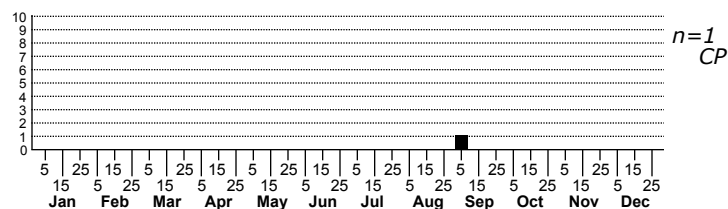
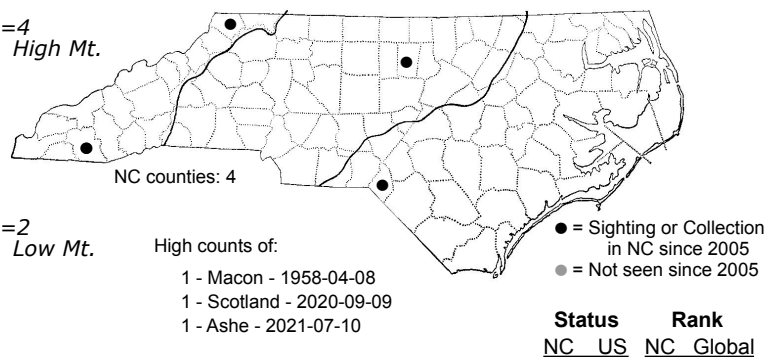
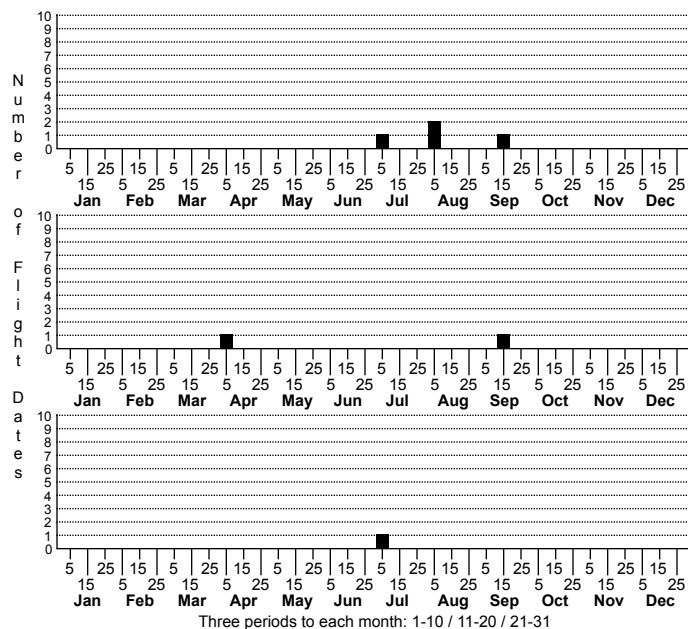


## *Chionodes obscurusella* Boxelder Leafworm Moth



FAMILY: Gelechiidae SUBFAMILY: Gelechiinae TRIBE: Gelechiini

TAXONOMIC COMMENTS: The genus *Chionodes* is the most species rich genus of gelechiid moths in the Western Hemisphere, with 187 recognized species. Our knowledge of the diverse array of species in North America is largely due to the monumental work of Hodges (1999), who spend decades working on the group and described 115 new species (Powell and Opler, 2009). Many exhibit substantial variation within species and have drab coloration, typically with brown, dark gray, or blackish patterning on the forewings. These can only be confidently identified by examining secondary sexual characteristics and/or the genitalia of one or both sexes. Others are more boldly marked and can be identified by wing patterning. Many of our state records are based on Hodges (1999) database of over 19,000 specimens that he examined from major collections in the US. These include North Carolina specimens that he collected mostly from Highlands, and from a few other areas within the state.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Hodges (1999)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Heinrich (1920)

ID COMMENTS: The head and thorax vary from yellowish brown to gray or grayish brown, and the antenna has alternating pale and dark brown annulations. The labial palp is mainly dark brown with the scales having pale bases. The third segment is dark grayish brown, with the extreme apex pale yellow. The forewing ground varies from yellowish brown to gray or grayish brown, and has varying levels of darker mottling or spotting. An oblique, dark gray-brown to blackish, irregular band is often present that extends from the costa at one-fourth the wing length to the fold at one-half its length. A more oblique, dark-gray to black streak is often present in the cell at one-half the wing length, and is directed slightly posteriorly. There is often a vague, black spot is at the end of the cell. The hindwing varies from yellowish brown to light gray. The abdomen is mainly medium gray, with the posterior margin of each tergum overlaid with very pale, shining gray scales. The upper foreleg is mottled with pale yellowish gray and darker coloration, and the lower leg is mainly dark brown to blackish with paler annulations. Hodges (1999) noted that fresh specimens of *C. obscurusella* may have noticeable areas of yellowish-gray, yellowish-brown, or orangish-gray scales, particularly on the basal one-half of the forewing and the dorsal surface of the thorax. These scales are lost with wear so that most moths appear mainly very dark brown to blackish. Adults are superficially similar to several other species and the examination of genitalia is required for identification.

DISTRIBUTION: *Chionodes obscurusella* is found in North America, including much of southern Canada from British Columbia eastward to Nova Scotia. Populations in the US have been found in Washington state, and in the eastern US from the New England states southward to North Carolina, Alabama, and Mississippi, and westward to Oklahoma, Missouri, Iowa, and North Dakota. As of 2021, we have one record from the Sandhills and a second from the Blue Ridge.

FLIGHT COMMENT: Most adult records are from May through October in areas outside of North Carolina, with a few records from January through April. As of 2021, our two records are from 8 April and 9 September.

HABITAT: This species specializes on maples and can be found in a variety of hardwood forests or mixed pine-hardwood forests with the host plants. Boxelder appears to be one of the most used hosts, and is common in floodplains and bottomland hardwood forests.

FOOD: The larvae feed on maples. The known hosts include Box-elder (*Acer negundo*) and Sugar Maple (*A. saccharum*), but other maples are probably used.

OBSERVATION\_METHODS: The adults are attracted to lights. Information is needed on host use in North Carolina, so we encourage naturalists to look for leaf ties on maples and to rear 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: We currently do not have sufficient information on the distribution and abundance of this species within the state to assess its conservation status.