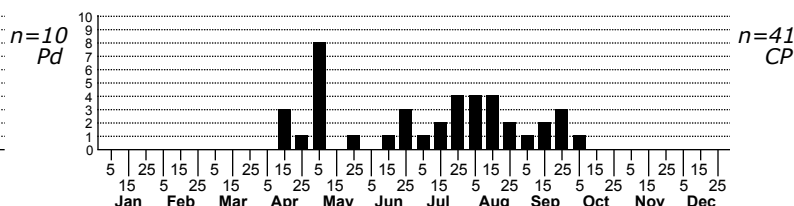
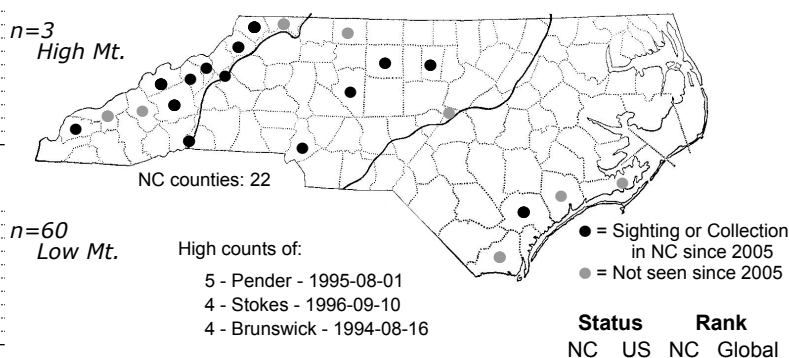
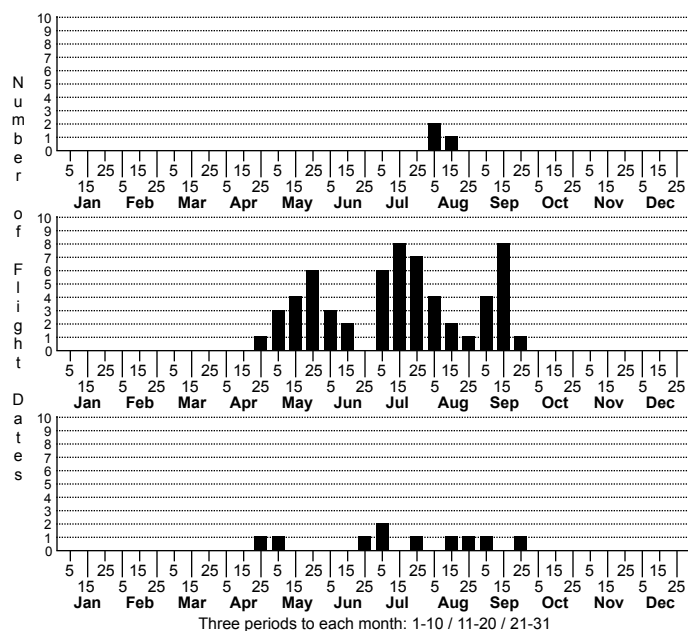


Apantesis carlotta Carlotta's Tiger Moth



FAMILY: Erebiidae SUBFAMILY: Arctiinae TRIBE: Arctiini

TAXONOMIC COMMENTS: The genus *Apantesis* is represented by 43 species in North America, including 13 species in North Carolina. *Apantesis carlotta* was described fairly recently by Ferguson (1985), who noted the possible existence of additional species in the Middle Atlantic States. Based on conversations we had with Ferguson, we tentatively identified the form associated with Longleaf Pine habitats in the Coastal Plain as separate from the one -- presumably the described species -- that occurs in the Mountains; in the NHP Rare Animal Books up through 2012, this form was referred to as *Apantesis* new species near *carlotta*. Apart from the strikingly disjunct distribution, however, there appears to be too little evidence -- including from genetic bar-coding -- to support their continued separation; we treat them here as a single species.

FIELD GUIDE DESCRIPTIONS: (Not in either field guide)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1960); Ferguson (1985)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Ferguson (1985); Wagner (2005)

ID COMMENTS: Species of *Apantesis* and *Grammia* resemble one another, but *Apantesis* are generally smaller and the pattern of yellow lines is usually much more reduced, with the median, lower portion of the post-median, and fine vein lines always missing in *Apantesis*. A good quality photograph showing the forewing pattern is usually enough to distinguish between these genera. However, the hindwings must also be visible to distinguish between the species of *Apantesis*, and even then only the males can usually be diagnosed; photographs must show the hindwings to be acceptable as records for this genus. (Note: The species formerly in the genus *Grammia* have been moved to *Apantesis*.) In his description of *Apantesis carlotta*, Ferguson (1985) notes that there are no single character that can reliably separate it from other species of *Apantesis*. In *A. carlotta*, both sexes have similar wing patterns, with a relatively complete set of pale stripes on the forewings, usually including the zig-zag sub-terminal line. One consistent feature of this species is the presence of a complete, if narrow, black edge along the costa; photographs used to identify *A. carlotta* must be clear enough to make out this line. Not all *Apantesis* that have this feature belong to *A. carlotta*, though: the costal edge can be either black or yellow in the other species, although it is usually yellow in *A. nais*, the species that is otherwise the most similar to *A. carlotta* (Ferguson, 1985). Hindwings are typically pale yellow, but can be orange in the males and red in the females. A row of separated black spots borders the outer margin, occasionally forming a confluent band in the females. The yellow on the hindwing is usually pale compared to brighter, more solid yellow of *A. nais*. *A. carlotta* is also smaller than *A. nais* but unfortunately, no genitalic differences exist between males of these species or *A. vittata*. Although small genitalic differences exist between the females of *A. carlotta* and *A. nais*, (Ferguson, 1985), they require comparisons among a large series of specimens to be useful.

DISTRIBUTION: Populations may be widely distributed in the Mountains. In the Coastal Plain, they appear to be more restricted to the southern half, including the Fall-line Sandhills. Records are sparse in the Piedmont.

FLIGHT COMMENT: Ferguson (1985) and Wagner (2005) state that *carlotta* has two flights, which is consistent with our data.

HABITAT: Ferguson (1985) thought this species was primarily a grassland species, which is consistent with our records. Coastal Plain populations appear to be strongly tied to wet Longleaf Pine savannas, with no records from more xeric habitats; the one record we have from the Fall-line Sandhills was from an extensive seepage slope. Mountain populations appear to be associated with old pastures, or grassy areas along rivers (e.g., New River State Park). At least some of these records come from high elevation meadows (e.g., Purchase Knob, Rich Mountain Gap).

FOOD: Ferguson (1985) reared larvae on weedy composites, but Wagner (2005) just lists forbs. This species is probably polyphagous on many low-growing species of herbaceous plants.

OBSERVATION_METHODS: Appears to come to blacklights moderately well but usually in small numbers. Does not come to bait.

NATURAL HERITAGE PROGRAM RANKS: G5 S3 [S3S4]

STATE PROTECTION: Has no legal protection, although permits are required to collect it on state parks and other public lands

COMMENTS: The Coastal Plain form was previously tracked as Significantly Rare by the Natural Heritage Program, due to its tight association with Longleaf Pine savannas, a habitat type that has undergone severe reduction in range historically and which is continuing today. By treating all forms of *A. carlotta* as a single entity, however, the species appears to be more secure in the state, although questions remain to be answered about its distribution, abundance, and habitat specificity across the entire state. Currently, we recommend that this species be placed on the NHP Watch List as a W3 species.