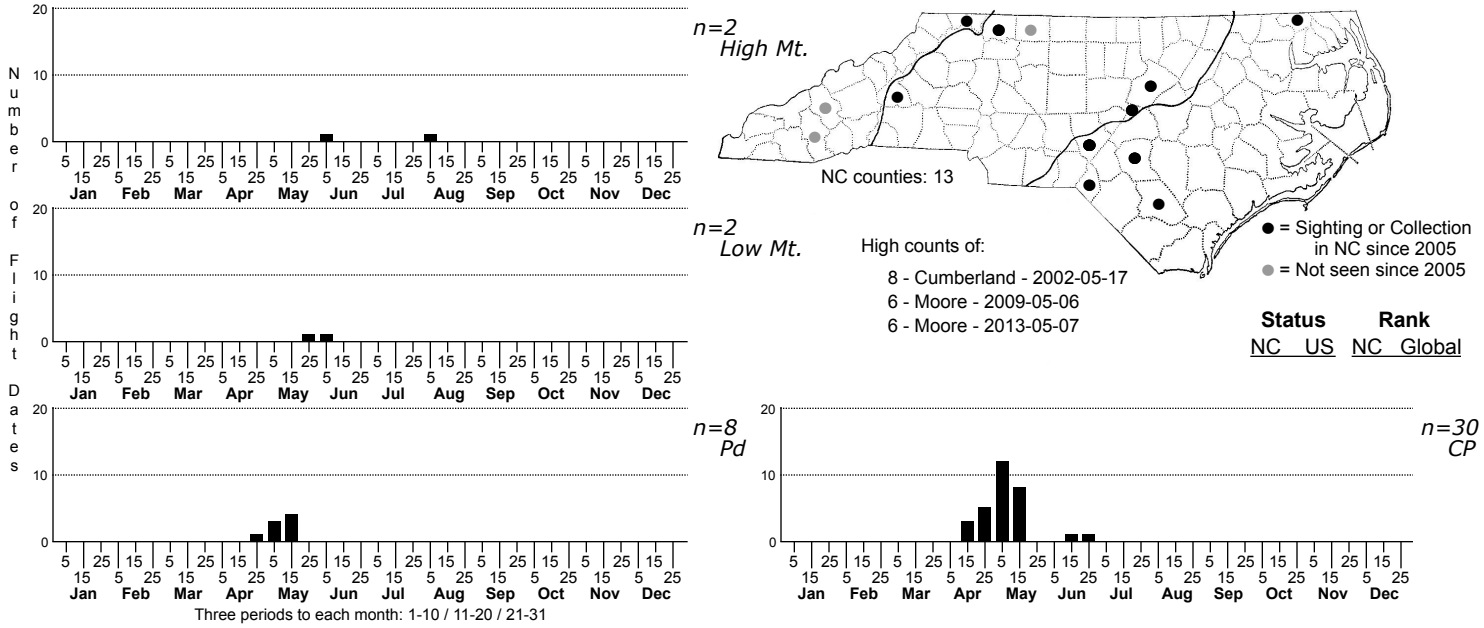
Heliomata infulata Rare Spring Moth



FAMILY: Geometridae SUBFAMILY: Ennominae TRIBE: Macariini
TAXONOMIC_COMMENTS: A small genus of 4 species of which three are North American and two occur in North Carolina. The remaining species is in central Europe. Ferguson (2008) moved this genus from the Abraxini to the Macariini.

FIELD GUIDE DESCRIPTIONS: Covell (1984)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Forbes (1948); Ferguson (2008)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Ferguson (2008)

ID COMMENTS: A small, pale yellow-and-black Geometrid that is likely to be confused with only a small number of other species. The overall pattern of dark and pale markings is most similar to Heliomata cycladata, but the pale bands on both wings are usually white or only slightly tinged with yellow in cycladata but usually completely pale yellow in infulata. The pale patch on the hindwing is also much broader in cycladata, usually wider than the dark bands on either side, whereas it is narrower in infulata, usually occupying a third or less of the wing (Forbes, 1948; Ferguson, 2008). Infulata often have a thin line of yellow located in the dark basal patch of the hindwing (J.B. Sullivan, pers. obs.). Cycladata on the other hand usually has a pale dorsal band at the base of the abdomen and a partially orange collar, both of which are missing in infulata; the outlines of the pale patches tend to be more irregular, whereas they are typically clean-cut in infulata (Ferguson, 2008). Sexes similar but females tend to be larger and darker than males. Generally, a good quality photo should be sufficient to identify this species. Foodplants in the vicinity will also help distinguish the species as this species feeds on R. hispida complex (including nana) whereas H. cycladata feeds on Robinia pseudoacacia.

DISTRIBUTION: Recorded primarily in the Fall-line Sandhills in North Carolina, with only a few records from the Mountains and from monadnocks in the Piedmont. Like the foodplants, the moths are noticeably colonial and not generally distributed. At some sites where the foodplant is present in adequate numbers the moth is absent. Additional distribution information needed.

FLIGHT COMMENT: Univoltine, flying in the spring and early summer

HABITAT: Found wherever its foodplants (Robinia hispida and R. nana) grow, usually as low understory in xeric soils with a sparse overstory. Most of our records come from Longleaf Pine sandhills habitats in the Coastal Plain and Monadnock Forests in the Piedmont. Habitats were not recorded for other sites in the Piedmont and Mountains, but are all likely to be from dry, open woodlands, or from glades or barrens associated with rock outcrops.

FOOD: Larvae are stenophagous, feeding primarily or exclusively on species of shrub locusts, including Dwarf Bristly Locust (Robinia nana) (Beadle & Leckie, 2018) in the Fall-line Sandhills as well as the Piedmont monadnocks, and probably on Bristly Locust (Robinia hispida) in the Mountains.

OBSERVATION_METHODS: Adults come readily to light traps and can be seen flying during the day. The bright pattern may indicate the adult is distasteful but no evidence has been presented to that effect.

NATURAL HERITAGE PROGRAM RANKS: G3G4 S2S3

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

COMMENTS: This species appears to be a habitat specialist, occurring primarily in open, sandy or rocky woodlands that support populations of dwarf locusts. In the Coastal Plain, these habitats are maintained by frequent fire, which is probably also true for the monadnocks and montane woodlands where it has also been found. Fire suppression, along with habitat conversion, has probably eliminated it from most of its former range, but too frequent burning of small remaining preserves may also lead to local extirpation. Careful management taking the needs of insects into account is urgently needed in order to protect remaining populations.