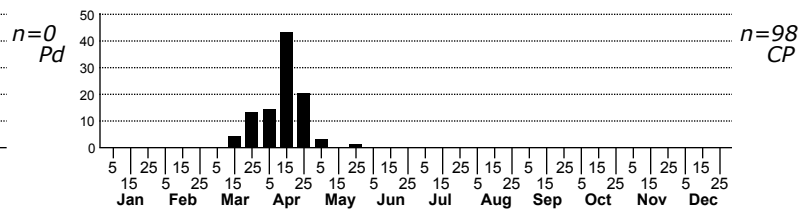
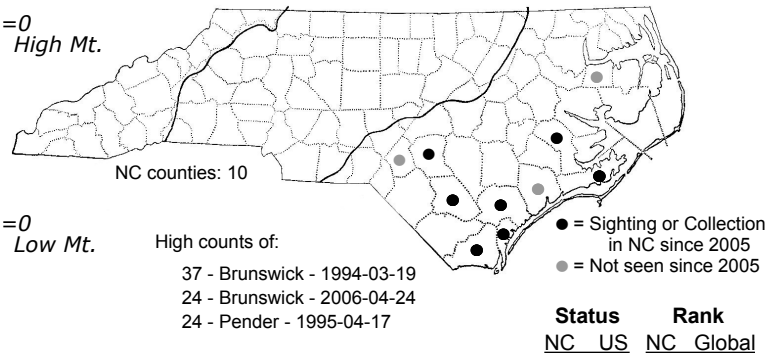
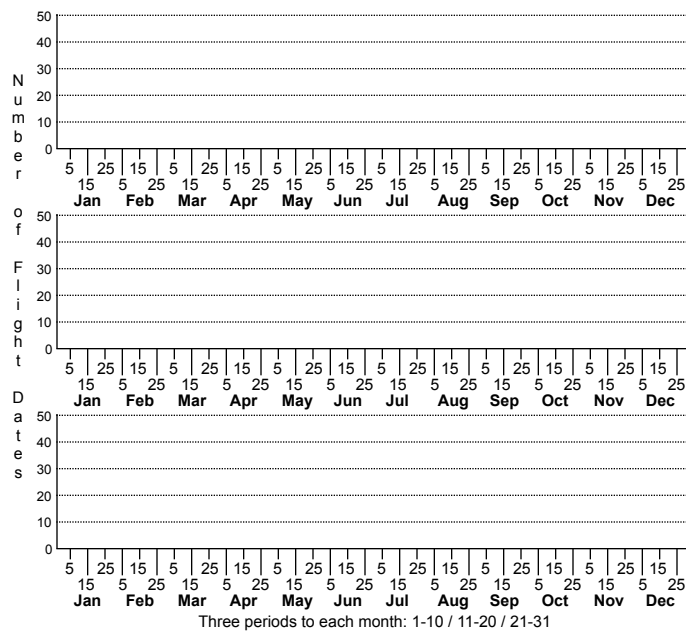


## *Cleora projecta* Projecta Gray



FAMILY: Geometridae SUBFAMILY: Ennominae TRIBE: Boarmiini

TAXONOMIC\_COMMENTS: This genus occurs over much of the world (Rindge, 1972). There are two species in North America and both occur in North Carolina

FIELD GUIDE DESCRIPTIONS: Covell (1984)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1948, as *C. manitoba*); Rindge (1972)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Wagner et al. (2001)

ID COMMENTS: Moderately long-winged and similar in pattern and coloration to other Geometrids loosely termed the Grays. Usually easy to distinguish by its strong, black, and double-lined antemedian and by a white basal ring or bar on the abdomen followed by black patch. In *Anavitrinella* and a few of the *Iridopsis* that have contrasting rings at the base of the abdomen, the black bar is basal to the pale ring and none have a doubled antemedian line. While both species in the genus look quite similar, the color of the frons can be used to distinguish them (see key in Rindge, 1972). In *projecta*, the scales are bicolored with brown at the base and white at the tip; this produces a generally gray or brown appearance. The frons is divided by a crossband of darker color but this is usually narrow or obscured in *projecta* (note that there is also a dark inter-antennal bar located more dorsally). In *sublunaria*, the scales on the frons are usually pure white (or pale buff). A much more conspicuous black band crosses the frons and the white scales on the lower half are often longer than in *projecta* and form an irregular fringe. While these characters are diagnostic when there is a good view of the frons, they often are difficult to make out in a dorsal view of the specimen. In some, but not all, cases, grayish bicolored scales are found on the vertex and occiput of the head and on the pale band at the base of the abdomen. In *sublunaria*, these scales are often pure white, as they are on the frons (S. Hall, pers. obs). In general, the wings are more shaded with gray in *projecta* and more contrastingly mottled in *sublunaria*.

DISTRIBUTION: Most of our records come from the southern half of the Coastal Plain, with just a few from farther north. Not reported from other parts of the state.

FLIGHT COMMENT: Univoltine, with a spring flight period

HABITAT: All of our records for this species come from areas where peatland shrubs are present or located nearby. These come from peatland habitats themselves, including Pocosins, Pond Pine Woodlands, and stands of Peatland White Cedars; the specimens from Washington County come from a site that was part of a vast peatland with not other terrestrial habitats located anywhere near by. However, we also have records from Longleaf Pine flatwoods and savannas, which usually adjoin peatlands as well as supporting some of the peatland shrubs themselves. The same is true for Small Stream Swamps and Sandhill Streamhead Swamps, which often support dense thickets of peatland shrubs.

FOOD: Rindge (1972) lists Sweet-gale (*Myrica gale*) as the host plant but Wagner et al. (2001) also include cherry (*Prunus*) and oak (*Quercus*), which they list for *C. sublunaria* as well. While Black Cherry (*Prunus serotina*) occurs marginally in habitats where we have recorded *C. projecta*, the range of none of these host plants seems to closely correspond to that of *C. projecta* and may represent confusion with the larvae of *C. sublunaria*. Some species of peatland shrub seems much more likely to be the host plant. *Myrica gale* occurs in acidic bogs but is restricted to the Mountains in North Carolina, where it may, in fact, be extirpated. In the Coastal Plain, where our records *C. projecta* are concentrated, several species of *Morella* (= *Myrica* -- see Weakley, 2022) occur in peatland and flatwoods habitats and may be possibilities. In North Carolina, J.B. Sullivan reared larvae from Turkey Oak (*Quercus laevis*), Sparkleberry (*Vaccinium arboreum*), and Sourwood (*Oxydendrum arboreum*).

OBSERVATION\_METHODS: Adults readily come to lights but not to bait.

NATURAL HERITAGE PROGRAM RANKS: G4 SNR [S2S3]

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

COMMENTS: This species appears to be far more of a habitat specialist than *Cleora sublunaria*, being highly restricted to peatlands and other areas where peatland shrubs occur. Currently such habitats are plentiful in the Coastal Plain, although large areas have been lost due to drainage and conversion to agriculture and silviculture. Some of the largest peatdome pocosins, moreover, are vulnerable to the effects of sea level rise. Although this species appears to be secure for at least the moment, its long term prognosis is less certain.