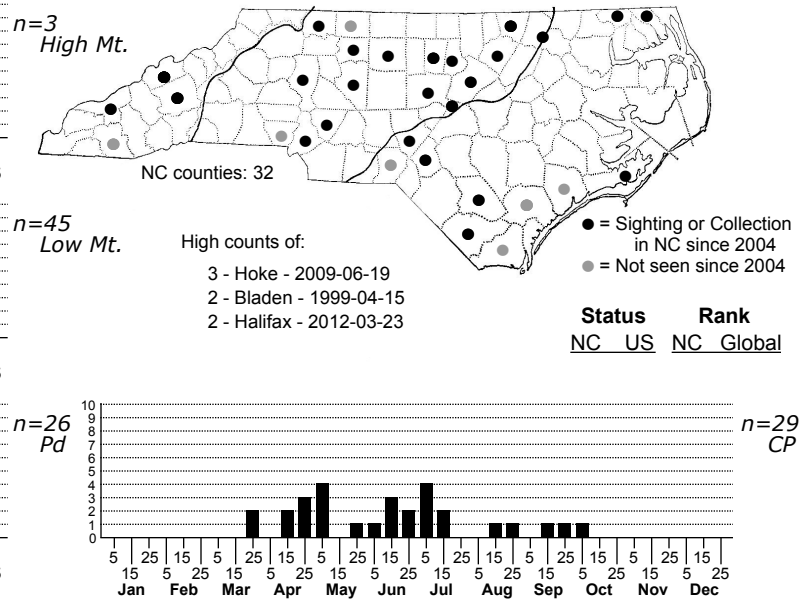
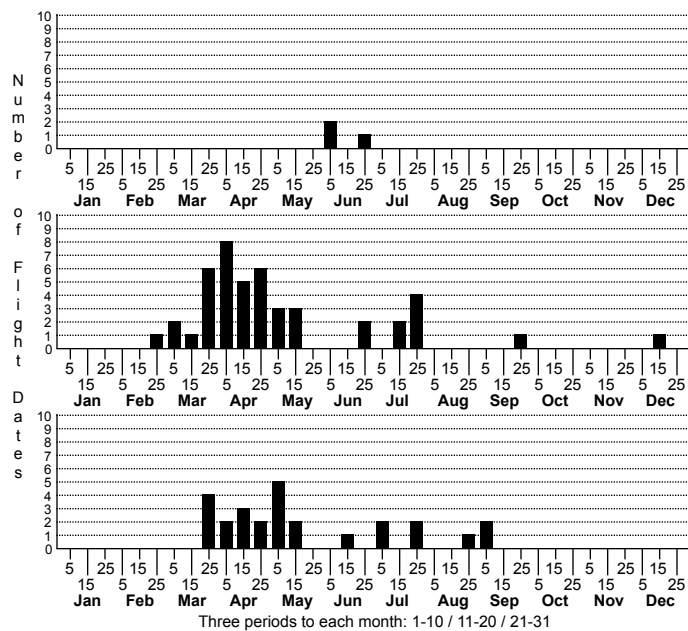


Zale horrida Horrid Zale



FAMILY: Erebiidae SUBFAMILY: Erebiinae 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

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

ONLINE PHOTOS: MPG, Bugguide, BAMONA

TECHNICAL DESCRIPTION, ADULTS: Forbes (1923)

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

ID COMMENTS: Adults are unmistakable: dark umber to lustrous coal black over the basal and medial portions of the wings, with an undulating, contrasting yellow-brown border along the outer margin on both the fore- and hindwings. Other blackish Zales lack this contrasting edge. Scale tufts on the thorax and abdomen and raised scales on the outer border give horrida a highly sculpted, ornamented appearance; despite its somber coloration, it is one of our more gaudy species of moths.

DISTRIBUTION: Probably occurs statewide, although we do not have any records for the northern Mountains

FLIGHT COMMENT: Appears to be single-brooded in the Mountains but multiple-brooded in the Piedmont and Coastal Plain

HABITAT: The majority of our records come from wet, acidic habitats in the Coastal Plain, including pocosins and other peatlands, blackwater floodplains, and Sandhill streamheads. In all of these cases, *Viburnum nudum* is a common species and is the most likely host plant. Away from the Coastal Plain, horrida has been reported from both wetland and upland habitats. In some areas, such as the Mason Farm Biological Preserve, it may be associated with mafic habitats where *V. rafinesquianum* is particularly common. However, it also occurs in other upland areas where the substrates are much more likely to be more felsic, e. g., Satullah Mountain and Slick Rock in the Mountains.

FOOD: Stenophagous, only reported on *Viburnums* (Covell, 1984; Wagner, 2005; Wagner et al., 2011). Covell stated that Nannberry (*V. lentago*) is used, but that species does not apparently grow in North Carolina (Weakley, 2012); *Viburnum nudum*, a related species, appears to be far more likely to be a host plant, particularly in the eastern part of the state. Additionally, Wagner et al. reported that most of their collections come from *V. dentatum* and related species, several of which are widely distributed across the state.

OBSERVATION_METHODS: May come to lights, including blacklights, fairly sparingly; the largest number recorded in a single trap is three, with single specimens collected most commonly. Baiting is much more productive, as is true for most Zales.

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: This species does not appear to be common, but that may be due to it's being poorly sampled by lights. Although it is specialized on *Viburnums*, the species it uses are apparently widely distributed and occur in a number of different habitat types. Except in the Coastal Plain, where it occurs in successional wetlands, most of records from the rest of the state come from stands of mature hardwoods with a well-developed shrub layer. It may therefore be vulnerable to the effects of clear-cutting and conversion of hardwoods to pine plantations and other heavily managed forests. Given its wide range in the state and use of a number of different habitats, however, horrida appears to be relatively secure.