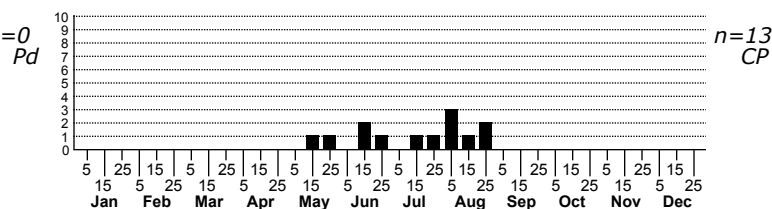
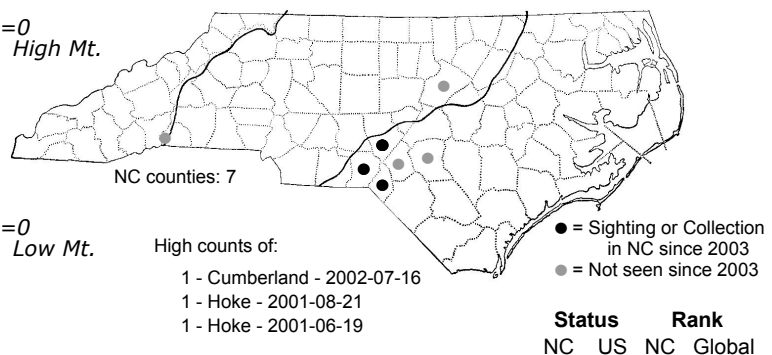


Heterocampa varia No common name



FAMILY: Notodontidae SUBFAMILY: Heterocampinae TRIBE:

TAXONOMIC_COMMENTS: One of 21 species in this genus that occur in North America north of Mexico (Lafontaine and Schmidt, 2010), seven of which have been recorded in North Carolina.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1948); Schweitzer et al. (2011)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Forbes (1948); Wagner (2005); Schweitzer et al. (2011)

ID COMMENTS: A moderately large Prominent. The ground color of the forewings is ashy gray with a bluish cast when fresh (Forbes, 1948). The basal, antemedian, and postmedian lines are black, double, and filled with a slight yellowish shade. More conspicuous is a whitish shade that extends from the apex to the cell and a series of black dashes bordering it on the outward side, forming the upper part of the subterminal line. A separate pale spot is also located in cell M3. Males in general are very similar in size, color, and forewing pattern to the much more common *H. obliqua*. Forbes mentions that the pale spot in M3 has more of a bar shape in *varia* and a more of a circular shape in *obliqua*, but that difference is not apparent in our specimens. There may also be a difference in the adterminal line, which Forbes states is not arcuate in *obliqua* but appears to be fairly strongly arcuate in specimens we have examined. More reliable differences given by Forbes are seen in the hindwings: they are nearly pure white in *varia*, with only a dark anal spot and dark bars in the fringe, whereas in *obliqua*, there is usually a dark shade in the fold and a well-defined terminal line (Forbes, 1948). The basal area of the forewing and thorax may also be paler gray in *varia* than in *obliqua* and *varia* lacks the greenish tint found in some specimens of *obliqua*. In most cases, these external differences are only slight and inspection of the the 8th sternite offers the surest way of distinguishing the males of the two species (see Structural Features below). Females are usually more separable (Schweitzer et al., 2011): in *varia*, they have a coloration similar to the males whereas in *obliqua*, females usually have a strong brown shade located between the discal spot and pale apical shade. Forbes, however, points out that there at least some forms of female *obliqua* that are similar to males and, by extension, similar to *varia*. Where this is true, the much darker hindwings found in female *obliqua* may distinguish them from *varia*, whose hindwings usually are fuscous only in the subterminal area and paler whitish towards the base.

DISTRIBUTION: Our records come primarily from the Fall-line Sandhills; the historic records from other parts of the state need to be confirmed

FLIGHT COMMENT: Possibly bivoltine, with flights in May and June and again in July and August

HABITAT: Habitats in the Fall-line Sandhills all consist of Pine--Scrub Oak Sandhills, where a variety of xerophytic oaks occur, including Blackjack and Post Oaks. While Turkey Oak is common at these sites, we do not have records for *varia* from Xeric Sandhill Scrub habitats where Turkey Oak is nearly the only hardwood tree species present. Habitats represented by the historic Piedmont localities are unknown, but likely possessed Blackjack or Post Oaks.

FOOD: *Heterocampa varia* is believed to feed solely on Oaks (Forbes, 1948; Wagner, 2005; Schweitzer et al., 2011), and probably only on xerophytic species, with larvae having been found on Post Oak (*Quercus stellata*), Dwarf Chiquapin Oak (*Q. prinoides*), and Bear Oak (*Q. ilicifolia*) in the Northeast, with Blackjack Oak (*Q. marilandica*) and Turkey Oak (*Q. laevis*) also considered likely (Schweitzer et al., 2011).

OBSERVATION_METHODS: Adults come at least to some extent to blacklights, with females coming about two hours after dusk and males mostly after 1:00 a.m. (Schweitzer et al., 2011). Adults probably do not feed and are unlikely to be found at bait or flowers.

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: This species has long been considered rare over most of its range (Forbes, 1948), the one exception being the New Jersey Pine Barrens, where it is considered uncommon (Schweitzer et al., 2011). We have very few records for this species in North Carolina, where it is vastly outnumbered by *Heterocampa obliqua* even within the dry-xeric oak woodlands that *varia* prefers (we routinely check the sternal plates of all specimens in this group, having inspected hundreds of *H. obliqua* for every *H. varia* we have found). While occurring fairly regularly, if sparsely, at certain sites, *varia* appears to be absent from many other areas where it might be expected to occur, particularly dry oak-hickory woodlands that we have sampled in the Piedmont where Blackjack and Post Oak are both common species. Outside of the Sandhills, however, those habitats tend to occur in relatively restricted locations and it may be no accident that the best populations of this species occur at Fort Bragg and vicinity where dry oak woodlands are still extensive and unfragmented.