The Primary Types of Scathophagidae (Diptera) in the Museum für Naturkunde Berlin, and Senckenberg Deutsches Entomologisches Institut, Germany

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Abstract

The primary types (holotypes, lectotypes, and syntypes) of the Diptera family Scathophagidae housed in the Museum für Naturkunde der Humboldt-Universität zu Berlin and Senckenberg Deutsches Entomologisches Institut, Müncheberg, both in Germany, are revised. 50 species of Scathophagidae are enumerated. The species are listed alphabetically, and the account concludes with a systematic nomenclatural summary. Detailed information is given on the specimens, their labelling and their condition. 28 lectotypes are designated: Acanthocnema latipennis Becker, 1894 (Poland); Amaurosoma articulata Becker, 1894 (Poland); Amaurosoma inermis Becker, 1894 (Latvia or Estonia); Amaurosoma minuta Becker, 1894 (Latvia or Estonia); Amaurosoma nigrifrontata Becker, 1894 (Italy); Amaurosoma nutans Becker, 1894 (Poland); Cochliarium castanipes Becker, 1894 (Switzerland); Cochliarium lasiostoma Becker, 1894 (Switzerland); Cordylura aberrans Becker, 1894 (Sweden); Cordylura bezii Sack, 1937 (Italy); Cordylura biseta Loew, 1864 (Denmark or Germany); Cordylura dasyprocta Loew, 1864 (Sweden); Cordylura femoralis Loew, 1864 (Austria); Cordylura glaucescens Loew, 1864 (Germany); Cordylura melaleuca Loew, 1873 (Greece); Cordylura melanacra Loew, 1873 (Poland); Cordylura nigriventris Loew, 1864 (Poland); Cordylura opaca Loew, 1864 (Austria); Cordylura picticornis Loew, 1864 (Russia); Cordylura umbrosa Loew, 1873 (Slovakia); Cordylura unicolor Loew, 1864 (Spain); Paralleloemona longicornis Hendel, 1913 (Taiwan); Paralleloemona media Becker, 1894 (Poland); Pselaphephila loewi Becker, 1894 (Poland); Scatophaga dasythrix Becker, 1894 (Russia); Scatophaga islandica Becker, 1894 (Iceland); Scatophaga mollis Becker, 1894 (Russia); Scatophaga ordinata Becker, 1894 (Switzerland). Three new synonyms are established: Amaurosoma nigrifrontata Becker, 1894 is a new junior synonym of Nanna tibiella (Zetterstedt, 1838); Cordylura rubifrontata Becker, 1894 is a new junior synonym of Cordylura aberrans (Becker, 1894); Cordylura unicolor Loew, 1864 is a new junior synonym of Cordylura albipes (Fallén, 1819).

Key Words

Diptera
Scathophagidae
Museum für Naturkunde Berlin
Senckenberg Deutsches Entomologisches Institut
collection
type specimens

Introduction

The Museum für Naturkunde an der Humboldt-Universität zu Berlin (ZMHB) and Senckenberg Deutsches Entomologisches Institut (SDEI) contain the most important Diptera collections in Europe. These include the collections of Friedrich Hermann Loew (1807–1878) and Theodor Becker (1840–1928), two of the leading European dipterists of their day, who described numbers of Scathophagidae and whose collections are of significant value. Also, there are type specimens of scathophagid species described by P. Sack (1865–1946), L. Oldenberg (1863–1931), F. G. Hendel (1874–1936), E. M. Hering (1893–1967), and types of several species described by myself in 1997, 1999, and 2013 in both the ZMHB and SDEI.

Each specimen in Loew’s and Becker’s collections, which were handed over to ZMHB, has its own number, but each number may refer to a single specimen or to a series of conspecific specimens. There are notebooks that give the key to these code numbers: the “Catalog Gen-
eral Musei Zoologici Berolinensis” (Diptera I, II) for Loew’s collection and four notebooks for Becker’s collection (Becker Catalog Diptera: Tome I (1882–1887; Nos 1–14179), Tome II (1887–1893; Nos 14180–33839), Tome III (1894–1906; Nos 13840–53642), and Tome IV (1906–1914; Nos 53641–62427)). These notebooks contain information about the number of specimens, localities, dates of capture and year.

Loew’s collection also contains many syntypes of scathophagid species described by Zetterstedt in 1838 and 1846. This material requires special examination together with Zetterstedt’s own collection in the Museum of Zoology of Lund University (Sweden) and is not discussed in this paper except for those specimens which were described by Loew or Becker as new species (for example Cordylura aberrans Becker, 1894 or Cordylura dasyprocta Loew, 1864, see below).

The Scathophagidae types in the ZMHB and SDEI were examined by the late J.R. Vockeroth in 1954–1964 who designated numerous lectotypes, but these designations were not published.

All the species discussed here are listed alphabetically. Detailed information is given on the specimens, their labelling and their condition. Finally, the current taxonomic identity is provided.

The following abbreviations are used for the deposits of specimens used or discussed in this paper: MNHP – Muséum National d’Histoire Naturelle, Paris, France; NMW – Naturhistorisches Museum Wien, Vienna, Austria; SDEI – Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany; ZISP – Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia; ZMUH – Zoological Museum, Helsinki University, Helsinki, Finland; ZMUM – Zoological Museum, Moscow State University, Moscow, Russia.

List of the taxa

**aberrans** Becker, 1894: 91 (Cordylura).

Described from an unspecified number of both sexes: “Zett., Dipt. Sc. V. 2001, 6, Cord. rufifama”.

**ZMHB material**: 1 male syntype was found in Loew’s collection among C. rufifama. It is labelled “Lappon. Bohem.”, “2633”, “Cordylura rufifama”, “Cordilura rufima Meig det. F. Šifner ♀”. There is every reason to believe that this specimen is a syntype of Cordylura aberrans. Therefore this male (thorax damaged in posterior part, scutellum missing; right wing missing, left hind leg glued to the pin, abdomen dissected and stored in a microovial with glycerol on the same pin) has been labelled and is designated herewith as lectotype. Type-locality: “Lapponia” (Sweden). Genitalia was examined and is designated as conspecific with that shown in Hackman’s figures for C. aberrans (Hackman 1956: 21, fig. 77).

**Current name**: A good species of Cordylura Fallén, 1810, correctly recognised by recent authors.

**ZMHB material**: male and female syntypes, both in very good condition, are conspecific with lectotype and have been labelled as paralectotypes. Both specimens have the same labels: “Afrique or. anglaise, Mt Kenya, verst Ouest, zone des forêts, Alluauad & Jeanne”, “Forêts Moyennes, Bambous supér, 2800–3200 m, Janv. 1912, St 41”, “Scathophaga alata Beck. det. Becker”.

**Current name**: Scathophaga alata (Becker, 1914).

**albidohirta** Becker, 1907a: 254 (Scatophaga).

Described from “8 Exemplaire aus Ost-Zaidam in O.Tibet: Kurlłyk am Fl.Baingol (24 und 28.V.95), Fl. Böym or Itschegyn (Ende VI.95), zwischen dem See Itsche und dem Fl. Orogy (1–8.VII.95), am Fl. Orogy südlich von W.-Nan-schan (3–20.VII.95); Gobi in Chines. Turkestan: Kara-Tübe, westlich von Hami (15. IX.95) [Roborowski]”. 7 of them are in ZISP and a lectotype was designated from these syntypes (Ozerov and Krivosheina 2011: 105).

**ZMHB material**: a male syntype (half of left wing, mid and hind left legs missing, abdomen dissected and glued on card on the same pin), labelled “оз. Ич — р Орогын с Цайдам, у Гоби РоббКозлов 1–3 VII 95”. “Gobi. Asien 51896. VII”, “albidihirta Beck.”, “ZMUH Berl.”, “Scatophaga albidohirta Beck. SYNTYPE labelled 1954 by J.R. Vockeroth”, is conspecific with the lectotype and has been labelled as paralectotype.

**Current name**: Scatophaga albidohirta (Becker, 1907).

**amica** Ozerov, 1999: 511 (Langechristia).

Described from a single female from Russian Far East.

**SDEI material**: holotype female, labelled “RUSSIA: Primorskiy Kray Sichote-Alin, Biol. Stat. 30 km SE Chuguyevka, 44.05 N, 134.12 E), 650 m, MalaiseFalle 31.V. – 03.VI.1993 leg. C. Lange & J. Ziegler”, “Holotypus ☉ Langechristia amica sp.nov. det. A.L. Ozerov, 1997”, Type-locality: 30 km SE Chuguyevka (44.05N, 134.2Е), 650 m (Primorskiy Kray, Russia).

**Current name**: Langechristia amica Ozerov, 1999.

**arctica** Becker, 1897: 398 (Scatophaga).

Described from an unspecified number specimens of both sexes taken on Novaya Zemlya. 2 syntypes are housed in ZISP and a lectotype was designated from these type-specimens (Ozerov and Krivosheina 2013: 143), which is conspecific with Scatophaga albidohirta (Holmgren, 1883).

**ZMHB material**: a male syntype (left mid leg missing), labelled “Novaja Semlja, mons Tschernyschew, G. Jakubović det. 1954”, which is designated as lectotype.

**Current name:** A junior synonym of Scathophaga multisetosa (Holmgren, 1883) as currently understood.

**articulata Becker, 1894: 117 (Amaurosoma).**

Described from an unspecified number of male specimens from “Schlesien”.

**ZMHB material:** 2 male syntypes. One male syntype in very good condition, labelled “Rothkirch 6/V 29986”, “Amaurosoma LECTOTYPE articulata Beck. Desig. by J.R. Vockeroth 19”, “Amaurosoma articulatum (Ztt.) ♂ Det. F. Šifner”, has been labelled and is designated herewith as lectotype of Amaurosoma articulata. Type-locality: “Rothkirch” (Czerwony Kościół [near Legnica: ca. 51.186N, 16.061E], Poland). The second male (good condition), labelled “Rothkirch 6/V 29986”, “PARALECTOTYPE Amaurosoma articulata Beck. labelled by J.R. Vockeroth 1962”, has been labelled as paratype.

**Current name:** Nanna articulata (Becker, 1894), correctly recognised by recent authors.

**bezzii Sack, 1937: 18 (Cordylura).**

Described an unspecified number of both sexes from “Livrio (Adamellagruppe)”.


**Current name:** a good species. Šifner (2008: 116) listed it in the genus Bucephalina Malloch, 1919, which I consider as a subgenus of Cordilura.

**biseta Loew, 1864: 21 (Cordylura).**

Described from male and female syntypes from “Dänemark, ganz Deutschland”.

**ZMHB material:** one well preserved male, labelled “P. Seitz 27.4.51” or “P. Sulz, 27.4.51” (a family name, difficult to read), “Coll. H. Loew”, “11399”, Cordylura biseta m.”, “Type”, “Cordilura picipes Meigen det. Šifner ♂”. It has been labelled and is herewith designated as lectotype. It is Cordilura picipes (Meigen, 1826).

**Current name:** A junior synonym of Cordilura picipes (Meigen, 1826), correctly recognised by recent authors.

**breviventris Loew, 1873: 250 (Cordylura).**

Described from male sex, number not stated, taken from “Sarepta”. Studied by Ozerov (2010c: 5), who designated a lectotype.

**ZMHB material:** lectotype male (abdomen dissected and glued on card on the same pin, right fore and hind tibiae missing), labelled “Sarepta Christ”, “11434”, “Cordylura breviventris Lw.”, “Coll. H. Loew”, “Type”, “Cordylura breviventris Loew LECTOTYPE designated by J.R. Vockeroth 19”. Type-locality: “Gegend von Sarepta” [=Krasnoarmeisk in Vologradskaya Oblast’, ca. 48.512N 44.554E] (Russia).

**Current name:** synonymized with Spatophilus nigriventris (Loew, 1864) by Ozerov (2010c: 5).

**castanipes Becker, 1894: 185 (Cochliarium).**

Described an unspecified number of both sexes from “St. Moritz”.

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ZMHB material: 2 male and 1 female syntypes, all in excellent condition. The male labelled “St. Moritz 5/7 10777” [= 5 July 1886], Cohlciarium castanipes Becker LECTOTYPE Designated by J.R. Vockeroth 19”, “Zool. Mus. Berlin”, has been labelled and is herewith designated as lectotype. Type-locality: “St. Moritz” (Switzerland).

The male with labels “St. Moritz 1/7 10294”, Cohlciarium castanipes Becker PARALECTOTYPE labelled 1954 by J.R. Vockeroth and the female “St. Moritz 30/6 10132”, Cohlciarium castanipes Becker PARALECTOTYPE labelled 1954 by J.R. Vockeroth have been labelled as paralectotypes.

Current name: Gimnomena castanipes (Becker, 1894).

dasyprocta Loew, 1864: 25 (Cordylura).

Described from an unspecified number of both sexes from “Sweden” taken from the syntypes of Cordylura caudata Zettersted, 1838.

ZMHB material: 3 males and 1 female syntypes. A male (right mid leg missing, right wing slightly torn) labelled “Cord. caudata Zett. Lappon. Bohem.”, “Coll. H. Loew”, “11438”, “Cordylura dasyprocta m.”, “type”, “Cordylura dasyprocta Lw. Lectotype Designated by J.R. Vockeroth 19”, has been labelled and is herewith designated as lectotype of Cordylura dasyprocta. Type-locality: “Sweden”.


Current name: Okeniella dasyprocta (Loew, 1864), correctly recognised by recent authors.

dasythrix Becker, 1894: 173 (Scathophaga).

Described from an unspecified number of both sexes from “aus der Behringstrasse”.

ZMHB material: one well preserved male, labelled “xxx Miednaja blizko w Behrynga. July P. Dybowski 1882” (xxx = illegible), “30030”, “Scathophaga dasythrix Becker LECTOTYPE Designated by J.R. Vockerth 19”, has been labelled and is herewith designated as lectotype of Scathophaga dasythrix. Type-locality: Island Medny (Comandor Is., Russia).

Current name: Scathophaga dasythrix (Becker, 1894), correctly recognised by recent authors.

fascipes Becker, 1894: 160 (Spaziphora).

In the original paper described from an unspecified number of both sexes: “Zett., Cord. hydromyzina var. b, Dipl. Scand. V. 2037, 35” and only specimens mentioned by Zetterstedt for his var. B can be considered as syntypes. Four specimens are mentioned in “Becker Catalog Diptera” (No 30109) as Spaziphora fascipes from “Dorpat”; one of them was sent to F. Hendel.

ZMHB material: 2 females, both in very good condition. One of them labelled “15/7 86”, “Dorpat” 30109”, “hydromyzina Fall. Det. 1954 J.R. Vockerth”. The other female is identical labelled but with the date “1/7 86”. Both are Spaziphora hydromyzina (Fallén, 1819).

There is a male labelled by J.R. Vockerth as lectotype of Spaziphora fascipes. This specimen was taken from “Rügen”, was mentioned in “Becker Catalog Diptera” under No 30112 as Spaziphora hydromyzina Fallén. All these 3 specimens are not from Zetterstedt’s collection and therefore they cannot be syntypes of S. fascipes.

Current name: Spaziphora hydromyzina (Fallén, 1819) as currently understood.

femoralis Loew, 1864: 18 (Cordylura).

Described from an unspecified number of females from “Kärnthen”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as Cordylura femoralis (No.11387). It has been studied, labelled and is herewith designated as lectotype.


Current name: Norellisoma femorale (Loew, 1864).

fulvifrons Ozerov, 1997: 1427 (Cordylura).

Described from 2 males and 1 female from Khabarovskiy Kray (Russia).

SDEI material: holotype male (Ozerov 1997: 1427, original designation) in excellent condition, labelled “RUSSIA: Khabarosvkiy Kray Boitsovo 20 km N Bikin Bolsoi Solntsepyok Hill 47.02N 134.21E 25.V.1993 leg. C. Lange & J. Ziegler”. Type-locality: Boitsovo 47.02N 134.21E (Russia, Khabarovskiy Kray). Paratype female with the same label but with the date 24–27.V.1993 is conspecific with the holotype. The second male paratype is kept in ZMUM (Ozerov 1997: 1427).

Current name: Cordylura fulvifrons Ozerov, 1997.
glaucescens Loew, 1864: 23 (Cordylura).
Described from an unspecified number of the female sex from “Kreuth; Gerstaecker.”. A single specimen is mentioned in the “Catalog General Musei Zoologicci Berolinensis” as Cordylura glaucescens (No.11412).
It has been studied, labelled and is herewith designated as lectotype.

ZMHB material: lectotype female (condition very good, but right postpedicel and left hind leg missing), labelled “Kreuth Gerst. 7/8”, “Coll. H. Loew”, “11412”, “Cordylura glaucescens Lw.” “Holotypus”. Type-locality: “Kreuth” (Germany, Bavaria, Kreuth village).

Current name: Nanna inermis Becker.

incola Becker, 1900: 54 (Scatophaga).
Described from 4 male syntypes from “Kantaika und der Insel Nikander” [river Khantayka: ca. 68.1019N 86.6293E; Nikandrovs’ks Is: ca. 70.6722N 83.2370E (Russia, West Siberia)]. Most of the males are in ZMUB (Hackman 1956: 20) and a lectotype will be selected from the syntypes in this Museum.

ZMHB material: 1 male syntype (half of right wing broken off and glued on the determination label, right mid leg missing), labelled “246”, “Ins. Nikandr.”, “J. Sahih.”, “Scatophaga incola Beck. det. Becker”, “Scatophaga incola Becker PARALECTOTYPE labelled 1954 by J.R. Vockeroth”. It has been labelled by me as a syntype of Scatophaga incola.

Current name: Scatophaga incola (Becker,1900).

Described from an unspecified number of both sexes from “aus Livland und Schlesien”.

ZMHB material: 4 syntypes: 2 males and 2 females, all in very good condition and conspecific.

Current name: Nanna inermis (Becker,1894), correctly recognised by recent authors.

islandica Becker, 1894: 175 (Scatophaga).
Described from “Ein Pärchen aus Island und Labrador”.

ZMHB material: male and female syntypes. Male (left mid leg missing, end of abdomen dissected and stored in a microvial of glycerol on the same pin) labelled “Island xxx” (xxx = illegible, possibly collector’s name), “Scatophag[a] borealis nov. sp.”, “Coll. H. Loew”, “11452”, “Islandica Becker”, “Scatophaga intermedia Walker Det. F. Šifner”, has been labelled and is herewith designated as lectotype. Type-locality: “Island” [= Iceland]. It is Scatophaga litoraea (Fallén, 1819). Female (left hind leg, tibia and tarsus of right hind leg missing, end of abdomen dissected and glued on card), labelled “Labrador.”, “Coll. H. Loew”, “Scatophaga islandica Becker”, “Scatophaga villipes Zetterstedt Det. F. Šifner” and provided with a green label, has been labelled as paralectotype; it is conspecific with the lectotype.

Current name: A junior synonym of Scatophaga litoraea (Fallén, 1819), as currently understood.

lasiostoma Becker, 1894: 184 (Cochliarium).
Described from “Ein Pärchen aus St. Moritz”.

ZMHB material: both syntypes. Male (condition excellent), labelled “St. Moritz 28/6 9779” [= 28 June 1886], “Cochliarium lasiostoma Becker LECTOTYPE Designated by Vockeroth 19”, has been labelled and is herewith designated as lectotype. Type-locality: “St. Moritz” (Switzerland). Female (right mid leg missing), labelled “St. Moritz 28/6 9753”, “Cochliarium lasiostoma Becker PARALECTOTYPE labelled 1954 by J.R. Vockeroth”, is conspecific with the lectotype and has been labelled as paralectotype.

Current name: Gimnomera lasiostoma (Becker, 1894).

Described from an unspecified number of the female sex taken “Schlesien. Wölfelsfall bei Glatz”.

ZMHB material: a female in excellent condition, labelled “Wölfelsfall 7/7 23793” [= 7 July 1889], “Acanthocnema latipennis Becker LECTOTYPE Designated by Vockeroth 19” has been labelled and is herewith designated as lectotype. Type-locality: “Wölfelsfall bei Glatz” (Wodospad Wilczki west of Międzygórze southeast of Bystrzyca Klodzka, Poland).

Current name: It is a good species of Acanthocnema, not a synonym of Acanthocnema glaucescens Loew as considered by Gorodkov (1986), Suwa (1986), and Šifner (2008). The fore tibia of A. latipennis has two anteroventral setae (one at middle, the other preapical). Figures of the male sternite 5 and genitalia of A. latipennis are given by Suwa (1986: figs 8, 10, 20, 22) as Acanthocnema glaucescens Loew.

lesgiae Becker, 1894: 129 (Norellia).
Described from 2 males “vom Kaukasus aus Lesgia”.

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Current name: Norellisoma lesgiae (Becker, 1894).

loewi Becker, 1894: 123 (Pselaphephila).

Described from an unspecified number of both sexes without any statement giving a specific locality, but most probably from “Schlesien” or “Posen”, now part of Poland: “… diesen Exemplaren aber keinerlei Notiz beigegeben ist, so nehme ich an, dass diese Thiere ent-weder aus Schlesien oder aus Posen stammen.”.

ZMHB material: 3 syntypes. A male, double pinned (condition good), labelled “Coll. H. Loew”, “Zool. Mus. Berlin”, “Type”, “Pselaphephila loewi Becker LECTOTYPE Designated by J.R. Vockeroth 19”, has been labelled and is herewith designated as lectotype. Type-locality: Poland.


Current name: Nanna loewi (Becker, 1894).

longicornis Hendel, 1913: 77 (Parallelomma).

Described from 11 male syntypes taken “aus Hoozan. 7. Februrar”. Šifner (2009: 290) incorrectly designated a holotype for this species and 6 paratypes (3 males and 3 females) taken at “Hoozan” and “Chip-Chip”, all deposited in NMW. Only the males from “Hoozan” in this material may be syntypes. Hendel loaned material for study from SDEI, and a lectotype is being designated from syntypes in this Institution.

SDEI material: 5 male syntypes.


There are several additional specimens in SDEI identified as Parallelomma longicornis, but these are females or males taken on other dates and so none can be a syntype.

ZMHB material: 4 females from “Kosempo”, cannot be syntypes.


media Becker, 1894: 96 (Parallelomma).

Described from an unspecified number of the male sex from “Aus Schlesien, Umgebung von Liegnitz”.


Current name: Parallelomma medium Becker, 1894.

melaleuca Loew, 1873: 245 (Cordylura).

Described from an unspecified number of females from “Griechenland”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as Cordylura melaleuca (No 11381). It has been studied, labelled and is herewith designated as lectotype.

ZMHB material: The lectotype is male, not female, damaged (head and legs missing, thorax largely consumed by a beetle pest), labelled “Corfu Erber”, “11381”, “Coll. H.Loew”, “Cordylura melaleuca Lw.”, “Typus”, “Cordylura melaleuca Loew LECTOTYPE Designated Vockeroth 19”. Type-locality: Corfu I. (Greece). It is conspecific with Norellia tipularia (Fabricius, 1794).

Current name: A junior synonym of Norellia tipularia (Fabricius, 1794), as currently understood.
melanacra Loew, 1873: 247 (Cordylura).
Described from an unspecified number of both sexes from “Schlesien”.

ZMHB material: A female syntype in very good condition, labelled “Rosenthal 14.4.51”, “Coll. H. Loew”, “Type”, “Cordylura melanacra Loew LECTOTYPE Designated by Vockeroth 19”, “Scoliaphleps ustulata (Ztt.). Z [sic] Det. F. Šifner” has been labelled and is herewith designated as lectotype. Type-locality: “Rosenthal” [now Rozanka, part of Międzyzdroje, near Klodzko (Poland)]. It is conspecific with Cordilura ustulata (Zetterstedt, 1838).

Current name: A good species of Scathophaga Meigen, 1803.

Described from an unspecified number of both sexes from “Schlesien”.

ZMHB material: 1 type specimen. It was sent on loan to F. Šifner in 2007; not examined by me.

Current name: According by Šifner (2008: 151) it is a junior synonym of Nanna armillata (Zetterstedt, 1846).

Described from an unspecified number of the male sex “Aus Livland”.

ZMHB material: a male (abdomen, tarsomeres 2–5 of right fore leg and of both hind legs missing), labelled “7/5”, “Livland 29984”, “110”, “Amaurosoma LECTOTYPE minuta Becker Designated by Vockeroth 19”, “Nanna flaviipes Fall. Det. J.R. Vockeroth 1962” has been labelled and is herewith designated as lectotype. Type-locality: “Livland” (Latvia or Estonia).

Current name: Recently synonymized with Nanna flaviipes (Fallén, 1819) by Ozerov (2010c: 7).

mollis Becker, 1894: 171 (Scathophaga).
Described from an unspecified number of both sexes from “Sibiriens”.

ZMHB material: 8 syntypes: 6 males, 2 females. Male in very good condition, labelled “Sibiria Schnabl”, “Coll. H. Loew”, “Scathophaga mollis Becker LECTOTYPE Designated by J.R. Vockeroth 19”, has been labelled and is herewith designated as lectotype. Type-locality: “Sibiria” (Russia).

All other syntypes have been labelled as paralecotypes: 2 males, both in good condition and labelled “Sibiria Schnabl”, “Coll. H. Loew”, “Scathophaga mollis Becker PARALECOTYPE labelled 1954 by J.R. Vockeroth”; female (right wing damaged), labelled “Sibiria Schnabl”, “11453”, “Coll. H. Loew”, “Scatina mollis Lw.”, “Scathophaga mollis Becker PARALECOTYPE labelled 1954 by J.R. Vockeroth”; 3 males (one without right postpedicel), all in good condition, and female (left hind leg, left wing, and abdomen missing), each labelled “Sibiria Schnabl”, “Coll. H. Loew”. All paralecotypes are conspecific with the lectotype.

nigriventris Loew, 1864: 19 (Cordylura).
Described from an unspecified number of females from “Posen”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as Cordylura nigriventris (No 11392). It was studied by Ozerov (2010c: 5), has been labelled and is herewith designated as lectotype.

ZMHB material: lectotype female (left mid leg and right hind tarsal segments 2–5 are missing and the apex of the right wing is damaged), labelled “23/5 43.”, “11392”, “Coll. H. Loew”, “Type”, “Cordylura nigriventris m.”, “Cordylura nigriventris Lw. LECTOTYPE Designated by Vockeroth 19”, “Zool. Mus. Berlin”. Type-locality: “Posen” (Poland, Poznań).

Current name: Spathephilus nigriventris (Loew, 1864).

nutans Becker, 1894: 120 (Amaurosoma).
Described from “Ein Männchen aus Süd-Tirol vom Lusier Pass”.

ZMHB material: both syntypes. Male (head missing), labelled “Lusier Pass 19/6 90 25520” [= 19 June 1890], “Amaurosoma nigrifrontata Becker LECTOTYPE Designated by Vockeroth 19”, has been labelled and is herewith designated as lectotype. Type-locality: “Süd-Tirol vom Lusier Pass” [now Passo di Luzia (Italy, Trentino)]. The female is in very good condition, labelled “Lusier Pass 19/6 90 25522”, “PARALECOTYPE Amaurosoma nigrifrontata Beck. labelled [by] Vockeroth”, “Nanna nigrifrontata Beck. Det. 1962 J.R.Vockeroth” has been labelled as paralecotype. Both specimens are conspecific with Nanna tibiella (Zetterstedt, 1838).

Current name: A new junior synonym of Nanna tibiella (Zetterstedt, 1838), syn.n.
obscurnervis Becker, 1900: 55 (Scathophaga).

Described from “2 Pärchen von der Insel Nikander und Dudinka” [Russia, West Siberia]. Most syntypes are deposited in ZMUH (Hackman 1956: 20) and a lectotype will be selected from the syntypes in this Museum.

ZMHB material: female syntype (damaged, left wing, left mid leg, both hind legs missing, abdomen glued to the mount), labelled “250”, “J. Sahlb.”, “Ins. Nikand.”, “42482”, “obscurnervis Beck.”, “Scathophaga obscurinervis Becker PARALECTOTYPE labelled 1954 by J.R. Vockeroth”. It has been labelled as a syntype.

Current name: Scathophaga obscurnervis (Becker, 1900).

opaca Loew, 1864: 19 (Cordylura).

Described from an unspecified number of females from “Kärnten”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as Cordylura opaca (No 11385). It has been studied, labelled and is herewith designated as lectotype.

ZMHB material: the lectotype female has been mainly consumed by a beetle pest, and all that remain are the head, legs (except right hind leg), and some small fragments of thorax, labelled “Saulp aug. 55”, “Coll. H. Loew”, “11385”, “Cordylura opaca Lw.”, “Type”, “Cordylura opaca Loew LECTOTYPE Designated by J.R. Vockeroth 19”. Type-locality: Saulalpe (Kärnten [Carinthia], Austria).

Current name: because of its poor condition, the identity of the lectotype is difficult to determine. The name was synonymized by Becker (1905: 13) with Norellisma lituratum (Meigen, 1826). I can see no reason for disputing this synonymy, and have accepted it.

ordinata Becker, 1894: 168 (Scathophaga).

Described from an unspecified number of both sexes from “St. Moritz”.

ZMHB material: male and female syntypes. The male (slightly wrinkled, abdomen dissected and placed in a microvial of glycerine), labelled “St. Moritz 26/6 9629” [26 June 1886], “Scathophaga ordinata Becker LECTOTYPE Designated by J.R. Vockeroth 19”, “Scopeuma tauriopum Rond. det. 1954 J.R. Vockeroth”, has been labelled and is herewith designated as lectotype. Type-locality: St. Moritz (Switzerland). I agree with the determination by Vockeroth that it is conspecific with S. tauriopum (Rondani, 1867). The female is in good condition and is labelled “St. Moritz 28/6 9819”, “Scathophaga ordinata Becker PARALECTOTYPE labelled 1954 by J.R. Vockeroth”, “Scathophaga tae- niopa Rond. det. 1962 J.R. Vockeroth”, and has been labelled as paralectotype; Vockeroth’s determination is correct.

Current name: A junior synonym of Scathophaga tae- niopa (Rondani, 1867).

paridis Hering, 1923: 200 (Parallelomma).

Described from a female holotype (Hering 1923: 200, original designation) and some female paratypes taken from “Berlin (Jungfernheide, 4. VII. 20), und Güntersberg a. Oder [now Osiecznica near Krosno (Poland)], 6. VII. 20”.


Current name: A junior synonym of Parallelomma vittatum (Meigen, 1826), as currently understood.

picticornis Loew, 1864: 22 (Cordylura).

Described from an unspecified number of females from “Sibirien”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as Cordylura picticornis (No 11369). It has been studied, labelled and is herewith designated as lectotype.

ZMHB material: lectotype female in very good condition, labelled “11369”, “Coll. H. Loew”, “Cordylura picticornis m.”, “Type”, “Cordylura picticornis Lw. LECTOTYPE Designated by J.R. Vockeroth 19” and provided with a small black label. Type-locality: “Sibirien” (Russia).

Current name: Cordylura picticornis (Loew, 1864), correctly recognised by recent authors.

pictipennis Oldenberg, 1923: 307 (Scathophaga).

Described from a single male „oberhalb Gastein zwischen Böckstein und Nassfeld, nahe dem Bärenfall”.


Current name: Scathophaga pictipennis (Oldenberg, 1923), correctly recognised by recent authors.
rubifrontata Becker, 1894: 91 (Cordylura).
Described from “Ein Weibchen in der Loew’schen Sammlung aus Kultuk”.

ZMHB material: female holotype (abdomen dissected and glued on card, right hind tibia and tarsus missing), labelled “Kultuk v. Maak”, “rubifrontata Beck.”, “Type”, “Coll. H. Loew”, “13885”, “Cordylura sp. nov. an var. prae.”, “Cordylura ciliata Meigen det. Šifner, ♀”. Type-locality: Kultuk (Russia, Baikal Area, 51.7221N 103.6951E). Conspecific with Cordylura aberrans Becker, 1894, not with Cordylura ciliata (Meigen, 1826), as was determined and published by Šifner (2008: 118).

Current name: A new junior synonym of Cordylura aberrans (Becker, 1894), syn.n.

sahlbergi Becker, 1900: 51 (Lasioscelus).
Described from “5 Exemplare aus Kantaika u. Dudinka” [Russia, West Siberia]. Most syntypes are in Helsinki University Museum (ZMHU) and a lectotype will be selected from the syntypes in this Museum.


Current name: Pogonota sahlbergi (Becker, 1900), correctly recognised by recent authors.

septentrionalis Becker, 1897: 397 (Scatophaga).
Described from 5 specimens of both sexes “vom Tschernyshew-Berge auf Nowaja-Semlja. 5. Aug. 1896”. 3 syntypes are in ZISP and a lectotype was designated from these syntypes (Ozerov and Krivosheina 2013: 146).


Current name: A junior synonym of Scatophaga varipes (Holmgren, 1883).

socialis Becker, 1894: 90 (Cordylura).
Described from an unspecified number of both sexes [“C. pudica. Zett. Ditt. Sc. V. 1998, 3 [“Suecia meridianali... in Scania... ad Hafniam” (Sweden, Denmark)]; Rond., Prodr. VII, 14, 4.”]. Šifner (2008: 123) wrote that these syntypes were kept in ZMHB.

ZMHB and SDEI material: no type-material found.

Current name: A good species of Cordylura, correctly recognised by recent authors.

speciosa Ozerov, 1999: 511 (Langechristia).
Described from a single female from Primorskii Kray (Russia).

SDEI material: holotype female (left fore leg, except coxa missing, right wing damaged), labelled “RUSSIA: Primorskii Kray Sichote-Alin, Biol. Stat. 30 km SE Chuguyevka, 44.05N, 134.12E 650 m, Malaisefall 31.V–03.VI.1993 leg. C. Lange & J. Ziegler”. Type-locality: 30 km SE Chuguyevka (44.05N, 134.12E) (Russia, Primorskii Kray).

Current name: Langechristia speciosa Ozerov, 1999.

tinctinervis Becker, 1894: 178 (Coniosternum).
Described from “Ein Männchen und zwei Weibchen in der Sammlung des Prof. Strobl.”, locality not stated.

ZMHB material: 1 female syntype. This female (right mid leg missing), labelled “v. G Strobl aus Seitenstettten [Austria]”, “8/5 88”, “tinctinervis Beck”, “Conios- sternum tinctorius Beck. LECTOTYPE Designated by J.R. Vockeroth 19”, has been labelled as syntype.

Current name: Scathophaga tinctinervis (Becker, 1894).

umbrosa Loew, 1873: 246 (Cordylura).
Described from an unspecified number of females from “Unangarn... bei Losoncz”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as Cordylura umbrosa (No 11398). It has been studied, labelled and is herewith designated as lectotype.


Current name: A junior synonym of Cordylura impudica (Rondani, 1867), as currently understood.

unicolor Loew, 1864: 17 (Cordylura).
Described from an unspecified number of females from “Andalusien”. A single specimen is mentioned in the “Catalog General Musei Zoologici Berolinensis” as

Current name: A new junior synonym of Cordilura albipes (Fallén, 1819), syn.n.

**Cordylura unicolor** (No 11373). It has been studied, labelled and is herewith designated as lectotype.

ZMHB material: holotype male (Ozerov 2013: 81, original designation), in very good condition, labelled “St. Moritz 3/7 10570” [= 3 July 1886], “Norellisoma n. sp. 1 det. J.R. Vockeroth 1954”. Type-locality: St. Moritz (Switzerland: ~46.50N, 9.83E).


Current name: Norellisoma vockerothi Ozerov, 2013.

**Langechristia ziegleri** Ozerov, 1999: 510 (Langechristia).

Described from 3 males and 2 females from Khabarovskiy Kray (Russia).


Current name: Langechristia ziegleri Ozerov, 1999.

Nomenclatural summary

**Acanthocnema glaucescens** (Loew, 1864)
**Acanthocnema latipennis** Becker, 1894
**Cordilura aberrans** (Becker, 1894), *rubifrontata* Becker, 1894, syn.n.
**Cordilura albipes** (Fallén, 1819), *unicolor* Loew, 1864, syn.n.
**Cordilura bezzii** (Sack, 1937)

**Cordilura fulvifrons** Ozerov, 1997
**Cordilura impudica** (Rondani, 1867), *umbrosa* Loew, 1873
**Cordilura picipes** (Meigen, 1826), *biseta* Loew, 1864
**Cordilura picticornis** (Loew, 1864)
**Cordilura socialis** (Becker, 1894)
**Cordilura ustulata** (Zetterstedt, 1838), *melanacra* Loew, 1873
**Gimmmera castanipes** (Becker, 1894)
**Gimmmera lasiosoma** (Becker, 1894)
**Gonarcticus arcticus** (Becker, 1907)
**Langechristia amica** Ozerov, 1999
**Langechristia speciosa** Ozerov, 1999
**Langechristia ziegleri** Ozerov, 1999
**Megapithalma longicornis** Hendel, 1913
**Nanna armillata** (Zetterstedt, 1846), *mensurata* Becker, 1894
**Nanna articulata** (Becker, 1894)
**Nanna flavipes** (Fallén, 1819), *flamula* Becker, 1894
**Nanna inermis** (Becker, 1894)
**Nanna loewi** (Becker, 1894)
**Nanna melaleuca** (Loew, 1873)
**Nanna nigriventris** (Becker, 1894)
**Nanna tipularia** (Fabricius, 1794), *mellifera* Loew, 1873
**Norellisoma speciosum** Ozerov, 1999
**Norellisoma femorale** (Loew, 1864)
**Norellisoma lesgiae** (Becker, 1894)
**Norellisoma luteatum** (Meigen, 1826), *opaca* Loew, 1864
**Norellisoma vockerothi** Ozerov, 2013
**Okeniella dasyprocta** (Loew, 1864)
**Parallelomma media** Becker, 1894
**Parallelomma vittata** (Meigen, 1826), *paridis* Hering, 1923
**Pogonota sahlbergi** (Becker, 1900)
**Scathophaga alata** (Becker, 1914)
**Scathophaga albidohirta** (Becker, 1894)
**Scathophaga dasythrix** (Becker, 1900)
**Scathophaga incola** (Becker, 1894)
**Scathophaga litorea** (Fallén, 1819), *islandica* Becker, 1894
**Scathophaga mollis** (Becker, 1894)
**Scathophaga multiseta** (Holmgren, 1883), *arctica* Becker, 1897
**Scathophaga obscurinervis** (Becker, 1900)
**Scathophaga pictipennis** (Holmgren, 1883)
**Scathophaga taeniopa** (Rondani, 1867), *ordinata* Becker, 1894
**Scathophaga tinctinervis** (Becker, 1894)
**Scathophaga varipes** (Holmgren, 1883), *septentrionalis* Becker, 1897
**Spathephilus nigriventris** (Loew, 1864), *breviventris* Loew, 1873
**Spaziphora hydromyzina** (Fallén, 1819), *fascipes* Becker, 1894
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References


Ozerov AL (1999) [Five new species of the genus Cordilura (Diptera, Scathophagidae) from the Far East of Russia]. Zoologicheskij Zhurnal 78(12): 1424–1429. [in Russian]


Ozerov AL, Krivosheina MG (2013) Types of Scathophagidae (Diptera) at the Zoological Institute of Russian Academy of Sciences, St Pe- tersburg. Zoosystematica Rossica 22(1): 141–149.


