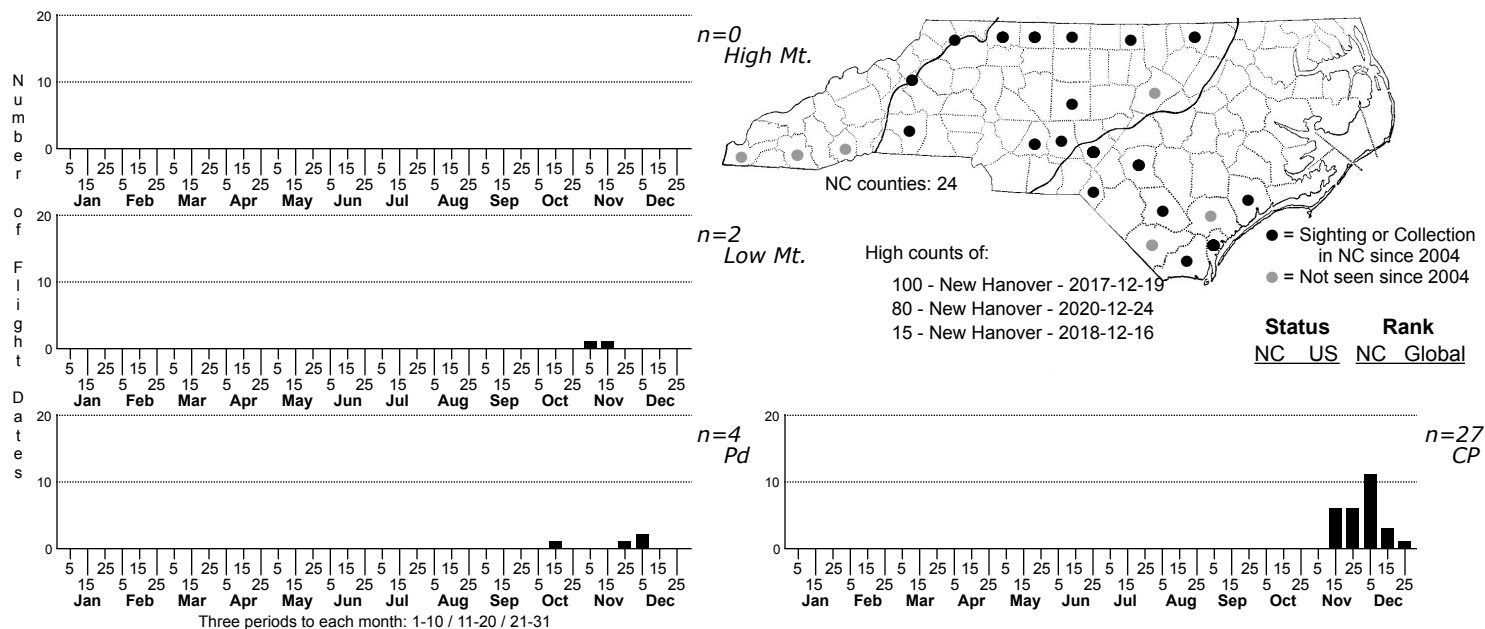


Hemileuca maia Buck Moth



FAMILY: Saturniidae SUBFAMILY: Hemileucinae TRIBE: Hemileucini

TAXONOMIC_COMMENTS: One of eighteen species that occur north of Mexico, most of which are western (Tuskes et al., 1996). Three species occur east of the Appalachians and only one is found in North Carolina.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1923), Ferguson (1971), Tuskes et al. (1996)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1923), Ferguson (1971), Covell (1984), Tuskes et al. (1996), Wagner (2005)

ID COMMENTS: The medium-large, black-and-white banded adults are unmistakable. Other black-and-white moths are smaller and very few are flying in the late fall and early winter when adult Buck moths are out. The larvae are only likely to be confused with those of the Io moth, which also are covered with branched stinging spines.

DISTRIBUTION: Found in most areas of the state except the High Mountains, where the xeric oaks it feeds on are essentially absent. It has also not yet been recorded on the Outer Banks or other barrier islands.

FLIGHT COMMENT: Single-brooded, with just a single late fall/early winter flight

HABITAT: This species is strongly associated with pine-oak barrens habitats in the Northeast (Wagner, 2005) and virtually all North Carolina records also come from dry-to-xeric oak woodlands. The majority come from sandhills habitats in the Coastal Plain and most of the rest from Piedmont monadnocks or from dry mountain ridges and slopes. Although we do not have any records from the Outer Banks or other barrier islands, this could be due to undersampling of larvae or adults during the late fall flight period. They are known to feed on Live oaks in Florida and the xeric habitats of the barrier islands would seem to be acceptable. Their sensitivity to salt-spray -- a major environmental factor on barrier islands -- is unknown, however.

FOOD: Stenophagous, feeding primarily on xerophytic oaks, including Bear oak (*Quercus ilicifolia*), Live oak (*Q. virginiana*), Blackjack oak (*Q. marilandica*), and Dwarf chestnut oak (*Q. prinoides*) (Ferguson, 1971; Tuskes, et al., 1996). In North Carolina, it is also common on Turkey oak (*Q. laevis*) (Hall, pers. obs.). Other oaks or other plants may also be used when found in the same habitats as the xerophytic species normally used (Ferguson, 1971; Tuskes, et al., 1996; Wagner, 2005).

OBSERVATION_METHODS: Adults are diurnal and are usually seen only as they are flying through the woods on warm, sunny days in the late fall and early winter. They do not feed and consequently are not attracted to bait. Early instar larvae are gregarious and can be easy to locate (Tuskes, et al., 1996). Hall (pers. obs) has observed a number of late instar larvae in June along trails in the Uwharrie Mountains, apparently in the process of digging underground to pupate.

NATURAL HERITAGE PROGRAM RANKS: G5 [S4]

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

COMMENTS: This species is a specialist on dry upland oak forests, which in the Coastal Plain and Piedmont have largely been converted to agricultural or silvicultural uses or utilized for development. It now appears to be restricted to areas where human exploitation has been limited: monadnocks and other steep ridges in the Piedmont and Mountains and areas of deep sand in the Coastal Plain. The largest populations, moreover, are associated with large tracts of these habitats located on public lands, including military bases such as Fort Bragg, and National Forests, including the Croatan, Uwharrie, Pisgah, and Nantahala. In the Northeast, this species has declined even more strongly, becoming extremely localized in Connecticut and other areas where it once was more widespread (Wagner, 2012). In addition to habitat loss, it may have been strongly affected by parasitism by a Tachinid fly, *Compsilura concinnata*, that was widely introduced in the Northeast to control Gypsy Moths and other pest Lepidoptera (Boettner et al., 2000). This fly represents a serious and pervasive threat for many species of moths and is suspected to be responsible for the marked declines in several Saturniids. While such impacts have not yet been documented in North Carolina, *Compsilura* has spread as far south as Virginia (Kellogg et al., 2003) and will probably continue to expand its range southward. The situation in North Carolina needs to be monitored.