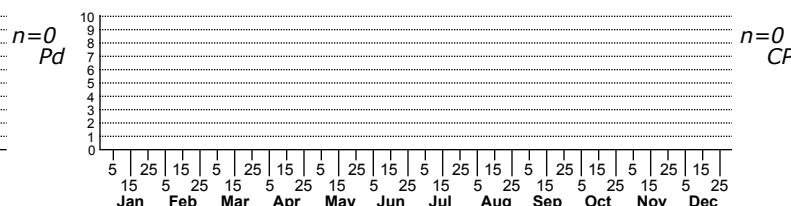
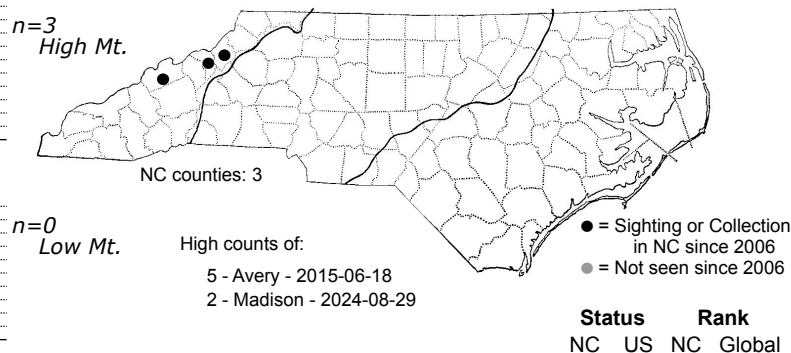
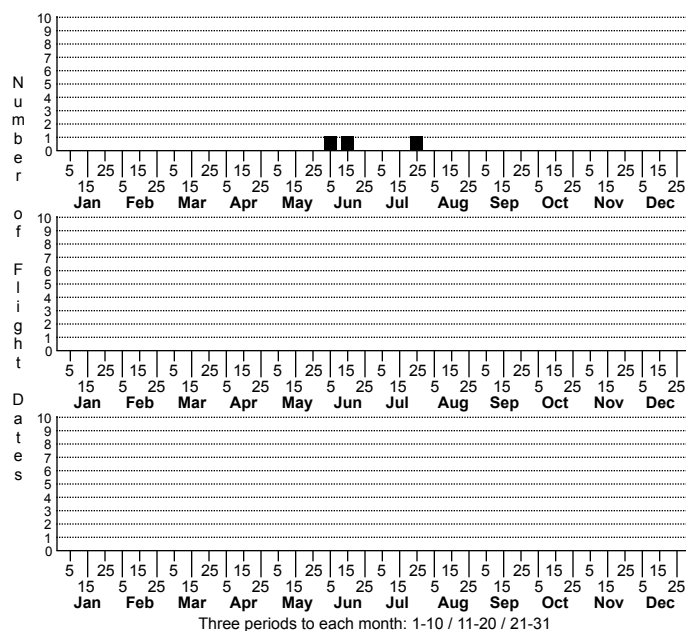


Bucculatrix canadensisella Birch Skeletonizer Moth



FAMILY: Bucculatricidae SUBFAMILY: [Bucculatricinae] TRIBE: [Bucculatricini]

TAXONOMIC COMMENTS: *Bucculatrix* is a large genus of small leaf-mining moths, with around 300 species worldwide. A total of 103 Nearctic species have been described, and many others will likely be described in the future. Braun (1963) covered 99 species in her monograph, and four additional Nearctic species have been described since then.

FIELD GUIDE DESCRIPTIONS: Covell (1984)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Braun (1963, p. 147)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Braun (1963)

ID COMMENTS: This is a minute, dark brown and white streaked moth. The following description is based on that by Braun (1963). An even more detailed description is in Friend (1927). The face is whitish to grayish brown, and the tuft white with a brown center. A broad zone of white is present below the tufts and thorax due to white coloration on the head, tegula, and the base of the forewing. The eyecap is white, and the antennal stalk has narrow brown annulations. The ground color of the forewing and thorax is dark brown to reddish brown. There are three posteriorly oblique white streaks that extend from the costa to the middle of the wing. One begins at one-fifth the wing length, the second at the middle, and the third at about three-fourths. The inner margin has a short, white, posteriorly oblique streak just before the middle that nearly meets the apex of the first costal streak. A patch of black raised scales borders the streak posteriorly. A second and less oblique dorsal streak occur at the tornus and is slightly anterior to the third costal streak. The wing tip has a black apical spot that is partially or completely surrounded by white scales. The fringe is reddish brown with a faint, irregular line of dark-tipped scales that extends from above the black spot to the tornus. The hindwing is gray, and the cilia brownish or reddish tinged. The legs are brown outwardly, with the tarsal segments broadly brown-tipped. The general patterning of *Bucculatrix canadensisella* is similar to that of *B. coronatella*. It can be distinguished based on its much darker ground color, and the broad zone of whitish wash below the tufts and thorax.

DISTRIBUTION: *Bucculatrix canadensisella* is mostly found at northern latitudes in North America. It is widespread in Canada, occurring from British Columbia to Newfoundland. In the US, it occurs from Maine and adjoining states westward to Minnesota, and southward mostly along the Appalachians to as far south as eastern Tennessee and western North Carolina. There is one disjunct population in Colorado (Braun, 1963). As of 2021, all of our records are from higher elevation sites in the Blue Ridge. Braun (1963) collected specimens at Eagle's Nest, which we believe corresponds to a site in Avery County. She also mentions a record from the Tennessee side of New Found Gap in the Great Smoky Mountains, suggesting that it may be found throughout the Blue Ridge, at least at high elevations.

FLIGHT COMMENT: Local populations appear to be univoltine (Friend, 1927), with adults active from May through August in areas outside of North Carolina. As of 2021, our records are from June and July.

HABITAT: Records from North Carolina, as well as records from Tennessee and Kentucky, come from elevations above 4,000 ft. The host plants in those areas were Yellow Birch in stands of northern hardwoods (Shafale and Weakley, 1990).

FOOD: The larvae specialize on birches (Braun, 1963; Eiseman, 2019). The known hosts include European White Birch (*Betula pubescens*), Yellow Birch (*Betula alleghaniensis*), Sweet Birch (*B. lenta*), River Birch (*B. nigra*), Water Birch (*B. occidentalis*), Gray Birch (*B. populifolia*) and Paper Birch (*B. papyrifera*). There are two records of larvae using *B. alleghaniensis* in the southern Appalachians (Braun, 1963), including one from North Carolina.

OBSERVATION METHODS: The adults are attracted to lights. Friend (1927) noted that the adults often rest on ground vegetation such as ferns during the day and can be easily collected by sweep-netting. They make daily migrations into birch trees to mate. We recommend searching for the mines on birch leaves to better document host use and habitat requirements for North Carolina populations.

NATURAL HERITAGE PROGRAM RANKS: GNR SNR [S1S2]

STATE PROTECTION: Has no legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: Based on the few records collected so far, this species appears to be associated with high elevation stands of Northern Hardwoods, where it may be one of a number of Pleistocene relicts that persist in our mountains. If so, then it may be significantly threatened by reduction in cool moist forests due to the effects of global climate change. However, much more information is needed on its distribution, host plants, and habitat preferences in North Carolina before any conclusions can be reached about its conservation status.