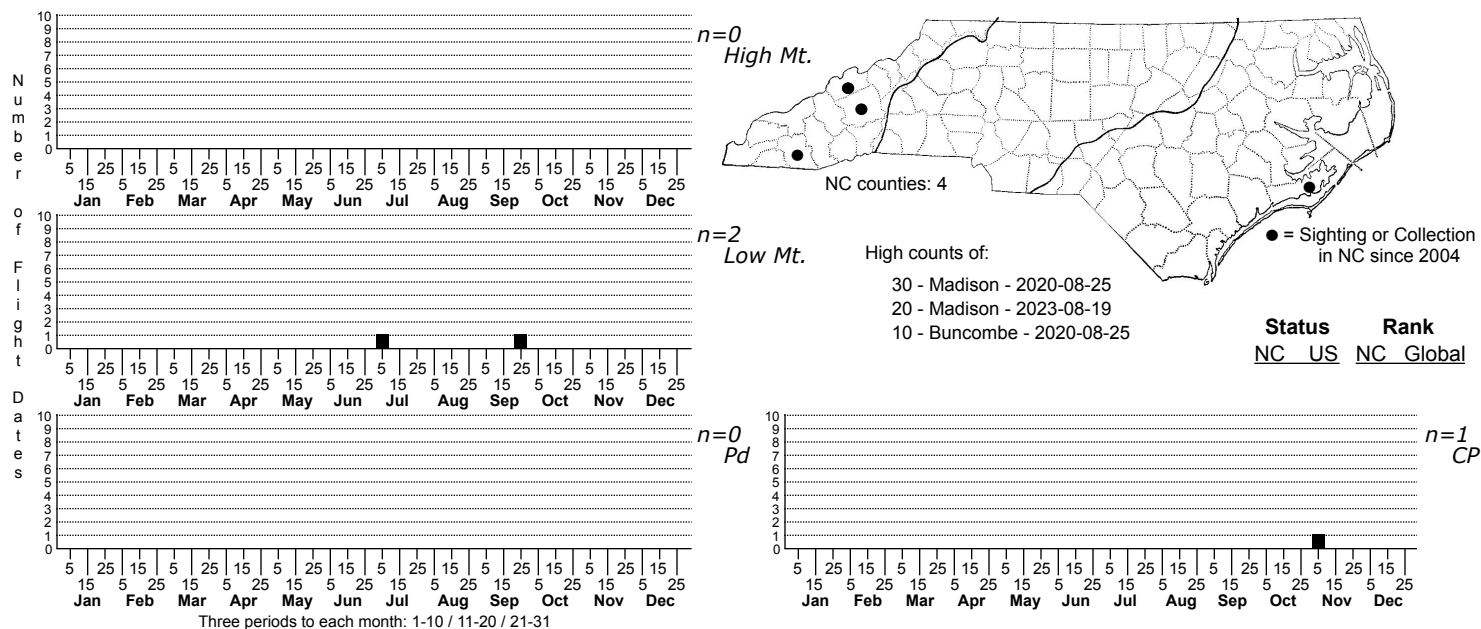


Mompha stellella No common name



FAMILY: Momphidae SUBFAMILY: Momphinae TRIBE:

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 (Bruzese 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:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: (Busck, 1906)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Microleps.org

ID COMMENTS: The following description is based primarily on the original description by Busck (1906). The antenna is uniformly dark brown. The labial palp is whitish ocherous with scattered black scales, and have a black annulation just before the tip of the terminal joint. The face is silvery white, and the head and thorax are light ocherous. The forewing is light ocherous and mottled with brown and black scales. The costal edge is mottled with black, and the entire apical part of the wing is sprinkled with sparse black scales. There are two oblique, ill-defined and indistinct shades of light brown stretching across the wing, one from near the base, and the other from the middle of the costa. There are six tufts of raised ocherous scales in two longitudinal rows, one through the middle of the wing, and the other below the fold. The central tuft is the largest of them. A conspicuous elongated patch of black scales is present on the inner margin that begins just beyond the middle tuft of raised scales. The abdomen is ocherous, and the legs are ocherous with black mottling.

This and other *Mompha* species can be difficult to identify since there are numerous undescribed species. Rearing of adults from the distorted flower buds on Common Evening-primrose is the best way to confidently identify specimens of *M. stellella*. Some of the key features of this species based on reared adults are a relatively uniformly colored antenna, a broad light zone on the basal fifth of the wing, a blackish and often somewhat rectangular patch along the dorsal margin just beyond one-half (between the second and third patch of raised scales), and the third segment of the palp that has a conspicuous subterminal black annulus (often with one or more additional bands proximally). More rearing records are needed to better document phenotypic and geographic variation that occurs across the range of this species, and particularly in North Carolina.

DISTRIBUTION: *Mompha stellella* is found in eastern North America in southern Canada (Ontario; Quebec) and the eastern US. Local populations are most common in the northeastern US and become more scattered farther west and south. This species ranges as far west as Missouri and as far south as Florida. In North Carolina, almost all of our records as of 2022 are from the lower mountains where all but one are based on rearing records or observations of distorted flower buds. We have one record from the Coastal Plain (Fort Macon State Park) that is currently assigned to this species.

FLIGHT COMMENT: Local populations appear to be univoltine and oviposit when the host plant comes into bloom, typically from late July through early September.

HABITAT: *Mompha stellella* appears to be monophagous on Common Evening-primrose (*Oenothera biennis*), which is an early successional species that exploits open, disturbed habitats. Typical habitats include roadsides, construction sites, agricultural fields and edges, and powerline corridors.

FOOD: Common Evening-primrose (*Oenothera biennis*) is the only known host.

OBSERVATION_METHODS: The adults are attracted to lights. We recommend searching for the distorted flowers on Evening-primroses and rearing the adults.

NATURAL HERITAGE PROGRAM RANKS: GNR SU

STATE PROTECTION:

COMMENTS: This species was only recently documented in the state and may be more common than previously thought based on our recent success in locating populations based on the presence of distorted *Oenothera* flowers.