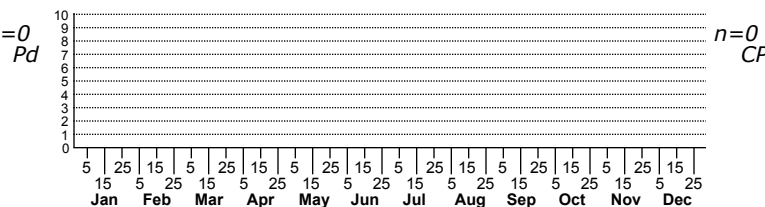
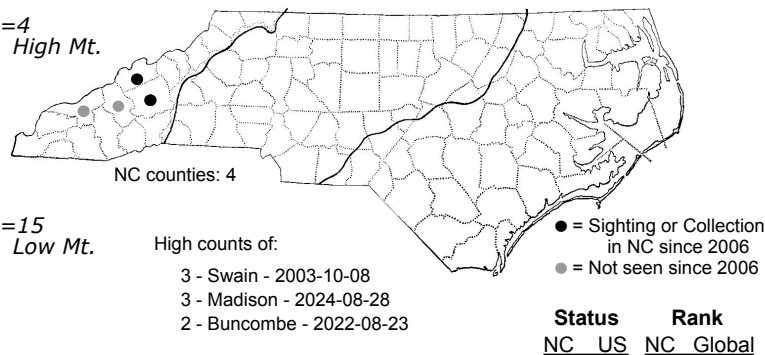
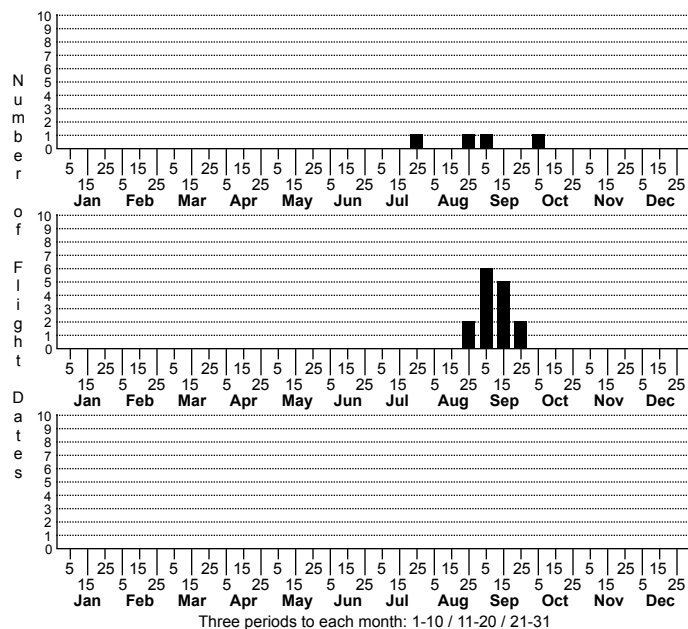


Papaipema astuta Yellow Stoneroot Borer Moth



FAMILY: Noctuidae SUBFAMILY: Noctuinae TRIBE: Apameini

TAXONOMIC COMMENTS: One of 44 species in this genus that occur in North America north of Mexico (Lafontaine and Schmidt, 2010, 2015), 30 of which have been recorded in North Carolina

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1954); Schweitzer et al. (2011)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1954); Schweitzer et al. (2011)

ID COMMENTS: A medium-large *Papaipema*. The median area of forewing is straw yellow, heavily dusted with brown; the basal and outer third of the wing contrastingly fuscous. The spot ring around the reniform is usually yellow and the two spots on the inner side more angulate than in similar species. The hindwings are pale brown with a distinctive yellowish shading at the base (Forbes, 1954; Schweitzer et al., 2011).

DISTRIBUTION: According to Eric Quinter, the three county records from North Carolina as of 2023 are the southernmost for this species (E. Quinter, pers comm. to SPH, 2022-08-25)

FLIGHT COMMENT: Univoltine, flying in September.

HABITAT: Our records come from Rich Cove Forests with populations of *Collinsonia canadensis*.

FOOD: Larvae are monophagous, feeding solely on Canada Horsebalm (*Collinsonia canadensis*) (Forbes, 1954; Schweitzer et al., 2011), which has been confirmed as the host in North Carolina.

OBSERVATION METHODS: Comes at least to some extent to blacklights but not to bait or flowers. Larvae can be searched for by looking for whitish frass ejected from a hole on the side of a stem (Wagner et al., 2011). However, both *Papaipema duplicatus* and *P. cataphracta* also feed on *Collinsonia*, so the presence of frass alone does not provide enough evidence to determine the presence of this species.

NATURAL HERITAGE PROGRAM RANKS: G3? S1S2

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 is regarded as globally rare (NatureServe Explorer, 2016) even though its host plant is fairly widespread; it has also apparently disappeared from large areas of its former range (Schweitzer et al., 2011). Deer overbrowsing or invasion of mesic forests by exotic invasive plants may be reducing the area of suitable habitat (Schweitzer et al., 2011), but the exact reason for the apparent decline of this species has yet to be confirmed.