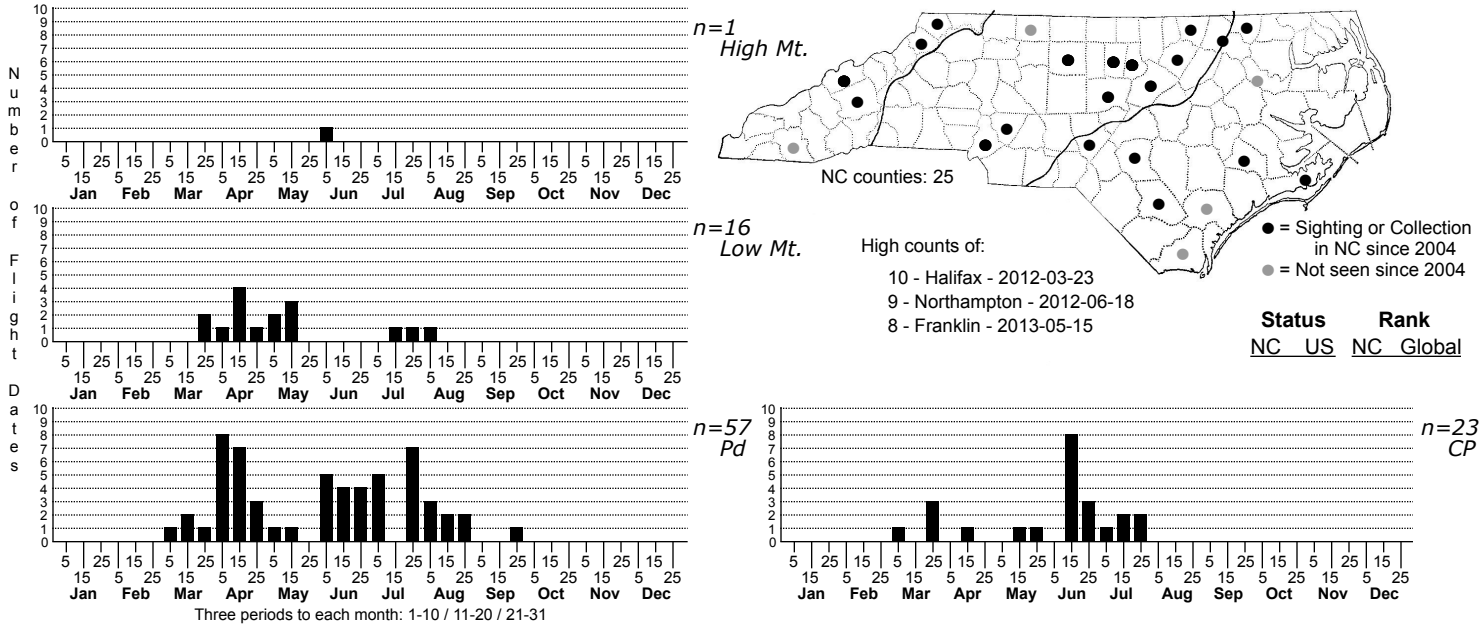
Zale galbanata Maple Zale



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

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)
ONLINE PHOTOS: MPG, Bugguide, BAMONA
TECHNICAL DESCRIPTION, ADULTS: Forbes (1954)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1954), Wagner et al. (2011)

ID COMMENTS: Typically gray to grayish-brown with a pattern of thin wavy lines; also shows some of the same variations found in minerea and other species, including forms having contrasting areas of dark and light brown. Galbanata is smaller than minerea and possesses a less strongly marked sub-terminal patch located along the costa between the postmedian and sub-terminal lines; in minerea, this patch is more solidly dark brown and contrasting (Forbes, 1954). Both of these species often possess a noticeable bar or dash at the middle of the outer margin, which in galbanata is somewhat separated from the sub-marginal and more horizontal, whereas in minerea it usually appears to be an extension of the curved sub-marginal line (Forbes, 1953). This bar appears to be always missing in Z. phaeocapna, a species that is otherwise similar in size, color, and pattern to Z. galbanata. Phaeocapna is usually more reddish than galbanata, although some specimens of galbanata can be quite reddish and lack the marginal bar. While most typical specimens can probably be identified based on good-quality photographs, dissections of the male reproductive structures provides the most definitive way to tell these species apart.

DISTRIBUTION: Not recorded by Brimley (1938) or Wray (1967), even though the species was described by Morrison in 1876. Despite the commonness of its host plants, our records are fairly sparse but represent most areas of the state except the Outer Banks and other barrier islands.

FLIGHT COMMENT: Our data are too sparsely distributed to detect any pattern but Wagner et al. (2011) state that galbanata has two or more generations.

HABITAT: Most of our records (>85%) come from rich, alluvial floodplains where Boxelder is a prominent species. In the Coastal Plain, records come almost entirely from brownwater rivers, including the Roanoke and Cape Fear, where rich sediments have washed down from the Piedmont or Mountains. Only two come from acidic, blackwater drainages and one of those comes from a Wet Marl Forest, which has rich soils due to the presence of limestone. In the Piedmont, most of our records also come from stream floodplains or lakeshores that have populations of Boxelder. Only a record from Hanging Rock State Park -- a monadnock -- may represent an exception, although even there, Boxelder is present along the lower portion of the Park next to the Dan River (the exact location where the specimen was taken is unrecorded). Boxelder probably does not occur, however, at the three sites where we have records for galbanata in the Mountains. Sugar Maple (Acer saccharum) is more likely as the host plant in all of those areas (several other species of maples, however, are also present).

FOOD: Stenophagous, feeding only on maples. Wagner et al. (2011) specifically mention Boxelder (Acer negundo), but suggest that other maples may also be possibly used. If Red Maple (Acer rubrum) were commonly used, however, we would expect to see a lot more records for galbanata and from a much wider range of habitats.

OBSERVATION_METHODS: Appears to come moderately well to blacklights, with up to nine having been collected in a single trap. Also comes well to bait, including wine ropes.

NATURAL HERITAGE PROGRAM RANKS: G5 [S4]

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

COMMENTS: Appears to be a habitat specialist, occurring primarily in rich alluvial forests. While probably widespread enough to be relatively secure across the state, it is likely to be affected by the creation of impoundments, which not only drown large areas of alluvial forests directly but also starve the forests located downstream of the sediment flow needed to maintain brownwater species such as Boxelder.