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## Notes on the Coleophoridae (Lepidoptera) of the Maritime Provinces of Canada

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The present paper summarizes the results of continued studies on the Coleophoridae of Nova Scotia and adjacent areas by the author. Additional material has come to hand, some of it by rearing, that should be made available.

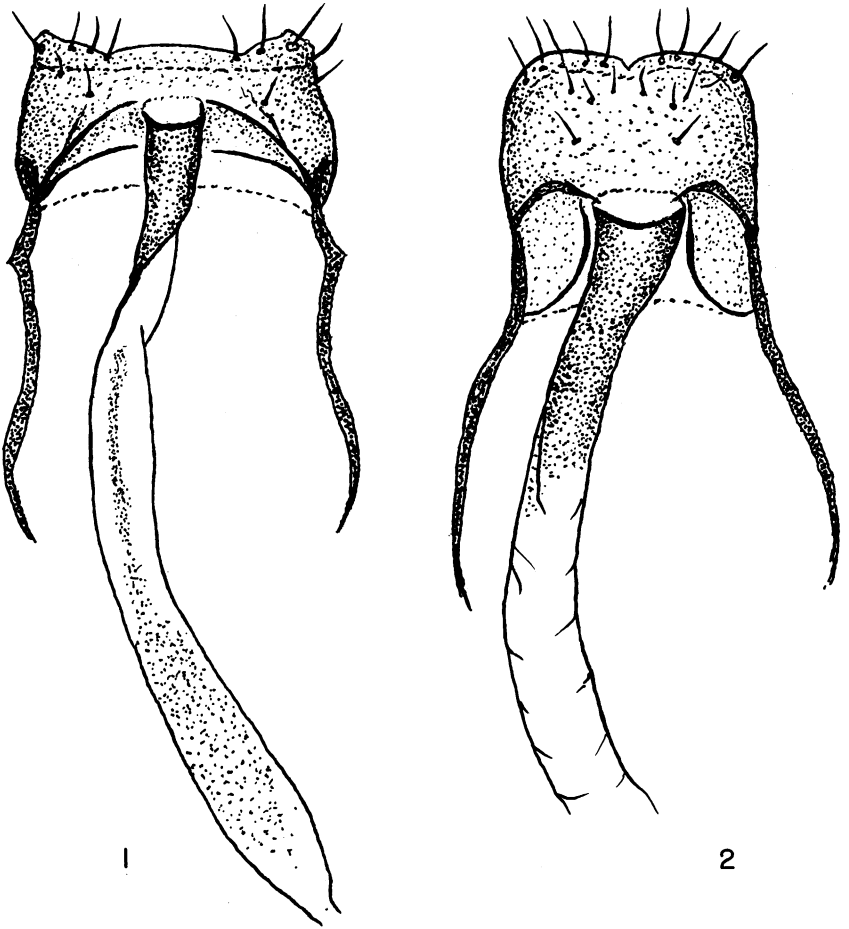
### *Coleophora insulicola* McDunnough

*Coleophora insulicola* McDUNNOUGH, "1945" (1946), Canadian Ent., vol. 77, pp. 147, 149, fig. 7.

The species was described from a single female taken at Brackley Beach, Prince Edward Island, on July 26, 1940. In the spring of 1957, a number of cases of the cigar type were found feeding on apple at Truro and on hawthorn at West River, Antigonish County, Nova Scotia, and were sent in for determination. Imagoes emerged in July and, based on coloration of the forewings and on several genitalic slides of both sexes, were identified as *serratella* Linnaeus (*cerasivorella* Packard). Recently further genitalic slides of females from both of these series were made, and the genitalia of two females from Truro (July 3 and 4) were found to differ from the figure given by the author (*ibid.*, fig. 1) under the caption *cerasivorella* Packard. This name later (1957, Amer. Mus. Novitates, no. 1827, pp. 1-3, fig. 1) was synonymized with *serratella* Linnaeus. The above two genitalic preparations agreed so

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FIGS. 1, 2. Genital plates of *Coleophora*. 1. *C. insulicola* McDunnough. 2. *C. serratella* Linnaeus.

closely with the figure given of *insulicola* as to leave little doubt that the specimens belonged to this species, although no difference in the color of the primaries or in other characters could be found by which to separate them from *serratella*. Among numerous genitalic slides of females reared from hawthorn, a single one was discovered that belonged to *insulicola*. In spite of the fact that genitalic slides of virtually all the available male material were made, no slide was discovered that was different from that of *serratella*; the male sex, consequently, still remains unknown.

A much enlarged figure of the genital plate and initial section of the ductus bursae is given, and a figure of a similar section of a specimen of *serratella*, at the same magnification, is presented for comparison. It might be noted that what was described in the original description of the genitalia of *insulicola* as "a fine median bar of chitin" proves to be a very narrow spiculate band which becomes enlarged to cover the entire surface of the ductus. The convolution of the ductus "just before entering the bursa" is lacking in the three above-mentioned slides, but this characteristic can hardly be judged vital.

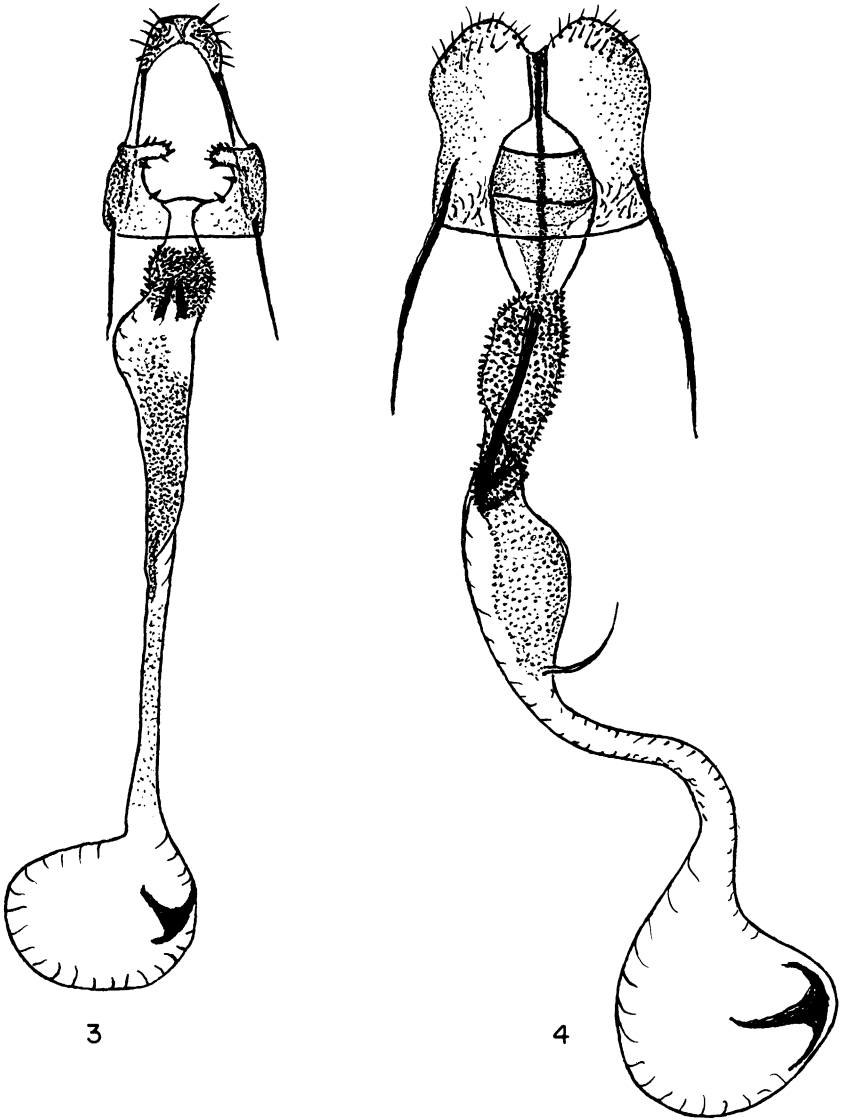
*Coleophora persimplexella* McDunnough

*Coleophora persimplexella* McDUNNOUGH, 1955, Bull. Brooklyn Ent. Soc., vol. 50, p. 35, pl. 1, fig. 1.

In the early spring of 1960, Barry Wright discovered some very striking cases attached to the stems of *Comptonia peregrina* at Aylesford, Kings County, Nova Scotia. The basal two-thirds of the cases were roughly covered with bits of leaf from which a smooth, dark, strongly recurved tube protruded at the apex. Quite similar cases had occasionally been found in Point Pleasant Park on *Alnus mollis* and *Betula* in late fall but, although evidently mature, no adults were secured from them in the following spring. From the cases on *Comptonia*, however, single male and female adults emerged on May 14 and 24, respectively.

A comparison of the male genitalia with those of the holotype of *persimplexella*, described from a single male captured at Port Wallis, Halifax County, Nova Scotia, showed such close similarity between the two organs as to leave little doubt that the two specimens were conspecific. A very slight difference could be noticed in the distal prolongation of the sacculus which appeared to be somewhat thinner in the Port Wallis specimen, but this is hardly sufficient to warrant specific separation. It might also be noted that both in larval case and genitalia the species is evidently closely related to *cornuta* Stainton as figured by Toll ("1952" [1953], Eupistidae [Coleophoridae] of Poland, p. 73, pl. 4, fig. 28, pl. 22, fig. 187, pl. 36, fig. 93), but as far as can be determined, the finer details of the genitalia warrant its separation as a distinct species.

There is the possibility that the larva of the holotype of *persimplexella* was a feeder on either *Betula* or *Alnus* and that bred series of both sexes from cases collected on these plants will show sufficient constant differences in the genitalia, especially of the female, to warrant a separation of the *Comptonia* feeder as a good species. However, as it has been noted in several cases that *Comptonia* is an alternate food plant for feeders on the above two plants, it seems more logical at the present time to place



FIGS. 3, 4. Female genitalia of *Coleophora*. 3. *C. persimplexella* McDunnough. 4. *C. bispinatella* McDunnough.

the few specimens available for study under a single specific name. Besides the holotype and the bred pair from Aylesford, there is a single male before me collected at Parrsboro, June 24, 1954, as well as two

females captured at light at Debert, Nova Scotia, June 17, 1960. A figure is given of the female genitalia of the *Comptonia* feeder and the following detailed description is herewith added:

**FEMALE GENITALIA:** The genital plate is lightly sclerotized, much broader than high, the lateral edges are slightly convex, terminating caudally in a very small, rounded projection. The caudal sections of the two lobes are widely separated in the median area, appearing as two opposed, rectangular projections, the edges of which bear small spines; their cephalic edges are strongly rounded outwardly and then join somewhat above the cephalic margin of the plate, forming a large, flatly oval space, which may be considered as the ostium. From its medio-cephalic edge the ductus bursae originates as a rather broad membranous tube which almost immediately is covered with two small lateral patches of strong, blackish spicules. Following this it broadens considerably for a short distance and then gradually narrows to a long, straight tube covered with minute, brown, rounded spicules arranged more or less transversely. Beyond this section, it continues as a narrow, feebly spiculate, membranous tube, somewhat enlarged as it enters the small, globular, membranous bursa which is armed with a signum consisting of a long, pointed spine arising from a lunate base. The origin of the ductus seminalis could not be determined, but it probably arises at the distal end of the broader spiculate section.

*Coleophora bispinatella* McDunnough

*Coleophora bispinatella* McDUNNOUGH, 1954, Amer. Mus. Novitates, no. 1686, pp. 6, 11, fig. 6B.

Cases of this species were plentiful on *Juncus canadensis* at Peggy's Cove, Halifax County, Nova Scotia, in the late fall of 1959. A good series of both sexes was bred the following spring, the adults emerging over a rather extended period from the latter half of May to the middle of June.

Some variation occurs in the maculation of the primaries. Well-marked specimens, especially females, present a definitely strigate appearance which is caused by the contrast between the darker intravenular areas and the pale costa and radial veins.

As the female sex was unknown at the time of the original description, a drawing of the genitalia is given (fig. 4), and the following description is offered:

**FEMALE GENITALIA:** The genital plate is weakly sclerotized, roughly rectangular, the height being slightly greater than the width; the lateral margins are strongly convex, rounded at the caudal edges which

run obliquely inward, forming a small, U-shaped excavation in the median area; the inner margins of the two lobes run parallel and closely approximate to each other to nearly the center of the plate and then curve strongly outward, forming the edges of the broad, somewhat raised, lightly sclerotized ostium, which occupies the median area of the genital plate. From one side of the above-mentioned mediocaudal invagination a very fine rod extends perpendicularly to the proximal end of the ductus bursae; its object is unknown. The initial portion of the ductus bursae is short, weakly sclerotized, extending funnel-shaped to a short distance beyond the cephalic margin of the genital plate; it is followed by a short, variably twisted section, heavily covered with almost black spicules and with a central dark bar; this leads into a broader bulbous section, largely covered with finer, light brown spicules, from the distal end of which the ductus seminalis originates. The distal portion of the ductus consists of a short, narrow, membranous tube, slightly curving before entering the small, membranous, globular bursa. The signum is a strong, chitinous spine on a large, lunate base.

*Coleophora sexdentatella* McDunnough

*Coleophora sexdentatella* McDUNNOUGH, 1958, Amer. Mus. Novitates, no. 1800, p. 9, figs. 8, 14 (genitalia).

This species was described from two males and a female taken at light by D. Ferguson at Mt. Uniacke, Nova Scotia; no data were available at the time concerning the larval case or the food plant.

In the late fall of 1959, a number of larval cases were found on the seedheads of *Juncus canadensis* at Peggy's Cove, Nova Scotia. These cases were very characteristic and quite similar to those of *C. dentiferoides* on *Juncus militaris* (*ibid.*, p. 10). The basal portion consisted of the entire seed capsule from which, on maturity, the case proper protruded as a light brown cylinder with a trilobed apex, somewhat longer and thinner than the same section in *dentiferoides*.

In due course, a good series of both sexes of the imago emerged in 1960 over a considerable period of time, from early June until mid August, the main emergence occurring in mid July.

A number of genitalic slides of both sexes were made, covering the entire period of emergence. Those of the female genitalia agreed with one another and also very well with the original drawing of the organ in the allotype of *sexdentatella*. The male genitalia showed a slight individual variation. In certain slides the three small, terminal, ventral spines on the aedeagus rods, which gave rise to the specific name, were present; in others, the third, interior spine was missing, the armature

consisting of two well-developed spines on each rod. In other respects, notably in the terminal projection of the sacculus and the armature of the vesica, all slides agreed with the original figure of the organ. Such variation in the terminal spining of the aedeagus rods is known to occur in a number of species of *Coleophora* and cannot be considered as having any specific value in the present case.

It might be noted that a single female of this species was taken at light by D. Ferguson at Doyles, Codroy Valley, Newfoundland, on July 10, 1959.

