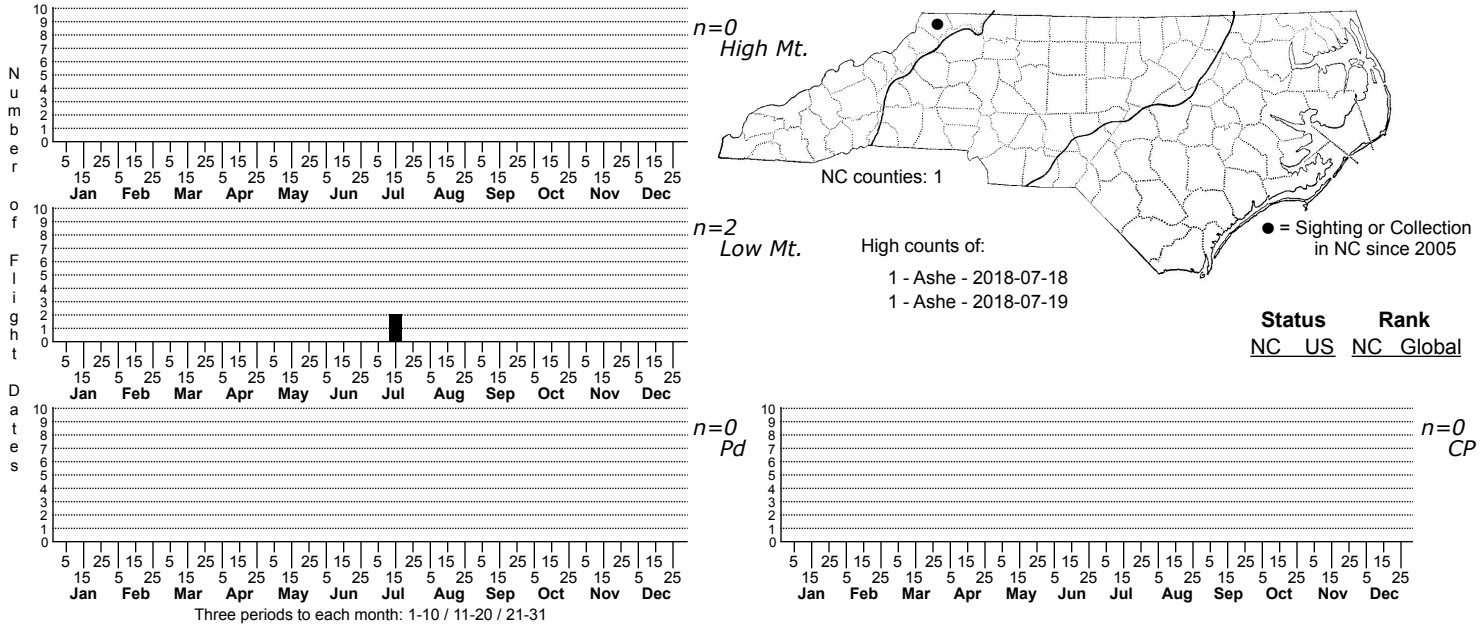
Caloptilia alnivorella Alder Leafminer Moth



FAMILY: Gracillariidae SUBFAMILY: Gracillariinae TRIBE:
TAXONOMIC_COMMENTS: Caloptilia is a large genus with nearly 300 described species; 64 species have been described from North America north of Mexico. The larvae mostly feed on woody plants and begin as leaf-mining sap-feeders. The latter instars usually exit the mines and feed within a conical roll that begins at the leaf apex or at the tip of a leaf lobe.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Chambers, 1985; McDunnough, 1946.
TECHNICAL DESCRIPTION, IMMATURE STAGES: Eiseman, 2019

ID COMMENTS: The following is based in part on Chambers' (1985a) original description of specimens from Colorado. The antenna and the palps are somewhat shorter and thicker than most Caloptilia. The maxillary palp is whitish, with dark gray or brownish spots. The face, third joint of the labial palp, and apex of the second joint are brown. The antenna is grayish-brown and faintly annulated with gray. The thorax and abdomen are dark gray. The forewing is rather nondescript. The ground color varies from gray to light brown and is mottled with numerous small and irregularly arranged brownish spots or blotches. Some specimens are simply mottled gray and black (McDunnough (1946). The cilia of the forewing is gray and dusted with brown near the apex. There is a narrow pale ocherous marginal line in the middle. The hindwing and cilia are paler gray. The legs are grayish with whitish bands on the tibiae, and the hind legs generally lighter colored than the front and middle legs. Caloptilia pulchella and C. alnicolella are two closely related and morphologically similar species. These are found at more northern latitudes and presumably do not occur in North Carolina.

DISTRIBUTION: Caloptilia alnivorella primarily has a boreal distribution. It occurs in Russia in the Old World. In North America, the range extends from Alaska to Newfoundland, and southward to California, Colorado, New Mexico, Michigan and Vermont (Eiseman, 2019). Our records from Ashe Co. may be part of a southern Appalachian disjunct.

FLIGHT COMMENT: The flight season is poorly documented, but adults appear to be active mostly during the summer months. As of 2020, our two records are both from July.

HABITAT: Local populations are strongly associated with alders, which are typically found in moist or wet, open habitats.

FOOD: The known hosts are Mountain Alder (A. incana) and Green Alder (A. crispa; Eiseman, 2019). Local populations may possibly use Hazel Alder (Alnus serrulata) in North Carolina given that A. incana does not occur in the state and A. crispa is only found on Roan Mountain and vicinity.

OBSERVATION_METHODS: The adults are attracted to lights and the leaf mines are readily evident on alder leaves. Our very few records for North Carolina are all from UV-light traps.

NATURAL HERITAGE PROGRAM RANKS: GNR SU

STATE PROTECTION:

COMMENTS: This species appears to be uncommon or rare in the state. It is primarily a boreal species, and populations in North Carolina may be southern disjuncts. However, we currently do not have sufficient information on its distribution and abundance to assess its conservation status.