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Checklist and bibliography of the Trogidae (Coleoptera: Scarabaeoidea)

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Checklist and bibliography of the Trogidae
(Coleoptera: Scarabaeoidea)

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Checklist and bibliography of the Trogidae (Coleoptera: Scarabaeoidea)

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Abstract. Presented is a checklist of the world Trogidae (Coleoptera: Scarabaeoidea) including synonyms, geographic distributions, type repositories where known, lists of valid species by genera and subgenera, citations of all papers containing original descriptions, and a supplemental literature section containing works on various other aspects of the family. The Literature Cited and Supplemental Literature sections combine to form a comprehensive bibliography.

Key words. Trogidae, *Trox*, *Madagatrox*, *Omorgus*, *Polynoncus*, checklist, bibliography.

Introduction

The trogids are a cosmopolitan family of about 300 species in four genera: *Trox* Fabricius, *Madagatrox* Pittino, *Omorgus* Erichson and *Polynoncus* Burmeister. The formerly included genera *Glaresis* Erichson (now Glaresidae, 59 species) and *Cryptogenius* Westwood (now Hybosoridae, two species) were removed, and *Afroglaresis* Petrovitz (monobasic) synonymized with *Glaresis*, by Scholtz (1986a). Smith et al. (2006) questioned the split of Trogidae and Glaresidae on molecular grounds, but did not find any definite evidence for or against the separation proposed by Scholtz (1986a). This split has been further supported in intervening studies by Scholtz et al. (1987a, 1994), Browne and Scholtz (1995, 1996, 1998, 1999), and Browne et al. (1993). The division is therefore maintained in this paper.

Most of the characters on which three of the four recognized trogid genera are based were known by the mid-19th century, but with the notable exceptions of LeConte (1854), Burmeister (1876) and Baker (1968) were regarded as defining merely subgenera or informal species groups within the genus *Trox*. Scholtz (1986a) published a phylogenetic analysis that clarified the family limits, re-defined the genera and divided two of them into subgenera – *Trox* into *Trox* s. str. and *Phoberus* MacLeay, and *Omorgus* into *Omorgus* s. str., *Haroldomorgus* (subgen. nov.) and *Afromorgus* (subgen. nov.). Subsequently Pittino (2006: 26) elevated *Afromorgus* to genus, citing as reasons structure of the aedeagus and geographic distribution. However, these characters had been considered by Scholtz (1986a), and if *Afromorgus* (Old World) is to be regarded as the sister genus of *Omorgus* (New World and Australia) then altering Scholtz's (1986a) tree consistently would require that *Haroldomorgus* (South America) is elevated to genus as well, which was not done by Pittino (2006). Having three genera rather than subgenera would obscure relationships within the branch, and such treatment would be equally detrimental if extended to the other (*Trox*) branch of the family. For this reason *Afromorgus* is hereby maintained in Scholtz's sense, as a subgenus of *Omorgus*. Most recently Pittino (2010) described *Madagatrox* gen. nov., which resembles some of the apterous species of the *Trox* subgenus *Phoberus* but differs in having the protarsus four-segmented. The genus is based on a single female specimen that has only the left protarsus preserved and, judging from the habitus photo, difficult to observe because of its infolded position. It is thus possible that the condition is pseudotetramerous, but determination of the exact structure most likely has to await discovery of additional specimens.

Discussion

African Trogidae. Haaf's revisions (1953, 1954a) and subsequent descriptions (1955a, b, 1957a, 1958a) of African trogids resulted in 22 new species and two subspecies, to which Scholtz (1979a, b,

1980a, 1983, 1986c, 1991b) added 10 new species and four subspecies. These studies and Kawai (2006) and Král and Kubán (2012) brought the trogid fauna of Africa up to 70 species and eight subspecies, of which *T. funestus* Lansberge and *T. miliarius* Gmelin are known only from untraceable types. Based on the original descriptions, Scholtz (1980a: 99) suggested that *T. funestus* belongs in the gemmatus or baccatus group of the *Trox* subgenus *Omorgus* and *T. miliarius* belongs in the sulcatus group of *Trox* s. str., and in a subsequent paper (Scholtz 1986a: 361-362) he elevated *Omorgus* to genus, placed all of its Afrotropical, Palearctic and Oriental species in a new subgenus *Afromorgus*, and transferred most of the African species of *Trox* s. str. to the subgenus *Phoberus*. The two undocumented species thus tentatively became *Omorgus (Afromorgus) funestus* (Lansberge) and *Trox (Phoberus) miliarius* (Gmelin), and are listed as such in this paper. Scholtz's (1986a) rearrangement left only nine African species in *Trox* s. str. They are *T. rhyaroides* Harold, *T. pusillus* Péringuey, *T. fascicularis* Wiedemann, *T. strigosus* Haaf, *T. nanniscus* Péringuey, *T. rudebecki* Haaf, *T. nasutus* Harold, *T. capensis* Scholtz and *T. natalensis* Haaf, of which the last three were treated as *Trox (Phoberus)* in the 1980a revision. It may be useful to note that when describing larvae of African trogids, Scholtz (1993b) stated that the five included species of *Trox* belong to the subgenus *Phoberus*, although three of them (*T. capensis*, *T. rhyaroides*, *T. fascicularis*) were explicitly removed from that subgenus in his 1986a paper. The same happened with *T. youngai* Struempfer and Scholtz that was considered by the describers to belong in the natalensis group and is therefore hereby treated as *Trox* s. str.

Madagascan Trogidae. The trogid fauna of Madagascar consists of only seven species, *Trox (Trox) perrieri* Fairmaire (endemic), *Madagatrox ranotsaraensis* Pittino (probably endemic), *Polynoncus sallei* (Harold), and four Afrotropical *Omorgus (Afromorgus)* [*O. foveolatus* (Boheman), *O. melancholicus* (Fåhraeus), *O. niloticus desertorum* (Harold) and *O. squalidus* (Olivier)], of which only *O. melancholicus* appears to be established on the island (Paulian 1981, Pittino 2010). *Polynoncus sallei* is a South American species whose isolated Madagascan record may be an introduction, but could also be attributed to misidentification or erroneous locality label.

Australian Trogidae. The Australian trogid fauna contains 53 species, 11 of them described by Haaf (1954b, 1957a, b, 1958b) and 10 by Scholtz (1986b). Except for the subcosmopolitan *Trox (Trox) scaber* (Linné), all the species belong to *Omorgus* s. str. and 48 of them are confined to Australia. Of the remaining four *O. trilobus* (Haaf) extends to Papua, *O. demarzi* (Haaf) to western Irian, *O. costatus* (Wiedemann) crosses the Lydekker line through Indonesia into southeastern Asia and southernmost China, and *O. suberosus* (Fabricius) is an introduced Neotropical–Nearctic species present also on some Pacific islands (Galapagos, Nova Caledonia, Fiji). Scholtz's (1986b) revision of the Australasian trogids includes also *O. mollis* (Arrow) known only from western Indonesia (Borneo, Sumatra) and Malaya. Subsequent to that revision, only one trogid species (*O. vladislavi* Kawai) has been described from Australia. Haaf (1953-1960) placed all trogids in the genus *Trox* without subgeneric divisions, whereas Scholtz (1982) divided *Trox* into the subgenera *Trox* s. str., *Omorgus*, *Phoberus* and *Polynoncus*, and in the 1986(b) revision placed all the Australian species (except *T. scaber*) in *Trox (Omorgus)* and in a footnote on p. 1 stated that “In a recent paper (Scholtz 1986) the subgenus *Omorgus* Erichson was elevated to genus. Consequently, all native Australasian species belong to *Omorgus*.” The “Scholtz 1986” paper of the quote is a trogid phylogeny (Scholtz 1986a of this paper) which was released in July, whereas the revision (Scholtz 1986b of this paper) was released in December. In the phylogeny paper (Scholtz 1986a) the transfer of Australasian (and New World) species to *Omorgus (Omorgus)* was also done collectively, however the Code (ICZN 1999: Art. 51) does not prohibit collective transfers and authorship of species described in the revision (Scholtz 1986b) thus is hereby listed without parentheses.

New World Trogidae. The New World trogids were revised by Vaurie (1955, 1962) who treated North through Central American (Vaurie 1955) as well as South American (Vaurie 1962) taxa, and by Scholtz (1990b) who treated only the South American fauna. Additional species were described from Florida by Howden and Vaurie (1957) and from Mexico by Deloya (1995), who also reviewed the Mexican fauna (Deloya 2003). Most recently, Chilean trogids were reviewed by Diéguez (2008). Currently

there are nearly 90 species known to occur in the Americas, 25 *Trox* s. str., 29 *Omorgus* s. str., one *Omorgus* (*Haroldomorgus*) and 33 or 34 *Polynoncus*. The latter two are endemic to South America, whereas *Trox* s. str. is largely northern, with only eight species extending south into Mexico, *T. acanthinus* Harold endemic to Mexico, *T. insularis* Chevrolat endemic to Cuba, and *T. scaber* (Linné) subcosmopolitan but in the New World documented only from Canada, USA, Argentina and Chile. *Omorgus* s. str. is more speciose in North America and Mexico, but at least 11 species are restricted to South America, *O. loxus* (Vaurie) extends from Mexico to Argentina, and *O. suberosus* (Fabricius) is a common Nearctic–Neotropical species present also in Australia and Oceania. Only four *Omorgus* species (including *O. loxus* and *O. suberosus*) have been so far recorded from Central America, which may have to do with repeated submergences of the land bridge as well as with inadequate collecting. None of the four species is endemic to the region, they merely reach there from the north [*O. fuliginosus* (Robinson), *O. rubricans* (Robinson), *O. loxus*] or the south (*O. suberosus*).

According to Mawdsley (1993), Vaurie (1955) was not aware that some of Thomas Say's entomological collection had survived and its remnants, including three trogid species described by Say, are preserved at the Museum of Comparative Zoology, Harvard University (MCZH). The three species are *Trox canaliculatus* (three specimens), *T. capillaris* (one specimen) and *T. (now Omorgus) scutellaris* (two specimens). However, lectotypes have not been designated for these species, because doubts exist that the specimens really are Say's types (P. H. Perkins, MCZH, pers. comm. 2012). It thus appears that the three said species (and *T. aequalis* Say and *T. terrestris* Say) will require neotypes, best to be selected from material in LeConte's and / or Melsheimer's collections, also preserved at MCZH.

Concerning types of LeConte's species, Vaurie (1955: 9) commented that "The specimen in his [LeConte's] cotype series that bears his original handwritten name label is accepted by most authors as the type and I so consider it, but Robinson (1940) has already designated some of these 'number one' specimens as lectotypes (*erinaceus*, *integer*, *texasus*, *suturalis*, and *umbonatus*)." The lectotypes of Robinson are hereby recognized because they constitute published nomenclatorial acts compliant with the Code (ICZN 1999). Other LeConte's species represented in his collection by multiple specimens were originally series of syntypes, but since they were subsequently inspected by Vaurie (1955) who dissected specimens and considered the name-bearing specimen to be the "type", they became type series consisting of lectotypes and paralectotypes rather than of holotypes and paratypes as thought of by Vaurie.

Old World Trogidae. The Old World trogids have yet to be revised [except for *Omorgus mollis* (Arrow) and *O. costatus* (Wiedemann) treated by Scholtz (1986b)]. Their names, synonyms and distributions are to a large extent recorded in the Catalogue of Palaearctic Coleoptera Vol. 3 (Pittino 2006), which lists three species of *Omorgus* s. str., 15 species of *Omorgus* (*Afromorgus* – as a genus), one *Trox* (*Phoberus*) (*T. squamiger* Roth) and 60 species of *Trox* s. str., of them *T. lutosus* Marsham and *T. maurus* Herbst as nomina dubia and *T. sonora* LeConte as a southern Nearctic species introduced to China. Oriental occurrences deemed extralimital to the Catalogue are noted only by the abbreviation "ORR", and the few species known exclusively from the Orient are left out because of geographic constraints placed on the contributor. The number of *Trox* s. str. is greater than would be expected from previous partial accounts, in which some species have been synonymized and some other demoted to subspecies. In the Palaearctic Catalogue most of such taxa are resurrected and / or re-elevated to species. Some of the resurrections / upgrades are justified in the "New Nomenclatorial and Taxonomic Acts, and Comments" section (Trogidae on p. 26-28), but some appear without any comment only in the Catalogue proper (Trogidae on p. 78-81). *Trox clathratus* Reiche is inadvertently listed twice, as a valid species and as a synonym (misspelled *clatratus*) of *T. cribrum* Gené, and *T. lecontei* Harold (a synonym of *T. sonora* LeConte) is misspelled *econte*. Such slips are hereby corrected, but otherwise the list is accepted at face value and taxonomic judgments are left to future revisers. The Palaearctic Catalogue does not provide information on the deposition of types, and no systematic search for them has been conducted in the course of compiling this checklist. For many species type repositories can be found noted in the original descriptions, but in most old publications such information is lacking and cannot be reliably determined from the authors' nationalities, domiciles or affiliations. Not all entries in the below checklist therefore include type repositories, and some are questioned.

Larval Trogidae. Trogid larvae have been the subject of numerous studies, more recently by Ritcher (1966, four North American species), Baker (1968, 24 North American species), Scholtz (1991a, six Australian species), Scholtz (1993a, three South American species), Scholtz (1993b, 10 African species), Scholtz and Lumaret (1991, three European species) and Scholtz and Peck [1990, *Polynoncus seymourensis* (Mutchler) endemic to the Galapagos]. The most extensive and thorough of them is Baker's (1968) work, which contains discussions of larval morphology and terminology, and a good review of the older literature. The larvae (third instars) have been used by Baker and Scholtz as evidence supporting recognition of the genera and subgenera, and Nikolaev (2005) used morphology of the head and anal lobes to propose that the family (his subfamily) be divided into the tribes Trogini and Omorgini. Species for which larvae have been described are denoted by "L" in the "Lists of valid species by genera and subgenera" that follow the Checklist.

Morphology. Morphology is not dealt with in this paper because it has been amply discussed by Vaurie (1955, 1962), Baker (1968, larvae) and Scholtz (1986a, b, 1990b). Also available in works of these authors are comments on biology of species found primarily or only in particular niches.

Fossil Trogidae. *Trox antiquus* Wickham from the latest Eocene of USA (Colorado), three Early Cretaceous species described by Nikolaev (2007) from Siberia and Mongolia (*Trox sibericus*, *T. cretaceus*, *Cretomorgus ikhbogdensis*) and the South African *Trox youngai* Struempfer and Scholtz that may be extinct, are the only fossils unequivocally assignable to the family Trogidae. The holotype of *T. antiquus* is a 5.5 mm long legless specimen with a relatively large scutellum, coarsely nodose pronotum and elytra, and a barely discernible head. The shape of the scutellum cannot be determined. Despite the small size, the coarsely nodose sculpture of the pronotum and elytra remind more of an *Omorgus* than *Trox*, but the preservation is too poor to permit a generic assignment. The fossil thus can be interpreted only as a trogid of uncertain generic affinity. The three species of Nikolaev (2007) could not be examined, but from the descriptions it appears that "Trox" in a more-or-less vernacular sense is the most appropriate generic label. This is given by the state of preservation, which (with the exception of some amber fossils) causes roughly one step of taxonomic hierarchy difference in perception – i.e. what to a paleontologist is a species, to a neontologist usually appears identifiable at best to genus.

Nikolaev (2000) described *Prototrox transbaikalicus* from the Early Cretaceous of Transbaikalia (holotype) and Mongolia (paratype) and proposed the subfamily Prototroginae for the taxon, which could create the impression that *Prototrox* is a trogid. However, Nikolaev regarded extant trogids as a subfamily of the family Scarabaeidae, which to him meant Scarabaeoidea of other authors minus Lucanidae and Passalidae, and stated quite clearly that Prototroginae and Troginae (= Trogidae) are separate taxa. The remains constituting *Prototrox* lack heads, pronota and legs, reveal only plesiomorphic characters, and are likely to be paraphyletic (Krell 2006).

Methods

Type repositories are cited with the following codens, most after Arnett et al. 1993.

AMNH	American Museum of Natural History, New York, NY, USA;
AMSA	Australian Museum, Sydney, Australia;
ANIC	Australian National Insect Collection, Canberra, Australia;
ANSP	Academy of Natural Sciences, Philadelphia, PA, USA;
BMNH	The Natural History Museum, London, UK;
CASB	Chinese Academy of Sciences, Beijing, PRC;
CASC	California Academy of Sciences, San Francisco, CA, USA;
CMNH	Carnegie Museum of Natural History, Pittsburgh, PA, USA;
CMNO	Canadian Museum of Nature, Ottawa, ON, Canada;
CUNY	Cornell University, Ithaca, NY, USA;
DEIM	Deutsche Entomologische Institut, Müncheberg, Germany;

DMSA	Durban Museum and Art Gallery, Durban, RSA;
FISF	Forschungsinstitut Senckenberg, Frankfurt a. M., Germany;
FMLT	Fundación Miguel Lillo, Tucumán, Argentina;
FMNH	Field Museum of Natural History, Chicago, IL, USA;
HMUG	Hunterian Museum, University of Glasgow, Glasgow, UK;
HNHM	Hungarian Natural History Museum, Budapest, Hungary;
IEEM	Instituto Español de Entomología, Madrid, Spain;
IEXM	Instituto de Ecología, Xalapa, Veracruz, Mexico;
INAM	Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil;
INHS	Illinois Natural History Survey, Urbana-Champaign, IL, USA;
ISNB	Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium;
LACM	Natural History Museum of Los Angeles County, Los Angeles, CA, USA;
LEMQ	Lyman Entomological Museum, McGill University, Montreal, PQ, Canada;
MACN	Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina;
MCZH	Museum of Comparative Zoology, Harvard University, Cambridge, MA, USA;
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland;
MLUH	Martin-Luther-Universität, Halle, Germany;
MNHB	Museum für Naturkunde, Humboldt-Universität, Berlin, Germany;
MNHN	Muséum National d'Histoire Naturelle, Paris, France;
MSNM	Museo Civico di Storia Naturale, Milan, Italy;
MVMA	Museum of Victoria, Melbourne, Australia;
MZLU	Museum of Zoology, Lund University, Lund, Sweden;
MZSP	Museu de Zoologia da Universidade de São Paulo, Brazil;
NHMB	Naturhistorisches Museum, Basel, Switzerland;
NHMV	Naturhistorisches Museum, Vienna, Austria;
NHRS	Naturhistoriska Riksmuseet, Stockholm, Sweden;
NMBZ	National Museum, Bulawayo, Zimbabwe;
NMPC	National Museum, Prague, Czech Republic;
NSMT	National Science Museum, Tokyo, Japan;
OMNH	Osaka Museum of Natural History, Osaka, Japan;
OWUT	Otsuma Women's University, Tokyo, Japan;
PPRI	Plant Protection Research Institute, Pretoria, RSA;
QMBA	Queensland Museum, Brisbane, Australia;
RPMI	R. Pittino, Milan, Italy;
SAMA	South Australian Museum, Adelaide, Australia;
SAMC	South African Museum, Cape Town, RSA;
SASP	Secretariada Agricultura, São Paulo, Brazil;
SKTJ	S. Kawai, Tokyo, Japan;
SMTD	Staatliches Museum für Tierkunde, Dresden, Germany;
TAMU	Texas A&M University, College Station, TX, USA;
TMSA	Transvaal Museum, Pretoria, RSA;
TNCJ	T. Nakane, Chiba-Shi, Japan;
UCCH	Universidad de Concepción, Chile;
UMBS	Institute of Tropical Biology & Conservation, University of Malaysia – Sabah;
UNSM	University of Nebraska State Museum, Lincoln, NE, USA;
UPSA	University of Pretoria, Pretoria, South Africa;
USNM	United States National Museum, Washington, DC, USA;
VMPC	V. Malý, Prague, Czech Republic;
WAMP	Western Australian Museum, Perth, Australia;
ZMAS	Zoological Museum, Academy of Sciences, St. Petersburg, Russia;
ZMUC	Zoological Museum, University of Copenhagen, Copenhagen, Denmark;
ZMUM	Zoological Museum, Moscow University, Russia;
ZMUU	Zoological Museum, Uppsala University, Uppsala, Sweden;
ZSBS	Zoologische Sammlung des Bayerischen Staates, Munich, Germany.

Other abbreviations

Cm=*Cretomorgus*, **Mt**=*Madagatrox*, **OA**=*Omorgus (Afromorgus)*, **OH**=*Omorgus (Haroldomorgus)*, **OO**=*Omorgus (Omorgus)*, **Pn**=*Polynoncus*, **TP**=*Trox (Phoberus)*, **TT**=*Trox (Trox)*.

HT=holotype, AT=allotype, PT(s)=paratype(s), LT=lectotype, STs=syntypes.

m=male, f=female.

Au.=Australia, Ter.=Territory, RSA=Republic of South Africa.

Invalid names are offset by emdashes.

Checklist

The cut-off date of this checklist is the end of 2012, with the understanding that coverage of taxa published during the last year may not be complete due to late arrivals of some periodicals.

Genera and subgenera

Afromorgus Scholtz, 1986a: 362; type sp. *Trox squalidus* Olivier, 1789, original designation.

Cretomorgus Nikolaev, 2007: 106, 215; type sp. *Cretomorgus ikhbogdensis* Nikolaev, 2007, original designation. **Fossil** (Early Cretaceous).

Haroldomorgus Scholtz, 1986a: 362; type sp. *Trox batesi* Harold, 1872, monotypy.

Madagatrox Pittino, 210: 75; type sp. *Madagatrox ranotsaraensis* Pittino, 2010: 77, monotypy.

Omorgus Erichson, 1847: 111; type sp. *Trox suberosus* Fabricius, 1775, subsequent designation by Lacordaire (1856).

Syn. *Chesas* Burmeister, 1876: 264; type sp. *Trox pastillarius* Blanchard, 1846, original designation. Syn. by Vaurie (1962: 109, 115).

Syn. *Lagopelas* Burmeister, 1876: 265; type sp. *Trox ciliatus* Blanchard, 1846, original designation. Syn. by Vaurie (1962: 109, 115).

Syn. *Megalotrox* Preudhomme de Borre, 1886: 59; type sp. *Trox gigas* Harold, 1872, subsequent designation by Scholtz (1982). Syn. by Vaurie (1962: 109, 115).

Phoberus MacLeay, 1819: 137-138; type sp. *Trox horridus* Fabricius, 1775, monotypy.

Polynoncus Burmeister, 1876: 264; type sp. *Trox pedestris* Harold, 1872, subsequent designation by Scholtz (1982).

Trox Fabricius, 1775: 31; type sp. *Scarabaeus sabulosus* Linné, 1758, subsequent designation by Latreille (1810).

Syn. *Pseudotrox* Robinson, 1948: 1; type sp. *Trox laticollis* LeConte, 1854, monotypy. Syn. by Vaurie (1955: 18).

Species-group taxa

acanthinus Harold, 1872: 154; **TT**; Mexico (Veracruz); STs – BMNH.

—*aciculeatus* Robinson, 1940: 156; HTm – ANSP; = *foveicollis* (syn. by Vaurie 1955: 39).

acinus (Scholtz, 1980a: 39); **OA**; ne. Tanzania; HTf – SMTD, PTf – UPSA.

aculeatus Harold, 1872: 37; **TP**; “Caffraria”; LTm – MNHN (des. by Scholtz 1980a: 64).

aeger (Guérin, 1844: 85); **Pn**; Argentina, Brazil, Paraguay, Uruguay (not in Chile, see Diéguez 2008); type – MNHN?; syn. *leprosus*.

aequalis Say, 1831: 5; **TT**; Canada (Manitoba, New Brunswick, Nova Scotia, Ontario, Quebec), USA (e. states s. to South Carolina and w. to Texas and North Dakota; also Arizona, Colorado), Mexico (Durango, Chihuahua, Coahuila, Morelos, Nuevo León); Type(s) destroyed or MCZH?

affinis Robinson, 1940: 158, as ssp. of *aequalis*; **TT**; USA (ne. states, also California, Iowa, Texas, possibly Kansas and Louisiana); HTm – ANSP.

—*aino* Nakane and Tsukamoto, 1955: 92; HT – NSMT; = *setifer*

- alatus* (MacLeay, 1888: 907); **OO**; Australia (Northern Ter., Western Au.); HT – ANIC.
- alius* Scholtz, 1986b: 50; **OO**; Australia (Western Au.); HT – QMBA.
- alpigenus* Zhang, 1988: 234; **TT**; China (Xizang); HT – CASB.
- alternans* (MacLeay, 1826: 3, 1827: 439); **OO**; Australia (Capital Ter., South Au., Victoria, Western Au.); HT – ANIC; syn. *australasiae* Germar, *litigiosus*. [Described as new twice, in 1826 and in a larger version of the work issued in 1827.]
- alternans* LeConte, 1854: 211 (n. praeocc., see *lecontei*); HT [=LT] – MCZH; = *sonorae* (syn. by Horn 1874: 8).
- alternatus* (Say, 1835: 179); = *suberosus* (syn. by Harold 1872: 120).
- amictus* (Haaf, 1954b: 714); **OO**; Australia (South Au., Western Au.); HT – ISNB, PT – BMNH.
- amitinus* (Kolbe, 1904: 294); **OA**; se. Kenya; LT – MNHB (des. by Scholtz 1980a: 38).
- angulatus* Fähræus, 1857: 381; LTm – NHRS (des. by Scholtz 1980a: 90); = *squamiger* (syn. by Haaf 1953: 326).
- annexus* (Kolbe, 1904: 293); type lost; = *denticulatus* (syn. by Haaf 1954a: 354).
- antiquus* Wickham, 1909: 129; **fossil, gen. inc. sedis**; USA (Colorado: Florissant), late Eocene; HT – USNM (Dept. Invertebrate Paleontology).
- aphanocephalus* Scholtz, 1986b: 18; **OO**; Australia (Queensland); HT – MVMA.
- aproximans* Escalera, 1914: 158, as var. of *confluens*; **TT**; Morocco; LTm – IEEM (des. by Pittino 1983: 276); made available as ssp. of *confluens* by Balthasar (1936: 452).
- arcuatus* Haaf, 1953: 323; **TP**; RSA (e. Cape); HTm – NHMB, PTs – BMNH, MNHN.
- arenarius* Fabricius, 1787: 18; type – ZMUC; = *scaber* (syn. by Harold 1872: 183).
- arenarius* Paykull, 1798: 80; = *hispidus* (syn. by Harold 1872: 165).
- arenosus* Gmelin, 1790: 1586; type lost; = *scaber* (syn. by Harold 1872: 183).
- argentinus* (Harold, 1872: 143); **Pn**; Argentina (Córdoba, Neuquén, Buenos Aires, Bahía Blanca); HTm – MNHN; syn. with *gemmifer* by Vaurie (1962: 120), reinstated by Pittino (1987: 384).
- aricensis* (Gutiérrez, 1950: 63); **Pn**; Argentina, Bolivia, Chile, Peru; HTm – UCCH, PTs – BMNH.
- asiaticus* Faldermann, 1835a: 261; = *niger* (syn. by Pittino 2006: 80).
- asmaraensis* Balthasar, 1939: 32; HT – NMPC; = *nigrociliatus* (syn. by Haaf 1953: 328).
- asper* LeConte, 1854: 215; **OO**; USA (from Rhode Island to Florida and w. to Nebraska, Kansas and Texas; also in Utah), Mexico (n. Sonora); HT – MCZH.
- asperatus* (MacLeay, 1888: 908); = *crotchi* (syn. by Blackburn 1904: 284).
- asperrimus* (MacLeay, 1888: 909); = *semicostatus* (syn. by Blackburn 1904: 284).
- asperulatus* (Harold, 1872: 75); **OA**; Botswana, Namibia, RSA; LTm – MNHN (des. by Scholtz 1979a: 189).
- atrox* LeConte, 1854: 214; **TT**; Canada (Alberta, British Columbia, Ontario, Saskatchewan), USA (w. states e. to Mississippi River; also Illinois, Indiana, Iowa, Michigan), Mexico (Durango); HT – MCZH.
- augustae* (Blackburn, 1892: 39); **OO**; Australia (New South Wales, Northern Ter., Queensland, South Au., Victoria); HT – BMNH.
- australasiae* (Erichson, 1842: 158); **OO**; Australia (all states).
- australasiae* (Germar, 1848: 189) [n. n. *litigiosus* Harold]; LT – MNHN; = *alternans* (syn. and LT des. by Scholtz 1986b: 46).
- baccatus* (Gerstaecker, 1866: 49); **OA**; Kenya, Tanzania; LTm – MNHB (des. by Scholtz 1980a: 59).
- badeni* (Harold, 1872: 83); **OO**; ne. Brazil, n. Colombia; LT – ISNB (des. by Scholtz 1990b: 1417).
- barbarus* Harold, 1872: 169; LTm – MNHN; = *granulipennis* (syn. and LT des. by Pittino 2006: 80).
- barbosus* Laicharting, 1781: 31; = *scaber* (syn. by Harold 1872: 183).
- batesi* (Harold, 1872: 126); **OH**; n. Argentina, Brazil, Paraguay; LT – ISNB (des. by Scholtz 1990b: 1418).
- berytensis* Petrovitz, 1980: 614; HTm – MHNG; = *mixtus* (syn. by Pittino 1983: 271).
- bifurcatus* (Vaurie, 1962: 129); **Pn**; Argentina, Bolivia, Brazil, Paraguay; HTm + PTs – MNHB, PTs at other institutions; redescribed by Pittino (1987: 393).
- birmanicus* (Arrow, 1927: 467); **OO**; Myanmar; HT – BMNH.
- borgognoi* (Marchand, 1902: 332); **OA**; Chad, Mali, Mauritania; type lost.

- borrei* (Harold, 1872: 84); **OO**; Argentina, s. Bolivia, Brazil(?), Uruguay; HT + PT – ISNB.
- boucomonti* Paulian, 1933: 205; **TT**; China (Fujian, Jiangxi, Yunnan); HT – MNHN.
- braacki* Scholtz, 1980a: 87; **TP**; RSA (s. Cape); HTm + PTs – TMSA, PT – BMNH.
- brahminus* Pittino, 1985: 338; **TT**; China (Xizang, Yunnan), India (Himachal Pradesh, Punjab, Sikkim, West Bengal), Malaya, n. Vietnam; HTm – BMNH, PTm – RPMI.
- brasiliensis* (Vaurie, 1962: 134); **Pn**; Brazil, Paraguay; HTm – MZSP, PTs – AMNH and other institutions.
- brevicollis* (Eschscholtz, 1822: 12); **Pn**; Argentina, Brazil, Chile, Colombia, Paraguay, Peru; ST(1) – BMNH; syn. *lachrymosus*.
- brincki* Haaf, 1958a: 475; **TP**; Lesotho (Drakensberg Mtns.); HTm + PTs – MZLU, PTs – NHMB.
- brucki* (Harold, 1872: 93); **OO**; Australia (Capital Ter., New South Wales, Queensland, Victoria); type – MNHN?
- bullatus* (Curtis, 1845: 444); **Pn**; Argentina, Bolivia, Chile, Peru, Uruguay; HT – BMNH.
- burmeisteri* Pittino, 1987: 380; **Pn**; Argentina (Mendoza); HTm + PTs – MNHN and other institutions.
- cadaverinus cadaverinus* Illiger, 1802b: 44; **TT**; c. Europe, w. Russia, Siberia, Mongolia, Kyrgyzstan, Syria.
- cadaverinus komareki* Balthasar, 1931: 130, as sp.; China (Heilongjiang), Mongolia, Siberia (Ussuri region); HT – NMPC.
- caffer caffer* Harold, 1872: 41; **TP**; RSA (Cape, Free State); HT + PT – MNHB; Scholtz (1980a: 95) was unable to examine the MNHB types listed by Haaf (1953: 334) and designated a LT (MNHN), which is invalid.
- caffer lilianae* Scholtz, 1980a: 96; Malawi, e. RSA, e. Zimbabwe; HTm + PTs – NMBZ, PTs – BMNH + TMSA + UPSA.
- cambeforti* Pittino, 1985: 334; **TT**; China (Sichuan); HT + AT + PTs – MNHN.
- cambodjanus* Pittino, 1985: 331; **TT**; Cambodia; HTf – MNHN; male described by Pittino and Kawai (2006).
- canaliculatus* Say, 1824: 278; type? – MCZH; = *tuberculatus* DeGeer (syn. by Harold 1872: 155).
- candezei* (Harold, 1872: 113); **OO**; Argentina; type – MNHN?, ISNB?
- candidus* (Harold, 1872: 98); **OO**; Australia (Capital Ter., New South Wales, Queensland, South Au., Victoria); LT – MNHN (des. by Scholtz 1986b: 28).
- capensis* Scholtz, 1979b: 174; **TT**; RSA (s. Cape); HTm – TMSA, PTs – BMNH and other institutions.
- capillaceus* Scholtz, 1990b: 1413; **OO**; Colombia (Bogotá); HTf – CMNH; male unknown.
- capillaris* Say, 1823: 238; **TT**; Canada (Ontario), USA (ne. states to Tennessee, Missouri, Kansas; also Illinois, Indiana, Iowa, Texas, Utah); type? – MCZH.
- carinatus* (Loomie, 1922: 135); **OO**; USA (s. Arizona, s. New Mexico, sw. Texas), Mexico (Chihuahua); HTm – USNM.
- carinicollis* Scholtz, 1986b: 52; **OO**; Australia (Western Au.); HT – WAMP.
- castelnaui* (Lansberge, 1887: 201); = *gigas* (syn. by Blackburn 1904: 285).
- chevrolati* Harold, 1868: 86; = *perlatus* (syn. by Harold 1872: 161).
- chilensis* (Harold, 1872: 137); **Pn**; w. Argentina, Chile; HT – MNHN.
- chinensis* (Boheman, 1858: 52); **OA**; e. China, Taiwan, Japan, se. Asia, Indonesia (Java, Sumatra); HTm – NHRS; syn. *obscurus*.
- ciliatus* (Blanchard, 1846: 190); **OO**; Argentina, Bolivia; type – MNHN.
- clathratus* Reiche, 1861: 205; **TT**; France (Corsica), Italy (Sardinia).
- concinnus* Erichson, 1848: 932; = *eversmanni*.
- confluens* Wollaston, 1864: 193; **TT**; Algeria, Canary Is., Libya, Morocco, Tunisia; HT – BMNH.
- confluentus* (Robinson, 1941a: 134); HTm – ANSP; = *umbonatus* (syn. by Vaurie 1955: 76).
- conjunctus* Petrovitz, 1975: 2; = *sonorae* (syn. by Pittino 2006: 28, 81).
- consanguineus* (Péringuey, 1901: 466); **OA**; Namibia, Zaire, n. Zimbabwe; LT – SAMC (des. by Scholtz 1980a: 34).
- consimilis* Haaf, 1953: 324; **TP**; Namibia, RSA; HT + AT – NHMB, PTs – BMNH.
- contractus* Robinson, 1940: 153; **TT**; USA (sc. Texas); HTm – ANSP.
- coracinus* Gmelin, 1790: 1587; **inc. sed.**; patria?

- costatus* (Wiedemann, 1823: 30); **OO**; Australia (all states), se. Asia, s. China, Papua New Guinea, Solomon Is.; syn. *montalbanensis*, *regularis*, *velutinus*.
- cotodognanensis* Compte, 1986: 69; **TT**; Spain.
- crenatus* (Olivier, 1789: no. 4: 7); = *suberosus* (syn. by Harold 1872: 120).
- cretaceus* Nikolaev, 2007: 102f, 105, 206, 215; **Trox inc. sed.**; **fossil** (Early Cretaceous), Mongolia.
- cribrum* Gené, 1836: 186; **TT**; France (Corsica), Italy (Sardinia).
- crisetulus* Ádám, 1994c: 37; = *hispidus* (syn. by Pittino 2006: 28).
- crotchi* (Harold, 1871: 116); **OO**; Australia (New South Wales, Northern Ter., Queensland, South Au., Victoria, Western Au.); LT – MNHN (des. by Scholtz 1986b: 26); syn. *asperatus*, *eremita*.
- curvipes* (Harold, 1872: 90); **OO**; Australia (Northern Ter., Queensland, Western Au.); HT – MNHN.
- cyrtus* Haaf, 1953: 333; **TP**; Lesotho, RSA; HTm + PTs – MNHN; syn. *fumarius*.
- damarinus* (Péringuey, 1901: 469); LT – SAMC; = *rusticus* (syn. and LT des. by Scholtz 1979a: 191).
- demaisonii* Reitter, 1904: 156; LT – HNHM; = *transversus* (syn. by Pittino 2006: 28).
- demarzi* (Haaf, 1958: 1081); **OO**; Australia (Northern Ter., Queensland), w. Irian; HT – NHMB.
- dentibius* Robinson, 1940, see ssp. of *spinulosus*.
- denticulatus* (Olivier, 1789: 13); **OA**; Djibouti, Ethiopia, Kenya, Somalia, Sudan, Tanzania, Uganda; type lost; syn. *annexus*, *neumanni*, *?verrucosus* (see separate entry).
- denticulatus* (Beauvois, 1805: 176); = *suberosus* (syn. by Harold 1872: 120).
- denticulatus* (Blanchard, 1846: 189), praeocc. by *denticulatus* Olivier; = *pedestris* Harold, n. n.
- desertorum* (Harold, 1872), see ssp. of *niloticus*.
- dhaulagiri* Paulus, 1972a: 55; **TT**; Nepal; HTm – FISF.
- diffluens* (Vaurie, 1962: 138); **Pn**; Chile (Santiago); HTf – CASC.
- dilaticollis* (MacLeay, 1888: 907); **OO**; Australia (Northern Ter., Queensland, Western Au.); LT – ANIC (des. by Scholtz 1986b: 22).
- discedens* (Haaf, 1954a: 359); **OA**; e. Kenya, se. Somalia, Tanzania; HTm – NHMV.
- dohrni* (Harold, 1871: 112); **OO**; Australia (Western Au.); LT – MNHN (des. by Scholtz 1986b: 10).
- doiinthanonensis* Masumoto, 1996: 9; **TT**; nw. Thailand; HTm – OWUT.
- ecuadorensis* (Vaurie, 1962: 133); **Pn**; Ecuador, Peru; HTm + PTs – ZMUC, and PTs at other institutions.
- elderi* (Blackburn, 1892: 37); **OO**; Australia (South Au.: Ooldea); LTf – BMNH (des. by Scholtz 1986b: 12); male unknown.
- elevatus* (Harold, 1872: 73); **OA**; s. Angola, Namibia; LTm – MNHN (des. by Scholtz 1979a: 190); syn. *gravidus*.
- elongatus* (Haaf, 1954b: 706); **OO**; “Northern Australia”; HTm – MNHN; known only from HT.
- endroedyi* (Scholtz, 1979a: 185); **OA**; s. Angola, nw. Namibia; HTm + PTs – TMSA.
- eremita* (Blackburn, 1892: 38); LT – BMNH; = *crotchi* (syn. and LT des. by Scholtz 1986b: 26).
- erinaceus* LeConte, 1854: 212; LT – MCZH; = *variolatus* (syn. and LT des. by Robinson 1940: 151).
- erlangeri* (Kolbe, 1904: 293); LTm – MNHB (des. by Scholtz 1980a: 55); = *niloticus niloticus* (syn. by Haaf 1954a: 345).
- erugatus* Scholtz, 1990b: 1425; **Pn**; Argentina; HTf – FMLT; male unknown.
- euclensis* (Blackburn, 1892: 39); **OO**; Australia (Capital Ter., New South Wales, Queensland, South Au., Victoria, Western Au.); LT – BMNH (des. by Scholtz 1986b: 44).
- eversmanni* Krynicki, 1832: 123; **TT**; Europe, w. Russia, Siberia, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, Iran, China (Xinjiang).
- eximius* Faldermann, 1835b: 368; **TT**; China (Nei Mongol), Mongolia.
- expansus* (Arrow, 1900: 22); **OA**; ec. Somalia; HTm – BMNH; known only from HT.
- eyrensis* (Blackburn, 1904: 293); **OO**; Australia (South Au., Western Au.); LT – BMNH (des. by Scholtz 1986b: 47).
- fabricii* Reiche, 1853: 89; **TT**; Italy (Sicily), Portugal, Spain, Malta, Algeria, Libya, Morocco, Tunisia, Egypt.
- fascicularis fascicularis* Wiedemann, 1821: 129; **TT**; RSA (s. Cape, n. Transvaal mtns.), e. Zimbabwe; LT – MNHB (des. by Scholtz 1980a: 78).

- fascicularis rowei* Scholtz, 1980a: 78; RSA (Free State, Natal mtns.); HTm + PTs – TMSA, PTs – BMNH.
- fascifer* LeConte, 1854: 213; **TT**; Canada (British Columbia), USA (Pacific nw. from San Francisco to Canadian border); HT – MCZH.
- femoratus* (DeGeer, 1774: 269), as *Scarabaeus*; = *sabulosus sabulosus* (syn. by Harold 1872: 175).
- fenestrellus* (Balthasar, 1939: 34); type lost; = *melancholicus* (syn. by Scholtz 1979a: 188); revalidated by Pittino (2006: 27) without explanation.
- fenestratus* (Harold, 1872: 97); = *subcarinatus* (syn. by Haaf 1958b: 1079).
- floridanus* Howden and Vaurie, 1957: 1; **TT**; USA (Florida); HTm + PTs – AMNH, ATf – CMNO, PTs at other institutions.
- formosanus* Nomura, 1973: 37; **TT**; South Korea, Taiwan; HTm – NSMT.
- foveicollis* Harold, 1872: 181; **TT**; Canada (Ontario), USA (e. states w. to Kansas, Oklahoma, Texas); type – MNHN?; syn. *aciculeatus*.
- foveolatus* (Boheman, 1860: 114); **OA**; Namibia; LTm + PLTs – NHRS (des. by Scholtz 1979a: 184); syn. *massalis*; Paulian (1981: 7) reported this species from Madagascar, but his habitus photo (fig. 3) is not *foveolatus* and his drawing of the aedeagus (fig. 8d) appears to have been copied from Haaf (1954a: fig. 18).
- frater* Pittino, 2005: 74; **OA**; India, Pakistan, Sri Lanka; HTm – RPMI, PTs – RPMI, SKTJ.
- freyi* (Haaf, 1954a: 370); **OA**; Namibia, nw. RSA; HTm + PTs – NHMB, and PTs at other institutions.
- frontera* Vaurie, 1955: 41; **TT**; USA (s. Texas); HTm + ATf + PTs – TAMU, and PTs at other institutions.
- fujioakai* Ochi, 2000; see ssp. of *sabulosus*.
- fumarius* Haaf, 1953: 333; HTm – NHMB (syn. by Scholtz 1980a: 97).
- furcifer* Pittino, 1987: 394; HTm + PTs – HNHM, and PTs at other institutions; = *bifurcatus* (syn. by Scholtz 1990b: 1441).
- fuliginosus* (Robinson, 1941a: 134); **OO**; USA (s. Texas), Mexico (Coahuila, Tamaulipas, Veracruz, Yucatán), Guatemala; HT – USNM.
- funestus* (Lansberge, 1886: 94); **OA**; “Africa”; type lost; undocumented species, which the original description appears to place in the gemmatus or baccatus group of *Omorgus* (*Afromorgus*) – see Scholtz 1980a: 99, 1986a: 362.
- furcillifer* Pittino, 1987: 396; HTm – RPMI; = *parafurcatus* (syn. by Scholtz 1990b: 1441).
- galapagoensis* (Van Dyke, 1953: 124); **Pn**; n. Galapagos (Darwin + Wolf Is.); HTf – CASC.
- gansuensis* Ren, 2003: 110; **TT**; China (Gansu); HT – CASB?
- gemmatus* (Olivier, 1789: 7); **OA**; Arabia, Chad, Djibouti, Egypt, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Mali, Mauritania, Niger, Nigeria, Senegal, Somalia, Sudan; type lost.
- gemmifer* (Blanchard, 1846: 187); **Pn**; Argentina, Brazil, Chile, Uruguay; HT – MNHN; syn. *argentinus*.
- gemmiferus* (Blanchard, 1846: 187); = *gemmifer*.
- gemmiferus* (Blanchard, 1846: 188), n. praeocc.; = *guttifer*.
- gemmingeri* (Harold, 1872: 134); **Pn**; Argentina, Bolivia, Brazil, Paraguay, Uruguay (not in Chile, see Diéguez 2008); HT – MNHN.
- gemmulatus* Horn, 1874: 8; **TT**; USA (Arizona, California, New Mexico, South Dakota), Mexico (n. Baja); LT – MCZH (des. by Robinson 1940: 151).
- genieri* Scholtz, 1991b: 112; **OA**; Burkina Faso; HTm – LEMQ; known only from HT.
- gibberosus* Scholtz, 1990b: 1428; **Pn**; Chile (Bíobio, Malleco); HTm – USNM, PTs – CMNO + UPSA.
- gibbus* (Olivier, 1789: no. 4: 13); type lost; = *suberosus* (syn. by Harold 1872: 120).
- gigas* (Harold, 1872: 48); **OO**; Australia (South Au., Western Au.); type lost; syn. *castelnaui*.
- glaber* (Scholtz, 1980a: 36); **OA**; s. Tanzania; HTm – ZSBS; = *lindemanna* (syn. by Pittino 2005: 75).
- globulatus* (Fairmaire, 1883: 490); type – MNHN?; = *hemisphaericus* (syn. by Berg 1884: 98).
- gonoderus* (Fairmaire, 1901: 135); HT – MNHN; = *squalidus* (syn. by Paulian 1937: 134).
- gordonii* (Steiner, 1981: 205); **Pn**; Peru (Cuzco); HT + AT + PTs – USNM.
- graecus* Mulsant and Rey, 1871: 223; = *transversus*.
- granulatus* (Herbst, 1783: 12); **OA**; Afghanistan, India (Himachal Pradesh, Sikkim, West Bengal, c. + s. states), Pakistan; type lost.

- granulatus* Fabricius, 1801: 110; HT – ZMUC; = *fabricii* (syn. by Pittino 2006: 80).
granuliceps (Haaf, 1954b: 703); **OO**; “Australia”; HTf – MNHN; known only from HT.
- gravidus* (Péringuey, 1901: 470); LT – SAMC; = *elevatus* (syn. and LT des. by Scholtz 1979a: 190).
granulipennis Fairmaire, 1852: 83; **TT**; Caucasus, Italy (Sicily), Spain (incl. Canary Is.), Gibraltar, Algeria, Egypt (incl. Sinai), Libya, Morocco, Tunisia, Iran, Israel, Lebanon, Syria; LT – MNHN (des. Pittino 1983: 268); syn. *barbarus*.
- gunki* Scholtz, 1980a: 86; **TP**; RSA (s.-sw. Cape); HTm – TMSA, PTs – PPRI, UPSA.
- guttalis* (Haaf, 1954a: 336); **OA**; Ghana, Mali, Nigeria, Senegal; HTm – NHMB.
- guttifer* (Harold, 1868: 86), n. n. pro *T. gemmiferus* (Blanchard 1846: 188), praecoc. by *T. gemmiferus* (Blanchard 1846: 187); **Pn**; Argentina, Chile, Paraguay; HT – MNHN.
- haafi* (Vaurie, 1962: 122); **Pn**; s. Argentina; HTm – MNHN, PTs – MNHB + MNHN + NHMB.
- haagi* (Harold, 1872: 59); **OA**; India (West Bengal), Pakistan; HT – MNHN; regarded as a ssp. of *niloticus* by Haaf (1954a: 348) and Scholtz (1982: 12), elevated to species by Pittino (2006: 26, 27, 79).
- hamatus* Robinson, 1940: 153; **TT**; Canada (Ontario), USA (e. states s. to Georgia + Tennessee and w. to Kansas + Nebraska; also Oklahoma, Texas); HTm – ANSP.
- haroldi* Flach, 1879: 155; type? – NMPC; = *perrisii*.
- hemisphaericus* (Burmeister, 1876: 253); **Pn**; s. Argentina, s. Chile; ST – MACN?; syn. *globulatus*.
- hispanicus* Harold, 1862a: 161; **TT**; France (Pyrenees), Portugal, Spain; HT – MNHN.
- hispidus* (Pontoppidan, 1763: 431), as *Scarabaeus*; **TT**; Europe, Canary Is., Iran, Syria, Turkey; type lost; syn. *arenarius* Paykull (hom.), *cricketulus*, *insularis* Schneider (hom.), *luridus* Rossi (hom.), *sabulosus* Preyssler (hom.).
- hispidus* Paykull, 1798: 81; = *scaber* (syn. by Harold 1872: 183).
- horiguchii* Ochi and Kawahara, 2002: 54; **TT**; Japan, North Korea.
- horridus* Fabricius, 1775: 818; **TP**; RSA (sw. Cape); ST(2) – ZMUC; syn. *pectinatus*, *silphoides*.
- howdenorum* Scholtz, 1986b: 14; **OO**; Australia (Western Au.); HT – SAMA, PT – BMNH.
- howelli* (Howden and Vaurie, 1957: 4); **OO**; USA (ec. Florida, Texas); HTm – CMNO, PTm – INHS; presumed to occur through much of the range of its host bird Caracara (*Polyborus cheriway*), as far south as the Guianas and Peru.
- ikhbogdensis* Nikolaev, 2007: 107f, 215; **Cm**; **fossil** (Early Cretaceous), Mongolia.
- inadai* Ochi, Kawahara and Inagaki, 2008: 135; **TT**; Japan (Yakushima I.); HTm – OMNH [= *opacotuberculatus*?].
- inclusus* (Walker, 1858: 208); **OA**; China (Hainan), India, Sri Lanka; HTm – BMNH.
- incultus* (Fåhraeus, 1857: 377); LT – NHRS (des. by Scholtz 1979a: 187), PLT(1) – BMNH; = *squalidus* (syn. by Harold 1872: 108).
- indicus* (Harold, 1872: 102); **OA**; India; “Typenmaterial” – MNHN.
- indigenus* Scholtz, 1990b: 1411; **OO**; Galapagos (Española I.); HTm – CMNO, PTs – AMNH, BMNH and other institutions.
- ineptus* Balthasar, 1931: 131; **TT**; e. Siberia, Mongolia; HT[ST?] – NMPC.
- inermis* Pittino, 2005: 77; **OA**; s. India, Sri Lanka, s. Vietnam; HTm + PTs – RPMI.
- inflatus* (Loomie, 1922: 135); **OO**; USA (Arizona, New Mexico, Texas), Mexico (Chihuahua); HTm – USNM.
- insignicollis* (Blackburn, 1896: 265); **OO**; Australia (New South Wales, Northern Ter., Western Au.); HT – MVMA.
- insignis* (Haaf, 1954a: 344); **OA**; s. Angola, Namibia; HTm – NHMB, PTs – TMSA.
- instabilis* Haaf, 1953: 331; HTm – NHMB, PT – BMNH; = *sulcatus* (syn. by Scholtz 1979a: 193).
- insularis* Chevrolat, 1864: 416; **TT**; Cuba; HT – ANSP? [allegedly in Poey Coll., but not found by Robinson (1940)].
- insularis* Schneider, 1898: 69; = *hispidus*.
- integer* LeConte, 1854: 216; LT – MCZH (des. by Robinson 1940: 151); = *punctatus* (syn. by Horn 1874: 5).
- iranicus* Petrovitz, 1980: 613; **TT**; Iran; HTf – MHNG.
- italicus* (Reiche, 1853: 89); **OA**; China (“Kwangu”), India (Himachal Pradesh, Kashmir, Sikkim, West Bengal), Pakistan, Italy (intro.); HT – MNHN.

- jeanae* Scholtz, Inward and Kerley, 2007: 98; **TT**; Thailand; HTm – BMNH; known only from HT.
- juglans* (Ratcliffe, 1978: 299); **Pn**; Brazil, Guyana; HT + AT – INAM, PTs – AMNH and other institutions.
- kerleyi* Masumoto, 1996: 10; **TT**; nw. Thailand; NSMT.
- kiuchii* Masumoto, 1996: 11; **TT**; Laos, Thailand; HT – OWUT.
- klapperichi* Pittino, 1983: 280; **TT**; Ukraine (Crimea), Greece, Cyprus, Turkey, Israel, Jordan, Syria, Iran, Iraq; HT + AT – MHNG, PTs – BMNH.
- komareki* Balthasar, 1931, see ssp. of *cadaverinus*.
- koreanus* Kim, 1991: 136; **TT**; South Korea.
- kyotensis* Ochi and Kawahara, 2000: 53; **TT**; Japan.
- lachrymosus* (Curtis, 1845: 455); HT – BMNH; = *brevicollis* (syn. by Harold 1872: 145).
- lama* Pittino, 1985: 329; **TT**; China (se. Xizang); HTm – BMNH.
- larvatus* (Gerstaecker, 1873: 309); LT – DEIM (des. by Scholtz 1979a: 188); = *melancholicus* (syn. by Haaf 1954a: 379).
- laticollis* LeConte, 1854: 213; **TT**; USA (Arkansas, Indiana, Iowa, Massachusetts, Nebraska, New Jersey, New York, Pennsylvania); HT – MCZH.
- lecontei* Harold, 1872: 156, n. n. pro *alternans* LeConte, n. praeocc.; = *sonorae* (syn. by Horn 1874: 8).
- leonardii* Pittino, 1983: 277; **TT**; Portugal, Spain, Algeria, Libya, Morocco, Tunisia, Egypt, Israel, Syria; HTm – MSNM, PTm – RPMI.
- leprosus* (Blanchard, 1846: 188); HT – MNHN; = *aeger* (syn. by Harold 1872: 132).
- levis* Haaf, 1953: 325; **TP**; RSA (Cape, Free State); HTf – BMNH, PTs – ISNB.
- liliana* Scholtz, 1980, see ssp. of *caffer*.
- lindemanna* (Petrovitz, 1975: 1); **OA**; Tanzania, e. RSA; HTm – ZSBS; syn. *glaber*.
- litigiosus* (Harold, 1872: 88) (n. n. pro *australasiae* Germar, n. praeocc.); = *alternans* (syn. by Scholtz 1986b: 46).
- litoralis* Pittino, 1991: 77; **TT**; Albania, Bosnia-Herzegovina, Croatia, Montenegro, Serbia, Italy, Malta, Turkey; HT + AT – RPMI, PTs – BMNH, NMPC and other institutions.
- lobicollis* (Arrow, 1927: 466); **OA**; Myanmar, Thailand; STs – BMNH.
- longitarsis* (Harold, 1872: 136); **Pn**; Argentina, Chile; HT – MNHN.
- loxus* (Vaurie, 1955: 58); **OO**; Mexico (Veracruz), Costa Rica, Argentina, Brazil, Colombia; HTf – MCZH; presumed to occur continuously from Mexico to Argentina.
- lucidus* Pittino, 2010: 80; **OO**; Argentina (Buenos Aires); HTf – MSNM; known only from HT.
- lugubris* (Haaf, 1954a: 338); **OA**; se. Kenya, Tanzania; HTm – NHMV.
- luridus* Fabricius, 1781: 496; **TP**; Namibia, RSA (w. Cape); LT – ZMUC (des. by Scholtz 1979a: 194).
- luridus* Rossi, 1790: 17; = *hispidus*.
- lutosus* (Marsham, 1802: 25), as *Scarabaeus*; **TT**, “England”; type lost, **sp. inc. sed.**
- madagascariensis* (Fairmaire, 1871: 34); HT – MNHN; = *melancholicus* (syn. by Harold 1872: 108).
- maindroni* Pittino, 2005: 78; **OA**; Pakistan; HTm + ATf + PTs – MNHN, PT – RPMI.
- maissouri* (Haaf, 1954a: 384), as ssp. of *T. inclusus*; “Vorder-Indien (Maissour, Shimoga), Surada und Burma”; HTm + PTs – MNHN; elevated to species by Pittino (2006: 27).
- mandli* Balthasar, 1931: 128; **TT**; e. Siberia, China (Fujian, Heilongjiang), Japan, South Korea. HT – NMPC, syn. *nishijimai*.
- manilensis* (Schultze, 1915: 271); = *suberosus* (syn. by Haaf 1954b: 739).
- mariae* Scholtz, 1986b: 13; **OO**; Australia (Western Au.); HT – WAMP.
- mariettae* Scholtz, 1986b: 20; **OO**; Australia (Northern Ter.); HT – ANIC.
- marshalli* (Haaf, 1957a: 694); **OO**; Australia (n. Queensland); HTf – NHMB; known only from HT redescribed by Pittino and Kawai (2010).
- martini* Reitter, 1892: 153, as var. of *granulipennis*; **TT**; Spain, Algeria, Libya, Tunisia; LTf – DEIM (des. by Pittino 1983: 274); made available as ssp. of *granulipennis* by Balthasar (1936: 452).
- massaicus* (Kolbe, 1904: 293); LT – MNHB (des. by Scholtz 1980a: 55); = *niloticus niloticus* (syn. by Haaf 1954a: 345).
- massalis* (Harold, 1880: 156); type lost; = *foveolatus* (syn. by Haaf 1954a: 360).

- matsudai* Ochi and Hori, 1999: 37; **TT**; Japan (Amami-Ōshima).
- matsumurai* Miyake and Yamaya, 1995, see ssp. of *uenoi*.
- maurus* Herbst, 1790: 26; **inc. sed.**; patria?
- melancholicus* (Fåhraeus, 1857: 378); **OA**; Angola, Botswana, Cameroon, CAR, Chad, Comoros, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Ivory Coast, Kenya, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, RSA, Rwanda, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Uganda, Zaire, Zambia, Zimbabwe; **LT** – **NHRS** (des. by Scholtz 1979a: 187); syn. *fenestrellus*, *larvatus*, *madagascariensis* [see note under *fenestrellus*].
- mentitor* (Blackburn, 1896: 266); **OO**; Australia (Northern Ter., South Au., Western Au.); **HT** – **MVMA**, “one type” – **BMNH**.
- mictlensis* Deloya, 1995: 153; **OO**; Mexico (Puebla); **HT** + **AT** – **IEXM**.
- miliarius* Gmelin, 1790: 1587; **TP**; RSA (Cape); type lost; undocumented species, which the original description appears to place in the *sulcatus* group of *Trox* (*Phoberus*) – see Scholtz 1980a: 99.
- mirabilis* Pittino, 1987: 391; **Pn**; Argentina, Chile; **HTm** – **RPMI**.
- mitis* Balthasar, 1933: 81; **TT**; e. Siberia, China (Beijing, Heilongjiang), Japan, South Korea; **LT** – **NMPC** (des. by Pittino 2006: 28).
- mixtus* Harold, 1872: 167, as var. of *granulipennis*; **TT**; Cyprus, Turkey, Israel, Lebanon, Syria; **LTm** – **MNHN** (des. by Pittino 1983: 271); syn. *berytensis* Petrovitz; made available as sp. by Pittino 1983: 271 (as ssp. in 1985).
- mollis* (Arrow, 1927: 468); **OO**; Indonesia (Borneo, Sumatra), Malaya; **LT** – **BMNH** (des. by Scholtz 1986b: 38) + **PLT**(1).
- monachus* (Herbst, 1790: 25); **OO**; USA (e. states from the Great Lakes to Florida and w. to Nebraska, Kansas, Oklahoma and e. Texas); **HT** – **MNHB**; syn. *pustulatus*, *tuberculatus* Beauvois.
—*montalbanensis* (Schultze, 1915: 272); = *costatus* (syn. by Haaf 1954a: 390).
- montanus* Kolbe, 1891: 22; **TP**; Kenya, Tanzania, Uganda; **LT** – **BMNH** (des. by Scholtz 1980a: 77).
- monteithi* Scholtz, 1986b: 58; **OO**; Australia (e. Queensland: Kroombit); **HT** – **QMBA**.
—*monticola* Robinson, 1940: 158, as ssp. of *variolatus*; **HT** – **ANSP**; = *variolatus* (syn. by Vaurie 1955: 53).
—*morsus* LeConte, 1854: 216; **HT** – **MCZH**; = *punctatus* (syn. by Horn 1874: 5).
- morticinii* (Pallas, 1781: 11), as *Scarabaeus*; **TT**; sw. Russia, w. to e. Siberia, Kazakhstan, Kyrgyzstan, Turkmenistan, China (Xinjiang); syn. *pinguis*.
- mutabilis* (Haaf, 1954a: 376); **OA**; Botswana, w. Ethiopia, Kenya, Malawi, Mozambique, e. RSA, Tanzania, Uganda, Zaire; **HT** – **NHMB**, **PTs** – **BMNH**.
- mutsuensis* Nomura, 1937: 85; **TT**; Japan; **HTm** – **NSMT**.
- nama* Kolbe, 1908: 125; **TP**; s. Namibia, RSA (nw. Cape); **LTm** – **MNHB** (des. by Scholtz 1979a: 195).
- nanningensis* Pittino, 2005: 71; **OO**; China (Guangxi); **HTm** – **RPMI**; known only from **HT**.
- nanniscus* Péringuey, 1901: 458; **TT**; RSA (e. Cape); **LT** – **SAMC** (des. by Scholtz 1979b: 177).
- nasutus* Harold, 1872: 34; **TT**; RSA (sw. Cape); **HTm** – **MNHN**.
- natalensis natalensis* Haaf, 1954c: 57; **TT**; RSA (se. Natal); **HTm** – **DMSA**.
- natalensis quadricostatus* Scholtz, 1980a: 72; RSA (e. Transvaal); **HTm** – **TMSA**, **PT** – **UPSA**.
- natalensis schaborti* Scholtz, 1980a: 72; RSA (e. Transvaal); **HTm** – **TMSA**.
- necopinus* Scholtz, 1986c: 29, as **TT**; **TP**; nw. Zambia; **HTm** + **PTs** – **BMNH**; closest to *T. squamiger* in the *sulcatus* group, which Scholtz (1986a: 361) transferred to *Trox* (*Phoberus*).
- neumannii* (Kolbe, 1904: 293); **LTm** – **MNHB** (des. by Scholtz 1980a: 51); = *denticulatus* (syn. by Haaf 1954a: 354).
- neuquen* (Vaurie, 1962: 123); **Pn**; Argentina, Chile; **HTm** + **PTm** – **MNHB**, **PTf** – **CMNO**.
—*nidicola* Bonnaire, 1881: 63; = *perrisii*.
- niger* Rossi, 1792: 9; **TT**; Europe, Siberia, Kazakhstan, Kyrgyzstan, Turkey; **NTf** – **MNHB** (des. by Pittino 1991: 65); syn. *asiaticus*.
—*nigrescens* (Robinson, 1941a: 134); **HTm** – **ANSP**; = *tesselatus* (syn. by Vaurie 1955: 7).
- nigrociliatus nigrociliatus* Kolbe, 1904: 292; **TP**; Ethiopia (highlands); **LT** – **MNHB** (des. by Scholtz 1980a: 92); syn. *asmaraensis*.
- nigrociliatus nyansanus* Haaf, 1953: 330; Kenya, Rwanda, e. Zaire (lake areas); **HTm** – **MNHB**.
- nigrociliatus nyassicus* Haaf, 1953: 330; e. Tanzania (montane); **HTm** – **MNHB**.

- nigroscobinus* Scholtz, 1986b: 20; **OO**; Australia (Western Au.); HTf – ANIC; male unknown.
- niloticus niloticus* (Harold, 1872: 79); **OA**; Djibouti, Ethiopia, Kenya, Madagascar, Somalia, Sudan, Tanzania Uganda [S of 15°N]; LTf – MNHN (des. by Scholtz 1980a: 55); syn. *erlangeri*, *massaicus*.
- niloticus desertorum* (Harold, 1872: 77), as sp., demoted to ssp. by Haaf (1954a: 347); Arabia, Egypt, Eritrea [N of 15°N]; LTf – MNHN (des. by Scholtz 1980a: 56); syn. *philbyi*.
- niponensis* Lewis, 1895: 387; Japan, Taiwan, Nepal, + Oriental; **TT**; HT – BMNH; syn. with *T. scaber* by Arrow (1912: 61), reinstated by Pittino (2006: 80) without explanation.
- nishijimai* Nakane and Tsukamoto, 1955: 90; = *mandli*.
- nobilis* (Wollaston, 1867: 93); = *suberosus* (syn. by Harold 1872: 120).
- nocheles* Scholtz, 1990b: 1412; **OO**; Argentina (Río Negro); HTm + PTm – LACM.
- nodicollis* (MacLeay, 1888: 908); **OO**; Australia (Western Au.); LT – ANIC (des. by Scholtz 1986b: 56); doubtful species that may prove to be *O. subcarinatus*.
- nodosus* (Robinson, 1940: 152); **OO**; USA (New Mexico, w. Texas), Mexico (n. Chihuahua); HTm – ANSP.
- nodulosus* Harold, 1872: 165, as var. of *hispidus*; **TT**; France (Corsica), Italy (Sardinia); LTm – DEIM (des. by Pittino 1991: 69); made available as ssp. by Schmidt (1936: 76).
- nohirai* Nakane, 1954: 10; **TT**; Japan; HT – NSMT.
- nomadicus* (Scholtz, 1980b: 138); = *verrucosus* (syn. by Pittino 2006: 28).
- novaecaledoniae* (Balthasar, 1966: 184); HT?, PTs(4) – NMPC; = *suberosus* (syn. by Scholtz 1986b: 54).
- nyansanus* Haaf, 1953, see ssp. of *nigrociliatus*.
- nyassicus* Haaf, 1953, see ssp. of *nigrociliatus*.
- obesus* (Scholtz, 1980a: 30); **OA**; Djibouti, Ethiopia, Kenya, Tanzania, Uganda; HT + PTs – BMNH.
- obscurus* (Waterhouse, 1875: 98); HT – BMNH; = *chinensis* (syn. by Arrow 1927: 466).
- occidentalis* Pittino, 1987: 395, as ssp. of *parafurcatus*; = *parafurcatus* s. str. (syn. by Scholtz 1990b: 1441); HTm – MNHN, PTm – RPMI.
- oligonus* (Loomis, 1922: 133); HT – USNM; = *texanus* (syn. by Vaurie 1955: 75).
- omacanthus* (Harold, 1872: 64); **OA**; India (Sikkim, Uttar Pradesh, West Bengal, c. states); type lost?
- opacotuberculatus* Motschulsky, 1860: 41; **TT**; e. Siberia, China (Heilongjiang), Taiwan, Japan, Korean peninsula; type – ZMUM?
- opacus* Felsche, 1909: 450; LT – SMTD (des. by Scholtz 1980a: 74); = *pusillus* (syn. by Haaf 1953: 341).
- oustaleti* Scudder, 1879: 178B; **n. dubium; fossil** (Eocene), Nine-Mile Creek, BC, Canada.
- ovalis* (Haaf, 1957b: 117); **OO**; Australia (Northern Ter.); HTf – MVMA; male unknown.
- ovatus* (Beauvois, 1805: 175); = *suberosus* (syn. by Harold 1872: 120).
- pampeanus* (Burmeister, 1876: 255); **Pn**; Argentina; ST(4) – MACN.
- parafurcatus* Pittino, 1987: 395; **Pn**; Argentina, Brazil; HT + PTs – MNHN; syn. *furcillifer*, *parafurcatus occidentalis*.
- parvicollis* Scholtz, 1986b: 35; **OO**; Australia (New South Wales, Northern Ter., Victoria, Queensland); HT – ANIC.
- parvisetosus* Ochi, Kon and Bai, 2010: 131; **TT**; China (Sichuan); HTm + PTs – CASB.
- pastillarius* (Blanchard, 1846: 187); **OO**; Argentina, Bolivia, Chile; HT – MNHN?
- patagonicus* (Blanchard, 1846: 186); **Pn**; Argentina, s. Brazil; HT – MNHN?
- patriciae* Pittino, 1987: 386; **Pn**; Argentina, Uruguay; HTm + PTm – RPMI.
- pauliani* (Haaf, 1954a: 385); **OA**; China (Henan, Hong Kong, Hubei, sw. China), India (Sikkim, West Bengal), Nepal, Sri Lanka, Cambodja, n. Vietnam, Annam, Indonesia (Java); HTm – NHMV, PTs – BMNH.
- pectinatus* (Pallas, 1781: 10), as *Scarabaeus*; type lost; = *horridus* (syn. by Harold 1872: 36).
- pedestris* (Harold, 1872: 128); **Pn**; Argentina; HT – MNHN?; syn. *denticulatus* Blanchard (n. praecoc.).
- pellosomus* Scholtz, 1986b: 27; **OO**; Australia (New South Wales, Victoria); HT – ANIC, PTs – BMNH.
- penicillatus* Fåhræus, 1857: 383; **TP**; RSA; LTm – NHRS (des. by Scholtz 1980a: 81).
- perhispidus* (Blackburn, 1904: 296); **OO**; Australia (all states except Tasmania); HT – BMNH.
- perlatus* (Goeze, 1777: 74), as *Scarabaeus*; **TT**; Europe, Algeria; syn. *chevrolati*, *sabulosus* Olivier, *subterraneus*.

- perrieri* Fairmaire, 1899: 519; **TT**; Madagascar; HTm – MNHN; not considered by Scholtz (1986a: 361), but compared by Haaf (1953: 342) to *T. (T.) pusillus* and therefore hereby placed in *Trox* s. str. rather than in subgenus *Phoberus* (see also Pittino 2010: 80).
- perrisii* Fairmaire, 1868: 482; **TT**; Europe, Turkey, Algeria, Morocco; syn. *haroldi*, *nidicola*.
- persuberosus* (Vaurie, 1962: 145); **OO**; Argentina, Bolivia, Brazil, Paraguay, Peru, Uruguay; HTm + PTs – SASP and other institutions.
- peruanus* (Erichson, 1847: 111); **Pn**; Argentina, Bolivia, Chile, Peru; LTm – MNHB.
- philbyi* (Paulian, 1948: 143); HTm – MNHN; = *niloticus desertorum* (syn. by Haaf 1954a: 347).
- pilularius* (Germar, 1824: 113); **Pn**; Argentina, Bolivia, Brazil, Chile, Paraguay, Uruguay; HT – MLUH?
- pinguis* Faldermann, 1835b: 369; = *morticinii*.
- placosalinus* Ren, 2003: 112; **TT**; China (Xinjiang); HT – CASB?
- planicollis* Haaf, 1953: 337; **TP**; Lesotho, Namibia, RSA (Cape), Zimbabwe; HTm – NHMB.
- platycyphus* (Loomis, 1922: 133); HT – USNM; = *umbonatus* (syn. by Robinson 1940: 150).
- plicatus* Robinson, 1940: 153; **TT**; USA (Arizona, New Mexico, Texas), Mexico (most states); HT – ANSP.
- ponderosus* (Péringuey, 1901: 467); **OA**; Ethiopia, Mozambique, e. RSA, Tanzania, Zimbabwe; type lost.
- porcatus* Say, 1825: 193; = *unistriatus* (syn. by Harold 1872: 174).
- poringensis* Ochi, Kon and Kawahara, 2005: 65; **TT**; Borneo (Sabah), Java; HTf – UMBS; male described by Pittino and Kawai (2006: 7).
- principalis* (Haaf, 1954a: 337), as ssp. of *guttalis* (elevated to species by Scholtz 1980a: 43); **OA**; n. Cameroon, Chad, e. Nigeria, Sudan; HTm – NHMB.
- procerus* (Harold, 1872: 127); **OA**; Arabia, n. Burkina Faso, Chad, Egypt, Ethiopia, c. India, Iran, Mali, Niger, ne. Nigeria, Pakistan, Senegal Somalia, Sudan; LT – MNHN (des. by Scholtz 1980a: 35).
- punctatus* (Germar, 1824: 113); **OO**; USA (w. states from Montana, Utah and California e. to the Mississippi River; also Kentucky, Ohio, Mississippi), Mexico (Aguascalientes, Baja, Chihuahua, Durango, Guanajuato, Nuevo León, Sonora); syn. *integer*, *morsus*.
- punctatus* LeConte, 1854: 215; HT – MCZH? [not found by Vaurie (1955: 61)]; = *suberosus* (syn. by Harold 1872: 120).
- puncticollis* Haaf, 1953: 330; **TP**; Arab Emirates, Yemen; HTm – ZSBS, PTs – MNHN; Pittino 2006: 81 lists it in *Trox* s. str.
- pusillus* Péringuey, 1908: 634; **TT**; Angola, Benin, Congo (DRC), Gabon, Ghana, Guinea, Ivory Coast, Liberia, Sierra Leone, Tanzania, Uganda, Zaire, Zambia, Zimbabwe; LT – SAMC (des. by Scholtz 1980a: 74); syn. *opacus*, *pusio*, *urbani*.
- pusio* Kolbe, 1914: 288; LT – MNHB; = *pusillus* (syn. and LT des. by Scholtz 1980a: 74).
- pustulatus* LeConte, 1854: 215; HT – MCZH; = *monachus* (syn. by Harold 1872: 116).
- quadricostatus* Scholtz, 1980, see ssp. of *natalensis*.
- quadridens* (Blackburn, 1892: 38); **OO**; Australia (all states except Tasmania); LT – BMNH (des. by Scholtz 1986b: 41).
- quadrinodulatus* Ballion, 1871: 338; **TT**; Israel, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan; type – ZMAS?, ZMUM?
- quadrinodosus* (Haaf, 1954b: 723); **OO**; Australia (Capital Ter., New South Wales, Queensland, Victoria); HT – MNHB, PTs – BMNH.
- radula* (Erichson, 1843: 235); **OA**; Angola, Botswana, Kenya, Mozambique, Namibia, e. RSA, Tanzania, Zimbabwe; LTm – MNHB (des. by Scholtz 1979a: 190); syn. *variolosus*.
- raduloides* (Kolbe, 1904: 292); LT – MNHB; = *tuberosus* (syn. and LT des. Scholtz 1980a: 44).
- ranavalo* (Paulian, 1937: 134); HT – BMNH; = *sallei* (syn. by Vaurie 1962: 130).
- ranotsaraensis* Pittino, 2010: 77; **MT**; sw. Madagascar; HTf – MNHN; no other material.
- regalis* (Haaf, 1954b: 704); **OO**; “Australia”; HTm – MNHN; known only from HT.
- regularis* (Harold, 1868: 85); = *costatus* (syn. by Harold 1872: 115).
- reiterorum* Král and Kubán, 2012: 148; **OA**; Socotra I.; HT + AT + PTs – NMPC.
- rhyparoides* Harold, 1872: 32; **TT**; Lesotho, RSA, St. Helena I. (intro.); LT – MNHN (des. by Scholtz 1980a: 73); syn. *whiteheadi*.

- rimulosus* (Haaf, 1957a: 693); **OA**; India (“Vorder-Indien: Coromandel”); HTm – NHMB.
- robinsoni* Vaurie, 1955: 47; **TT**; Canada (Alberta, Manitoba, Saskatchewan), USA (c. states s. to Texas; also Colorado, Illinois, Michigan, Minnesota, Wisconsin); HT + AT + PTs – AMNH, PTs also at other institutions.
- rotundulus* (Haaf, 1957b: 117); **OO**; Australia (Northern Ter., Western Au.); HT – MVMA
- rowei* Scholtz 1980, see ssp. of *fascicularis*.
- rubricans* (Robinson, 1946: 57); **OO**; USA (se. Texas), Mexico (widespread), Guatemala (w. coast), Nicaragua (w. coast); HTm – CASC.
- rudebecki* Haaf, 1958a: 474; **TT**; Lesotho, RSA (sw. Cape, w. Natal); HTm – MZLU.
- rusticus* (Fåhraeus, 1857: 379); **OA**; Namibia, e. RSA, Zimbabwe; LT – NHRS (des. Scholtz 1979a: 191); syn. *damarinus*.
- sabulosus sabulosus* (Linné, 1758: 350), as *Scarabaeus*; **TT**; Europe, Siberia, Kazakhstan, Mongolia, Korean peninsula, Turkey, Syria; type – ZMUU?; syn. *femoratus*.
- sabulosus fujiokai* Ochi, 2000: 43; Japan (Honshu).
- sabulosus* Olivier, 1789: no. 4: 8; = *perlatus*.
- sabulosus* Preyssler, 1790: 48; = *hispidus*.
- salebrosus* (MacLeay, 1871: 186); **OO**; Australia (Northern Ter., Queensland, Western AU.); LT – AMSA (des. by Scholtz 1986b: 32); syn. *vitreomaculatus*.
- sallei* (Harold, 1872: 138); **Pn**; Bolivia, Ecuador, Peru; HT – MNHN; syn. *ranavalo*.
- satorui* Kawai, 2006: 1; **OA**; RSA (Cape), Ivory Coast; HTm – NSMT.
- scaber* (Linné, 1767: 573); **TT**; Europe, Siberia, n. Africa, Canary Is., Canada, USA, Argentina, Chile (recorded but not established in Chile, see Diéguez 2008), Australia, Borneo (Sabah); type – ZMUU?; syn. *arenarius*, *arenosus*, *barbosus*, *hispidus* Paykull, *niponensis*, *trisulcatus*.
- scabrosus* (Beauvois, 1805: 175); **OO**; Canada (Ontario), USA (from New York to Florida and w. to Nebraska, Colorado, Kansas, Oklahoma and Texas).
- schaborti* Scholtz, 1980, see ssp. of *natalensis*.
- scutellaris* (Say, 1823: 238); **OO**; USA (Arizona, Colorado, Kansas, New Mexico, ne. Utah, Texas), Mexico (Chihuahua, Coahuila, D.F., Durango, Morelos, Puebla, Sonora); LT? – MCZH.
- semicostatus* (MacLeay, 1871: 186); **OO**; Australia (Capital Ter., New South Wales, Queensland, Western AU.); LT – ANIC (des. by Scholtz 1986b: 31); syn. *asperrimus*.
- semmelinki* (Lansberge, 1887: 200); = *squamosus* (syn. by Scholtz 1986b: 53).
- senegalensis* (Scholtz, 1983: 205); **OA**; Senegal; HTm – TMSA, PTf – UPSA (types only).
- serrulatus* Beauvois, 1805: 176; = *tuberculatus* DeGeer (syn. by Harold 1872: 155).
- setifer* Waterhouse, 1875: 98; **TT**; Japan, South Korea; LT + PLT – BMNH; syn. *aino*.
- setosipennis* (Blackburn, 1904: 292); **OO**; Australia (New South Wales, Northern Ter., Queensland, South Au.); LT – BMNH (des. by Scholtz 1986b: 23).
- setulosus* Kolbe, 1891: 23; HTm – MNHB; = *squamiger* (syn. by Haaf 1953: 326).
- seymourensis* (Mutchler, 1925: 229); **Pn**; s. + c. Galapagos; HT – AMNH.
- sibericus* Nikolaev, 2007: 104f, 215, 220; **Trox inc. sed.**; **fossil** (Early Cretaceous), Siberia.
- silphoides* Thunberg, 1787: 38; type – ZMUU?; = *horridus* (syn. by Harold 1872: 36).
- simi* Robinson, 1940; ssp. of *spinulosus*.
- sonorae* LeConte, 1854: 211; **TT**; Canada (Alberta, Northwest Ter., Saskatchewan), USA (e. to South Dakota, Nebraska, Kansas and Texas; also California, Louisiana, Missouri), Mexico (Chihuahua, Durango, Nuevo León, Sonora, Zacatecas); HT – MCZH; syn. *alternans* LeConte, *lecontei*.
- sordidatus* Balthasar, 1936: 452, as ssp. of *granulipennis*; **TT**; Bulgaria, Croatia, Greece, Syria, Turkey; HTm[ST?] – NMPC (elevated to species by Pittino 1983: 277).
- sordidus* LeConte, 1854: 211; **TT**; Canada (Ontario, Quebec), USA (most e. states and w. to Kansas and Texas); HT [=LT] – MCZH.
- spatulatus* (Vaurie, 1962: 151); **OO**; Argentina; HTm – NHMB, PTs – CMNO.
- speculifer* (Heller, 1914: 317); = *squamosus* (syn. by Scholtz 1986b: 53).
- spinulosus spinulosus* Robinson, 1940: 156; **TT**; Canada (Ontario), USA (from Michigan to Tennessee and w. to Nebraska; also Arkansas, Louisiana); HT – ANSP.

- spinulosus dentibius* Robinson, 1940: 156, as sp. (reduced to ssp. by Vaurie 1955: 36); USA (Arizona, New Mexico, w. Texas), Mexico (Baja, Chihuahua, Coahuila, Durango, Michoacán, Morelos, Nuevo León); HT – ANSP; intergrades with *spinulosus* s. str. in sc. Texas.
- spinulosus simi* Robinson, 1940: 157, as species (reduced to ssp. by Vaurie 1955: 36); USA (e. states from Pennsylvania and New Jersey s. to Virginia); HT – ANSP.
- squalidus* (Olivier, 1789: 12); **OA**; Afrotropical: continent-wide and Madagascar; LTm – TMSA (des. Scholtz 1979a: 187); syn. *gonoderus, incultus*.
- squamiger* Roth, 1851: 133; **TP**; Burundi, Cameroon, Ethiopia, Kenya, RSA, Rwanda, Somalia, Tanzania, Uganda, Zaire, Zimbabwe [listed also from the Arab Emirates and Yemen, see Pittino 2006: 81]; LTf – ZSMC (des. by Scholtz 1980a: 90); syn. *angulatus, setulosus*.
- squamosus* (MacLeay, 1871: 186); **OO**; e. Australia, e. Papua New Guinea; LT – ANIC (des. by Scholtz 1986b: 53); syn. *semmelinki, speculifer*.
- stellatus* (Harold, 1872: 92); **OO**; Australia (Western Au.); HT – NHMV.
- strandii* Balthasar, 1936: 452; **TT**; Algeria, Libya, Morocco, Tunisia; HT[ST?] – NMPC.
- striatus* Melsheimer, 1846: 137; **TT**; Canada (Ontario), USA (Arkansas, Illinois, New Jersey, Pennsylvania); HT – MCZH? (not found by Vaurie 1955: 32).
- strigosus* Haaf, 1953: 319; **TT**; RSA (e. Cape, Free State, se. Transvaal); HTm – NHMB, PTs – BMNH.
- strzeleckensis* (Blackburn, 1895: 33); **OO**; Australia (all states except Tasmania); LT – BMNH (des. by Scholtz 1986b: 24).
- subcarinatus* (MacLeay, 1864: 128); **OO**; Australia (all states except Tasmania), Papua New Guinea; LT – ANIC (des. by Scholtz 1986b: 51); syn. *fenestratus, nodicollis?*
- suberosus* (Fabricius, 1775: 31); **OO**; New World, Australia, Oceania; HTm – BMNH; syn. *alternatus, crenatus, denticulatus, gibbus, manilensis, nobilis, novaecaledoniae, ovatus, punctatus* LeConte, *torresalei, tricolor, triestinae, tuberosus* Castelnau.
- subterraneus* (Geoffroy, 1785: 8), as *Scarabaeus*; = *perlatus*.
- sugayai* Masumoto and Kiushi, 1995: 206; **TT**; s. Japan.
- sulcatus* Thunberg, 1787: 38; **TP**; Namibia, RSA, Zimbabwe; type(s) – ZMUU; syn. *instabilis*.
- suturalis* LeConte 1854: 214; LTm – MCZH (des. by Robinson 1940: 150); = *texanus* (syn. by Vaurie 1955: 75).
- taiwanus* Masumoto, Ochi and Li, 2005: 233; **TT**; c. Taiwan.
- talpa* Fåhraeus, 1857: 380; **TP**; RSA (e. Cape, Natal); HT – NHRS.
- tasmanicus* (Blackburn, 1904: 292); **OO**; Australia (Tasmania + Flinders I.); HT – BMNH.
- tatei* (Blackburn 1892: 37); **OO**; Australia (New South Wales, South Au., Western Au.); LT – BMNH (des. by Scholtz 1986b: 11).
- tenebrosus* (Harold, 1872: 130); **Pn**; Ecuador; HTm – MNHN.
- terrestris* Say, 1825: 192; **TT**; USA (Pennsylvania and Atlantic coast states from Massachusetts s. to Mississippi and Florida); types destroyed.
- tesselatus* LeConte, 1854: 216; **OO**; USA (Arizona, Kansas, New Mexico, Texas), Mexico (Baja, Guerrero, Morelos, Sinaloa, Sonora); LTm – MCZH (des. by Robinson 1940: 151); syn. *nigrescens*.
- testudo* (Arrow, 1927: 466); **OA**; India, Pakistan; HTm – BMNH.
- texanus* LeConte, 1854: 214; **OO**; USA (New Mexico, s. Texas), Mexico (Nuevo León, Tamaulipas); LTf – MCZH (des. by Robinson 1940: 150).
- tibialis* Masumoto, Ochi and Li, 2005: 235; **TT**; Taiwan.
- tomentosus* (Robinson, 1941a: 135); **OO**; Mexico (Nayarit, Oaxaca, Sinaloa, Sonora); HTm – ANSP.
- torresalei* (Báguena Corella, 1959: 212); = *suberosus* (syn. by Scholtz 1982: 14).
- transversus* Reiche, 1856: 405; **TT**; Greece; LT – HNHM (des. by Pittino 2006: 28); syn. *demaisioni, graecus*.
- tricolor* (Blackburn, 1904: 296); type – BMNH; = *suberosus* (syn. by Arrow 1927: 466).
- triestinae* Pittino, 1987: 378; HTm – MNHN; = *suberosus* (syn. by Scholtz 1990b: 1407).
- trilobus* (Haaf, 1954b: 727), as ssp. of *candidus*; **OO**; Australia (all states except Western Au. and Tasmania), Papua New Guinea; HT + PTs – BMNH.
- trisulcatus* Curtis, 1845: 446; HT – BMNH; = *scaber* (syn. by Harold 1872: 183).

- tuberculatus* (DeGeer, 1774: 318), as *Scarabaeus*; **TT**; USA (from Massachusetts s. to extreme nw. Florida and w. to e. Texas, e. Kansas and Nebraska; also Arizona, New Mexico, Wyoming); syn. *canaliculatus*, *serrulatus*.
- tuberculatus* (Beauvois, 1805: 175); = *monachus* (syn. by Harold 1872: 116).
- tuberosus* (Castelnau, 1840: 107); = *suberosus* (misspelling, see Vaurie 1955: 60).
- tuberosus* (Klug, 1855: 657); **OA**; Botswana, Ethiopia, Kenya, Mozambique, e. RSA, Tanzania, Uganda, Zaire; LTm – MNHB (des. by Scholtz 1980a: 44); syn. *raduloides*.
- tytus* (Robinson, 1941b: 228); **OO**; USA (Arizona, Georgia, Oklahoma, Pennsylvania), Cuba; HTm – ANSP, PT – BMNH; known only from nests of barn owl (*Tyto alba pratincola*).
- uenoi uenoi* Nomura, 1961: 70; **TT**; Japan (Tokuno-shima Is.); HTm – NSMT.
- uenoi matsumurai* Miyake and Yamaya, 1995: 31; Japan (Okinawa-shoto).
- umbonatus* LeConte, 1854: 214; **OO**; USA (Arizona, New Mexico, Texas, Utah), Mexico (Chihuahua, Coahuila, Nuevo León, Tamaulipas); LTm – MCZH (des. by Robinson 1940: 150); syn. *confluentus*, *platycyphus*.
- undulatus* Zoubkoff, 1829: 158; = *cadaverinus cadaverinus*.
- unguicularis* (Haaf, 1954a: 369); **OA**; Mozambique, ne. RSA, e. Zimbabwe; HTf – NHMB, PTs – BMNH, FMNH and other institutions.
- unistriatus* Beauvois, 1805: 175; **TT**; Canada (all provinces except British Columbia), USA (s. to Colorado in the west and to North Carolina in the east; also sw. Arkansas, Florida, Louisiana, Texas); syn. *porcatus*.
- urbani* Miksic, 1958: 15; type lost; = *pusillus* (syn. by Scholtz 1980a: 74).
- ussuriensis* Balthasar, 1931: 129; **TT**; Siberia, Mongolia, China (Heilongjiang), Korean peninsula; STs(2) – NMPC.
- varicosus* (Erichson, 1843: 235); **OA**; w. Angola; LTm – ISNB (des. by Scholtz 1980a: 63).
- variolatus* Melsheimer, 1846: 138; **TT**; Canada (New Brunswick, Nova Scotia, Ontario, Quebec), USA (e. states w. to Kansas, Oklahoma and Texas; also Iowa); HT – MCZH; syn. *erinaceus*, *variolatus monticola*.
- variolosus* (Fåhraeus, 1857: 378); LT – NHRS (des. Scholtz 1980a: 47), PLT(1) – BMNH; = *radula* (syn. by Harold 1872: 68).
- velutinus* (Blackburn, 1892: 40); HT – BMNH; = *costatus* (syn. by Haaf 1954b: 734).
- verrucosus* (Reiche, 1856: 404); **OA**; e. Africa incl. Egypt, Arabian peninsula, Iran Iraq; LTm – MNHN (des. by Pittino 2006: 28), “one type” – BMNH; syn. *nomadicus*; considered a synonym of *denticulatus* (Olivier) by Harold (1872), Arrow (1927), Haaf (1954a) and Scholtz (1980a, 1982), revalidated by Pittino (2006: 28).
- villosus* (Haaf, 1954b: 728); **OO**; Australia (Northern Ter., Queensland, Western Au.); HT – MNHB, PTs – BMNH.
- vimmeri* Balthasar, 1931: 130; **TT**; e. Siberia, Mongolia, China (Beijing), South Korea; HT[ST?] – NMPC; revived from synonymy of *T. ineptus* by Pittino (2006: 27).
- vitreomaculatus* (MacLeay, 1888: 909); = *salebrosus* (syn. by Blackburn 1904: 284).
- vladislavi* Kawai, 2009: 73; **OO**; Australia (n. Queensland); HT – QMBA, AT + PTs – VMPC?
- whiteheadi* Wollaston, 1877: 61; HT – BMNH; = *rhyparoides* (syn. by Haaf 1953: 340).
- wittei* (Haaf, 1955a: 47), as ssp. of *guttalis* (elevated to species by Scholtz 1980a: 43); **OA**; Angola, Namibia, Tanzania, s. Zaire, Zambia, Zimbabwe; HTm – ISNB.
- yamayai* Nakane, 1983: 139; **TT**; Japan (Ryukyus: Iriomote I.); HTm – TNCJ.
- yangi* Masumoto, Ochi and Li, 2005: 238; **TT**; n. Taiwan.
- youngai* Struempfer and Scholtz, 2011: 337; **TT**; RSA (possibly extinct).
- zoufali* Balthasar, 1931: 131; **TT**; e. Siberia, China (Beijing, Hubei), North Korea, Oriental; HT[ST?] – NMPC.
- zumpti* (Haaf, 1957a: 692); **OA**; Botswana, Kenya, Namibia, e. RSA, Zimbabwe; HTm + PTs – NHMB.

Lists of valid species by genera and subgenera

Subspecies, nomina dubia and fossil species indeterminate to subgenus omitted. Limits of biogeographic regions after Löbl and Smetana (2006: 12, map 1). Af–Afrotropical, Au–Australian, Md–Madagascan, Na–Nearctic, Nt–Neotropical, Or–Oriental, Pa–Palearctic. L–larva known.

Trox (Trox)

- acanthinus* Harold, Nt
aequalis Say, Na-Nt L
affinis Robinson, Na
alpigenus Zhang, Pa
aproximans Escalera, Pa
atrox LeConte, Na-Nt L
boucomonti Paulian, Pa-Or
brahminus Pittino, Pa-Or
cadaverinus Illiger, Pa
cambeforti Pittino, Pa
cambodjanus Pittino, Or
capensis Scholtz, Af L
capillaris Say, Na
clathratus Reiche, Pa
confluens Wollaston, Pa
contractus Robinson, Na
cotodognanensis Compte, Pa
cribrum Gené, Pa L
dhaulagiri Paulus, Pa
eversmanni Krynicki, Pa
eximius Faldermann, Pa
fabricii Reiche, Pa
fascicularis Wiedemann, Af L
fascifer LeConte, Na L
floridanus Howden and Vaurie, Na
formosanus Nomura, Pa
foveicollis Harold, Na L
frontera Vaurie, Na L
gansuensis Ren, Pa
gemmulatus Horn, Na-Nt
granulipennis Fairmaire, Pa-Af
hamatus Robinson, Na
hispanicus Harold, Pa
hispidus (Pontoppidan), Pa L
horiguchii Ochi and Kawahara, Pa
inadai Ochi et al., Pa
ineptus Balthasar, Pa
insularis Chevrolat, Nt
iranicus Petrovitz, Pa
jeanae Scholtz et al., Or
klapperichi Pittino, Pa
koreanus Kim, Pa
kyotensis Ochi and Kawahara, Pa
lama Pittino, Pa
laticollis LeConte, Na
leonardii Pittino, Pa
litoralis Pittino, Pa
mandli Balthasar, Pa
martini Reitter, Pa
matsudai Ochi and Hori, Pa
mitis Balthasar, Pa
mixtus Harold, Pa
morticinii (Pallas), Pa
mutsuensis Nomura, Pa
nanniscus Péringuey, Af
nasutus Harold, Af
natalensis Haaf, Af
necopinus Scholtz, Af
niger Rossi, Pa
niponensis Lewis, Pa-Or
nodulosus Harold, Pa
nohirai Nakane, Pa
opacotuberculatus Motschulsky, Pa
parvisetosus Ochi et al., Pa
perlatus (Goeze), Pa L
perrieri Fairmaire, Md
perrisii Fairmaire, Pa
placosalinus Ren, Pa
plicatus Robinson, Na-Nt L
puncticollis Haaf, Af
pusillus Péringuey, Af
quadrinaculatus Ballion, Pa
rhyparoides Harold, Af L
robinsoni Vaurie, Na L
rudebecki Haaf, Af
sabulosus (Linné), Pa L
scaber (Linné), subcosmopolitan L
setifer Waterhouse, Pa
sonorae LeConte, Na-Nt L
sordidatus Balthasar, Pa
sordidus LeConte, Na L
spinulosus Robinson, Na-Nt L
squamiger Roth, Pa
strandii Balthasar, Pa
striatus Melsheimer, Na
strigosus Haaf, Af
sugayai Masumoto and Kiushi, Pa
terrestris Say, Na
transversus Reiche, Pa
tuberculatus (DeGeer), Na L
uenoi Nomura, Pa
unistriatus Beauvois, Na L
ussuriensis Balthasar, Pa
variolatus Melsheimer, Na-Nt L
vimmeri Balthasar, Pa

Trox (*Trox*), continued

yamayai Nakane, Pa
youngai Struempfer and Scholtz, Af
zoufali Balthasar, Pa-Or

***Trox* (*Madagatrox*)** [monobasic]

ranotsaraensis (Pittino), Md

***Trox* (*Phoberus*)** [all Af]

aculeatus Harold
arcuatus Haaf
braacki Scholtz
brincki Haaf
caffer Harold
consimilis Haaf L
cyrtus Haaf
gunki Scholtz
horridus Fabricius
levis Haaf
luridus Fabricius
miliarius Gmelin
montanus Kolbe
nama Kolbe
nigrociliatus Kolbe
penicillatus Fåhraeus
planicollis Haaf
squamiger Roth L
sulcatus Thunberg
talpa Fåhraeus

***Omorgus* (*Haroldomorgus*)** [monobasic]

badeni (Harold), Nt

***Omorgus* (*Omorgus*)**

alatus (MacLeay), Au
alius Scholtz, Au
alternans (MacLeay), Au
amictus (Haaf), Au
aphanocephalus Scholtz, Au
asper LeConte, Na-Nt L
augustae (Blackburn), Au
australasiae (Erichson), Au
batesi (Harold), Nt
birmanicus (Arrow), Or
borrei (Harold), Nt
brucki (Harold), Au
candezei (Harold), Nt
candidus (Harold), Au
capillaceus Scholtz, Nt
carinatus (Loomie), Na-Nt L
carinicollis Scholtz, Au
ciliatus (Blanchard), Nt
costatus (Wiedemann), Au-Or L
crotchi (Harold), Au

curvipes (Harold), Au
demarzi (Haaf), Au
dilaticollis (MacLeay), Au
dohrni (Harold), Au
elderi (Blackburn), Au
elongatus (Haaf), Au
euclensis (Blackburn), Au
eyrensis (Blackburn), Au
fuliginosus (Robinson), Na-Nt L
gigas (Harold), Au
granuliceps (Haaf), Au
howdenorum Scholtz, Au
howelli (Howden and Vaurie), Na-Nt
indigenus Scholtz, Nt
inflatus (Loomie), Na-Nt L
insignicollis (Blackburn), Au
loxus (Vaurie), Nt
lucidus Pittino, Nt
mariae Scholtz, Au
mariettae Scholtz, Au
marshalli (Haaf), Au
mentitor (Blackburn), Au
mictlensis Deloya, Nt
mollis (Arrow), Or
monachus (Herbst), Na-Nt L
monteithi Scholtz, Au
nanningensis Pittino, Pa
nigroscobinus Scholtz, Au
nocheles Scholtz, Nt
nodicollis (MacLeay), Au
nodosus (Robinson), Na-Nt
ovalis (Haaf), Au
parvicollis Scholtz, Au
pastillarius (Blanchard), Nt
pellosomus Scholtz, Au
perhispidus (Blackburn), Au
persuberosus (Vaurie), Nt L
punctatus (Germar), Na-Nt L
quadridens (Blackburn), Au
quadrinodosus (Haaf), Au
regalis (Haaf), Au
rotundulus (Haaf), Au
rubricans (Robinson), Na-Nt L
salebrosus (MacLeay), Au
scabrosus (Beauvois), Na-Nt
scutellaris (Say), Na-Nt L
semicostatus (MacLeay), Au
setosipennis (Blackburn), Au
spatulatus (Vaurie), Nt
squamosus (MacLeay), Au
stellatus (Harold), Au
strzeleckensis (Blackburn), Au
subcarinatus (MacLeay), Au
suberosus (Fabricius), Na-Nt-Au L

Omorgus (Omorgus), continued

tasmanicus (Blackburn), Au
tatei (Blackburn), Au
tesselatus LeConte, Na-Nt
texanus LeConte, Na-Nt L
tomentosus (Robinson), Nt
trilobus (Haaf), Au
tytus (Robinson), Na-Nt
umbonatus LeConte, Na-Nt
villosus (Haaf), Au
vladislavi Kawai, Au

Omorgus (Afromorgus)

acinus (Scholtz), Af
amitinus (Kolbe), Af
asperulatus (Harold), Af L
baccatus (Gerstaecker), Af
borgognoi (Marchand), Af
chinensis (Boheman), Pa-Or
consanguineus (Péringuey), Af
denticulatus (Olivier), Af
discedens (Haaf), Af
elevatus (Harold), Af
endroedyi (Scholtz), Af
expansus (Arrow), Af
foveolatus (Boheman), Af
frater Pittino, Pa-Or
freyi (Haaf), Af L
funestus (Lansberge), Af
gemmatus (Olivier), Pa-Af
genieri Scholtz, Af
granulatus (Herbst), Pa-Or
guttalis (Haaf), Pa-Af
haagi (Harold), Pa-Or
inclusus (Walker), Pa-Or
indicus (Harold), Or
inermis Pittino, Or
insignis (Haaf), Af
italicus (Reiche), Pa-Or
*lindemanna*e (Petrovitz), Af
lobicollis (Arrow), Or
lugubris (Haaf), Af
maindroni Pittino, Pa
melancholicus (Fåhraeus), Pa-Af-Md L
mutabilis (Haaf), Af
niloticus (Harold), Pa-Af
obesus (Scholtz), Af
omacanthus (Harold), Pa-Or
pauliani (Haaf), Pa-Or
ponderosus (Péringuey), Af
principalis (Haaf), Af
procerus (Harold), Af-Pa-Or L
radula (Erichson), Af L
reiterorum Král and Kubán, Pa-Af (Socotra)

rimulosus (Haaf), Or
rusticus (Fåhraeus), Af
satorui Kawai, Af
senegalensis (Scholtz), Af
squalidus (Olivier), Af-Md L
testudo (Arrow), Pa-Or
tuberosus (Klug), Af
unguicularis (Haaf), Af
varicosus (Erichson), Af
verrucosus (Reiche and Saulcy), Pa-Af
wittei (Haaf), Af
zumpti (Haaf), Af

Polynoncus [all Nt]

aeger (Guérin)
aricensis (Gutiérrez) L
bifurcatus (Vaurie)
brasiliensis (Vaurie)
brevicollis (Eschscholtz)
bullatus (Curtis)
burmeisteri Pittino
chilensis (Harold)
diffluens (Vaurie)
ecuadorensis (Vaurie)
erugatus Scholtz
galapagoensis (Van Dyke)
gemmifer (Blanchard)
gemmingeri (Harold)
gibberosus Scholtz
gordoni (Steiner)
guttifer (Harold)
haafi (Vaurie)
hemisphaericus (Burmeister)
juglans (Ratcliffe)
longitarsis (Harold)
mirabilis Pittino
neuquen (Vaurie)
pampeanus (Burmeister)
parafurcatus Pittino
patagonicus (Blanchard)
patriciae Pittino
pedestris (Harold)
peruanus (Erichson)
pilularius (Germar)
sallei (Harold)
seymourensis (Mutchler) L
tenebrosus (Harold)

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