

The Swedish species of Chyromyidae (Diptera), with lectotype designations

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In the more recent literature on European Diptera only two species of *Chyromya* Rob.-Des. (s. str.) have been recognized, i. e. *C. flava* L. and *C. oppidana* Scop. (Czerny 1927, Wahlgren 1927, Hendel 1933, Frey 1941, Stackelberg 1958). In older European literature and in American publications also a third species, *C. femorella* Fall., is recognized (Becker 1904, Malloch 1914, Stone et al. 1965).

In 1758, Linné described *Musca flava*. He gave a short and not very distinctive description. Fallén (1820) recognized *M. flava* Linné (as a species of *Sapromyza*). At the same time he described the new species *femorella* Fallén as characterized by brown-yellow eyes and in the male sex swollen fore and hind femora, and restricted *flava* Linné to a species with green-red eyes and more normal femora. This restriction has been generally accepted. According to Haliday (1851), no specimen of *M. flava* L. is present in Linné's collection in London. I, too, accept this restriction by Fallén, and Linné's name is valid as *Chyromya flava* (L.).

In 1820, Fallén described *Sapromyza lutea* and *S. femorella* which have proved to belong to *Chyromya*.

Sapromyza lutea Fallén. The female sex was described on material from Sweden, Skåne, Mellby, Esperöd. In Fallén's collection in Stockholm there are four specimens; the first is labelled "S. lutea ♂ flava F.", the third "S. lutea ♀", while the second and the fourth are unlabelled. They are all female specimens of the same species with black third antennal segment, now known as *Chyromya oppidana* (Scop.). I have designated the third specimen as lectotype and labelled it accordingly. The generally accepted opinion of *S. lutea* Fall. as a synonym of *C. oppidana* Scop. is correct.

Sapromyza femorella Fallén. The male sex was described on material from Sweden, Skåne, Mellby, Esperöd. In Fallén's collection in Stockholm there is one specimen labelled "S. femorella ♂". It is a male with strongly dilated anterior and posterior femora, agreeing well with the original description. I have designated it as lectotype and labelled it accordingly. The lectotype specimen has totally yellow third antennal segments, five dorso-central bristles, and fine hairs on disc and margins of scutellum. As mentioned above, *femorella* Fall. has not been recognized in the more recent

European literature but has been listed as a synonym of *flava* L. There are, however, two species of *Chyromya* present in Sweden which agree fairly well with Fallén's opinion of *flava* L. and *femorella* Fall. and which are separable in at least the male sex (see the key and Fig. 1—2). Fallén's name is valid as *Chyromya femorella* (Fall.).

Fallén also described a *Sapromyza flava* var. β . This variety is represented by one specimen in Fallén's collection and by one Fallén specimen in Zetterstedt's collection. They are both *Gymnochyromyia flavella* (Zett.) like three more specimens in Zetterstedt's collection determined by Zetterstedt as *S. flava* L. var. b.

In 1847, Zetterstedt treated the genus *Sapromyza*. He could not present any characters to really distinguish between *S. flava* L. and *S. femorella* Fall. The material in his collection shows that he has completely mixed up the two species.

Sapromyza bipunctella Zetterstedt, 1847. The female sex was described on material from Sweden, Skåne, Lund and Esperöd and other localities; Östergötland, Vadstena, and from Denmark. A doubtful male is described as var. b. The species was described as very similar to *flava* L., distinguished primarily by the presence of two black spots at tip of abdomen. These spots are the black spermathecae visible through the cuticula. In the Diptera Scandinaviae collection there are five specimens from Östergötland, two from Esperöd and three from Lund. In the "Göteborg" collection there are five specimens from Lund. I have designated the first female specimen in the Diptera Scandinaviae collection as lectotype and labelled it accordingly. It is labelled "S. bipunctella. ♀ Ostr." in Zetterstedt's handwriting and has a small square of yellow paper (= Östergötland). As the lectotype specimen has the penultimate section of media longer than last section of cubitus, I consider it to be a specimen of *C. femorella* (Fall.) and that *S. bipunctella* Zett. is a synonym of this species.

Sapromyza chrysophthalma Zetterstedt, 1847. Both male and female were described on material from Sweden, Skåne, Lund and Mellby, Esperöd, and from Denmark. In the Diptera Scandinaviae collection there are two specimens from Esperöd labelled as males, and three females from Lund. They are all females and belong to the same species and agree with the description. I have designated the first specimen, labelled "S. chrysophthalma ♂ Esperöd" in Zetterstedt's handwriting and with a small square of blue paper (= Esperöd), as lectotype and labelled it accordingly. The lectotype specimen belongs to the same species as *S. lutea* Fall., for which the name *oppidana* Scop. has been generally accepted. Czerny's (1927) opinion of *S. chrysophthalma* Zett. as a synonym of *C. oppidana* (Scop.) is correct.

Anthophilina flavella Zetterstedt, 1848. The species was described on one specimen from Denmark, leg. Staeger. Zetterstedt was not sure about the sex of the type specimen for he denoted it as "♀?". In the Diptera Scandinaviae collection there is a specimen with two labels in Zetterstedt's handwriting, reading "A. flavella ♀? a Staeger" and "♀? Staeg.", and one in Staeger's handwriting: "Anthophilina? flava n. sp.". This specimen agrees with the description and there is no doubt that it is the holotype specimen. I have labelled it with a red holotype label. It belongs to *Gymnochyromyia* and is the same species as *G. minima* (Beck.). Stackelberg (1958) has used the name *flavella* Zett. for *minima* Beck. but placed it in *Chiromya*. Zetter-

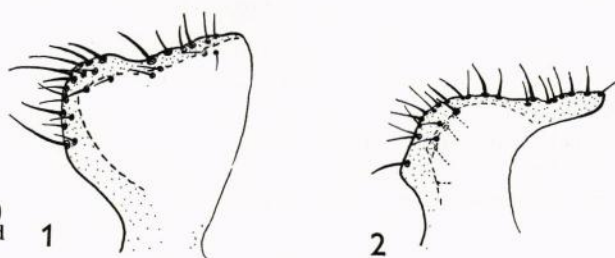


Fig. 1—2. Left paramere of 1) *Chyromya femorella* (Fall.) and 2) *Ch. flava* (L.).

stedts name is valid as *Gymnochiromyia flavella* (Zett.). *A. flavella* Zett. has sometimes been listed incorrectly as a synonym of *Anthomyza pallida* Zett. (Czerny 1902, Wahlgren 1927).

Key to the species

1. Scutellum with scutellar bristles and fine hairs on the disc and along the margins. Eyes more rounded *Chyromya* R.-D. 3
- . Scutellum without hairs, with only four scutellar bristles. Eyes oval *Gymnochiromyia* Hend 2
2. 4 dorsocentral bristles *G. flavella* Zett.
- . 2 dorsocentral bristles *G. inermis* Coll.
3. Third antennal segments largely black *C. oppidana* Scop.
- . Third antennal segments totally yellow 4
4. ♂. Front and hind femora strongly dilated, front tarsi posteriorly with long, pale hairs. Parameres thin, scale-like, with anterior and ventral margins only narrowly thickened and posterior margin not incurved (fig. 1).
 ♂♀. General bristliness coarser, usually five dorsocentral bristles. The section of media (m) between the crossveins usually longer than the last section of cubitus (cu) *C. femorella* Fall.
- . ♂. Front and hind femora not so strongly dilated, front tarsi without conspicuous hairs. Parameres thicker, posterior margin strongly incurved (fig. 2).
 ♂♀. General bristliness weaker, usually four dorsocentral bristles. The section of media between the crossveins usually shorter than the last section of cubitus *C. flava* L.

The species of Chyromyidae is subject to a considerable variation in size. Some of the characters show allometry and therefore small and large specimens of the same species give different general impressions. These allometrically variable characters are the dilatation of male femora and the number and size of hairs and bristles. There is also a variation in wing venation. Due to difficulties caused by these variations I have refrained from trying to identify all available females of the *flava-femorella* complex, especially as no further information would be gained on the distribution of the species.

Chyromya flava (L.), 1758.

Sweden: 1 ♂, coll. Zetterstedt; Skåne, Mellby, Esperöd 3 ♂, coll. Zetterstedt; Skåne, Lund 2 ♂, coll. Zetterstedt. Östergötland, Vadstena 1 ♂, coll. Zetterstedt.

Chyromya femorella (Fall.), 1820.

Synonymy: *Sapromyza bipunctella* Zett., 1847.

Sapromyza simplex Zett., 1847, n. nud.

Sweden: 1 ♂ 4 ♀, coll. Fallén. 1 ♂, coll. Zetterstedt. Skåne, Mellby, Esperöd 1 ♂ 1 ♀, coll. Zetterstedt; Skåne, Lund 1 ♂ 1 ♀, coll. Zetterstedt. Halland, Enslöv, Årnilt 29.V.1951 1 ♂, 1.VI.1951 1 ♂, 7.VIII.1952 1 ♀, 27.VII.1956 1 ♀, leg. H. Andersson. Östergötland 2 ♂ 2 ♀, coll. Zetterstedt.

Chyromya oppidana (Scop.), 1763.

Synonymy: *Sapromyza lutea* Fall., 1820.

Sapromyza chrysophthalma Zett., 1847.

Sweden: 4 ♀, coll. Fallén. Skåne 1 ♀, leg. S. Bengtsson; Skåne, Mellby, Esperöd 5 ♀, coll. Zetterstedt; Skåne, Lund 7 ♀, coll. Zetterstedt. Halland, Enslöv, Årnilt 21.VII.1950 1 ♀, leg. H. Andersson. Östergötland 4 ♀, coll. Zetterstedt; Östergötland, Vadstena 1 ♀, coll. Zetterstedt.

Gymnochiromyia flavella (Zett.), 1848.

Synonymy: *Sapromyza flava* L. var. β Fallén, 1820.

Peletophila minima Becker, 1904.

Sweden: 1 ex., coll. Fallén; 1 ♀ ex. mus. Fall., coll. Zetterstedt. Skåne, Mellby, Esperöd 2 ♀, coll. Zetterstedt; Skåne, Lomma 24.VI.1960 2 ♀, 4.VII.1959 1 ♂, leg. H. Andersson; Skåne, Bjärred 25.VI.1964 1 ♀, 17.VII.1964 1 ♀, leg. H. Andersson; Skåne, Ilstorp 5 ex., leg. Roth; Skåne, Lerberget 13.VIII.1969 1 ♀, leg. H. Andersson. Gotland, Nähr 1 ♀, coll. Zetterstedt. Dalarna, Lindesnäs 1 ♀, coll. Zetterstedt.

Gymnochiromyia inermis Coll., 1933.

Sweden; Halland, Enslöv, Årnilt 25.VI.1959 1 ♂, leg. H. Andersson. On window. New to Sweden; known from the British Isles.

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— 1848. *Ibid.* 7: 2581—2934.