

NOMENCLATURAL NOTES ON TENEBRIONID BEETLES OF THE PALAEARCTIC REGION (INSECTA: COLEOPTERA)

DARIUSZ IWAN and IVAN LÖBL

¹*Department of Systematics and Zoogeography, Museum and Institute of Zoology, Polish Academy of Sciences, Wilcza 64, 00-679 Warsaw, Poland;*

e-mail: darek@miiz.waw.pl

²*Muséum d'histoire naturelle, Case Postale 6434, CH-1211, Geneva, Switzerland;*

e-mail: ivan.lobl@bluewin.ch

Abstract.— The type species are designated for the following genus-group names: *Halonomus* Wollaston, 1861 (*Halonomus grayii* Wollaston, 1861 = *Opatrum ovatus* Erichson, 1843), *Heliocrates* Reitter, 1904 (*Heliophilus humerangulus* Reitter, 1904), *Heterophylus* Mulsant et Rey, 1859 (*Helipathes picipes* Faldermann, 1837), *Opatronesthes* Reitter, 1904 (*Melanesthes punctipennis* Reitter, 1889), *Penthomegus* Reitter, 1904 (*Penthicus corpulentus* Reitter, 1896), *Sclerum* Dejean, 1834 (*Opatrum orientale* Fabricius, 1775) and *Stonavus* Reitter, 1904 (*Penthicus alaiensis* Reitter, 1896). *Penthicus pinguis medvedevi* nomen novum is proposed as a replacement name for *Lobodera granulifera* G. S. Medvedev, 1964 (not Reichardt, 1936) which is presently placed in *Penthicus* as junior homonym, and *Barnardiorum* nomen novum for *Tadzhikistania* Barnard et Barnard, 1983 (not Bogatchev, 1960). Statements and corrections are given on previous nomenclatorial acts concerning the following names: *Bogatshevia* G. S. Medvedev et Iwan, 2006, *Ochrolamus* Reitter, 1904 and *Reichardtliina* Kaszab, 1982. A new synonymy is proposed: *Hopatrum hadroide* Fairmaire, 1888 = *Gonocephalum reichardti* Gebien, 1939. Reference are given to preserve the usage of *Opatrum rusticum* A. G. Olivier, 1811 and *Opatrum perplexum* Lucas, 1846 which are threatened by recently noticed senior homonyms.



Key words.— Coleoptera, Tenebrionidae, Crustacea, Amphipoda, Sarothrogammaridae, nomenclature, type species, homonymy, replacement name, synonymy.

INTRODUCTION

The collaboration of the first author of the present paper on the Tenebrionidae section of the Catalogue of Palaearctic Coleoptera (Volume 5, Tenebrionoidea) resulted in several nomenclatural changes. Some of them are in need of publication in a separate paper, in particular cases for which a reversal of precedence is proposed and supported. Following cases are treated below: (1) designations of type species, (2) explanations and corrections for the statements of some previous nomenclatorial acts, (3) replacement names for

junior homonyms, and (4) lists of supporting references to preserve the currently accepted names following the requirements of the International Code of Zoological Nomenclature (ICZN 1999, Article 23.9. "Reversal of precedence").

TYPE SPECIES DESIGNATION

Halonomus Wollaston, 1861

Halonomus Wollaston, 1861: 201.

Halonomus is currently placed in synonymy with *Clitobius* Mulsant et Rey, 1859. It was established by Wollaston (1861) for *Halonomus grayii* Wollaston, 1861 and *H. salinicola* Wollaston, 1861. A type species was not designated. We designate here as type species *Halonomus grayii* Wollaston, 1861, which is a junior synonym of *Opatrum ovatus* Erichson, 1843.

***Heliocrates* Reitter, 1904**

Heliocrates Reitter, 1904: 98.

Heliocrates Reitter, 1904 was established as a subgenus of *Heliopates* Dejean, 1821. It included originally three species: *Heliophilus humerangulus* Reitter, 1904, *H. strigosus* Reitter, 1904: and *H. sulcipennis* Reitter, 1904. A type species was not designated. We designate here as type species *Heliophilus humerangulus* Reitter, 1904.

***Heterophylus* Mulsant et Rey, 1859**

Heterophylus Mulsant et Rey, 1859a: 69 [= 1859b: 7], nec *Heterophylus* Klug 1833: 91.

Heterophylus is currently placed in synonymy with *Dissonomus* Jacquelin du Val, 1861. It was established by Mulsant and Rey (1859) for *Helipathes picipes* Faldermann, 1837 and *Heterophylus latiusculus* Mulsant et Rey, 1859. A type species was not designated. We designate here as type species *Helipathes picipes* Faldermann, 1837.

***Opatronesthes* Reitter, 1904**

Opatronesthes Reitter, 1904: 174.

Opatronesthes Reitter, 1904 was established as a subgenus of *Melanesthes* Dejean, 1834. It included originally three species: *Melanesthes punctipennis* Reitter, 1889, *M. rugipennis* Reitter, 1889 and *M. tuberculosa* Reitter, 1889. A type species was not designated. We designate here as type species *Melanesthes punctipennis* Reitter, 1889.

***Penthomagus* Reitter, 1904**

Penthomagus Reitter, 1904: 161.

Penthomagus is currently placed in synonymy with *Penthicus* Faldermann, 1836. It was established by Reitter (1904) for *Penthicus corpulentus* Reitter,

1896 and *P. granulatus* Ménériés, 1849. A type species was not designated. We designate here as type species *Penthicus corpulentus* Reitter, 1896.

***Sclerum* Dejean, 1834**

Sclerum Dejean, 1834: 193.

Sclerum was established as a genus by Dejean (1834: 193). It included originally three species: *Opatrum ferrugineum* Fabricius, 1801, *O. foveolatum* A. G. Olivier, 1811 (a junior synonym of *Silpha multi-striata* Forsskål, 1775) and *O. orientale* Fabricius, 1775. A type species was not designated. We designate here as type species *Opatrum orientale* Fabricius, 1775.

***Stonavus* Reitter, 1904**

Stonavus Reitter, 1904: 161.

Stonavus is currently placed in synonymy with *Penthicus* Faldermann, 1836. It was established by Reitter (1904) for *Penthicus alaiensis* Reitter, 1896 and *P. remotus* Reitter, 1896. A type species was not designated. We designate here as type species *Penthicus alaiensis* Reitter, 1896.

HOMONYMS

***Penthicus pinguis medvedevi* nom. nov.**

Lobodera granulifera G. S. Medvedev, 1964: 658; nom. preocc., non Reichardt, 1936: 145.

Lobodera pinguis granulifera G. S. Medvedev, 1964.

Comments. *Lobodera granulifera* G. S. Medvedev, 1964 and *Lobodera granulifera* Reichardt, 1936 are primary homonyms, both presently placed in *Penthicus*. The junior homonym, *Lobodera granulifera* G. S. Medvedev, 1964, is permanently invalid and should be replaced. We propose the following replacement name: *medvedevi* **nom. nov.** for *Lobodera granulifera* G. S. Medvedev, 1964, not Reichardt, 1936.

Name derivation. The species is named in honour of Dr. Gleb S. Medvedev from the Zoological Institute, Russian Academy of Sciences, St. Petersburg.

***Barnardiorum* nom. nov.**

Tadzhikistania Barnard et Barnard, 1983: 495 (Crustacea, Amphipoda, Sarothrogammaridae); type species: *Sarothrogammarus*

ruffoi Karaman, 1971; nom. preocc., non *Tadzhikistania* Bogatchev, 1960: 35 (Coleoptera, Tenebrionidae); type species: *Tadzhikistania mystacea* Bogatchev, 1960

Comments. The junior homonym, *Tadzhikistania* Barnard et Barnard, 1983, is permanently invalid and should be replaced. We propose the following nomenclatural act of the replacement name: *Barnardiorum* nom. nov. for *Tadzhikistania* Barnard et Barnard, 1983, not Bogatchev, 1960.

Name derivation. The species is named in honour of J. L. and C. M. Barnard.

CORRECTIONS FOR SOME STATEMENTS OF NOMENCLATURAL ACTS

Bogatshevia G. Medvedev et Iwan, 2006

Bogatshevia G. Medvedev et Iwan, 2006: 618.

Comments. Medvedev and Iwan (2006) published a new replacement name for *Achaemenes* Bogatchev, 1949 misspelled *Achaemenus*. The correct replacement is as follow: *Achaemenes* Bogatchev, 1949 (a junior homonym of *Achamenes* Stål, 1856) = *Bogatshevia* G. Medvedev et Iwan (type species: *Achaemenes villosus* Bogatchev, 1949).

Gonocephalum hadroide (Fairmare, 1888)

Hopatum hadroide Fairmaire, 1888: 129.

Gonocephalum reichardti Gebien, 1939: 447 syn. nov.

Comments. In 1861 (p 215) Wollaston described *Opatrum hadroides*, which is a different species than *Hopatum hadroide* described by Fairmare (1888: 129). Gebien (1939) in his Catalogue listed in the genus *Gonocephalum* twice “hadroides”: (1) *hadroides* Wollaston (1861), in synonymy with *simplex* Fabricius (1801) [in 1972 Ardoïn reinterpreted the taxon as subspecies] and (2) *hadroides* Fairmaire (1888), misspelled and replaced by the new name *reichardti*.

The correctly spelled names [*Gonocephalum hadroides* (Wollaston, 1861) and *Gonocephalum hadroide* (Fairmare, 1888)] are not homonyms and make Gebien’s act unjustified. Therefore, *Gonocephalum reichardti* is a synonym of *Gonocephalum hadroide* Fairmaire.

Melanesthes medvedevi Kaszab, 1973

Melanesthes medvedevi Kaszab, in Medvedev and Kaszab 1973: 103.

Comments. In their revision of the genus *Melanesthes*, Medvedev and Kaszab (1973) gave the following interpretations: (1) *Melanesthes maximus maximus* Ménétrés, 1854, with syn. *M. bielawskii* Kaszab, 1964; (2) *Melanesthes maximus borealis* Kaszab, 1968, described as *M. bielawskii borealis* Kaszab, 1968; (3) new species, *Melanesthes medvedevi* Kaszab, 1973, previously interpreted by Kaszab (1965: 341) as *M. maxima* Menetries, 1854, with the following notice: “*Melanesthes medvedevi* Kaszab, nom. n. = *M. maxima* Kaszab, non Ménétrés: Kaszab, 1965: Acta Zool. Hung., 11: 341 [...]” and “Holotypus der *Melanesthes medvedevi* Kaszab: Mittelgobi aimak: [...]”.

The name *Melanesthes medvedevi* Kaszab, 1973 is valid and its designation based on the Article 13 of the Code (ICNZ): “[13.1] To be available, every new names published after 1930 must satisfy the provisions of Article 11 and must [13.1.1] be accompanied by a description or definition that states in words characters that are purported to differentiate the taxon, or [13.1.2] be accompanied by a bibliographic reference to such a published statement...”. The Articles 15 and 16 (names published after 1999) are not require for the paper by Medvedev and Kaszab (1973).

Ochrolamus Reitter, 1904

Ochrolamus Reitter, 1904: 73.

Comments. *Ochrolamus* was established as a subgenus of *Dilamus* Jacquelin du Val, 1861. Reitter (1904) described *Ochrolamus* for a single species, *pictus*, incorrectly credited to Marseul. Baudi di Selve is the author of the name “*pictus*”, so the type species of the genus is *Dilamus pictus* Baudi di Selve, 1881: 285.

Reichardtliella Kaszab, 1982

Reichardtliella Kaszab, 1982: 79.

Comments. Kaszab (1982) gave comments on the homonym *Reichardtliella* Kaszab, 1942 (nom. preocc., non *Reichardtliella* Filipjev, 1928), but published incorrect names and year in his nomenclatural act: “... *Reichardtliella* nom. n. für *Reichardtia* Kaszab, 1940, non *Reichardtia* Filipjev, 1928 (Lepidoptera: Gelechiidae)...”. In fact, the name *Reichardtia* is available for *Reichardtia* Wenzel, 1944 (not Mateu 1982, replacement name *Reichardtina* Mateu, 1985). The correct statement is: replacement name *Reichardtliella* Kaszab, 1982 for *Reichardtliella* Kaszab, 1942 (not *Reichardtliella* Filipjev, 1928).

PRESERVATION OF NAMES ON PREVAILING USAGE

The following species-group names currently used as valid are threatened by recently discovered senior names. Because the senior names were not used as valid after 1899 to our knowledge, we present supporting references to preserve the currently accepted names following the requirements of the ICZN Article 23.9 (see Appendices 1–2).

Gonocephalum rusticum (A. G. Olivier, 1811) – – *Gonocephalum fuscum* (Herbst, 1793)

Opatrum rusticum A. G. Olivier, 1811 **nomen protectum**.

Opatrum rusticum A. G. Olivier, 1811: 498.

Opatrum fuscum Herbst, 1793 **nomen oblitum**.

Opatrum fuscum Herbst, 1793: 225.

Comments. *Opatrum fuscum* was described by Herbst in 1793. The name was used by Dejean in his “Catalogue...” (1821: 66). In 1854 Mulsant synonymized the names *Opatrum rusticum* Olivier, 1811 and *Opatrum fuscum* Dejean, 1821 (the latter being an unavailable name). As a rule, some authors (Español 1962, Ferrer 1995, Reichardt 1936, F. Soldati and L. Soldati 2003) used the unavailable name *Opatrum fuscum* Wollaston, 1864 for a valid *Gonocephalum* species. In fact, Wollaston (1864: 500) only listed the name *Opatrum fuscum* Herbst, 1793 (correct usage by Gemminger and Harold 1870, Grimm 1995).

Gonocephalum perplexum (Lucas, 1846) – – *Gonocephalum famelicum* (A. G. Olivier, 1811)

Opatrum perplexum Lucas, 1846 **nomen protectum**.

Opatrum perplexum Lucas, 1846: 334.

Opatrum famelicum A. G. Olivier, 1811 **nomen oblitum**.

Opatrum famelicum A. G. Olivier, 1811: 497.

Comments. In 1906 Reitter stated that *perplexum* Lucas is a synonym of “*famelicum* Medel, Oliv.?”. His interpretation was confirmed by Gebien (1939) – “? *famelicum* Ol. 1811”. For both authors the given information was doubtful: (1) the authorship of the name *famelicum* in Reitter’s paper (1904) [Medel (1880) or Olivier (1811)] and (2) the assignment of *famelicum* in synonymy with *perplexum* by Gebien (1939).

Despite doubts, since the publication of the Gebien’s Catalogue (1939), all subsequent authors are using the name *Gonocephalum perplexum* Lucas, 1846 (see Appendix 2) as valid.

ACKNOWLEDGEMENTS

We thank Piero Leo and Martin Lillig for providing a number of references supporting the use of *Opatrum perplexum* Lucas, 1846, Patrice Bouchard and Otto Merkl for reviewing the manuscript.

REFERENCES

- Barnard, J. L. and C. M. Barnard. 1983. Freshwater Amphipoda of the world. 2. Handbook and bibliography. Mt. Vernon, Virginia: Hayfield Associates, 359–830 pp.
- Bogatchev, A. V. 1960. Novyy svoeobraznyy rod zhukov-chernotelok, naydenykh v Tadzshikistane – *Tadzshikistania*, gen. nov. (Coleoptera, Tenebrionidae). Doklady Akademii Nauk Tadzshikskoy SSR, 3(3): 35–37. [In Russian].
- Dejean, P. F. M. A. 1821. Catalogue de la collection de coléoptères de M. le Baron Dejean. Paris: Crevot, viii + 136 + 2 (errata) pp.
- Dejean, P. F. M. A. 1834. Catalogue des coléoptères de la collection de M. le Comte Dejean. 3^e Livraison. Paris: Méquignon-Marvis Pères et Fils, pp. 177–256.
- Español, F. 1962. Los Opatrinae de las islas Canarias (Col. Tenebrionidae). Eos, Revista Española de Entomología, 38: 203–221.
- Fabricius J. C. 1801. Systema Eleutheratorum secundum ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. Tomus I. Kiliae: Bibliopolii Academici Novi, xxiv + 506 pp.
- Fairmaire, L. 1888. Notes sur les Coléoptères des environs de Pékin (2^e partie). Revue d’Entomologie (Caen), 7: 111–160.
- Ferrer, J. 1995. Essai de révision des espèces africaines et européennes appartenant au genre *Gonocephalum* Solier (Coleoptera, Tenebrionidae). Deuxième partie. Atti del Museo Civico di Storia Naturale di Trieste, 46: 1–75.
- Gebien, H. 1939. Katalog der Tenebrioniden. Mitteilungen der Münchener Entomologischen Gesellschaft, 29: 443–474.
- Gemminger, M. and Harold, B. de. 1870. Catalogus Coleopterorum hucusque descriptorum synonymicus et systematicus. Tom VII. Monachii: E.H. Gummi, 1801–2179 + [19] pp.
- Grimm, R. 1995. Beitrag zur Kenntnis der Schwarzkäferfauna der Kanarischen Inseln (Coleoptera, Tenebrionidae). Mitteilungen der Münchener entomologischen Gesellschaft, 85: 33–50.
- Herbst, J. F. W. 1793. Natursystem aller bekannten in- und ausländischen Insekten, als eine Fortsetzung der von Büffonschen Naturgeschichte. Der Käfer fünfter Theil. Berlin: Pauli, 392 pp., pls. 44–59 + J-N.
- Kaszab, Z. 1965. Angaben zur Kenntnis der Tenebrioniden-Fauna der Mongolischen Volksrepublik (Coleoptera). Acta Zoologica Academiae Scientiarum Hungaricae, 11: 295–346.
- Kaszab, Z. 1982. Neue orientalische Tenebrioniden. Acta Zoologica Academiae Scientiarum Hungaricae, 28: 57–80.
- Klug, F. 1833. Bericht über eine auf Madagarscar veranstaltete Sammlung von Insekten aus der Ordnung Coleoptera. Abhandlungen der Königlichen Akademie der Wissenschaften, Berlin: Königliche Akademie der Wissenschaften, 135 pp, 5 pls.

- Lucas, P. H. 1846. Pp. 1–360. *In*: Exploration scientifique de l'Algérie pendant les années 1840, 1841, 1842 publiée par ordre du gouvernement et avec le concours d'une Commission Académique. Sciences Physiques Zoologie. Vol. II. Histoire naturelle des animaux articulés. Cinquième classe. Insectes. Premier Ordre. Les coléoptères. Paris: Imprimerie Nationale [1849], 590 pp., 47 pls.
- Medvedev, G. S. 1964. Novye formy chernotelok (Coleoptera, Tenebrionidae) iz Stredney Azii. *Entomologicheskoe Obozrenie*, 43: 651–661 [in Russian].
- Medvedev, G. S. and D. Iwan. 2006. Notes on the taxonomy of tenebrionid beetles (Coleoptera: Tenebrionidae). *Annales Zoologici*, 56: 613–621.
- Medvedev, G. S. and Z. Kaszab. 1973. Ergebnisse der Mongolisch-sowjetischen biologischen Expeditionen in der Mongolischen Volksrepublik Tenebrionidae, excl. Tentyriini (Coleoptera). *Folia Entomologica Hungarica*, 26: 79–111.
- Mulsant, E. 1854. Histoire naturelle des coléoptères de France. Latigènes. Paris: L. Maisson, x + 396 + 2 pp.
- Mulsant, E. and C. Rey. 1859a. Essai d'une division des derniers mélasomes. Familles des parvilabres quatrième tribu opatrites. *Opuscules Entomologiques*, 10: 1–160.
- Mulsant, E. and C. Rey. 1859b. Essai d'une division des derniers Mélasomes. *Mémoires de l'Académie des Sciences, Belles-Lettres et Arts de Lyon. Classe des Sciences*, 9: 63–155.
- Olivier, A. G. 1811. Encyclopédie méthodique, ou par ordre de matières; par une société de gens de lettres, de savans et d'artistes; précédée d'un vocabulaire universel, servant de table pour tout l'ouvrage, ornée des portraits de Mm. Diderot & d'Alembert, premiers éditeurs de l'Encyclopédie. Histoire naturelle. Insectes. Tome huitième. Paris: H. Agasse, 722 pp.
- Reichardt, A. N. 1936. Zhuki-cherotelki tribu Opatrini palearkticheskoy oblasti. Revision des Opatrines (Coleoptera Tenebrionidae) de la région paléarctique. Tableaux analytiques de la Faune de l'URSS, 19, Moskva, Leningrad, Nauka, 1–224 pp.
- Reitter, E. 1904. Bestimmungs-Tabelle der Tenebrioniden-Unterfamilien: Lachnogyini, Akidini, Pedinini, Opatrini und Trachyscelini aus Europa und den angrenzenden Ländern. *Verhandlungen des Naturforschenden Vereines in Brünn*, 42[1903]: 25–189.
- Soldati, F. and L. Soldati. 2003. Réactualisation de la liste systématique des Coléoptères Tenebrionidae (Alleculinae exclus) de la France continentale et de Corse. *Bulletin Mensuel de la Société Linnéenne de Lyon*, 72: 331–349.
- Wollaston, T. V. 1861. On certain Coleoptera from the Island of St. Vincent. *The Annals and Magazine of Natural History*, (3) 7: 90–103, 197–206, 246–253.
- Wollaston, T. V. 1864. Catalogue of the Coleopterous insects of the Canaries in the Collection of the British Museum. London: Taylor and Francis, xiii + 648 pp.

Received: October 20, 2007

Accepted: November 24, 2007

Appendix 1.

- Supporting references for the preservation of *Opatrum rusticum* A. G. Olivier, 1811 over *Opatrum fuscum* Herbst, 1793 under Article 23.9. The species name has not been used as valid after 1899 to our knowledge.
- Ardoïn, P. 1960. Missions de MM. G. Colas et J. Mateu à l'archipel de Madère. Les Ténébrionides (Col.). Revue française d'Entomologie, 27: 103–143.
- Ardoïn, P. 1973. Contribution à l'étude des Tenebrionidae (Coleoptera) de Sardaigne. Annales de la Société Entomologique de France (N.S.), 9: 257–307.
- Canzoneri, S. and P. Vienna. 1987. I Tenebrionidae della Padania (Coleoptera Heteroptera). Bolletino del Museo Civico di Storia Naturale di Venezia, 36: 7–62 [1985].
- Español, F. 1962. Los Opatrinae de las islas Canarias (Col. Tenebrionidae). Eos, 38: 203–221.
- Español, F. 1963. Datos para el conocimiento de los Tenebrionidos del Mediterráneo occidental (Coleoptera). Eos, 39: 185–209.
- Español, F. 1967. Misión entomológica Hakan Lindberg y M. Meinander a Marruecos. Col. Tenebrionidos. Publicaciones del Instituto de Biología Aplicada, 42: 17–47.
- Ferrer, J. 1993. Essai de révision des espèces africaines et européennes appartenant au genre *Gonocephalum* Solier (Coleoptera, Tenebrionidae). Atti del Museo Civico di Storia Naturale di Trieste, 45: 59–150.
- Ferrer, J. 1995. Essai de révision des espèces africaines et européennes appartenant au genre *Gonocephalum* Solier (Coleoptera, Tenebrionidae). Deuxième partie. Atti del Museo Civico di Storia Naturale di Trieste, 46: 1–75.
- Ferrer, J. and L. Soldati. 1999. Contribution à l'étude des Tenebrionidae de Turquie (Insecta, Coleoptera). Entomofauna, 20: 53–92.
- Grimm, R. 1981. Die Fauna der Ägäis-Insel Santorin. Teil 2 Tenebrionidae (Coleoptera). Stuttgarter Beiträge zur Naturkunde Ser. A, 348: 1–14.
- Grimm, R. 1991. Tenebrioniden von der Insel Zypern (Insecta: Coleoptera). Biocosme Méditerranéen, Nice, 8: 15–49.
- Grimm, R. 1995. Beitrag zur Kenntnis der Schwarzkäferfauna der Kanarischen Inseln. Mitteilungen der Münchner Entomologischen Gesellschaft, 85: 33–50.
- Kaluzhnaya, S. 1982. A review of the tenebrionid beetles (Coleoptera, Tenebrionidae) on the north-western Caspian Lowland. Entomologicheskoe Obozrenie 61(1): 67–79. [In Russian].
- Kaszab, Z. 1959. Wissenschaftliche Ergebnisse der zoologischen Expedition des National-Museums in Prag nach der Türkei. 24. Coleoptera Tenebrionidae. Acta Entomologica Musei Nationalis Pragae, 33: 69–82.
- Kaszab, Z. 1960. Die Tenebrioniden Afghanistans, auf Grund der Ergebnisse der Sammelreise des Herrn J. Klapperich in den Jahren 1952/53 (Col.). 1. Fortsetzung und Schluss. Entomologische Arbeiten aus dem Museum G. Frey, 11: 1–179.
- Kocher, L. 1958. Ténébrionides. Fascicule VI. Catalogue commenté des Coléoptères du Maroc. Travaux de l'Institut scientifique chérifien, série zoologie, 12: 7–185.
- Kühnelt, W. 1965. Tenebrionidae. Pars I. 60 pp. In: A. Kanelis. Catalogus Faune Graeciae.
- Labrique, H. and G. Chavanon. 2001. Résultats d'une campagne de prospection entomologique dans le Maroc oriental (Coleoptera Tenebrionidae). Cahiers scientifiques, 2: 75–87.
- Lillig, M. and H. J. Bremer. 2002. Tenebrionidae der nördlichen Provinzen der Republik Sudan. (Coleoptera: Tenebrionidae). Coleoptera, 6: 35–101.
- Lillig, M. and T. Pavlíček. 2003. The darkling beetles of the Sinai Peninsula Coleoptera Tenebrionidae (excl. Lagriinae et Alleculinae). Zoology in the Middle East, Supplementum, 2003, 87 pp.
- Li-zhong, H. 2002. List of China Insects. Vol. 2, 612 pp. Zhongshan (Sun Yat-sen) University Press, Guangzhou.
- Mifsud, D. and A. Scupola. 1998. The Tenebrionidae (Coleoptera) of the Maltese Islands (Central Mediterranean). Annali del Museo Civico di Storia Naturale „G. Doria“, 42: 191–229.
- Medvedev, G. S. and Z. Kaszab. 1973. Ergebnisse der Mongolisch-Sowjetischen Biologischen Expeditionen in der Mongolischen Volksrepublik (Tenebrionidae, excl. Tentyriini (Coleoptera). Folia Entomologica Hungarica, 26(1): 79–111.
- Medvedev, G. S. and A. L. Lobanov. 1990. A faunistic list of tenebrionids (Coleoptera, Tenebrionidae) of the Mongolian People's Republic with co-ordinates of the localities. Nasekomye Mongolii, 11: 139–204. [In Russian].
- Medvedev, G. S. and M. G. Nepesova. 1985. Opredelitel zhukovchernetelok Tukmenistana. Ashkhabad, Ylym, 177 pp. [In Russian].
- Soldati, F. 1995. Les Tenebrionidae de l'Hérault: inventaire et écologie (Coleoptera). Bulletin de la Société Entomologique de France, 100(3): 261–275.
- Soldati, F. and L. Soldati. 2003. Réactualisation de la liste systématique des Coléoptères Tenebrionidae (Alleculinae exclus) de France continentale et de Corse. Bulletin Mensuel de la Société Linnéenne de Lyon, 72(10): 331–349.
- Soldati, F. and A. Coache. 2004. Résultats d'une première campagne de prospection entomologique en Corse (Coleoptera Tenebrionidae). Bulletin de la Société Linnéenne de Bordeaux, 32(1): 1–25.

Appendix 2.

- Supporting references for the preservation of *Opatrum perplexum* Lucas, 1846 over *Opatrum famelicum* A. G. Olivier, 1811 under Article 23.9. The species name has not been used as valid after 1899 to our knowledge.
- Alfieri, A. 1976. The Coleoptera of Egypt. Mémoires de la Société entomologique d'Égypte, 5: i-xiv + 1-361.
- Aliquò, V. 1993. Dati nuovi e riassuntivi sui Coleotteri Tenebrionidi delle isole circum-siciliane (Coleoptera: Tenebrionidae). Il Naturalista siciliano, 17 (1-2): 111-125.
- Aliquò, V. 1995. Coleoptera Tenebrionidae. In: Arthropoda di Lampedusa, Linosa e Pantelleria (Canale di Sicilia, Mar Mediterraneo). Il Naturalista siciliano, 19 (Supplementum): 543-548.
- Aliquò, V. and A. Aliquò. 2000. Terzo contributo alla revisione della collezione coleotterologica di Enrico Ragusa: Tenebrionidae (Coleoptera). Il Naturalista siciliano, 24 (1-2): 103-144.
- Canzoneri, S. 1977. Contributo alla conoscenza dei Tenebrionidi appenninici. Bollettino del Museo Civico di Storia Naturale di Verona, 4: 227-285.
- Crovetti, A. 1970. Note eco-etologiche sulla entomofauna primaverile dello Uàdi Caam (Tripolitania). Studi Sassaesi, Sez. III, Annali della Facoltà di Agraria dell'Università di Sassari, 18: 270-381.
- Dajoz, R. 1982. Les peuplements de Coléoptères terrioles de Tunisie. Cahiers des Naturalistes, 38 (2): 33-67.
- Español, F. 1963. Datos para el conocimiento de los Tenebrionidos del Mediterráneo occidental (Coleoptera). Eos, 39: 185-209.
- Español, F. 1967. Misión entomológica Hakan Lindberg y M. Meinander a Marruecos. Col. Tenebrionidos. Publicaciones del Instituto de Biología Aplicada, 42: 17-47.
- Ferrer, J. 1993. Essai de révision des espèces africaines et européennes appartenant au genre *Gonocephalum* Solier (Coleoptera, Tenebrionidae). Atti del Museo Civico di Storia Naturale di Trieste, 45: 59-150.
- Ferrer, J. 1995. Essai de révision des espèces africaines et européennes appartenant au genre (*Gonocephalum*) Solier (Coleoptera, Tenebrionidae). Deuxième partie. Atti del Museo Civico di Storia Naturale di Trieste, 46: 1-75.
- Ferrer, J. 2000. Révision des espèces africaines et européennes appartenant au genre *Gonocephalum* Solier (Coleoptera, Tenebrionidae, Opatrini). Troisième partie. Atti del Museo Civico di Storia Naturale di Trieste, 48: 69-153.
- Fiori, G. 1968. Sui rifugi dei Coleotteri deserticoli e subdeserticoli. Studi Sassaesi, Sez. III, Annali della Facoltà di Agraria dell'Università di Sassari, 15 (1967): 519-540.
- Fiori, G. 1968. Sui rifugi dei Coleotteri deserticoli e subdeserticoli. Studi Sassaesi, Sez. III, Annali della Facoltà di Agraria dell'Università di Sassari, 15 (1967): 519-540.
- Fiori, G. 1968. Le zampe dei Coleotteri Tenebrionidi adulti della Ghibla (Tripolitania del Sud). Studi Sassaesi, Sez. III, Annali della Facoltà di Agraria dell'Università di Sassari, 16: 331-361.
- Fiori, G. 1972. Hamàda el-Hàmra e la sua entomofauna nel mese di maggio. Studi Sassaesi, Sez. III, Annali della Facoltà di Agraria dell'Università di Sassari, 20: 110 pp.
- Gardini, G. 1995. Coleoptera Polyphaga XIII (Lagriidae, Alleculidae, Tenebrionidae). In: Minelli A., Ruffo S. and La Posta S. (eds). Checklist delle specie della fauna italiana, 58. Bologna, Calderini.
- Goggi, G. 2004. Indagine faunistica sui Coleotteri delle Isole Pelagie (Sicilia). Giornale italiano di Entomologia, 11: 127-143.
- d'Hondt, J.-L. and P. Ardoin. 1979. Notes de chasse sur les Coléoptères Tenebrionidae d'Oranie et du Grand Erg Occidental algérien. L'Entomologiste, 35: 16-23.
- Kaszab, Z. 1967. Ergebnisse der Albanien-Expedition 1961 des Deutschen Entomologischen Institutes. 70. Beitrag. Coleoptera: Tenebrionidae. Beiträge zur Entomologie, 17(3-4): 547-571.
- Kaszab, Z. 1982. Insects of Saudi Arabia. Coleoptera: Fam. Tenebrionidae (Part 2). Fauna of Saudi Arabia, 4: 124-243.
- Katbeh-Bader, A. 1996. Contribution to our knowledge of the Tenebrionidae (Coleoptera) of Jordan. Zoology of the Middle East, 13: 99-106.
- Kocher, L. 1958. Ténébrionides. Fascicule VI. Catalogue commenté des Coléoptères du Maroc. Travaux de l'Institut scientifique chérifien, série zoologie, 12: 7-185.
- Labrique, H. and G. Chavanon. 2001. Résultats d'une campagne de prospection entomologique dans le Maroc oriental (Coleoptera Tenebrionidae). Cahiers scientifiques, 2: 75-87.
- Liebmann, W. 1962. Ein Beitrag zur Käferfauna von Pantelleria. Stuttgarter Beiträge zur Naturkunde, 87: 1-5.
- Lillig, M. and T. Pavlíček. 2003. The darkling beetles of the Sinai Peninsula. Zoology in the Middle East, 2003 (Supplementum): 87 pp.
- Pierre, F. 1958. Coléoptères Ténébrionides du Tassili n'Ajjer (Mission F. Bernard). Zoologie pure et appliquée 3: 133-145.
- Ratti, E. 1986. Ricerche faunistiche del Museo civico di Storia Naturale di Venezia nell'isola di Pantelleria. I. Notizie introduttive; Coleoptera Tenebrionidae. Bollettino del Museo Civico di Storia Naturale di Venezia, 35: 7-41 [1984].
- Sparacio, I. 1999. Coleotteri di Sicilia, parte III, ed. L'Epos, Palermo: 192 pp.