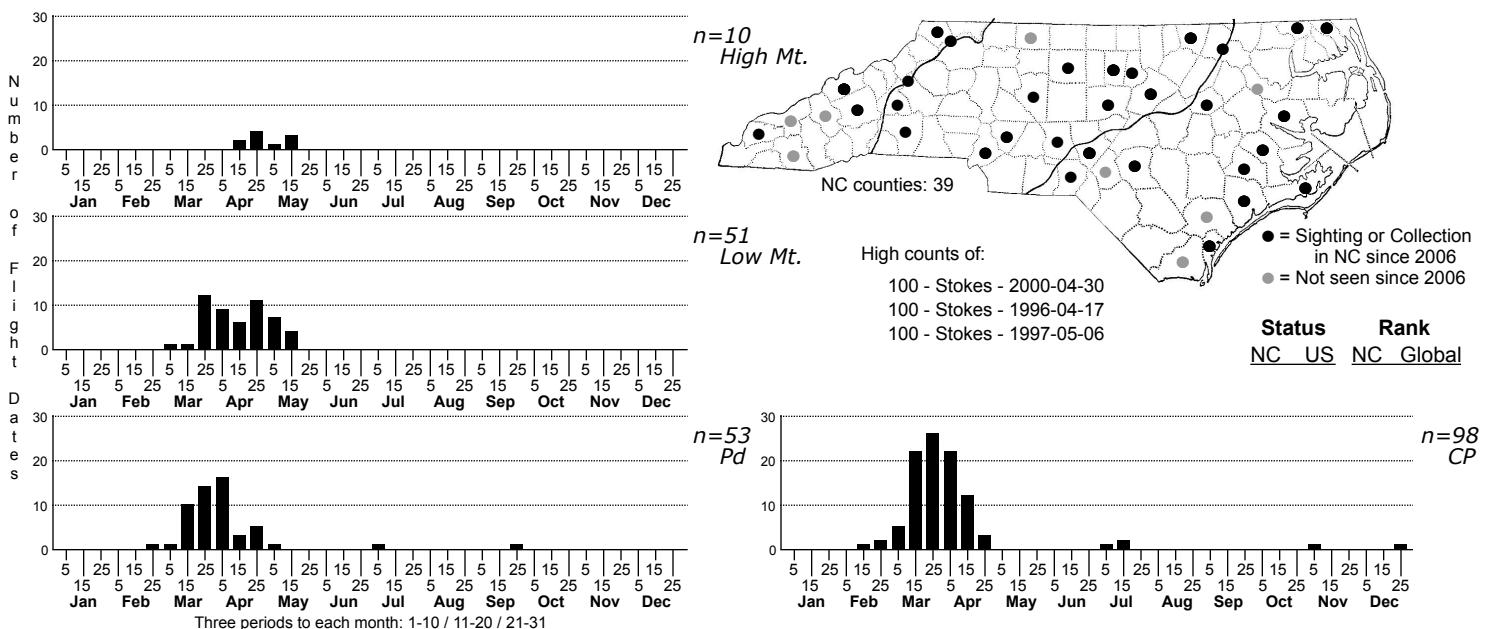


Zale lunifera Bold-based Zale



FAMILY: Erebidae SUBFAMILY: Erebinae TRIBE: Ophiusini

TAXONOMIC COMMENTS: One of 39 species in this genus that occur north of Mexico, 23 of which have been recorded in North Carolina. *Zale lunifera* was recently separated from *Z. intenta*, a close sibling species, by Schmidt (2010).

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Schmidt (2010)

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

ID COMMENTS: An umber to blackish, spring-flying *Zale*, distinguished by its heavy vertical to oblique striations. A small basal area of light brown is usually present, followed by a blackish antemedial area bounded by a heavy, black, antemedian line that bent at an angle just below the middle; this is typically one of the strongest markings on the forewing and is often followed by a strongly contrasting pale brown to white shade. A dark subterminal patch is also often present. The orbicular spot is small and dark and the reniform is larger, paler, and forms a narrow vertical crescent. The postmedian line is black, narrow, and undulating on the forewing. On the hindwing, it runs fairly straight except at its upper and lower ends. The subterminal line runs parallel to the postmedian but is distinctly separated from it.

DISTRIBUTION: Apparently statewide, but read the Species Status comments above.

FLIGHT COMMENT: Probably univoltine with adults flying two-three weeks later than *Zale intenta* (Wagner et al., 2011); the July records may all represent *Z. lunifera*.

HABITAT: In the Northeast, *Zale lunifera* is believed to be highly confined to sandy barrens located close to the coast, where they are associated with populations of Scrub Oak; all other records are assumed to represent *Z. intenta*. In North Carolina, however, several species that feed on Scrub Oak up north feed on other xeric oaks, including Turkey Oak (*Quercus laevis*) and Blackjack Oak (*Q. marilandica*). Those that feed on Blackjack in particular often occur outside the Coastal Plain, including well up into the Mountains (e.g., *Hemileuca maia*, *Hyparpax aurora*, and *Morrisonia mucens*). It seems unsafe to simply assume, therefore, that the same pattern observed for *Z. lunifera* in the Northeast will be the same down here. Conversely, since Black Cherry can occur in even some of the driest habitats in the state, it is also not safe to assume that all records for this complex coming from xeric sandhills represent *Z. lunifera*. We are currently waiting to see how well bar-coded specimens sort out by habitat.

FOOD: Larvae are stenophagous, reported to feed on Scrub Oak (*Quercus ilicifolia*) in the Northeast and on Blackjack Oak (*Q. marilandica*) and other scrub oaks in the South (Wagner et al., 2011). In North Carolina, J.B. Sullivan reared a larva from Southern Red Oak (*Q. falcata*).

OBSERVATION METHODS: *Zale* species come to blacklights, and especially to bait. Larval searches and identification are difficult, but needed to help clarify the status of this species.

NATURAL HERITAGE PROGRAM RANKS: G3G4 SNR [S2S3]

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

COMMENTS: Too little is currently known about the distribution, population sizes and trends, and habitat associations to estimate the conservation status of this species.