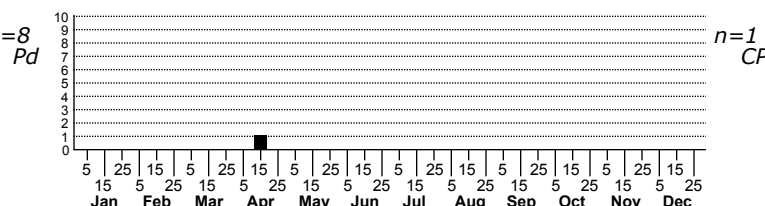
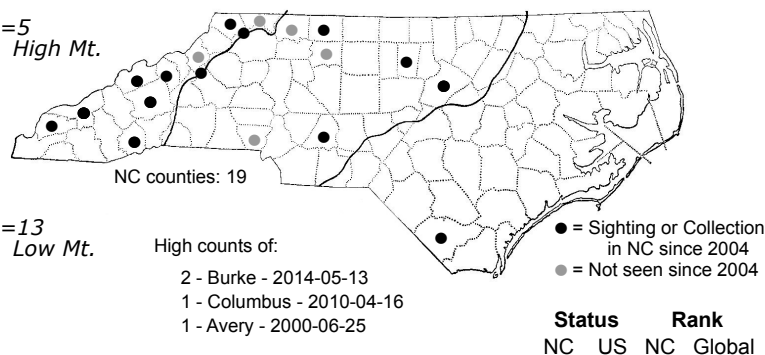
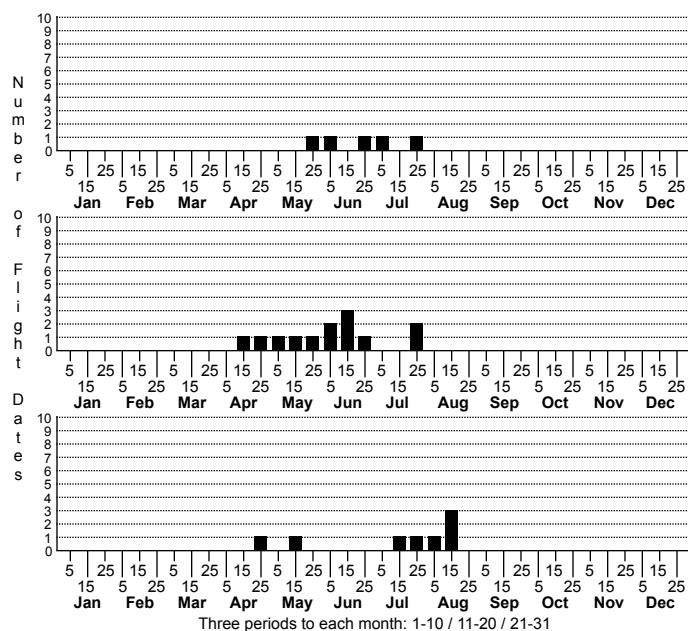


Callosamia promethea Promethea Moth



FAMILY: Saturniidae SUBFAMILY: Saturniinae TRIBE: Attacini
TAXONOMIC_COMMENTS: One of three Callosamia species in North Carolina

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)

ONLINE PHOTOS: MPG, Bugguide, BAMONA

TECHNICAL DESCRIPTION, ADULTS: Forbes (1923), Ferguson (1972), Tuskes et al. (1996)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1923), Ferguson (1972), Tuskes et al. (1996), Wagner (2005)

ID COMMENTS: Sexually dimorphic, with both males and females resembling those of the other two species of Callosamia in our area. Male promethea are the most easily recognized, being much darker than those of the other two and lacking the large discal spots that are prominent in those species, especially on the forewings. Their forewings are also narrower and more falcate -- hooked-looking. Females are similar in pattern to those of the other species, but they tend to be smaller and possess strong red or dark umber shading on both the wings and body. In comparing light-colored females of all three species, promethea completely lack any yellow or orange tint, especially along the inner margin and basal area of the forewing where even some of the redder-orange angulifera show at least some yellowish shading. In these cases, good quality photographs -- with accurate color representation -- are helpful in diagnosing the species.

DISTRIBUTION: Found in all regions of the state, but Brimley (1938) regarded it as irregular in occurrence.

FLIGHT COMMENT: Probably double-brooded in the Low Mountains, Piedmont, and Coastal Plain, although our own records are too few to make out a pattern. Females of the spring brood tend to be more brownish and those of the summer brood more reddish (Tuskes et al., 1996).

HABITAT: Occurs in a wide range of forested habitats and can be commonly found along shrubby hedgerows, roadsides, and early successional stands (Wagner, 2005).

FOOD: This species is much more polyphagous than the other two Callosamia, feeding on a wide range of hardwood trees and shrubs. Based on cocoon surveys in South Carolina, Peigler (1979) documented this species commonly on Horse Sugar (Symplocos tinctoria), but also on Sassafras (Sassafras albidum), Sweetgum (Liquidambar styraciflua), Black Cherry (Prunus serotina), and Buttonbush (Cephalanthus occidentalis). Other host plants listed as favorites by Wagner (2005) include ash, magnolia, silver bells, Spicebush, Sweetbay, and Tulip-tree (the last two also used by securifera and angulifera respectively). Wagner also notes that local preferences may exist, with only certain species being used primarily within a given area.

OBSERVATION_METHODS: As is true for Callosamia securifera, but contrasting with angulifera, males are primarily diurnal or crepuscular and do not come well to lights (Covell, 1984). Judging from our sampling results, females also come to light only sparingly, with only single individuals being observed on the rare occasions when they show up. Cocoon surveys, such as those conducted by Peigler (1979) offer the best way of determining population distribution, size, and trends. Fortunately, this species appears to inhabit the lower strata of forests and shrubby areas where its cocoons are often visible close to eye level (Wagner, 2005).

NATURAL HERITAGE PROGRAM RANKS: G5 S3S4

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

COMMENTS: Our low number of collection records are likely to be an artifact of adults being poorly attracted to lights or bait, our main way of sampling adult moths. Given the wide range of host plants -- many of them common, the diversity of habitats they occupy, and their wide distribution in North Carolina, this ought to be one of our more resilient and secure species. In the Northeast, however, this formerly common species has markedly declined, probably the result of parasitism by a Tachinid fly, Compsilura concinnata, introduced to control Gypsy Moth populations (Boettner et al., 2000; Wagner, 2005; Schweitzer et al., 2011; Wagner, 2012). Unlike the more localized effects of native control agents to which the species has been long-adapted, the effects of introduced predators, parasites, and competitors can be so pervasive that even resilient habitat generalists can be drastically affected. Although Compsilura has not been artificially introduced to combat Gypsy Moths in North Carolina, it appears to be moving southward on its own and is now well-established in Virginia (Kellogg et al., 2003). In North Carolina, cocoon surveys are needed to more accurately assess the true conservation status of this species and the situation regarding Compsilura parasitism needs to be closely monitored.