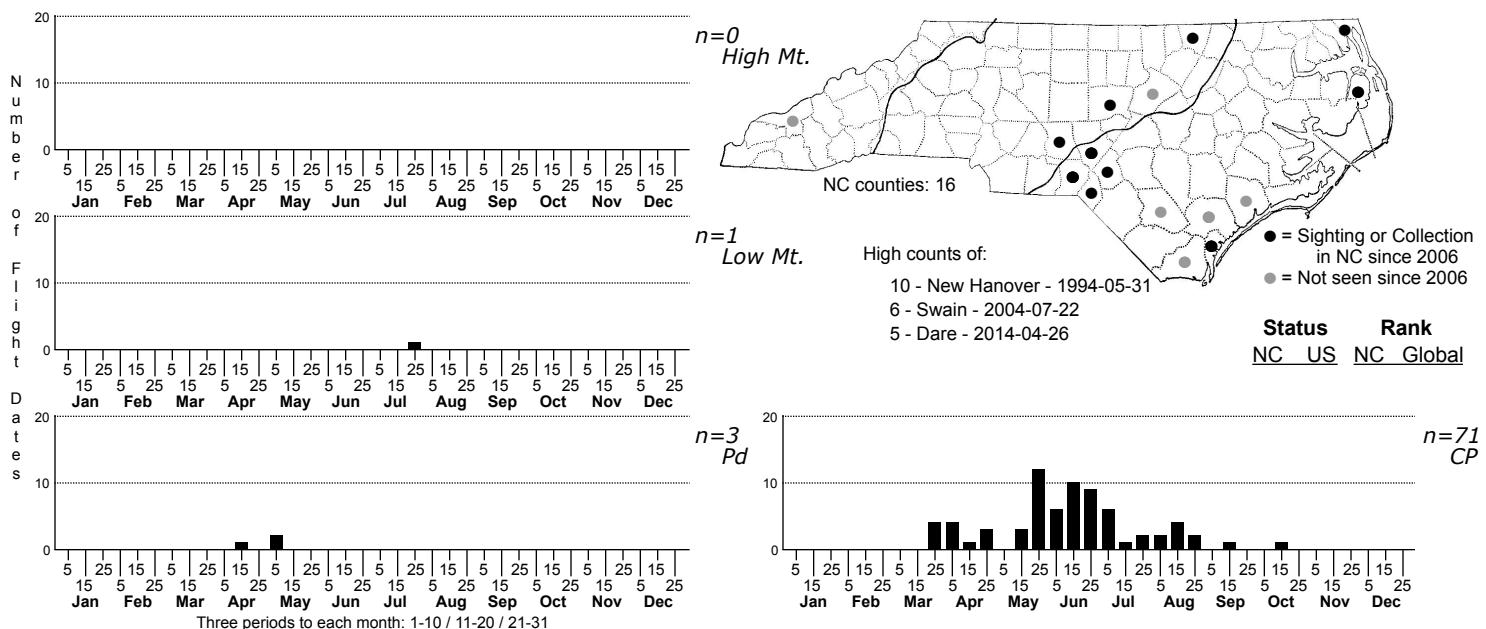


Nemoria bifilata White-barred Emerald



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

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

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

TECHNICAL DESCRIPTION, IMMATURE STAGES: Ferguson (1985); Wagner (2005)

ID COMMENTS: A medium-sized Emerald with a reddish-brown spring form and a green summer form. The abdomen of the nominate subspecies has a dorsal white line which is unique among our species of this genus. The wings are striated with white, have narrow, sometimes obsolete white lines, and possess a narrow red terminal line.

DISTRIBUTION: We have just one record from the Mountains. The rest come from the Coastal Plain or the eastern edge of the Piedmont.

FLIGHT COMMENT: Adults fly more-or-less continuously from late March to September, with most records coming from mid summer

HABITAT: With the exception of the three records from the Mountains and Piedmont, our records come entirely from dry-xeric oak woodlands, including Maritime Forests on the Barrier Islands and sandhills habitats further inland.

FOOD: Larvae were reared on oak (Forbes, 1948), although Ferguson (1985) stated that the larvae appeared to be dwarfed on that diet (the species of oak was not mentioned). Ferguson also reared them successfully on Winged Sumac (*Rhus copallina*) but that species occurs across a wider range of habitats than does *N. bifilata*. In the dry-xeric habitats where *N. bifilata* primarily occurs in North Carolina, either xerophytic oaks or possibly Poison Oak (*Toxicodendron pubescens*) seem more likely.

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

NATURAL HERITAGE PROGRAM RANKS: G4 S3? [S3S4]

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

COMMENTS: *Nemoria bifilata* appears to be uncommon throughout its range (Ferguson, 1985). In North Carolina, it appears to be associated with a narrow range of dry-to-xeric habitats, much of the range of which has been drastically reduced due to conversion to silviculture. Larval surveys are needed to determine the host plants used by this species, which should provide more information on its conservation needs.