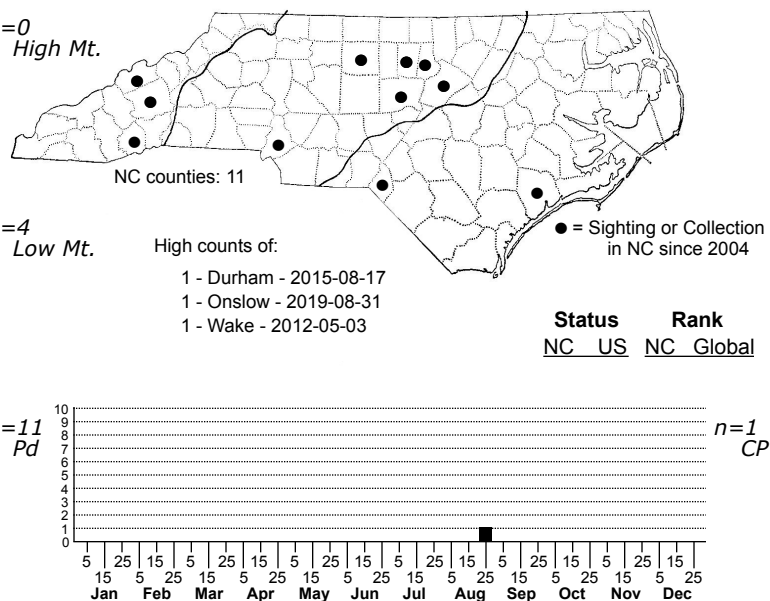
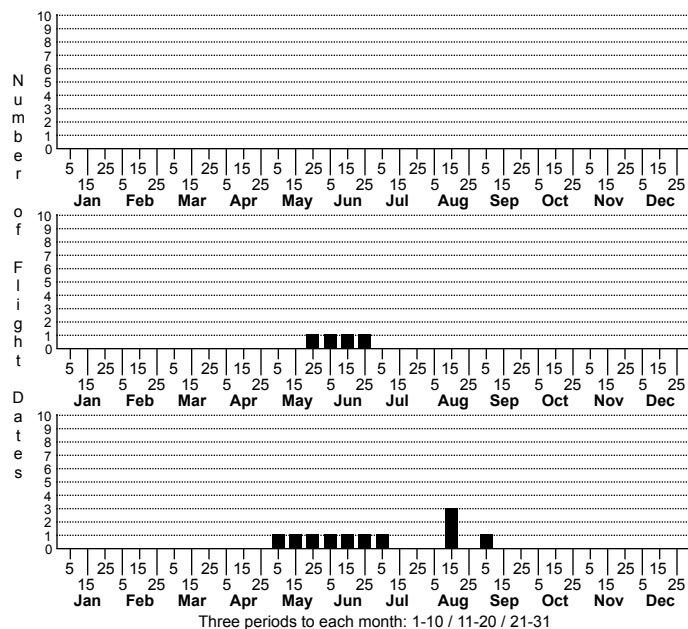


# *Marmara fasciella* White Pine Barkminer Moth



FAMILY: Gracillariidae SUBFAMILY: Gracillariinae TRIBE: [Gracillariini]

TAXONOMIC\_COMMENTS: The genus *Marmara* contains 19 described species from North America and numerous undescribed species. Most species are monophagous, and the mines have been found on over 80 North American plant genera that belong to 40 families (Eiseman et al., 2017). Given the small number of described species relative to the large number of hosts, there appear to be dozens of undescribed species in the US. Many of the species are difficult to rear and are only known from leaf or stem mines. North Carolina appears to have numerous undescribed species based on host preferences and mine characteristics. We have included forms that we believe are probably undescribed species (ca. 30) and have listed these by their host plants. We encourage individual to submit any leaf or stem mines that they find based on the plant hosts in order to better document the distribution and relative abundance of these forms in North Carolina.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS:

TECHNICAL DESCRIPTION, IMMATURE STAGES: de Gryse, 1943; Eiseman, 2019

ID COMMENTS: The following is primarily based on the original description by Chambers (1875). The thorax, head and palps are silvery white, except for a small brown spot on the outer surface of the second joint of the labial palp. The antenna is fuscous and paler towards the base. The ground color of the forewing is yellowish brown to light brown with a series of broad white fascias or paired blotches that are all margined on the anterior edge with a thin line of dark brown. Two broad white fascias occur at about one-third and two-third the wing length. The second fascia is followed by a pair of dorsal and costal blotches, with the smaller dorsal blotch occurring at the base of the dorsal fringe. The paired blotches are followed by a relatively narrow white fascia before the apex. The fringe is silvery with a faint dark marginal line at the base. A small aggregate of dark scales is often evident anterior to the marginal line. The ground color of the legs is white with a series of dark brown blotches, bands and spotting that is heaviest on the upper portion of the leg and reduced to mostly spots or narrow bands on the lower half. The hind legs are less heavily marked than the other two.

DISTRIBUTION: *Marmara fasciella* is found in the eastern US from the northeastern states westward to Minnesota and Oklahoma, and south to Tennessee, North Carolina and Florida. This species may have expanded its range in areas where Eastern White Pine has been planted outside of its natural range. In North Carolina, populations have been found from the lower elevations in the mountains to the Coastal Plain. As of 2020, most of our records are unexpectedly from outside of the mountains and foothills where Eastern White Pine is very common.

FLIGHT COMMENT: The larvae overwinter in the mines, then pupate with the spring warm-up. Adults records are from April-August throughout the range of the species. As of 2020, our adult records extend from May through August.

HABITAT: Populations are dependent on Eastern White Pine as a host. This species inhabits a variety of forested habitats that vary from moist to rather dry soil conditions. Unlike most pines, this species can reproduce in shaded situations. It is common in mesic hardwood or mixed-hardwood forests in the mountains and foothills of the Piedmont. Scattered natural populations occur farther east in mesic forests, and it is commonly planted as an ornamental in areas outside of its range.

FOOD: Populations in Canada and other northern latitudes appear to be monophagous on Eastern White Pine (*Pinus strobus*). Two of our state records are from areas in the Coastal Plain where *Pinus strobus* is not native and there are no known planted trees. This suggests that other pines may be used. At present, Eastern White Pine is the only documented host. As of 2020, our only mine record for North Carolina was for *Pinus strobus* in Scotland County.

OBSERVATION\_METHODS: The adults are attracted to lights, and the mines are conspicuous on the trunks and stems of *Pinus strobus*.

NATURAL HERITAGE PROGRAM RANKS: GNR S3S4

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

COMMENTS: We currently do not have sufficient data on the distribution and abundance of this species to accurately assess its conservation status.