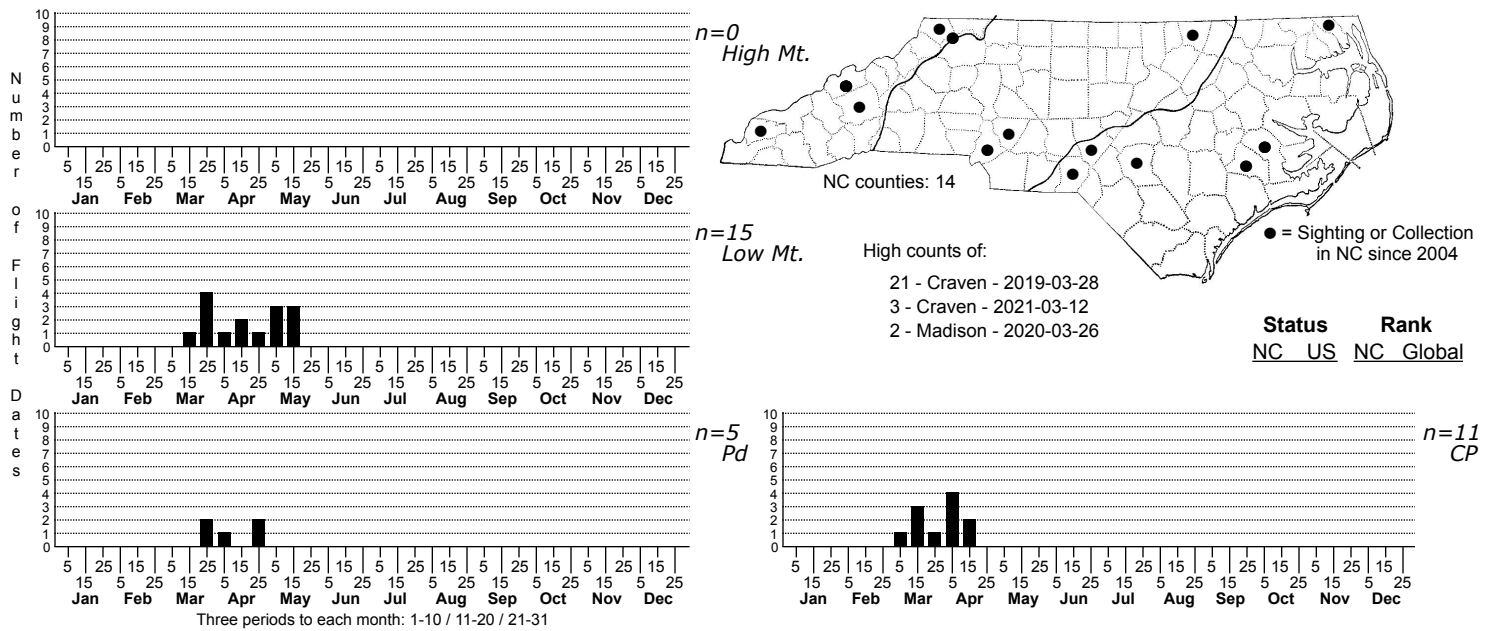


## *Zale intenta* Bold-based Zale



FAMILY: Erebiidae SUBFAMILY: Erebinae TRIBE: Ophiuini

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

FIELD GUIDE DESCRIPTIONS: Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Schmidt (2010)

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

ID COMMENTS: *Zale intenta* and *lunifera* are most clearly distinguished using DNA analysis (including DNA bar-coding). Other characters that Schmidt used to distinguish the two species are variable, including size, degree of elongation of the wing, prominence of the orbicular, intensity of striation on the forewing, and degree of sinuosity of the antemedian. Genitalic differences -- the last resort for identifying other *Zales* -- are only slight, especially in the males. Several of these characters, moreover, appear to be more clearly distinct in the Northeast; in North Carolina, specimens that have been bar-coded as *intenta* appear to be smaller than those bar-coded as *lunifera* (the opposite of what Schmidt found), with the other characters also not consistently different. In the Northeast, *intenta* is widespread and believed to feed primarily on Cherry, whereas *lunifera* is confined to sandy pine barrens where it feeds on Scrub Oak (*Q. ilicifolia*). Those patterns have not, however, been clearly established in the Southeast, including North Carolina. Virtually all of our older records were assigned to *lunifera* and will take an effort to go back through existing specimens to re-determine their identities. In the meantime, we assume that the majority of records actually refer to *intenta*, presumably the more common, widespread species. We restrict records for *lunifera* primarily to specimens that have been confirmed by bar-coding.

DISTRIBUTION: *Intenta* is likely to have a statewide distribution but the situation is currently unclear due to past confusion with *lunifera*

FLIGHT COMMENT: Probably univoltine with adults flying two-three weeks earlier than *lunifera* (Wagner et al., 2011)

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 *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 *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 *lunifera*. Waiting to see how bar-coded specimens sort out by habitat appears to be the best course.

FOOD: Wagner et al. (2011) report that Cherry -- especially Black Cherry (*Prunus serotina*) -- and Plums are the main host plants, although at least one adult has been reared by Dale Schweitzer from a larva found on Willow Oak (*Q. phellos*).

OBSERVATION METHODS: Appears to come moderately well to blacklights, with large numbers of individuals occasionally being collected in single traps. Like other *Zales*, it probably also comes well to bait.

NATURAL HERITAGE PROGRAM RANKS: G5 S3S4

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

COMMENTS: Probably is a secure species in North Carolina but more information is needed on its distribution and habitat associations before its conservation needs can be estimated