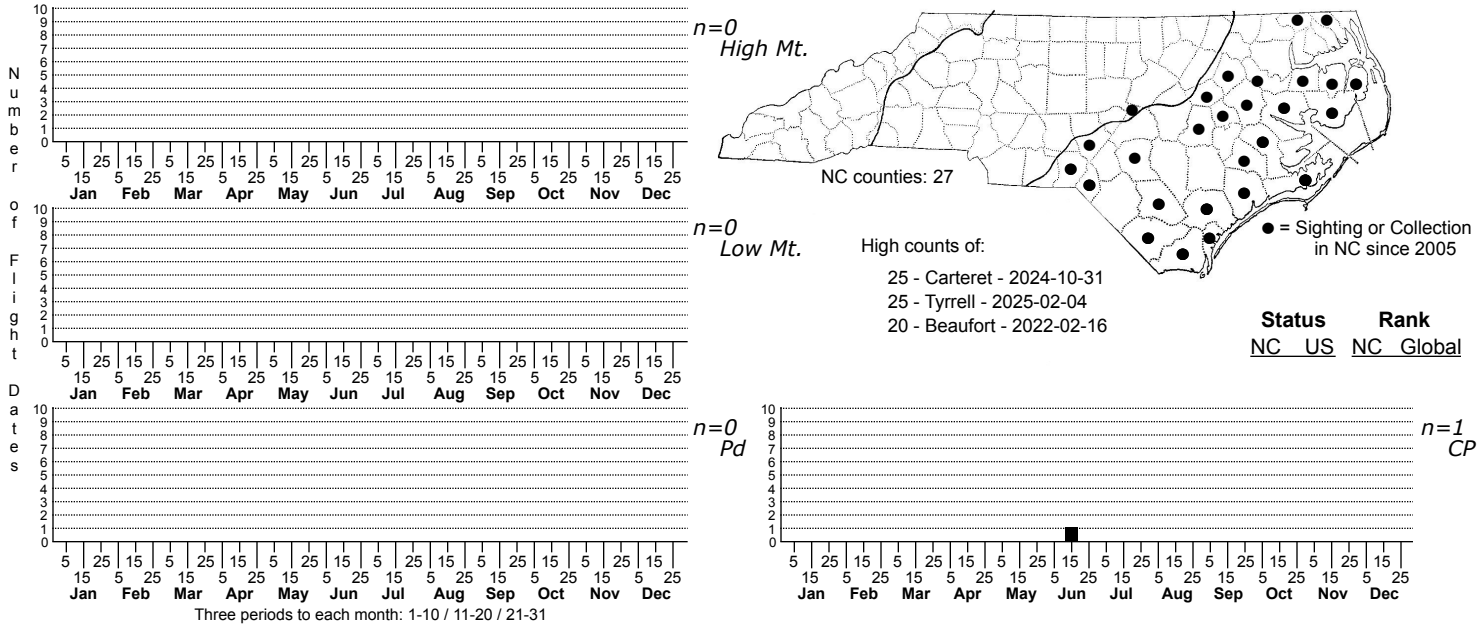
Phyllocnistis hyperpersea None



FAMILY: Gracillariidae SUBFAMILY: Phyllocnistinae TRIBE: Phyllocnistini
TAXONOMIC_COMMENTS: Phyllocnistis is a large genus with more than 125 described species worldwide, with 16 species currently recognized in North America. Davis and Wagner (2011) surmised that there may be hundreds of undescribed species in the neotropics. The adults of some species are very similar, and knowledge of the host plant and mine characteristics is helpful in identifying morphologically similar species (Eiseman, 2019).

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Davis and Wagner (2011)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Davis and Wagner (2011)

ID COMMENTS: The following is based on descriptions provided by Davis and Wagner (2011). The frons is shiny white, smooth, and glabrous, while the vertex is whitish with subtle faint orange tints. The antenna has an orange-fuscous luster above, and the labial palps are white and reduced, with the length less than the height of the eye. The upper thorax is silvery straw-colored, and sometimes with orange tints. The forewing has a longitudinal fascia that usually ends just before joining the transverse fascia. The longitudinal fascia is thinly edged with black scales above and below except distad. The transverse fascia is usually complete, and leaves the costal margin at a 45° angle. It is usually more thickly edged with black scales along the proximal (basal) side. The distal side is somewhat rounded with black, with the edge-scaling weakened medially. The second costal fascia is poorly differentiated, and does not fuse with the transverse fascia as in Phyllocnistis subpersea. A well developed spot of black scales occurs near the tip of the wing. The costal and apical strigulae are modestly differentiated, and there are often only two of the latter. The black fringe scales about the tornus are only modestly differentiated compared to those of Phyllocnistis subpersea. They are few in number, are not strongly raised, and are not appreciably broadened. The dorsal and outer surfaces of the foretibiae and foretarsi, and to lesser extent those of the mesothoracic legs, are fuscous metallic orange, while the third tarsomere of the hindleg is often darkened, Otherwise, the legs are mostly silvery white and unmarked. The abdomen is also silvery white and unmarked. Diagnostic features that help to distinguish P. hyperpersea from P. subpersea are its small size (forewing length < 2.3 mm), the short labial palps (less than the height of the eye), the presence of a prominent black apical spot, and the second costal fascia that is weakly developed and does not fuse with the transverse fascia as in P. subpersea. In addition, the black fringe scales about the tornus are fewer in number, narrower, and less blackened relative to those of P. subpersea (Davis and Wagner, 2011). These species can also be distinguished based on characteristics of the mines.

DISTRIBUTION: Phyllocnistis hyperpersea has been found from extreme southeastern Virginia, south along the Atlantic Coastal Plain to the Florida Everglades. As of 2023 we have records from most of the lower Coastal Plain and from the Sandhills region and vicinity.

FLIGHT COMMENT: As of 2023, we have no information on the flight season in North Carolina since all of our records are based on unoccupied mines. Davis and Wagner (2011) had adults emerge from mines from Sept-June in southern Florida, and in June in southern Virginia.

HABITAT: Phyllocnistis hyperpersea is a specialist on Redbays (Tamala). Our two native species are found in both wetlands (T. palustris) and drier, sandy habitats (T. borbonia).

FOOD: Larvae feed on Tamala [= Persea] species, including our two native species, Upland Redbay (T. borbonia) and Swamp Redbay (T. palustris). As of 2024, mines from North Carolina were only found on T. palustris, which is much more common in the state than T. borbonia. Davis and Wagner (2011) reported that P. subpersea used T. borbonia in southeastern Virginia. These were likely T. palustris since the two species are easily confused, and T. borbonia is not known to occur in Virginia.

OBSERVATION_METHODS: The adults appear to rarely if ever visit lights and almost all records are based on leaf mines or reared adults. The mines are conspicuous on the upper surfaces of bay leaves. All of our records as of 2024 are for unoccupied mines and we encourage individuals to find occupied mines and rear and photograph the adults.

NATURAL HERITAGE PROGRAM RANKS: [GNR] S2S3

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

COMMENTS: Phyllocnistis hyperpersea appears to be somewhat uncommon in North Carolina, but can be found with some regularity in the Coastal Plain whereverP. palustris occurs locally. It is highly threatened by the widespread and continuing loss of Redbay trees throughout the Southeast due to an introduced pathogen, the Laurel Wilt fungus (Raffaelea lauricola).