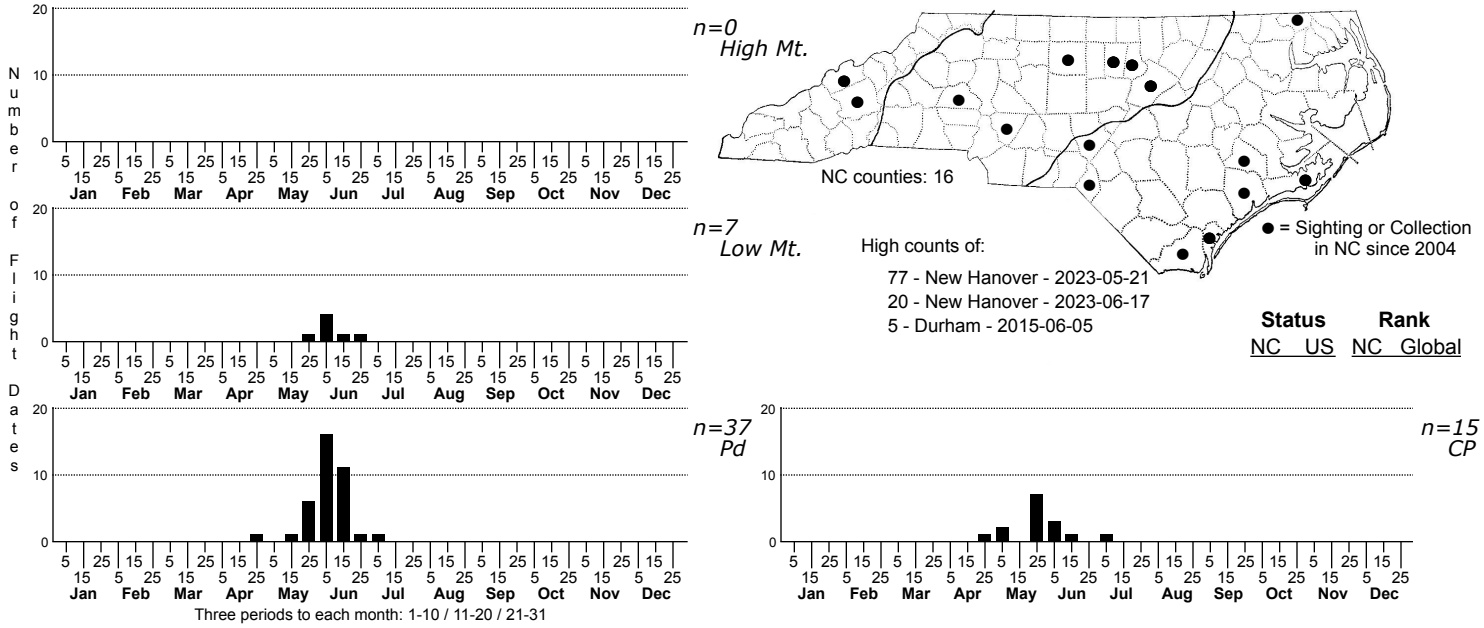
Cydia toreuta Eastern Pine Seedworm Moth



FAMILY: Tortricidae SUBFAMILY: Olethreutinae TRIBE: Grapholitini
TAXONOMIC_COMMENTS: Cydia toreuta and C. ingens are members of a species complex that includes several other described and possibly undescribed species (Gilligan and Epstein, 2014). The two species in this complex that occur in North Carolina can be distinguished using molecular markers, genitalia, and external morphology.

FIELD GUIDE DESCRIPTIONS: Beadle and Leckie (2012)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS:
TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: Cydia ingens and C. toreuta are two externally similar forms that have short, sordid white palps and whitish brown coloration on the head, thorax, and wing base. The ground of the apical two-thirds of the forewing has brownish scales with sordid white tips that produce a bronzy stippled effect. It is overlain with several metallic bars that are edged inwardly and outwardly with black. A complete bar is present at mid-wing, along with a postmedial bar that is more oblique or angulated and sometimes broken into a dorsal and ventral bar of roughly similar size. A subterminal bar is present that parallels the termen, and one or two relatively short bars are present along the costa between the postmedial and subterminal bars. A conspicuous thin black terminal line is present at the wing tip that is followed by a dull, silvery white fringe. The hindwing is smoky fuscous with paler cilia that have a dark basal band.

Individuals of the two species that occur in North Carolina -- and in which their identify was confirmed based on genitalia -- can be separated using a combination of traits (see illustration above). These include whether the postmedial bar is broken or complete, whether one or two costal bars are present between the postmedial and subterminal bars, and whether a gap is present between the subterminal bar and the black terminal line on the dorsal half of the termen (both species typically have a gap on the costal half of the termen). Cydia toreuta typically has an unbroken postmedial bar (sometimes broken), two costal bars between the postmedial and subterminal bars, and a gap between the subterminal bar and the black terminal line on the dorsal half of the termen. The presence or absence of the gap appears to be the most reliable trait for distinguishing between species. These species can also be readily identified using both male and female genitalia and molecular markers.

DISTRIBUTION: As currently recognized, C. toreuta occurs throughout much of the forested areas of the eastern US and adjoining areas of southern Canada (Hedlin et al. 1980). It occurs statewide in North Carolina except for the high mountains and appears to be most common in the Piedmont.

FLIGHT COMMENT: late April through early July.

HABITAT: Cydia toreuta relies on pines as a host and can be found in pine or mixed hardwood-pine associations throughout the state.

FOOD: This wide-ranging species has been reported to use a variety of both northern and southern pines. Species that were listed by Hedlin et al. (1980) include Jack Pine (Pinus banksiana), Lodgepole Pine (P. contorta), Shortleaf Pine (P. echinata), Loblolly Pine (P. taeda), Red Pine (Pinus resinosa), and Virginia Pine (P. virginiana). Although poorly documented, this species probably uses all three of the southern pines listed above. Loblolly Pine does not occur in the western mountains where Virginia Pine and Shortleaf Pine are the likely hosts.

OBSERVATION_METHODS: The adults are attracted to lights and can be reared from infected cones.

NATURAL HERITAGE PROGRAM RANKS: GNR S4S5

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

COMMENTS: Populations are found statewide and appear to be secure.