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Synonymic and Biological Notes on Coleophoridae (Lepidoptera)

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Coleophora serratella Linnaeus

Tinea serratella LINNAEUS, 1761, Fauna Suecica, p. 369. WALLENGREN, 1859, Öfvers. K. Vetensk. Akad. Förhandl., Stockholm, vol. 16, pp. 164-166 (correct determination). BENANDER, 1938, Opuscula Ent., vol. 3, no. 3-4, p. 111 (Wallengren's argument cited).

Coleophora serratella, STANTON, 1859, The natural history of the Tineina, vol. 4, p. 40 (probably the same as *nigricella*). BENANDER, 1939, Opuscula Ent., vol. 4, no. 1-2, p. 56, pl. 2, fig. 22 (male genitalia). HACKMAN, 1945, Notulae Ent., vol. 25, p. 30, pl. 2, fig. 9, pl. 4, fig. 40 (genitalia).

Tinea coracipennella HÜBNER, 1796, Sammlung Europäischer Schmetterlinge, pl. 30, fig. 208. HEMMING, 1937, Hübner, vol. 1, p. 296 (date of publication fixed).

Porrectaria nigricella STEPHENS, 1829, A systematic catalogue of British insects, pt. 2, p. 210 (*nomen nudum*).

Astyages nigricella STEPHENS, 1834, Illustrations of British entomology, Haustellata, vol. 4, p. 281.

Coleophora nigricella, HEINEMANN, 1877, Die Schmetterlinge Deutschlands und der Schweiz, Abt. 2, vol. 2, pt. 2, p. 545. BARASCH, 1934, Deutsche Ent. Zeitschr., pp. 13, 31, 62, pl. 1, fig. 6 (doubtful).

Eupista nigricella, PIERCE AND METCALFE, 1935, Genitalia of the tineid families of the Lepidoptera of the British Islands, p. 69, pl. 41. TOLL, 1952, Documenta physiographica Poloniae, no. 32, family Eupistidae (Coleophoridae), p. 70, pl. 3, fig. 23, pl. 22, fig. 185 (genitalia), pl. 33, fig. 6 (larval case).

Coleophora cerasivorella Packard, 1870, 17th Ann. Rept. Massachusetts Board Agr., p. 239. HEINRICH, 1924, in Forbes, Cornell Univ. Agr. Exp. Sta. Mem., no. 68, pp. 206, 208 (doubtful determination). McDUNNOUGH, "1945"

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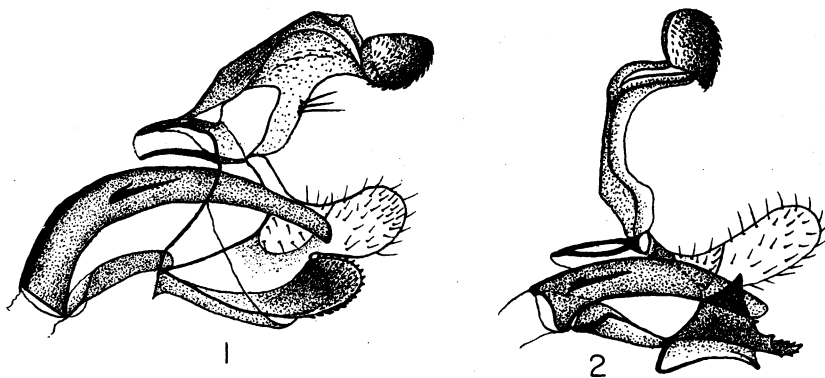
[1946], Canadian Ent., vol. 77, p. 145 (synonymy), pl. fig. 1 (female genitalia).

Coleophora occidentis ZELLER, 1873, Verhandl. Zool. Bot. Gesell. Wien, vol. 23, p. 309. HEINRICH, 1924, in Forbes, Cornell Univ. Agr. Exp. Sta. Mem., no. 68, pp. 206, 209. McDUNNOUGH, "1945" [1946], Canadian Ent., vol. 77, pp. 145-146 (synonymy).

Coleophora fletcherella FERNALD, 1892, Canadian Ent., vol. 24, p. 122. HEINRICH, 1924, in Forbes, Cornell Univ. Agr. Exp. Sta. Mem., no. 68, pp. 206, 209, fig. 127A (larval case). McDUNNOUGH, "1945" [1946], Canadian Ent., pp. 145, 146 (synonymy).

Haploptilia fletcherella, McDUNNOUGH, 1933, Canadian Ent., vol. 65, p. 161, pl. 10, fig. 1 (larval case).

From a comparison of the genitalia of both sexes of the well-known North American cigar-case bearer on apple and allied species of Rosaceae with the figures given by various authors (as noted above) of the genitalia of a European case bearer with similar food plants, it has become evident that the North American and European species are identical and that a single name must be applied to both. For comparison a figure of the male genitalia of a specimen bred from a case on apple at Halifax is given. The synonymy, both in Europe and this continent, is very involved, and it is only in fairly recent years that it has been satisfactorily worked out; no fewer than six names have been proposed for the species. There seems no doubt in my mind but that a long-neglected Linnean name is the correct one to apply to the species which in Europe has generally passed under the name *nigricella*. Barasch's genitalic figure under this name does not match at all well the later figures given by Benander, Hackman, and Toll, especially in the length of the clasper, and some error of drawing is presupposed. In America the species is best known to economic entomologists as *fletcherella*, although, as has been shown, this name



FIGS. 1, 2. Male genitalia of *Coleophora*. 1. *C. serratella* Linnaeus. 2. *C. fuscadinella* Zeller.

would fall as a synonym of *cerasivorella*. The references given above do not by any means form a complete bibliography but must be merely considered as the main ones on which the synonymy has been based.

Coleophora fuscadinella Zeller

Coleophora fuscadinella ZELLER, 1849, Linnaea Ent., p. 383. HEINEMANN, 1877, Die Schmetterlinge Deutschlands und der Schweiz, Abt. 2, vol. 2, pt. 2, p. 544. BARASCH, 1934, Deutsche Ent. Zeitschr., pp. 32, 62. BENANDER, 1939, Opuscula Ent., vol. 4, no. 1-2, p. 56, pl. 2, fig. 21 (male genitalia). HACKMAN, 1945, Notulae Ent., vol. 25, p. 30, pl. 2, fig. 10, pl. 4, fig. 41 (genitalia).

Eupista fuscadinella, PIERCE AND METCALFE, 1935, Genitalia of the tineid families of the Lepidoptera of the British Islands, p. 69, pl. 42 (genitalia).

Eupista fuscadinella, TOLL, 1952, Documenta physiographica Poloniae, no. 32, family Eupistidae (Coleophoridae), p. 68, pl. 3, fig. 22, pl. 22, fig. 181 (genitalia).

Coleophora salmani HEINRICH, 1929, Proc. Ent. Soc. Washington, vol. 31, p. 18. MCDUNNOUGH, "1945" [1946], Canadian Ent., vol. 77, p. 147, pl. fig. 2 (female genitalia). New synonymy.

If one may judge by the similarity of the larval food plants, the larval cases, and the coloration of the primaries of the adults, as well as by the genitalia of both sexes, it would seem that we have another case of a species that occurs in both Europe and North America. The species is very common in the Halifax area and has been bred from cases on birch, alder, and sweet fern. It has also been found to be numerous at White Point Beach, Queens County, on the south shore of Nova Scotia. Cases have already been recorded as very plentiful on alder at Parrsboro, Cumberland County, Nova Scotia. The female genitalia were illustrated in my 1946 paper. A figure of the male genitalia is here supplied, and attention is called to the very characteristic, triangularly shaped sacculus, with the apex variably dentate. The type of aedeagus, which is a hollow, well-chitinized tube, links it with *serratella* which has a similarly shaped organ.

Coleophora alticolella Zeller

Coleophora alticolella ZELLER, 1849, Linnaea Ent., vol. 4, p. 341. BRADLEY, 1955, Entomologist, vol. 88, p. 275, figs. 2, 4 (genitalia).

Coleophora caespititiella, AUCTIONEER (nec Zeller). MCDUNNOUGH, 1955, Amer. Mus. Novitates, no. 1719, p. 5.

Through the researches of J. D. Bradley of the British Museum (Natural History), who has examined the genitalia of Zeller's types of *caespititiella*, it has been established that the current determination of the species in Europe has been erroneous and that the correct name for the species proves to be *alticolella* Zeller. Bradley's genitalic figures of this species agree excellently with slides of the genitalia made from the speci-

mens taken by D. Ferguson in the Alpine Gardens of Mt. Washington, New Hampshire, and reported, as noted above, under the name *caespitiella*. The name *alticolella* Zeller should therefore be applied to these specimens; the true *caespitiella* is still unknown in our North American fauna.

***Coleophora paludoides*, new name**

Coleophora paludicola McDUNNOUGH (*nec* Stainton), "1945" [1946], Canadian Ent., vol. 77, p. 147, fig. 3; 1954, Amer. Mus. Novitates, no. 1686, p. 10, figs. 4, 5, 6C.

In going over carefully the more recent European literature on the Coleophoridae I discovered that the name *paludicola* McDunnough was a homonym of *C. paludicola* Stainton (1887, Ent. Monthly Mag., vol. 22, p. 9) which in itself is considered a synonym of *adjunctella* Hodgkinson (*vide* Hackman, 1945, Notulae Ent., vol. 25, p. 48). In consequence the above name is proposed to replace this homonym.

***Coleophora glissandella* McDunnough**

Coleophora glissandella McDUNNOUGH, 1942, Canadian Ent., vol. 74, p. 170, pl. 13, figs. 1, 2 (genitalia).

This species has been bred from cases found on *Juncus balticus* at White Point Beach, Queens County, Nova Scotia. The mention of larval cases in the original description as possibly being those of this species proves erroneous. The true case is smooth, slightly longitudinally ribbed, of a pale ochreous color, with a certain amount of dark granulation around the mouth. It tapers somewhat towards the apex which is weakly triangularly compressed. The mouth opening is deflected to 90 degrees, so that the case lies virtually flat on the stem to which it is attached for pupation. In general the case is very similar to cases of *Coleophora glaucolella* Wood and *Coleophora bispinatella* McDunnough.