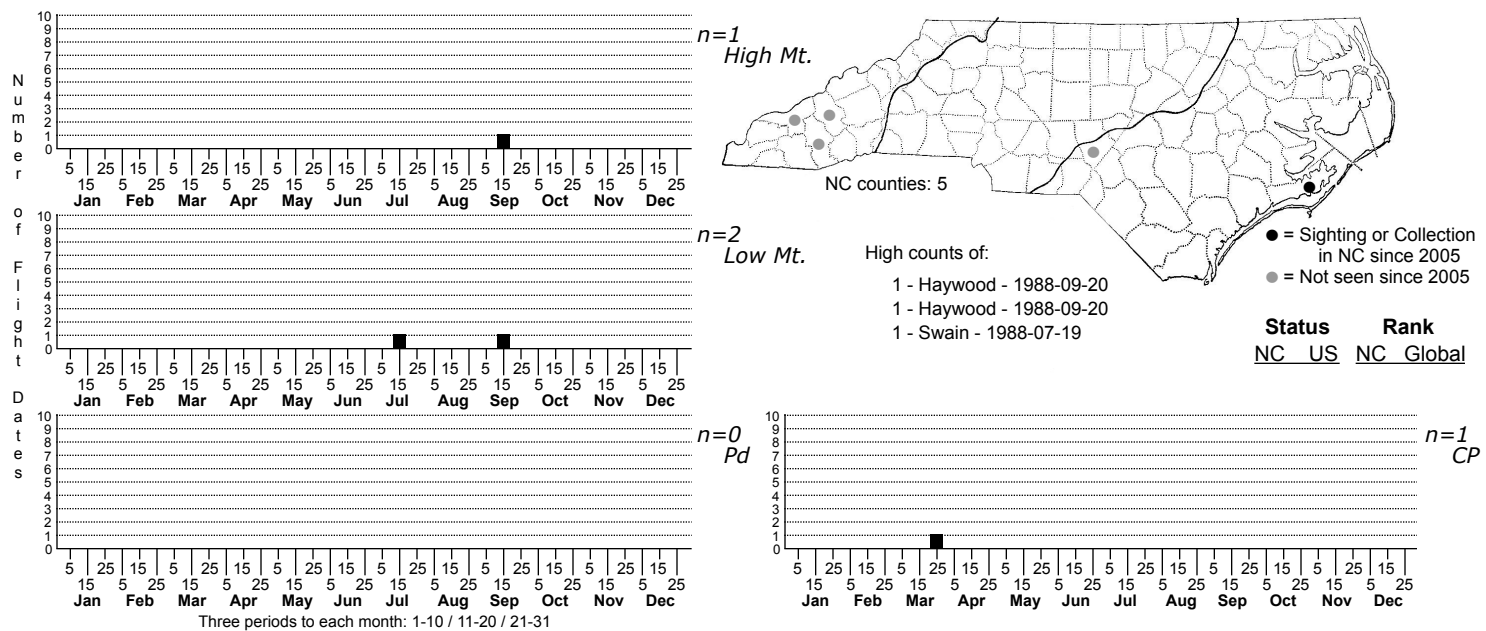


Nemoria rubrifrontaria Red-fronted Emerald



FAMILY: Geometridae SUBFAMILY: Geometrinae TRIBE: Nemoriini

TAXONOMIC COMMENTS: One of 35 species in this genus that occur in North America (Ferguson, 1985), nine of which have been recorded in North Carolina. Ferguson (1969) included *rubrifrontaria* in his *Bistriaria* Species Group (VIII), which also includes *bifilata*, *bistriaria*, and *mimosaria* in North Carolina, as well as eight others in the West.

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

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1948); Ferguson (1969, 1985)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1948); Ferguson (1985); Wagner et al. (2001)

ID COMMENTS: A medium-sized, dark green Emerald; no reddish-brown spring form is known. The abdomen has a series of white spots surrounded by red, similar to *N. lixaria* and *bistriaria*. *Rubrifrontaria* lacks the red terminal line found in those species and has a pinkish to white fringe that is only weakly checkered, if at all.

DISTRIBUTION: Apart from one historic record from the Fall-line Sandhills, all of our records come from the Mountains

FLIGHT COMMENT: We have no definite dates for this species, but Wagner et al. (2001) report that it has two generations per year over most of its range.

HABITAT: Habitats used in North Carolina are unrecorded. Elsewhere, Wagner et al. (2001) describe its habitats as consisting of sandy barrens, bogs, woodlands, and coastal strands. Forbes (1948) stated that it was "definitely an acid soil species."

FOOD: Larvae have been recorded feeding on Sweet-gale (*Myrica gale*) and Sweet-fern (*Comptonia peregrina*) in the north (Forbes, 1948; Ferguson, 1985; Wagner et al., 2001). It has also been reported on other species in the Myricaceae, New Jersey Tea (*Ceanothus americanus*), and Sheep Laurel (*Kalmia angustifolia*), and Ferguson (1985) reared it on Winged Sumac (*Rhus copallinum*).

OBSERVATION_METHODS: Not recorded in North Carolina.

NATURAL HERITAGE PROGRAM RANKS: GNR SH [S1S2]

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

COMMENTS: This species is only known from historic records in North Carolina. Based on its reported host plants and habitat associations, it is likely to be specialist on just a narrow range of habitats in North Carolina and probably of significant conservation concern.