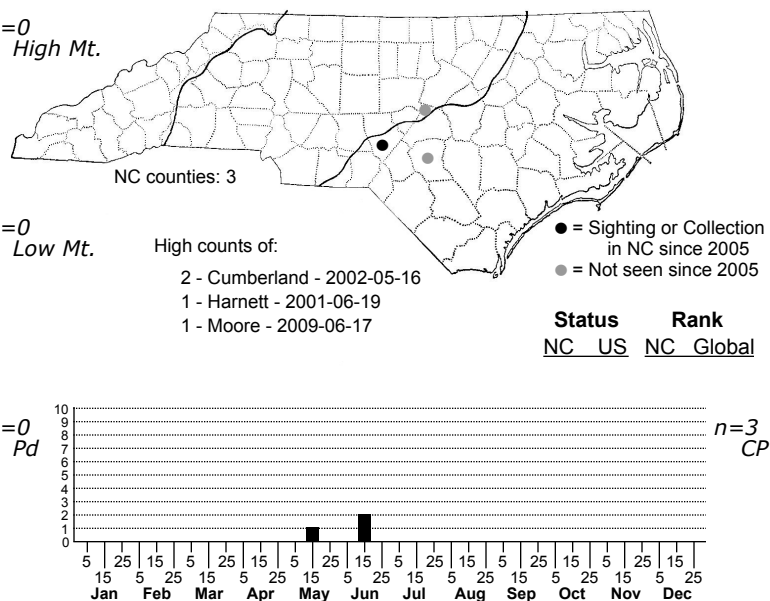


Apamea inebriata Drunk Apamea



FAMILY: Noctuidae SUBFAMILY: Noctuinae TRIBE: Apameini

TAXONOMIC COMMENTS: A Holarctic genus of about 140 species, with 63 recorded in North America, mostly from boreal or montane habitats (Mikkola et al., 2009). Seventeen species occur in North Carolina with the majority of records coming from the mountains.

FIELD GUIDE DESCRIPTIONS: Not in either field guide

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Ferguson (1977); Mikkola et al. (2009)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: A medium-sized, reddish-tan Noctuid, with dark brown streaks on the forewing and brownish-gray hindwings. *A. inebriata* is very similar in color and pattern to *A. verbascoides*, which has been recorded in the Mountains of North Carolina. *A. inebriata* is slightly smaller; lacks the white overlay on the veins at the fork between M3 and C1; and has a much weaker, more diffuse basal dash, if present at all (see Ferguson, 1977 and Mikkola et al., 2009, for other differences).

DISTRIBUTION: Our records come solely from the Fall-line Sandhills.

FLIGHT COMMENT: Probably univoltine, flying only in late spring and early summer.

HABITAT: Two of our records come from grass- and sedge-dominated wetlands and the third was from a site located within 60 meters of such habitat. All are from the Fall-line Sandhills, where graminoid-rich wetlands are created and maintained by a combination of beaver activity, ground-water seepage, and frequent fire (at one site located within a powerline, mowing has taken the place of the fires that once kept the site open). Similar habitats are occupied by this species in the Pine Barrens of New Jersey, but it also occurs in dry coastal grasslands at Block Island in Rhode Island (Schweitzer, in NatureServe 2015). Ferguson (1977) reported collecting his original specimens in a Canadian Zone woodland composed of northern hardwoods and Hemlocks; however, his site was also apparently located close to a lake, and sedgy wetlands could also have been located within the woods themselves. One of our sites in the Sandhills has a closed canopy of swamp forest hardwoods but has extensive patches of *Carex* still present in the ground layer.

FOOD: Host plants are unknown, but members of this genus typically feed on grasses and sedges (Mikkola et al., 2009).

OBSERVATION METHODS: Comes at least to some extent to blacklight traps. Ferguson captured his five original specimens using bait.

NATURAL HERITAGE PROGRAM RANKS: G3G4 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: Populations of this species are highly localized and disjunct across its range. The North Carolina populations are, in fact, the most disjunct of all, with no other populations having been found south of New Jersey. Ferguson (1977) speculated *A. inebriata* might represent a relict from a Pleistocene distribution where they survived in restricted refugia, presumably where they still occur today. We favor an alternative hypothesis, however, proposed by Hall (2003) to explain the distribution of the federally Endangered butterfly, *Neonympha mitchellii*: that they were originally associated with beaver-created sedge meadow habitats and became relictualized following the great demise of beavers in eastern North America due to the fur trade. While beavers have now been restored in many areas of their former range, some of the insect species we believe were originally associated with beaver-created wetlands are still among the most restricted species we know of, e.g., *Lemmeria digitalis*, an undescribed species of *Macrochilo*, and *Neonympha mitchellii* itself. As in other relictualized species, dispersal abilities may have been selected out of the populations or the species may have become highly specialized to habitat features of their local environments. More information is needed for *A. inebriata* before we can determine the causes of its rarity. However, the habitats used by this species in the Sandhills are among the most extensively sampled in the state (due to their connection to *Neonympha mitchellii*), at least using blacklight trapping.