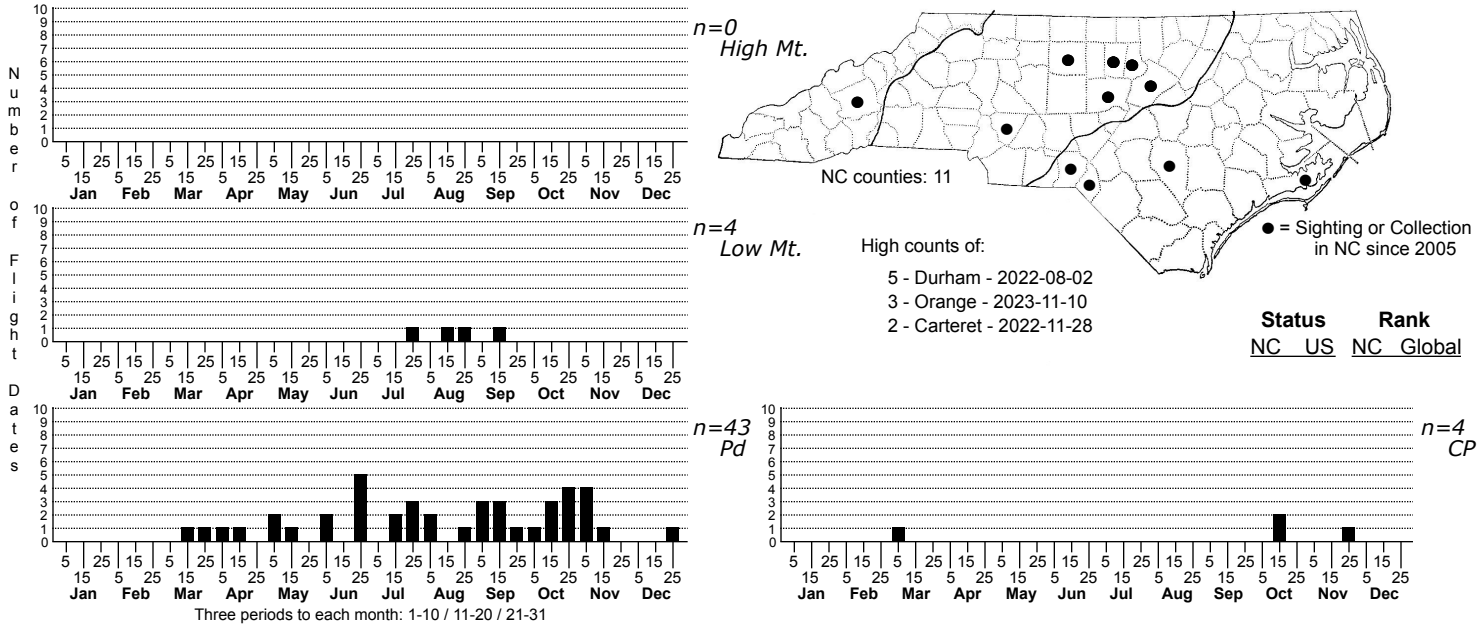
# *Chionodes discoocellella* Eye-ringed Chionodes




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: Leckie and Beadle (2018)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Forbes (1923); Hodges (1999)
TECHNICAL DESCRIPTION, IMMATURE STAGES: (Hodges, 1999)

ID COMMENTS: This is a distinctive Chionodes with a mostly yellowish third joint on the labial palp and a rich brown forewing with an eyed discal dot. The following description is based on that of Chambers (1872) and Hodges (1999). The antenna is brown and the the head, thorax, and forewings are dark brown and tinged with purplish. The second joint of the labial palp is dark brown laterally, and ocherous-yellow along the inner surface. The third joint has a brown base, but is otherwise dull yellowish. The forewing is brown and mostly unmarked, with the veins on the apical third often slightly darker than the surrounding ground color. The most prominent mark is an outer discal dot at about three-fifths the wing length that is yellow, and usually has a black point in the center. A small, elongated, black spot is present at two-fifths that is closer to the inner margin. It often has a few pale yellowish scales on the anterior and posterior margins. The hindwing is light grayish-brown to yellowish-brown. The dorsal surface of the abdomen is pale yellowish gray, with the posterior margin of each segment paler. The legs are dark brown to blackish with pale annulations.

DISTRIBUTION: Chionodes discoocellella is found throughout most of the eastern US and adjoining areas of extreme southern Canada (Ontario; Quebec). The range extends from Maine to southern Florida, and westward to central Texas, Oklahoma, Kansas, South Dakota, and Minnesota. As of 2021, we have records from all three physiographic provinces, with most from the Piedmont.

FLIGHT COMMENT: Adults in the southernmost areas of the range are active year-round or nearly so, while those farther north mostly fly from May though October. As of 2021, our records extend from late-July through early November.

HABITAT: Most of the host plants that are used by this species are found in wetlands or areas with moist soils.

FOOD: The larvae feed on members of the Polygonaceae and appear to mostly specialize on smartweeds. The known hosts include Dense-flower Smartweed (Persicaria densiflora), Swamp Smartweed (P. hydropiperoides), Pennsylvania Smartweed (P. pensylvanica), Dotted Smartweed (P. punctata) and Curly Dock (Rumex crispus). The latter is an introduced species, and we are unaware of C. discoocellella using any of our native Rumex species.

OBSERVATION_METHODS: The adults come to lights. The larvae can be found on smartweeds during the summer months.

NATURAL HERITAGE PROGRAM RANKS: GNR SU

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

COMMENTS: We need additional information on the distribution and abundance of this species before we can assess its conservation status.