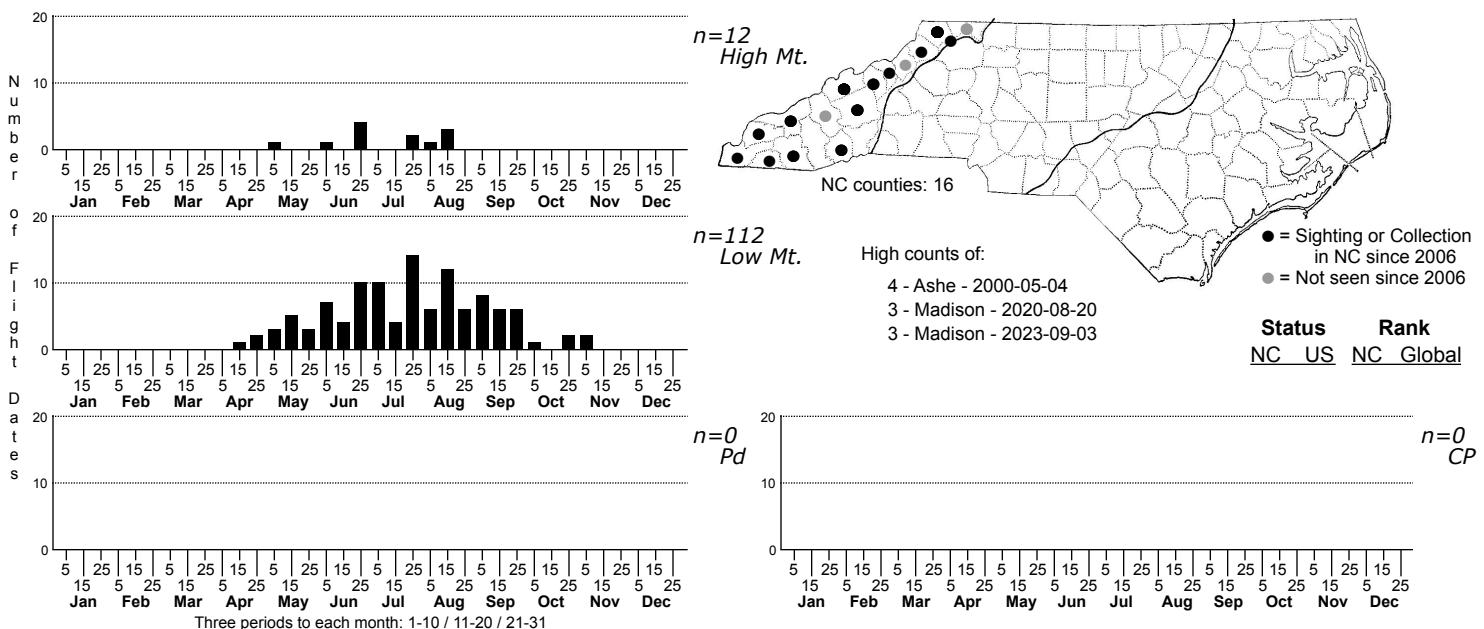


Macaria pinistrobata White Pine Angle



FAMILY: Geometridae SUBFAMILY: Ennominae TRIBE: Macariini

TAXONOMIC COMMENTS: This is one of 73 species in this genus that occur in North America, with 17 species occurring in North Carolina. In the latest checklist of North American Lepidoptera (Pohl and Nanz, 2023), North American members of the genus *Speranza* and *Epelis* were treated as junior synonyms of *Macaria*.

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 from a variety of mesic to dry forests in the Mountains, corresponding to the range of habitat types where White Pine grows.

FOOD: Larvae are monophagous, feeding only on Eastern 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 SNR [S4S5]

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 *M. pinistrobata* is abundant, widespread, and occupies a wide range of montane habitats, including pine plantations. Currently, this moth appears to be very secure.