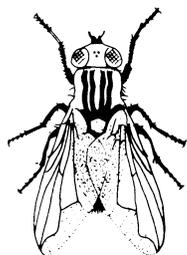


# The identity of *Sarcophaga alpina* Zetterstedt, 1838 and the interpretation of *Acrophaga* Brauer & Bergenstamm, 1891 (Diptera: Calliphoridae)

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*Sarcophaga alpina* Zetterstedt, 1838 is established as a new junior synonym of *Musca genarum* Zetterstedt, 1838; *stelviana* Brauer & Bergenstamm, 1891, stat. rev., in the combination *Calliphora stelviana* (Brauer & Bergenstamm), replaces *alpina*: authors, not Zetterstedt, 1838. Lectotypes are designated for *Musca genarum* Zetterstedt, 1838, *Musca laticornis* Zetterstedt, 1838 and *Acrophaga stelviana* Brauer & Bergenstamm, 1891. The type-species of *Acrophaga* Brauer & Bergenstamm, 1891 has been misidentified and it is recommended that the nominal species *Calliphora vicina* Robineau-Desvoidy, 1830 be designated as type-species.

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On July 8, 1832, during his second journey to Scandinavian "Lappland", J. W. Zetterstedt climbed Brattiksfjället mountain (Brattiken on some maps) west of Umnäs (Umenäs) in Lycksele Lappmark, Sweden (Zetterstedt 1833, 1838). On this particular day he collected a female and a male bluebottle fly specimen which were subsequently to serve, alone or with other specimens, respectively, as basis for descriptions of two nominal species in his *Insecta Lapponica* work, viz. *Sarcophaga alpina* Zetterstedt, 1838: 651 (♀) and *Musca genarum* Zetterstedt, 1838: 658 (♂). Currently assigned to the genera *Calliphora* Robineau-Desvoidy, 1830 or *Acrophaga* Brauer & Bergenstamm, 1891, and *Calliphora* Robineau-Desvoidy or *Abonesia* Villeneuve, 1927, respectively, *alpina* and *genarum* are still in use for two different Holarctic species of Calliphoridae (Zumpt 1956; Hall 1965; Grunin 1970; Danks 1981).

There was in the past some confusion over the correct use of the name *alpina* Zetterstedt, but Ringdahl's (1931, 1945) revisions of the Zetterstedt collection apparently resolved the matter. According to Ringdahl, the name *alpina* should be applied to the bluebottle species with white

squamae and normally plumose arista which commonly occurs in alpine habitats above tree-line in Scandinavia and which was referred to as *stelviana* Brauer & Bergenstamm, 1891 by Stein (1924). This concept of *alpina* Zetterstedt has been left unchallenged by all subsequent authors (Zumpt 1956; Hall 1965; Grunin 1970; Hackman 1980; Danks 1981). Furthermore, Ringdahl (1931) described a new, related species *subalpina* (originally in *Steringomyia* Pokorny, 1889, now assigned to *Calliphora* Robineau-Desvoidy or *Acrophaga* Brauer & Bergenstamm) which occurs at lower altitudes, and was misidentified as *alpina* Zetterstedt by Stein (1924). Ringdahl was of the opinion that all "*alpina* - Exemplaren in der Sammlung Zetterstedt" (Ringdahl 1931) belonged to the former species, except for a single specimen of *subalpina*. However, a recent reexamination of Zetterstedt's collection in Museum of Zoology, Lund, Sweden, has shown that Ringdahl failed to recognise that the holotype ♀ of *Sarcophaga alpina* Zetterstedt, 1838 is also different from the others and belongs to the same taxon as the syntypic series of *Musca genarum* Zetterstedt, 1838. The specimen is teneral with anterior part of head yellowish and not blackish as is

normally the case; the arista has relatively long hairs for a *genarum* which may have misled both Zetterstedt and Ringdahl as to its identity.

The new synonymy of *Sarcophaga alpina* Zetterstedt and *Musca genarum* Zetterstedt raises the question of which name to apply to the taxon concerned. In view of the persistent wrong usage of the name *alpina* Zetterstedt up to this date I would think it wise, as first reviser, to sink it as a junior synonym of *genarum* Zetterstedt. Continued use of *alpina* Zetterstedt (now in the third sense in about 60 years) will probably lead to considerable confusion. There are several names available for *alpina*: authors, not Zetterstedt, viz. *stelviana* Brauer & Bergenstamm, 1891, *norwegica* Enderlein, 1933, *anana* Hall, 1948 (Zumpt 1956; Danks 1981). In accordance with the identity of the lectotype of *Acrophaga stelviana* Brauer & Bergenstamm, 1891 in Naturhistorisches Museum, Vienna (see lectotype designation below) it should therefore be known by the binomen *Calliphora stelviana* (Brauer & Bergenstamm, 1891).

The following synonymies are thus established:

### **Calliphora genarum** (Zetterstedt, 1838)

*Musca genarum* Zetterstedt, 1838: 658. LECTOTYPE ♂, SWEDEN: Torne Lappmark, Torne-träsk, 8–12.vii.1821, by present designation, Museum of Zoology, Lund [examined].

*Musca laticornis* Zetterstedt, 1838: 658. LECTOTYPE ♀, SWEDEN: Bottnia occidentalis, 7.ix.1821, by present designation, Museum of Zoology, Lund [examined].  
Synonymy first established by Zetterstedt 1845: 1309.

*Sarcophaga alpina* Zetterstedt, 1838: 651, **syn.n.** Holotype ♀, SWEDEN: Lycksele Lappmark, Brattiksfjället, 8.vii.1832, Museum of Zoology, Lund [examined].

*Calliphora popoffana* Townsend, 1908: 117. Holotype ♀, U.S.A.: Alaska, Popoff Island, 16.vii.1899, U.S. National Museum, Washington D. C., No. 10885 [not examined]. Synonym according to G. E. Shewell, foote-note in Danks 1981: 491.

*Acronesia collini* Hall, 1948: 279 (see also Collin 1935). Holotype ♂, CANADA: Quebec, Ungava Bay, Akpatok Island, 6.ix.1931, Collin collection, Hope Department of Entomology, Oxford [not examined]. Synonym according to G. E. Shewell, foote-note in Danks 1981: 491.

### **Calliphora stelviana** (Brauer & Bergenstamm, 1891), **stat.rev.**

*Acrophaga stelviana* Brauer & Bergenstamm, 1891: 367 (63). LECTOTYPE ♂, AUSTRIA: Tirol, Stilfser Joch, 28.viii.1889, by present designation, Naturhistorisches Museum, Vienna [examined].

*Stobbeola norwegica* Enderlein, 1933: 126. Holotype ♂, NORWAY: Hordaland, Bergen, 7.viii.1913. Zoologisches Museum an der Humboldt-Universität zu Berlin [not examined]. Synonym according to Zumpt 1956: 16 who examined the holotype.

*Acronesia anana* Hall, 1948: 278. Holotype ♂, U.S.A.: Alaska, Savonoski, Naknek Lake, date not given, U.S. National Museum, Washington D.C., No. 54932 [not examined]. Synonym according to G. E. Shewell, foote-note in Danks 1981: 491.

*alpina*: authors, not Zetterstedt, 1838: 651 (misidentification).

### Lectotype designations and notes on type material

*Musca genarum* Zetterstedt. Described from a syntypic series of 3 ♂. 2♂ have been located (in Museum of Zoology, Lund). I have labelled and herewith designate as lectotype a ♂ in the Insecta Lapponica collection (box 14). It carries the following original label: "M. genarum / Sarcophaga / ♂ Torneåtr." (Zetterstedt's hand). I have labelled the second ♂ in the Wallengren collection as paralectotype. It is labelled: (1) Black small square piece of paper, (2) "Brattiks- / fjäll 8 J1" (Zetterstedt's hand), (3) "S. gena- / rum ♂ / Lappon." (Zetterstedt's hand), (4) "S. genarum / Zett."

*Musca laticornis* Zetterstedt. Described from a syntypic series of at least 2 ♀. 1 ♀ has been located (in Museum of Zoology, Lund). I have labelled and herewith designate as lectotype a ♀ in the Insecta Lapponica collection (box 14). It carries the following labels: (1) "Sarc. genarum / ♀ Zett. D. Sc." (Zetterstedt's hand), (2) "M. laticornis / Ins. Lapon. / Sarc. gena / rum Zett. ♀ / Botn. occ." (Zetterstedt's hand).

*Sarcophaga alpina* Zetterstedt. Described from a single ♀. The holotype ♀ from Brattiksfjället is present in the Insecta Lapponica collection (box 13). It carries the following labels: (1) Black small square piece of paper, (2) "S. alpina / ♀ Brattiksfj." (Zetterstedt's hand).

*Acrophaga stelviana* Brauer & Bergenstamm. Described from an unspecified number of ♂. Two ♂ have been located (in Naturhistorisches Museum, Vienna). I have labelled and herewith designate as lectotype a ♂ which carries the following labels: (1) "28.8.89 / Handl." (hand), (2) "Tirolia / Stilfser Joch" (hand), (3) "stelviana" (hand) / "det. B. B." (print), (4) "Slide no. 83" (Zumpt's hand), (5) "Calliphora ♂ / alpina Zett. / det. Zumpt 1960" (Zumpt's hand). The specimen fits the description. The right mid leg is missing, the left mid leg glued to pin. The frons carries a pair of preventral setae. The postabdomen has been dissected. The basiphallus and pre- and postgonites are visible. The cerci and surstyli have been mounted flat on the accompanying slide. The distiphallus has been lost. It clearly = *alpina*: authors, not Zetterstedt. I have labelled the second ♂ as paralectotype. It carries the following labels: (1) "4.8.84" (hand) / "Handl." (print), (2) "Tirolia / Stilfser Joch" (hand), (3) "Calliphora ♂ / alpina Zett. / det. Zumpt 63" (Zumpt's hand). The specimen fits the de-

scription and is in good condition. The frons lacks the prevertical pair of setae, but is clearly conspecific with the lectotype.

### Identity of genus *Acrophaga* Brauer & Bergenstamm

The above new synonymy affects the interpretation of the name *Acrophaga* Brauer & Bergenstamm, 1891. This genus was erected for two nominal species, *alpina* Zetterstedt, designated as type-species, and *stelviana* Brauer & Bergenstamm. *Acrophaga* was described as follows: "Spitzenquerader concav. Zweiter Hinterleibsring mit Randmacrochaeten. Mittelstück der Genitalien des ♂ kurz, nicht griffelartig vorstehend. Gesicht gelb." The included species were described only in the male sex and only by reference to the frontal width: "Scheitel des ♂ kaum 1/4 der Augenbreite" (*alpina*), "Scheitel des ♂ reichlich 1/3 Augenbreite" (*stelviana*), (citations from Brauer & Bergenstamm 1891: 367 (63)).

In Naturhistorisches Museum, Vienna, there are 2♀ 1♂ under *alpina*. Both ♀ = *Calliphora subalpina* (Ringdahl, 1931). No nomenclatural implications should be deduced from this as there is no evidence that Brauer & Bergenstamm ever considered female specimens when designating *alpina* as type-species, and they need not be considered further. The ♂ is labelled (1) "alpina Ztt." (hand) / "det. B. B." (print), (2) "Mann / Carin / 1854" (hand), (3) "Calliphora / germanorum Vill" (hand) / "det. C H T T" (print). It fits the description of *alpina* above and must be the specimen before Brauer & Bergenstamm when they designated *alpina* Zetterstedt as the type-species of their new genus. It = *Calliphora vicina* Robineau-Desvoidy. The type-species of *Acrophaga* Brauer & Bergenstamm has therefore been misidentified and the case is to be referred to the Commission (I C Z N Art. 70 (a)).

Two courses can be envisaged concerning designation of type-species of *Acrophaga*: (1) to designate the nominal species actually before Brauer & Bergenstamm but wrongly named in their type-designation, i.e. the one known today by the binomen *Calliphora vicina* Robineau-Desvoidy (I C Z N Art. 70 (a) (i)), or (2) to designate the true *alpina* Zetterstedt (= *Calliphora genarum* (Zetterstedt), cf. above) (I C Z N Art. 70 (a) (iii)).

An application should be made to the Commis-

sion to follow alternative (1). Thereby *Acrophaga* becomes a junior subjective synonym of *Calliphora* Robineau-Desvoidy (type-species *Musca vomitoria* Linnaeus, 1758) and will never again come into use. If alternative (2) is followed *Acrophaga* becomes a senior synonym of *Abonesia* Villeneuve, 1927 (monotypic) and would replace this name, used by some modern authors (Grunin 1970; Mihályi 1979; Danks 1981) in the combination *Abonesia genarum* (Zetterstedt, 1838) to denote the species named *Calliphora genarum* (Zetterstedt) in the present paper. Confusion can only be the outcome of this, as *Acrophaga* has been used by several recent authors to denote a group of species within *Calliphora* s.lat. with normally plumose arista, white squamae and protruding hypopygium in the male sex, i.e. *subalpina* Ringdahl and *stelviana* Brauer & Bergenstamm (*alpina*: authors, not Zetterstedt) (cf. Emden 1954; Grunin 1970; Lehrer 1962; Mihályi 1979; Danks 1981).

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