

A NEW SPECIES OF *CECIDOMYIA* INJURIOUS TO
CONES OF SLASH PINE IN FLORIDA¹

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ABSTRACT

A new species of pitch midge, *Cecidomyia bisetosa* Gagné, injurious to cones of slash pine in Florida is described and compared to its closest congener. Unlike other *Cecidomyia*, which live in pitch on twigs and branches of conifers, *C. bisetosa* attacks the cones producing hypertrophy of the cone scales and preventing normal seed release from mature cones.

The genus *Cecidomyia* contains 12 known species, 9 from North America and 3 from Eurasia, all of which feed on resin of pines and, in Europe, fir and spruce. The new species described here is the first found to feed on cones; all others have been reported only from pitch masses on twigs and branches where they promote breakage and secondary infection. On cones the damage is more serious because scales become enlarged and deformed thus preventing release of the seeds when cones mature.

The new species is known so far only from a seed orchard of slash pine, *Pinus elliottii* Englemann, in Nassau Co., Florida, but is a potentially serious threat to seed production in slash pine seed orchards in the southern United States. It was originally submitted to me for identification by E. P. Merkel and I. L. Williams, entomologists with the Southeastern Forest Experiment Station, Olustee, Florida. These entomologists are investigating the biology of the new species.

C. bisetosa was discovered too late to be included in my revision of *Cecidomyia* (Gagné, in press) but can be referred to the keys that I prepared for that paper. In the key to adults, *C. bisetosa* will run to couplet 5: sternum X is deeply bilobed, although not as much so as in *C. resinicola* (Osten Sacken), and the aedeagus is parallel-sided. In the key to larvae, *C. bisetosa* will run to couplet 6 and differs from *resinicola* and the other 2 species in that couplet in its lack of a short, peglike seta on the terminal abdominal segment.

C. bisetosa is closely related to *C. resinicola*, a species that is widespread in North America on many different hosts of hard pines including *P. elliottii*. The pupal taxonomic characters are alike in both *bisetosa* and *resinicola*, and the male terminalia differ slightly with sternum X of *bisetosa* less deeply bilobed and the aedeagus narrower. Larvae of *bisetosa* have lost the short peglike seta of the third terminal papilla, and their hind spiracles are bilaterally symmetrical (compare Figs. 3-4).

¹ Diptera: Cecidomyiidae.

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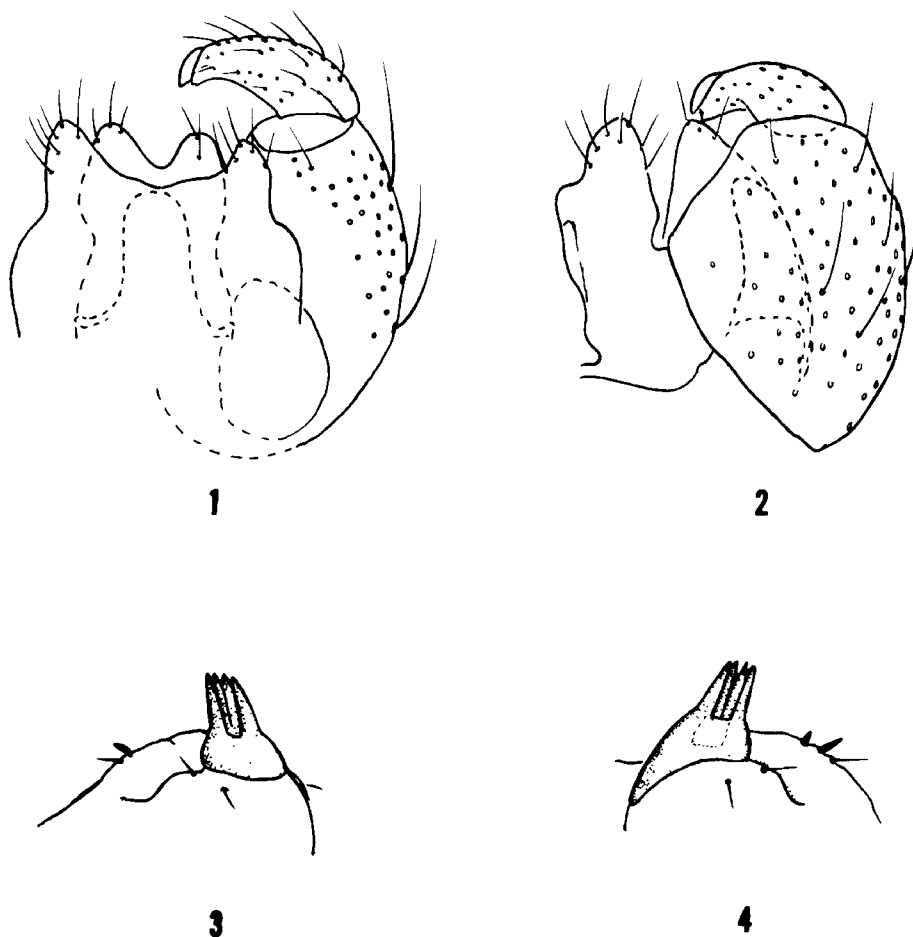


Fig. 1-3, *Cecidomyia bisetosa* Gagné, n. sp. 1, male terminalia (dorsal); 2, same (lateral); 3, instar III hind spiracle and terminal segments (dorsal). Fig. 4, *Cecidomyia resinicola*, instar III hind spiracle and terminal segments (dorsal).

Cecidomyia bisetosa Gagné, NEW SPECIES

Adult. Palpus four-segmented. Legs covered with brown scales. Male terminalia (Figs. 1-2): telomere short; sternum X bilobed, the lobes short; aedeagus shorter than sternum X, wide, parallel-sided, convex caudally.

Pupa. Antennal horn short with ventral ridge; pronotum with membranous anterior tubercle at each side of center line and 1 long and 1 short seta at its base.

Larva (instar III). Spatula absent. Pleural papillae and lateral pairs of dorsal papillae of abdomen with short setae not situated on tubercles; middle pair of dorsal papillae not apparent. Two terminal papillae present (Fig. 3): 1 with long, tapered seta, one with long, peglike seta. Terminal spiracle bilaterally symmetrical, with long, caudal prongs.

Holotype, male, ex cones *Pinus elliottii*, Nassau Co., Florida collected 6-XII-1976, R. Mantie, emerged 2-I-1977, USNM Type No. 75227. *Paratypes*:

5 males, 4 pupal exuvia, 10 larvae, same data as holotype (USNM); 3 males, 5 females, same host and locality, collected 8-X-1976, I. Williams (Florida State Collection of Arthropods); 6 larvae, same host and locality, 1-XII-1977, R. Mantie (USNM).

The specific epithet, *bisetosa*, refers to the presence of only 2 setae on each side of the terminal abdominal segment of the larva.

LITERATURE CITED

GAGNÉ, RAYMOND J. (In press). A systematic analysis of the pine pitch midges, *Cecidomyia* spp. (Diptera: Cecidomyiidae). Technical Bulletin. Agr. Res. Serv., USDA.



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