂♂, 4 ♀♀, coll. Navrátil); Urfa: Halfeti, 21.v.1993, Švihla leg. (1 ♀, NMPC; 1 ♂, coll. Obořil; 7 ♂♂, 8 ♀♀, coll. Kafka); Sanli Urfa, 800 m, 27.iv.2001, Trojan leg. (1 ♂, coll. Obořil); Semli, Halfeti, 21.v.1993, Švihla leg. (1 ♂, NMPC); (Prov. ?), Omerli, 14.v.1995, Kalúz leg. (1 ♀, NMPC).

Distribution: Armenia, Israel, Jordania, Lebanon, Syria, Turkey.

Anthaxia (*Anthaxia*) *hozaki* Bílý, 1973

(Figs 28, **63**)

Anthaxia (s. str.) *hozaki* Bílý, 1973: 427-429.
Type locality: Cyprus, Kyrenia, Karvas.

Species without taxonomic problems described from 5 specimens; endemic to Cyprus and recently collected in various localities on the island. This species is closely related to *A.* (*A.*) *elberti* from which it differs mainly by the different aedeagus (Fig. 28) and by its pronotal sculpture which forms longitudinal rugae on the lateral portion of the pronotum. The male frons is bright blue-green unlike that of *A.* (*A.*) *elberti* which is bronze with a slight green tinge.

Bionomy. A few recently collected specimens were reared from *Genista fasselata* (V. Kubáň, pers. com.).

Type material studied. Holotype (♂, NMPC): "Cyprus, Kyrenia, Karavas, vi.1969, Prof. A. Pfeffer leg.". Allotype (♀, NMPC): the same data. Paratypes: 1 ♀, the same data, 1 ♀ labelled "Cyprus, Yermasoyla, 27.v.1967" and 1 ♀ labelled "Cyprus, Perivolia, 29.vi.1939, Lindberg leg.".
Further material studied. **Cyprus:** Akamas, Lara, 23.v.1994, Mehl leg. (2 ♂♂, 1 ♀, coll. Navrátil; 11 ♂♂, 7 ♀♀, NMPC); Akamas, Fontana Amorosa, 4.v.2005, Fritzlar leg. (1 ♂, coll. Niehuis); Diarhizotae, Kidasi, 19.v.1998, Ziegler leg. (1 ♂, coll. Niehuis); Limasol, Germasogeia Dam, 25.iii.2005, Pacholátko & Kubáň leg. (3 ♂♂, 2 ♀♀, NMPC; 10 ♂♂, 10 ♀♀, coll. TICB); Pafos, Agios Neofytos, 24.v.1998, Ziegler leg. (1 ♂, 1 ♀, coll. Niehuis); Pafos, Lympos Dam, 23.v.1998, Ziegler leg. (1 ♂, coll. Niehuis); Pano Panaya, ex larva 1994, Kafka leg. (3 ♂♂, 2 ♀♀); Polis, Bath of Aphrodite, 18.v.1998, Ziegler leg. (1 ♂, 2 ♀♀, coll. Niehuis); Skarinou, 16.vi.1993, Krajčík leg. (1 ♀, coll. Obořil; 1 ♂, coll. Kafka); Trodos, Kannaviou, 21.iv.1995, Sprick leg. (1 ♂, coll. Niehuis); Yermasoyla riv., 27.v.1967, Mavromoustakis leg. (3 ♂♂, 1 ♀, NMPC); Yermasoya Tal, 31.v.1993, Brandl leg. (1 ♂, 1 ♀, coll. TICB; 1 ♂, 2 ♀♀, coll. Niehuis).

Distribution: Cyprus.

Anthaxia (*Anthaxia*) *tractata* Abeille de Perrin, 1901

(Figs 26, **65**)

Anthaxia tractata Abeille de Perrin, 1901: 8 (replacement name).
Type locality: Armenia or Azerbaijan, Arax valley.

Anthaxia uniformis Abeille de Perrin, 1900: 9 (preoccupied by McLeay, 1888).

Described originally as *A.* (*A.*) *uniformis* after a single female from Transcaucasus but the name was changed by the author himself (Abeille de Perrin, 1901) since it had been preoccupied by *Anthaxia uniformis* McLeay, 1888 (currently *Notographus uniformis*).

The eastern-most species of subgroup B closely related to *A.* (*A.*) *ghazi* from which it differs by distinctly wider frons and pronotum, form of male genitalia (Fig. 26) and quite different sexual dichromatism (see the key).

Bionomy. One specimen studied (see below) was reared from *Amygdalus* sp. (Rosaceae), the fact which also indicates a close relation with *A.* (*A.*) *ghazi*.

Type material studied. Holotype of *A. uniformis* (♀, MNHN) labelled "Caucasus, Araxesthal, Leder. Reitter//uniformis type//tractata Abeille, Type//Type".
Further material studied. **Armenia:** Megri, Agarak, 6.x.1972 ex larva (*Amygdalus*), Soldatova leg. (1 ♀, coll. TICB); Megri, 10.v.1963, Khnzorian leg. (1 ♀, coll. Kafka); **Georgia:** Tbilisi, 28.v.1986, Kobakidze leg. (1 ♂, ZINC); **Iran:** Kermanshah, 21.v.1975, 1900-2100 m, Holzschuh leg. (1 ♂, 1 ♀, NMPC); **Iraq:** Kurdistan, Penjwin, 1300 m, 11.v.1979, Macek leg. (1 ♂, 1 ♀, NMPC; 1 ♂, 1 ♀, coll. TICB); Kurdistan, Sarsank, 11.v.1979, Macek leg. (1 ♀, coll. TICB).

Distribution: Armenia, Georgia, Iran, Iraq.

Subgroup C

Anthaxia (*Anthaxia*) *funerula* (Illiger, 1803)

(Figs 2, 44, **72**)

Buprestis funerula Illiger, 1803: 251.
Type locality: Spain, Lusitania.

This species has been notoriously misinterpreted and confused with other west- and Central-European species in all publications since Kerremans (1892). After having studied the type specimens (ZMHB), I found the species to be distributed only in the south part of the Iberian Peninsula (Bílý, 2001) and specimens from the rest of the area belong to several different taxa.

Anthaxia (*A.*) *funerula* is one of the smallest species of the entire group and can be misidentified only with small specimens of other sympatric and closely related species, *A.* (*A.*) *spinolae spinolae* and with *A.* (*A.*) *blascoi*. Males of *A.* (*A.*) *funerula* can be easily distinguished accordingly to the form of the male metatibiae which are always emarginate in *A.* (*A.*) *spinolae* (Fig. 56) and nearly straight in *A.* (*A.*) *funerula* (Fig. 44). Frons of male in *A.* (*A.*) *funerula* is less intensively green (sometimes only bronze with green tinge) unlike the male of *A.* (*A.*) *spinolae spinolae* which usually possesses bright, golden green frons. Small females of *A.* (*A.*) *spinolae spinolae* can only be separated from females of *A.* (*A.*) *funerula* by the somewhat different shape of metatibiae which are always straight in *A.* (*A.*) *funerula* and somewhat bent outwards in *A.* (*A.*) *spinolae spinolae* (Fig. 51). The aedeagus of both species are rather similar, that of *A.* (*A.*) *funerula* being distinctly more parallel (Fig. 2) than that of *A.* (*A.*) *spinolae spinolae* (Fig. 24). In general, *A.* (*A.*) *funerula* is the most convex, dark and matt species from all European species of the group with nearly absent laterobasal pronotal depressions. *A.* (*A.*) *blascoi* differs from *A. funerula* by bronze coloration, widely rounded elytral apex and by somewhat shorter and less sclerotised aedeagus.

Populations from southern-most Spain (Algeciras and Cabo de Gata) are somewhat more intensively bronze (exceptionally nearly blue-bronze) than populations from the rest of the area.

Bionomy. All bionomical data published about this species (Arnáiz & Bercedo, 2005; Cobos, 1986; Schaefer, 1949; Verdugo, 2005) is likely rather for *A.* (*A.*) *spinolae spinolae* or *A.* (*A.*) *chevrieri* but there is no doubt that larvae develop in some common species of Fabaceae, most probably in *Genista* sp., *Ulex* sp. or *Spartium* sp. Cobos (1986) indicated the following host plants (all Fabaceae): *Ulex europaeus*, *U. parviflorus*, *U. baeticus*, *U. canescens*, *Genista scorpius*, *G. cinerea*, *Retama sphaerocarpa*, *Sarothamnus scoparius*, *Spartium junceum*, *Calycotome spinosa*, *C. villosa* and Verdugo (2005) only repeated these data. As mentioned above, the data from Spain are probably for *A.* (*A.*) *spinolae spinolae.*

Type material studied. Lectotype (♂, ZMHB): "Lusitania" (Sv. Bílý design., 2001). Paralectotypes (1 ♂, 1 ♀, ZMHB): the same locality (Sv. Bílý design., 2001).

Further material studied. **Portugal:** Alentejo: Sao Teotonio, 11.iv.1995, Persohn leg. (1 ♀, coll. Niehuis); Algarve: Faro, Albufeira, 29.iv.1994, Arnáiz leg. (1 ♀, coll. Arnáiz & Bercedo); Faro, Playa do Bispo, 27.v.2001, Peschel leg. (1 ♀, coll. Niehuis); Faro, Playa Falesia, 29.iv.1994, Arnáiz leg. (1♂, coll. Arnáiz & Bercedo); Faro, 10.vi.1959, Lindberg leg. (1 ♂, NMPC); Sao Bras de Alportel, 5.v.1998, Levey leg. (6 ♂♂, 3 ♀♀, NMWC); Silves Odelouca, 16.v.1999, Ziegler leg. (1 ♀, coll. Niehuis); Castelo Branco: Covilha, Sierra da Estrela, 12.vi.1995, Malec leg. (1 ♂, 3 ♀♀, coll. TICB); **Spain:** Andalusia: Algeciras, 15.v.1987, Curletti leg. (2 ♂♂, 2 ♀♀, coll. Curletti); Algeciras, 15.v.1987, Gianasso leg. (3 ♂♂, 1 ♀, coll. Gianasso); Algeciras, 4.v.1895 (3 ♂♂, ZSMC); Almería, 7 km N Almería, 10.iv.1999, 150 m, pantrap, Irwin leg. (5 ♂♂, 5 ♀♀, coll. Niehuis); Almería, Benahadux, 16.iv.1999, pantrap, Irwin leg. (1 ♂, 3 ♀♀, coll. Niehuis); Almería, Cerro del Barronal, Cabo de Gata, 26.iii.2004, UAL leg. (4 ♂♂, 1 ♀, coll. Verdugo); Almería, Cabo de Gata, 30.iv.2000, Günther leg. (1 ♂, coll. Niehuis); Almería, Cabo de Gata, 13.iv.- 2.vi.2004, Verdugo leg. (11 ♂♂, 20 ♀♀, coll. Verdugo; 2 ♂♂, 5 ♀♀, NMPC); Almería, El Alquien, 11.iv.1995, Koschwitz leg. (1 ♂, coll. Niehuis); Almería, Tijola, 1900, Escalera leg. (1 ♂, MNHN); Aracena, v. 1994, Ernest leg. (2 ♂♂, NMPC); Marbella, Sierra Blanca, 5.v.1977, Ulbrich leg. (1 ♂, coll. Brandl); E Marbella, 1.iv.1997, Höhn leg. (1 ♂, coll. Niehuis); Cádiz, Chiclana, N Santipetri, 26.iii.2000, Coello leg. (3 ♂♂, coll. Brandl); Cádiz, Colorao Conil, 6.iv.1995, Verdugo leg. (2 ♂♂, coll. Baiocchi); Cádiz, El Carbajal, Pto Real, 4.v.1987, Verdugo leg. (1 ♂, 2 ♀♀ coll. Verdugo); Cádiz, Barbate de Franco, Vejer, 3.v.1989, Weisner leg. (1 ♂, coll. Mühle); Cádiz, Conil, 4.v.1995, Arnáiz leg. (1 ♂, 1 ♀, coll. Arnáiz & Bercedo); Cádiz, Puerto del Bajar, 21.vi.1998, P. Coello leg. (1 ♂, 2 ♀♀, coll. Baiocchi); Cádiz, San Roque, vi.1972, Vives leg. (1 ♂, coll. Brandl; 1 ♂, NMPC); Cádiz, Tarifa, iii.2000, Poot leg. (2 ♂♂, ZMAN); N Almunecar, Cerro Canuleon, 14.v.2003, leg. Ziegler (3 ♂♂, coll. Niehuis); Motril – Carchuna, iii.1996, Starke leg. (1 ♂, coll. Niehuis); Sierra Alhamilla, Nijar, 20.iv.2003, Andršt leg. (6 ♂♂, 3 ♀♀, coll. Andršt); Sierra de las Nives, Corjo del la Nava, 1400 m, 15.vi.2003, Kafka leg. (1 ♂, 6 ♀♀, coll. Kafka); Sierra del Pozo, Palomas Mt., 1720 m, 11.vi.2003, Obořil leg. (4 ♀♀, coll. Obořil); Sierra Nevada, El Puerto, 1500 m, 17.v.1991, Kantner leg. (1 ♂, coll. Obořil); Sierra Nevada, Niguelas, 28.iv., Krajčík leg. (1 ♂, coll. Navrátil); Sierra Nevada, Niguelas, 19.iv.1995, Průdek leg. (9 ♂♂, 3 ♀♀, coll. TICB; 4 ♂♂, 3 ♀♀, coll. Kafka); Sierra Nevada, Niguelas, 1200-2000 m, 19.iv.1996, Kafka leg. (1 ♀, coll. Škorpík); Granada, Lanjaron, 27.v.- 10.vi.1895 (2 ♂♂, 1 ♀, ZSMC); Sierra Ronda, Corjo de la Nava, 1400 m, 14.vi.2003, Obořil & Kafka leg. (18 ♂♂, 12 ♀♀, coll. Obořil; 9 ♂♂, 6 ♀♀, coll. Kafka); Sierra Ronda, Marbella, 1000 m, 14.v.1991, Snížek leg. (5 ♂♂, 3 ♀♀, coll. Kafka); Ronda, 20.v.1980, Gianasso leg. (4 ♂♂, 1 ♀, coll. Gianasso); Gerona: Playa de Aro, 10.vi.1971, Harde leg. (1 ♂, coll. Niehuis); Granada: Benamaurel, 17.v.2004, Reitz leg. (2 ♀♀, coll. Niehuis); Guadalaraja: Albalate de Zorita, 6.v.1997, Arnáiz leg. (1 ♂, coll. Arnáiz & Bercedo); Huelva: Mazagón, 2.vii.1983, Huertas leg. (1 ♂, coll. Verdugo); León: Luyego, 6.v.1998, Arnáiz leg. (1 ♀, coll. Arnáiz & Bercedo); Ambasaguas de Curueno, 2.vi.2004, Arnáiz & Bercedo leg. (1 ♂, 1 ♀, coll. Arnáiz & Bercedo); Lusitania: Estremadura, S Pedro de Muel, 28.v.1959, Lindberg leg. (1 ♂, NMPC); Málaga: Cártama, Rio Fahala, 8.iv.1979, Alonzo leg. (1 ♂, coll. Gianasso); Gaucín, 16.v.1979, Jelínek leg. (1 ♂, NMPC); Sevilla, v.1997, Navarro leg. (1 ♂, coll. Brandl); Benahavis, 25.iv.2000, Brandl leg. (5 ♂♂, 1 ♀, coll. Brandl); 26.iv.1946, Cobos leg. (8 ♂♂, 8 ♀♀, NMPC); Murcía: S Lorca, Aguilas, 14.v.1989, Vazquez leg. (1 ♂, 1 ♀, coll. Arnáiz & Bercedo); Málaga (1 ♂, 1 ♀, MNHN); Totane, 30.iii.1996, Tomas leg. (2 ♂♂, 2 ♀♀, coll. Baiocchi); Tarragona: St. Charles de la Rapita, 19.iv.1990, Beierlein leg. (5 ♂♂, coll. Niehuis); Valencia: Oropeza, 28.iv.1994, Rakovič leg. (1 ♂, NMPC); Spain: no precise locality (2 ♂♂, 3 ♀♀, ZSMC).

Distribution: Southern Portugal (prov. Alentejo, Algarve, Castello Branco), Southern Spain (prov. Andalusia, Gerona, Granada, Guadalajara, Huelva, León, Lusitania, Málaga, Murcia, Tarragona, Valencia). Distributional data given by Sakalian (2003) for Bulgaria concern *A. chevrieri*. Those given by Mühle et al. (2000) for Greece concern *A.* (*A.*) *spinolae helladis* subsp. nov.

Anthaxia (*Anthaxia*) *blascoi* Murria & Murria, 2005

(Figs 1, 46, **67**)

Anthaxia (s. str.) *blascoi* Murria & Murria, 2005: 73-80.

Type locality: Spain, Barcelona, Penalba.

This is one of the smallest species of the group recently described from the eastern part of Spain. This species strongly resembles *A.* (*A.*) *funerula* or small specimens of *A.* (*A.*) *spinolae spinolae* and alternatively it could be treated as an eastern subspecies of *A.* (*A.*) *funerula.* A larger comparative material is needed to solve this question. The straight metatibiae and indistinctly grooved frons together with indistinct laterobasal pronotal depressions indicate that this species is closer to *A.* (*A.*) *funerula* than to *A.* (*A.*) *spinolae spinolae*.

Bionomy. Unknown, *Boleum asperum* (Cruciferae) on one of the locality labels is the plant flowers of which the specimens were only collected from.

Type material studied. Holotype (♂, coll. Murria): "3.iv.1997, Penalba (Bco. Valcuerna) // J. Blasco leg., *Boleum asperum*". Paratype (♀, MMCZ): the same data.

Distribution: Spain.

Anthaxia (*Anthaxia*) *pseudofunerula* sp. nov.

(Figs 3, 45, **83**)

Type locality: Morocco, Middle Atlas Mts, Azrou.

Type material. Holotype (♂, NMPC): "Marocco, Azrou, 1.v.1995, Machytka leg.".

Small, convex, subparallel and bronze species (Fig. 83); ventral surface black with bronze lustre, frons of male gree-bronze; pronotum asetose, frons and elytra with extremely short and fine, nearly indistinct, white pubescence.

Description of holotype. Head relatively large, frons slightly convex with very feeble medial depression; vertex 1.5 times as wide as width of eye, eyes large, semielliptical, not projecting beyond outline of head; sculpture of head consisting of small, regular polygonal cells without central grains but with dense, basal microsculpture; antennae relatively long, overlapping midlength of lateral pronotal margins; antennomeres 4-10 widely triangular to trapezoid, 0.9-1.4 times as wide as long; third antennomere twice as long as wide, slightly enlarged apically, terminal antennomere rhomboid.

Pronotum convex, 1.8 times as wide as long with small and very shallow laterobasal depressions; anterior pronotal margin bisinuous, posterior margin nearly straight; lateral pronotal margins nearly subparallel at midlength, slightly emarginate before posterior angles; pronotal sculpture consisting of small polygonal cells without central grains and fine, basal microsculpture; cells along lateral margins somewhat longitudinally prolonged, those on central part of pronotum poorly developed. Scutellum very small, subtriangular, convex, as long as wide.

Elytra subparallel, convex, 1.8 times as long as wide with very small humeral swellings; transverse basal depression wide and shallow, nearly reaching scutellum; elytral sculpture consisting of fine microsculpture without distinct preapical punctures; apical elytral pores simple and deep; epipleura narrow but well-developed, nearly reaching elytral apex.

Ventral surface lustrous, microsculptured, only sternal part with indistinct ocellation; anal ventrite narrowly rounded with wide, preapical V-shaped depression following outline of ventrite, without any distinct lateral serration. Legs relatively short and slender, male metatibiae like those in *A. funerula* (Fig. 44).

Aedeagus (Fig. 3) poorly sclerotised, slightly spindle-shaped with short membraneous portion of parameres; median lobe with very fine, lateral serration.

Female unknown.

Length: 3.3 mm; width: 1.2 mm.

Etymology. The species epithet *pseudofunerula* indicates the similarity to *A.* (*A.*) *funerula*.

Distribution: Morocco.

Differential diagnosis. *Anthaxia* (*A.*) *pseudofunerula* sp. nov. is closely related to *A.* (*A.*) *bercedoi* sp. nov., *A.* (*A.*) *blascoi* and *A.* (*A.*) *funerula*. From *A.* (*A.*) *bercedoi* sp. nov., it differs by the characters given in the description of *A.* (*A.*) *bercedoi* sp. nov. below. Except for its distribution, *A.* (*A.*) *pseudofunerula* sp. nov. differs from *A.* (*A.*) *funerula* by the somewhat brighter coloration, less acuminate elytral apices and by the shorter and less sclerotised aedeagus. From *A.* (*A.*) *blascoi*, it differs with the more developed silky lustre, subparallel pronotal margins, deep apical pores and by the form of the aedeagus.

Anthaxia (*Anthaxia*) *bercedoi* sp. nov.

(Figs 4, 43, **66**)

Type locality: Spain, Andalusia, prov. Jaén, Sierra de la Cabrilla, 1900 m.

Type material. Holotype (♂): "Spain, Jaén, Sierra de la Cabrilla, 1900 m, 2.vi.1997, Borovec R. lgt.". Allotype (♀): the same data. Paratypes (3 ♂♂, 3 ♀♀): the same data. Holotype and allotype deposited in NMPC, paratypes in NMPC, coll. Kafka and coll. Arnaiz & Bercedo.

Medium-sized, moderately convex, completely black species (Fig. 66); pronotum and scutellum sometimes with very slight violet lustre; ventral surface black, anterior part of frons green-bronze in male; entire body asetose except for several very short, white setae on postclypeal portion of frons and very sparse and short, nearly indistinct gray pubescence of ventrites.

Description of holotype. Head large and wide, frons flat, shallowly but widely depressed medially; vertex 1.6 times as wide as width of eye, eyes large, reniform but not projecting beyond outline of head; sculpture of head consisting of small, regular polygonal cells with tiny central grains; antennae relatively long, overlapping midlength of lateral pronotal margins; antennomeres 4-10 widely triangular

to trapezoid, 1.1-1.5 times as wide as long; third antennomere twice as long as wide, slightly triangular, terminal antennomere rhomboid.

Pronotum convex, 1.7 times as wide as long with small but well-developed laterobasal depressions; anterior pronotal margin deeply, posterior margin very slighty bisinuous; lateral pronotal margins regularly rounded, only very feebly emarginate before posterior angles; maximum pronotal width at anterior third; pronotal sculpture consisting of regular, polygonal cells without central grains but with dense microsculpture; cells on central part of pronotum less distinct, without microsculpture, with lustrous bottoms. Scutellum small, feebly convex, cordiform, slightly longer than wide.

Elytra convex, rather lustrous, 1.8 times as long as wide with small but well-developed humeral swellings; basal transverse depression deep and wide but far not reaching scutellum; elytral sculpture consisting of very fine microsculpture with a few, quite indistinct preapical punctures; apical pores simple and shallow; epipleura narrow but well-developed, nearly reaching elytral apex.

Ventral surface lustrous, sternal portion with indistinct ocellation, ventrites microsculptured; anal ventrite regularly rounded without lateral serration and with shallow depression following apical margin. Legs relatively short and slender, only male metatibiae with several inner preapical teeth (Fig. 43).

Aedeagus (Fig. 4) nearly subparallel, well-sclerotised, median lobe with very fine lateral serration.

Length: 3.8-4.8 mm (holotype 3.8 mm); width: 1.4-1.5 mm (holotype 1.4 mm).

Sexual dimorphism. Female differs from male by somewhat stouter body, black frons and simple metatibiae.

Variability. Except for the size only very slight variability in coloration was observed: 3 paratypes (1 ♂, 2 ♀♀) possess very feeble violet tinge of pronotum and scutellum.

Etymology. *Anthaxia* (*A.*) *bercedoi* sp. nov. is named after my friend and colleague Pablo Bercedo Páramo (Vegas del Condado, Spain), a well-known specialist in taxonomy and biology of Iberian Buprestidae.

Distribution: Spain.

Differential diagnosis. *Anthaxia* (*A.*) *bercedoi* sp. nov. is closely related to *A.* (*A.*) *funerula*, *A.* (*A.*) *blascoi* and *A.* (*A.*) *pseudofunerula* sp. nov. from which it differs by somewhat stouter body, wider vertex, black coloration, form of male genitalia and metatibiae (see the key) and by the sculpture of central portion of pronotum which is lustrous, lacking basal microsculpture.

Anthaxia (*Anthaxia*) *chevrieri* Gory & Laporte de Castelnau, 1839

(Figs 8, 30, 49-50, 53, 55, **68**, **94**, **97**)

Anthaxia chevrieri Gory & Laporte de Castelnau, 1839: *Anthaxia* 33, t. 8, f. 45.
Type locality: Italy, Tirol.

Anthaxia alpina Obenberger, 1914: 14.
Type locality: Italy, Tirol, Lavarone.

Anthaxia bannatica Gory, 1841: 297, t. 50, f. 897.
Type locality: Roumania, Bannat.

Anthaxia funerula var. *aenescens* Abeille de Perrin, 1909: 22 (preoccupied).
Anthaxia funerula var. *aeneomicans* Obenberger, 1930: 487 (replacement name).
Type locality: France, H^te^ Soire.

Anthaxia funerula var. *confundatrix* Obenberger, 1913: 63 (unavailable name).
Type locality: France.

Anthaxia funerula var. *kijevensis* Obenberger, 1938: 212 (unavailable name).
Type locality: Ukraine, Kiev, Svatoshino.

This species had been treated for nearly two centuries as a synonym of *A.* (*A.*) *funerula* until 2001 when it was recognised as an independent and well-characterised species (Bílý, 2001). The holotype of *A.* (*A.*) *alpina* is only a large specimen of *A.* (*A.*) *chevrieri* (treated by Schaefer, 1944b as a subspecies of *A. funerula*) and *A.* (*A.*) *bannatica* seems to be (accordingly to the description and illustration) a robust female of the same species (also treated by Schaefer, 1944b as a subspecies of *A. funerula*). The holotype of *A.* (*A.*) *bannatica* hasn't been traced since it was described from Dejean's collection and it has disappeared in some private (or institutional) collection as are many other type specimens from this collection. I have studied a large material of *A.* (*A.*) *chevrieri* from the type locality of *A.* (*A.*) *bannatica* (see below "Further material studied") and I failed to find any different form overlapping the variability of *A.* (*A.*) *chevrieri*.

Both syntypes of var. *aenescens* correspond well with small specimens of *A.* (*A.*) *chevrieri* from the same locality (Hérault, France). The other two varieties described by Obenberger (*confundatrix* and *kyjevensis*) are only colour forms differing slightly from the type specimens and since they were described as infrasubspecific taxa, both names must be treated as unavailable names according to the Code (ICZN, 1999).

Seven syntypes (4 males and 3 females) of *A.* (*A.*) *chevrieri* are deposited in MNHN; although the species was described from "Suisse", all type specimens in MNHN bear only the curator's handwritten labels (H. Deyrolle) "Funerula Ziegl./ Chevrieri Mr. Typ. Gory/Espag. Tyrol. Lapp." except for one male bearing also the handwritten label "Tyrol."; To fix the species' name, I hereby designate the well-preserved male labelled "Tyrol" as the lectotype and the remaining syntypes (3 males and 3 females) as paralectotypes.

Although very widely distributed (from Spain across the entire central and south Europe and as far as to eastern Sibiria), the species varies only slightly in coloration and size; some male specimens possess a rather intensive green tinge and the coloration of the frons in males can vary from bright green to golden green or blue-green; females are uniformly bronze, rarely with more or less developed red tinge. Very rarely both sexes are nearly black with a bronze tinge, except for the male frons which is always metallic-coloured.

This species is generally the largest species of the species-group with well-developed laterobasal pronotal depressions and a rather flattened body with anteriorly expanded pronotum; these characters, and the form of both male and female metatibiae (Figs 49-50), distinguish *A. (A.) chevrieri* from *A. (A.) spinolae* at the localities where both species are found together.

Bionomy. The larva was described twice (Perris 1877, Soldatova 1970), but as the larva of *A. (A.) funerula*, and the bionomy was treated by Bílý (2002). All older published data concerning the host plants of this species should be checked since this species was mixed with *A. (A.) funerula*, *A. (A.) impunctata* and *A. (A.) spinolae*. In Central Europe, the larvae of this species develops in the sun-exposed, basal portion of trunks of *Sarothamnus scoparius* (Fabaceae) from which host plant it is regularly reared. The spectrum of host plants is most probably much wider due to the wide distribution of the species in various phytogeographical areas.

Type material studied. Lectotype (♂, here designated): "Tyrol" (MNHN). Paralectotypes (3 ♂♂, 3 ♀♀, here designated). Holotype of *A. funerula* var. *confundatrix* (♀, NMPC) labelled "France"; holotype of *A. funerula* var. *kijevensis* (♂, NMPC) labelled "Okr. Kieva, Svatoshino, 4.vii.1915"; holotype of *A. alpina* (♀, NMPC) labelled "Teriolis mer., Lavarone"; two syntypes of *A. funerula* var. *aenescens* (♂♂, MNHN) labelled "Fix 5/8 H[le] Soire" and "Fix".

Further material studied. **Austria:** Niederösterreich: Eggenburg, 1.v.1986, Barries leg., ex larva (1 ♂, 1 ♀, coll. TICB); Zogelsdorf, 400 m, 16.iv.1989, Zabransky leg. (3 ♂♂, 3 ♀♀, coll. Niehuis); Tirol: no precise locality (1 ♂, ZINC); **Belarus:** Minsk: 5.vi.1944, Stepanov leg. (1 ♂, NMPC); **Bosnia & Hercegovina:** Mostar, Zoufal leg. (1 ♀, MMBC); **Bulgaria:** Khaskovo: Harmanli, isl. on Marica, 20.v.1978, Majer leg. (1 ♀, coll. TICB); Pirin: 1400 m, 7.vii.1987, Sakalian leg. (1 ♀, ZINC); Sofiya: Sandanski, 22.vi.1982, Jendek leg. (1 ♀, coll. TICB); Melnik, 10.vi.1976, Mencl leg. (1 ♂, coll. TICB); **Croatia:** Istria: Abbazia [Opatia] (1 ♂, NMPC); **Czech Republic:** Bohemia: Bakov, Vodák leg. (1 ♀, NMPC); Příbram, 9.v.1987, Plecháč leg. (3 ♂♂, 6 ♀♀, coll. Kafka; 2 ♂♂, coll. Niehuis); Příbram, Cholínská, 5.v.1986, Bílý leg. (6 ♂♂, 4 ♀♀, NMPC; 1 ♀, coll. Kafka); Cholín, 12.v.1985, Urban leg. (2 ♂♂, 3 ♀♀, NMPC; 1 ♀, coll. Kafka); Daleké Dušníky, 1.v.1990, Hovorka leg. (1 ♂, 1 ♀, coll. Kafka); Dolní Hbity, 5.v.1986, Bílý leg. (1 ♂, NMPC; 2 ♂♂, coll. TICB); Kamýk nad Vltavou, Velká Hůrka, 30.iv.-3.v.2001, Kafka leg. (52 ♂♂, 47 ♀♀, coll. Kafka; 1 ♂, coll. Niehuis); Lipany, Něčín, 2.v.2005, Kafka leg. (29 ♂♂, 25 ♀♀); Suchdol nad Lužnicí, 2.v.2001, Svoboda leg. (31 ♂♂, 22 ♀♀, NMPC; 13 ♂♂, 4 ♀♀, coll. Kafka); Suchdol nad Lužnicí, 10.v.1985, Chalupek leg. (9 ♂♂, 3 ♀♀, coll. TICB); Velká u Sedlčan, 9.v.1991, Trmal leg. (5 ♂♂, 5 ♀♀, coll. Kafka); Žebrák, Něčín, 25.iv.2002, Kafka leg. (32 ♂♂, 20 ♀♀, coll. Kafka; 2 ♀♀, coll. Navrátil; 1 ♂, 1 ♀, coll. Niehuis); Moravia: Břeclav, vi.1984, Hála leg. (1 ♀, coll. Kafka); Znojmo, Havraníky, 15.vi.1982, Mráček leg. (1 ♂, 2 ♀♀, coll. Kafka); Znojmo, Popice, 6.v.1985, Chalupek leg. (1 ♂, coll. TICB); Znojmo, Popice, iv.1983, Kubáň leg. (4 ♂♂, 3 ♀♀, NMPC; 1 ♀, coll. TICB); Znojmo, Popice, 24.iv.1994, Škorpík leg. (9 ♂♂, 3 ♀♀, coll. Škorpík); Znojmo, Popice, 20.iv.2002, Obořil leg. (18 ♂♂, 14 ♀♀, coll. Obořil); **France:** Auvergne: Fontfroide, 24.v.1896 (4 ♀♀, NHMB); Alpes: Saint Michel (1 ♂, coll. Curletti); Alpes-Maritimes: Les Courmettes, 10.v.1928 (1 ♂, NMPC); St. Martin – Vesubie, vii.1933, Schaefer leg. (11 ♂♂, 10 ♀♀, MNHN); Vesubie, 1500 m, Martin leg. (2 ♂♂, NMPC); St. Vallier-de-Thiey, 17.iv.1976, Niehuis leg. (1 ♀♀, coll. Niehuis); Sospel, 1.vii.1974, Poot leg. (1 ♀, ZMAN); Basses Alpes: Basses Alpes (1 ♀, ZINC); Bouches-du-Rhône: St. Chamas, 12.v.1932, Schaefer leg. (2 ♂♂, 1 ♀, MNHN; 1 ♀, NMPC;); Digne, 24.v.1969, Poot leg. (1 ♂, ZMAN); Lamanon, 25.v.1951, Schaefer leg. (1 ♂, MNHN); Drôme: Nyons, vi.1943, Schaefer leg. (1 ♂, 1 ♀, MNHN); Sisteron (1 ♂, 1 ♀, MNHN); Corse: Corse, Théry leg. (1 ♂, NMPC); Gard: Genolhac, 20.vii.1985, Hirschfelder leg. (2 ♂♂, coll. Niehuis); Garonne: Merville (1 ♀, NMPC); Hautes-Alpes: Savines, 4.ix.1941, Schaefer leg. (1 ♂, MNHN); Hérault: Hérault, Mai, 1936

(2 ♂♂, 3 ♀♀, MNHN); Isére: Uriagel, 13.viii.1951, Moussa leg. (1 ♂, MNHN); Jura: St. Baume, Abeille de Perrin leg. (2 ♂♂, MNHN); Loire: Pilat, 14.vii.1949, Schaefer leg. (4 ♂♂, 2 ♀♀, MNHN); Mt. Pilat (1 ♂, 1 ♀, MNHN); Loiret: Orléans, 19.v.1923, Agnus leg. (4 ♀♀, MNHN); Orléans (2 ♀♀, NMPC); Provence: Cavalaire sur Mer, v.1928, Obenberger leg. (1 ♀, NMPC); Col de Brouis, 23.vi.1974, Gianasso leg. (1 ♂, 1 ♀, coll. Baiocchi); Sisteron (2 ♂♂, NHMB); Vaucluse, Mt. Ventoux, vii.1965, Ganthier leg. (1 ♂, coll. TICB); Mt. Ventoux, 1000 m., 17.vi.1981, Eckweiler leg. (2 ♂♂, coll. Mühle); Verdon, 18.vi.1998, Škorpík leg. (1 ♂, coll. Škorpík); Toulon (1 ♂, coll. Mühle); Pyrenées-Orientales: Canigou, 28.vi.1947, Schaefer leg. (10 ♂♂, 2 ♀♀, MNHN); Canigou, viii.1932 (1 ♂, NMPC); Cerbere, 6.v.1990, Halada leg. (1 ♀, coll. Obořil); Font Romeu, 5.viii.1952, Schaefer leg. (1 ♂, MNHN); Vernet les Bains, Schaefer leg. (1 ♂, coll. Curletti; 2 ♂♂, 3 ♀♀, NMPC); Var: Agay, v.1928, Obenberger leg. (2 ♂♂, NMPC); Le Beausset, Sietti leg. (2 ♂♂, MNHN); La Londe, 3.iv.1977, Poot leg. (3 ♂♂, ZMAN); Seine-et-Marne: Oise, La Ferté leg. (1 ♂, NMPC); Vaucluse: Cheval, Blanc, 30.v.1933, Schaefer leg. (4 ♂♂, 2 ♀♀, MNHN); **Georgia:** Dzhvari, 23.v.1978, Kocourek leg. (1 ♀, coll. TICB); Gori, v.1986, Pokorný leg. (1 ♂, 2 ♀♀, coll. TICB); **Greece:** Thessaly: Olympos, Petrastrovaga, 22.v.1996 (1 ♂, NMPC); Thrakia: Drama, 1500 m, 12.v.1982, Wolf leg. (2 ♂♂, coll. Brandl; 2 ♀♀, coll. Mühle); **Hungary:** Balaton, Ságvár, 22.iv.1984, Kubáň leg. (1 ♂, 3 ♀♀, coll. TICB); Vilanyi, Máriagyüt, 13.v.1999, Ziegler leg. (1 ♂, 1 ♀, coll. Niehuis); Tihany, Plattensee, 6.iv.1986, Steinhausen leg. (2 ♂♂, ZSMC); **Italy:** Abruzzo: Avezzano-Antrosano, 800 m, 11.v.2001, Colonnelli leg. (1 ♂, coll. Baiocchi); Rieti, 1.vi.1926 (1 ♀, NMPC); Aosta: Meran, v.1903 (1 ♂, NMPC); Asti: Mondonio, vi.1976, Curletti leg. (2 ♀♀, coll. Curletti); Calabria: Montalto d'Aspromonte, 1.iv.1976, Gianasso leg. (4 ♂♂, 3 ♀♀, coll. Gianasso); iv.1976, Curletti leg. (2 ♂♂, cpll. Curletti); Emilia Romagna: Bazzano, Sekera leg. (2 ♂♂, NMPC); Sestola, Pian del Falco, 17.vi.2004, Kafka leg. (2 ♂♂, 1 ♀, coll. Kafka); Parma, Rondani leg. (1 ♀, NMPC); Emilia Romagna (no precise locality) (1 ♂, 2 ♀♀, NHMB); Lazio: Roma, Tivoli, M. Ripoli, 10.v.1993, Gigli leg. (1 ♂, coll. Gigli); Roma, Trevi, 10.vii.2004, Gigli leg. (1 ♂, coll. Gigli); Fiumata, 27.vi.1985, Gigli leg. (2 ♀♀, coll. Gigli); Fiumata, Frosinone, 1100 m, 6.vii.1985, Gigli leg. (1 ♂, coll. Gigli); Roma, Maccarese, 4.iv.1982 and 20.iv.1985, Gigli leg. (2 ♀♀, coll. Gigli); Tolfa, 18.v.1993, Jelínek leg. (1 ♀, NMPC); Liguria: Genova, Casiccia leg. (1 ♀, coll. TICB); Genova, v.1970, Casiccia leg. (2 ♀♀, coll. Curletti); Genova, 14.iv.1938 (1 ♂, coll. Gianasso); Imperia, 18.4.1976, Curletti leg. (3 ♂♂, coll. Curletti); Lombardia: Alagfna, Mte Rosa, 1925, Jureček leg. (1 ♂, 1 ♀, NMPC); Ballabio Superiore, 4.v.1930, Prezioso leg. (1 ♂, coll. Gianasso); Monte Grigna, 900 m, 19.vi.1993, Regalin leg. (1 ♂, coll. Curletti); Esino L., Cainallo, 1600 m, vii.1975, Franzini leg. (3 ♀♀, coll. Curletti); Lago di Garda, Mte Baldo, 900 m, 29.vi.1969, Brachat leg. (1 ♀, coll. Mühle); Monte Baldo (1 ♂, 1 ♀, NMPC); Lago di Garda v.1909 (1 ♀, coll. Mühle); Modena: Sestola, Pian del Falco, 17.vi.2004, Obořil leg. (8 ♂♂, 2 ♀♀, coll. Obořil); Pesaro: Monte Piucio, 900 m, 15.vi.1991, Borovec leg. (1 ♂, coll. Kafka); Piemonte: Bagni di Vinadio, 1600 m, 6.vii.2000, Gianasso leg. (2 ♂♂, 2 ♀♀, coll. Gianasso); Bossolaschetto, 27.v.1976, Curletti leg. (2 ♂♂, 1 ♀, coll. Curletti); Brondello, 15.viii.1980, Curletti leg. (1 ♂, coll. Curletti); Castelnuovo don Bosco, 14.v.1973, Gianasso leg. (4 ♂♂, 5 ♀♀, coll. Gianasso); Cardona, 16.vi.1991, Curletti leg. (2 ♂♂, coll. Curletti); Cardona, 300 m, 21.iv.1973, Baldizzone leg. (2 ♂♂, coll. Gianasso); Col di Nava, 1.vi.1972 (1 ♂, coll. Gianasso); Capanne di Pey, Val Borbera, 1450 m, 25.v.1970, Valdinazzi leg. (1 ♀, coll. Gianasso); Carrosio, Val del Lenne, 11.v.1972, Baldizzone leg. (1 ♀, coll. Gianasso); Macugnagz, vii.1986, Gigli leg. (1 ♂, 1 ♀, coll. Gigli); M. Musiné, 19.vi.1975, Gianasso leg. (1 ♀, coll. Gianasso); Serravalle, 14.v.1978, Curletti leg. (6 ♂♂, 11 ♀♀, coll. Curletti); Val Sesia, 6.vi.1985, Wolf leg. (1 ♀, coll. Mühle); San Dalmazzo, vi.1876, Oberthur leg. (1 ♂, NMPC); Tirol: no precise locality, Jureček leg. (1 ♀, NMPC; 3 ♀♀, MNHN); Toscany: Carrara (1 ♀, NMPC); Chianciano, 10.vii.1973, Mourglia leg. (1 ♀, coll. Gianasso); Firenze (2 ♂♂, NMPC); Pisa, Pecchioli leg. (3 ♂♂, NMPC); Siena, Bargagli leg. (1 ♀, NMPC); Trentino: Kaltern, 1.v.1996, Brandl leg. (3 ♂♂, 2 ♀♀, coll. Brandl); Pietramurata, 9.v.1991, Rössler leg. (3 ♂♂, 1 ♀, coll. Brandl; 3 ♂♂, 1 ♀, coll. Mühle); Mendelpass, 1000 m, 26.v.1988, Döberl leg. (1 ♀, coll. Mühle); M. Grigna, 28.vi.1943 Koch leg (6 ♂♂, NHMB); Klausen, 20.v.1905 (1 ♂, NMPC); (1 ♂, NHMB; 1 ♂, MMBC); Verona: Malcesine, Fastagu, Monte Baldo, 28.viii.1976, Sette leg. (1 ♂, coll. Curletti); **Macedonia:** Plano di Vardar (2 ♀♀, NMPC); **Montenegro:** Hercegnovi, v.1936, Matějka leg. (2 ♂♂, 1 ♀, NMPC); Sutomore, vi.1982, Schmidt leg. (1 ♀, coll. Brandl); Betchichi, Mt. Lovtchen, 400-600 m, 5.v.1975, Strejček leg. (1 ♀, NMPC); **Poland:** Warszawa, Roztowa, Male Brody, 27.v.1989, Kuska leg. (1 ♂, NMPC); **Rumania:** Banat: Baile

Herculeane, 1000 m, 1987, ex larvae (5 ♂♂, 8 ♀♀, coll. TICB); Baile Herculeane, 20.v.1931, Schmidt leg. (1 ♂, NMPC); Baile Herculeane, 27.viii.1987, Dembický leg. (5 ♂♂, 5 ♀♀, NMPC; 9 ♂♂, 11 ♀♀, coll. Obořil); Eisernes Tor, 4.v.1986, Weidlich leg. (2 ♀♀, coll. Niehuis); Giurgiu: Comana Vlasca, Montandon leg. (5 ♂♂, 2 ♀♀, ZSMC); **Russia:** Moscow: Serpukhov, Luzhki, 7.vii.1928 (2 ♀♀, NMPC); Prozorovskaya, 23.v.1925, Filippov leg. (2 ♀♀, ZINC); Orenburg: Kyzlar Bergan, 16.vi.1899, Yakobson leg. (1 ♂, 1 ♀, ZINC); Donetsk: Kodyma, 6.v.1902, Bazhenov leg. (1 ♂, 1 ♀, ZINC); Ryazan: Gremiatchka, 26.vi.1910, Semenov leg. (1 ♂, 1 ♀, ZINC); Samara: Tockoe, 1917, Jureček leg. (1 ♂, NMPC); Zhigulevsk, 17.v.1926 (1 ♂, 3 ♀♀, NMPC); Saratov: 27.v.1938, Lukianovitsh leg. (1 ♂, 5 ♀♀, ZINC); Sarepta [Volgograd] (1 ♀, ZSMC); Sibiria: Kurgan, Ust Uiskoe, 10.vi.2000 (1 ♀, coll. Kafka); Stavropol: Stavropol, v.1921, Lutshnik leg. (1 ♂, NMPC); Sverdlovsk: Remota, 30.v.1953, Isvlevitsh leg. (2 ♂♂, 2 ♀♀, ZINC); Tatarstan: Kazan, Araktuchino, 25.v.1915, Ivanov leg. (3 ♂♂, 3 ♀♀, ZINC); Ulyanovsk: Simbirsk [Ulyanovsk], 1917, Jureček leg. (2 ♂♂, NMPC); Ural: Chelyabinsk, Miass, 14.vi.1944, Stepanov leg. (21 ♂♂, 8 ♀♀, ZINC); Uralsk, 28.iv.1906, Uvarov leg. (2 ♀♀, ZINC); Volgograd: Nikolaevsk, 18.v.1900 (1 ♂, 1 ♀, ZINC); RUSSIA (without precise locality) (7 ♂♂, 3 ♀♀, ZINC); **Slovakia:** Trnava: Hlohovec, 10.iv.1991, Pekarovič leg. (1 ♂, coll. Kafka); Hlohovec, 4.v.1978, Kubáň leg. (2 ♀♀, NMPC); Hlohovec, Teplá dolina, 250 m, 1.v.2004, Klekner leg. (1 ♂, 3 ♀♀, coll. TICB); Trenčín: Čachtice, 11.v.1980, Bílý leg. (3 ♀♀, NMPC); **Slovenia:** Kastelec, 12.x.2004, Vávra leg. (3 ♂♂, 6 ♀♀, NMPC); **Spain:** Aragón: Huesca, Jaca, 29.v.1997, Arnáiz leg. (1 ♂, coll. Arnáiz & Bercedo); Huesca, Torla, 4.vii.1982, Poot leg. (1 ♂, NMPC); **Switzerland:** Fribourg: Fribourg (1 ♂, MNHN); Tizino: Lugano (1 ♂, NMPC); Helvetia, Altberg, vi.1938 (1 ♀, NMPC); Helvetia (no precise locality) (1 ♀, NMPC); **Turkey:** Çanakkale: Çanakale, 17.v.1992, Chalupek leg. (2 ♂♂, coll. TICB); Istambul: Constantinopolis [Istambul] (1 ♂, 6 ♀♀, ZSMC); TURKEY (no precise locality) (2 ♂♂, NMPC); **Ukraine:** Kharkiv, 7.iv.1906, Malyshev leg. (1 ♀, ZINC); Kiev, 11.vii.1917 (20 ♂♂, 10 ♀♀, ZINC; 1 ♂, 2 ♀♀, NMPC; 2 ♂♂, coll. Kafka); Mukatshevo, vi.1934, Ješátko leg. (1 ♂, coll. Mühle; 1 ♀, coll. Navrátil; 7 ♂♂, 1 ♀, NMPC); Mykolayv, Dnieprovski liman, 19.v.1928, Medvedev leg. (3 ♂♂, 6 ♀♀, ZINC; 2 ♂♂, NMPC); Poltava, Boyarka (10 ♂♂, 7 ♀♀, NMPC); Poltava, 16.v.1926, Lukianovitsh leg. (1 ♀, NMPC; 3 ♂♂, ZINC); Zhitomir, 14.v.1923 (1 ♀, ZINC).

Distribution: Austria, Belarus, Bosnia & Hercegovina, Bulgaria, Croatia, Czech Republic, France (incl. Corse), Georgia, Greece, Hungary, Italy, Macedonia, Montenegro, Poland, Roumania, Russia (except for central and east Sibiria), Slovakia, Slovenia, Spain (Aragón), Switzerland, Turkey, Ukraine. All distributional data given by Sakalian (2003) for *A.* (*A.*) *funerula* is rather for *A.* (*A.*) *chevrieri*.

Anthaxia (*Anthaxia*) *spinolae spinolae* Gory & Laporte de Castelnau, 1839 resurrected name

(Figs 24, 51, 56a-e, 57, **87**, **96**)

Anthaxia spinolae Gory & Laporte de Castelnau, 1839: *Anthaxia* 36, t. 8, f. 50.
Type locality: Gènes.

Anthaxia funerula var. *massiliensis* Obenberger, 1938: 212 (unavailable name).
Type locality: France, Bouches du Rhône, St. Chamas.

After having studied the type specimen (MNHN), I found *A.* (*A.*) *spinolae* to be an independent and well-characterised species which has been confused with *A.* (*A.*) *funerula*. The holotype of *A.* (*A.*) *spinolae* is an extremely small but well-preserved male specimen (Fig. 96) and the resurrection from the synonymy of *A.* (*A.*) *funerula* is neccessary. The female type specimen of *A.* (*A.*) *funerula* var. *massiliensis*

corresponds well with the holotype of *A.* (A.) *spinolae* and with other specimens studied and as it was described as an infrasubspecifis taxon, the name is unavailable accordingly to the Code (ICZN, 1999).

This nominate subspecies is widely distributed from Portugal to Italy and is the most common species of the species-group in Spain. The form of the male metatibiae is the most characteristic feature of this species: inner margin always more or less emarginate in their distal half with small terminal spine, the emargination being finely serrate or smooth. Female metatibiae (Fig. 51) are unmodified but they follow more or less the shape of the male metatibiae being slightly enlarged at the midlength and slightly bent outwards. The shape of male metatibiae, although very characteristic, is surprisingly variable (Fig. 56a-f) and only evaluation of rather large material from the entire area of the species' range (see "Further material studied" below) enabled me to include all these forms into a single subspecies. This variability does not depend on the geographical location (although the most enlarged, flattened metatibiae are found in the western populations, but not exclusively); it seems that the form of the male metatibiae predominantly depends on the size of specimens, since the most enlarged metatibiae are found in large specimens. This extreme variability can be found also within one population as shown on Fig. 57.

B i o n o m y. It is quite obvious that due to earlier erroneous interpretations of *A.* (*A.*) *funerula* and *A.* (*A.*) *impunctata* by various authors (e.g. Schaefer, 1949; Cobos, 1986; Arnáiz & Bercedo, 2002; Verdugo, 2005 and others) most bionomic data published for *A.* (*A.*) *funerula* or *A.* (*A.*) *impunctata* was actually concerning *A.* (*A.*) *spinolae*. Undoubtely the larval development takes place in some plant from the family Fabaceae, most probably in *Spartium junceum*, *Ulex* sp. or *Genista* sp.

T y p e m a t e r i a l s t u d i e d. Holotype (♂, MNHN): without locality label; the specimen bears only the curator's labels "Type" and "*spinolae* Gory / Génes, Type"; holotype of *A. funerula* var. *massiliensis* (♀, NMPC) labelled "St. Chamas, B. d R.".

F u r t h e r m a t e r i a l s t u d i e d. **France:** Alpes-Hautes-de-Provence: Revest du Bion, 2.vi.1973, Meregalli leg. (1 ♂, 1 ♀, coll. Gianasso); Alpes-Maritimes: Menton, 15.vii.1996, Malenovský leg. (1 ♂, coll. TICB); Puget Themiers, 3.v.1982, Klapperich leg. (1 ♂, coll. Mühle); Rouaine, 11.v.1982, Klapperich leg. (1 ♂, coll. Mühle); St. Martin – Vesubie, vii.1933, Schaefer leg. (1 ♂, MNHN); Auvergne: Aude, 12.vi.1989, Hamo leg. (1 ♂, NMPC); Basses-Alpes: Gilette, 223.iv.1977, Gianasso leg. (3 ♂♂, 5 ♀♀, coll. Gianasso); Bouches-du-Rhône: St. Chamas, iv.1937, Schaefer leg. (25 ♂♂, 16 ♀♀, MNHN; 1 ♂, 9 ♀♀, NMPC); Rognac, 16.v.1932, Schaefer leg. (6 ♂♂, 1 ♀, MNHN); Corse: Porto Vecchio, 31.v.1938, Schaefer leg. (1 ♀, MNHN); Corsica, Damry leg. (1 ♂, ZIN); Corsica, 1890, Reitter leg. (1 ♀, ZINC); Corse (1 ♂, NMPC); Gironde: Pyla sur Mer, 24.vi.1946, Klapperich leg. (1 ♀, coll. Mühle); Hautes-Alpes: Gap, 4.vi.1973, Abrazzese leg. (1 ♀, coll. Gianasso); Hérault: Canet, vi.1976, Brandl leg. (2 ♀♀, coll. Navrátil); Isére: Plan, 8.v.1987 (1 ♀, coll. Mühle); Languedoc: Carcassone, 31.v.1895 (1 ♀, NMPC); Provence: Rovaine/Var Tal, 27.iv.1982, Klapperich leg. (4 ♂♂, 5 ♀♀, coll. Mühle); Sisteron, 28.vii.1972, Scheuern leg. (1 ♂, 1 ♀, coll. TICB); Sisteron (3 ♂♂, NHMB); Pyrenées-Orientales: Argelés, 24.vi.1938, Schaefer leg. (7 ♂♂, 1 ♀, MNHN); Argelliers, vi.1976, Brandl leg. (1 ♂, coll. Mühle); Banyuls sur Mer, vi.1976, Brandl leg. (4 ♂♂, 1 ♀, coll. Brandl; 1 ♀, NMPC); Canigou, 30.vii.1932, Schaefer leg. (3 ♂♂, MNHN); Géret, vii, 1972, Poot leg. (1♂, ZMAN); La Massane, 18.vi.1939, Schaefer leg. (5 ♂♂, 6 ♀♀, MNHN); Le Boulou, 250 m, 9.v.1986, Gfeller leg. (2 ♂♂, 1 ♀, coll. Mühle); Quillan, vi.1953, Bechyně leg. (1 ♂, NHMB); Salces, 10.v.1996, Hanzlík leg. (2 ♂♂, coll. Kafka); Vernet les Bains, vi.1938, Schaefer leg. (5 ♂♂, 1 ♀, MNHN; 2 ♂♂, 4 ♀♀, coll. Niehuis; 7 ♂♂, 3 ♀♀, coll. Curletti); Rhône: St. Chamas,

v.1935, Schaefer leg. (1 ♂, 3 ♀♀, coll. Niehuis); Rhône-Alpes: Nyons (1 ♂, NMPC); Seine-et-Marne: Barbizon (1 ♂, MNHN); Nemours, iv.?? (1 ♂, NMPC); Var: Beausset (1 ♂, 1 ♀, NHMB; 1 ♂, MNHN); Roque-Esclapon, vi.1936, Schaefer leg. (2 ♂♂, 1 ♀, MNHN); Mons, v.1976, Feller leg. (1 ♀, coll. Mühle); Vaucluse: Avignon (1 ♀, MNHN); Mt. Ventoux, 1.vi.1976, Gianasso leg. (1 ♀, coll. Gianasso); **Italy:** Liguria: Albenga, 29.v.1978, Curletti leg. (1 ♀, coll. Curletti); Sicily: Taormina, 1942, Groschke leg. (1 ♂, NMPC); Trentino: S Tirol, Kaltern, 31.v.1996, Brandl leg. (1 ♂, coll. Niehuis); Véneto: Verona, Monte Baldo, 26.vi.1985, Lucas leg. (1 ♂, coll. Brandl); **Portugal:** Algarve: Manta Rota, Watt, 31.v.1992, Wunderle leg. (4 ♂♂, 5 ♀♀, coll. Niehuis; 1 ♀, NMPC); Via Real, 17.iv.2002, Meybohm leg. (1 ♂, NMPC); Portalegre: Coutada de Barros, S. Martinho (1 ♀, MMBC); Porto: Porto, 26.v.1985, Niehuis leg. (1 ♀, coll. Niehuis); Serra da Ossa: Estremoz, 17.v.1974, Wittmer leg. (1 ♂, NMPC); **Spain:** Albacete: Sierra Segura, El Pardal, vi.1903, Escalera leg. (1 ♀, MNHN); Andalusia: Algeciras, 8.iv.-11.v.1905 (1 ♂, 2 ♀♀, ZSMC); Almería, Cerro del Barronal, Cabo de Gata 23.iv.2004, UAL leg. (1 ♂, 2 ♀♀, coll. Verdugo); Almunecar, Cerro Canuelon, 1200 m, 14.v.2003, Ziegler leg. (1 ♂, coll. Niehuis); Canales, Logrono (1 ♀, NMWC); Chiélana, 1890, Korb leg. (1 ♀, NHMB); Ronda, Málaga, Andal, 1300 m, 15.v.1999, Verdugo leg. (5 ♂♂, 1 ♀, coll. Verdugo); Cádiz, San Fernando, 3.v.1998, Verdugo leg. (5 ♂♂, 1 ♀, coll. Verdugo); Cádiz, El Colorado, Conil, 14.iv.1999, Verdugo leg. (3 ♂♂, 2 ♀♀, coll. Verdugo); Cádiz, Jerez de la Frontera, 23.iv.1988, Verdugo leg. (1 ♂, coll. Verdugo); Cádiz, Tarifa, iv.1991, Poot leg. (1 ♂, 1 ♀, coll. Niehuis); Cordóba, Posadas, 1.v.2003, Verdugo leg. (5 ♂♂, 1 ♀, coll. Verdugo); Gaucín, 16.v.1979, Jelínek leg. (1 ♂, NMPC); Granada, Monts Herrero, 15.vi.1965, Herman leg. (1 ♂, NMPC); Granada, Pozo Herrero, 800 m, 1.v.2002, Colonnelli leg. (2 ♀♀, coll. Baiocchi); Guadix, 19.v.1991, Snížek leg. (5 ♂♂, 4 ♀♀, coll. Kafka); N Almunecar, Cerro Canuelon, 1200 m, 14.v.2003, Ziegler leg. (1 ♂, coll. Niehuis); Marbella, 14.v.1991, Kantner leg. (1 ♀, coll. Obořil); Sierra Alhamilla, Nijar, 20.iv.2003, Andršt leg. (6 ♂♂, 3 ♀♀, coll. Andršt); Sierra de Gredos, 1700 m, 12.v.1992, Poot leg. (1 ♂, ZMAN); Sierra Ronda, Corjo de la Nava, 1400 m, 14.vi.2003, Obořil leg. (166 ♂♂, 64 ♀♀, coll. Obořil); Serrania Ronda, 27.iv.1996, Fric leg. (1 ♂, NMPC); Málaga, iv.1946, Cobos leg. (6 ♂♂, NMPC); Sierra del Pozo, Palomas Mt., 1720 m, 11.vi.2003, Obořil leg. (23 ♂♂, 123 ♀♀, coll. Obořil;1 ♂, 4 ♀♀, coll. Kafka); Sierra Nevada, El Puerto, 17.v.1991, Kafka leg. (3 ♂♂, coll. Obořil; 10 ♂♂, 10 ♀♀, coll. Kafka); Sierra Nevada, El Veleta, 2000-3000 m, 17.v.1991, Snížek leg. (1 ♀, coll. Kafka); Sierra Nevada, La Estrella, (2 ♂♂, ZSMC); Sierra Nevada, Niguelas, 1200-2000 m, 19.iv.1996, Kafka leg. (8 ♂♂, 11 ♀♀, coll. Kafka; 2 ♂♂, 2 ♀♀, coll. Škorpík); Sierra Nevada, Niguelas, 18.iv.1995, Stanovský leg. (6 ♂♂, 4 ♀♀, coll. Stanovský; 1 ♀, coll. Obořil); Sierra Nevada, Orgiva, 1600 m, Scheuren leg. (2 ♂♂, coll. Mühle); Sierra Nevada, Jerez del Marquesado, 13.vi.1995, Bílý leg. (7 ♂♂, 4 ♀♀, NMPC); Sierra Nevada, 1500 m, 14.vi.1935, Lundblad leg. (1 ♀, NMPC); Pozo Alcon, 1000 m, 10.vi.2003, Škorpík leg. (1 ♂, 5 ♀♀, coll. Škorpík); Sierra de las Nieves, Corjo de la Nava, 1400 m, 15.vi.2003, Kafka leg. (109 ♂♂, 76 ♀♀, coll. Kafka); Sierra Ronda, Coin, 14.v.1991, Kantner leg. (2 ♂♂, 2 ♀♀, coll. Obořil); Sierra Ronda, 27.iv.1996, Fric leg. (2 ♂♂, 4 ♀♀, coll. TICB); Guadix, 19.v.1991, Snížek leg. (6 ♂♂, 1 ♀, coll. TICB); Velez Rubio, 12.v.1979, Jelínek leg. (1 ♀, NMPC); Tarifa, iii.1993, Poot leg. (2 ♂♂, ZMAN); Andalusia (no precice locality) (1 ♀, ZINC); Aragón: Albarracin, 1200 m, vi.1925 (1 ♂, 2 ♀♀, NMPC); Salinas de Bujaralon, 300 m, 12.vi.1994, Borovec leg. (1 ♂, coll. Navrátil); Albarracin, 1200 m, vi.1925 (1 ♂, NMPC); Asturia: Cancas, Paganetti leg. (1 ♀, coll. Mühle); (1 ♀, ZSMC); Avila: Sierra de Gredos (1 ♂, NMPC); Cantabria: Reinosa, Campoo Alto, 27.v.1991, Hozman leg. (2 ♂♂, 3 ♀♀, coll. Škorpík; 1 ♀, coll. Obořil); Castilia: La Nueva (1 ♂, NMPC); Catalonia: Barcelona, Caldetas, Heine leg. (1 ♂, NMPC); Costa Brava, Palamos, 18.vi.1993, Moravec leg. (2 ♂♂, NMPC); Costa Brava, Playa de Aro, 12.vi.1981, Harde leg. (1 ♂, 3 ♀♀, coll. Niehuis); Malgrat de Mar, 9.vi.1991, Schles leg. (1 ♀, coll. TICB); Lérida, Heine leg. (1 ♂, NMPC); Catalonia (no precise locality) (1 ♂, ZSMC); Granada: La Sagra, vi. 1950, Mateu & Cobos leg. (1 ♀, coll. Brandl; 1 ♀ ZSMC); Granada (1 ♀, ZSMC); Cádiz, Puerto de El Bojar, 1100 m, 21.vi.1998, Verdugo leg. (2 ♀♀, coll. Verdugo); Benamaurel, 17.v.2004, Rietz leg. (1 ♂, 2 ♀♀, coll. Niehuis); Los Olmos, 18.vi.2004, Rietz leg. (1 ♂, 1 ♀, coll. Niehuis); Puerto de la Ragua, 5.vii.1989, Studer leg. (1 ♂, coll. Niehuis); Cadiz, W Olivera, 29.iv.1988, Bôness leg. (1 ♂, coll. Niehuis); Guadix, v.1943, Frey leg. (1 ♂, NHMB); Huesca: Huesca, v.1989, Schulmann leg. (3 ♀♀, coll. Brandl; 1 ♀, ZSMC); León: Sierra Ancares, Tres Obispos, 22.vi.1987, Meregalli leg. (1 ♂, NMPC); Lérida: Urgel, 15.vi.187? (1 ♀, ZSMC); Madrid: Robregordo, 21.vi.1997, Verdugo leg. (1 ♀, coll. Verdugo); Sierra Guadarrama, 1500-1800 m, 3.vii.2004,

Pino albar y jaras, Luna leg. (1 ♂, coll. Verdugo); Sierra Guadarrama, Rascafria, 1600 m, 30.vii.1981 (1 ♂, coll. Gigli); Sierra Guadarrama, P. Navacerrad, v.1943, Frey leg. (3 ♂♂, NHMB); Madrid, Novicki leg. (1 ♀, NMPC); Murcia: Cieza, 10.vi.1991, Krajčík leg. (1 ♀, coll. Škorpík); Moratalla, 19.iv.1992, Mertlík leg. (1 ♂, coll. Kafka); Valencia: Alcoceber, 9.v.1995, Průdek leg. (1 ♀, coll. TICB; 1 ♀, coll. Obořil); Cabanes, 7.v.1991, Hanzlík leg. (1 ♂, coll. Kafka); Costa del Azahar, Oropesa, 1.vi.1991, Macek leg. (1 ♀, NMPC); Pego, 31.v.2000, Bednář leg. (1 ♀, coll. Kafka); Santander, Pico de tres mares, 2100 m, v.1963, Frey leg. (1 ♂, 5 ♀♀, NHMB); Alcocéber, 5.vi.1991, Krajčík leg. (1 ♂, 1 ♀, coll. Obořil); Denia, 16.v.1984, Lau leg. (1 ♂, coll. Mühle); Alcoy, 21.v.1984, Kratochvílová leg. (1 ♀, coll. TICB); Villalonga, 30.iii.1999, Schmid-Egger leg. (1 ♂, 4 ♀♀, coll. Niehuis); VALENCIA (no precise locality) (1 ♂, NMPC).

Distribution: France (inc. Corse), Italy (incl. Sicily), Portugal, Spain.

Anthaxia (*Anthaxia*) *spinolae helladis* subsp. nov.

(Figs 56f-g, **88**)

Buprestis pygmaea Brullé, 1832: 134 (preoccupied by DeGeer, 1774).
Type locality: Greece, Peloponesos.

Anthaxia funerula var. *helladis* Obenberger, 1938: 213 (unavailable name).
Type locality: Greece.

Type material. Holotype (♀): "Graecia // Kiesenwet.". Allotype (♂): "Graecia (Attiki), CAP SOUNION, 9.v.1993, lgt. Jelínek". Paratypes (19 ♂♂, 24 ♀♀): the same data as allotype – 1 ex.;"Graecia-Pelopones, Monemvasia, 8.-10.v.1979, Hladilovi lgt." – 4 ex.: "Greece, Gythion env., 6.-7.vi.1980, Brodský, Bílý leg." – 1 ex.; "Grecia-Athini, Mimetos, 9.iv.1989, lgt. M. Škorpík" – 9 ex; "Greece, Kyklades, Milos, 10.-15.v.1992, Kubát lgt." – 1 ex.; "V Parnon Umg., Vamvakou, 950-1200 m, Muche" – 1 ex.; "Attica, Oion, Mařan et Štěp., 1935, coll. Bartoň" – 6 ex.; "Greece, Tayg., M. Ampelaki, 18.v.1971, Novak" – 1 ex.; "Graecia, Xylokastron, 25.iv.1979, leg. Dr. Manfred Niehuis" – 1 ex.; "Griechenland, Kineta, 15.v.1984, leg. W. Vogt" – 1 ex.; "Griechenland, Mavromati, 20.v.1984, leg. W. Vogt" – 1 ex.; "Gr. N Lakonia, Limani Geraki, 23.iv.1987, Rieger" – 1 ex.; "Griechenland, Peloponnes, Neapoli südl., 28.iii.1997, leg. Beierlein" – 1 ex.; "Greece mer., Lavrion, 10.xi.1982, M. Hrabovský lgt." – 3 ex.; "Grecie, Poros env., 5.vi.1997" – 2 ex.; "Turquie, Kemer (Anatolie), 20.v.1978, Réc. G. Herman" – 4 ex.; "W Turkey, Izmir vil., EPHESOS, 18.v.1992, J. Chalupek leg.." – 1 ex.; "Graecia, [Fthiotis] Elatia, 1.-2.v.1975, Hladilovi leg." – 1 ex.; "Greece, Parnas, 6.v.1997, Lgt. Mráček" – 1 ex.; "Pelopones, P. Hania, 18.iv.2001, Klapka" – 2 ex. Holotype and allotype deposited in NMPC, paratypes in coll. NMPC, coll. Kafka, coll. Navrátil, coll. Niehuis and coll. Škorpík.
Further material studied (not included among paratypes). **Croatia:** Dubrovnik (1 ♂, NMPC); **Greece:** Athens: Athens, x.1982, Hrabovský leg. (6 ♂♂, 1 ♀, coll. TICB); Attica: Corfu, Pandokratoras mts., Old Perithia, 700 m, 22.v.2004, Novák leg. (1 ♀, coll. Kafka); Euboea: Vesilika, 1.v.1982, Wolf leg. (1 ♂, 1 ♀, coll. Brandl); Fokís: Galaxidion, 25.v.1984, Vogt leg. (1 ♂, coll. Niehuis); Imathia: Akrokorinth, 16.v.1984, Vogt leg. (1 ♂, coll. Niehuis); Killini: Amalias, 31.iii.1985, Sprick leg. (2 ♂♂, coll. Niehuis); Korinthia: Almiri, 14.iv.1979, Niehuis leg. (1 ♂, coll. Niehuis); Xylokastro, 19.iv.1979, Niehuis leg. (1 ♀, coll. Brandl); Lefkas: Voureikis, 24.iv.1979, Niehuis leg. (1 ♂, coll. Niehuis); Peloponesos: Issari, 1935, Mařan & Štěpánek leg. (1 ♀, NMPC); Monemvasia, 8.v.1979, Hladilovi leg. (2 ♀♀, coll. Navrátil; 5 ♂♂, 3 ♀♀, coll. TICB; 1 ♀, coll. Škorpík); Póros, 5.vi.1997 (2 ♀♀, coll. Navrátil); Nomos Lakonidas, 5 km N Monemvasia, 16.iv.1987, Rieger leg. (1 ♂, coll. Niehuis); Poros: Russian Bay, 10.iv.1993, Turner leg. (1 ♂, NMWC); Skiathos: Skiathos, vi.1980, Brandl leg. (1 ♂, coll. Brandl); **Macedonia:** Ohrid, Silbernagel leg. (1 ♂, NMPC); **Yugoslavia:** Serbia (1 ♀, MNHN); **Turkey:** Aydin: Kusadasi, 13.iv.1988, Lucas leg. (1 ♂ coll. Brandl; 1 ♀, coll. Niehuis); TURKEY (1 ♀, MNHN).

The holotype of *A.* (*A.*) *funerula* var. *helladis* Obenberger, 1938 is used as the holotype of *A.* (*A.*) *spinolae helladis* Bílý subsp. nov. and the description of *A.* (*A.*) *funerula*

var. *helladis* Obenberger, 1938 can be used also for the definition of this subspecies with one exception: Obenberger (1938) mentioned an absence of apical elytral pores although his type specimen (holotype) possesses fine but quite distinct apical pores.

Length: 3.4-4.2 mm (holotype 3.7 mm); width: 1.3-1.5 mm (holotype 1.4 mm).

Distribution: Croatia, Greece, Macedonia, Yugoslavia, Western Turkey.

Differential diagnosis. *Anthaxia* (*A.*) *spinolae helladis* subsp. nov. is the smallest form of all subspecies of *A.* (*A.*) *spinolae* and also the form of male metatibiae (Fig. 56f-g) does not vary as much as in *A.* (*A.*) *spinolae spinolae*. Sexual dichromatism of the frons is practically the same as in *A.* (*A.*) *spinolae spinolae* but sometimes less developed and the coloration of body is usually more dull and less metallic than that in the nominate subspecies.

The form of the male genitalia is as those in *A.* (*A.*) *spinolae spinolae* (Fig. 24) and also in the other subspecies described below.

Bionomy. Nothing is known about the bionomy of this subspecies but the specimens collected by M. & J. Hladil's (see above) were found on localities with a frequent occurrence of *Spartium junceum* (Fabaceae).

Note. There are two syntypes of *A.* (*A.*) *pygmaea* in MNHN and one syntype in BMNH all labelled "*pygmaea* Gory [error] Type". In addition, the syntypes in MNHN bear a curator's label (H. Deyrolle) "*pygmaea* Gory [error] / *punctipennis* Lucas/ Gréce, Algerie". One syntype in MNHN is nearly destroyed, so the second one (well-preserved male) is hereby designated as lectotype to avoid any confusion in the future. The name *Buprestis pygmaea* (currently placed in *Pachyschelus* Solier, 1833) was preoccupied by DeGeer (1774), so it is unavailable for this taxon; Obenberger's name var. *helladis* Obenberger, 1938 was used for an infrasubspecific taxon (described after one female from Greece – holotype in NMPC) and it is also unavailable accordingly to the Code (ICZN, 1999). To avoid any confusion (some specimens of this taxon have been found in various collections with Obenberger's label "*A. funerula* var. *helladis* Obenberger"), I use for this subspecies the same name *helladis*.

Anthaxia (*Anthaxia*) *spinolae hesperica* subsp. nov.

(Figs 56h-i, 89)

Anthaxia funerula var. *hesperica* Obenberger, 1913: 64 (unavailable name).

Type locality: Morocco, Tanger.

Type material. Holotype (♂): "Tanger, Maroc". Allotype (♀): "Algeria, Oran, Les Andalouses, 23.iv.1987, Sv. Bílý leg.". Paratypes (♂♂, ♀♀): the same data as allotype – 3 ex.; "Algeria, Chrea, Blida env., 10.v.1987, Fr. Navrátil leg." – 1 ex.; "Algeria maritim, les Andalouses, 30 km W of Oran, 23.iv.1987, Fr. Navrátil. leg." – 18 ex.; "Algeria maritim., Les Andalouses, 23.iv.1988, 30 km W of Oran, Vít. Kubáň leg." – 8 ex.; "Algeria mer. occ., Tlemcen, 24.iv.1987, leg. Škorpík" – 1 ex.; "Algeria, Oran env., 20.v.1984, S. Bílý leg." – 1 ex.; "Maroko, 16.iv.1992, Zinat-O'Hadjera, leg. M. Krajčík" – 3 ex.; "Morocco, Tetouan, leg. Dr. Krajčík" – 1 ex.; "Marokko, Umg. Azrou, 13.iii.-15.iv.1982, leg. Dr. Manfred Niehuis" – 1 ex.; "Maroko, Haut Atlas, prejezd na Marakesh, 1.vii.1992, lgt. Mráček" – 1 ex.; "Marocco b.,

Chechaouen, 4.iv.1993, lgt. Žák Jaroslav" – 1 ex.; "Maroc, Tanger, [18]97" – 5 ex.; "Mogador [Morocco], v.1956 (Baudon)" – 1 ex.; "Marocco, Tetuan-Martil, 25.iv.1992, leg. Hřebec." – 1 ex.; "Marocco, Kenitra, 30.iv.1990, leg. M. Halada" – 1 ex.; "Marocco (Tizint), Tasgirht, Jebel Imzi, m 650, 20.45.08 N, 9.15.28 W. 1.v.2000, E. Colonnelli leg." – 6 ex; "Marocco, dint. Rabat,16.v.87, Forêt de la Mamora, D. Gianasso leg." – 3 ex.; "Marocco, dint. Kénitra, F. de la Mamora, 14.v.1981, D. Gianasso leg." – 4 ex.; "N Tunesien, Tabarka, 16.-19.v.2004, leg. Seibald" – 1 ex.; "NE Tunisia, dint. Korbous, 27.iv.2003, D. Gianasso leg." – 2 ex. Holotype and allotype deposited in NMPC, paratypes in NMPC, coll. Baiocchi, coll. Gianasso, coll. Navrátil, coll. Niehuis, coll. Škorpík, coll. TICB and coll. Trojan.

Further material studied (not included among paratypes). **Algeria:** Alger: Morawitz leg. (1 ♂, 1 ♀, ZINC); Oran: Les Andalouses, 23.iv.1987, 30 km W of Oran, Kubáň leg. (21 ♂♂, coll. TICB); Tanger, vi.1894 (2 ♂♂, MMBC); ALGERIA (no precise locality) (3 ♂♂, 4 ♀♀, MNHN); **Libya:** Ras el Hilal, 6.v.2004, Ringenbach leg. (1 ♂, coll. Baiocchi); **Morocco:** Haut Atlas: north slope to Marrakesh, 1.vii.1992, Škorpík leg. (1 ♂, coll. Škorpík); Kenitra, 30.iv.1990, Halada leg. (1 ♂, NMPC); Moyen Atlas: Azrou, 30.iii.1982, Niehuis leg. (1 ♂, coll. Niehuis); Rif: Ain Seur, Martin leg. (1 ♀, MNHN); Zinat-o'Hadjera, 16.iv.1992, Krajčík leg. (2 ♂♂, 1 ♀, coll. Škorpík); Tetouan, 26.iv.1992 (1 ♂, coll. Navrátil; 1 ♂, NMPC); Oudjda: Oudjda (1♂, 2 ♀♀, MNHN); Tanger: Larache (1 ♂, MNHN); Tanger, 1897 (3 ♂♂, 1 ♀, NMPC; 7 ♂♂, 2 ♀♀, MNHN); MOROCCO (no precise locality) (1 ♂, NMPC); **Tunisia:** Atlas: Ain Draham (1 ♀, MNHN); Tell Atlas: Tabarka [Tabarquah], 19.v.2004, Seibald leg. (1 ♀, coll. Barries).

The name *A.* (*A.*) *funerula* var. *hesperica* Obenberger, 1913 is also unavailable accordingly to the Code (ICZN, 1999) since it was used for an infrasubspecific taxon. Nevertheless, this taxon was well-defined (although the interpretation of the nominate subspecies was wrong) and I use this name for the North African subspecies as *A.* (*A.*) *spinolae hesperica* subsp. nov. in the sense of Obenberger's *A.* (*A.*) *funerula* var. *hesperica* to avoid any confusion in the future for the same reason as explained above (see *A. spinolae helladis* subsp. nov.).

I used also the holotype of *A.* (*A.*) *funerula* var. *hesperica* Obenberger, 1913 (NMPC) as the holotype of *A.* (*A.*) *spinolae hesperica* subsp. nov. and I suppose Obenberger's description of var. *hesperica* (Obenberger, 1913) to be quite sufficient for the definition of *A.* (*A.*) *spinolae hesperica* subsp. nov.

Length: 3.6-5.1 mm (holotype 3.7 mm); width: 1.2-1.4 mm (holotype 1.3 mm).

Distribution: Algeria, Libya, Morocco, Tunisia.

Differential diagnosis. This subspecies differs from *A.* (*A.*) *spinolae spinolae* and *A.* (*A.*) *spinolae rifensis* subsp. nov. (see below) by distinctly prolonged cells on the lateral portion of the pronotum which sometimes form fine, oblique rugae and by the more emarginate lateral pronotal margins before posterior angles. The male metatibiae resemble those of *A.* (*A.*) *spinolae spinolae* but the range of their variability is not so wide (Fig. 56 h-i). Sexual dichromatism of the frons is more developed than in *A.* (*A.*) *spinolae spinolae* and sometimes the entire body, especially the pronotum, possesses a metallic, green tinge. Generally, *A.* (*A.*) *spinolae hesperica* subsp. nov. is a more lustrous subspecies with finer elytral and pronotal sculpture distributed predominantly in the coastal portion of North Africa but reaching as far as to the High Atlas Mts in Morocco.

Variability. Because of its wide distribution, *A.* (*A.*) *spinolae hesperica* subsp. nov. is rather variable not only in size but also in coloration. Some females (from the eastern portion of the range) are rather bright bronze and males can possess

brass or green tinge on the head and pronotum; also the lateral pronotal cells are very rarely only slightly prolonged independently on the distribution.

Bionomy. Unknown but I collected some specimens near Oran by sweeping of Fabaceae (probably *Genista* sp.). The spectrum of the host plants will be most probably rather wide because of the wide distribution of this subspecies.

Anthaxia (*Anthaxia*) *spinolae rifensis* subsp. nov.

(Fig. **90**)

Type locality: North Morocco, Rif Mts, Bab Bered, 1600 m.

Type material. Holotype (♂): "Morocco, Rif, 1600 m, Bab Bered env., 11.vi.1995, Sv. Bílý lgt.". Allotype (♀): the same data. Paratypes (3 ♂♂, 2 ♀♀): the same data – 2 ex.; "Maroc bor., Rif Mts, 1300 m. n. m., Bab Bered, 2.-3.vi.1998, T. Lackner leg." – 1 ex.; "Morocco, Tazekka Nat. Park, Bab Bou Idir env., 27.v.-3.vi.1999, I. Smatana leg." – 1 ex.; "Marocco, Moyen Atlas, Azrou, 22.v.1981, L. G. Curletti" – 1 ex. "Marocco, Chechaouén, 13.v.1980, Gianasso leg." – 1 ex. Holotype and allotype deposited in NMPC, paratypes in NMPC, coll. Curletti, coll. Gianasso and coll. Obořil.

Small, moderately convex, black subspecies (Fig. 90); dorsal surface sometimes with slight bronze tinge, anterior third of frons in male blue-green; entire body asetose except for several very short, white setae on postclypeal portion of frons and very sparse, nearly indistinct, white pubescence on ventrites.

This subspecies differs from other subspecies of *A.* (*A.*) *spinolae* (except for its distribution) by the black body, different coloration of the frons in the male (the anterior third of the frons golden green in other subspecies of *A. spinolae*) and by the more depressed frons.

The form of the male metatibiae and genitalia are similar to those in *A.* (*A.*) *spinolae spinolae* (Figs 24, 56-57) and only the shape of the metatibiae seem to be less variable than those in the nominate subspecies (most probably due to limited material of *A. spinolae rifensis* subsp. nov.).

Sexual dimorphism. The female differs from the male only by a longer and somewhat stouter body, bronze frons and simple metatibiae.

Variability. Three female paratypes possess a slight bronze tinge of the entire body; no other variability was observed except for the body size.

Length: 3.8-4.5 mm (holotype 3.8 mm); width: 1.3-1.5 mm (holotype 1.3 mm).

Etymology. *Anthaxia* (*A.*) *spinolae rifensis* subsp. nov. is named after the type locality (Rif Mts, N Morocco).

Distribution: Morocco.

Differential diagnosis. *Anthaxia* (*A.*) *spinolae rifensis* subsp. nov. differs from other subspecies of *A.* (*A.*) *spinolae* by the characters given above and in the key and by its isolated distribution in the Rif Mts. By the black coloration and size, it resembles *A.* (*A.*) *bercedoi* sp. nov. from Spain differing by the form of both male and female metatibiae and male genitalia.

Anthaxia (*Anthaxia*) *lucia* sp. nov.

(Figs 20, 33, 76)

Type locality: Spain, prov. Madrid, Montarco.

Type material. Holotype (♂): "Hi. c., Montarco [Madrid], 23.v.1934, C. Koch". Allotype (♀): the same data, except "17.v.1934". Paratypes (20 ♂♂, 12 ♀♀): "Palencia, Soto de Cerrato[Castilla y León], 31.v.-7.vi.2003, L. Arnáiz & P. Bercedo leg." – 3 ex.; the same data except "24.v.2002" – 1 ex.; "Jaca-Huesca, [Aragón], 29.v.1997, L. Arnáiz & P. Bercedo leg." – 2 ex.; "España, Palencia [Castilla y León], Hornillos de Cerrato, 15.vi.2002, L. Arnáiz & P. Bercedo leg." – 1 ex.; the same data as allotype – 1 ex.; "Spain, Zaragoza [Aragón], Penaflor, 6.v.1995, A. & F. Murria leg." – 15 ex.; "Madrid, Torres de la Alameda, 14. and 25.v.1996, L. Arnáiz leg." – 2 ex.; "España, prov. Cuenca, Serrania de Cuenca (Uña), La Toba env., 10.vi.2004, Bořivoj Zbuzek LGT." – 2 ex.; "Madrid, Arganda, 8.v.1897" – 2 ex.; "Huesca, Anzánigo, 28.JUN.1994, S. Lacueva leg." – 1 ex.; "Esp., Lleida, Cervera, 10.vi.1991, leg. H. Hebauer" – 1 ex.; "Spagna, Cubells [Catalonia]" – 1 ex. Holotype and allotype deposited in NMPC, paratypes in NMPC, coll. Arnáiz & Bercedo, coll. Baiocchi, coll. Verdugo and coll. Zbuzek.

Robust, convex, black to bronze and matt species (Fig. 76); ventral surface black to dark bronze, frons of male green-bronze, that of female black to dark bronze; dorsal surface asetose except for frons which bears short, white pubescence; ventral surface with very short and sparse, white pubescence; pronotum distinctly wider than elytra.

Description of holotype. Head large, frons nearly flat, only slightly depressed medially; vertex 1.8 times as wide as width of eye, eyes large, reniform, not projecting beyond outline of head; sculpture of head consisting of small and dense polygonal cells with small but distinct central grains; frontal pubescence as long as diameter of cells or slightly longer; antennae rather short reaching midlength of lateral pronotal margins; antennomeres 4-10 triangular, slightly wider than long, terminal antennomere rhomboid.

Pronotum very convex, 1.8 times as wide as long with very shallow laterobasal depressions; anterior pronotal margin deeply bisinuous, posterior margin slightly bisinuous; lateral pronotal margins regularly arcuate, not emarginate before posterior angles; maximum pronotal width at anterior third; pronotal sculpture nearly homogeneous, consisting of small, fine polygonal cells with tiny central grains on lateral portions of pronotum. Scutellum small, subcordiform, as wide as long, very finely microsculptured.

Elytra regularly convex, 1.8 times as long as wide with shallow but well-developed transverse basal depression reaching scutellum; elytral apices separately rounded without any lateral serration and with several, very fine preapical punctures; apical pores simple, small but welldeveloped; humeral swellings small but distinct, elytral sculpture very fine, homogeneous consisting of fine microsculpture; epipleura wide, well-developed, nearly reaching elytral apex.

Ventral surface rather lustrous, sternal portion finely ocellate, ventrites nearly glabrous; anal ventrite regularly rounded apically with indistinct lateral serration and feeble apical depression. Legs relatively short, inner margin of male metatibiae only very slightly emarginate preapically with several, very small preapical teeth (Fig. 33).

Aedeagus (Fig. 20) rather robust and spindle-shaped with widened membraneous portion of parameres; median lobe with fine, lateral serration.

Length: 3.7-5.0 mm (holotype 4.4 mm); width: 1.4-1.9 mm (holotype 1.8 mm).

Sexual dimorphism. Female differs from male by the stouter and darker body, somewhat shorter antennae and simple metatibiae and by the black or dark bronze frons.

Variability. Except for the size, this species varies also in coloration: most of specimens are black or dark bronze but the eastern population (Aragón) is more metallic including some nearly red-bronze specimens resembling by their coloration some specimens of *A.* (*A.*) *mendizabali*. Laterobasal pronotal depressions of some specimens are nearly indistinct so that their pronotum looks completely convex.

Etymology. *Anthaxia* (*A.*) *lucia* sp. nov. is named after my colleague and friend Lucia Arnáiz Ruiz (Vegas del Condado, Spain), a specialist in Iberian Buprestidae.

Distribution: Spain.

Differential diagnosis. *Anthaxia* (*A.*) *lucia* sp. nov. is rather isolated species within subgroup C due to its frontal pubescence, pronotal sculpture with central grains, stout body, strongly convex and wide pronotum and by the form of parameres. As mentioned above, some specimens resemble by their coloration large specimens of *A.* (*A.*) *mendizabali*.

Anthaxia (*Anthaxia*) *mendizabali* Cobos, 1965

(Figs 14, 36, **79**)

Anthaxia mendizabali Cobos, 1965: 120-122.

Type locality: Spain, Madrid, Casa de Campo.

One of the most distinguishable species of the group with a very wide distribution. Surprisingly the species was recognized and described rather recently (Cobos, 1965) although it is one of the most common species in Spain and the western portion of Central Europe. Despite a wide distribution, this species is fairly stable, without much variation and it does not require any subspecies. The form of aedeagus is rather unique within the group (Fig. 14) and also the pronotal shape is rather characteristic, i.e. the lateral pronotal margins are regularly rounded with the maximum width at the pronotal midlength (Fig. 79).

The distribution of *A.* (*A.*) *mendizabali* in Central Europe was discussed by Niehuis (1981) and again by Brandl (1990); the distribution in the northern portion of Central Europe is more or less limited by the Rhein valley in Germany but in southern Europe the distribution continues across France and Italy as far as to the Balcans and Turkey. In Central Europe (east of the Rhein), *A.* (*A.*) *mendizabali* is replaced by *A.* (*A.*) *chevrieri*.

Bionomy. Some specimens from Spain were reared from *Spartium junceum* (Fabaceae), a few specimens from Italy from *Spartium junceum*, *Genista* sp., and *Cytisus* sp. (Fabaceae). Schaefer (1971) mentioned *Sarothamnus* [*Cytisus*] *scoparius*

(Fabaceae) and Niehuis (2004) and Arnáiz & Bercedo (2005) listed *Cytisus scoparius* (Fabaceae). A specimen from Fontainebleau (France – see below) was cut from the trunk of *Sarothamnus scoparius* by Kubáň, as well as the specimens from Hlohovec (Slovakia) which were beated by Kubáň from the same plant.

Type material studied. Holotype (♂, MNMS): "Madrid, Casa de Campo, mayo 1948".
Further material studied. **Croatia:** Istria: Ins. Kres, Vodice, 18.v.2002, Jantke leg. (1 ♂, coll. Niehuis); Poretsch, 11.v.2002, Bednář leg. (1 ♂, 1 ♀, coll. Kafka); Porec, 13.v.2004, Kopetz leg. (1 ♂, coll. Niehuis); Split, 18.v.1974, Slob leg. (1 ♂, NMPC); Dalmatia: Makarska riv., Drvenik, 11.vi.2000, Kafka leg. (1 ♂, 2 ♀♀, coll. Kafka); **France:** Ardéche: Vallon, Port-d-Arc, 7.vi.2003, colour trap, Aberlenc leg. (1 ♂, 1 ♀, coll. Curletti); Alpes-Maritimes: Gourdon, 12.v.2005, Kabátek leg. (1 ♂, 2 ♀♀, coll. Kabátek); Vesubie, 1500 m, Martin leg.(2 ♀♀, NMPC); Bordeaux: La Teste, 15.vi.?? (1 ♀, MNHN); Bouches-du-Rhône: St. Chamas, v.1931, Schaefer leg. (3 ♂♂, 2 ♀♀, MNHN); Rognac, 19.v.1935, Schaefer leg. (1 ♂, MNHN); Corse: Ajacio, 6.vi.1950, Schaefer leg. (1 ♀, MNHN); Aleria, 28.v.1985, Niehuis leg. (1 ♀, coll. Niehuis); C. du Sud, 10.vi.1987, Hirschfelder leg. (1 ♂, 1 ♀, coll. Niehuis); Sarténe, 7.vi.1938, Schaefer leg. (1 ♀, MNHN); 1890, Reitter leg. (1 ♀, ZINC); Essone: Ferté-Alais, vi.??, on *Sarothamnus* (1 ♂, MNHN); Gard: Vallerauge, vii.1980, Dalmon leg. (1 ♂, MNHN); Haut-Rhin: Mulhouse, Wittelsheim, 26.iv.2003, Kubáň leg. (1 ♂, coll. TICB); Hérault: Avéne, v.1968, Schaefer leg. (7 ♂♂, MNHN); Bosquet d'Orb, iv.1966, Schaefer leg. (1 ♂, MNHN); La Billiére, v.1986, Schaefer leg. (10 ♂♂, 5 ♀♀, MNHN); vi.1980, Schaefer leg. (1 ♂, coll. TICB); Gironde: Arcachon, 18.v.1953, Ardoin leg. (3 ♂♂, 1 ♀, NMPC; 1 ♂, 3 ♀♀, MNHN); Loire: Orléans (1 ♂, NMPC); Provence: Sisteron (1 ♂, NHMB); Pyrenées-Orientales: Canigou, 30.vii.1932, Schaefer leg. (4 ♀♀, MNHN; 1 ♂, NMPC); Vernet les Bains, Schaefer leg. (1 ♂, coll. Niehuis; 1 ♂, coll. Curletti; 1 ♀, NMPC); Rhône: Lentilly, 4.v.1947, Schaefer leg. (6 ♀♀, MNHN); Thurins, iv.1943 (1 ♂, MNHN; 1 ♂, coll. Curletti; 1 ♂, coll. Niehuis); Sarthe: La Fléche, 18.v.1939, Frey leg. (1 ♂, NHMB); Seine-et-Marne: Fontainebleau, Champ de tir, 3.vii.1977 (1 ♂, MNHN); Fontainebleau, 13.vi.1956, C. B. leg. (2 ♂♂, NMPC); Fontainebleau, 12.iv.2004, Kubáň leg. (1 ♀, coll. TICB); Var: Aiguines, 26.vi.1982, Moragnes leg. (1 ♂, MNHNH); Galiia, v.1927, Obenberger leg. (1 ♂, NMPC); Le Beausset, vi.1903 (1 ♂, NHMB); Roque-Esclapon, vi.1936, Schaefer leg. (3 ♂♂, NMPC; 3 ♂♂, coll. Curletti); St. Baume, vi.1939, Schaefer leg. (1 ♂, MNHN); Vaucluse: Mt. Ventoux, 2.vi.1973, Abrazzese leg. (1 ♀, coll. Gianasso); Yonne: Avallon (2 ♂♂, MNHN); **Germany:** Baden-Würtenberg: Gaggenau-Görden, 1.v.1987, Hauser leg. (2 ♂♂, 2 ♀♀, NMPC; 1 ♂, coll. Škorpík; 1 ♂, 5 ♀♀, coll. Niehuis; 1 ♂, coll. Kafka); Rotenfels, 28.vi.1975 (1 ♀, coll. Niehuis); Bavaria: Geisenfeld, 28.v.1936 (2 ♀♀, ZSMC; 2 ♂♂, NMPC; 1 ♂, coll. TICB); Geisenfeld, 5.vi.1952 (1 ♂, coll. TICB); Mittelrhein, Klotten, 14.vi.1974, Niehuis leg. (1 ♂, coll. Niehuis); Niederhausen, iii.1977 ex larva, Niehuis leg. (2 ♀♀, coll. TICB; 1 ♂, 2 ♀♀, coll. Niehuis); Ingolstadt, 28.v.1936 (1 ♂, NMPC); Reichertshoffen, 27.v.1937 (1 ♂, coll. TICB); Hessen: Darmstadt, 17.v.1952, Vogt leg. (1 ♀, NMPC); Pfalz: Albersweiler, 17.vi.1983, Niehuis leg. (1 ♂, 3 ♀♀, coll. Niehuis); Dörscheid, 20.vi.1998, Niehuis leg. (1 ♂, 1 ♀, coll. Niehuis; 1 ♀, NMPC; 4 ♂♂, 1 ♀, coll. TICB); Lahnstein, Koppelstein, 25.vi.1999, Niehuis leg. (1 ♂, coll. Niehuis); Lauterecken, 10.vi.1981, Niehuis leg. (3 ♀♀, coll. Niehuis; 1 ♂, coll. Obořil); Sachsen: Radeberg, 9.vii.1971 (1 ♀, coll. Niehuis); **Greece:** Corfu: Marmaro, EV/94, Jantke leg. (1 ♂, coll. Niehuis); Macedonia: Vrasna, 2004 ex larva, Kraus leg. (1 ♂, coll. TICB); Thessalia: Stomio, Mt. Ossa, 1.v.1987, Brachat leg. (1 ♀, coll. Brandl); Greece: no precise locality (1 ♂, NMPC); **Italy:** Abruzzo: Gran Sasso, Prati di Tivo, 1400 m, 1.vii.1984, Gigli leg. (1 ♂, coll. Gigli); AEOLIAN Islands: Vulcano, 9.vi.2002, Švec leg. (1 ♂, 1 ♀, NMPC); Calabria: Gerace, 2.vi.1983, Gigli leg. (1 ♂, coll. Gigli); Gambarie, vi.1996, Krajčík leg. (1 ♂, 1 ♀, coll. Kafka); Sila, Monte Gariglione, 1400 m, 17.viii.1975, Gobbi leg. (1 ♀, coll. Curletti; 3 ♂♂, 2 ♀♀, NMPC); Lago Cecita, 4.viii.1988, Izzillo leg. (1 ♂, coll. Curletti); Elba: 1.vi.1973, Niehuis leg. (1 ♂, coll. Niehuis); Foggia: Foresta Umbra, 26.v.1948, Vitagi leg. (1 ♂, 1 ♀, coll. Kafka); Lazio: Roma – San Vittorino, 28.vii.2004, Gigli leg. (13 ♂♂, 13 ♀♀, coll. Gigli); Roma, Tolfa, 10.vi.2002 and 10.v.2004, Gigli leg. (2 ♀♀, coll. Gigli); Roma, Cineto, 27.vii.2002, Gigli leg. (2 ♂♂, 1 ♀, coll. Gigli); Frosinone, Fiumata, 3.vii.1998, Gigli leg. (1 ♀, coll. Gigli); Roma, Tivoli, 16.vii.1989, Gigli leg. (1 ♂, coll. Gigli); Roma, Ten Capocotta, 8.v.1968, Bruschi leg. (2 ♂♂, coll. Curletti); Liguria: Bergeggi, 7.v.1972, Gianasso leg. (1 ♂, 1 ♀, coll.

Gianasso); Testico, 8.vi.1962, Liebmann leg. (1 ♂, ZSMC); Piemonte: Cardona, 16.vi.1991, Curletti leg. (1 ♂, coll. Curletti; 1 ♂, coll. Gianasso); Bergomale, 26.vi.1981, Pagliano leg. (1 ♀, coll. Curletti); Puglia: Lizzano, 4.vii.1970, Steinh. leg. (1 ♂, ZSMC); Sicily: Fiusefredo, 1.iv.1988, Mourglia leg. (1 ♂, coll. Gianasso); Palermo (1 ♀, MNHN); Randazzo, 7.v.1988, Mourglia leg. (1 ♂, coll. Curletti); Bosco Ficuzza, 12.iv.1983, ex *Spartium junceum*, Sparacio leg. (1 ♂, 2 ♀♀, coll. Curletti); Caltagirone, bosco S. Pietro, 29.iv.1942, Frey leg. (1 ♂, NHMB); Tirol: (no precise locality) (1 ♀, MNHN); Toscana: Lucca, Strava, 23.vi.1983, Russell leg. (1 ♂, 2 ♀♀, NMWC); ITALY, Alpes (no precise locality, 1 ♀, ZSMC); **Portugal:** Braga: Villa do Geres, 31.vii.2001, yellow trap, Schmid-Egger leg. (1 ♂, coll. Niehuis); Coimbra: Serra da Estrela, Seia, 10.vi.1995, Malec leg. (2 ♀♀, coll. TICB); Portugal: no precise data, 5.v.1912 (2 ♀♀, ZSMC); **Slovenia:** Illyria: (1 ♀, NMPC); **Spain:** Albacete: Escorial (1 ♂, NMPC); Andalusia: Sierra de las Nieves, Corjo de la Nava, 1400 m, 15.vi.2003, Kafka leg. (41 ♂♂, 35 ♀♀, coll. Kafka); Sierra Nevada, El Puerto, 1500 m, 18.v.1991, Snížek leg. (1 ♀, coll. Kafka); Sierra Nevada, Cullo, 1700 m, 4.vi.1980, Mauerhofer leg. (1 ♀, NMPC); Sierra Nevada, Estrella, 1927, Champion leg. (1 ♂, 1 ♀, NMWC); Sierra Nevada, Jerez del Marquesado, 1500 m, 13.vi.1995, Bílý leg. (29 ♂♂, 21 ♀♀, coll. Navrátil; 6 ♂♂, 1 ♀, coll. Niehuis); Sierra Nevada, Niguelas, 1200-2000 m, 19.iv.1995, Hanzlík leg. (3 ♀♀, coll. Navrátil; 7 ♂♂, 8 ♀♀, coll. Stanovský; 1 ♂, 2 ♀♀, coll. Škorpík; 2 ♂♂, 1 ♀, coll. Obořil; 4 ♂♂, 23 ♀♀, coll. Kafka); Sierra Nevada, Niguelas, 19.iv.1995, Lackner leg. (2 ♀♀, coll. Škorpík); Sierra Nevada, 18.vii.1895 (1 ♀, ZSMC); Sierra Nevada, N Orgiva, 25.iv.1987, Scheuren leg. (1 ♀, coll. Mühle; 1 ♀, coll. TICB); Sierra Nevada, Puerto de la Ragua, 1500-2000 m, 28.v.1964, Frey leg. (2 ♀♀, NHMB; 1 ♀, coll. Obořil; 1 ♂, coll. Niehuis); Sierra Nevada, Mulhacén, 27.iv.1992, Košťál leg. (3 ♀♀, coll. TICB); Sierra Nevada, Tices, 900 m, 5.v.2003, Kantner leg. (1 ♀, coll. Obořil); Sierra Pozo, 12.vi.2003, Škorpík leg. (2 ♀♀, coll. Škorpík; 1 ♂, coll. Obořil); Algeciras, 17.v.1895 1 ♀, ZSMC); Almunecar, 26.iv.1966, Daniel leg. (1 ♀, ZSMC); Cádiz, Jerez de la Frontera, 23.iv.1988, Verdugo leg. (1 ♀, coll. Verdugo); Málaga, Carratracos, 25.iv.1988, Beness leg. (1 ♂, 2 ♀♀, coll. Niehuis); Málaga, Marbella, 15.v.1991, Snížek leg. (3 ♀♀, coll. TICB; 2 ♂♂, coll. Kafka); Málaga, Pto. de Leon,11.v.2003, Ziegler leg. (3 ♂♂, coll. Niehuis); Sierra Ronda, Corjo de la Nava, 1400 m, 14.vi.2003, Obořil leg. (30 ♂♂, 30 ♀♀, coll. Obořil); Ronda, 21.v.1994, Gijswijt leg. (1 ♂, 1 ♀, ZMAN); Avila: Sierra de Gredos (5 ♂♂, 2 ♂♂, NMPC); Cantabria: Caldas, 12.vi.1892 (2 ♂♂, ZSMC); Galicia: Fonteo, 6.vii.2000, Snäll leg. (2 ♀♀, NMPC); Granada: Fuente del Avellano, 23.vi.1996, Baena leg. (3 ♂♂, 2 ♀♀, coll. Baiocchi); Haza de Lino, 1280 m, 26.vi.1978, Mauerhofer leg. (1 ♂, NMPC); Monts Herrero, 15.vi.1965, Herman leg. (2 ♂♂, 2 ♀♀, NMPC); Grazalema: Cádiz, Puerto de El Bojar, 1100 m, 21.vi.1998, Verdugo leg. (1 ♂, 3 ♀♀, coll. Verdugo); León: Ambasaguas de Curueno, 6.vi.2004, Arnáiz & Bercedo leg. (1♀, coll. Arnáiz & Bercedo); Madrid: Escorial 1 ♂, NMPC); Málaga, 21.v.1980, Gianasso leg. (6 ♂♂, coll. Curletti); **Turkey:** Çanakkale: Çanakkale, 17.v.1992, Chalupek leg. (1 ♂, coll. TICB); Istambul: Durusu, 2.vi.1996, Knížek leg. (1 ♂, coll. Kafka); Constantinopol [Istambul] (1 ♂, NMPC); **Algeria:** Alger: Tipasa, v.1987, Škorpík leg. (1 ♂, 1 ♀, coll. Škorpík); Annaba: Edough, v.1885 (1 ♂, NMPC); Edough, vii.1900, Chobaut leg. (3 ♂♂, NMPC); Bône [Annaba], Hénon leg. (1 ♂, 4 ♀♀, NMPC); Aures: Batna, Obenberger leg. (7 ♂♂, 2 ♀♀, NMPC); Blida: env. Chrea, 10.v.1987, Navrátil leg. (1 ♂, 1 ♀, coll. Navrátil); Chrea, 10.v.1987, Kubáň leg. (3♀♀, coll. TICB); Chrea, 11.v.1987, Škorpík leg. (2 ♀♀, coll. Škorpík); Kabylia: Souk Ahras, 30.iv.1979, ex *Ginestra*, Curletti leg., Gianasso leg. (6 ♀♀, coll. Curletti; 3 ♀♀, coll. Gianasso; 1 ♂, NMPC); Oran: Les Andalouses, 23.iv.1987, Navrátil leg. (1 ♂, 2 ♀♀, coll. Navrátil; 1 ♂, coll. Niehuis; 1 ♂, NMPC); Tlemcen, 24.iv.1987, Škorpík leg. (1 ♂, 1 ♀); Oran (1 ♀, NMPC); Tell Atlas: Akfadou, 1000 m, 16.vi.1982, Sama leg. (1 ♀, coll. TICB); Batna, Obenberger leg. (1 ♀, coll. TICB); Foresta di Akfadou, 5.v.1979, Curletti leg. (1 ♀, coll. Curletti); Djurdjura, Tizi Ouzou, 1500 m, 17.vi.1983, Jendek leg. (2 ♂♂, coll. TICB; 2 ♂♂, 3 ♀♀, NMPC); Laverdure [Mechroha], vi.1932, Heyrovský leg. (5 ♂♂, 3 ♀♀, NMPC; 2 ♀♀, NHMB); Teniet el Haad, cédres, v.-vi.1899, Abeille de Perrin leg. (18 ♂♂, 14 ♀♀, MNHN); Teniet el Haad, vi.1893, Chobaut leg. (1 ♂, 3 ♀♀, ZINC; 1 ♂, NMPC); Yacouren, 21.vi.1971, Hoffer & Horák leg. (1 ♂, 1 ♀, NMPC); Yacouren, vi.-vii.1909, Dayerm leg. (5 ♂♂, 2 ♀♀, MNHN); Algeria: no precise locality (2 ♂♂, NMPC; 2 ♀♀, NHMB); **Morocco:** Moyen Atlas: Azrou, 1982 ex *Cytisus*, Curletti leg. (2 ♂♂, 9 ♀♀, coll. Curletti; 1 ♂, 1 ♀, NMPC); Ifrane, 20.v.1980, Gianasso leg. (1 ♂, 2 ♀♀, coll. Gianasso; 1 ♀, coll. Curletti); Tazzeka Mass., 28.v.1987, Gianasso leg. (1 ♀, coll. Gianasso); Rif: Alhucemas [Al-Hoceima], Yacob el Bari, xi.1951, Pardo Alcaide leg. (1 ♀, coll. Verdugo); Bab Bered, 1600 m, 11.vi.1995, Rolčík leg. (3 ♀♀,

coll. Kafka); Rhira (1 ♀, MNHN); Tanger: Tanger (1 ♀, MNHN); Tizint: Tasgirht, Jebel Imzi, m 650, 20.45.08 N, 9.15.28 W, 1.v.2000, E. Colonnelli leg. (2 ♀♀, coll. Baiocchi);**Tunisia:** Atlas: El Kef, 1886 (1 ♂, 1 ♀, NMPC); Tell Atlas: Jendouba, Jebel Feidja, Ghardimaon, 2.vi.2005, Kabátek leg. (1 ♀, coll. Kabátek).

Distribution: Croatia, France (incl. Corse), Germany, Greece, Italy (incl. Aeolian Islands and Sicily), Portugal, Slovenia, Spain, Turkey; Algeria, Morocco, Tunisia.

Anthaxia (*Anthaxia*) *mamorensis* Théry, 1930

(Figs 12, 38, **78**)

Anthaxia funerula var. *mamorensis* Théry, 1930: 312, 340 (available by ICZN, 1999).
Type locality: Morocco, Mamora.

Although *A.* (*A.*) *mamorensis* was originally described as a variety, all subsequent authors treated this taxon as subspecies (Baudon, 1958a, 1958b) or species (Obenberger, 1938; Bílý, 1997), so it cannot be treated as unavailable name accordingly to the Code (ICZN, 1999, Article 45.6.4.1). Only Schaefer (1944b) treated this taxon as a variety of *A.* (*A.*) *funerula*.

Théry (1930) indicated in the description that this "variety" is distributed only at the Mamora oak forest but the species is evidently distributed also in the High Atlas and easterly as far as Tunisia.

Bionomy. Host plant unknown, but recently collected specimens from the High Atlas were collected in the biotopes with many species of both Fabaceae and Asteraceae.

Type material studied. Holotype (♂, MNHN): "Maroc, Mamora".
Further material studied. **Algeria:** Oran: Misserghim moulins (1 ♂, 1 ♀, MNHN; 1 ♀, NMPC); Tlemcen, 24.iv.1987, Kubáň leg. (1 ♂, coll. TICB); Oran, 13.iv.1913, Pastuchova leg. (1 ♂, ZINC); Saharan Atlas: Laghouat, 23.v.1975, Moravec leg. (1 ♀, coll. TICB); **Morocco:** Agadir: Agadir – Marrakesh km 53, 19.iv.1985, 780 m, Wittmer leg. (1 ♀, coll. TICB); Ameskroud, 7.-24.iv.1984, 500 m, G. & M. Novak leg. (1 ♂, 1 ♀, coll. Niehuis; 1 ♂, 1 ♀, coll. Mühle; 1 ♂, coll. TICB); Oulad Teima, 14.ii.1961, Meinander leg. (1 ♂, coll. TICB); Oulma, 14.iv.1985, 200 m, Wittmer leg. (1 ♂, coll. TICB); Oulma-Immouzer, 300-800 m, 16.iv.2001, Gigli leg. (1 ♂, coll. Gigli); Arbeous, 5.v.1955, Stanovský leg. (1 ♀, coll. TICB); Anti Atlas: Bou Izakarn,10.iv.1959, Baudon leg. (1 ♀, MNHN); 25 km N Tafraoute, 21.v.1986, Gianasso leg. (2 ♀♀, coll. Gianasso); Haut Atlas: Asni, 4.v.1999, Šigut leg. (1 ♀, coll. TICB); Tizi n'Test – Arhbar, 2000 m, 23.v.1982, Curletti & Magnani leg. (20 ♂♂, 15 ♀♀, coll. Curletti; 3 ♂♂, 3 ♀♀, coll. Gianasso; 1 ♀, coll. TICB; 1 ♀, coll. Niehuis; 1 ♀, coll. Kafka); Arhbar, 23.v.1986, Curletti & Gianasso leg. (9 ♂♂, 11 ♀♀, coll. Curletti); Tizi n'Test valley, 2000 m, 12.v.2003, Trojan, Pavel, Kopecký leg. (13 ♂♂, 11 ♀♀, coll. Trojan); Tizi n' Test, Djebel Imdress, 2000-2450 m, 14.v.1911 (1 ♀, NHMB); Mamora (1 ♀, NMPC); Mogador: Djebel Amsittene, 13.ii.1961, Lindberg leg. (1 ♀, coll. Navrátil; 7 ♂♂, 3 ♀♀, NMPC; 1 ♀, NHMB, 1 ♀, coll. Niehuis); Mogador, iv.1962, Vazquez leg. (3 ♂♂, 2 ♀♀, MNHN); Ouezzana, 14.v.1981, Curletti leg. (1 ♀, coll. Curletti); Tanger: Harazine, iii.1914, Pallary leg. (1 ♀, MNHN); **Tunisia:** Atlas: Talah, 1918, Vauloger leg. (1 ♀, coll. Škorpík); Le Kef, Normand leg. (1 ♂, NMPC); Nefsa, 25.iv.1995, 150 m, Košťál leg. (1 ♀, coll. Niehuis).

Distribution: Algeria, Morocco, Tunisia.

Anthaxia (*Anthaxia*) *cleopatra* Obenberger, 1913

(Figs 18, **69**)

Anthaxia cleopatra Obenberger, 1913: 64.
Type locality: Libya, Tripolis.

Anthaxia glabrifrons freyi Théry, 1939: 248, **syn. nov.**
Type locality: Libya, Tripolis, Nalut.

This species was described from a series of specimens (DEIC, NHMV, NMPC) from the vicinity of Tripoli (Libya). There are 4 syntypes (1 male and 3 females) deposited in NMPC from which I hereby designate the male labelled "Tripolis, Qued. 1890" as the lectotype and 3 females labelled "Tripolis" as paralectotypes. The species was erroneously treated by Théry (1930) as a synonym of *A.* (*A.*) *funerula*.

After having studied the holotype of *A.* (*A.*) *glabrifrons freyi* (female, NHMB) labelled "Nalut, Trip. Gebel, iv.38. G. Frey" and the type specimens of *A.* (*A.*) *cleopatra* (NMPC), I failed to find any difference and I supposed *A.* (*A.*) *glabrifrons freyi* Théry, 1939 to be conspecific with *A.* (*A.*) *cleopatra* Obenberger, 1913 and a junior synonym.

A well-defined and characteristic species with a well-developed apical elytral lobe partly covering the nearly horizontal, apical elytral pores. It differs from other species of the species-group by reddish-bronze coloration, lustrous body, short and regularly spindle-shaped aedeagus and by slightly convex frons; the entire frons and very often the anterior pronotal angles of male are golden green.

Bionomy. One specimen from Algeria (Mechroha) were reared from *Calicatium spinosum* (Fabaceae).

Type material studied. Lectotype (♂, NMPC): "Tripolis, Qued. 1890". Paralectotypes (3 ♀♀, NMPC) "Tripolis". Holotype of *A. glabrifrons freyi* (♀, NHMB) labelled "Nalut, Trip. Gebel, iv.38. G. Frey".

Further material studied. **Algeria:** Kabylie: Bejaia, El Kseur e M' Chedallah, 6.v.1979, Curletti leg. (1 ♂, coll. Curletti); Bône [Annaba] (1 ♂, NMPC); Philippenville [Skikda], iii.1931, Mayr leg. (1 ♀, NMPC); Tell Atlas: Aures, Bouhamama, 24.v.1985, Curletti/Gianasso leg. (1 ♀, coll. Gianasso); Laverdure [Mechroha], vi.1932, Pfeffer leg., in *Calicatium spinosum* (1 ♂, NMPC); **Libya:** Cyrenaika: Derna, 16.iii.1981, Eckweiler leg. (1 ♂, coll. Brandl; 1 ♂, coll. Mühle); Toukra, 18.iii.1981, Eckweiler leg. (1 ♂, coll. Brandl; 2 ♂♂, 1 ♀, coll. Mühle); Tripolis: Djebel Ghariane, iv.1899, Alluaud leg. (1 ♂, MNHN); Misurata, 1.iii.1990. Bačovský leg. (1 ♂, 3 ♀♀, coll. TICB); Tagiura, 16.iii.1926, Schatzmayr leg. (1 ♂, coll. Curletti; 1 ♀, coll. Gianasso; 2 ♀, NMPC); Zanzour, iv. 1987, Klícha leg. (1 ♂, 1 ♀, coll. TICB; 2 ♂♂, NMPC; 2 ♂♂, 1 ♀, coll. Kafka); Tripolis (2 ♀♀, NMPC; 2 ♂♂, 1 ♀, MNHN); **Tunisia:** Atlas: Jebel Champi N. P., 22.v.1999, Škorpík leg. (3 ♀♀, coll. Škorpík); Kasserine [Al Qasrain], Jebel Chambi, 23.v.1999, Kafka leg. (1 ♂, coll. Kafka); El Kef, 1886 (1 ♂, 2 ♀♀, MNHN); Djerba: Ras Tourgueness, 3.iv.1989, Hemmann leg. (3 ♂♂, 1 ♀, coll. Niehuis); Djerba, 20.iv.1996, Kudrna leg. (1 ♀, coll. Obořil); E Bizerte, Ghar El Melh, 26.v.1999, Niehuis leg. (3 ♀♀, coll. Niehuis); Jebel Bou Hedma, 24.iii.1984, Meybohm leg. (1 ♂, coll. Niehuis); Jebel Bou Hedma, 15.iii.1993, Hauser leg. (1 ♂, 1 ♀, coll. Niehuis; 1 ♂, coll. Kafka); N di Gabes, 14.v.1990, Curletti leg. (9 ♂♂, coll. Curletti); Gabes, Kettana, 12.v.1987, Sparacio leg., (1 ♂, coll. Curletti); Gafsa: Al Amalem, 1.iv.2002, Rosa leg. (1 ♂, coll. Niehuis); Matmata, 20.iii.2001, yellow trap, Schmidt-Egger leg. (1 ♂, 1 ♀, coll. Niehuis); Tataouine [Tatawin], 10.iv.2001, Snížek leg. (1 ♂, coll. Kafka); Sfax: Bir ben Daia (1 ♂, MNHN); Tell Atlas: Ain Draham, 600 m, spedizione "Algeria" (3 ♀♀, coll. Curletti); Tunis: Tunis, Hammamet, 14.iii.1987, Bremer leg. (1 ♂, 1 ♀, coll. Brandl; 3 ♂♂, 3 ♀♀, coll. Mühle); Kelibia, 3.iv.1988, Gigli leg. (2 ♂♂, 2 ♀♀, coll. Gigli);

Korba, E of Nabeul, 24.iv.2005, Skoupý leg. (1 ♂, 1 ♀, coll. TICB); Korbous, 6.iv.1988, Gigli leg. (21 ♂♂, 13 ♀♀, coll. Gigli); Korbous, El Haouaria, 11.iv.1996, Gigli leg. (5 ♂♂, 3 ♀♀, coll. Gigli); Potinville, v.1947 (5 ♂♂, 2 ♀♀, ZSMC).

Distribution: Algeria, Libya, Tunisia.

Anthaxia (*Anthaxia*) *tazaotana tazaotana* Cobos, 1955, stat. nov.

(Figs 15, 35, 52, 54, **91**, **95**)

Anthaxia funerula tazaotana Cobos, 1955: 225-226.
Type locality: Morocco, High Atlas, Yebel Tazaot.

Anthaxia funerula taddertensis Baudon, 1958a: 162-164, **syn. nov.**
Type locality: Morocco, High Atlas, Taddert.

This species was described as a subspecies of *A.* (*A.*) *funerula* from the high altitudes of the High Atlas (Morocco). After having studied the male holotype (MNMS) and a rich material collected recently at the type locality, I suppose it to be a separate and well-characterised species. After also having studied the male holotype of *A.* (*A.*) *funerula taddertensis* (ABCB), I found both species conspecific and I suppose *A.* (*A.*) *funerula taddertensis* Baudon, 1958 to be a younger synonym of *A.* (*A.*) *funerula tazaotana* Cobos, 1955; the type localities of both subspecies are very close, the distance between them being only a few kilometers.

Although both taxa were described as subspecies of *A.* (*A.*) *funerula*, they have nothing to do with this species (see the key); having studied rather extensive material from this part of Morocco, I found that *A.* (*A.*) *tazaotana* has two distinct forms: one from the high altitudes of the High Atlas (*A. tazaotana tazaotana*) and the second one from the lower, subatlassic plains (*A. tazaotana subatlassica* subsp. nov.) which is described below. Both subspecies differ from one another, besides their distribution, by the shape of frons and pronotum and also by slightly different coloration.

Bionomy. A few specimens were reared from *Adenocarpus anagyrifolius* and *Colutea atlantica* (both Fabaceae).

Type material studied. Holotype (♂, MNMS) labelled "Yebel Tazaot (Beni Seyyel), 24.vi."; holotype and allotype of *A. funerula taddertensis* (ABCB) labelled "Maroc, Taddert, 14.vii.1955, Baudon".

Further material studied. **Morocco:** Haut Atlas: Asni, 13.v.1995, Rejsek leg. (2 ♂♂, 1 ♀, coll. TICB); Tizi n'Test, 1900 m, 21.iii.1997, Baiocchi leg, reared from *Adenocarpus anagyrifolius* (2 ♂, 4 ♀♀, coll. Baiocchi); Tizi n'Test, 1800 m, 5.v.1988, Gianasso leg., reared from *Adenocarpus anagyrifolius* (3 ♂♂, 14 ♀♀, coll. Gianasso); Tizi n'Test, Arhbar, iv.1988, Curletti leg. (28 ♂♂, 32 ♀♀, coll. Curletti); Arhbar, 23.v.1986, Curletti & Gianasso leg. (5 ♂♂, 7 ♀♀, coll. Curletti); Tizi n'Test, Djebel Imdress, 2000-2450 m, 11.v.19217, Le Cerf & Talbot leg. (1 ♂, 1 ♀, MNHN); Tizi n'Test valley, 2000 m, 12.v.2003, Trojan, Pavel, Kopecký leg. (40 ♂♂, 31 ♀♀, coll. Trojan); Taddert, 1800 m, Aspöck leg. (1 ♂, coll. Mühle); Tizi n'Tishka, 12.v.1994, Rejsek leg. (1 ♂, coll. TICB); Tizi n'Test, 1900 m, Magnani leg., reared from *Colutea atlantica* 4.vi.1990 (1 ♂, NMPC); Tizi n' Test, 15.v.1995, Hájek leg. (2 ♂♂, NMPC; 1 ♂, 1 ♀, coll. Kafka).

Distribution: Morocco (the High Atlas).

Anthaxia (*Anthaxia*) *tazaotana subatlassica* subsp. nov.

(Fig. **92**)

Type locality: Western Morocco, Rabat prov., Sidi Taibi.

Type material. Holotype (♂): "Marokko occ., Rabat, Sidi Taibi, 29.iv.1990, Lgt. Snížek". Allotype (♀): "Mo., Kenitra, Foret de Mamora, 0-150 m, 20.-21.v.1991, Bolm lgt.". Paratypes (19 ♂♂, 11 ♀♀): the same data as holotype – 9 ex.; the same data as allotype – 5 ex.; "Marocco, Kénitra, 4.v.1996, Hanzlík leg." – 6 ex.; "Mar., Agadir, 16.-29.i.1976, leg. T. Palm" – 2 ex.; "Maroc, Mogador (Essaouira), 12.ii.1961, Meinander" – 1 ex.; "Maroc, Mogador, 2.iv.1959 (Baudon)" – 2 ex.; "Maroc, Mogador, 5.v.1955 (Baudon)" – 2 ex.; "N Morocco, Kenitra env., 4.-5.v.1995, P. Průdek leg." – 1 ex.; "Ma., 50 km N Essaouira, 31.48.14 N 9.33.30 E, 11.iv.2003, leg. CM et LJ" – 1 ex.; "Museum Paris, Maroc, Marazine, 11 kil. S-E de Mogador, P. Pallary, 1914" – 1 ex. Holotype and allotype deposited in NMPC, paratypes deposited in MNHN, NMPC, coll. Kafka, coll. TICB and coll. Obořil.

Medium-sized, bronze or dark bronze subspecies with silky lustre (Fig. 92); whole body asetose except for a few short, white setae on postclypeal portion of frons; ventral surface lustrous, metallic bronze; frons of male green or golden green, frons of female bronze.

This subspecies differs from *A.* (*A.*) *tazaotana tazaotanai* by a somewhat less lustrous body, more deeply depressed frons, narrower vertex (only 1.6-1.7 times as wide as width of eye) and by the form of lateral pronotal margins which are more deeply emarginate before posterior angles than those in *A.* (*A.*) *tazaotana tazaotana*. Both subspecies also differ by the coloration of the male frons: the frons is completely green or golden green in *A.* (*A.*) *tazaotana subatlassica* subsp. nov., but only partly green or golden green (anterior third) in *A.* (*A.*) *tazaotana tazaotana*.

Aedeagus and male metatibiae of the same form as in *A.* (*A.*) *tazaotana tazaotana* (Figs 15, 35).

Length: 3.5-4.9 mm (holotype 4.2 mm); width: 1.2-1.8 mm (holotype 1.4 mm).

Sexual dimorphism. The female differs from the male only by bronze frons, simple metatibiae and a somewhat stouter body.

Variability. No substantial variability was observed in specimens studied except for the size and coloration which varies from dark bronze to metallic bronze.

Etymology. The subspecific name of *A.* (*A.*) *tazaotana subatlassica* subsp. nov. is derived from the Latin prefix *sub-* (under) and the name of the mountain range *Atlas* to emphasise the distribution of the subspecies.

Distribution: Morocco.

Note. *Anthaxia* (*A.*) *tazaotana subatlassica* subsp. nov. is distributed in lower altitudes and lowlands north of the High Atlas as far as the Middle Atlas while the nominotypic subspecies is distributed in the main mountain range of the High Atlas.

Anthaxia (*Anthaxia*) *gianassoi* Curletti & Magnani, 1992

(Figs 7, 41, **74**)

Anthaxia (s. str.) *gianassoi* Curletti & Magnani, 1992: 43-45.

Type locality: Morocco, Tantan.

A well-characterised species without taxonomic problems and known only from the southern coastal portion of Morocco. The species is characterised by the rather convex, bright bronze body, very poorly developed laterobasal pronotal depressions, almost unmodified male metatibiae which are straight and only very finely serrate on inner margin (Fig. 41) and by the shape of male genitalia (Fig. 7). Some characters given in the original description (dilatation of the 3rd antennomere and oval depression of the anal ventrite) are not very diagnostic since these characteristics are also present in many other species of the group as well as being rather variable.

Bionomy. All type specimens were reared from *Asteriscus* sp. (Asteraceae).

Type material studied. Holotype (♂, MSNC) and 3 paratypes (1 ♂, 2 ♀♀, MSNC) all labelled "Maroc, Tantan plage, 15.3.88, G. Curletti leg. / ex larva *Asteriscus* sp.?".
Further material studied. **Morocco:** Agadir: Agadir, 16.i.1976, Palm leg. (1 ♂, NMPC); Tan Tan: El Quatia, 19.iii.1997, Magnani leg. (1 ♂, NMPC); Tan Tan plage, 18.iii.1987, Baiocchi leg. (1 ♀, coll. Baiocchi).

Distribution: Morocco.

Anthaxia (*Anthaxia*) *schoenmanni* Novak, 1984

(Figs 5, 42, **86**)

Anthaxia (s. str.) *schoenmanni* Novak, 1984: 45-46.
Type locality: Greece, Crete, Lasithi, Sitia.

Anthaxia (s. str.) *mahri* Novak, 1984: 46, **syn. nov.**
Type locality: Greece, Crete, Rethymnon, 4-8 km SW Kare.

Having studied 4 paratypes of *A.* (*A.*) *schoenmanni*, 3 paratypes of *A.* (*A.*) *mahri* and rather extensive material mentioned below (see "Further material studied"), I failed to find any substantial differences between these two species and I consider them to be conspecific, *A.* (*A.*) *mahri* Novak, 1984, being a younger synonym of *A.* (*A.*) *schoenmanni* Novak, 1984 (I gave priority to the name *A.* (*A.*) *schoenmanni* over *A.* (*A.*) *mahri* because of the sequence of the original descriptions). The possibility of this conspecificity was mentioned by Mühle et al. (2000).

The differential characters given in the descriptions are fully explained by the variability of *A.* (*A.*) *schoenmanni* and I also found specimens with the combinations of characters mentioned and illustrated in the descriptions. Moreover the occurrence of two very closely related species (besides the presence of other species of the species-group) on a relatively small island seems rather improbable .

Anthaxia (*A.*) *schoenmanni* is endemic to Crete and it strongly resembles *A.* (*A.*) *spinolae helladis* subsp. nov. from which it differs mainly by the form of male metatibiae (Fig. 42) which are straight and finely serrate on the inner margin but without an inner apical tooth, slight differences in the form of the aedeagus (Fig. 5) and by other characters given in the key.

Bionomy. Nothing is known on the bionomy of this species.

Type material studied. Four paratypes of *A. schoenmanni* (2 ♂♂, 1 ♀, NMPC, 1 ♀, coll. TICB; 1 ♂, coll. Niehuis) labelled "GR-KR, Prov. Lasithi, Umg. Sitia, 22.iii.1973, 50 m, leg. H. Schönmann"; three paratypes of *A. mahri* (2 ♂♂, NMPC, 1 ♂, coll. TICB) labelled "GR-KR, Prov. Rethymnon, 4-8 km SW Kare, 24.v.1983, leg. G. u. M. Novak".
Further material studied. **Greece:** Crete: Arkadi, 20.iv.1995, Brandl leg. (2 ♂♂, coll. Brandl); Dikti Ori, Amiras, 3.vi.2003, Kletečka leg. (1 ♂, NMPC); Dikti Oros, Pefkos, 1.vi.2002, Simandl leg. (1 ♀, coll. TICB); Falasarna, 13.v.1984, Vogt leg. (1 ♂, 1 ♀, Coll. Niehuis); Hania, Vríses, 17.iv.1989, Škorpík leg. (1 ♀, coll. Škorpík); Hania, Kurnas, 3.vi.1991, Zabransky leg. (1 ♂, 1 ♀, coll. Niehuis; 1 ♂, NMPC); Hania, Laki, 23.iv.2000, Hirschfelder leg. (1 ♂, 1 ♀, coll. Niehuis); Hania, env. Prasses, 600 m, 10.v.1996, Baiocchi leg. (1 ♀, coll. Baiocchi); Hania, Sougia – Bardia, 24.v.1999, pitfall trap, Bullen leg. (2 ♂♂, 1 ♀, NMWC); Ideo Andro, 7.v.2003, Moravec leg. (1 ♂, NMPC); Iraklion, Panagia, 300 m, 5.v.2003, Jendek leg. (22 ♂♂, 28 ♀♀, coll. Obořil); Iraklion, Agia Pelagia, 22.v.2003, Beneš leg. (1 ♂, coll. Obořil); Iraklion, Gouves, 18.iv.1999, Siede leg. (1 ♂, coll. Niehuis); Iraklion, Stalís, 19.v.1984, Vogt leg. (1 ♂, coll. Niehuis); Kamares, 7.vi.2003, Moravec leg. (4 ♀♀, NMPC); Kisamos, 3.vi.1980, Brodský & Bílý leg. (2 ♂♂, 2 ♀♀, NMPC); Lasithi, Tzermiado, 12.v.2002, Ziegler leg. (1 ♂, coll. Niehuis); Lefka Ori, Omalos, 22.iv.1989, Škorpík leg. (1 ♂, 3 ♀♀, coll. Škorpík; 1 ♀, coll. Kafka); Myrtos, 2.vi.1990, Kudrna leg. (1 ♂, 1 ♀); Rethymnon, Askyfou, 22.v.1988, Mehl leg. (1 ♀); Sitia, 15.iv.1995, Brandl leg. (1 ♂, 1 ♀, coll. Brandl; 3 ♂♂, 2 ♀♀, NMPC; 1 ♂, 1 ♀, coll. Niehuis; 4 ♂♂, 2 ♀♀, coll. Kafka); Sougia, 8.v.1996, Mikát leg. (1 ♂, NMPC).

Distribution: Greece (Crete).

Anthaxia (*Anthaxia*) *luctuosa* Lucas, 1849 stat. nov.

(Figs 23, 32, 77)

Anthaxia luctuosa Lucas, 1849: 157.
Type locality: Algeria, Sétif.

Anthaxia sericea Abeille de Perrin, 1891: 286.
Type locality: Algeria, Tell Atlas, Ain Torki.

Anthaxia funerula var. *punica* Obenberger, 1938: 211 (available by ICZN, 1999).
Type locality: Algeria, Tell Atlas, Laverdure.

A very characteristic species described from a single female from Algeria which had previously been interpreted as a variety or subspecies of *A.* (*A.*) *cyanescens* (Schaefer, 1944b; Bílý, 1997) or *A.* (*A.*) *funerula* (Abeille de Perrin, 1909). *A.* (*A.*) *sericea* (described from a single male from Algeria; holotype in MNHN) was later synonymized with *A.* (*A.*) *luctuosa* by the author (Abeille de Perrin, 1909) after the comparision of both types.

Anthaxia (*A.*) *funerula* var. *punica* was recently treated as a North African subspecies of *A.* (*A.*) *funerula* (Cobos, 1965; Bílý, 1997), but after having compared the female type specimen (NMPC) with the holotype of *A.* (*A.*) *luctuosa*, I suppose both species to be conspecific; although *A.* (*A.*) *funerula* var. *punica* was described as an infrasubspecific taxon the name is available accordingly to the Code (ICZN, 1999, Article 45.6.4.1), since it was used as a subspecies of *A.* (*A.*) *funerula* before 1985 by Cobos (1965).

Anthaxia (*A.*) *luctuosa* is a very characteristic species with a rather flat, subparallel body (Fig. 77) and very fine elytral sculpture which resembles that of *A.* (*A.*)

bedeli. One of the very characteristic features of this species are the feeble, longitudinal, elytral elevations which are very rare within the *A.* (*A.*) *funerula* group (poorly developed in *A.* (*A.*) *mamorensis*, *A.* (*A.*) *pseudogenistae* sp. nov. and *A.* (*A.*) *verdugoi* sp. nov.).

A very rare species which is probably an endemic to the Algerian Atlas and I have not studied any recently collected material.

Bionomy. The bionomy of this species is unknown.

Type material studied. Holotype of *A. luctuosa* (♀, MNHN) labelled "Sétif" [Algeria, Tell Atlas]; holotype of *A. sericea* (♂, MNHN) labelled "Margueritte" [Algeria, Tell Atlas, Ain Torki]; holotype of *A. funerula* var. *punica* (♀, NMPC) labelled "Alg., Laverdure, vi.32, Pfeffer".
Further material studied. **Algeria:** Algerie (1 ♂, 1 ♀, NMPC); Atlas: Teniet el Haad, on *Ranunculus*, vi.1881 (2 ♂♂, NMPC); Teniet el Haad, vi.1893, Chobaut leg. (1 ♂, NMPC); Teniet el Haad (no precise data), (1 ♂, coll. Gianasso; 7 ♂♂, 1 ♀, MNHN); Tlemcen (1 ♂, NMPC).

Distribution: Algeria.

Anthaxia(*Anthaxia*) *meronica* Bílý, 1995
(Figs 13, 37, **80**)

Anthaxia (s. str.) *meronica* Bílý, 1995: 43-44.
Type locality: Israel, Upper Galilee, Har Meron, 7-11 km WNW of Zefat.

A species without taxonomic problems recently described from Central and southern Israel. The most characteristic feature of this species is the pronotal sculpture which forms fine longitudinal rugae along the lateral margins and an absence of ocellation on the medial portion of the pronotum which is covered by very fine, transverse rugae resembling the central pronotal sculpture of *A.* (*A.*) *mamorensis* or *A.* (*A.*) *luctuosa*. Except for the type series, only a single specimen has been studied.

Bionomy. Nothing is known about the bionomy of this species.

Type material studied. Holotype (♂, ZINC): "Israel, Loc. No. 42, Upper Galilee, Har Meron, 7-11 km WNW of Zefat, 17.v.1994, Volkovitsh leg.". Allotype (♀, ZINC): "Israel, Loc. No. 21, Cent. Negev, N Nizzana, 14 km WSW Mizpe Ramon, 18.-19.iv.1994, Volkovitsh + Dolgovskaya leg.". Paratypes (2 ♂♂, 7 ♀♀, ZINC, NMPC, coll. Niehuis) – the same data as holotype and allotype except for 1 ♀ labelled "Israel, iv.1990, Mt. Azmon, on Cistus, I. Halperin leg.)".
Further material studied. **Israel:** Ein Gedi, 18.iii.1986, Rydh leg. (1 ♂, NMPC).

Distribution: Israel.

Anthaxia (*Anthaxia*) *rungsi* Baudon, 1958
(Fig. **85**)

Anthaxia rungsi Baudon, 1958b: 151.
Type locality: Morocco, Taroudant.

A somewhat enigmatic species described from a single female from the valley of the river Sous (Morocco). The general body-shape and the dark, matt coloration somewhat resemble some species of the subgenus *A.* (*Melanthaxia*) Rikhter, 1945

while the pronotal sculpture and apical, elytral pores and the form of the anal ventrite are quite characteristic for the *A.* (*A.*) *funerula* species-group. Although I have studied extensive material of the group from this part of Morocco, I failed to identify any other specimen which completely conformed to the holotype. The only specimens (3 females) which compare well to *A.* (*A.*) *rungsi* are from the Anti Atlas (see below), but they differ from the holotype with their bronze coloration.

Bionomy. Unknown.

Type material studied. Holotype (♀, ABCB) labelled "Taroudant (Sous), 4 mai 1958". Further material studied. Morocco, Anti Atlas, Zagora, 30.v.1995, Sv. Pokorný leg. (3 ♀♀, NMPC).

Distribution: Morocco.

Anthaxia (*Anthaxia*) *hepneri* sp. nov.

(Figs 19, **75**)

Type locality: Morocco, Agadir, Cap Rhir, 50 km N of Agadir.

Type material. Holotype (♂): "Maroc, Agadir, CAP RHIR, 50 km N Agadir, 2.iii.2002, leg. M. Helkema". Holotype deposited in NMPC.

A small, slender but rather convex species (Fig. 75); entire body dark bronze with silky lustre, frons of male green; dorsal surface asetose only frons with extremely short, nearly indistinct, white pubescence; ventral surface lustrous, asetose.

Description of holotype. Head relatively small, frons nearly flat, only indistinctly depressed medially; vertex nearly twice as wide as width of eye, eyes large, elliptical but not projecting beyond outline of head; sculpture of head consisting of shallow, polygonal cells without central grains; antennae relatively long and robust reaching midlength of lateral pronotal margins; third antennomere narrowly triangular, antennomeres 4-10 widely triangular, 1.1-1.9 times as wide as long, terminal antennomere rhomboid.

Pronotum only 1.6 times as wide as long, strongly convex with very small and nearly indistinct laterobasal depressions; anterior pronotal margin deeply, posterior slightly bisinuous; lateral pronotal margins regularly rounded, slightly emarginate before posterior angles; maximum pronotal width at middlength; pronotal sculpture consisting of fine, polygonal cells without central grains; sculpture on central portion of pronotum is nearly indistinct, cells on lateral portions are rather longitudinally prolonged. Scutelum rather large, flat and subcordiform, as long as wide.

Elytra slender and regularly convex, slightly tapering posteriorly, 1.8 times as long as wide; humeral swellings well-developed, transverse basal depression shallow and wide, nearly reaching scutellum; elytra without lateral, apical serration, each elytron separately rounded; epipleura well-developed, nearly reaching elytral apex; elytral sculpture consisting of very fine, homogeneous microsculpture; apical elytral pores well-developed, nearly horizontal and covered by the lobe of elytral surface (like in Figs 52, 54); each elytron also with several very fine preapical punctures.

Ventral surface lustrous, sternal portion with fine ocellation; anal ventrite regularly rounded apically with indistinct lateral serration. Legs relatively long, male metatibiae slightly flattened and widened in apical third, with shallow preapical emargination but without any serration (resembling those in *A. spinolae hesperica* subsp. nov. (Fig. 56h).

Aedeagus (Fig. 19) short, robust and spindle-shaped, median lobe with fine lateral serration.

Length: 4.2 mm; width: 1.8 mm.

Female unknown.

Etymology. *Anthaxia* (*A.*) *hepneri* sp. nov. is named after my late friend Englbert Hepner, a well-known specialist in the bionomy of Buprestidae.

Distribution: Morocco.

Differential diagnosis. *Anthaxia* (*A.*) *hepneri* sp. nov. differs from other species of subgroup C by the narrow and strongly convex pronotum and wedge-shaped elytra and by the set of other characters given in the key. The form of aedeagus and male metatibiae (Figs 19, 56h) indicate relations to the *A.* (*A.*) *spinolae* complex.

Anthaxia (*Anthaxia*) *genistae* sp. nov.

(Figs 17, 73)

Anthaxia funerula var. *genistae* Obenberger, 1938: 213 (unavailable name).

Type locality: Eastern Algeria, Djebel Maadid, S of Djurdjura.

Type material. Holotype (♂): "Maadhid [Djebel Maadid]". Paratype (1 ♂): "Africa sept.: Algeria, YACOUREN (Park National), 21.-23.vi.1971, A. Hoffer et J. Horák". Holotype and paratype deposited in NMPC.

Medium-sized, rather convex, dark bronze species with silky lustre (Fig. 73); frons of male green or red-bronze, ventral surface dark or red-bronze; dorsal surface completely asetose only frons with extremely short, nearly indistinct, white pubescence. This species was originally described as *A.* (*A.*) *funerula* var. *genistae* Obenberger, 1938 (unavailable name accordingly to the Code – ICZN, 1999). The holotype is used as the holotype of *A.* (*A.*) *genistae* sp. nov. and the original description (Obenberger, 1938) is completed as follows:

Frons slightly convex with very feeble medial depression, vertex twice as wide as width of eye; sculpture of head consisting of small, dense, polygonal cells with indistinct central grains and dense, basal microsculpture; antennae relatively short, hardly reaching midlength of lateral pronotal margins; antennomeres 3-10 sharply triangular, 1.1-1.5 times as wide as long, terminal antennomere rhomboid.

Pronotum moderately convex, enlarged anteriorly, laterobasal depressions shallow but very wide; lateral pronotal margins widely rounded anteriorly and deeply emarginate before posterior angles; maximum pronotal width at anterior third; pronotal sculpture consisting of wide polygonal cells without central grains, cells are nearly indistinct on central portion of pronotum. Scutellum small, pentagonal and flat.

Elytra regularly convex, 1.8 times as long as wide with very fine, silky microsculpture; humeral swellings small but well-developed, basal, transverse depression wide, nearly reaching scutellum; apex of elytra somewhat caudiform, each elytron separately, narrowly rounded with several fine, preapical punctures; apical elytral pores well-developed, deep, the most apical ones nearly fused each other and covered by the lobe of elytral surface.

Ventral surface lustrous, sternal portion with indistinct ocellation, ventrites nearly glabrous; apex of anal ventrite obtusely triangular with deep V-shaped, apical depression following the shape of ventrite and with nearly indistinct lateral serration. Legs relatively long, male metatibiae slightly flattened with small, inner preapical emargination (like those in *A.* (*A.*) *spinolae hesperica* subsp. nov. – Figs 56h-i).

Aedeagus (Fig. 17) slightly spindle-shaped, median lobe with very fine lateral serration.

Length: 4.0-4.5 mm (holotype 4.0 mm); width: 1.5-1.6 mm (holotype 1.5 mm).

Female unknown.

Etymology. To avoid any confusion in the future I used Obenberger's original name which was derived from the name of the potential host plant, *Genista* sp. (Fabaceae).

Distribution: Algeria.

Differential diagnosis. Accordingly to the general shape of male genitala and metatibiae, *A.* (*A.*) *genistae* sp. nov. belongs to the *A.* (*A.*) *spinolae* complex. From other species with deep apical elytral pores, it differs by the rather convex body with silky lustre, strongly enlarged pronotum, wide laterobasal pronotal depressions and by the set of characters given in the key.

Anthaxia (*Anthaxia*) *pseudogenistae* sp. nov.

(Figs 10, 40, **84**)

Type locality: North-eastern Algeria, Annaba.

Type material. Holotype (♂): "Algerie, Bône [Annaba]". Paratype (♂): the same data. Holotype and paratype deposited in NMPC.

Medium-sized, rather convex, stout species (Fig. 84); dorsal surface bronze to dark bronze, frons of male bright blue-green, lateral pronotal margins with green lustre; ventral surface black with bronze lustre; whole body completely asetose.

Description of holotype. Head relatively large, frons slightly convex and shallowly depressed medially, vertex 1.8 times as wide as width of eye; eyes large, reniform, not projecting beyond outline of head; sculpture of head consisting of fine, regular, polygonal cells with tiny central grains and basal microsculpture; antennae short, slightly overlapping midlength of lateral pronotal margins; antennomeres 4-10 widely triangular to trapezoid, distinctly wider than long; third antennomere slightly triangular, 1.5 times as long as wide, terminal antennomere rhomboid.

Pronotum rather convex, 1.9 times as wide as long, its anterior angles somewhat "swollen"; laterobasal depressions well-developed; anterior pronotal margin bisinuous, posterior margin slightly bisinuous; lateral pronotal margins rounded anteriorly, nearly straight medially and widely emarginate before posterior angles; pronotal sculpture consisting of regular polygonal cells without central grains; cells on central portion of pronotum only poorly developed but distinct. Scutellum relatively large, slightly convex, subtriangular.

Elytra convex, subparallel, 2.2 times as long as wide with small but well-developed humeral swellings; basal transverse depression wide and shallow, far not reaching scutellum; elytral sculpture consisting of very fine microsculpture with a few very poorly developed preapical punctures; apical pores small and simple; each elytron narrowly, separately rounded apically without any lateral serration; epipleura well-developed but not reaching elytral apex, elytra very slightly caudiform.

Ventral surface lustrous and nearly glabrous only sternal portion with poorly developed ocellation; anal ventrite narrowly rounded with nearly indistinct lateral serration. Legs rather robust, male metatibiae flattened with wide inner preapical emargination and small, preapical spine (Fig. 40).

Aedeagus (Fg. 10) subparallel, well-sclerotised, median lobe with rough, lateral serration.

Female unknown.

Length: 3.9-4.3 mm (holotype 3.9 mm); width: 1.4-1.5 mm (holotype 1.4 mm).

Etymology. The species name, *pseudogenistae*, indicates the general similarity to *A.* (*A.*) *genistae* sp. nov.

Distribution: Algeria.

Differential diagnosis. *Anthaxia* (*A.*) *pseudogenistae* sp. nov. resembles *A. genistae* sp. nov. in its coloration and pronotal shape, but it belongs to the complex of species with simple apical elytral pores. It is related to *A. oborili* sp. nov. from which it differs by the shape of pronotum, stouter body, more depressed frons, different forms of aedeagus and male metatibiae and by the set of characters given in the key.

Anthaxia (*Anthaxia*) *mogadorica* sp. nov.

(Figs 16, **81**)

Type locality: West Morocco, Essaouira.

Type material. Holotype (♂): "Marruecos, Mogador [Essaouira], iv.1906, Escalera". Paratype (♂): the same data, except "iii.1906". Holotype and paratype deposited in NMPC.

Small, slender, moderately convex, dark bronze species (Fig. 81); dorsal surface completely asetose only frons with quite indistinct, short, white pubescence; frons of male blue-green, ventral surface black with bronze tinge, lustrous.

Description of holotype. Head rather large, frons flat with indistinct medial depression; vertex twice as wide as width of eye, eyes large, elliptical, not

projecting beyond outline of head; sculpture of head consisting of regular basal microsculpture and polygonal cells without central grains; antennae reaching mid-length of lateral pronotal margins, antennomeres 4-10 widely triangular, slightly wider than long; third antennomere slightly triangular, 1.5 times as long as wide, terminal antennomere rhomboid.

Pronotum moderately convex with small and shallow laterobasal depressions, twice as wide as long; anterior pronotal margin deeply bisinuous, posterior margin slightly bisinuous; lateral margins regularly rounded and slightly widened anteriorly, shallowly emarginate before posterior angles; maximum pronotal width at anterior third; pronotal sculpture consisting of regular, polygonal cells without central grains; central portion of pronotum with nearly indistinct sculpture, cells at lateral margins somewhat prolonged longitudinally. Scutellum small, triangular, slightly wider than long.

Elytra subparallel, moderately convex, 1.95 times as long as wide; humeral swellings small, basal transverse depression wide and shallow nearly reaching scutellum; each elytron narrowly and separately rounded apically with several very fine preapical punctures; apical pores deep, most apical ones fusing each other, covered by lobe of elytral surface; epipleura wide, nearly reaching elytral apex.

Ventral surface lustrous, anal ventrite simply rounded apically with slight apical V-shaped depresion and with indistinct lateral serration. Legs relatively long, male metatibiae of the same shape like those in *A.* (*A.*) *spinolae hesperica* subsp. nov. (Figs 56h-i).

Aedeagus (Fig. 16) short, nearly subparallel, median lobe with fine lateral serration.

Length: 3.5-3.6 mm (holotype 3.5 mm); width: 1.2 mm.

Female unknown.

Etymology. *Anthaxia* (*A.*) *mogadorica* sp. nov. is named after the historic name of the type locality (Mogador, W Morocco).

Distribution: Morocco.

Differential diagnosis. *Anthaxia* (*A.*) *mogadorica* sp. nov. is closely related to *A.* (*A.*) *genistae* sp. nov. from which it differs by slender and less convex body, narrower pronotum, form of aedeagus and by the set of characters given in the key.

Anthaxia (*Anthaxia*) *depressifrons* sp. nov.

(Figs 31, 34, **70**)

Type locality: Eastern Algeria, Tell Atlas Mts., Constantine.

Type material. Holotype (♂): "Constantine". Holotype deposited in NMPC.

Small, subparallel, moderately convex, black species with slight bronze lustre (Fig. 70); whole body completely asetose only frons with several short, white setae above clypeus; clypeus and anterior third of frons golden green in male.

Description of holotype. Head relatively large and wide, frons flat, widely depressed medially; vertex 1.9 times as wide as width of eye, eyes large,

slightly reniform, not projecting beyond outline of head; sculpture of head consisting of well-developed polygonal and slightly prolonged cells with indistinct central grains; antennae short, hardly reaching midlength of lateral pronotal margins; antennomeres 4-10 widely triangular to trapezoid, 1.0-1.5 times as wide as long; third antennomere 1.5 as long as wide, slightly enlarged apically, terminal antennomere rhomboid.

Pronotum twice as wide as long, only slightly convex, laterobasal depressions wide but very shallow; anterior margin deeply, posterior margin feebly bisinuous, lateral pronotal margins regularly rounded with small and shallow emargination before posterior angles; maximum pronotal width at anterior third; pronotal sculpture consisting of wide, regular, polygonal cells without central grains; central portion of pronotum with indistinct, finely rugose sculpture. Scutellum small, cordiform and slightly convex.

Elytra moderately convex, microsculptured, 2.2 times as long as wide; humeral swellings small, transverse basal depression wide and shallow nearly reaching scutellum; each elytron narrowly, separately rounded apically with several very small preapical punctures and with well-developed, deep apical pores which are partly covered by lobe of elytral surface.

Ventral surface lustrous, anal ventrite narrowly rounded apically with nearly indistinct lateral serration. Legs relatively long and slender, male metatibiae (Fig. 34) flattened with inner preapical emargination bearing small tooth.

Aedeagus (Fig. 31) subparallel, poorly sclerotised with wide membraneous portion of parameres; median lobe with rather rough lateral serration.

Length: 3.3 mm; width: 1.2 mm.

Female unknown.

Etymology. The species name of *Anthaxia* (*A.*) *depressifrons* sp. nov. is derived from the Latin noun *depressus* (depressed) and substantive *frons* (frons) to stress one of the most important characters of the species.

Distribution: Algeria.

Differential diagnosis. *Anthaxia* (*A.*) *depressifrons* sp. nov. differs from other species of subgroup C with fused and dorsally covered apical pores by deeply depressed frons, form of aedeagus and male metatibiae, dark coloration and by the set of characters given in the key.

Anthaxia (*Anthaxia*) *verdugoi* sp. nov.

(Figs 11, 39, **93**)

Type locality: West Morocco, Essaouira.

Type material. Holotype (♂): "Marruecos, Mogador [Essaouira], iv.1906, Escalera". Paratype (♂): the same data. Holotype and paratype deposited in NMPC.

Small, subparallel, moderately convex, dark bronze species (Fig. 93); frons of male blue-green at least in its anterior half; ventral surface black with bronze

lustre; entire body completely asetose only ventrites with very sparse and short, white pubescence.

Description of holotype. Head small, frons flat to slightly convex; vertex 1.8 times as wide as width of eye, eyes small, reniform, not projecting beyond outline of head; sculpture of head consisting of small, regular, polygonal cells with indistinct central grains and very fine, basal microsculpture; antennae short reaching only midlength of lateral pronotal margins, antennomeres 4-10 widely triangular to trapezoid, distinctly wider than long; third antennomere triangular, 1.5 times as long as wide, terminal antennomere rhomboid.

Pronotum moderately convex, 1.8 times as wide as long with small and shallow laterobasal depressions; anterior pronotal margin deeply, posterior margin feebly bisinuous; lateral margins rounded anteriorly, nearly straight medially and widely emarginate before posterior angles; maximum pronotal width at anterior fourth, pronotum somewhat cordiform; pronotal sculpture consisting of rather poorly developed and somewhat longitudinally prolonged cells without central grains on lateral portions of pronotum and of rather indistinct, fine transverse rugae medially. Scutellum relatively large, cordiform, convex, slightly longer than wide.

Elytra subparallel, twice as long as wide, regularly convex with fine, oblique and poorly developed fold going from subhumeral area as far as to midlength of elytra; elytral apices separately, narrowly rounded without lateral serration, apical pores simple and deep; epipleura well-developed, nearly reaching elytral apex; humeral swellings small, transverse basal depression poorly developed, wide and shallow, far not reaching scutellum; elytral sculpture consisting of very fine microsculpture with a few very fine preapical punctures.

Ventral surface lustrous, sternal portion with indistinct ocellation, ventrites with fine microsculpture; anal ventrite narrowly rounded apically, nearly triangular without distinct lateral serration. Legs slender and relatively long, male metatibiae finely serrate on inner margin (Fig. 39).

Aedeagus (Fig. 11) short, slender and subparallel, rather poorly sclerotised, median lobe with fine dorsolateral serration.

Length: 3.1-3.2 mm (holotype 3.2 mm); width: 1.2 mm.

Female unknown.

Etymology. *Anthaxia* (*A.*) *verdugoi* sp. nov. is named after my colleague Antonio Verdugo (Cádiz, Spain), a specialist in Iberian Buprestidae.

Distribution: Algeria.

Differential diagnosis. *Anthaxia* (*A.*) *verdugoi* sp. nov. is closely related to *A.* (*A.*) *mamorensis* but differs by a smaller and slender body, somewhat darker coloration, flat or slightly convex, asetose frons, longer elytra, form of the male genitalia and metatibiae and by the set of other characters given in the key.

Anthaxia (*Anthaxia*) *oborili* sp. nov.

(Figs 9, 47, **82**)

Type locality: Morocco, Middle Atlas Mts, Azrou.

Type material. Holotype (♂): "Marocco, Azrou, 1.v.1995, Machytka leg.". Allotype (♀): the same data. Paratypes (2 ♂♂, 2 ♀♀): the same data. Holotype and allotype deposited in NMPC, paratypes in NMPC and coll. Oboril.

Medium-sized to large, dark bronze and rather stout, subparallel species (Fig. 82); anterior two thirds of frons green in male, frons of female bronze; ventral surface bronze, whole body asetose only postclypeal portion of frons with several short, white setae and ventral surface with very short and sparse, white pubescence.

Description of holotype. Head large, frons shallowly and widely depressed; vertex 1.5 times as wide as width of eye, eyes large, reniform, not projecting beyond outline of head; sculpture of head consisting of small, regular and dense polygonal cells with indistinct central grains and rather rough basal microsculpture; antennae short, hardly reaching midlength of lateral pronotal margins; antennomeres 4-10 widely triangular to trapezoid, 1.0-1.4 times as wide as long; third antennomere only very slightly triangular, 1.5 times as long as wide, terminal antennomere rhomboid.

Pronotum rather convex, 2.1 times as wide as long with poorly developed, flat laterobasal depressions; anterior pronotal margin deeply, posterior margin feebly bisinuous; lateral pronotal margins regularly rounded with indistinct emargination before posterior angles; pronotal sculpture consisting of regular polygonal cells without central grains, central portion of pronotum only with poorly developed but distinct cells; maximum pronotal width at anterior third. Scutellum large, cordiform, as wide as long.

Elytra convex, subparallel, 2.2 times as long as wide with small humeral swellings; basal transverse depression wide and shallow, nearly reaching scutellum; pronotal sculpture consisting of very fine microsculpture with several very indistinct preapical punctures; apical elytral pores simple, not very deep; epipleura wide, nearly reaching elytral apex; each elytron narrowly and separately rounded without any lateral serration.

Ventral surface rather lustrous, sternal portion with poorly developed ocellation, ventrites only with fine microsculpture; anal ventrite narrowly rounded apically with wide V-shaped depression following lateral margins of ventrite; lateral sides of anal ventrite indistinctly serrate. Legs rather stout and short, male metatibiae flattened, their inner margin with preapical emargination and small, sharp preapical spine (Fig. 47).

Aedeagus (Fig. 9) slightly spindle-shaped, well-sclerotised, median lobe with fine lateral serration.

Sexual dimorphism. The female differs from the male by a stouter body, bronze frons, wider vertex (1.6-1.7 times as wide as width of eye) and by the simple metatibiae.

Length: 3.5-4.9 mm (holotype 3.5 mm); width: 1.4-1.8 mm (holotype 1.4 mm).

Variability. No variability was observed in the type specimens except for the size.

Etymology. *Anthaxia* (*A.*) *oborili* sp. nov. is named after my friend Martin Obořil (Brno), a beginning specialist in the taxonomy of *Anthaxia*.

Distribution: Morocco.

Differential diagnosis. Due to the form of the aedeagus and male metatibiae, *A.* (*A.*) *oborili* sp. nov. belongs to the *A.* (*A.*) *spinolae* complex. It differs from other related species by the narrower vertex, indistinct laterobasal pronotal depressions, form of male genitalia and metatibiae and by the set of other characters given in the key.

Anthaxia (*Anthaxia*) *fesana* sp. nov.

(Figs 6, 48, **71**)

Type locality: North Morocco, Fes, Lot Journu, Barrage Idris.

Type material. Holotype (♂): "Marocco bor., Lot Journu env., Barrage Idris near Fes, 8 May 1998, Zd. Jindra lgt.". Holotype deposited in NMPC.

Small, convex, rather short and robust, bronze species (Fig. 71); frons of male golden-orange, ventral surface bronze; entire body asetose except for several short and white postclypeal setae and nearly indistinct, short and sparse, white pubescence of ventrites.

Description of holotype. Head large and wide, frons flat; vertex twice as wide as width of eye, eyes large, slightly reniform, not projecting beyond outline of head; sculpture of head consistingof small, dense polygonal cells with indistinct central grains and dense basal microsculpture; antennae rather long overlapping midlength of lateral pronotal margins; antennomeres 4-10 widely triangular to trapezoid, 1.0-1.4 times as wide as long; third antennomere nearly twice as long as wide, slightly triangular, terminal antennomere rhomboid.

Pronotum convex, 2.3 times ws wide as long with small and shallow laterobasal depressions; anterior pronotal margin strongly, posterior margin very slightly bisinuous; lateral pronotal margins regularly rounded and finely emarginate before posterior angles, maximum pronotal width at anterior fourth; pronotal sculpture consisting of polygonal cells without central grains; cells on central portion of pronotum poorly developed but distinct, those along lateral margins somewhat longitudinally prolonged but not forming longitudinal rugae. Scutellum small, triangular and flat, slightly longer than wide.

Elytra subparallel, moderately convex, twice as long as wide with small but well-developed humeral swellings; basal transverse depression wide and shallow, not reaching scutellum; elytral sculpture consisting of very fine microsculpture with a few, quite indistinct preapical punctures; apical elytral pores simple and shallow; each elytron narrowly and separately rounded, elytral apex very slightly caudiform; epipleura narrow but well-developed nearly reaching elytral apex.

Ventral surface lustrous, sternal portion with poorly developed ocellation, ventrites only with fine microsculpture; anal ventrite truncately rounded with nearly indistinct lateral serration. Legs relatively short and shallow, male metatibiae slightly flattened, only with indistinct inner preapical serration (Fig. 48).

Aedeagus (Fig. 6) short and nearly subparallel, well-sclerotised, median lobe with fine lateral serration.

Female unknown.

Length: 4.0 mm; width: 1.3 mm.

Etymology. *Anthaxia* (*A.*) *fesana* sp. nov. is named after the type locality Fes, in central Morocco.

Distribution: Morocco.

Differential diagnosis. *Anthaxia* (*A.*) *fesana* sp. nov. differs from other species of subgroup C by its stout and short body, wide pronotum and frons, form of male genitalia and metatibiae and by the set of other characters given in the key.

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Catalogue of taxa of the *Anthaxia* (*Anthaxia*) *funerula* species-group

Subgroup A

A. (*A.*) *bedeli bedeli* Abeille de Perrin, 1893 **stat. nov.** ..... → p. 13 ..... Fig. 58
Distribution: France, Italy, Portugal, Spain, Switzerland, Algeria, Morocco, Tunis.
A. (*A.*) *bedeli peloponesiaca* Obenberger, 1938 **comb. nov.** ..... → p. 14 ..... Fig. 59
Distribution: Greece (incl. Crete).

A. (A.) cyanescens Gory, 1841 ..... → p. 12 ..... Fig. 60
= *A. aeneiventris* Küster, 1850
= *A. cyanescens* var. *parthenopea* Obenberger, 1938 (unavailable)
Distribution: France, Spain, Algeria, Morocco, Tunis.

Subgroup B

A. (A.) elberti Brandl, 1993 ..... → p. 16 ..... Fig. 61
Distribution: Greece (incl. Crete), Bosnia & Herzegovina.

A. (A.) ghazi Obenberger, 1938 ..... → p. 17 ..... Fig. 62
= *A. funerula vseteckai* Obenberger, 1940
= *A. khnzoriani* Kalashian, 1988 **syn. nov.**
Distribution: Armenia, Israel, Jordania, Lebanon, Syria, Turkey.

A. (A.) hozaki Bílý, 1973 ..... → p. 18 ..... Fig. 63
Distribution: Cyprus.

A. (A.) impunctata Abeille de Perrin, 1909 **stat. nov.** ..... → p. 15 ..... Fig. 64
= *A. nereis* Schaefer, 1938 **syn. nov.**
Distribution: France, Italy, Spain.

A. (A.) tractata Abeille de Perrin, 1901 ..... → p. 19 ..... Fig. 65
= *A. uniformis* Abeille de Perrin, 1900 (preocc.)
Distribution: Armenia, Georgia, Iran, Iraq.

Subgroup C

A. (A.) bercedoi **sp. nov.** ..... → p. 23 ..... Fig. 66
Distribution: Spain.

A. (A.) blascoi Murria & Murria, 2005 ..... → p. 22 ..... Fig. 67
Distribution: Spain.

A. (A.) chevrieri Gory & Laporte de Castelnau, 1839 ..... → p. 24 ..... Figs 68, 97
= *A. alpina* Obenberger, 1914
= *A. bannatica* Gory, 1841
= *A. funerula* var. *aenescens* Abeille de Perrin, 1909 (preocc.)
= *A. funerula* var. *aeneomicans* Obenberger, 1930 (unavailable)
= *A. funerula* var. *confundatrix* Obenberger, 1913 (unavailable)
= *A. funerula* var. *kijevensis* Obenberger, 1938 (unavailable)
Distribution: Austria, Belarus, Bosnia & Herzegovina, Croatia, Czech Republic, France, Georgia, Greece, Hungary, Italy, Macedonia, Montenegro, Poland, Roumania, Russia, Slovakia, Slovenia, Spain, Switzerland, Turkey, Ukraine.

A. (A.) cleopatra Obenberger, 1913 ..... → p. 40 ..... Fig. 69
= *A. glabrifrons freyi* Théry, 1939 **syn. nov.**
Distribution: Algeria, Libya, Tunis.

A. (A.) depressifrons **sp. nov.** ..... → p. 50 ..... Fig. 70
Distribution: Algeria.

A. (A.) fesana **sp. nov.** ..... → p. 54 ..... Fig. 71
Distribution: Morocco.

A. (A.) funerula (Illiger, 1803) ..... → p. 20 ..... Fig. 72
Distribution: Portugal, Spain.

A. (A.) genistae **sp. nov.** ..... → p. 47 ..... Fig. 73
= *A. funerula* var. *genistae* Obenberger, 1938 (unavailable)
Distribution: Algeria.

A. (A.) gianassoi Curletti & Magnani, 1992 ..... → p. 42 ..... Fig. 74
Distribution: Morocco.

A. (*A.*) *hepneri* **sp. nov.** ..... → p. 46 ..... Fig. 75
Distribution: Morocco.
A. (*A.*) *lucia* **sp. nov.** ..... → p. 35 ..... Fig. 76
Distribution: Spain.
A. (*A.*) *luctuosa* Lucas, 1849 **stat. nov.** ..... → p. 44 ..... Fig. 77
= *A. sericea* Abeille de Perrin, 1891
= *A. funerula* var. *punica* Obenberger, 1938 (unavailable)
Distribution: Algeria.
A. (*A.*) *mamorensis* Théry, 1930 ..... → p. 39 ..... Fig. 78
Distribution: Algeria, Morocco, Tunis.
A. (*A.*) *mendizabali* Cobos, 1965 ..... → p. 36 ..... Fig. 79
Distribution: Croatia, France, Germany, Greece, Italy, Portugal, Slovenia, Spain, Turkey, Algeria, Morocco, Tunis.
A. (*A.*) *meronica* Bílý, 1995 ..... → p. 45 ..... Fig. 80
Distribution: Israel.
A. (*A.*) *mogadorica* **sp. nov.** ..... → p. 49 ..... Fig. 81
Distribution: Morocco.
A. (*A.*) *oborili* **sp. nov.** ..... → p. 53 ..... Fig. 82
Distribution: Morocco.
A. (*A.*) *pseudofunerula* **sp. nov.** ..... → p. 22 ..... Fig. 83
Distribution: Morocco.
A. (*A.*) *pseudogenistae* **sp. nov.** ..... → p. 48 ..... Fig. 84
Distribution: Algeria.
A. (*A.*) *rungsi* Baudon, 1958b ..... → p. 45 ..... Fig. 85
Distribution: Morocco.
A. (*A.*) *schoenmanni* Novak, 1984 ..... → p. 43 ..... Fig. 86
= *A. mahri* Novak, 1984 **syn. nov.**
Distribution: Greece (Crete).
A. (*A.*) *spinolae spinolae* Gory & Laporte de Castelnau, 1839 ressur. .... → p. 28 ..... Figs 87, 96
= *A. funerula* var. *massiliensis* Obenberger, 1938 (unavailable)
Distribution: France, Italy, Portugal, Spain.
A. (*A.*) *spinolae helladis* **subsp. nov.** ..... → p. 31 ..... Fig. 88
= *A. pygmaea* (Brullé, 1832)
= *A. funerula* var. *helladis* Obenberger, 1938 (unavailable)
Distribution: Croatia, Greece, Macedonia, Yugoslavia, Turkey.
A. (*A.*) *spinolae hesperica* **subsp. nov.** ..... → p. 32 ..... Fig. 89
= *A. funerula* var. *hesperica* Obenberger, 1913 (unavailable)
Distribution: Algeria, Libya, Morocco, Tunis.
A. (*A.*) *spinolae rifensis* **subsp. nov.** ..... → p. 34 ..... Fig. 90
Distribution: Morocco.
A. (*A.*) *tazaotana tazaotana* Cobos, 1955 **stat. nov.** ..... → p. 41 ..... Fig. 91
= *A. funerula taddertensis* Baudon, 1958a **syn. nov.**
Distribution: Morocco.
A. (*A.*) *tazaotana subatlassica* **subsp. nov.** ..... → p. 42 ..... Fig. 92
Distribution: Morocco.
A. (*A.*) *verdugoi* **sp. nov.** ..... → p. 51 ..... Fig. 93
Distribution: Morocco.

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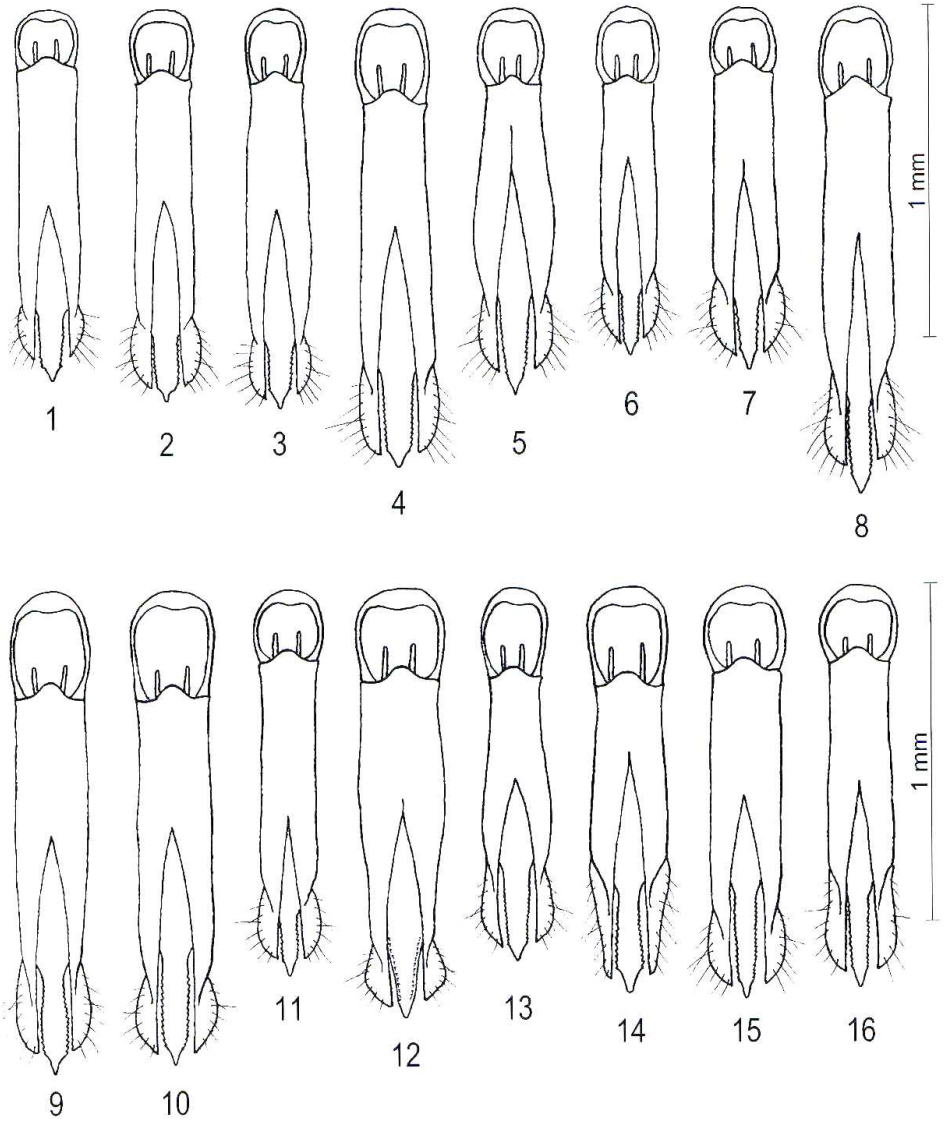
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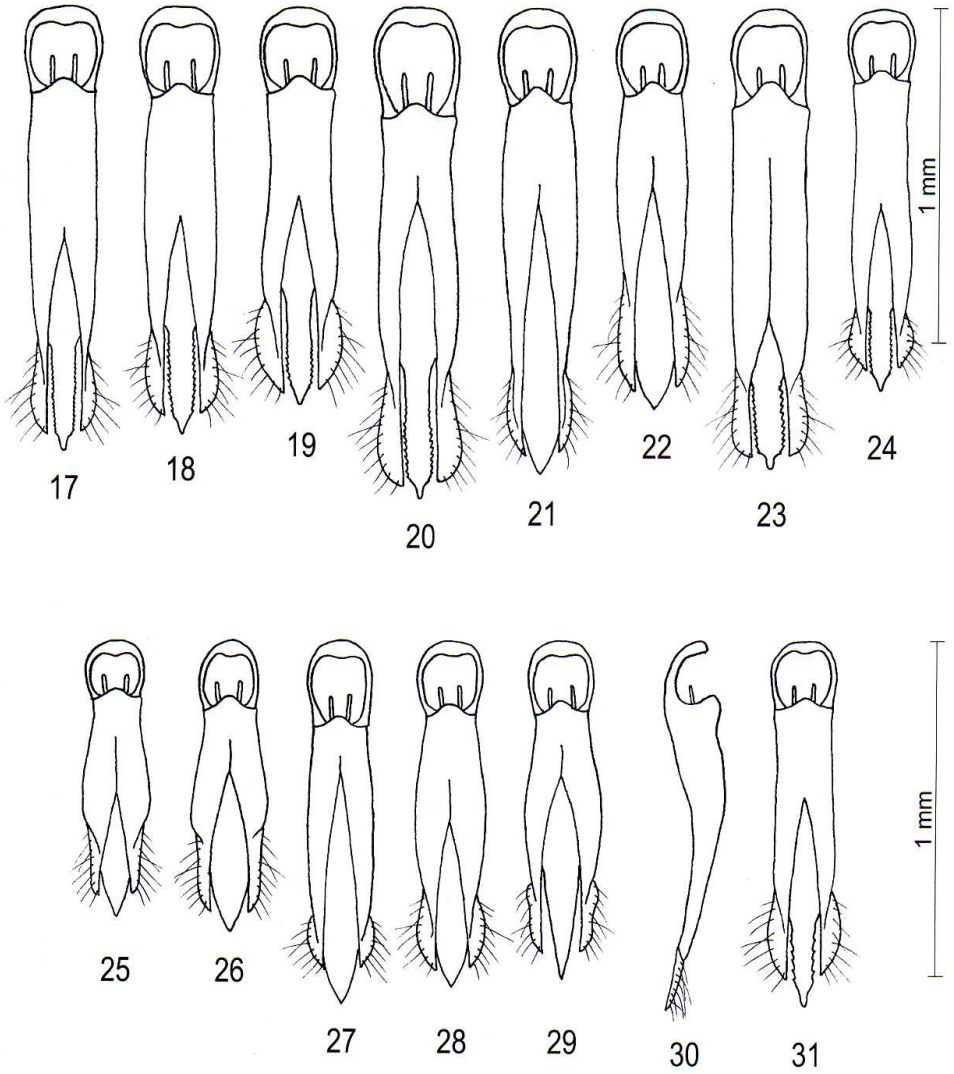
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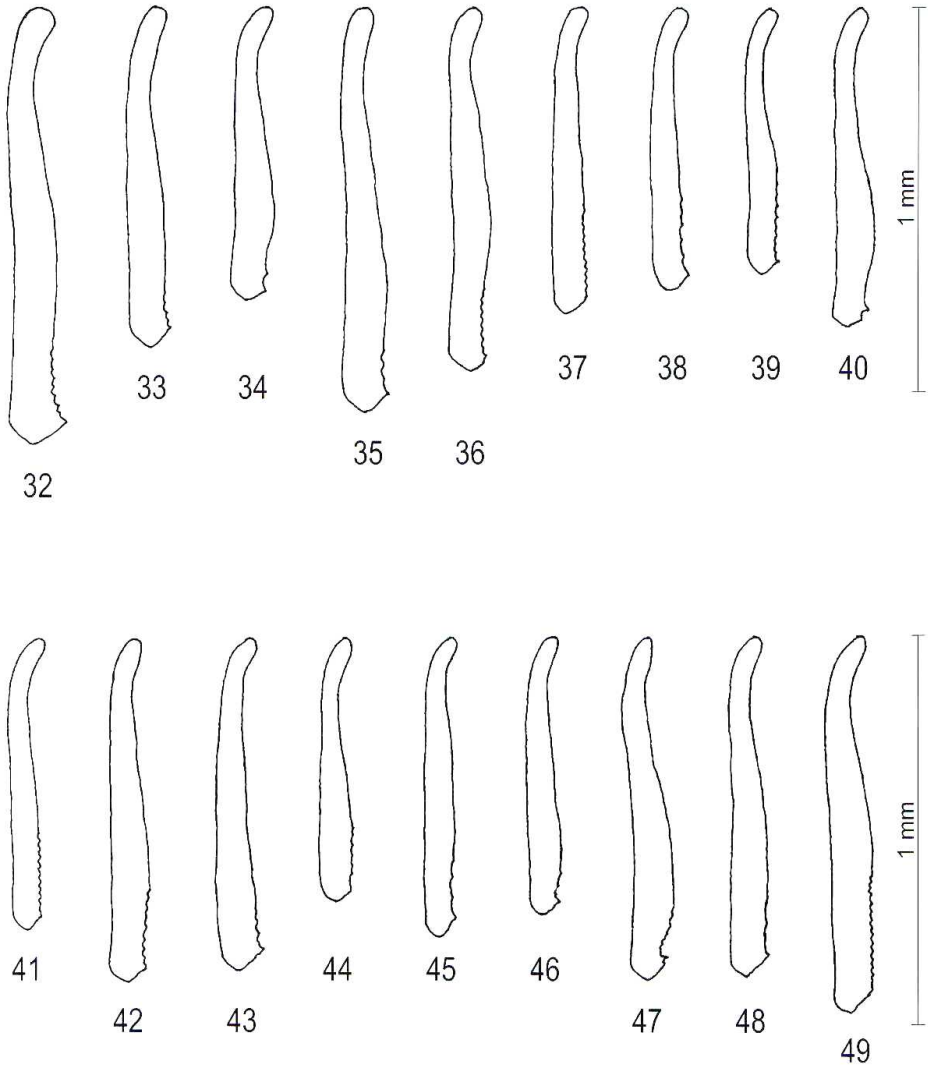
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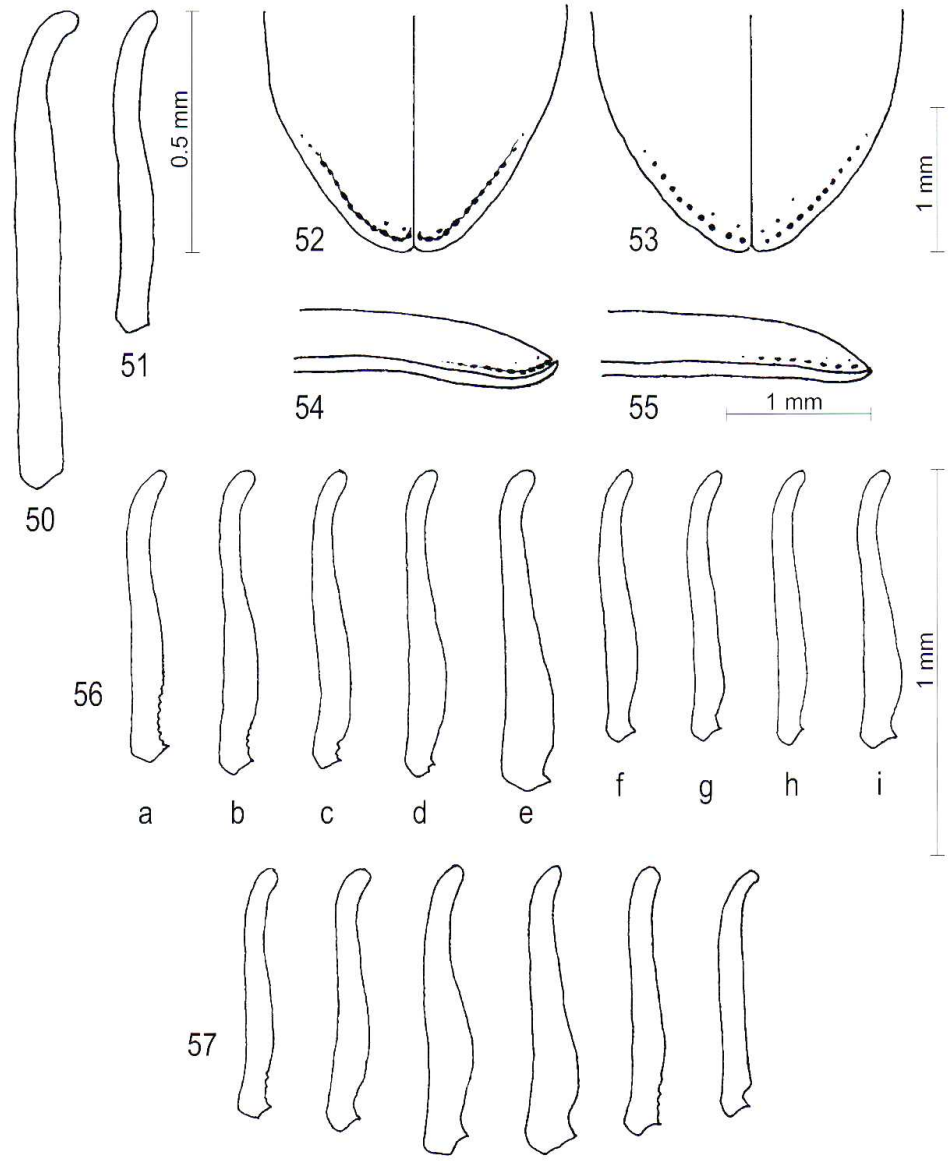
Figs 1-16. Aedeagi. 1 – *Anthaxia* (*Anthaxia*) *blascoi* Murria & Murria, holotype; 2 – *A.* (*A.*) *funerula* (Illiger); 3 – *A.* (*A.*) *pseudofunerula* **sp. nov.**, holotype; 4 – *A.* (*A.*) *bercedoi* **sp. nov.**, holotype; 5 – *A.* (*A.*) *schoenmanni* Novak, paratype; 6 – *A.* (*A.*) *fesana* **sp. nov.**, holotype; 7 – *A.* (*A.*) *gianassoi* Curletti & Magnani, holotype; 8 – *A.* (*A.*) *chevrieri* Laporte de Castelnau & Gory, lectotype; 9 – *Anthaxia* (*A.*) *oborili* **sp. nov.**, holotype; 10 – *A.* (*A.*) *pseudogenistae* **sp. nov.**, holotype; 11 – *A.* (*A.*) *verdugoi* **sp. nov.**, holotype; 12 – *A.* (*A.*) *mamorensis* Théry; 13 – *A.* (*A.*) *meronica* Bílý, holotype; 14 – *A.* (*A.*) *mendizabali* Cobos; 15 – *A.* (*A.*) *tazaotana tazaotana* Cobos; 16 – *A.* (*A.*) *mogadorica* **sp. nov.**, holotype.



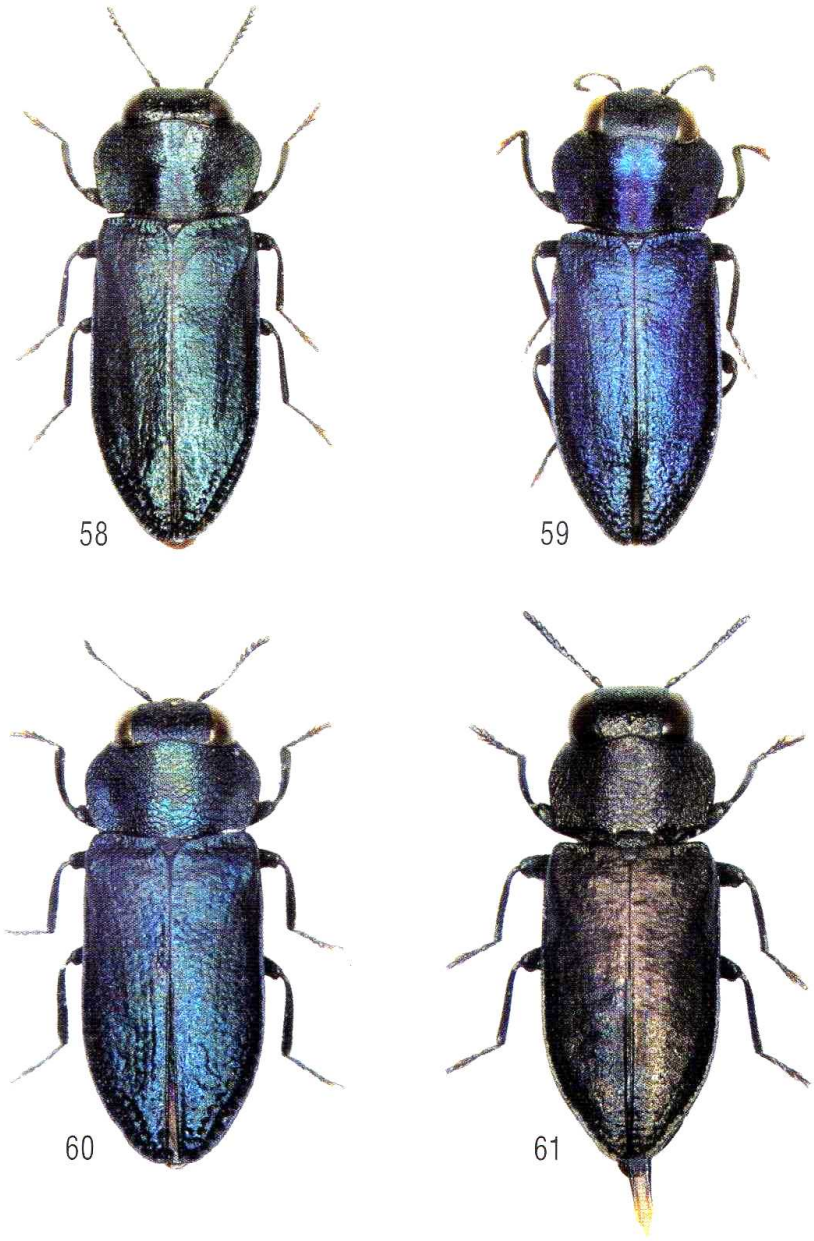
Figs 17-31. Aedeagi. 17 – *Anthaxia* (*Anthaxia*) *genistae* **sp. nov.**, holotype; 18 – *A.* (*A.*) *cleopatra* Obenberger, lectotype; 19 – *A.* (*A.*) *hepneri* **sp. nov.**, holotype; 20 – *A.* (*A.*) *lucia* **sp. nov.**, holotype; 21 – *A.* (*A.*) *bedeli bedeli* Abeille de Perrin; 22 – *A.* (*A.*) *cyanescens* Gory; 23 – *A.* (*A.*) *luctuosa* Lucas; 24 – *A.* (*A.*) *spinolae spinolae* Gory & Laporte de Castelnau, holotype; 25 – *Anthaxia* (*A.*) *ghazi* Obenberger; 26 – *A.* (*A.*) *tractata* Abeille de Perrin; 27 – *A.* (*A.*) *elberti* Brandl, holotype; 28 – *A.* (*A.*) *hozaki* Bílý, holotype; 29 – *A.* (*A.*) *impunctata* Abeille de Perrin, lectotype; 30 – *A.* (*A.*) *chevrieri* Gory & Laporte de Castelnau, lectotype, lateral view; 31 – *A.* (*A.*) *depressifrons* **sp. nov.**, holotype.



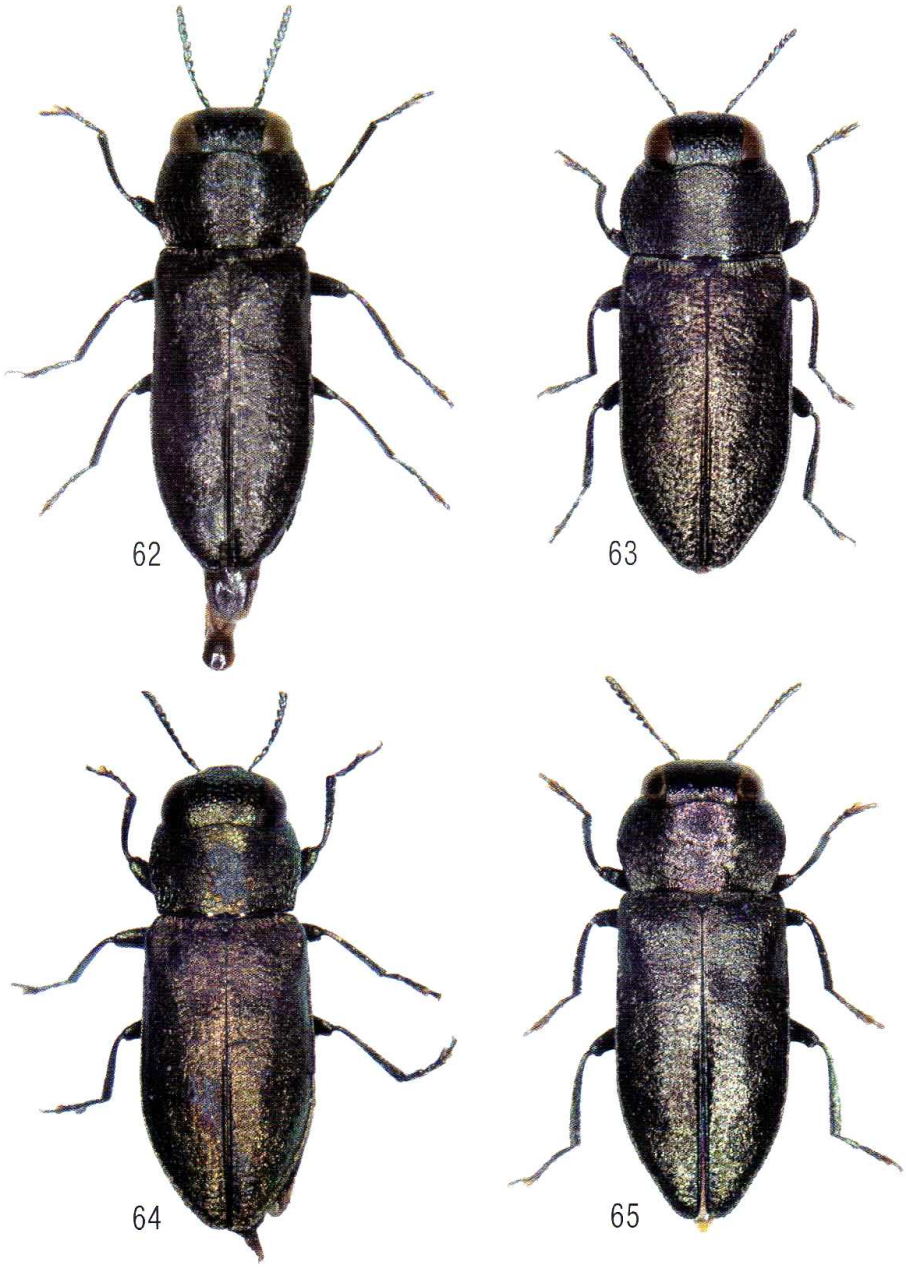
Figs 32-49. Male metatibiae. 32 – *Anthaxia* (*Anthaxia*) *luctuosa* Lucas; 33 – *A.* (*A.*) *lucia* **sp. nov.**, holotype; 34 – *A.* (*A.*) *depressifrons* **sp. nov.**, holotype; 35 – *A.* (*A.*) *tazaotana tazaotana* Cobos; 36 – *A.* (*A.*) *mendizabali* Cobos; 37 – *A.* (*A.*) *meronica* Bílý, holotype; 38 – *A.* (*A.*) *mamorensis* Théry; 39 – *A.* (*A.*) *verdugoi* **sp. nov.**, holotype; 40 – *A.* (*A.*) *pseudogenistae* **sp. nov.**, holotype; 41 – *A.* (*A.*) *gianassoi* Curletti & Magnani, holotype; 42 – *A.* (*A.*) *schoenmanni* Novak, paratype; 43 – *A.* (*A.*) *bercedoi* **sp. nov.**, holotype; 44 – *A.* (*A.*) *funerula* (Illiger); 45 – *A.* (*A.*) *pseudofunerula* **sp. nov.**, holotype; 46 – *A.* (*A.*) *blascoi* Murria & Murria, holotype; 47 – *A.* (*A.*) *oborili* **sp. nov.**, holotype; 48 – *A.* (*A.*) *fesana* **sp. nov.**, holotype; 49 – *A.* (*A.*) *chevrieri* Gory & Laporte de Castelnau, lectotype.



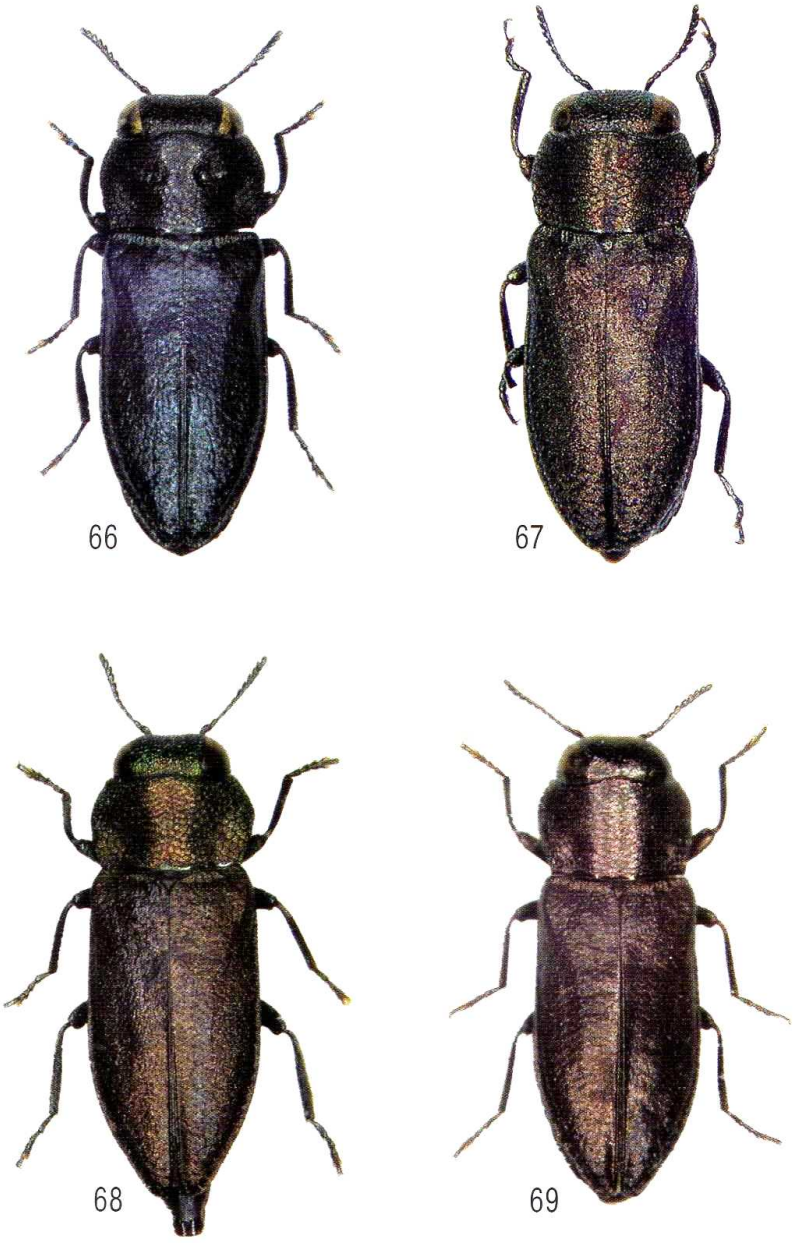
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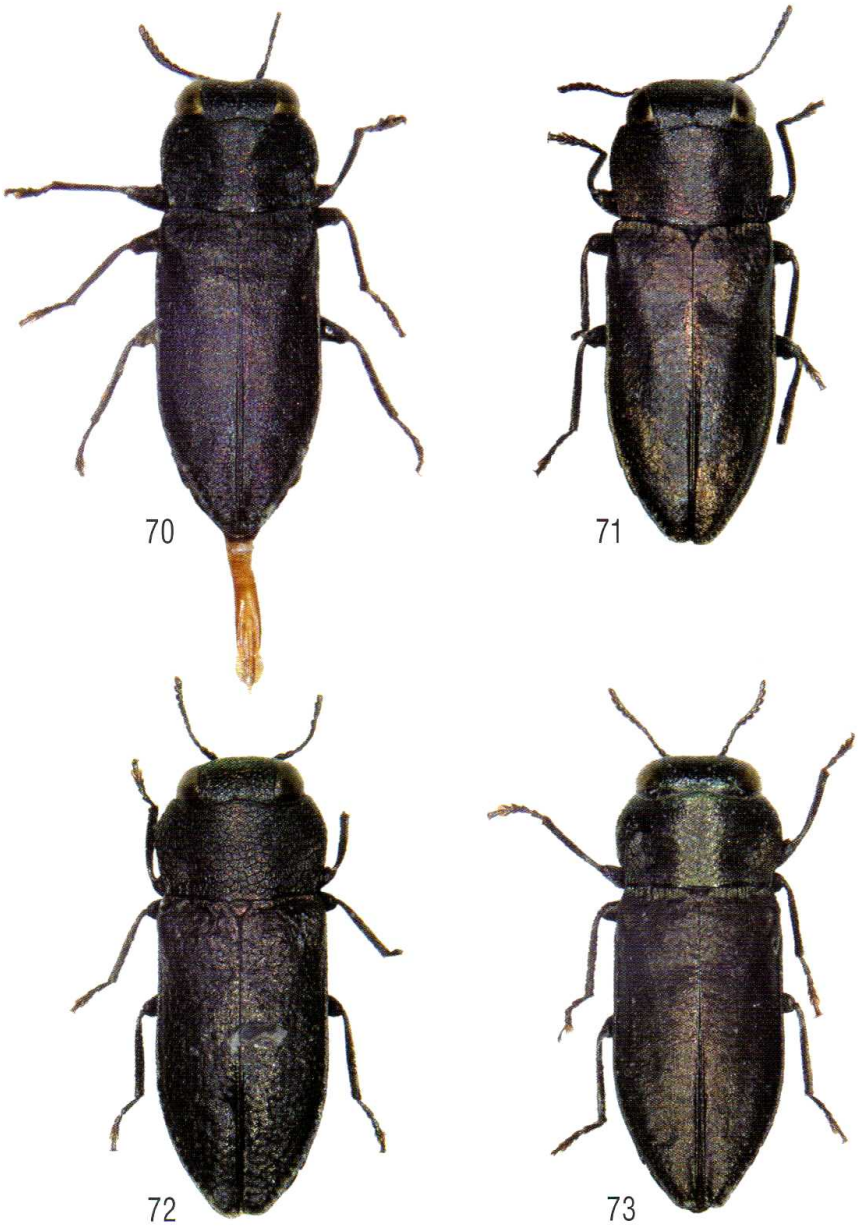
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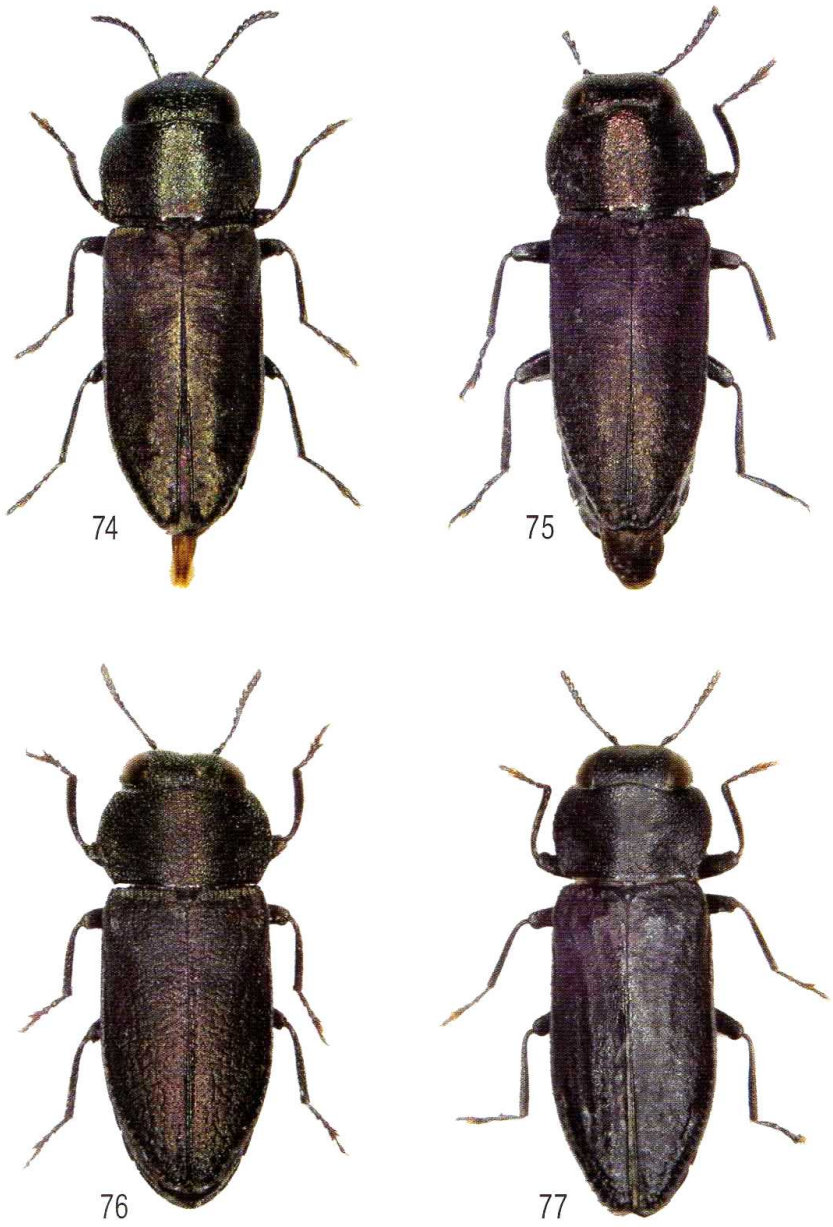
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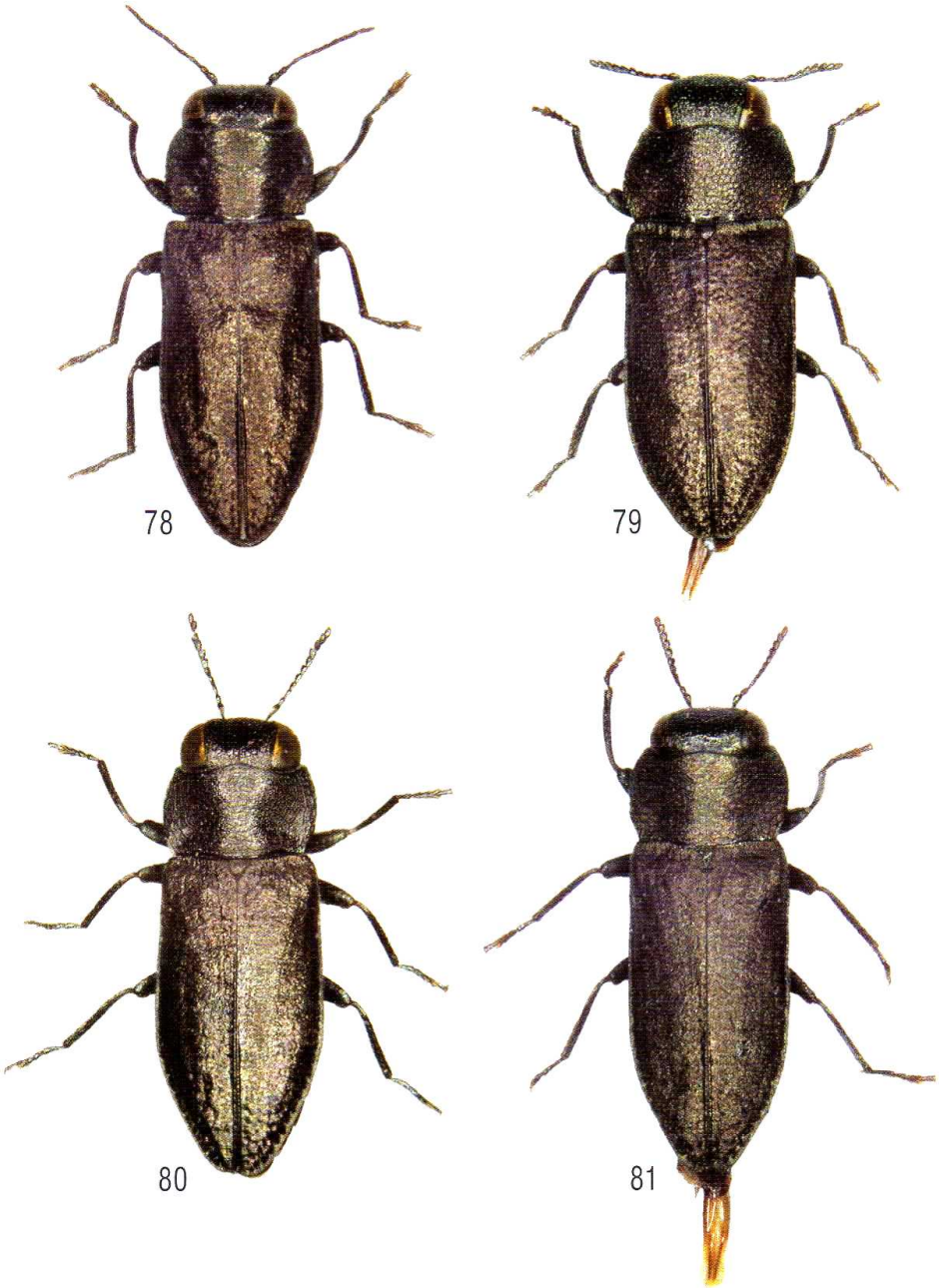
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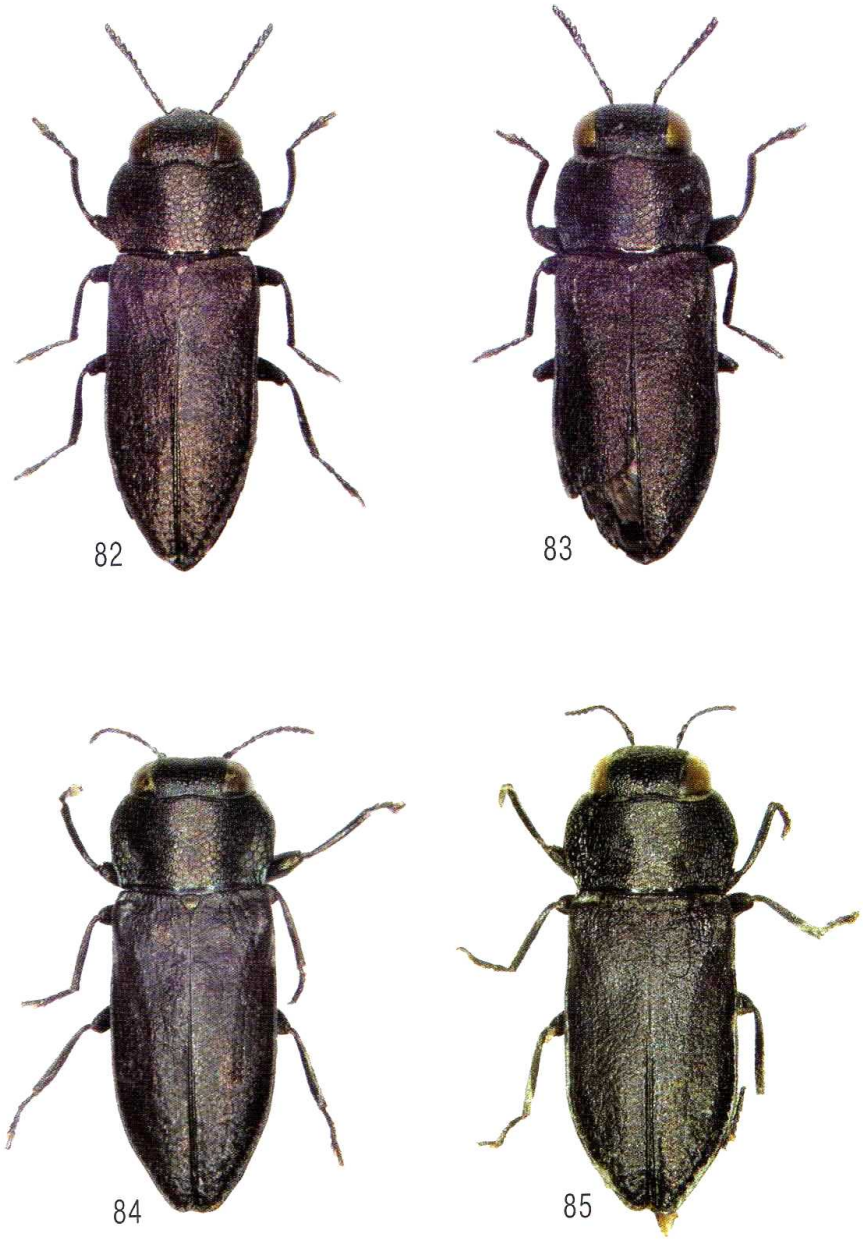
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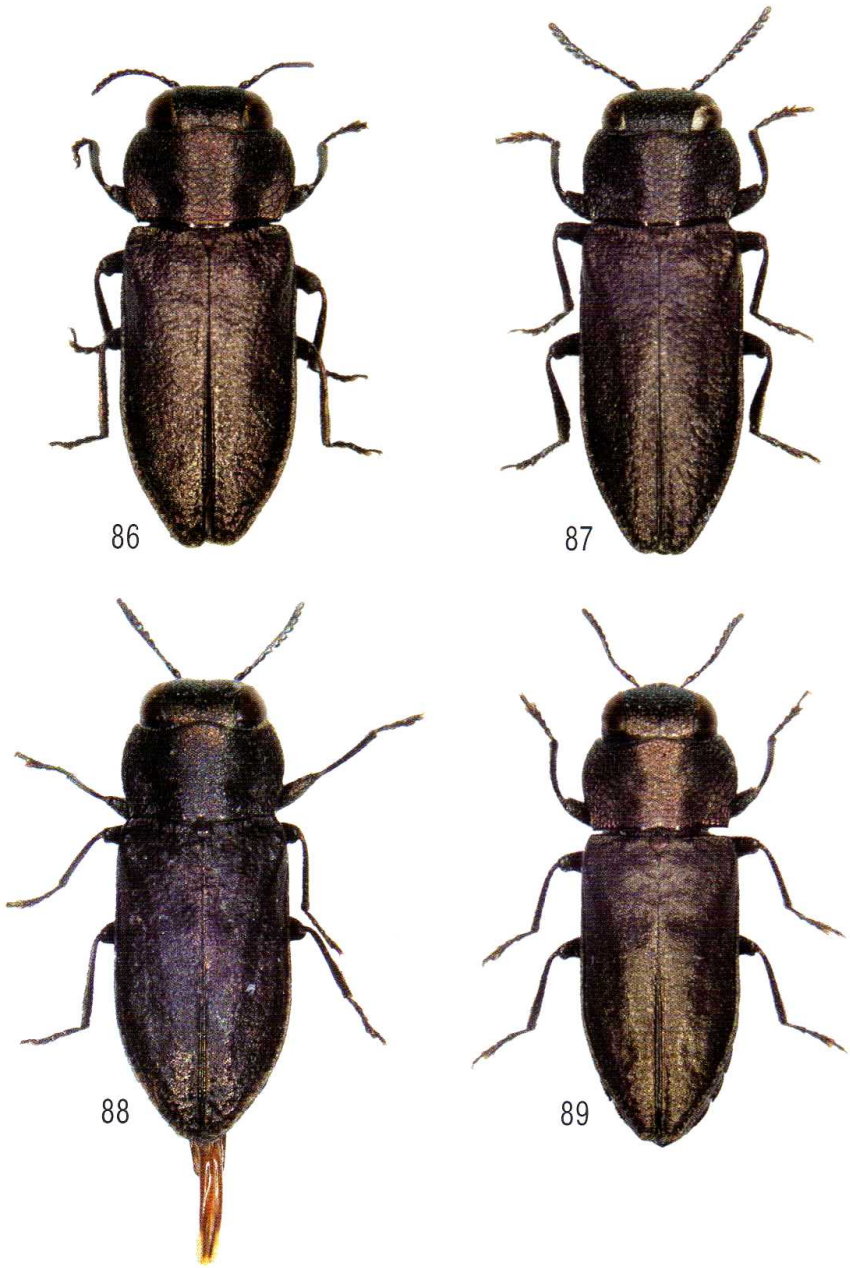
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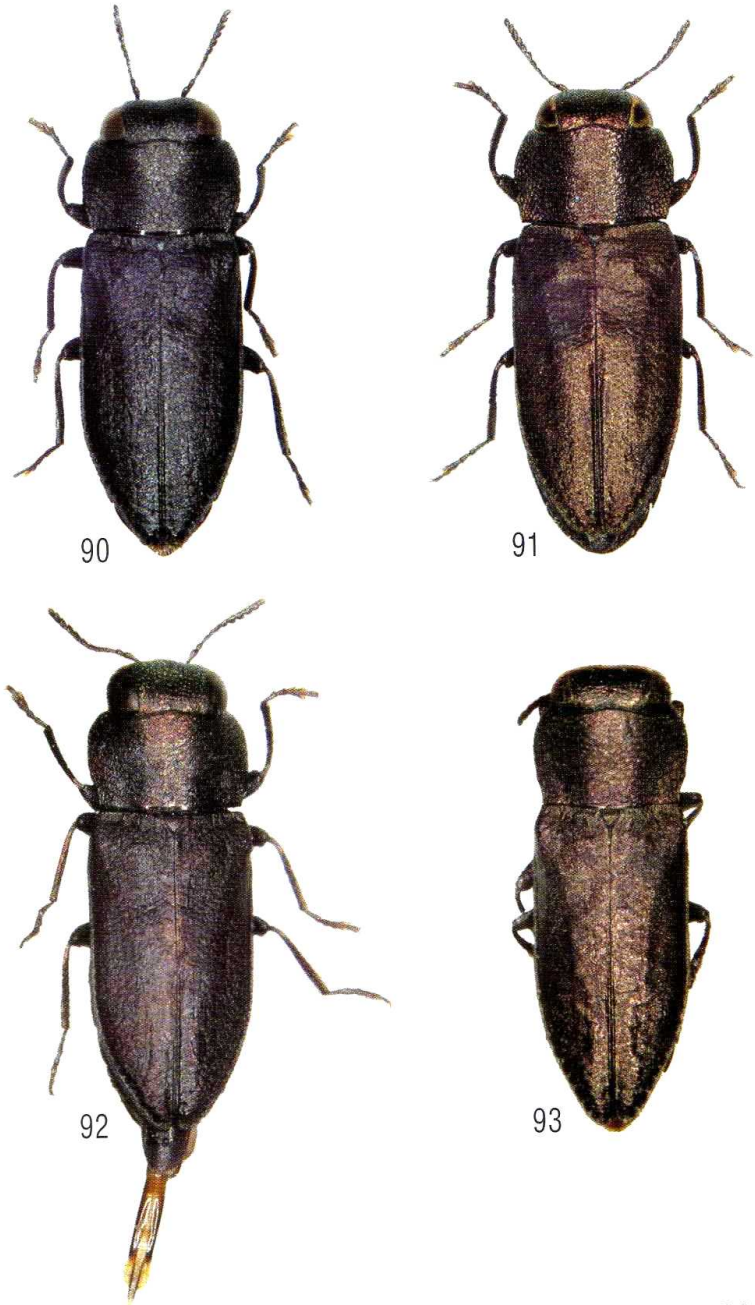
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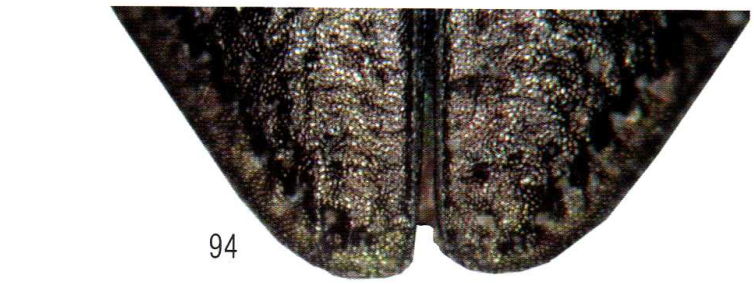
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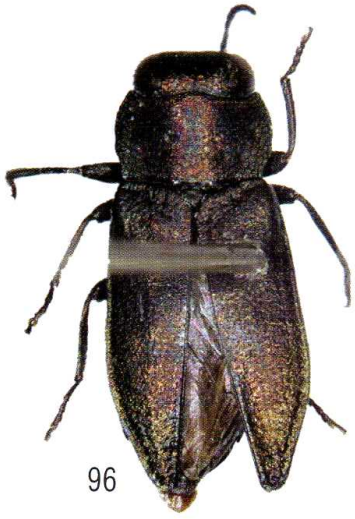
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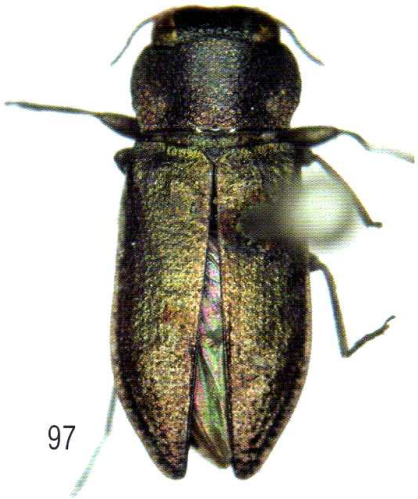


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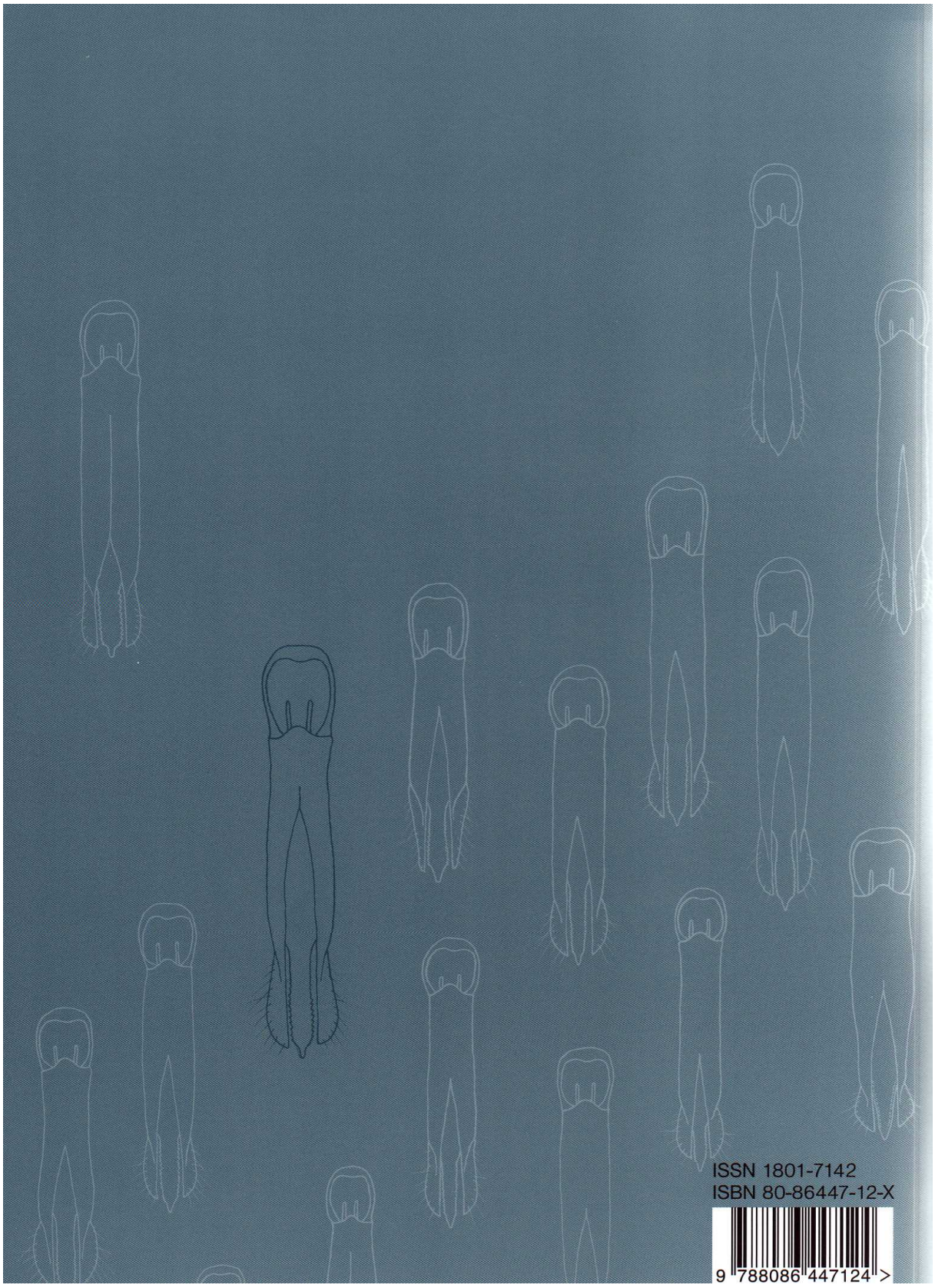
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