

Case 3084

***Musca geniculata* De Geer, 1776 and *Stomoxys cristata* Fabricius, 1805 (currently *Siphona geniculata* and *Siphona cristata*; Insecta, Diptera): proposed conservation of usage of the specific names by the replacement of the lectotype of *M. geniculata* by a neotype**

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Abstract. The purpose of this application is to conserve the name *Siphona geniculata* (De Geer, 1776) in its accustomed usage for a very common tachinid parasitic on tipulid larvae which are serious pests, by replacement of the recently designated lectotype (a specimen of the taxon always known as *S. cristata* (Fabricius, 1805)) by a neotype. Acceptance of the lectotype would transfer the specific name *geniculata* to the species called *S. cristata*, and the species now called *S. geniculata* would be denoted by the specific name of *Musca urbana* Harris, 1780; the latter name had never been used as valid until 1996.

Keywords. Nomenclature; taxonomy; Insecta; Diptera; TACHINIDAE; *Siphona*; *Siphona geniculata*; *Siphona cristata*; *Siphona urbana*.

1. De Geer (1776, p. 38 and pl. 2, figs. 19–22) described and named *Musca geniculata* on the basis of 'deux ou trois petites Mouches' that he had reared at his home in Sweden from host caterpillars (probably *Mamestra brassicae* Ochsenheimer, 1816; Lepidoptera, NOCTUIDAE). The species name refers to the geniculate proboscis with very elongated labella. This characteristic part of the body was described and discussed in detail on pp. 39–41, and illustrated in figs. 20–22. De Geer did not know that several similar species (now also in *Siphona* Meigen, 1803) exist in Sweden, and his description and drawings are not sufficient to identify the particular species concerned. The type specimens have long been believed to be lost, but they have recently been found again (see para. 7 below).

2. Four years after De Geer, Harris (1780, p. 153, pl. 45, fig. 85) described a fly *Musca urbanus* [sic] from England. This name was never used as valid in the subsequent literature, but it was cited as a synonym of *Siphona* (or *Bucentes*) *geniculata* (De Geer) in the catalogue of Bezzi (1907, p. 382) and in the check-list of Crosskey (1976, p. 100). The type material of Harris does not exist, but Andersen (1996, p. 96) has designated a neotype of *M. urbana*.

3. Fabricius (1805, p. 281) described and named *Stomoxys cristata* (currently in the genus *Siphona*). Its specific name in combination with *Siphona* or *Bucentes* has been consistently used in the literature for a species (or species complex) different from *Siphona geniculata*. The examination by Andersen (1982, p. 165) of the Danish female holotype of *S. cristata*, now in the Zoological Museum of the University of Copenhagen, has confirmed the correct application of this name by subsequent authors. *S. cristata* is a parasite of moth larvae.

4. Meigen (1803, p. 281) based his new genus *Siphona* on a fly with a description which resembled that of De Geer's *Musca geniculata*. In Opinion 1008 (BZN 30: 157–158, June 1974) the Commission designated *M. geniculata* as the type species of *Siphona*. As set out in the application (BZN 27: 234–237) by C.W. Sabrosky which gave rise to this Opinion, in 1803 Meigen had misidentified the species with which he was dealing as '*Conops irritans* Fabricius'; although Meigen later (1824, p. 161) realized his own error and cited *M. geniculata* De Geer as the first species in *Siphona*, the original mistake led to divergent interpretations of the generic name.

5. Boie (1838, p. 241) obtained many specimens of a parasitic fly in a rearing of the grass-devastating larvae of *Tipula oleracea* (or possibly *T. paludosa*) and identified them as *Siphona geniculata* (De Geer); this was the first record of a *Siphona* species being a parasite of TIPULIDAE (Diptera). Many years later Rennie & Sutherland (1920) published a detailed study of the life history of the same tachinid (identified by them also as *Siphona geniculata*) as a parasite of *T. paludosa*. This is the most common *Siphona* species collected in the field. However, it is not the same as the species reared by De Geer from Lepidoptera, a fact unrealized until the syntypes of *Musca geniculata* were found again and examined by Andersen (1996; see para. 8 below).

6. The first key for the identification of different species of *Siphona* was made by Staeger and published in Zetterstedt (1849, pp. 3210–3213). He used the name *S. geniculata* (De Geer) for the most common species in Scandinavia ('in Dania ubique frequens, sub tota aestate et autumnus'), and differentiated it from *Siphona cristata* (Fabricius) largely on the basis of the abdominal bristles. Studies by more recent authors (for example by Mesnil, 1960) have improved the morphological descriptions and reduced the likelihood of misidentifications of *Siphona* species, and the usage of the name *Siphona* (or *Bucentes*) *geniculata* in the sense of Staeger has remained universally accepted. Important examples in recent publications are: Sabrosky (1971); Crosskey (1976, p. 100); Herting & Simmonds (1978, pp. 8–9, host records); Hackman (1980, p. 141); Andersen (1982, pp. 149, 157, 160, 168, and figs. 5, 7, 17, 32); O'Hara (1983, pp. 278, 299–300); Herting (1984, p. 125); Tschorsnig (1985, p. 88); Mihályi (1986, p. 214); Rognes (1986, p. 72); O'Hara (1989, pp. 115–116, 166); Bei-Bienko & Steyskal (1989, p. 1219 and fig. 905.6); Tschorsnig (1992, p. 41); Belshaw (1993, p. 103 and fig. 409); Herting & Dely-Draskovits (1993, p. 334); Tschorsnig & Herting (1994, pp. 75, 100, 106, 153); Pape, Richter, Rivosecchi & Rognes (1995, p. 27); Ziegler & Shima (1996, p. 425); Tschorsnig, Andersen & Blasco-Zumeta (1997, p. 26); Herting & Tschorsnig (1997, p. 87); and those cited in para. 7 below.

7. This species, the *Siphona geniculata* of authors, has been used in a biological control project against the European Crane Fly *Tipula paludosa* Meigen, 1830; this was accidentally introduced into Canada and the larvae (known in English as

leatherjackets) have caused much damage to pastures and meadows in British Columbia. Releases have been partly successful, and the tachinid has become established in parts of British Columbia (for details see Wilkinson (1971, pp. 54–57) and Kelleher & Hulme (1984, pp. 85–88)).

8. The type material of *Musca geniculata* De Geer, 1776 has long been considered lost, but recently it (two males and one female) has been rediscovered in the De Geer collection in the Naturhistoriska Riksmuseet, Stockholm, and Andersen (1996, p. 94) has designated one of the male specimens as the lectotype. All the specimens are identical with *Stomoxys cristata* Fabricius, 1805, and for this reason Andersen transferred the specific name *geniculata* to the species long known as *Siphona cristata* and adopted the unused name *Siphona urbana* (Harris, 1780) (see para. 2 above) for the species previously known as *S. geniculata*. Andersen noted that 'It could be argued that the 'old, traditional usage' of the name *geniculata* should be preserved, even if known to be incorrect. However, it is my opinion that the name has never had any long-standing and unambiguous usage because *Siphona* species have only recently been clearly defined by new and distinctive characters, especially in the genitalia.'

9. *Musca geniculata* De Geer, 1776 is the oldest nominal species in *Siphona*; as mentioned in para. 4 above, it is the type species of the genus and is recorded as such on the Official Lists. The name has been applied since the early 19th century to the most common *Siphona* species, which occurs in the temperate zone of the Palearctic region from Ireland to Japan, and has been released in North America for biological control of its insect host. Unfortunately, the recently discovered specimens in the De Geer collection, including the lectotype designated by Andersen (1996), correspond not to this species but to *Siphona cristata* (Fabricius, 1805). Transfer of the very well-known name *geniculata* to the latter species, and the introduction of the unknown name *urbana* Harris, 1780 for the common species until now called *geniculata*, as proposed by Andersen (1996), would create confusion and misunderstandings. This was recognized by Andersen himself (see para. 8 above), but regrettably he did not maintain stability by referring the case to the Commission and meanwhile retaining existing usage. The confusion is especially severe because of the transfer of the name *geniculata* from one species to another: in the future the literature on the genus (including that concerned with applied entomology) would be very difficult to follow. This transfer has so far not been adopted by any other authors except Ziegler (1998, pp. 160–161), and we propose the removal of the potential severe confusion by setting aside the lectotype of *Musca geniculata* De Geer and designating a neotype in accordance with the very long and settled usage of the name. We propose as neotype a male in perfect condition, collected in Sweden and now in the Museum of Zoology at Lund University with the following data on the label: 'Sk. Dalby, Ö. Mölla, 21.VII.1989, leg. R. Danielsson'.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Musca geniculata* De Geer, 1776, and to designate as neotype the specimen in the Museum of Zoology, Lund University, mentioned in para. 9 above;

- (2) to add to the entry on the Official List of Specific Names in Zoology for *Musca geniculata* De Geer, 1776 an endorsement recording that the species is defined by the neotype designated in (1) above;
- (3) to place on the Official List of Specific Names in Zoology the name *cristata* Fabricius, 1805, as published in the binomen *Stomoxys cristata* and as defined by the holotype in the Zoological Museum, University of Copenhagen.

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