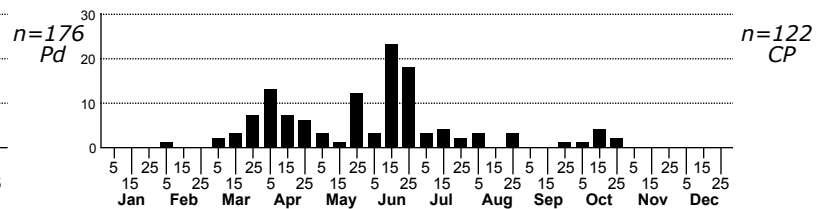
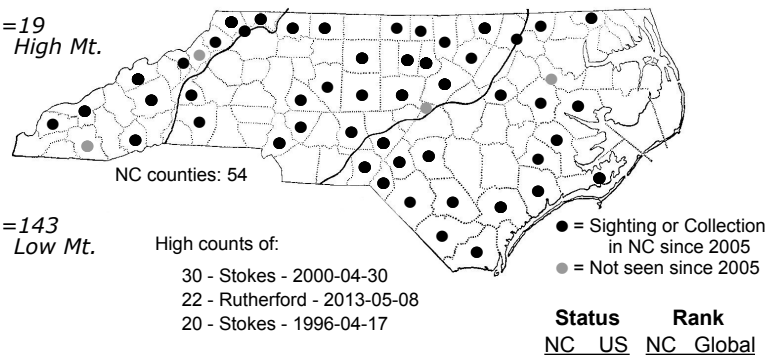
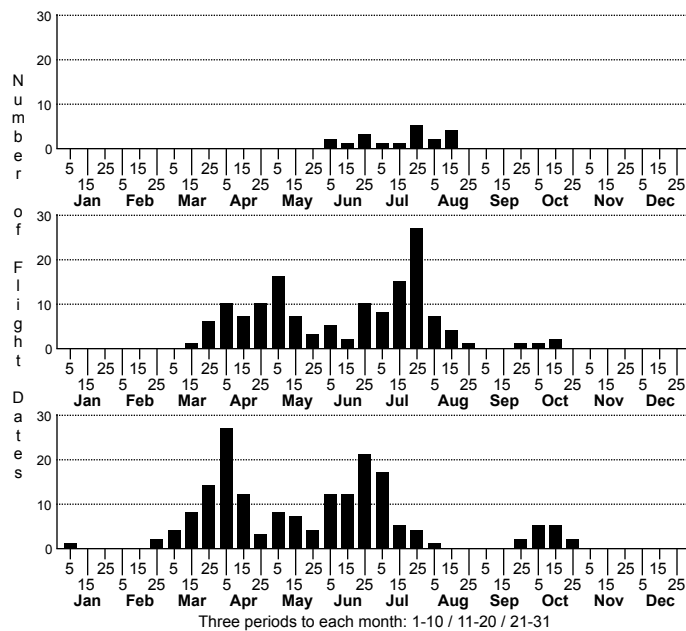


Nemoria bistriaria Red-fringed Emerald



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 *bistriaria* in his *Bistriaria* Species Group (VIII), which also includes *bifilata*, *rubrifrontaria*, and *mimosaria* in North Carolina, as well as eight others in the West.

FIELD GUIDE DESCRIPTIONS: Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1948; as *N. rubrolinearia*); Ferguson (1969, 1985)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Ferguson (1985); Wagner et al. (2001); Wagner (2005)

ID COMMENTS: A medium-sized Emerald with a reddish-brown winter form and a green summer form. The reddish-brown form is missing in *lixaria* and may be distinguished from the similar brown form of *bifilata* by the white mark found on the foretibiae (see Structural Features below). In the green form, the abdomen has a series of white spots, similar to *N. lixaria* but different from the solid white line found in *bifilata*. The lines are white and generally more even than in *lixaria*, particularly the postmedian line, which is usually dentate or waved in *lixaria*. A narrow red terminal line is present and the fringes may be slightly checkered with red but much less so than in *lixaria*. *Bistriaria* also generally lacks the black discal dot present in *lixaria* (Forbes, 1948), but it can be weakly present in some specimens.

DISTRIBUTION: Occurs statewide, from the Barrier Islands to the High Mountains

FLIGHT COMMENT: Adults are found throughout the growing season, from March to August, with two main peaks in activity but no clearly separated broods. A small, separate peak also exists in October, at least in the Piedmont and Coastal Plain.

HABITAT: Our records come from virtually all hardwood-dominated forests in the state, ranging from Maritime and Coastal Fringe Evergreen Forests along the Coast, bottomland forests elsewhere in the Coastal Plain, and both riparian and upland hardwood forests in the Piedmont and Mountains. Records are few to absent from Pond Pine Woodlands and Pocosins and from the xeric sandhill habitats in the Coastal Plain.

FOOD: Larvae are polyphagous, feeding on many species of woody shrubs and trees. Wagner et al. (2001) specifically list birch (*Betula*), Sweet-fern (*Comptonia peregrina*), walnut (*Juglans*), Sweet-gale (*Myrica gale*), and oak (*Quercus*).

OBSERVATION_METHODS: Comes well to blacklights but we have no records from bait or from flowers

NATURAL HERITAGE PROGRAM RANKS: G5 SNR [S4S5]

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

COMMENTS: Given its wide occurrence and use of multiple, common host plants and habitat types across the state, this species appears to be secure in North Carolina.