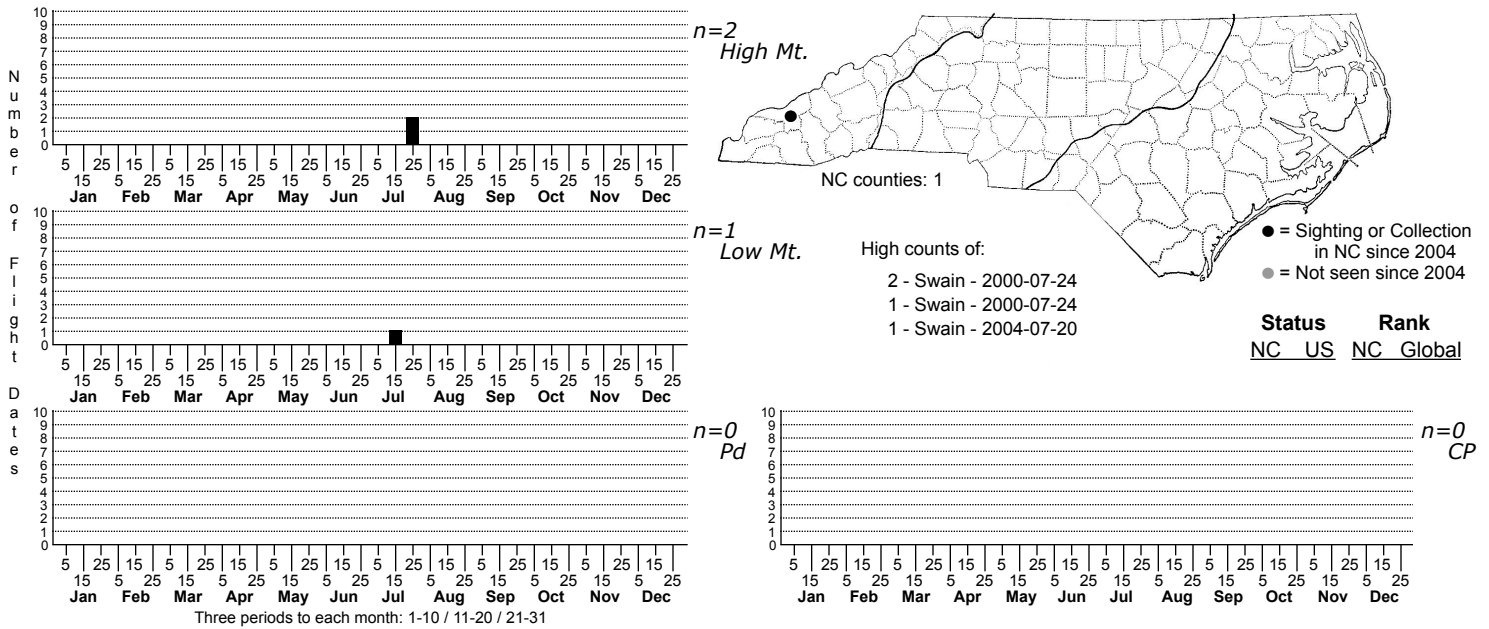


Manulea bicolor Bicolored Moth



FAMILY: Erebidae SUBFAMILY: Arctiinae TRIBE: Lithosiini
 TAXONOMIC_COMMENTS: The sole member of its genus in North America.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)
 ONLINE PHOTOS: MPG, Bugguide, BAMONA
 TECHNICAL DESCRIPTION, ADULTS: Forbes (1960)
 TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1960)

ID COMMENTS: Narrow winged; dark gray with a yellow costal border and thorax. Females of *Crambidia lithosiodes* are similar in shape and color, but are smaller; the easiest way to distinguish them is by their antennae (see below)

DISTRIBUTION: Restricted in North Carolina to high elevation coniferous forests; our populations are highly disjunct from the majority of the range of this species, located primarily in southern Canada and northern New England

FLIGHT COMMENT: Probably has a single summer flight

HABITAT: Restricted to cool, moist, old growth conifer forests growing above 4,500' in the Southern Appalachians (specimens have been collected at lower elevations on the Tennessee side of the Great Smoky Mountains National Park (DLIA, 2008).

FOOD: Larvae feed on tree lichens growing on Black Spruce, Fraser Fir, and probably other high elevation conifers (D. Ferguson, pers. comm.)

OBSERVATION_METHODS: Based on the very small number of specimens that have been collected, at least in North Carolina, adults may come poorly to lights; response to bait is unknown

NATURAL HERITAGE PROGRAM RANKS: G5 S1S2

STATE PROTECTION: Listed as Significantly Rare by the Natural Heritage Program. That designation, however, does not confer any legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: This species appears to be highly specialized in North Carolina to cool, moist, high elevation conifer forests, which are themselves undergoing severe decline due to acidic precipitation, introduction of exotic pests, and global climate change. Unless this species is able to use lower elevation stands (suggested by Tennessee records in the Great Smoky Mountains NP), this species appears to be at significant risk of extirpation from both the state and the Southern Appalachians more generally.