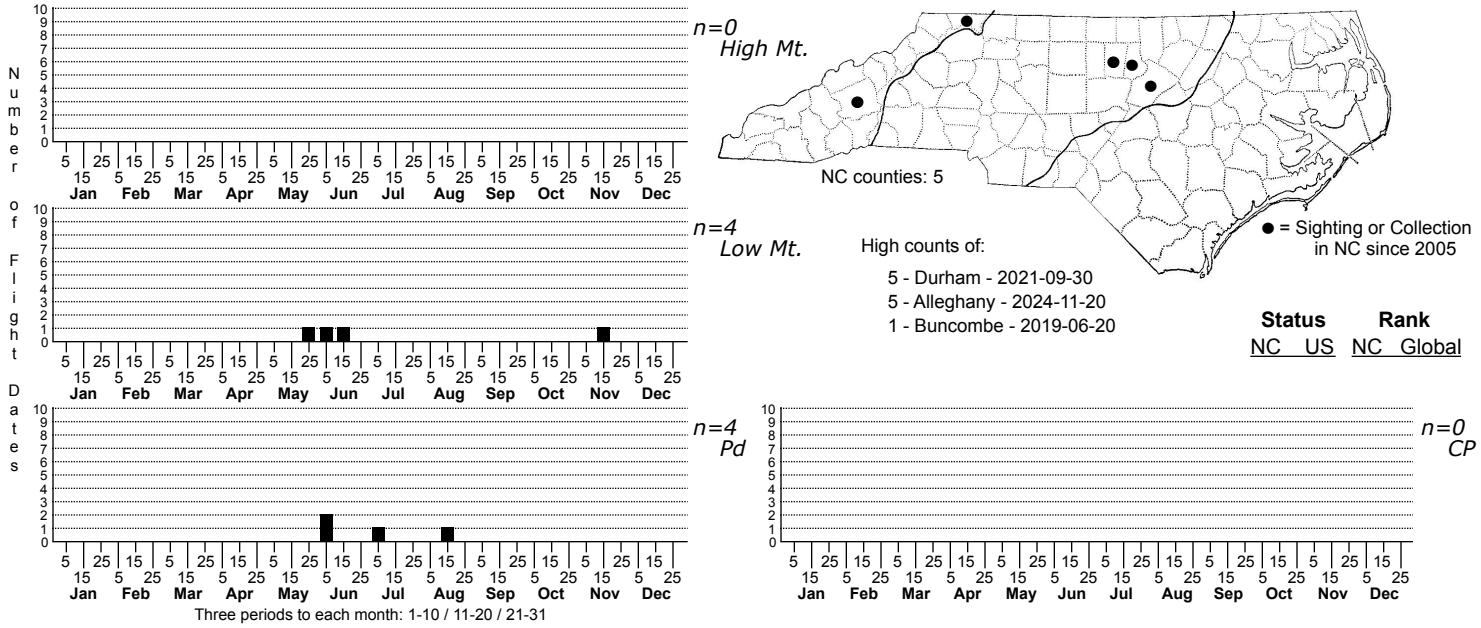
Cameraria bethunella None



FAMILY: Gracillariidae SUBFAMILY: Lithocolletinae TRIBE:
TAXONOMIC_COMMENTS: Cameraria is a genus of leaf-mining micromoths. Many species are stenophagous and specialize on a small number of closely related host species. There are currently more than 50 described species in North America.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Braun (1908).
TECHNICAL DESCRIPTION, IMMATURE STAGES: Eiseman (2021)

ID COMMENTS: The following is largely based on Chambers' (1871) original description. The face and palpi are silvery white; the antennae silvery white beneath and brownish banded with white above. The head tuft is golden and interspersed with white scales to produce an overall light tan to whitish coloration. The thorax is reddish orange and sometimes faintly edged with white on the upper margins. The forewing is reddish orange, and has three pairs of costal and dorsal silvery streaks with dark margins on the posterior edge. The first pair of streaks is shorter than the middle pair, and the dorsal streak is nearer to the wing base than the costal streak. The costal streak is oblique and at about the basal one-third of the wing. The second pair occurs at about the middle of the wing. These streaks are opposite each other, are slanted or curved towards the rear, and often connect to form an angulated fascia. The dark dusting on the posterior margin typically extends from the fascia angle posteriorly towards the third pair of streaks. The third pair is a little behind the apical one-third, and the two streaks are opposite, relatively straight, and sometimes fuse to form a fascia. The apex is dusted with a patch of blackish scales. A small white spot or streak adjoins the black patch. The cilia are fulvous, with a dark brown marginal line at their base. C. fletcherella is similar, but has a fourth costal streak. The tuft is also white in the middle and ocherous on the sides. C. arcuella is a larger species (wingespan = 10 mm), and lacks the dark dusting that extends from the fascia angle posteriorly towards the third pair of streaks.

DISTRIBUTION: Cameraria bethunella appears to be broadly distributed in eastern North America. Populations have been documented in southern Ontario and Quebec, and in much of the eastern US from the northeastern states to as far south as Texas, northern Louisiana and northern Mississippi. It appears to be absent or rare in most of the southeastern Coastal Plain. As of 2023, we have a very small number of site records. Except for one lower-elevation site in the Blue Ridge, all are from the eastern Piedmont.

FLIGHT COMMENT: Local populations appear to have two or three broods per year depending on the location within the range. Adults have been documented from March through October, with the early records likely reflecting adults that emerged from overwintering prepupae. As of 2023, our adult records are from late May through early July. However, occupied mines have been found through October, which suggests at least two broods per year.

HABITAT: Local populations are generally associated with hardwood forests where oaks are well represented.

FOOD: This species is a rather generalized feeder on members of the Fagaceae (Eiseman, 2021). The documented hosts include American Chestnut (Castanea dentata), Bear Oak (Quercus ilicifolia), Shingle Oak (Q. imbricaria), Bur Oak (Q. macrocarpa), Pin Oak (Q. palustris), Northern Red Oak (Q. rubra), Post Oak (Q. stellata), and Black Oak (Q. velutina) (Eiseman, 2022). As of 2023, we have records of larvae using Black Oak and White Oak (Q. alba).

OBSERVATION_METHODS: The adults are attracted to lights. The blotch mines can be found on the upper surfaces of oaks and American Chestnut. Rearing of adults is recommended to separate these from the mines of other Cameraria species that are somewhat similar.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S4

STATE PROTECTION:

COMMENTS: This species is poorly documented in the state; additional documentation of its distribution and abundance is needed before we can determine its conservation status.