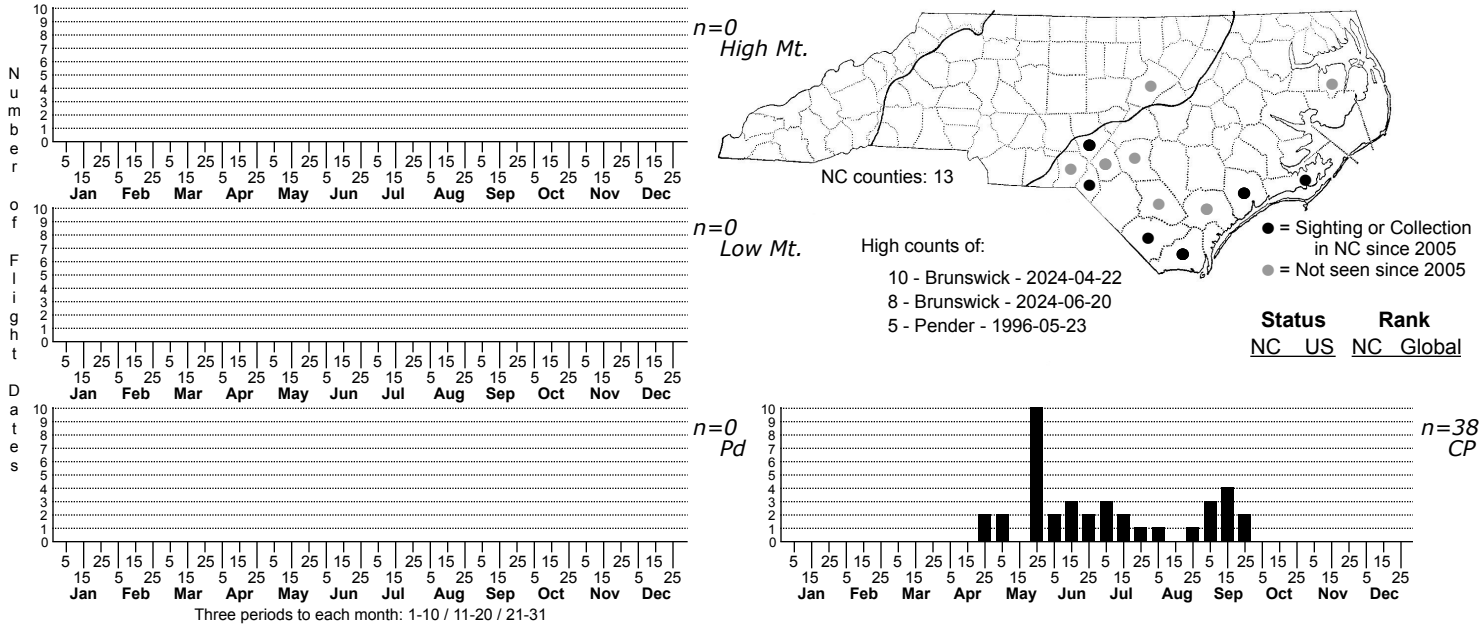
Exyra semicrocea Pitcher Plant Mining Moth



FAMILY: Noctuidae SUBFAMILY: Plusiinae TRIBE: Plusiini
TAXONOMIC_COMMENTS: One of three members of this genus, all of which are highly associated with Pitcher Plants in the genus Sarracenia, which occurs only in eastern North America. All three species have been recorded in North Carolina. This genus was formerly placed in the Acontiinae (e.g., Forbes, 1954) but was moved to the Plusiinae by Lafontaine and Poole (1991).

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Jones (1921); Forbes (1954); Lafontaine and Poole (1991)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Jones (1921); Forbes (1954); Lafontaine and Poole (1991); Wagner et al. (2011)

ID COMMENTS: A medium-small, black-and-yellow Noctuid. The head and front half of the thorax are dark, blackish brown, differing from the crimson-and-yellow found in Exyra fax but very similar to the pattern shown by E. ridingsii. Unlike ridingsii, semicrocea lacks a black antemedian line on the forewings, which are usually divided into a yellow basal area and a blackish terminal area, with the line separating the two zones running fairly straight across the wings. Rarely, all yellow forms occur (see illustrations in Lafontaine and Poole, 1991). Ponometia semiflava is another similar sized moth with yellow basal and black terminal areas on its wings. However that species has an all yellow head and thorax and the line dividing the black and yellow portions of the wings runs at a slant across the wings rather than straight-across. Although there has been some confusion in the past, P. semiflava is not associated with Pitcher Plants, although it also occurs in open Longleaf Pine communities where its host plants -- Goldenaster and other composites -- occur.

DISTRIBUTION: Formerly occurred in the Mountains, Piedmont, and Coastal Plain, but appears to have been extirpated from the first two regions; recent records are all from the southern part of the Coastal Plain, including the Fall-line Sandhills.

FLIGHT COMMENT: Adults occur throughout most of the growing season, from April through the end of September, with three apparent peaks in activity but no definite separation between flights

HABITAT: All of our records come from peatlands, including Low Pocosin and Pocosin Openings; peaty areas in Wet Pine Savannas and Sandhill Seeps; and from boggy, sediment-filled portions of beaver ponds and other shallow impoundments. Always found in association with its host plants.

FOOD: Larvae are stenophagous, feeding only on pitcherplants (Sarracenia spp.) but apparently using all seven species in that genus (Jones, 1921; Lafontaine and Poole, 1991). In North Carolina, larvae have been recorded in Yellow Pitcherplant (Sarracenia flava).

OBSERVATION_METHODS: Comes well to blacklights. Both adults and larvae can be found by inspecting the tubes of their host plants.

NATURAL HERITAGE PROGRAM RANKS: G3G4 S2S3

STATE PROTECTION: Listed as Significantly Rare by the Natural Heritage Program. That designation, however, does not confer any legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: This species, along with other members of this genus, is highly specialized on a habitat type that naturally had a extremely patchy distribution and that underwent a severe reduction in both its range and overall extent since European settlement due to conversion to croplands and pine plantations and to suppression of the natural fire regime. These trends, moreover, are still continuing. Surveys conducted by the Natural Heritage Program in 2009-2011 in the Sandhills and the Uwharrie Mountain region of the eastern Piedmont documented a particularly strong recent decline in Pitcher Plant populations. Even where a few plants have managed to survive -- or even where Sarracenia populations have recovered due to recent prescribed burning -- Exyra species could not be found, even where they had been seen as recently as the 1990s (S. Hall, upubl. data). While populations of Exyra semicrocea still exist on several large areas of habitat located on military lands, state parks, game lands, and private nature preserves, all of those are dependent on appropriate use of prescribed burning to support their metapopulations. Too thorough or frequent burning, however, also jeopardizes this species, particularly in the small, isolated populations that are all that are left in some areas. Stephens et al. (2011) suspect that prescribed burning was the cause for the extirpation of the only known population of this species in the Mountains of North Carolina.