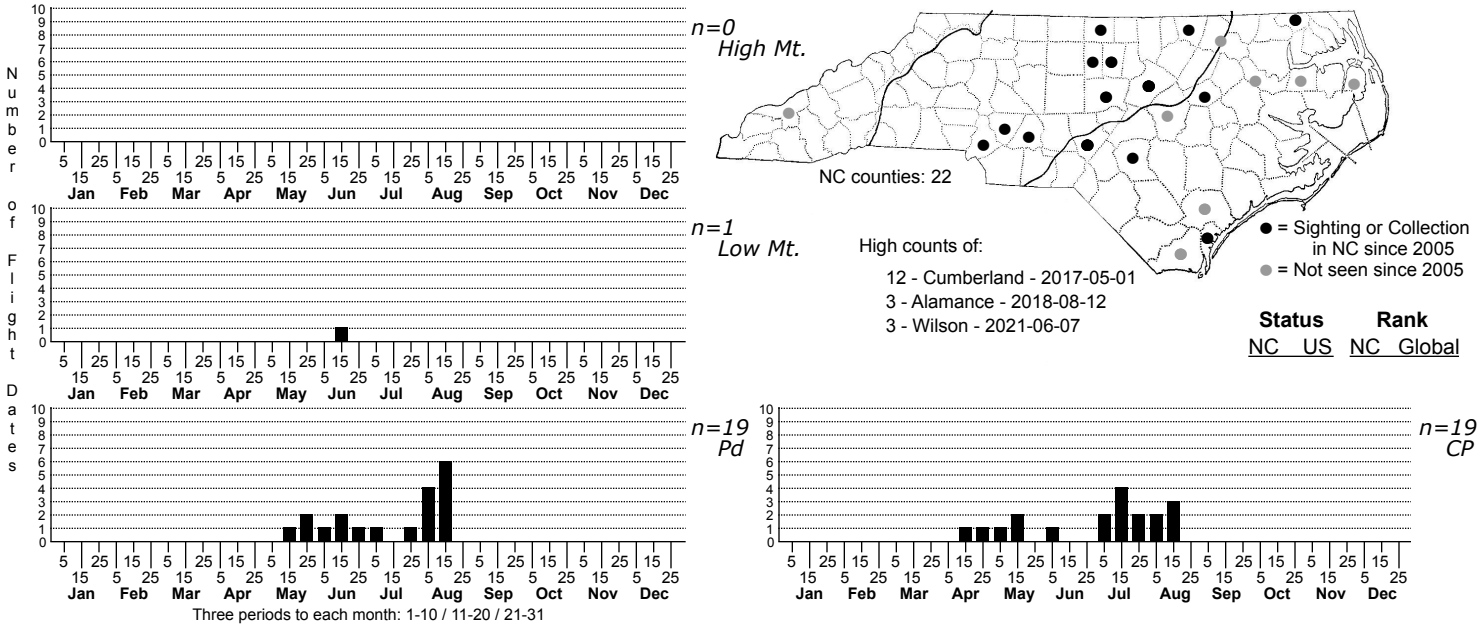
# *Citheronia sepulcralis* Pine Devil Moth




FAMILY: Saturniidae SUBFAMILY: Caratocaminae TRIBE:
TAXONOMIC_COMMENTS: One of two species in this genus that occurs in North Carolina

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Forbes (1923), Ferguson (1971), Tuskes et al. (1996)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1923), Ferguson (1971), Tuskes et al. (1996), Wagner (2005)

ID COMMENTS: Adults of this species are smaller and much less conspicuously marked than those of the Regal Moth (Citheronia regalis). The dark maroon gray of the forewings and reddish brown at the base of the hindwings should make them fairly easy to recognize. However, worn specimens could be confused with some of the Sphinx Moths, some of which are similar in size and coloration, but differing in the form of their antennae: males have half-pectinate antennae and females have short, slender antennae both unlike the thicker and longer antennae typical of Sphingids. Specimens in good shape and viewed in good light show a brownish red (rose) color along the veins and discal spot of the forewing. There is also usually a small spot of yellow or pink located at the very base of the forewing.

DISTRIBUTION: Most of our records come from the Coastal Plain (except the Outer Banks) and eastern Piedmont with one also from the Low Mountains along the north shore of Fontana Lake.

FLIGHT COMMENT: Ferguson (1971), Tuskes et al. (1996) and Wagner (2005) state that this species has two or more flights south of Virginia, which seems to also fit our data.

HABITAT: The majority of our records -- including all of those where the habitat has been recorded -- come from wet-to-mesic habitats, including Pond Pine Woodlands (a type of peatland), Wet Pine Savannas and Flatwoods (sandy, fire-maintained habitats), and Bottomland Hardwoods in the Coastal Plain. Sites in the eastern Piedmont and Low Mountains where this species has been recorded could represent upland or bottomland habitats (they are not described), but there are no records from the extensive areas of upland Loblolly plantations, or stands of Shortleaf (Pinus echinata) and Virginia Pine (P. virginiana) that occur over the Piedmont.

FOOD: This species is stenophagous, feeding on a very narrow range of host plants, apparently only pines. Forbes (1923) lists White Pine (Pinus strobus) and Pitch Pine (P. rigida) and Kimball (1965) lists Caribbean Pine (P. caribaea) as used in Florida. Pond Pine (P. serotina), a close relative of Pitch Pine, occurs at most of our collecting sites in the Coastal Plain, and is the only pine growing in the peatland habitats where we have collected C. sepulcralis. Pond Pines may also be the preferred species in the wet pine flatwoods and savanna sites, although Longleaf Pine (P. palustris) is also present in those habitats. In the floodplain of the Lower Roanoke, where C. sepulcralis was collected at the Devil's Gut TNC Preserve, only Loblolly Pine (P. taeda) is present, and this is also the pine that is most abundant in the eastern Piedmont sites where this moth has been recorded.

OBSERVATION_METHODS: Citheronia sepulcralis comes to both 15 watt UV and incandescent lights, but almost invariably as single individuals. Schweitzer et al. (2011) state that this species comes much more strongly to mercury-vapor lights and that use of black-light traps alone may seriously underestimate population densities. They also suggest that use of tethered females to attract males offers a much more efficient way to determine population levels. Caterpillars spend most of their time up in pines where they are difficult to sample. However, they become conspicuous when they descend the trees to look for a place to pupate. Pupation occurs underground, precluding the use of cocoon surveys.

NATURAL HERITAGE PROGRAM RANKS: G5 SNR [S3S4]

STATE PROTECTION: Not legally protected, although permits are required to collect it on state parks and other public lands

COMMENTS: This species appears to be somewhat uncommon but occurs in a wide range of pine-containing habitats and probably uses a fairly wide range of host plants. While habitat loss does not appear to be a significant threat, parasitism by Compsilura concinnata, a Tachinid fly introduced to control Gypsy Moth populations, may have been responsible for eliminating C. sepulcralis from much of the Northeast (Schweitzer et. al., 2011). Compsilura is now well-established in central Virginia (Kellogg et al., 2003), and it is probably only a matter of time before it becomes a major threat to moths in North Carolina. This situation needs to be closely monitored.