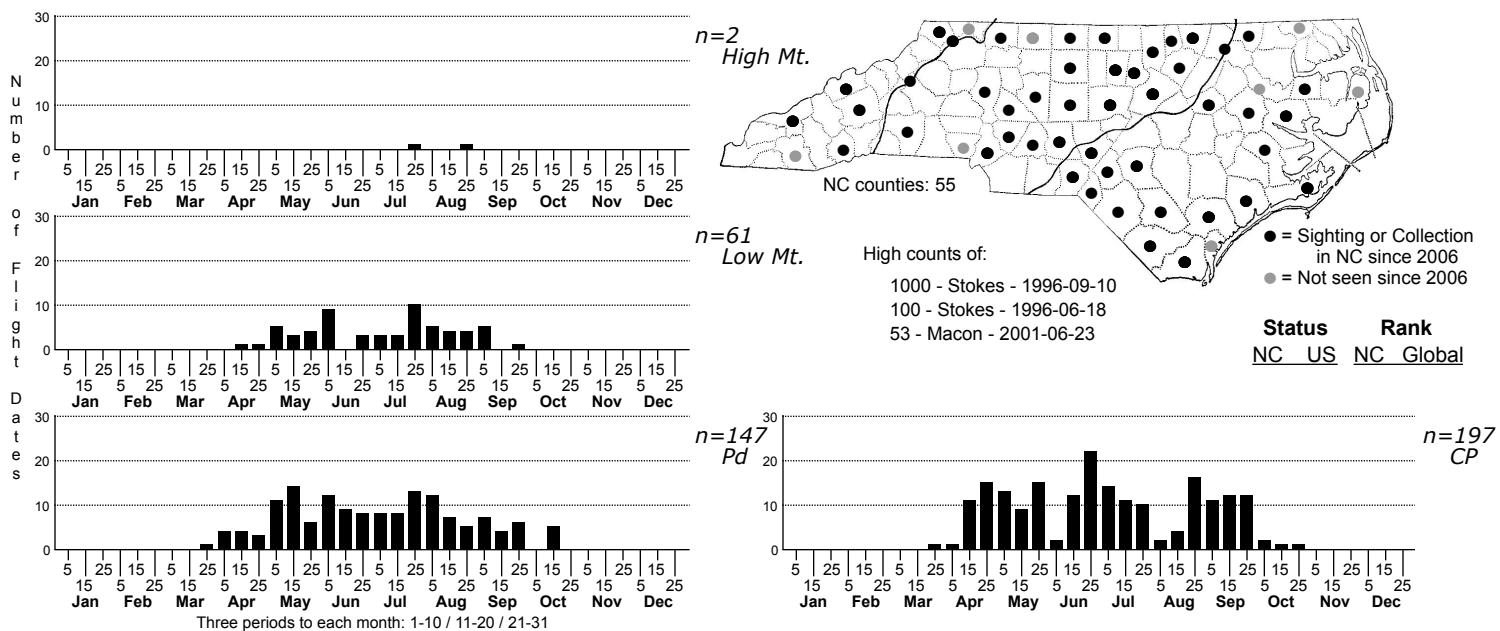


## *Macaria bicolorata* Bicolored Angle



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 bicolorata*); Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Ferguson (2008)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Wagner et al. (2001)

ID COMMENTS: A moderately small Geometrid but one of the larger Macarias, *bicolorata* is two-toned brown to yellow-brown with the angled hindwing and slightly falcate forewing typical of this genus. All of the lines traversing the wing are weakly developed, diffuse, or absent except for dark spots along the costa. The subapical notch is comparatively shallow and narrowly edged with black; the spot blotch on the subterminal line below the apex is usually missing but occasionally represented by a single brown spot. The basal and medial areas are usually lighter and more yellowish, contrasting with the reddish or darker brown shading located between the postmedian and the outer margin. The underside of the wings are ochre and crossed with darker bands of reddish brown. As in other members of this species group, the head is red or ochre, contrasting with the paler gray thorax and abdomen.

DISTRIBUTION: Occurs statewide, from the Barrier Islands to the High Mountains.

FLIGHT COMMENT: Adults are present throughout the growing season, but there may be two main broods in the Mountains and Piedmont and possibly three in the Coastal Plain.

HABITAT: We have records from virtually all pine-containing habitats in the state. Habitats where Loblolly is the most likely host include Maritime Forests, Coastal Fringe Evergreen Forests, and floodplain forests throughout the state. Habitats where Pond Pine is most likely include peat dome pocosins, where no other pine species is present. Over most of the uplands in the Coastal Plain, Longleaf is the most likely host, although Pond Pine is usually present in adjoining wetlands. In the Piedmont uplands, Virginia, Shortleaf, and loblolly are all possibilities. These same species are also present in the montane habitats where *bicolorata* occurs, but there is also potential for Pitch Pine and other montane-restricted pines to be used, particularly on the higher ridges and rock outcrops.

FOOD: Larvae are stenophagous, feeding on hard pines but probably on multiple species (Ferguson, 2008). Maier et al. (2011) specifically mention Red Pine (*Pinus resinosa*) and Pitch Pine (*P. rigida*), only the latter of which occurs in North Carolina and only in the mountains. Elsewhere in the state, a variety of other pines are likely to be used.

OBSERVATION METHODS: Adults come well to 15 watt UV lights. We have no records from bait, however, or from flowers.

NATURAL HERITAGE PROGRAM RANKS: G5 SNR [S5]

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

COMMENTS: Widespread, using a wide variety of common host plants and a diverse range of habitats, this species appears to be quite secure.