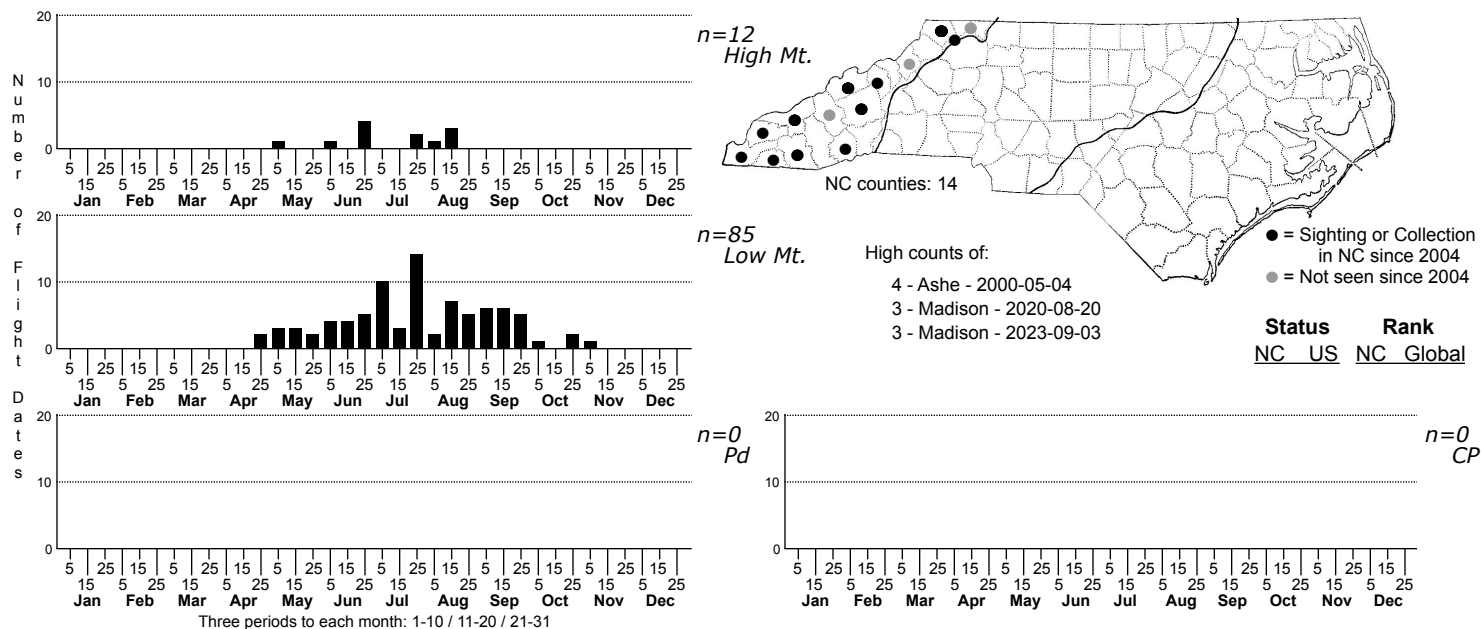


Macaria pinistrobata White Pine Angle



FAMILY: Geometridae SUBFAMILY: Ennominae TRIBE: Macariini
 TAXONOMIC_COMMENTS: One of 25 species in this genus -- commonly known as Angles (as in angular, referring to the wing shape) -- that occur in North America; 17 have been reported from North Carolina.

FIELD GUIDE DESCRIPTIONS: Covell (1984; as *Semiothisa pinistrobata*); Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Ferguson (2008)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Maier et al. (2013)

ID COMMENTS: Similar to other *Macaria* in their angled hindwings and sub-falcate forewings, but members of the *signaria* species group are distinguished from all other North Carolina *Macaria* in possessing a grayish rather than a yellowish head (Forbes, 1948). All members of this group are generally similar in their pattern of lines and spots. *Pinistrobata* is more grayish than *signaria*, usually with more contrast between the ground color and the lines; the pre-apical patch at the costal end of the subterminal line is also usually larger, darker, and more quadrangular than in *signaria*. The postmedian line is waved in *pinistrobata*, similar to *signaria* and *granitata*, but unlike *fissinotata*, where it runs straight across the wing. *Granitata* is even more contrastingly marked than *pinistrobata*, often appearing bicolored, with the subterminal area much darker than the medial and basal areas; the pre-apical spot is also usually bright red-brown in *granitata*, rather than dark blackish-brown as is typical of *pinistrobata*, although this patch is occasionally brown in this species, approaching that of *granitaria* (see Ferguson, 1974, 2008, and Covell, 1984, for details).

DISTRIBUTION: All of our records come from the Mountains, but from the entire north-south extent of montane habitats in the state.

FLIGHT COMMENT: Occurs throughout the growing season, but our data are not sufficient to determine if there are separate flights.

HABITAT: Our records come a variety of mesic to dry forests in the Mountains, corresponding to the range of habitat types where White Pine grows.

FOOD: Monophagous, feeding only on White Pine (*Pinus strobus*) (Ferguson, 1974; Wagner et al., 2001; Ferguson, 2008; Maier et al., 2013).

OBSERVATION_METHODS: Comes well to 15 watt blacklights but we do not have any records from either bait or flowers.

NATURAL HERITAGE PROGRAM RANKS: G5 [S5]

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

COMMENTS: Although highly specialized, the host plant used by *pinistrobata* is abundant, widespread, and occupies a wide range of montane habitats, including pine plantations. Currently, this moth appears to be very secure.