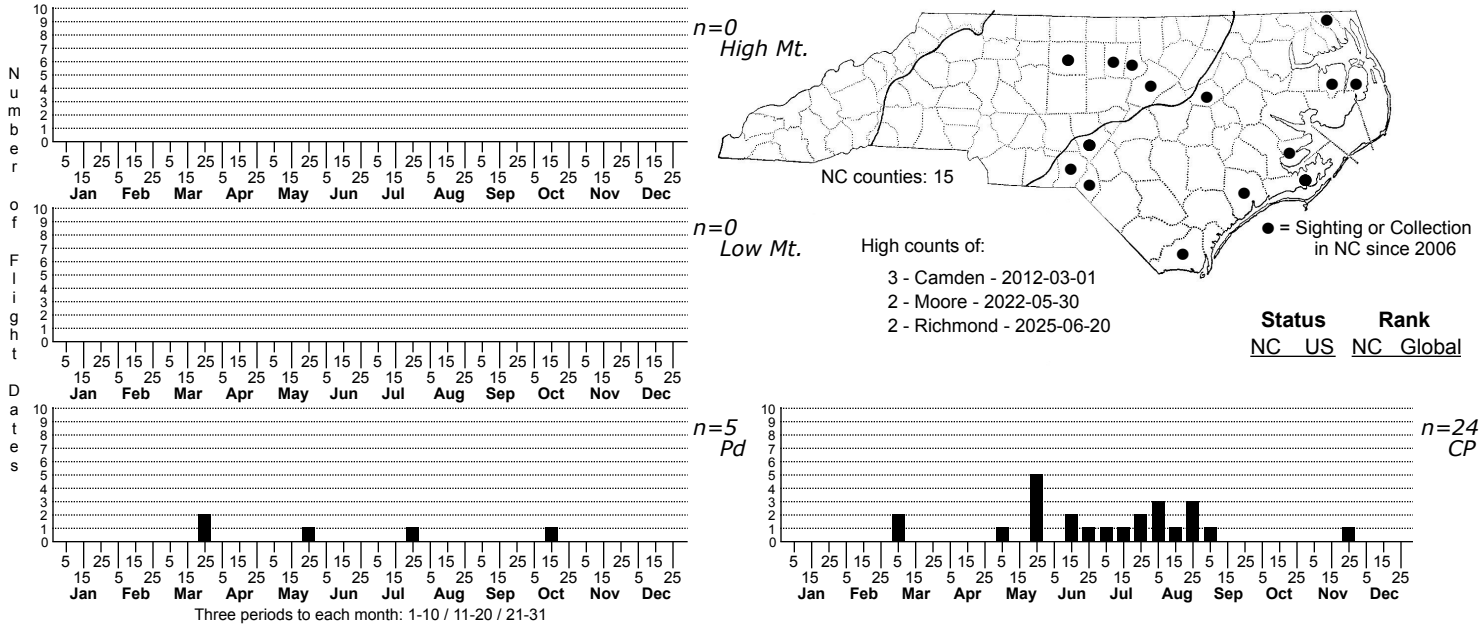
Mompha circumscriptella Circumscript Mompha



FAMILY: Momphidae SUBFAMILY: Momphinae TRIBE: [Momphini]
TAXONOMIC_COMMENTS: The genus Mompha consists of around 46 described species in North America. In addition, numerous species remain to be described that are centered in the southwestern US (Bruzzese et al., 2019). The adults are small moths that have two or more tufts of raised scales on each forewing. The larvae either mine leaves, or bore into the stems, flower buds, flowers, or fruits of their hosts. The majority of species feed on members of the Onagraceae, but others feed on species in the Cistaceae, Lythraceae, Melastomataceae, and Rubiaceae.

FIELD GUIDE DESCRIPTIONS: Covell (1984)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Forbes (1923)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Dickerson and Weiss (1920)

ID COMMENTS: This is a very small moth that has a distinctive white hourglass-like mark when a resting moth is viewed from above with its wings closed. The following detailed description is based primarily on that of Forbes (1923). The head, palp, thorax, and basal half of forewing are shiny white, while the antenna is brown to blackish. The outer half of the forewing is typically rusty-brown. Starting from the wing base, the brown costal edge widens into a brown triangular mark at one fourth the wing length. The brown coloration then becomes very narrow at the middle of the wing before expanding to fill most of the remainder of the wing. The remainder of the basal half of the forewing is white, except for a small black dot that is present near the inner margin across from the apex of the brown triangular mark. A white spot or short streak is present at three-fourths. It is often connects to a curved, white line that extends basally to connect to the larger white region near the middle of the wing. The curved line on some specimens may be incomplete or missing altogether. There are two small tufts of blackish scales where the curved white line connects to the larger white region, one near the inner margin and the second near the middle of the wing. The hindwing is grayish to grayish brown and the fringe on both wings is mostly gray. The legs are light brown with thin whitish bands on the tarsi. Both the size of the adults and the ground color of the forewing varies in Mompha circumscriptella, and is influenced by the particular species of evening-primrose that the larvae feed on (Microleps.org). The ground color can vary from rusty brown to chocolate brown or almost black, even though the genital morphology of all of these forms are identical and they appear to constitute a single species.

DISTRIBUTION: Mompha circumscriptella is found in eastern North America and in the West in Idaho, Wyoming, Colorado, and from British Columbia southward to California. In the East, populations occur in southern Canada (Manitoba; Ontario) and throughout most of the eastern US from Maine southward to southern Florida, then westward to central Texas, Oklahoma, Kansas, and Iowa. It appears to be absent or rare in most of the central and southern Appalachians. As of 2021, we have records from the Coastal Plain and Piedmont.

FLIGHT COMMENT: Adults have been found from January through November in areas outside of North Carolina, with a seasonal peak in June and July when breeding is occurring. As of 2021, our records extend from late May through late September.

HABITAT: The larvae feed on evening-primroses, particularly species that occur in sunny or partially sunny sites. Typical habitats include roadsides, old fields and meadows, powerline corridors, and the edges of agricultural fields.

FOOD: The larvae use Evening-primroses (Oenothera spp.) as hosts, including Common Evening-primrose (O. biennis) and Cutleaf Evening-primrose (O. laciniata).

OBSERVATION_METHODS: We recommend rearing adults from Oenothera fruits. The fruits do not show any externally-visible signs of infestation or damage, so the best strategy is to collect and cage entire clusters of fruits in mid- to late summer. Mompha brevivittella also uses Oenothera fruits in a similar manner, so rearing the adults is essential for a correct id.

NATURAL HERITAGE PROGRAM RANKS: GNR S2S4

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

COMMENTS: This species is probably more common that our records suggest given that the adults are generally inactive except during the breeding season and many records are based on rearing the adults from seed capsules.