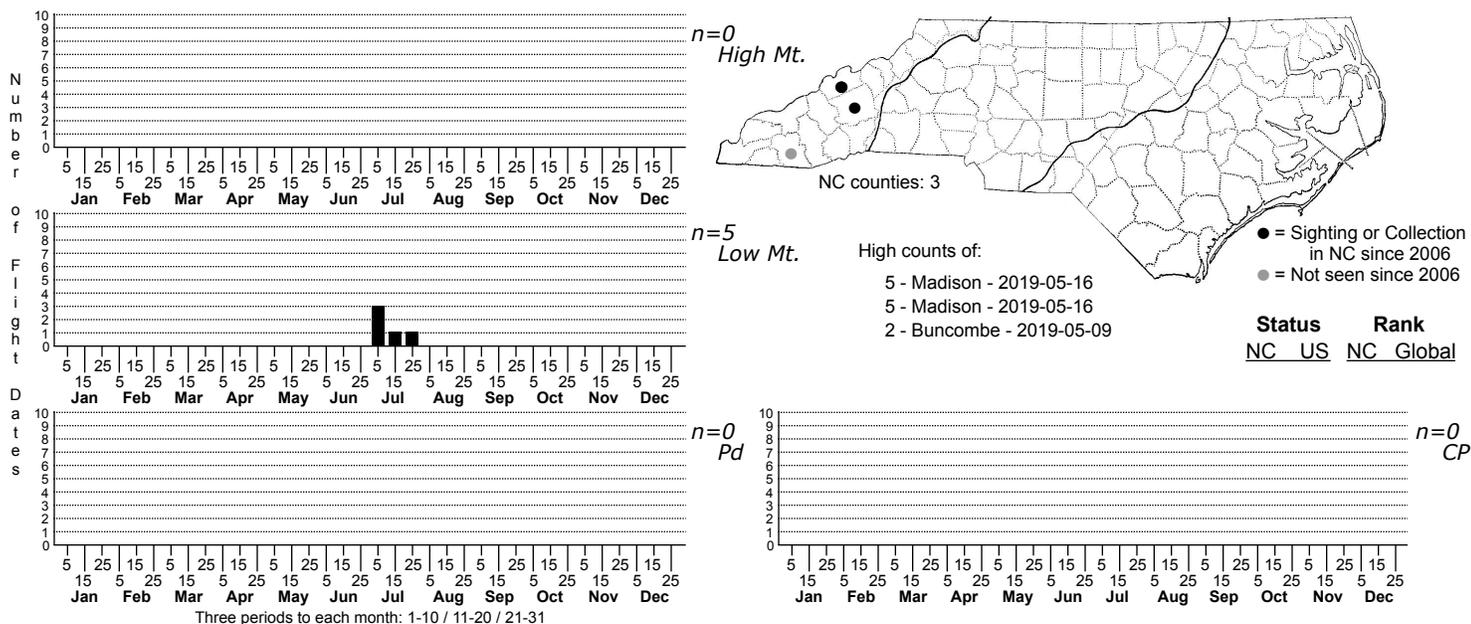


Protapamea louisae Louisa's Cane Cutworm



FAMILY: Noctuidae SUBFAMILY: Noctuinae TRIBE: Apameini

TAXONOMIC_COMMENTS: One of two species in this recently described genus (Quinter, 2009), both of which occur solely in eastern North America and have been recorded in North Carolina.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Quinter (2009)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Quinter (2009)

ID COMMENTS: A medium-sized noctuid. The two species of *Protapamea* are very similar in overall forewing pattern, but the ground color is typically much darker in *P. louisae* and less warm brown than in *P. danieli*, with the ground color ranging from violet-gray to nearly black and nearly all markings obscured (Quinter, 2009). In the most clearly marked specimens, the reniform is a bright white that strongly contrasts with the darker ground color; the orbicular also is present at least as a slightly paler shade. Both the antemedian and postmedian lines are double, consisting of a light line bordered by black. The antemedian is undulating but the postmedian is smoother, with smaller dentations. The two lines converge towards the inner margin and there is a dark bar that connects the two approximately at the fold, with a paler area located between the bar and the inner margin. Black patches also occur on the basal sides of both the reniform and orbicular lines. In darker phase individuals, only traces of these patterns may be visible. Hindwings in both species are fuscous and paler than the forewings. Due to the variability but overlapping patterns of the wing markings, Quinter recommends that the species are best identified based on genitalic or larval features.

DISTRIBUTION: Adults have been recorded in North Carolina at seven sites in the southern Mountains. All other records are from west of the Appalachians (see map provided by Quinter, 2009). Surveys for larvae have yielded several new populations in Madison and northern Buncombe Cos.

FLIGHT COMMENT: Our recent records of adults all come from July, including very fresh specimens.

HABITAT: The habitat and species of cane where Franclemont collected his specimen is unknown, but he also collected specimens of *Cherokeea attackullakula*, another cane-feeding species, in the same general area. *Cherokeea*, however, feeds on Hill Cane (*Arundinaria appalachiana*) growing up on slopes, whereas all other records for *P. louisae* are associated with Giant Cane (*Arundinaria gigantea*) which is a bottomland species.

FOOD: Larvae are stenophagous, feeding on species of cane (*Arundinaria*) (Quinter, 2009). All specimens from North Carolina were collected in the vicinity of Giant Cane (*Arundinaria gigantea*), upon which this species specializes, and larvae have been reared from Giant Cane.

OBSERVATION_METHODS: Except for the specimen collected by Franclemont in North Carolina (now apparently missing), no adults of this species had been collected or observed in the wild until 2018, when Jim Petranka photographed several individuals coming to lights at his house (Mikkola et al., 2009). While we previously speculated that the species may be poorly drawn to lights, that no longer appears to be the case. Several populations were located by using a beating sheet to collect larvae during the day. Nonetheless, it may be even easier to find larvae with headlamps at night after the larvae climb up onto the foliage to feed shortly after dark (Quinter, 2009), or by checking in leaf sheaths that are loosely attached to the stems.

NATURAL HERITAGE PROGRAM RANKS: GNR S1 [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: Prior to 2018, *Protapamea louisae* had not been seen in North Carolina since Franclemont first found it at Highlands in the 1950s. This species is associated with Giant Cane and probably occurs only in riparian habitats in the Tennessee River basin.