

## Taxonomic and nomenclatorial notes on Palearctic Silphinae (Coleoptera: Silphidae)

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**Abstract.** Taxonomic and nomenclatorial notes on 16 valid species of Silphinae distributed in the Palearctic region are provided. The following 37 names are treated as junior subjective synonyms of the species given in round brackets: *Blitophaga velutina* Portevin, 1943 (syn. of *Aclypea daurica* (Gebler, 1832)); *Blitophaga opaca* var. *samnitica* Fiori, 1899 (syn. of *Aclypea opaca* (Linnaeus, 1758)); *Silpha quadripunctata* var. *hexapunctata* Gerhardt, 1897 (syn. of *Dendroxena quadrimaculata* (Scopoli, 1772)); *Phosphuga cassidea* Kraatz, 1876, *Peltis atrata* var. *subparallela* Reitter, 1884, *Peltis* (*Phosphuga*) *atrata* var. *rostrata* Reitter, 1888, *Phosphuga atrata borsodensis* Depoli, 1931 and *Phosphuga atrata lombarda* Depoli, 1931 (all syn. of *Phosphuga atrata atrata* (Linnaeus, 1758)); *Silpha italica* Küster, 1851, *Silpha lunata* var. *austriaca* Otto, 1891 and *Silpha carinata* var. *blattiformis* Reitter, 1901 (all syn. of *Silpha carinata* Herbst, 1783); *Silpha nakanei* Emetz et Schawaller, 1975 (syn. of *Silpha melanura* Hope, 1831); *Silpha costata* Ménétries, 1832 (non Brullé, 1836), *Silpha striola* Ménétries, 1832, *Silpha godarti* Reiche, 1861, *Silpha nitida* Portevin, 1907 (non Faldermann, 1835), *Silpha obscura* var. *simplex* Semenov, 1891, *Silpha obscura latialis* Depoli, 1931, *Silpha obscura ablattaroides* Portevin, 1943 and *Silpha obscura mongolica* Schawaller, 1980 (non Faldermann, 1835) (all syn. of *Silpha obscura obscura* Linnaeus, 1758); *Silpha olivieri aquilana* Depoli, 1931 and *Silpha olivieri sardoa* Depoli, 1931 (both syn. of *Silpha olivieri* Bedel, 1887); *Silpha venatoria* Harold, 1877, *Silpha perforata* var. *lateralis* Portevin, 1926, *Silpha perforata mandli* Portevin, 1932 and *Silpha perforata elongata* Portevin, 1943 (all syn. of *Silpha perforata* Gebler, 1832); *Silpha puncticollis* var. *lucasi* Portevin, 1926 (syn. of *Silpha puncticollis* Lucas, 1846); *Silpha tyrolensis* var. *externa* Portevin, 1926, *Silpha tyrolensis cottia* Depoli, 1931, *Silpha tyrolensis pennina* Depoli, 1931 and *Silpha tyrolensis* var. *pyrenaica* Portevin, 1943 (all syn. of *Silpha tyrolensis* Laicharting, 1781); *Thanatophilus rugosus tuberculatus* Depoli, 1931 and *Thanatophilus rubripes* Portevin, 1943 (both syn. of *Thanatophilus rugosus* (Linnaeus, 1758)); *Thanatophilus sinuatus* var. *obscurior* Portevin, 1926, *Thanatophilus sinuatus* var. *scutellatus* Portevin, 1926, *Thanatophilus sinuatus* var. *cyanescens* Portevin, 1943 and *Thanatophilus sinuatus cypriotus* Portevin, 1943 (all syn. of *Thanatophilus sinuatus* (Fabricius, 1775)). Lectotypes are designated for the following taxa: *Silpha daurica* Gebler, 1832, *Blitophaga velutina* Portevin, 1943, *Blitophaga opaca* var. *samnitica* Fiori, 1899, *Peltis atrata* var. *subparallela* Reitter, 1884, *Peltis* (*Phosphuga*) *atrata* var. *rostrata* Reitter, 1888, *Silpha costata* Ménétries, 1832, *Silpha nitida* Portevin, 1907, *Silpha obscura latialis* Depoli, 1931, *Silpha olivieri aquilana* Depoli, 1931, *Silpha olivieri sardoa* Depoli, 1931, *Silpha striola* Ménétries, 1832, *Silpha venatoria* Harold, 1877, *Silpha perforata mandli* Portevin, 1932, *Thanatophilus rugosus tuberculatus* Depoli, 1931 and *Thanatophilus rubripes* Portevin, 1943. The binomen *Silpha hirta* is attributed to Herbst, 1783 (instead of Schaeffer, 1769). The publication dates of relevant parts of the text and plates of Brullé (1836–1840) were determined, which affects the priority of names described in this publication. *Silpha costata* Brullé, 1836 (described by indication; and being a junior primary homonym of *Silpha costata* Ménétries, 1832) is treated as an objective synonym of the valid name *Heterotemna figurata* (Brullé, 1839). *Silpha simplicicornis* Brullé, 1839 is treated as a junior objective synonym of *Heterotemna tenuicornis* (Brullé, 1836) (the latter being described by indication, newly treated as valid species). *Oiceoptoma collaris* of Motschulsky (1859) is considered as a nomen nudum. *Silpha cassidea* of Dahl (1823) is considered as a nomen nudum, the species should be treated as *Phosphuga cassidea* Kraatz, 1876.

**Taxonomy, nomenclature, new synonymy, nomen nudum, lectotype designation, Insecta, Coleoptera, Silphidae, Silphinae, Palearctic region**

## INTRODUCTION

During the compilation of the Silphidae portion of the forthcoming Catalogue of Palaearctic Coleoptera (edited by Ivan Löbl and Aleš Smetana), I found several species-group names, which are treated as valid in the literature, but were intended only to describe individual or local variation. For most of them I was able to study the type material and decided to treat them as junior subjective synonyms of other more widely distributed species. Furthermore, several names are nomina nuda or junior primary homonyms and should be replaced by other names. These changes are made in the text below.

## MATERIAL AND METHODS

The following collection acronyms are used throughout the text (according to Arnett et al. 1993): BMNH – Natural History Museum, London (M. J. D. Brendell, H. Mendel); DEIC – Deutsches Entomologisches Institut, Eberswalde (D. Ahrens, L. Zerche); IEUS – Dipartimento di scienze e tecnologie agroambientali, Università di Bologna, Bologna (G. Burgio, F. Santi); JRUC – private collection of J. Růžička, Praha; JSCC – private collection of J. Schneider, Praha; MNHN – Muséum national d'Histoire naturelle, Paris (Nicole Berti); NMPC – Národní muzeum, Praha (J. Jelínek); ZISP – Zoological Institute, Russian Academy of Sciences, St. Petersburg (M. G. Volkovitsh); ZMHB – Zoologisches Museum der Humboldt-Universität, Berlin (B. Jäger, M. Uhlig).

Exact label data are cited only for type material, using the following set of abbreviations: coll. – collection of (not collector), design. – designated by, leg. – collected by, MS – manuscript, HT – holotype, LT – lectotype, PLT – paralectotype(s). Authors' remarks and addenda are found in square brackets; [p] – the preceding data within a quotation are printed; [hw] – the same but hand-written. Separate lines are indicated by slash “/”, separate labels by double slash “//”. The lectotype and paralectotypes are designated in order to preserve stability of nomenclature in this group, according to Article 74.7.3 of the Code (ICZN 1999).

## RESULTS

### *Aclypea daurica* (Gebler, 1832)

*Silpha daurica* Gebler, 1832: 48.

*Blitophaga velutina* Portevin, 1943: 47; **syn. n.**

TYPE MATERIAL EXAMINED. **LT** female of *Silpha daurica* (MNHN, coll. generale; here designated), labelled “Daurica / Gebler / Daourie Type [hw; according to N. Berti (personal communication), not original label of Gebler, but later re-written by an anonymous person] // TYPE [p, red label] // MUSEUM PARIS / COLL. A. GROUVELLE 1917 [p] // LECTOTYPE (female symbol) / *Silpha* / daurica Gebler, 1832 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / daurica / (Gebler, 1832) / Jan Růžička det. 2002”; **PLT** male (MNHN, coll. generale), labelled “TYPE [p, red label] // MUSEUM PARIS / COLL. A. GROUVELLE 1917 [p] // PARALECTOTYPE (male symbol) / *Silpha* / daurica Gebler, 1832 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / daurica / (Gebler, 1832) / Jan Růžička det. 2002”.

**LT** male of *Blitophaga velutina* (MNHN, coll. generale; here designated), labelled “[small square red label] // Inn Shan / Mongol. [p] // *B. velutina* / nov. sp. [hw, Portevin's MS] // TYPE [p, red label] // Museum Paris [p] / Coll. Grouvelle [hw] // LECTOTYPE (male symbol) // *Blitophaga* / velutina Portevin, 1943 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / daurica (Gebler, 1932) / Jan Růžička det. 2002 [p]”; **PLT** female (MNHN, coll. generale), labelled “[small square red label] // Inn Shan / Mongol. [p] // daurica / Gebler [hw] / compare au TYPE [p, red characters] // TYPE [p, red label] // Museum Paris [p] / Coll. / Grouvelle [hw] // PARALECTOTYPE (female symbol) // *Blitophaga* / velutina Portevin, 1943 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / daurica (Gebler, 1932) / Jan Růžička det. 2002 [p]”; **PLT** male (MNHN, coll. generale), labelled “[small square red label] // Inn Shan / Mongolei [p] // daurica / Gebl. [hw] // TYPE [p, red label] // MUSEUM PARIS / Coll. A. GROUVELLE 1915 [p] // PARALECTOTYPE (male symbol) // *Blitophaga* / velutina Portevin, 1943 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / daurica (Gebler, 1932) / Jan Růžička det. 2002 [p]”; **PLT** 2 females (MNHN, coll. generale), labelled “[small square red label] // TYPE [p, red label] // Museum Paris [p] / Inn Sthan / Mongolie / Coll. Grouvelle [hw] // PARALECTOTYPE (female symbol) // *Blitophaga* / velutina Portevin, 1943 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / daurica (Gebler, 1932) / Jan Růžička det. 2002 [p]”; **PLT** 4 males, 2 females (MNHN, coll. generale), labelled “TYPE [p, red label] // MUSEUM PARIS [p] / Inn Sthan / Mongolie [hw] / Coll. A. Grouvelle 1915 [p] // PARALECTOTYPE (male or female symbol) // *Blitophaga* /

velutina Portevin, 1943 / Jan Růžička design. 2002 [p, red label] // *Aclypea* / *daurica* (Gebler, 1932) / Jan Růžička det. 2002 [p]"; other material: 1 male, 2 females (NMPC), labelled "Inn Shan / Mongolei [p]".

COMMENTS. *Aclypea daurica* is known from Eastern Siberia to Far East of Russia, China and Korea (Cho & Lee 1992, Schawaller 1996).

Portevin (1943) described *Blitophaga velutina* from "Mongolie: Iun Sthan", printed locality labels bears also "Inn Shan". According to Schütze & Kleinfeld (1997), this locality is In Shan north of Baotou, a part of Yin Shan mountains in China: Nei Mongol autonomous region. Portevin (1943) described this species based on an unknown number of specimens, and differs from similar *Aclypea daurica* (treated as *Blitophaga daurica* in Portevin 1943) by larger body size, long yellowish pubescence of upper surface and sparser and more superficial punctuation of elytra. In the same paper, Portevin (1943) included a note, concerning the identity of *A. daurica* and mentioned that he studied two syntypes from coll. Mniszech, and that the description of this species in his previous revision (Portevin 1926) was that of his newly described *Blitophaga velutina*. Schawaller (1996) did not study types of *B. velutina* and only noted (on p. 9) the possible synonymy of this species with *Aclypea opaca* (Linnaeus, 1758).

I have studied two syntypes of *Aclypea daurica* (probably those mentioned by Portevin 1943), the specimen bearing the locality label is designated here as a lectotype, the second specimen as a paralectotype. Further, I have examined a series of syntype specimens of *Blitophaga velutina*, the first specimen bearing Portevin's original determination label is designated here as a lectotype, the remaining ten specimens as paralectotypes. Further, syntopic specimens (bearing identical printed locality labels as the lectotype and two of the paralectotypes) probably not belonging to the original syntype series were found also in NMPC. Types of *Aclypea daurica* are identical in my opinion with *Blitophaga velutina*, having similar habitus and bearing four glabrous spots on pronotum and similar punctuation of elytra. All specimens of *B. velutina* are covered dorsally with dense, recumbent, yellow setation; which is sparser and dark brown in both types of *Aclypea daurica*. In my opinion, these changes have been caused by handling both these very old specimens, further specimens of *A. daurica* studied from Far East of Russia, Korea and China from JRUC, JSCC, MNHN and NMPC have dorsum covered with dense, yellow setation similar to that of the types of *Blitophaga velutina*. These differences, which reflect in my opinion only different handling of the material, probably led Portevin (1943) to describe *B. velutina*.

Consequently, I consider *Blitophaga velutina* Portevin, 1943 as a junior subjective synonym of *Aclypea daurica* (Gebler, 1832).

### *Aclypea opaca* (Linnaeus, 1758)

*Silpha opaca* Linnaeus, 1758: 361.

*Silpha hirta* Herbst, 1783: 34.

*Blitophaga opaca* var. *samnitica* Fiori, 1899: 161; **syn. n.**

TYPE MATERIAL EXAMINED. **LT** male of *Blitophaga opaca* var. *samnitica* (ZMHB; here designated), labelled "ABRUZZO [p] / G. Sasso / VII. [18]94 [hw] / A. FIORI [p, label with black frame] // *Blitophaga* / v. *samnitica* [hw] // LECTOTYPE (male symbol) / *Blitophaga opaca* / var. *samnitica* Fiori, 1899 // Jan Růžička design. 2002 [p, red label] // *Aclypea* / *opaca* / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]"; **PLT** female (ZMHB), labelled "ABRUZZO [p] / G. Sasso / VII. [18]94 [hw] / A. FIORI [p, label with black frame] // PARALECTOTYPE (female symbol) / *Blitophaga opaca* / var. *samnitica* Fiori, 1899 // Jan Růžička design. 2002 [p, red label] // *Aclypea* / *opaca* / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]"; **PLT** female (ZMHB), labelled "ABRUZZO / GRAN SASSO / LUG. [18]9 [p] 6 [hw] / A. FIORI [p, label with black frame] // PARALECTOTYPE (female symbol) / *Blitophaga opaca* / var. *samnitica* Fiori, 1899 // Jan Růžička design. 2002 [p, red label] // *Aclypea* / *opaca* / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]".

ADDITIONAL MATERIAL EXAMINED. 1 female (ZMHB), labelled “ABRUZZO [p] // C. [= Campo] pericoli / 18. VII. [1]907 [hw] / A. FIORI [p]”; 1 female (ZMHB), labelled “ABRUZZO [p] / C. [= Campo] imperiale / 20. VII. [1]907 [hw] / A. FIORI [p]”; 1 female (ZMHB), labelled “Italien, Abruzzen / Gran Sasso / Ing. Meschnigg [p] // Blitophaga / opaca / v. samnitica [hw] / det. / Ing. Meschnigg [p]”.

COMMENTS. *Aclypea opaca* is a widely distributed Holarctic species (Schawaller 1996).

The binomen *Silpha hirta* is attributed to Schaeffer (1769) in the literature (e.g., Hatch 1928). However, Schaeffer’s paper does not cite a binominal and contains only trivial names and consecutively numbered (in Latin and German) species figured on plates. On plate 93, under figure VI, the name “*Peltis octava*. Achter Geißerkäfer.” is provided. Herbst (1783) was first to use the binomen *Silpha hirta* to describe species of carrion beetle from Berlin with yellow pubescence on dorsum.

Consequently, Johann Friedrich Wilhelm Herbst should be treated as the author of *Silpha hirta*, and 1783 as the year of publication. Following Hatch (1928), I consider *Silpha hirta* Herbst, 1783 as a junior subjective synonym of *Aclypea opaca* (Linnaeus, 1758).

Fiori (1899) described *Blitophaga opaca* var. *samnitica*, based on an unknown number of specimens from Italy: Gran Sasso, differing mainly in smaller body size with shorter and more recumbent setation of the dorsum, and denser and finer punctation of elytra with larger punctures along costae. I have examined three syntypes from ZMHB (the male specimen is designated here as a lectotype, two females as paralectotypes) and additional topotypic specimens. Except for the small body size (9.0–10.0 mm, 9.0 mm in the lectotype), other characters mentioned by Fiori (1899) are very similar to specimens of *Aclypea opaca* from central Europe.

Consequently, I consider *Blitophaga opaca* var. *samnitica* Fiori, 1899 as a junior subjective synonym of *Aclypea opaca* (Linnaeus, 1758).

### ***Dendroxena quadrimaculata* (Scopoli, 1772)**

*Silpha quadrimaculata* Scopoli, 1772: 86.

*Silpha quadripunctata* var. *hexapunctata* Gerhardt, 1897: 204; **syn. n.**

COMMENTS. *Dendroxena quadrimaculata* is a widely distributed Palaearctic species, known from Europe to eastern Siberia (Portevin 1926 sub *Xylodrepa quadripunctata*, Nikolaev & Kozminykh 2002). Madge & Pope (1969) discussed the validity of *Dendroxena quadrimaculata* (Scopoli, 1772) over *Xylodrepa quadripunctata* (Schreber, 1759).

Gerhard (1897) mentioned, in a paper devoted mostly to the distribution of beetles in Silesia, two specimens of *Dendroxena quadrimaculata* from Stephansdorf near Neumarkt with aberrant coloration of elytra (apex bearing additional pair of brown-black, semilunar maculae) and named them as *Silpha quadripunctata* var. *hexapunctata*. His note clearly indicates he is commenting on individual colour variation.

Consequently, I consider *Silpha quadripunctata* var. *hexapunctata* Gerhardt, 1897 as a junior subjective synonym of *Dendroxena quadrimaculata* (Scopoli, 1772).

### ***Heterotemna figurata* (Brullé, 1839)**

*Silpha costata* Brullé, 1836: pl. II, fig. 11.

*Silpha figurata* Brullé, 1839: 59.

COMMENTS. Brullé (1836–1840) described *Silpha figurata* from Tenerife in the text on page 59. However, in a caption under plate II, Brullé used the name *Silpha costata* for fig. 11, illustrating the same species. Although the text concerning these insects was published in five parts between June and November 1839, plate II was published in November 1836 (both according to Stearn 1937:

55). The figure was not cited in the text, but following Article 12.2.7. of ICZN (1999), the taxon *S. costata* should be considered as described by indication.

Unfortunately, *Silpha costata* Brullé, 1836 is a junior primary homonym of *Silpha costata* Ménétries, 1832, treated here as a junior subjective synonym of *Silpha obscura obscura* Linnaeus, 1758 (see below under *Silpha obscura obscura* Linnaeus, 1758).

Consequently, I consider *Silpha figurata* Brullé, 1839 as the valid name (now in combination with *Heterotemna* Wollaston, 1864) for this species endemic to Canary Islands: Tenerife, and I consider the name *Silpha costata* Brullé, 1836 as its senior objective synonym, not available due to homonymy with *Silpha costata* Ménétries, 1832.

### ***Heterotemna tenuicornis* (Brullé, 1836), stat. n.**

*Silpha tenuicornis* Brullé, 1836: pl. II, fig. 10.

*Silpha simplicicornis* Brullé, 1839: 59; **syn. n.**

COMMENTS. Brullé (1836–1840) described *Silpha simplicicornis* from Tenerife in the text on page 59. However, in a caption under plate II, Brullé used the name *Silpha tenuicornis* for fig. 10, illustrating the same species. Although the text concerning these insects was published in five parts between June and November 1839, plate II was published in November 1836 (both according to Stearn 1937: 55). The figure was not cited in the text, but following Article 12.2.7. of ICZN (1999), the taxon *S. tenuicornis* should be considered as described by indication.

The name *S. simplicicornis* does not meet the condition of Article 23.9.1.2. of the ICZN (1999), i.e., not cited in 25 publications, and thus the Principle of priority should be followed.

Consequently, I consider *Silpha tenuicornis* Brullé, 1836 as the valid name (now in combination with *Heterotemna* Wollaston, 1864) for this species endemic to Canary Islands: Tenerife, and I consider the name *Silpha simplicicornis* Brullé, 1839 as its junior objective synonym.

### ***Oiceoptoma thoracicum* (Linnaeus, 1758)**

*Silpha thoracica* Linnaeus, 1758: 360.

*Oiceoptoma collaris*: Motschulsky 1859: 491; **nomen nudum.**

COMMENTS. *Oiceoptoma thoracicum* is a common species, distributed throughout the Palaearctic region (Portevin 1926, Nikolaev & Kozminykh 2002).

Motschulsky (1859) mentioned the name *O. collaris* as a possible junior synonym of *O. thoracicum* (Linnaeus, 1758) and attributed the name to “Esch.” (i.e. to Johann Friedrich Eschscholtz), but without any description or indication.

Consequently, I consider the name *Oiceoptoma collaris* only as a nomen nudum, unavailable in terms of Article 12.1. of ICZN (1999), although listed as a variety of *Oiceoptoma thoracicum* in the literature (e.g., by Kraatz 1876: 372).

### ***Phosphuga atrata atrata* (Linnaeus, 1758)**

*Silpha atrata* Linnaeus, 1758: 360.

*Silpha cassidea*: Dahl 1823: 27; **nomen nudum.**

*Phosphuga cassidea* Kraatz, 1876: 362; **syn. n.**

*Peltis atrata* var. *subparalella* Reitter, 1884: 76; **syn. n.**

*Peltis* (*Phosphuga*) *atrata* var. *rostrata* Reitter, 1888: 153; **syn. n.**

*Phosphuga atrata borsodensis* Depoli, 1931: 17; **syn. n.**

*Phosphuga atrata lombarda* Depoli, 1931: 17; **syn. n.**

TYPE MATERIAL EXAMINED. *LT* male of *Peltis atrata* var. *subparalella* (MNHN, coll. generale; here designated), labelled “Caucas. [p, red label] // v. subparalella m. [hw, Reitter’s MS] // TYPE [p, red label] // MUSEUM PARIS / Coll. A. GROUVELLE 1915 [p] // LECTOTYPE (male symbol) / *Peltis atrata* / var. *subparalella* Reitter, 1884 / Jan Růžička design. 2002 [p, red label] // *Phosphuga atrata atrata* / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]”.

*LT* male of *Peltis atrata* var. *rostrata* (MNHN, coll. generale; here designated), labelled “Caucas. occ. / Circassien / Leder, Reitter [p] // *Phos. atrata* / v. *rostrata* / m. 1888 [hw, Reitter’s MS] // 254 [p] // TYPE [p, red label] // MUSEUM PARIS / Coll. A. GROUVELLE 1915 [p] // LECTOTYPE (male symbol) / *Peltis* (*Phosphuga*) *atrata* / var. *rostrata* Reitter, 1888 / Jan Růžička design. 2002 [p, red label] // *Phosphuga atrata atrata* / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]”.

COMMENTS. *Phosphuga atrata atrata* is a widely distributed Palaearctic taxon (Portevin 1926, Nikolaev & Kozminykh 2002).

The name *Silpha cassidea* was only listed in Dahl (1823), with Dahl cited as author of this taxon. A locality “Ban.” [= Banat] was attached, but without any description or further indication. Kraatz (1876) was the first who mentioned “die noch unbeschriebene [*Phosphuga*] *cassidea* Dahl” indicating Dahl as the author of this taxon. Further, he shortly described differences between *Phosphuga atrata* (Linnaeus, 1758) and *P. cassidea*; the latter characterized as larger, with wide elytral epipleuron. He also mentioned the (unpublished) text on a label under one specimen of *P. cassidea* received from Georg Dahl, treating *P. cassidea* as a form very similar to *P. atrata*. Consequently, Gustav Kraatz should be treated as the author of *P. cassidea*, and 1876 as the year of publication (the second volume of *Deutsche Entomologische Zeitschrift* was published in “Februar 1876”, according to the editorial note on p. III). Kraatz (1876) did not precisely state the systematic position of *P. cassidea*, and Reitter (1884) treated this taxon only as *Peltis atrata* var. *cassidea*. Later, Depoli (1931) changed its position and mentioned this name as a subspecies of *Phosphuga atrata*.

Reitter (1884) described *Peltis atrata* var. *subparalella* from “Caucasus, Sibirien”, based on an unknown number of specimens each with a parallel, black and lustrous body. Mroczkowski (1955) changed position of this taxon and treated it as *Phosphuga atrata subparalella*. The syntype specimen examined (designated here as a lectotype) is parallel and distinctly flattened, large in size (combined length of pronotum and elytra 13.5 mm).

Reitter (1888) described *Peltis atrata* var. *rostrata* from “Circassien”, based on an unknown number of small specimens each with distinctly vaulted body, with sparsely punctured and darkly setose abdomen. The syntype specimen examined (designated here as a lectotype) is distinctly vaulted and very small in size (combined length of pronotum and elytra only 8.5 mm).

Depoli (1931) described *Phosphuga atrata borsodensis* from Hungary: Borsod comitat: Miskolc, based on an unknown number of specimens similar to *P. atrata cassidea*, but differing in elytral epipleuron constricted basally, flattened and wide apically. According to personal communication of R. Fabbri and G. Burgio (curator of entomology at IEUS), no type specimen(s) of *P. atrata borsodensis* were found in the coll. G. Leoni, deposited in IEUS.

Depoli (1931) described *Phosphuga atrata lombarda* from Italy: Lombardia, based on an unknown number of specimens similar to *P. atrata* var. *subparalella*, mainly characterized by pronotum slightly wider than parallel, flattened elytra with coarse surface and reduced costae. Again, according to personal communication of R. Fabbri and G. Burgio (curator of entomology at IEUS), no type specimen(s) of *P. atrata lombarda* were found in the coll. G. Leoni, deposited in IEUS.

In my opinion, differences given by Reitter (1884, 1888) and Depoli (1931) describe only individual variation within the very variable *P. atrata atrata*, mixture of these characters occur sometimes in syntopic specimens within the same population (J. Růžička, unpublished observation). Consequently, I consider *Phosphuga cassidea* Kraatz, 1876, *Peltis atrata* var. *subparalella* Reitter, 1884, *Peltis atrata* var. *rostrata* Reitter, 1888, *Phosphuga atrata borsodensis* Depoli, 1931 and *Phos-*

*phuga atrata lombarda* Depoli, 1931 as junior objective synonyms of *Phosphuga atrata atrata* (Linnaeus, 1758).

### ***Silpha carinata* Herbst, 1783**

*Silpha carinata* Herbst, 1783: 34.

*Silpha italica* Küster, 1851: no. 15; **syn. n.**

*Silpha lunata* var. *austriaca* Otto, 1891: 59; **syn. n.**

*Silpha carinata* var. *blattiformis* Reitter, 1901: 121; **syn. n.**

COMMENTS. *Silpha carinata* is a widely distributed Palaearctic species, known from Europe to Siberia (Šustek 1983). This polymorphic species was reviewed by Šustek (1983), who treated several names as junior subjective synonyms of *S. carinata*, and discussed the variability of this species in relation to altitude and length of vegetation period within its distributional area.

Küster (1851) described a large, black, vaulted specimen from “Italia” as *Silpha italica*. Otto (1891) described small, black, vaulted specimens from “Ostalpen” as *Silpha lunata* var. *austriaca*. Šustek (1983) treated both these names as valid subspecies of *S. carinata*, although he argued that they are only ecomorphs of this species. Further, he introduced the following evolutionary scenario (however, without any exact chronology): montane populations of *S. carinata austriaca* (with small, black, vaulted body) from central European mountain systems penetrated into Italy, where they become *S. carinata italica* (with larger body, but still black and heavy vaulted in comparison to lowland populations of *S. carinata carinata* from the rest of Europe, also more flattened and usually with at least some brownish coloured individuals). In my opinion, it is not possible to distinguish morphologically both ecomorphs delimited by Šustek (1983) from *S. carinata carinata*. Moreover, the mountain populations of the Alps, Bohemian massif and the Carpathians are not reproductively isolated from populations from neighbouring areas; body size decreases with increase in altitude (as already demonstrated by Šustek 1983), and the vaulting of elytra in central European populations is not correlated with body size.

Reitter (1901) described large, elongate, black, distinctly flattened specimens with less developed costae from “Turkestan” (probably from the territory of nowadays Kazakhstan) as *Silpha carinata* var. *blattiformis*. Šustek (1983) treated it as a junior subjective synonym of *S. carinata carinata*, but Nikolaev & Kozminykh (2002) recently removed it from synonymy with *S. carinata carinata* and treated it as *S. carinata blattiformis*. I have examined specimens from Kazakhstan (deposited in JRUC and JSCC) and considered that except for the more flattened elytra with weakly developed costae, other characters mentioned by Reitter (1901) fall within the variation of European populations of *S. carinata*.

Consequently, I consider *Silpha carinata italica* Küster, 1851, *Silpha carinata austriaca* Otto, 1891 and *Silpha carinata blattiformis* Reitter, 1901 as junior subjective synonyms of *Silpha carinata* Herbst, 1783.

### ***Silpha melanura* Hope, 1831**

*Silpha melanura* Hope, 1831: 21.

*Silpha nakanei* Emetz et Schawaller, 1975: 227; **syn. n.**

TYPE MATERIAL EXAMINED. **HT** male of *Silpha melanura* (BMNH), labelled “Type [round label with red margin] // Nepal. [yellow label] // Hardw. / Bequest // melanura Hope [hw]”.

ADDITIONAL MATERIAL EXAMINED. 1 male, 1 female (JRUC): “Nepal: Kathmandu distr., Siwapuri Dara, 2300–2550 m, 29.iv. –2.v.1985, A. Smetana leg.”; 1 male, 1 female (JRUC): “Nepal: Bagmati, Sindhupalchok: Manegero, 2100–2500 m, 12. –14.vi.1989, C. Holzschuh leg.”.

COMMENTS. Hope (1831) briefly described *Silpha melanura* from “Nepaul”. Portevin (1922) transferred *S. melanura* to *Eusilpha* Semenov, 1891, based on written comments on the type specimen received from M. H. E. Andrewes. Emetz & Schawaller (1975) described *Silpha nakanei* from Nepal: Khurumsang, based on a single male specimen. Later, Schawaller (1982) published further records of *S. nakanei* and commented that this species only occurs in the Kathmandu valley and Nuwakot distr., and compared this species with other three endemic Nepalese species of *Silpha* Linnaeus, 1758.

I have compared the holotype of *S. melanura* with recently collected material from Nepal and with the description of *S. nakanei*, and found both taxa identical in all diagnostic characters (according to the key in Schawaller 1982) – elongate body; heavily punctate head in the region between eyes; distinctly punctate median part of pronotum; elytra with distinctly developed ridges, separated by intervals of equal width.

Consequently, I consider *Silpha nakanei* Emetz et Schawaller, 1975 as a junior subjective synonym of *Silpha melanura* Hope, 1831.

### *Silpha obscura obscura* Linnaeus, 1758

*Silpha obscura* Linnaeus, 1758: 361.

*Silpha costata* Ménétries, 1832: 167 (non Brullé, 1836: pl. II, fig. 11); **confirmed synonymy**.

*Silpha striola* Ménétries, 1832: 168; **confirmed synonymy**.

*Silpha godarti* Reiche, 1861: 369; **syn. n.**

*Silpha obscura* var. *simplex* Semenov, 1891: 297; **syn. n.**

*Silpha nitida* Portevin, 1907: 252 (non Faldermann, 1835a: 220); **syn. n.**

*Silpha obscura latialis* Depoli, 1931: 14; **syn. n.**

*Silpha obscura ablataroides* Portevin, 1943: 48; **syn. n.**

*Silpha obscura mongolica* Schawaller, 1980: 9 (non Faldermann, 1835b: 365); **syn. n.**

TYPE MATERIAL EXAMINED. **LT** male of *Silpha costata* (ZISP), labelled “Cauc. [p, orange paper] // costata / Ménétr. [hw, Ménétries’s MS, label with printed double black frame] // ZOOLOGICAL INSTITUTE / Russian Academy / of Sciences, / ST. PETERSBURG, RUSSIA [p, yellow label] // LECTOTYPE (male symbol) / *Silpha* / costata Ménétries, 1832 / Jan Růžička det. 2002 [p, red label] // *Silpha* / obscura obscura / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”.

**LT** male of *Silpha striola* (ZISP), labelled “Cauc. [hw] // striola / Ménétr. [hw, Ménétries’s MS, label with printed double black frame] // ZOOLOGICAL INSTITUTE / Russian Academy / of Sciences, / ST. PETERSBURG, RUSSIA [p, yellow label] // LECTOTYPE (male symbol) / *Silpha* / striola Ménétries, 1832 / Jan Růžička det. 2002 [p, red label] // *Silpha* / obscura obscura / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”.

**HT** male of *Silpha obscura* var. *simplex* (ZISP), labelled “Sibir. occ. [p] / Kolb [hw, green label] // *Silpha* obscura, var. / simplex m. (in litt.) / (male symbol) un. cAS.XI.[18]90 [hw, Semenov’s MS, label with light blue lines and columns] // Coll. Semenov-Tian-Shansky [p] // ZOOLOGICAL INSTITUTE / Russian Academy / of Sciences, / ST. PETERSBURG, RUSSIA [p, yellow label] // HOLOTYPE (male symbol) / *Silpha* obscura / var. simplex Semenov, 1891 / label added by Jan Růžička, 2002 [p, red label] // *Silpha* / obscura obscura / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”.

**LT** male of *Silpha nitida* (MNHN, coll. M. Pic / G. Portevin; here designated), labelled “Kashmir [hw] // *Silpha* / nitida mihi (male symbol) [hw, Portevin’s MS] // s. esp. de / obscura / L. [hw, Pic’s MS] // LECTOTYPE (male symbol) / *Silpha* / nitida Portevin, 1907 / Jan Růžička design. 2002 [p, red label] // *Silpha* / obscura obscura / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”; **PLT** 1 female (BMNH), labelled “Type [round label with red margin] // Kashmir [hw] // *Silpha* / nitida Port. [hw] // Andrewes / Request / B. M. 1922–221. [p] // PARALECTOTYPE (female symbol) / *Silpha* / nitida Portevin, 1907 / Jan Růžička design. 2002 [p, red label] // *Silpha* / obscura obscura / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”; **PLT** 1 female (BMNH), the same labels except “Co- / type [round label with green margin]”.

**LT** female of *Silpha obscura latialis* (IEUS; here designated), labelled “UMBRIA / Poggio Mirteto / G. Leoni [p] // v. [sic!] latialis / m. [hw, Depoli’s MS] / G. Depoli det. [p] // LECTOTYPE (female symbol) / *Silpha* obscura / latialis Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / obscura obscura / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”.



HT male of *Silpha obscura ablataroides* (MNHN, coll. generale), labelled “Utsch-Déré / Caucasus / STARCK DEDIT [p, label with black frame] // *S. obscura* / subsp. *ablataroides* / m. [hw, Portevin’s MS] // TYPE [p, red label] // Museum Paris [p] // *Silpha* / *obscura obscura* / Linnaeus, 1758 / Jan Růžička det. 2002 [p]”.

COMMENTS. *Silpha obscura* is a widely distributed Palaearctic species, known from Europe to eastern Siberia (Schawaller 1980). Schawaller (1980) reviewed this polymorphic species and recognized six valid subspecies; he treated other associated names as junior synonyms (see Schawaller 1980: 7–8 for details). Recently, Nikolaev & Kozminykh (2002) changed position of two names, established as valid by Schawaller (1980).

Ménétries (1832) described *Silpha costata* from Lenkoran, based on an unknown number of specimens. He characterized it as having distinctly punctured, flat elytra with distinctly marked costae. *S. costata* Ménétries, 1832 is a senior primary homonym of *S. costata* Brullé, 1836 (treated here as a objective synonym of *S. figurata* Brullé, 1839, see discussion under *Heterotemna figurata* above). *Silpha costata* Ménétries, 1832 was usually treated as a variety of *S. obscura* Linnaeus, 1758 (e.g. by Portevin 1926), Schawaller (1980) considered it as a junior synonym of *S. obscura obscura*. Recently, Nikolaev & Kozminykh (2002) followed the old meaning of Reitter (1884), and changed position of *S. costata* Ménétries, 1832 to that of a variety of *S. tristis* Illiger, 1789. I have examined the syntype of *S. costata* Ménétries, 1832 (designated here as a lectotype) and considered it identical with *S. obscura obscura* from central Europe.

Ménétries (1832) described *Silpha striola* from “Caucase”, based on an unknown number of specimens. He characterized it as having a black body, finely punctate dorsum and only finely marked elytral costae. Portevin (1926) treated this taxon only as *S. obscura* var. *striola*. Schawaller (1980) considered this name as a junior subjective synonym of *S. obscura obscura*, naming populations from Caucasus and north-western Iran incorrectly as *S. obscura nitida* (described from Kashmir, see below). Nikolaev & Kozminykh (2002) pointed out this error, and changed position of *S. striola* to that of a valid subspecies of *S. obscura*, distributed in southern Russia, Caucasus and Transcaucasia. I examined a syntype of *S. striola* (designated here as a lectotype) and many specimens deposited in JRUC, JSSC and NMPC, coming from Caucasus and the Transcaucasia, and consider the variation in elytral structure similar to that of some specimens of *S. obscura obscura* from central Europe; also the curvature of the inner margin of the paramera and extent of preapical lateral constriction of aedeagus (character pointed out by Schawaller 1980) are variable, overlapping with some central European specimens of *S. obscura obscura*.

Reiche (1861) described *Silpha godarti* from Crimea, based on an unknown number of specimens. He distinguished it from similar *S. orientalis* Brullé, 1832 as having a larger body and denser and finer punctation of elytra. Later, Portevin (1926) treated this name only as a variety of *S. orientalis*. Schawaller (1980) changed position of *S. orientalis* to that of a subspecies of *S. obscura*, applied to populations from south Europe to Near East. He listed *S. godarti* as a junior synonym of *S. obscura orientalis*, but figured the presence of *S. obscura obscura* from Ukraine (incl. Crimea) on distributional map of *S. obscura*. I have examined a large specimen from Crimea (deposited in JRUC) and find no substantial differences between them and *S. obscura obscura* from central Europe.

Semenov (1891) described *Silpha obscura* var. *simplex*, based on a single specimen from “Altai mer., montes Kolbinenses”. He distinguished it from the nominotypical form mainly by very slightly indicated elytral costae. Later, Schawaller (1980) treated this name as *S. obscura simplex* and applied it for populations from the environs of the Balkhash lake. Recently, Nikolaev & Kozminykh (2002) discussed briefly its status and speculated about its probable position as a junior synonym of *S. obscura obscura*. I have examined the holotype of *S. obscura* var. *simplex* and followed the

opinion of Nikolaev & Kozminykh (2002), as the holotype specimen is very similar to some specimens of *S. obscura obscura* from central Europe.

Portevin (1907) described specimens from Kashmir as *Silpha nitida*, based mostly on the punctuation on pronotum and elytra. However, this name is a junior primary homonym of *Silpha nitida* Faldermann, 1835 (recently treated as a junior subjective synonym of *Phosphuga atrata atrata* (Linnaeus, 1758)). Portevin (1926) changed the status of *Silpha nitida* Portevin, 1907 to that of a subspecies of *S. obscura*. Schawaller (1980) followed the subspecies status of this name. However, he applied this name to populations of *S. obscura* from Caucasus, treating other material from Kashmir as belonging to *S. obscura obscura*. I have examined material of *S. obscura* from Kashmir (incl. syntypes of *S. nitida*; the male from MNHN bearing the original Portevin's determination label is designated here as a lectotype, two female syntypes from BMNH as paralectotypes). I have found no important differences between these populations and other material of *S. obscura obscura* from central Europe, Afghanistan and Pakistan (for material, see Růžička & Schneider 2002).

Depoli (1931) described *Silpha obscura latialis*, based on an unknown number of specimens from Italy: Roma and Poggio Mirteto. His description stressed the more rounded elytra with wider elytral epipleuron, and surface of elytra with larger punctures than in material from Piemonte. I have examined a single syntype specimen from coll. G. Leoni, coming from Poggio Mirteto (designated here as a lectotype). The specimen has distinctly rounded elytra, and slightly larger punctuation on elytra, but otherwise is identical with *S. obscura obscura*.

Portevin (1943) described *Silpha obscura ablattaroides*, based on a single specimen from "Caucase: Utsch-Deré". He differentiated it from *S. obscura* var. *striola* by extremely smooth elytra, and fully reduced inner two pairs of costae. I have studied a holotype specimen, which has a distinctly smooth dorsal surface, with costae reduced only to marked lines on elytral surface, with large, densely arranged, round punctures. In my opinion, this specimen is only an extreme case of individual variation in *S. obscura obscura*.

Schawaller (1980) described *Silpha obscura mongolica*, based on a holotype specimen from Irkutsk and two paratypes from environs of Kuldscha. His taxon has a similar elytral surface as *S. obscura obscura*, but differs in the shape of aedeagus (subapically constricted median lobe and more curved apex of parameres). However, this name is a junior primary homonym of *S. mongolica* Faldermann, 1835 (recently treated as a junior subjective synonym of *S. perforata* Gebler, 1832). Recently, Nikolaev & Kozminykh (2002) discussed briefly status of *S. obscura mongolica* Schawaller, 1980 and speculated about its probable position as a junior synonym of *S. obscura obscura*. I have examined specimens (deposited in JRUC, JSSC and NMPC) of *S. obscura* from southwestern Siberia (Barnaul), eastern Siberia (Baikal lake) and China: Xinjiang Uygur autonomous region (incl. environs of Kuldscha, nowadays Yining; topotypic with paratypes of Schawaller 1980). The characters provided by Schawaller (1980) are variable, subapical constriction of median lobe of aedeagus is found also in some specimens of *S. obscura obscura* from central Europe.

Consequently, I consider *Silpha costata* Ménétries, 1832, *Silpha striola* Ménétries, 1832, *Silpha obscura* var. *simplex* Semenov, 1891, *Silpha nitida* Portevin, 1907 (applied to populations from Kashmir), *Silpha obscura latialis* Depoli, 1931 and *Silpha obscura ablattaroides* Portevin, 1943 as junior subjective synonyms of *Silpha obscura obscura* Linnaeus, 1758. Further, I remove *Silpha godarti* Reiche, 1861 from synonymy with *Silpha obscura orientalis* Brullé, 1832 and consider it as a junior subjective synonym of *Silpha obscura obscura* Linnaeus, 1758.

### ***Silpha olivieri* Bedel, 1887**

*Silpha olivieri* Bedel, 1887: 196.

*Silpha olivieri aquilana* Depoli, 1931: 16; **syn. n.**

*Silpha olivieri sardoa* Depoli, 1931: 16; **syn. n.**

TYPE MATERIAL EXAMINED. **LT** male of *Silpha olivieri aquilana* (IEUS; here designated), labelled “ABRUZZI / Cerchio / G. Leoni [p] // v. [sic!] aquilana / m. [hw, Depoli’s MS] / G. Depoli det. [p] // LECTOTYPE (male symbol) / *Silpha olivieri* / aquilana Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”; **PLT** 2 females (IEUS), labelled “ABRUZZI / Cerchio / G. Leoni [p] // PARALECTOTYPE (female symbol) / *Silpha olivieri* / aquilana Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”; **PLT** female (IEUS), labelled “Cerchio / Abruzzo [p] // PARALECTOTYPE (female symbol) / *Silpha olivieri* / aquilana Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”; **PLT** male (IEUS), labelled “Cerchio / Abruzzo [hw] // PARALECTOTYPE (male symbol) / *Silpha olivieri* / aquilana Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”.

**LT** female of *Silpha olivieri sardoa* (IEUS; here designated), labelled “ITALIA [p] / Sardegna [hw] / G. Leoni [p] // v. [sic!] sardoa / m. [hw, Depoli’s MS] / G. Depoli det. [p] // LECTOTYPE (female symbol) / *Silpha olivieri* / sardoa Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”; **PLT** 2 males (IEUS), labelled “ITALIA [p] / Sardegna [hw] / G. Leoni [p] // PARALECTOTYPE (male symbol) / *Silpha olivieri* / sardoa Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”; **PLT** female (IEUS), labelled “ITALIA [p] / Sardegna / S. Lussurgiu [hw] / G. Leoni [p] // PARALECTOTYPE (female symbol) / *Silpha olivieri* / sardoa Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // *Silpha* / olivieri / Bedel, 1887 / Jan Růžička det. 2002 [p]”.

COMMENTS. *Silpha olivieri* is a widely distributed Mediterranean species (Portevin 1926, Piloña et al. 2002).

Depoli (1931) described *Silpha olivieri aquilana* based on an unknown number of specimens from Italy: Aquila: Cerchio. His description indicate a smaller and more flattened body and finer punctation on elytra in comparison with the nominotypical subspecies. I have studied a series of syntype specimens from coll. G. Leoni, the specimen bearing the original Depoli’s determination label is designated here as a lectotype, the remaining four specimens as paralectotypes. All specimens are smaller (combined length of pronotum and elytra is 14–16 mm, 15 mm in the lectotype), but otherwise similar to specimens from coll. G. Leoni, determined by G. Depoli as *S. olivieri*.

Depoli (1931) described *Silpha olivieri sardoa* based on an unknown number of specimens from Italy: Sardinia. His description indicate paler coloration of elytra and more rugose interstries with more superficial punctation of elytra in comparison with the nominotypical form. I have studied a series of syntype specimens from coll. G. Leoni, the first specimen bearing the original Depoli’s determination label is designated here as a lectotype, the remaining three specimens as paralectotypes. All specimens are black in colour, with similar punctation on elytra as specimens from coll. G. Leoni, determined by G. Depoli as *S. olivieri*. Three of the four specimens examined have slightly more rugose interstries on elytra (however, the fourth specimen, cited above as the last one, is similar the to nominotypical form).

In my opinion, all differences mentioned by Depoli (1931) for both subspecies fall within individual variation of *Silpha olivieri*. Reitter (1884) commented on the variation in rugosity and punctation of elytra within the distribution area of this species. Consequently, I consider *Silpha olivieri aquilana* Depoli, 1931 and *Silpha olivieri sardoa* Depoli, 1931 as junior subjective synonyms of *Silpha olivieri* Bedel, 1887.

### *Silpha perforata* Gebler, 1832

*Silpha perforata* Gebler, 1832: 49.

*Silpha venatoria* Harold, 1877: 346; **syn. n.**

*Silpha perforata* var. *lateralis* Portevin, 1926: 70; **syn. n.**

*Silpha perforata mandli* Portevin, 1932: 48; **syn. n.**

*Silpha perforata elongata* Portevin, 1943: 48; **syn. n.**

TYPE MATERIAL EXAMINED. **LT** male of *Silpha venatoria* (ZMHB; here designated), labelled “Mohezi / Hilgendorf [leg.] [hw, yellow label] // 59048 [p] // Type [p, orange label] // venatoria / (star symbol) / Harold [hw, yellow label] //

Hist.-Coll. (Coleoptera) / Nr. 59048 / *Silpha venatoria* Harold (star symbol) / Japonia, Hilgendorf / Zool. Mus. Berlin [p, label with black frame] // Zool. Mus. / Berlin [p, light yellow label] // *Silpha / perforata* [hw] / det. Schawaller [p] // LECTOTYPE (male symbol) // *Silpha / venatoria* Harold, 1877 / Jan Růžička design. 2002 [p, red label] // *Silpha / perforata* / Gebler, 1832 / Jan Růžička det. 2002 [p]"; **PLT** male (ZMHB), labelled "*Silpha / venatoria* / n. sp. Harold. [hw, yellow label] // Type [p, orange label] // Hist.-Coll. (Coleoptera) / Nr. 59048 / *Silpha venatoria* Harold (star symbol) / Japonia, Hilgendorf / Zool. Mus. Berlin [p, label with black frame] // Zool. Mus. / Berlin [p, light yellow label] // PARALECTOTYPE (male symbol) // *Silpha / venatoria* Harold, 1877 / Jan Růžička design. 2002 [p, red label] // *Silpha / perforata* / Gebler, 1832 / Jan Růžička det. 2002 [p]"; **PLT** female (ZMHB), labelled "*Silpha / venatoria* / n. sp. Hald. [hw, yellow label] // Type [p, orange label] // Hist.-Coll. (Coleoptera) / Nr. 59048 / *Silpha venatoria* Harold (star symbol) / Japonia, Hilgendorf / Zool. Mus. Berlin [p, label with black frame] // Zool. Mus. / Berlin [p, light yellow label] // PARALECTOTYPE (female symbol) // *Silpha / venatoria* Harold, 1877 / Jan Růžička design. 2002 [p, red label] // *Silpha / perforata* / Gebler, 1832 / Jan Růžička det. 2002 [p]".

**LT** male of *Silpha perforata mandli* (DEIC; here designated), labelled "Werchne-Udinsk / Transbaikal. Mandl [leg.] [p] // *S. perforata* Gebler / subsp. *mandli* Port. / G. Portevin det. [hw, Portevin's MS] // LECTOTYPE (male symbol) // *Silpha perforata / mandli* Portevin, 1932 / Jan Růžička design. 2002 [p, red label] // *Silpha / perforata* / Gebler, 1832 / Jan Růžička det. 2002 [p]".

**HT** female of *Silpha perforata elongata* (MNHN, coll. generale), labelled "Soeul / Korea [p] // *S. perforata* / subsp. *elongata* / m. [hw, Portevin's MS] // TYPE [p, red label] // MUSEUM PARIS / Coll. A. GROUVELLE 1917 [p] // *Silpha / perforata* / Gebler, 1832 / Jan Růžička det. 2002 [p]".

ADDITIONAL MATERIAL EXAMINED. Authentic specimens or even syntypes of *Silpha perforata* Gebler (according to B. Jäger and M. Uhlig, personal communication): 1 female (ZMHB), labelled "7360 [p] // *perforata* / Gebler / Fauna Gebler. [hw, green-brown label] // Hist.-Coll. (Coleoptera) / Nr. 7360 / *Silpha perforata* Gebler. / Dauria, Gebler / Zool. Mus. Berlin [p, label with black frame] // Zool. Mus. / Berlin [p, light yellow label] // *Silpha / perforata* [hw] / det. Schawaller [p]"; 2 females (ZMHB), labelled "Hist.-Coll. (Coleoptera) / Nr. 7360 / *Silpha perforata* Gebler. / Dauria, Gebler / Zool. Mus. Berlin [p, label with black frame] // Zool. Mus. / Berlin [p, light yellow label]".

COMMENTS. *Silpha perforata* is a widely distributed, variable species, distributed through Mongolia, Eastern Siberia, Far East of Russia, China and Korea to Japan (Portevin 1926, Nikolaev & Kozminykh 2002). Gebler (1832) described this species from Siberia: Nertschinsk based on an unknown number of specimens.

Harold (1877) described an unknown number of specimens from Japan: Mohezi near Tokyo as *Silpha venatoria*, and distinguished it from *S. perforata* by shorter and more vaulted elytra and more lustrous surface. Later, this taxon was treated as a variety or a subspecies of *S. perforata* from Siberia and Mongolia (Reitter 1901, Kurosawa 1985). I have examined three syntypes of *S. venatoria* (the male specimen with original locality label is designated here as a lectotype, another two specimens as paralectotypes). Elytra of these syntypes are less vaulted and only little more elongated comparing with authentic specimens of *S. perforata* from "Dauria" – ratio of length to width of elytra is 1.20 – 1.30 in the syntypes of *S. venatoria* (1.20 in the lectotype) and 1.25 – 1.30 in the specimens from "Dauria", elytral surface in all these specimens is with similar lustre.

Portevin (1926) described *Silpha perforata* var. *lateralis* after probably seeing more specimens from "eastern Siberia, Mongolia and Japan", based on more elevated external costae on elytra. In MNHN collection there are no specimen(s) labelled as (syn)types, and Portevin probably did not formally label a type series.

Portevin (1932) described *Silpha perforata mandli* based on two specimens from Transbaikalia: Werchne Udinsk, which had reduced elytral costae. I have examined the syntype specimen (designated here as a lectotype), which is slender, with fully reduced costae on elytra.

Portevin (1943) described *Silpha perforata elongata* based on a single specimen from Korea: Soul (= Seoul), which had differences in surface microsculpture and elevated elytral costae. I have examined the holotype specimen, which is large, distinctly glabrous and with elevated elytral costae.

*Silpha perforata* is a variable species, in terms of body size, elongation and vaulting of elytra, elevation of elytral costae and lustre of surface throughout its distribution (similar to the related

and also apterous *S. carinata* Herbst, 1783). However, based on the rich material studied from DEIC, JRUC, JSCC, MNHN and NMPC, these variations are not geographically based. Consequently, I consider *Silpha venatoria* Harold, 1877, *Silpha perforata* var. *lateralis* Portevin, 1926, *Silpha perforata mandli* Portevin, 1932 and *Silpha perforata elongata* Portevin, 1943 as junior subjective synonyms of *Silpha perforata* Gebler, 1832.

### ***Silpha puncticollis* Lucas, 1846**

*Silpha puncticollis* Lucas, 1846: 213.

*Silpha puncticollis* var. *lucasi* Portevin, 1926: 77; **syn. n.**

COMMENTS. *Silpha puncticollis* is a widely distributed western Mediterranean species (Portevin 1926, Piloña et al. 2002).

Portevin (1926) described *Silpha puncticollis* var. *lucasi*, based on the fine punctation on pronotum and elytral intervals. Portevin (1926) did not publish a type locality, and probably did not formally label a type series. I have studied a series of 12 specimens from Algeria, Morocco and Tunisia, with the hand-written label “var. *Lucasi* Port.” (probably by Portevin) in MNHN (coll. generale). In fact, the specimens do not distinctly differ in punctuation of dorsum from specimens, designated in the same collection (again, probably by Portevin) as the nominotypical form. Consequently, I consider *Silpha puncticollis* var. *lucasi* Portevin, 1926 as a junior subjective synonym of *Silpha puncticollis* Lucas, 1846.

### ***Silpha tyrolensis* Laicharting, 1781**

*Silpha tyrolensis* Laicharting, 1781: 98.

*Silpha tyrolensis* var. *externa* Portevin, 1926: 78; **syn. n.**

*Silpha tyrolensis cottia* Depoli, 1931: 15; **syn. n.**

*Silpha tyrolensis pennina* Depoli, 1931: 16; **syn. n.**

*Silpha tyrolensis* var. *pyrenaica* Portevin, 1943: 48; **syn. n.**

TYPE MATERIAL EXAMINED. **HT** female of *Silpha tyrolensis* var. *pyrenaica* (MNHN, coll. M. Pic / G. Portevin), labelled “Foret / d'Iraty [hw, by pencil] // var. *pyrenaica* m. / Type / ex coll. S<sup>t</sup>. Cl<sup>r</sup>. Deville [hw, Portevin's MS] // TYPE [p, red label] // Museum Paris [p] // *Silpha* / *tyrolensis* / Laicharting, 1781 / Jan Růžička det. 2002 [p]”.

COMMENTS. *Silpha tyrolensis* is a mountainous species, distributed in western and central Europe (Portevin 1926, Horion 1949, Piloña et al. 2002).

Portevin (1926) described *Silpha tyrolensis* var. *externa* without giving a type locality; he probably did not formally label a type series. Portevin (1926) distinguished this variety based on its black colour and finer punctation of interstries on the elytra. I have studied a series of ten specimens from France and Germany, with the hand-written label “var. *externa* Port.” (probably by Portevin) deposited in MNHN (coll. M. Pic / G. Portevin). In my opinion, these specimens fall within the individual variability of *S. tyrolensis*.

Depoli (1931) described *Silpha tyrolensis cottia* from Italy: eastern Piemonte, based on an unknown number of dark brown specimens with coarser punctation of elytra and external costae curved at 3/4 of elytral length. According to personal communication from R. Fabbri and G. Burgio (curator of entomology at IEUS), no type specimen(s) of *S. tyrolensis cottia* were found in coll. G. Leoni, deposited in IEUS. In my opinion, differences given by Depoli (1931) concern only individual variation within *S. tyrolensis*.

Depoli (1931) described *Silpha tyrolensis pennina* from Italy: Gressoney, based on a series of black specimens with external costae curved at 4/5 of elytral length. As in the previous taxon,

according to personal communication from R. Fabbri and G. Burgio (curator of entomology at IEUS), no type specimen(s) of *S. tyrolensis pennina* were found in coll. G. Leoni, deposited in IEUS. In my opinion, differences given by Depoli (1931) concern only individual variation within *S. tyrolensis*.

Portevin (1943) described *Silpha tyrolensis* var. *pyrenaica* from Basses-Pyrénées: Iraty. His description is based on a single, large specimen, wider and more vaulted than the nominotypical form, with finer punctation on pronotum. In my opinion, the holotype I studied is wider and more vaulted, but falls within individual variability of *S. tyrolensis*. Its pronotal punctation does not differ from that of other specimens of *S. tyrolensis* in MNHN.

Consequently, I consider *Silpha tyrolensis* var. *externa* Portevin, 1926, *Silpha tyrolensis cottia* Depoli, 1931, *Silpha tyrolensis pennina* Depoli, 1931 and *Silpha tyrolensis* var. *pyrenaica* Portevin, 1943 as junior subjective synonyms of *Silpha tyrolensis* Laicharting, 1781.

### ***Thanatophilus rugosus* (Linnaeus, 1758)**

*Silpha rugosa* Linnaeus, 1758: 361.

*Thanatophilus rugosus tuberculatus* Depoli, 1931: 13; **syn. n.**

*Thanatophilus rubripes* Portevin, 1943: 47; **syn. n.**

TYPE MATERIAL EXAMINED. **LT** female of *Thanatophilus rugosus tuberculatus* (IEUS; here designated), labelled "ITALIA [p] / Calabria [hw] / G. Leoni [p] // Thanatophilus / rugosus / tuberculosus [hw, Depoli's MS] / G. Depoli det. [p] // LECTOTYPE (female symbol) / Thanatophilus rugosus / tuberculosus Depoli, 1931 / Jan Růžička design. 2002 [p, red label] // Thanatophilus / rugosus / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]".

**LT** female of *Thanatophilus rubripes* (MNHN, coll. generale; here designated), labelled "Minchow / China [p] // T. rubripes / type m. [hw, Portevin's MS] // TYPE [p, red label] // MUSÉUM PARIS [p, yellow label] // LECTOTYPE (female symbol) / THANATOPHILUS / RUBRIPES Portevin, 1943 / J. RŮŽIČKA design. 2002 [hw] // Thanatophilus / rugosus / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]"; **PLT** female (MNHN, coll. generale), labelled "Minchow / China [p] // Th. rubripes [hw, recent label] // TYPE [p, red label] // MUSÉUM PARIS [p, yellow label] // PARALECTOTYPE (female symbol) / THANATOPHILUS / RUBRIPES Portevin, 1943 / J. RŮŽIČKA design. 2002 [hw] // Thanatophilus / rugosus / (Linnaeus, 1758) / Jan Růžička det. 2002 [p]".

COMMENTS. *Thanatophilus rugosus* is a common species, distributed throughout the Palaearctic region (Schawaller 1981).

Depoli (1931) described *Thanatophilus rugosus tuberculatus* based on an unknown number of specimens from Italy. His description indicate reduced number of tubercles on elytra. The single specimen in coll. G. Leoni (designated here as a lectotype) is subteneral and thus reddish-brown in colour, having elytra with second interval more smooth and with less pronounced tubercles. However, I found a similar reduction both in number and size of tubercles on elytra of specimens from Central Europe, Uzbekistan and China (deposited in JRUC), always mixed with larger series of topotypic specimens with fully developed tubercles. In my opinion, the reduced tubercles on elytra represent only individual variability; the lectotype of *T. rugosus tuberculatus* is otherwise identical with *T. rugosus*, having tuberculate intervals on elytra and lacking denticle at humeral portion of elytra.

Portevin (1943) described *Thanatophilus rubripes*, based on two specimens from "Minchow" (according to Schütze & Kleinfeld 1997, nowadays Min Xian in Gansu province, China). Portevin's description is based on subteneral specimens with reddish-brown antennae, legs and lateral portions of pronotum and elytra. In my opinion, both specimens are identical with *T. rugosus*, judging from the identical combination of characters given in the diagnosis above.

Consequently, I consider *Thanatophilus rugosus tuberculatus* Depoli, 1931 and *Thanatophilus rubripes* Portevin, 1943 as junior subjective synonyms of *Thanatophilus rugosus* (Linnaeus, 1758).

## *Thanatophilus sinuatus* (Fabricius, 1775)

*Silpha sinuata* Fabricius, 1775: 75.

*Thanatophilus sinuatus* var. *obscurior* Portevin, 1926: 40; **syn. n.**

*Thanatophilus sinuatus* var. *scutellatus* Portevin, 1926: 40; **syn. n.**

*Thanatophilus sinuatus* var. *cyanescens* Portevin, 1943: 47; **syn. n.**

*Thanatophilus sinuatus* *cypriotus* Portevin, 1943: 47; **syn. n.**

TYPE MATERIAL EXAMINED. **HT** male of *Thanatophilus sinuatus* var. *obscurior* (MNHN, coll. M. Pic / G. Portevin), labelled "(male symbol) [hw] // Finlandia [hw] // MUSÉUM PARIS / COLL. M. PIC [p] // var. *obscurior* / m. [hw, Portevin's MS] // TYPE [p, red label] // *Thanatophilus* / *sinuatus* / (Fabricius, 1775) / Jan Růžička det. 2002 [p]".

**HT** male of *Thanatophilus sinuatus* var. *scutellatus* (MNHN, coll. M. Pic / G. Portevin), labelled "Colombes 23.7. [19]21 [hw] / G. Portevin [p] // MUSÉUM PARIS / COLL. M. PIC [p] // var. *scutellaris* [sic!] / m. [hw, Portevin's MS] // *Thanatophilus* / *sinuatus* / (Fabricius, 1775) / Jan Růžička det. 2002 [p]".

**HT** male of *Thanatophilus sinuatus* var. *cyanescens* (MNHN, coll. generale), labelled "Zagouan / Tunis centr. [p] // T. *sinuatus* / var. *cyanescens* / m. [hw, Portevin's MS] // TYPE [p, red label] // Museum Paris [p] // *Thanatophilus* / *sinuatus* / (Fabricius, 1775) / Jan Růžička det. 2002 [p]".

**HT** female of *Thanatophilus sinuatus* *cypriotus* (MNHN, coll. generale), labelled "Limassol / Cyprus [p] // Th. *sinuatus* / var. [sic!] *cypriotus* / Port. [hw, Portevin's MS] // TYPE [p, red label] // MUSÉUM PARIS [p] // *Thanatophilus* / *sinuatus* / (Fabricius, 1775) / Jan Růžička det. 2002 [p]".

COMMENTS. *Thanatophilus sinuatus* is a common species, distributed throughout the Palaearctic region (Schawaller 1981).

Portevin (1926) described *Thanatophilus sinuatus* var. *obscurior* from Finland (without details of locality), based on a fine variation in colour (dark coloration of scutellum and its dark pubescence). The holotype specimen has greasy pubescence on scutellum and is identical with *T. sinuatus*, having black ultimate abdominal segments and a smooth elytral surface with three costae and a denticle present on humeral portion of elytra.

Portevin (1926) described *Thanatophilus sinuatus* var. *scutellatus* without mentioning a type locality. The holotype specimen bears a locality label with the name Colombes, which is a settlement west of Paris in the French department Haute de Seine (N. Berti, personal communication). Portevin (1926) distinguished this variety based on shape and colour of scutellum, which should be paler laterally, covered by pale setation. In fact, the holotype specimen is subteneral, but otherwise identical with *T. sinuatus*, with an identical combination of characters to those given above.

Portevin (1943) described *Thanatophilus sinuatus* var. *cyanescens* from western Tunisia, based on slight external differences (heavily punctured and glossy dorsal part of body with distinct blue metal reflection). The holotype specimen is little more glossy, but otherwise identical with *T. sinuatus*, with an identical combination of characters to those given above.

Finally, Portevin (1943) described *Thanatophilus sinuatus* *cypriotus* from Cyprus, based on a single specimen with large body, pale setation on pronotum and fine punctuation on elytra. The holotype specimen is larger (combined length of pronotum and elytra is 11.0 mm), with more elongate elytra, but otherwise identical to *T. sinuatus*, including the setation on pronotum and punctuation on elytra, with an identical combination of characters to that given above.

Consequently, I consider *Thanatophilus sinuatus* var. *obscurior* Portevin, 1926, *Thanatophilus sinuatus* var. *scutellatus* Portevin, 1926, *Thanatophilus sinuatus* var. *cyanescens* Portevin, 1943 and *Thanatophilus sinuatus* *cypriotus* Portevin, 1943 as junior subjective synonyms of *Thanatophilus sinuatus* (Fabricius, 1775).

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