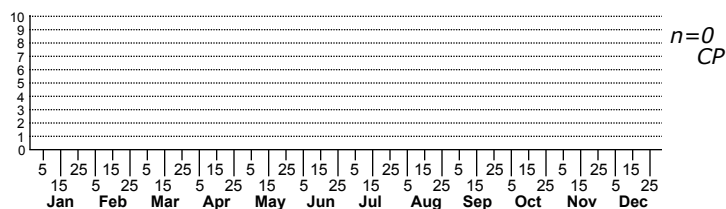
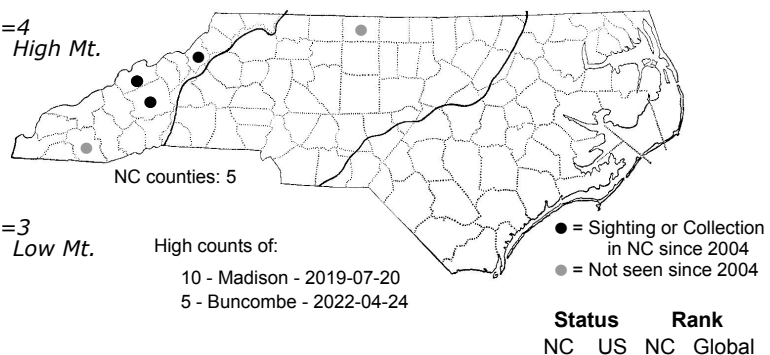
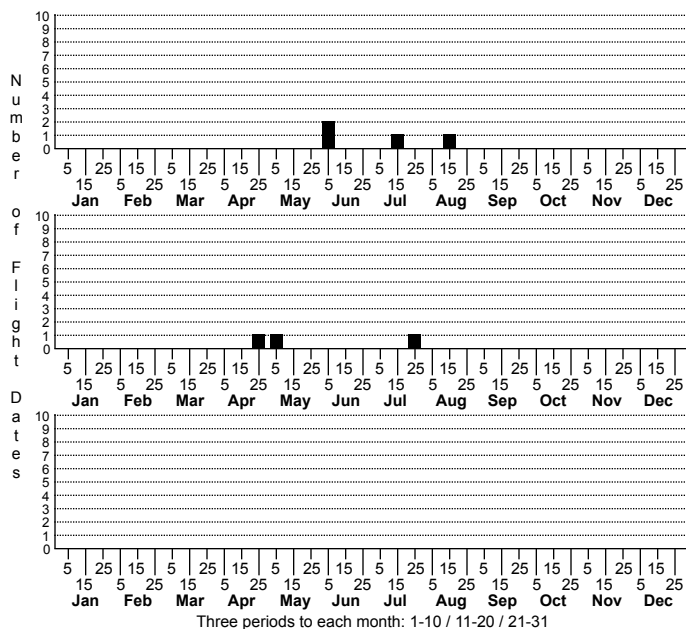


Bucculatrix ainsliella Oak Skeletonizer Moth



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); Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Braun (1963, p. 167)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Braun (1963)

ID COMMENTS: This is a minute whitish but heavily dusted moth with a well-defined oval patch of dark brown scales that is visible on the dorsal surface when the wings are closed. The following detailed description is based on that of Braun (1963). The face is creamy white, and the tuft white except for a dark brown center. The eye-cap is whitish, and dotted with brown and dark brown on the posterior margins. The antennal stalk is whitish with dark brown annulations. It has intervening white segments that produce a characteristic marking. The basal half of the stalk is regularly annulated. This section is then followed by one white, two dark brown, one white, four dark brown, and one white segment, then followed by regularly annulate segments except for the last few segments that are pale. The ground color of the forewing, head, and thorax is white, but is variably dusted with darker scales except for the face. The species varies greatly in density of dusting and definition of markings, and thus the markings described may not always be discernible. A dark shade usually occurs along the costa that broadens outwardly to beyond the middle of the costa. From there it narrows and turns into a posteriorly oblique streak that passes across the wing to the termen, where it often meets a small patch of black scales. The dark streak may be interrupted near the base and at the middle by paler shades, and a third streak may border it posteriorly. A conspicuous dark patch forms a half-oval along the inner margin just beyond one-half the wing length. The anterior margin of the patch has raised dark scales, and the patch is bordered by pale to dull white scales on the anterior and posterior margins. The cilia have a median line of dark-tipped scales. The hindwing is pale silvery gray, with the cilia tinged with fuscous. The legs are shining gray. *Bucculatrix pomifoliella* is similar, but the basal half of the wing is paler than the outer half, and there are generally fewer areas that have white scale patches. In particular, the white scales on the anterior and posterior margin of the semi-oval patch are reduced relative to those seen on *B. ainsliella* so that the patch blends in with the general color of the area. The patch (or dorsal oval on live specimens) is more distinct in *B. ainsliella*. Both of these species have a similar pattern of antennal markings that distinguish them from other members of this genus. Dissection may be needed in some cases to distinguish between these two species.

DISTRIBUTION: *Bucculatrix ainsliella* is native to eastern North America, but has been introduced into British Columbia and Europe (Eiseman, 2019). The native range is centered on the northeastern states and adjoining areas of southern Canada (Ontario to Nova Scotia). It extends westward to Michigan and Minnesota, and southward along the Appalachian Mountains to Tennessee, North Carolina, and South Carolina. As of 2021, we have records from both the lower and higher elevations in the Blue Ridge, and from a monadnock in the western Piedmont.

FLIGHT COMMENT: Local populations are bivoltine in many areas. Overwintering occurs in the pupal stage and the adults emerge with the spring warm-up. The larvae can be found from mid-April to early July, and again from early August to mid-October (Eiseman, 2019). As of 2021, our adult records are from June and July. Braun (1963) examined specimens that were collected in September in North Carolina, but did not provide specific collection records.

HABITAT: Local populations are generally associated with habitats with upland oaks, particularly Northern Red Oak. Many of our records are from intermediate to higher elevations in the mountains where this species is often a community dominant.

FOOD: The larvae specialize on oaks and perhaps American Chestnut (Braun, 1963; Eiseman, 2019). They appear to be stenophagous, feeding primarily on Northern Red Oak (*Quercus rubra*) and to a lesser extent on Black Oak (*Quercus velutina*). This species has also been reported to use White Oak (*Q. alba*) and Chestnut Oak (*Q. montana*), but these reports require confirmation (Eiseman, 2019).

OBSERVATION_METHODS: The adults occasionally visit lights, and the mines and cocoons are often readily evident on Northern Red Oak and perhaps other hosts.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S3

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

COMMENTS: As of 2021, we have only a few records of this species in North Carolina. Given its host plant preferences, it may turn out to be fairly common in the Blue Ridge.