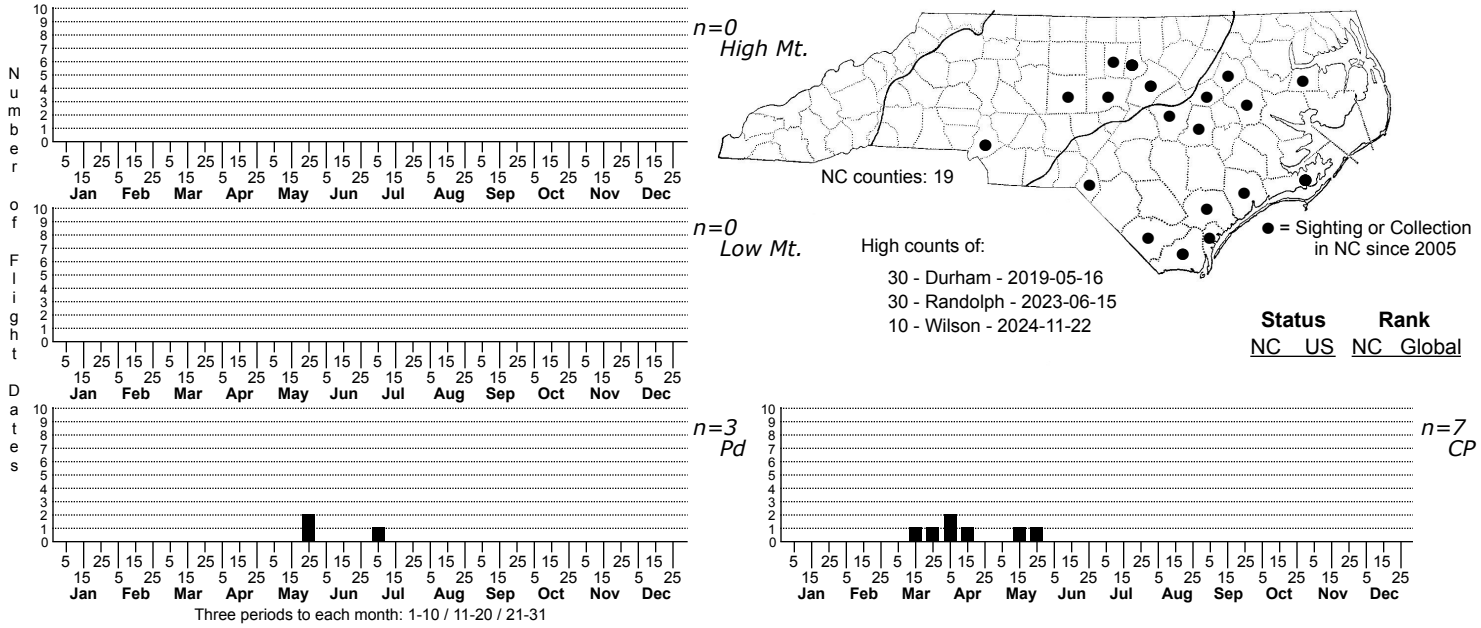
Bucculatrix ivella None



FAMILY: Bucculatricidae SUBFAMILY: TRIBE:
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:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Braun's (1963)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Braun's (1963), Palmer and Diatloff (1987)

ID COMMENTS: Braun's (1963) monograph on North American species of Bucculatrix remains the authoritative work on this group. The following is based on her description from studies of 78 specimens from throughout the range of this species. The face is white, and in darker specimens the scales are minutely brown-tipped. The tuft is white with brown centrally. The eye-cap is white with pale brown specks, and the antennal stalk is pale luteous with narrow silvery annulations. The thorax is whitish. The forewing is overlaid with reddish brown, fuscous-tipped and fuscous scales, so densely in the darker specimens as to obscure the whitish ground color. From before the middle of the costa, there is a narrow, very oblique, brownish fuscous streak (sometimes faint or obsolete in pale specimens) that is narrowly separated from a second, very oblique, brownish fuscous costal streak. The second streak becomes longitudinal in the middle of the wing, with its apex directed toward a group of black raised scales on the middle of the termen that continues to the apex as a line of black scales. The second costal streak is separated from a broadly triangular, dusky costal area by a narrow whitish streak which curves above the raised scales on the termen. From the base of the wing, parallel to and above the fold, there is a narrow straight white streak, (distinct in darker specimens) that extends for more than half the wing length. Along the fold from the base there is a broader stripe of fuscous-tipped scales. Beyond the middle of the dorsum, there is an oblique, curved, brown or fuscous spot. The spot has a patch of black raised scales on its inner edge, and is indistinctly and irregularly margined with the whitish scales of the ground color. A curved line of black-tipped scales in present on the cilia from the costa to the tornus. The hindwings and cilia are pale gray. The legs are pale straw-colored, with the tarsal segments white and narrowly tipped with black. The abdomen is fuscous above. Most of the records for B. ivella are based on leaf mines or adults reared from cocoons on Baccharis halimifolia. This may be the most effective way to obtain adults that are accurately identified. Some of the features that help to distinguish this species from other Bucculatrix include forewings that are pale to darker ocherous (not whitish or whitish ocherous), the absence of silvery markings on the forewings, the presence of a well-defined apical ciliary line, and the presence of a series of dark brown and white streaks on the forewing. The oblique costal and dorsal dark streaks are very oblique relative to other forms. The wing markings of this species are similar to those of B. ambrosiaefoliella, but in B. ivella the dark streaks are more oblique, and the white line above the fold is longer and more clear-cut (Braun, 1963).

DISTRIBUTION: Bucculatrix ivella ranges from Massachusetts and New Jersey southward to Florida, then westward to Louisiana and Texas. it is primarily found in the Coastal Plain and Piedmont where populations of its host species occur. Our North Carolina records as of 2024 are all from the Piedmont and Coastal Plain.

FLIGHT COMMENT: This species is multivoltine and appears to be active throughout the warmer months of the year. Palmer and Diatloff (1987) reported that in Florida, the life cycle is completed in 4-6 weeks and larvae can be found at most times of the year. They observed active mines in Virginia and New Jersey in June and July, where these populations caused severe defoliation of Baccharis halimifolia. As of 2021, we have records of leaf mines from as early as May.

HABITAT: This species is strongly associated with Baccharis halimifolia, which occurs in fresh and brackish marshes, marsh borders, hammocks, moist abused land, roadsides, ditches, old fields, and a wide variety of disturbed areas (Weakley, 2015).

FOOD: Palmer & Diatloff (1987) conducted extensive surveys for Bucculatrix ivella and found that it relies almost entirely on Groundsel-tree (Baccharis halimifolia) as a host plant. Known secondary hosts include B. neglecta in central Texas (Palmer and Diatloff, 1987) and Silverling (B. glomeruliflora) farther east (Eiseman, 2019). B. glomeruliflora reaches its northern limit in extreme southeastern North Carolina (Brunswick County). Robinson et al. (2010) also list Iva frutescens, which needs confirmation. In North Carolina, all of our records are for Groundsel-tree.

OBSERVATION_METHODS: This species is best documented in North Carolina by searching for leaf mines or cocoons on Baccharis halimifolia or B. glomeruliflora. The adults have been successfully reared from pupal cocoons that were collected from Baccharis leaves and stems.

NATURAL HERITAGE PROGRAM RANKS: GNR SNR [S3S4]

STATE PROTECTION:

COMMENTS: As of 2023 we have seventeen records for this species, including from areas in the Piedmont where Baccharis halimifolia has been spreading in disturbed areas. This species has likely been widely overlooked within the state.