

THE JEWEL BEETLES OF ROMANIA (COLEOPTERA: BUPRESTIDAE)

Dr. Adrian Ruicănescu



Sofia–Moscow

2013

CONTENTS

Introduction	7
Acknowledgements	7
History	8
Faunistics	9
Material atudied	9
Biology and Ecology	11
Zoogeography.....	13
Treatment.....	13
Family Buprestidae Leach, 1815	15
Subfamily Polycestinae Lacordaire, 1857	15
Tribus Ptosimini Kerremans, 1902	15
Genus <i>Ptosima</i> Dejean, 1833	15
Tribus Acmaeoderini Kerremans, 1893	16
Genus <i>Acmaeodera</i> Eschscholtz, 1829	16
Subgenus <i>Acmaeodera</i> Eschscholtz, 1829 (S. Str.)	17
Subgenus <i>Acmaeotethya</i> Volkovitsh, 1979.....	18
Genus <i>Acmaeoderella</i> Cobos, 1955.....	19
Subgenus <i>Acmaeoderella</i> Cobos, 1955 (S. Str.)	19
Subgenus <i>Carininota</i> Volkovitsh, 1979	20
Subfamily Chrysochroinae Lacordaire, 1857.....	23
Tribus Sphenopterini Lacordaire, 1857	23
Genus <i>Sphenoptera</i> Dejean, 1833	23
Subgenus <i>Sphenoptera</i> Dejean, 1833 (S. Str.).....	24
Subgenus <i>Deudora</i> Jakovleff, 1889	25
Subgenus <i>Chilostetha</i> Jakovleff, 1889.....	27
Tribus Chalcophorini Laccordaire, 1857.....	31
Genus <i>Chalcophora</i> Dejean, 1833	31
Tribus Dicerini Gistel, 1848.....	32
Genus <i>Capnodis</i> Eschscholtz, 1829	33
Genus <i>Perotis</i> Spinola, 1837	36
Genus <i>Dicerca</i> Eschscholtz, 1829.....	38
Subgenus <i>Argante</i> Gistel, 1834	38
Subgenus <i>Dicerca</i> Eschscholtz, 1829 (S. Str.)	39
Tribus Poecilonotini Jakobson, 1912.....	44
Genus <i>Poecilonota</i> Eschscholtz, 1829	44
Genus <i>Lamprodila</i> Motschulsky, 1860.....	46
Subgenus <i>Lamprodila</i> Motschulsky, 1860 (S. Str.)	46
Subgenus <i>Palmar</i> Schaefer, 1949.....	50
Subfamily Buprestinae Leach, 1815	51
Tribus Buprestini Leach, 1815	51
Genus <i>Eurythyrea</i> Dejean, 1833.....	51

Genus <i>Buprestis</i> Linnaeus, 1758.....	55
Subgenus <i>Ancylocheira</i> Eschscholtz, 1829	55
Subgenus <i>Buprestis</i> Linnaeus, 1758 S. Str.	59
Subgenus <i>Cypriacis</i> Casey, 1909	60
Tribus Melanophilini Bedel, 1921	61
Genus <i>Melanophila</i> Eschscholtz, 1829	61
Genus <i>Trachypterus</i> Kirby, 1837	63
Genus <i>Phaenops</i> Dejean, 1833	63
Tribus Anthaxiini Gory & Laporte, 1839.....	66
Genus <i>Anthaxia</i> Eschscholtz, 1829	66
Subgenus <i>Cratomerus</i> Solier, 1833.....	66
Subgenus <i>Haplanthaxia</i> Reitter, 1911	70
Subgenus <i>Anthaxia</i> Eschscholtz, 1829 (S. Str.)	77
Subgenus <i>Melanthaxia</i> Richter, 1944	94
Subfamily Chrysobothrinae Gory & Laporte, 1837	103
Tribus Chrysobothrini Gory & Laporte, 1837	103
Genus <i>Chrysobothris</i> Eschscholtz, 1829	103
Subfamily Agrilinae Laporte, 1835	108
Tribus Coraebini Bedel, 1921	108
Genus <i>Coraebus</i> Gory & Laporte, 1839	108
Genus <i>Meliboeoides</i> Théry, 1942	113
Genus <i>Meliboeus</i> Deyrolle, 1864.....	114
Tribus Agrilini Laporte, 1839	117
Genus <i>Agrilus</i> Curtis, 1825.....	118
Subgenus <i>Uragrilus</i> Semenov, 1935	118
Subgenus <i>Anambus</i> Thomson, 1823	119
Subgenus <i>Robertius</i> Théry, 1947	120
Subgenus <i>Rosagrilus</i> Alexeev, 1988	141
Subgenus <i>Convexagrilus</i> Alexeev, 1988	142
Subgenus <i>Dentagrilus</i> Alexeev, 1988.....	142
Subgenus <i>Agrilus</i> (s.str.) Curtis, 1825.....	144
Subgenus <i>Spiragrilus</i> Alexeev, 1998.....	153
Tribus Aphanisticini Jacquelin Du Val, 1863.....	158
Subtribus Cylindromorphina Portevin, 1931	158
Genus <i>Paracylindromorphus</i> Théry, 1930	158
Genus <i>Cylindromorphus</i> Kiesenwetter, 1857	160
Subtribus Aphanisticina Jacquelin Du Val, 1863	161
Genus <i>Aphanisticus</i> Latreille, 1810.....	161
Tribus Trachyini Laporte, 1839.....	164
Genus <i>Trachys</i> Fabricius, 1801	164
Genus <i>Habroloma</i> Thomson, 1864	171
References	173
Register	180
Plates	190

HISTORY

In "Fauna Transsylvanica" SEIDLITZ (1891) recorded 84 buprestid species from Central Europe, including Transylvania. HORMUZACHI (1901) investigated the relationship of *Acmaeodera degener* and *Perotis lugubris* with xeric Mediterranean habitats. FLECK (1905) listed in "Die Coleopteren Catalogus" 45 buprestid species from the Southern and Eastern regions. KUTHY (1918) published the buprestid Catalogue of the historical (then including Transylvania and Banat) Hungary.

PETRI (1912, 1925–1926), published a synthesis of all coleopteran species from Transylvania from all prior authors: he also included 66 buprestid species. MARCU (1927, 1928a, b, 1929) published checklists of coleopteran species from Bukovina, including 12 buprestid species. KASZAB (1940) synthesised old data and published the buprestid Catalogue of the historical Hungary (in that period including Transylvania and Banat), which resulted in 104 species from these provinces. NEGRU & ROȘCA (1967) in the checklist of coleopteran species from Southern Dobrudja listed 26 species, while NEGRU (1968) published also the checklist of coleopteran species from "Letea" island (Danube Delta) - other four buprestid species were added.

In the checklist of coleopteran species from the "Letea" island (Danube Delta), IENIȘTEA (1968) listed four buprestid species; in the checklist of the coleopteran species from the "Caraorman" island (Danube Delta, 1974) the same author added four more species; while in the checklist of coleopteran species of the "Iron Gates" region (Southern Banat), IENIȘTEA (1975) published 26 additional buprestid species.

RUICĂNESCU (1992a, b, 1993) published the checklists of Coleoptera from Turda Gorges, and Iron Gates, adding ten buprestid species from each area; The checklist of *Agrilus* species of five regions of Romania (1994) 32 species added and confirmed ten; In 1996(a) RUICĂNESCU published the first illustrated key of the genus *Agrilus* for Central and Eastern Europe; 43 species were treated, and in the same year (1996b) published the presence of *Anthaxia* (*Cratomerus*) *sponsa* Kiesenwetter, 1957 in Romania. In 1997 the same author published the coleopteran checklists from Retezat Mountains and Cerna Valley National Park with 46 buprestid species added, while in 1998(a) gave a synthesis of faunistic, ecological and bionomic aspects of the buprestid species from Transylvania; 103 species were discussed and published in the results of the first Romanian buprestid database, entitled Buprom (RUICĂNESCU 1998b); RUICĂNESCU (2002a, b) confirmed the species *Dicerca* (*s.str.*) *furcata* in the Romanian fauna and published the first red list of the Romanian buprestid species, using the IUCN criteria; his next paper (2003) confirmed the presence of *Anthaxia* (*s.str.*) *hypomelaena* in the Romanian fauna. SERAFIM & RUICĂNESCU (1995) published N. SĂVULESCU's collection catalogue from the "G. Antipa" Museum of Bucharest; 81 buprestid species were added. VLAD-ANTONIE & RUICĂNESCU (1996) published the buprestid collection catalogue from the Natural History Museum of Sibiu; 286 species collected over the world have been added. RUICĂNESCU & KABOUREK (1997) published the checklists of coleopteran species from the Tișța Gorges Reserve; seven species were added. RUICĂNESCU & VOLKOVITSH (1997) corrected the erroneous records of *Acmaeodera cylindrica* and *Acmaeoderella gibbulosa* in Romania. RUICĂNESCU & CRIȘAN (2006) have certified the presence of the species *Dicerca* (*Argante*) *moesta* in Romania.

FAUNISTICS

Material studied

For this work, the following collections were studied: the author's personal collection (AR), the collection of Dr. N. SĂVULESCU, presently stored at the Museum of Natural History "Grigore Antipa" of Bucharest (MHNGA), the collections of the Transylvanian Society for Natural Sciences (Siebenbürgisch Verein für Naturwissenschaft), Dr. E. WORELL, R. WEYRAUCH, K. PETRI and Dr. E. SCHNEIDER's collections, all five stored in the Natural History Museum of Sibiu (NHM). The buprestids stored in the other collections are few and of little importance. However, they still should be: Museum of the Dacian and Roman Civilisation (the Natural History section) in Deva, Museum of Oltenia (the Natural History section) in Craiova, Museum of Bacău, Zoological Museum of the "Babeş-Bolyai" University of Cluj-Napoca, Natural Sciences Museum Complex of Galaţi (CMSNGL), some private collections, such as: Dr. Med. Vet. G. GAMĂLĂ - Drobeta Turnu-Severin, Prof. V. VICOL - Târgu Mureş, G. PÁP - Cluj-Napoca, G. SZABÓ - Satu Mare, C. O. MANCI Timişoara. Presently, there are 150 species recorded in Romania, (Fig. 1).

In Hungary 120 species are recorded (MUSKOVITZ & HEGYESSY 2002), in Bulgaria 179 (SAKALIAN 2003a, b), in Ukraine 141 (PROKHOROV 2010), in Yugoslavia (Serbia and Montenegro in 2002) 105 and in Moldova 64 (BÍLY 2002). (Fig. 1).

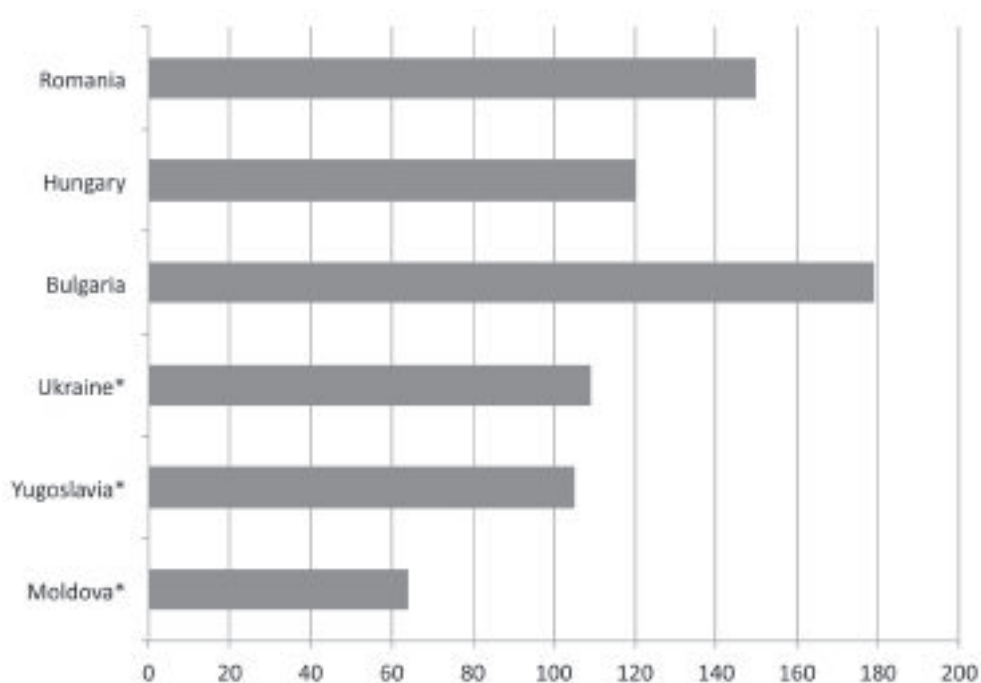


Fig. 1. The number of the buprestid species recorded in Romania and in the adjacent countries.

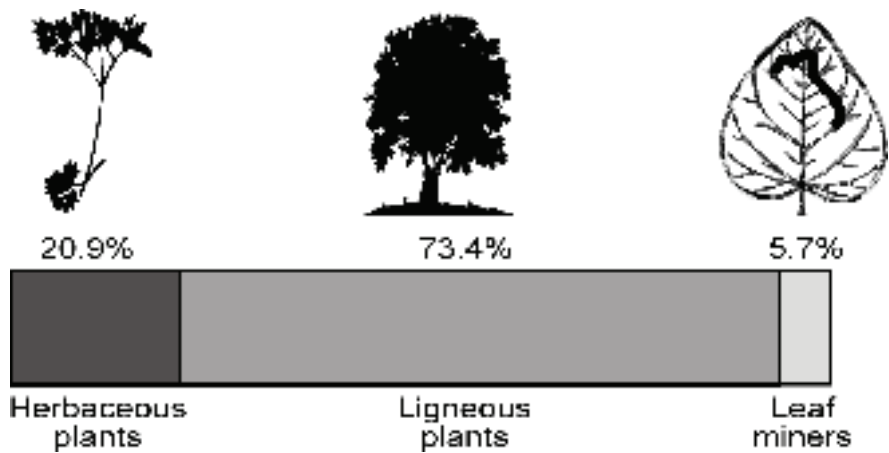


Fig. 4. Preferred host-plants of Romanian Buprestidae.

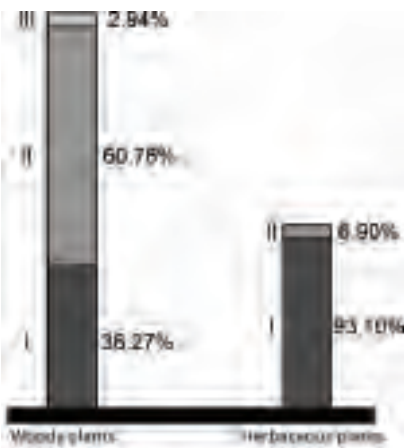


Fig. 5. The host-guest relationships between buprestid species and their host-plants: I - primary guests; II - secondary guests; III - tertiary guests.

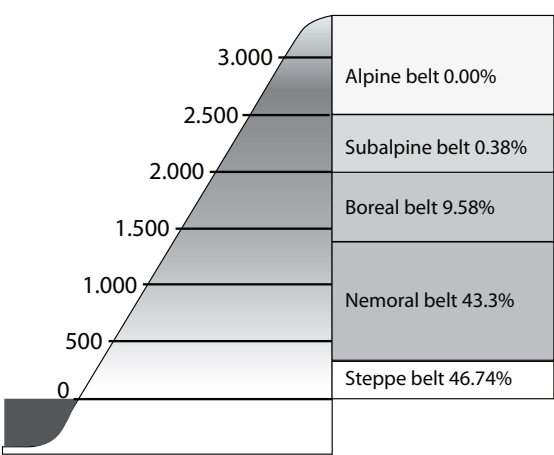


Fig. 6. The altitudinal distribution of buprestid species in Romania.

According to their host-guest relationship, the Buprestidae species are mostly secondary guests in woody plants and primary guests in herbaceous plants or bushes (Fig. 5). Primary guests are species that develop in healthy plants, secondary guests are species developing in plants already damaged by other guests (insects, fungi, bacteria) while tertiary guests are buprestids that develop in dead plant tissues. These data may contribute in reconsidering the pest status of some species.

Altitudinal distribution:

Most buprestid species occur in lowlands (steppes and nemoral belts 0-1400 m), while increasingly less in the boreal and subalpine belts (1400-2000 m). Usually, no buprestid species occur in alpine belt (over 2000 m) (Fig. 6).

Subgenus **Sphenoptera** Dejean, 1833 (s. str.)

Dejean (1833) Cat. Col.: 81; Jakovleff (1889) Ins A. Cl. G. N. Pot. China Mong. nov. lect. III. gen Sphen., Horae Soc. entomol. ross, 23: 84; Jakovleff (1889) Etud. spec. pal. gen. Sphen. Subgen. Deudora., Horae Soc. entomol. ross, 32: 325.

Sphenoptera* (s. str.) *antiqua (Illiger, 1803) (Pl. I, Fig. 7)

Illiger (1783) – *Buprestis antiqua* Mag. ins. II: 247; Mann (1837) – *Sphenoptera litigiosa* Bull. Soc. imp. nat. Moscou: 94; Gory & Laporte (1941) – *iridiventris* in Schaeff. Bul. soc. lin. Lyon: 43; Obenberger (1927) – var. *ausonica* Sbor. entomol. odd. Nar. Mus. Prag.: 95; Leoni (1911) – *Quercii* Riv. col. Ital.: 5.

Biology and ecology: Xerothermophilous element.

Host plant: Primary guest on the rhizomes of: *Astragalus monspessulanum* and *Trifolium* sp.

Phenology: May–July.

Distribution: Turano–European element. **Type locality:** Portugalia, Hungary. Recorded from: Albania, Algeria, Armenia, Austria, Bosnia, Bulgaria, Croatia, Czech Republic, France, Georgia, Greece, Hungary, Irak, Italy, Macedonia, Rep. of Moldova, Maroko, Poland, Romania, Russia, Slovakia, Spain, Turkey, Ukraine, Yugoslavia (Bílý 2002).

Banat: Nădlac, leg. ORMAY (PETRI, 1912) (Arad).

Transylvania: Cheile Turzii, Suatu – leg, coll. RUICĂNESCU (Cluj); Cristian, Sibiu–Dl. Gușterița, leg. MULLER, BIELZ, WORELL, coll. NHM Sibiu (PETRI, 1912),

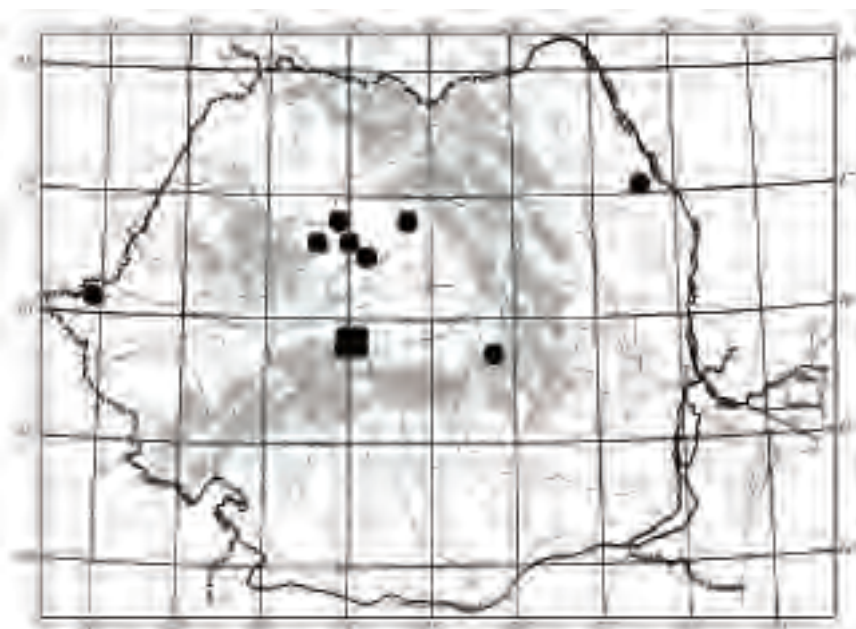


Fig. 14. Distribution of *Sphenoptera antiqua* (Ill.) in Romania: ● - Records certified and confirmed; ○ - Records no longer confirmed; ? - Species wrong mentioned in literature.

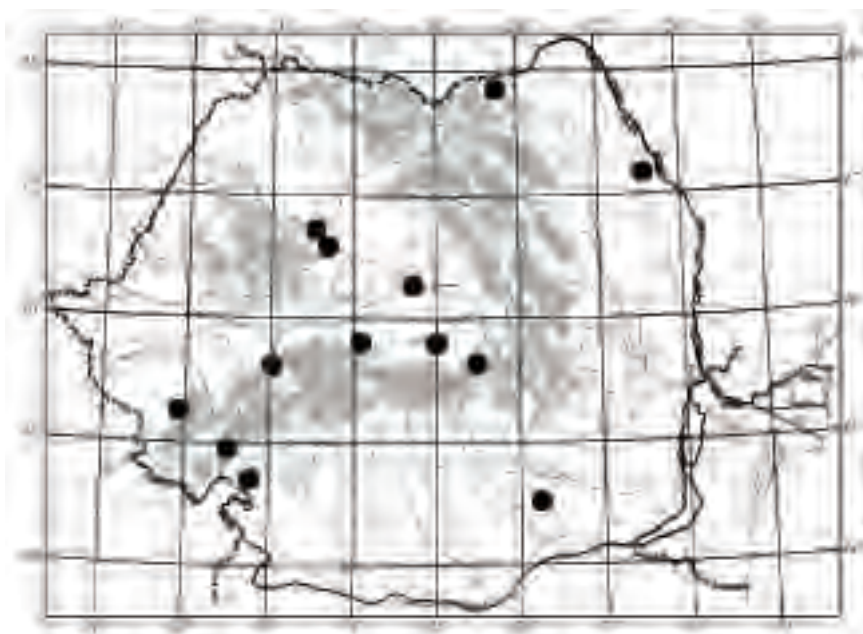


Fig. 100. Distribution of *Agrilus sulcicollis* Lac. in Romania: ● - Records certified and confirmed; ○ - Records no longer confirmed; ? - Species wrong mentioned in literature.

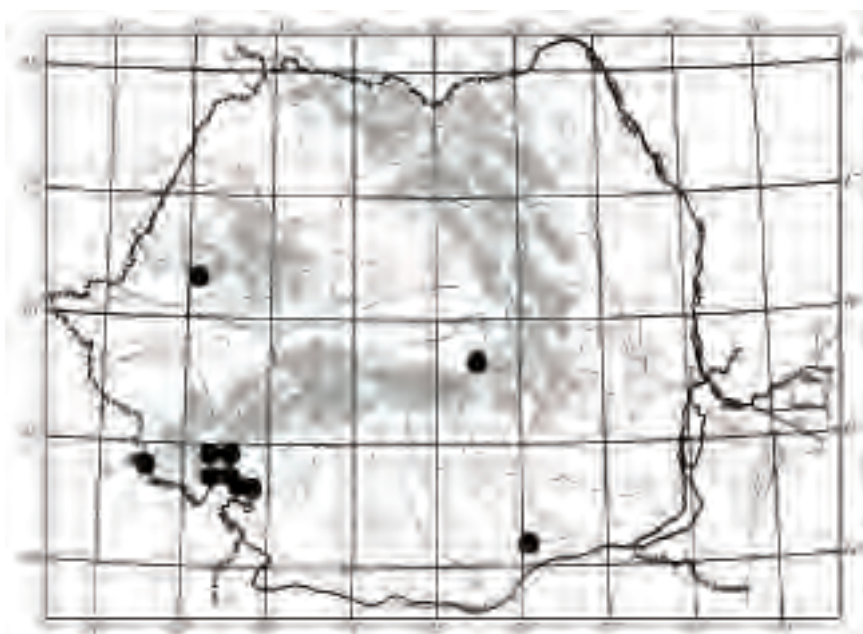


Fig. 101. Distribution of *Agrilus graminis* Ksw. in Romania: ● - Records certified and confirmed; ○ - Records no longer confirmed; ? - Species wrong mentioned in literature.

REGISTER

A

Acmaeodera 9, 17, 18, 19, 20

Acmaeodera s. str. 18

Acmaeotethya 19

cylindrica 18

= *acuminipennis* 18= *convolvuli* 18

degener 9, 19, 20

= *degener* (*Elater*) 19= *Pilleri* (*ab.*) 19

pilosellae 18, 19

= *Krüperi* 18= *sheljuzkoi* (*ab.*) 18**Acmaeoderella 20, 21, 22, 23, 24**

Acmaeoderella s. str. 20

Carininota 21

circassica 20, 21

= *hellenica* 20= *ianthelytra* (*var.*) 20

flavofasciata 21, 22

= *Deorum* (*ssp.*) 22= *hirta* (*Buprestis*) 21= *placida* (*var.*) 22= *taeniata* (*Buprestis*) 21= *unifasciata* (*Acmaeodera*) 21= *volvulus* (*Buprestis*) 21

mimonti 23, 24

ACMAEODERINI 17= *Acmaeoderites* 17**AGRILINAE 109**= *Agrilini* (*part.*) 109= *Agrilites* 109**AGRILINI 118**= *Agrilini* (*part.*) 118= *Agrilites* 118**Agrilus 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159***Agrilus* (*s. str.*) 148*Agrilus* (*s. str.*) 145, 148, 149, 150, 152, 153*albogularis* 140= *artemisiae* 140= *elatus* 140*Anambus* 120*angustulus* 131, 132= *angustulus* (*Buprestis*) 131= *Gyllenhali* 131= *laetefrons* 131= *olivaceus* 131= *pavidus* 131= *rugicollis* 131= *viridis* 131*antiquus* 158= *celticus* 158= *hemiphanes* 158= *Linderi* 158= *oxygonus* 158= *protracta* 158= *proximus* 158= *pruinotulus* 158*ater* 119, 120= *atra* (*Buprestis*) 119= *biguttatus* 119= *eutenes* 119= *sexguttatus* 119*auricollis* 121, 122*betuleti* 124, 125*biguttatus* 120, 122= *biguttata* (*Buprestis*) 120= *octoguttatus* (*Cucujus*) 120= *pannonicus* 120*cintus* 159= *Baudii* (*syn. cytisi*) 159= *Bedeli* 159= *cytisi* (*ssp.*) 159= *pedemontanus* 159= *sinuaticollis* 159= *subchalybaeus* (*syn. cytisi*) 159*Convexagrilus* 143*convexicollis* 143, 144*croaticus* 157, 158

Plate II



Fig. 19.



Fig. 20.



Fig. 21.



Fig. 22.



Fig. 23.



Fig. 24.



Fig. 25.



Fig. 26.



Fig. 27.



Fig. 28.



b



Fig. 29.

a



Fig. 89.

Fig. 90.

Fig. 91.

Fig. 92.



Fig. 93.

Fig. 94.

Fig. 95.

Fig. 78. *Agrilus delphinensis* (Ab.) Bistrița, Arcalia-Șieu, 10.VII.1993, leg., photo A. Ruicănescu. **Fig. 79.** *Agrilus pseudocyaneus* Ksw. Danube Delta, Caraorman isl., 10m, 21.V.1991, leg., photo A. Ruicănescu. **Fig. 80.** *Agrilus pratensis* (Ratz.) Bistrița-Năsăud, Dealul Negru, 850m, 14.VI.2009, leg., photo. A. Ruicănescu. **Fig. 81.** *Agrilus laticornis* (Illig.) Galați, Gârboavele ft., 250m, 2.07.2005, leg., photo A. Ruicănescu. **Fig. 82.** *Agrilus angustulus* (Illig.) Cluj, Turda Gorges, 550m, 16.V.1993, leg., photo. A. Ruicănescu. **Fig. 83.** *Agrilus obscuricollis* Ksw. Constanța, Neptun, 10m, 14.VI.2000, leg., photo. A. Ruicănescu. **Fig. 84.** *Agrilus sulcicollis* Lac. Cluj, Turda Gorges, 500m, VII.1991, leg., photo. A. Ruicănescu. **Fig. 85.** *Agrilus hastulifer* Ratz. Danube Delta, Letea Island, 10m, 10.VI.1995, (specimen collected on *Populus* sp.) leg., photo. A. Ruicănescu. **Fig. 86.** *Agrilus hastulifer* Ratz. Orșova, Bahna Val., 250m, 8.08.1988. (specimen collected on *Quercus* sp.), leg., photo A. Ruicănescu. **Fig. 87.** *Agrilus graminis* Ksw. Cluj-Napoca, Cluj, Sic, 325m, 17.VI.2011, leg., photo A. Ruicănescu. **Fig. 88.** *Agrilus derasofasciatus* Lac., Cluj, Vișoara, 600m, 27.05.2004, leg., photo A. Ruicănescu. **Fig. 89.** *Agrilus litura* Ksw., Bihor, Șoimi, 400m, 22.VIII.1984, leg. B. Kis, photo A. Ruicănescu. **Fig. 90.** *Agrilus sinuatus* (Oliv.), a - male, b - female, Cluj, Rascruți, 450m, 29.V.2003, leg., photo A. Ruicănescu. **Fig. 91.** *Agrilus auricollis* Ksw. Constanța, Neptun, 10m, 15.VI.2000, leg., photo. A. Ruicănescu. **Fig. 92.** *Agrilus lineola* Redt. Bihor, Șoimi, 400m, 22.VIII.1984, leg. B. Kis, photo. A. Ruicănescu. **Fig. 93.** *Agrilus salicis* Friv. Danube Delta, Letea island, 10 m, 15-18.06.1993, leg., photo. A. Ruicănescu. **Fig. 94.** *Agrilus suvorovi* Obenbg. a - male: Danube Delta, Caraorman isl., 10m, 21.V.1991; b - female: Southern Dobrudja, Neptun, Comarovo ft., 10m, 15.06.2000, leg., photo. A. Ruicănescu. **Fig. 95.** *Agrilus viridis* f. *fagi* Ratz. Bistrița-Năsăud, Piatra Corbului, 850m, 15.VI.2009, leg., photo A. Ruicănescu.