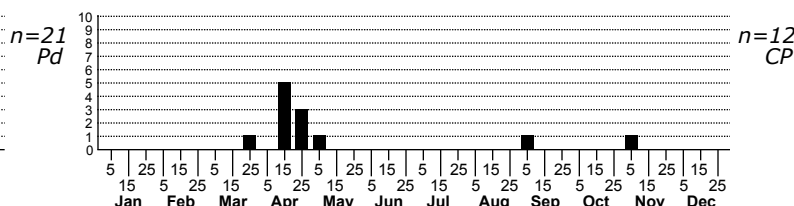
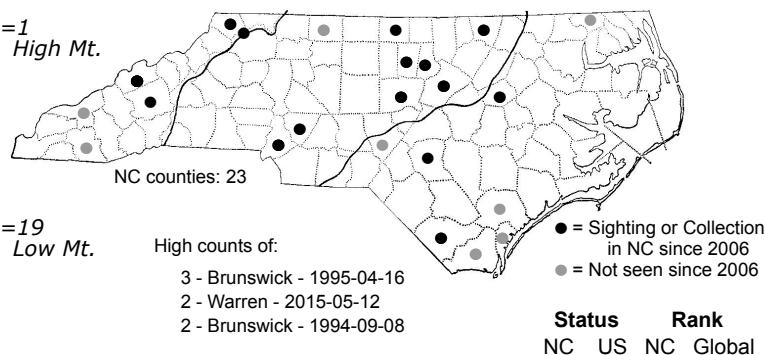
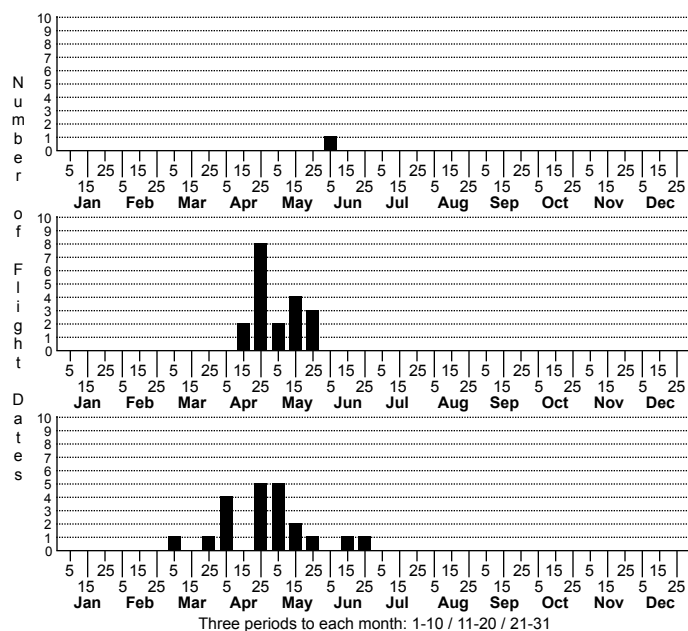


Zale helata Brown-spotted Zale



FAMILY: Erebidae SUBFAMILY: Erebinae TRIBE: Ophiurini

TAXONOMIC_COMMENTS: One of 39 species in this genus that occur north of Mexico, 23 of which have been recorded in North Carolina

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

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: McDunnough (1943); Forbes (1954); Rings et al. (1992)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1954), Wagner (2005), Wagner et al. (2011)

ID COMMENTS: This species is one of the easier ones to identify in the pine-feeding group. It ranges from bright brown to grayish brown with a prominent dark color preceding the antemedian line and filling in its convexities; a similar dark shading also occupies the space between the postmedian and subterminal lines (McDunnough, 1943; Forbes, 1954). The median lines, in contrast, are quite weak, although the innermost line runs across the wing before the reniform spot, not along its inner edge. Unlike most members of this group (except *buchholzi*), there is little contrast between the inner and outer zones defined by the medial line. Fresh individuals should be identifiable on the basis of a good photograph; more worn individuals can be determined through dissection.

DISTRIBUTION: Probably occurs over the entire state

FLIGHT COMMENT: Probably single brooded with adults flying only in the spring

HABITAT: North Carolina records appear to come from the entire spectrum of pine-containing habitats, including maritime forests, peatlands, wet Longleaf savannas and xeric sandhills, dry Piedmont and Mountain ridges.

FOOD: Larvae are oligophagous, feeding on a range of pines, including both soft and hard pines; also feeding occasionally on larch (*Larix* spp.) (Forbes, 1954; Wagner et al., 2011). Reported hosts include Red Pine (*Pinus resinosa*), Pitch Pine (*P. rigida*), Eastern White Pine (*P. strobus*), and Virginia Pine (*P. virginiana*) (Covell, 1984; Maier et al., 2004). We do not have any feeding records in North Carolina.

OBSERVATION_METHODS: *Zale helata* may be poorly attracted to lights, which, along with its relatively early flight period, could be a factor explaining the scarcity of records in North Carolina. Bait is probably a more effective way to sample for it, as is true for several other species of *Zale*.

NATURAL HERITAGE PROGRAM RANKS: G5 SNR [S3S4]

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

COMMENTS: Although a uncommonly collected species in North Carolina, too little is known about the distribution and habitat affinities of *helata* to estimate its conservation needs.