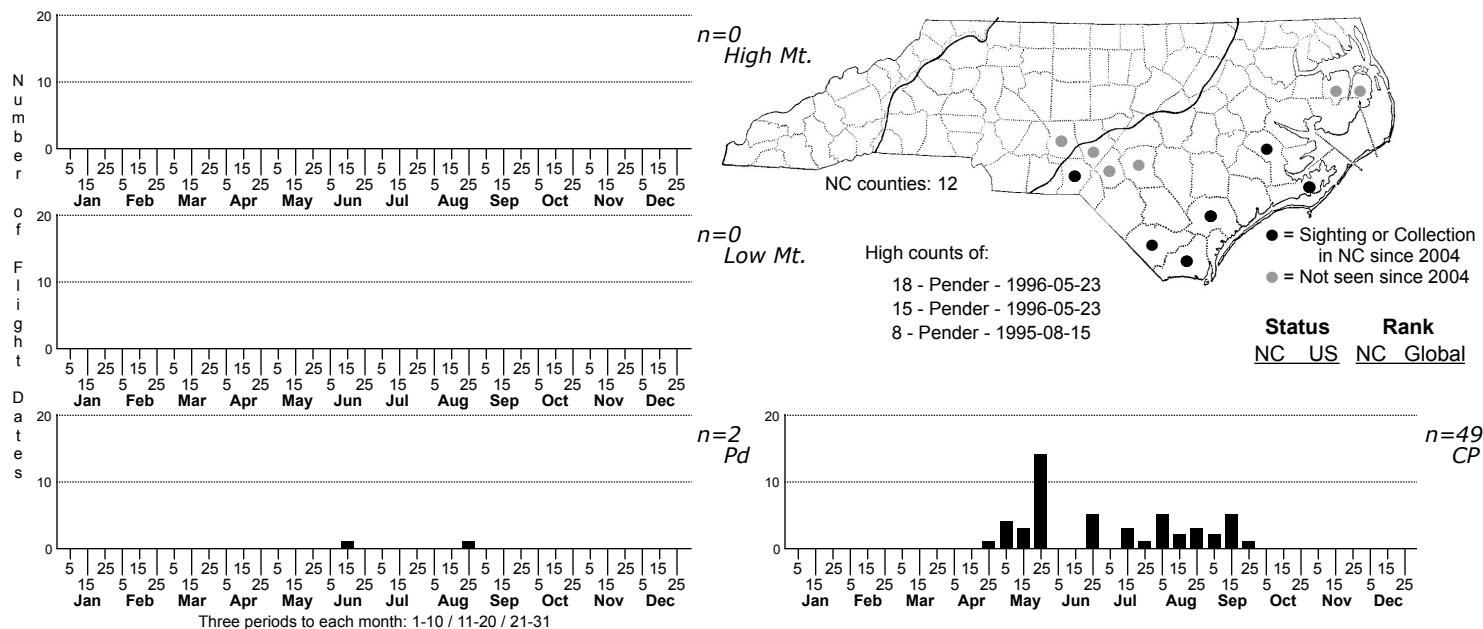


## *Exyra fax* Epauletted Pitcher-plant Moth



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 moderately small Noctuid. The forewings are variably marked with crimson and yellow; the thorax is usually yellow, although also shaded with crimson. In other species of *Exyra*, the wings are black and yellow and the thorax is completely black.

DISTRIBUTION: Occurs in both the northern and southern Coastal Plain, including the Fall-line Sandhills. Formerly, at least, it was also recorded in several bogs in Montgomery County in the eastern Piedmont. However, it now appears to be extirpated from that region. Although *Sarracenia purpurea* populations occur in the Mountains of North Carolina, so far we have no records of *fax* from that region.

FLIGHT COMMENT: Appears to have two adult flights in North Carolina, in April and May and more continuously from June to September.

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 plant, *Sarracenia purpurea*.

FOOD: Monophagous, feeding solely on Purple Pitcher Plants (*Sarracenia purpurea*) (Jones, 1907, 1921).

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: G4 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, unpubl. data). While vigorous populations of *Exyra fax* 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. At least one large tract of Low Pocosin and other peatland habitats -- located within the National Wildlife Refuges on the Albemarle-Pamlico Peninsula -- is highly threatened by salt-water intrusion associated with sea-level rise. Given these trends, this species has a high conservation concern in North Carolina, particularly in the Piedmont -- where it now may be completely extirpated -- and the Fall-line Sandhills.