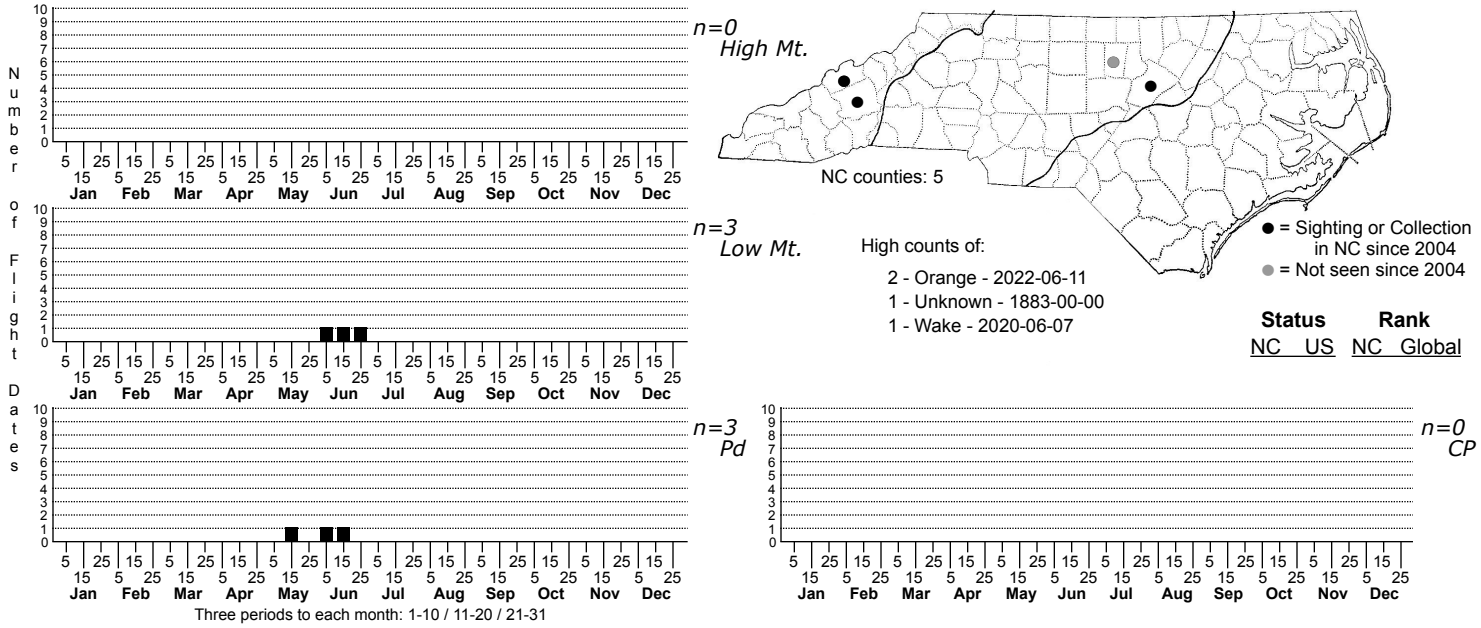
Cosmopterix gemmiferella No common name



FAMILY: Cosmopterigidae SUBFAMILY: Cosmopteriginae TRIBE: [Cosmopterigini]
TAXONOMIC_COMMENTS: Cosmopterix is a very large genus of small, colorful moths that are found on every continent except Antarctica. There are 31 species that are currently recognized in North America, and all are leafminers.

FIELD GUIDE DESCRIPTIONS: Covell (1984)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Hodges (1978); Koster (2010)
TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: The following description focuses on forewing and antenna patterning, and is based on a more detailed description presented by Koster (2010). The vertex is brown with two silvery lateral lines and a median line. The median line continues onto the thorax, but the lateral lines do not. The scape is white below and brown above. The antenna is dark brown with a white interrupted (dotted) line that extends from the base to one-half the length. From there, the following sequence of segments occurs when moving towards the apex: approximately eleven dark brown segments, four white segments, two partly dark brown segments, two white segments, ten dark brown segments, and eight white segments at the apex. The forewing is golden brown and more prominently so in the apical area. There are four short silvery lines in the basal area. These consist of 1) a subcostal line at one-sixth the wing length that bends from the costa distally, 2) a very short medial line above the fold that extends just beyond the subcostal line, 3) a subdorsal line below the fold that is similar in length to the medial line and starts at the end of the medial, and 4) a dorsal line from beyond the base to one-sixth the wing length. A broad yellow transverse fascia is present beyond the middle, with a costal half that is about twice as wide as the dorsal half. The dorsal half, which is sometimes irrorated by dark brown scales, is bordered at the inner edge by a pale golden metallic tubercular fascia that does not reach the costa. The transverse fascia is bordered at the outer edge by two pale golden metallic tubercular spots, one costal and one dorsal. The dorsal spot is about twice the size of the costal spot and far more towards the base. The outside of the transverse fascia, as well as the inside of both spots, are edged with blackish brown. A broad white costal streak extends from the costal spot to the costa. The apical line in incomplete and is reduced to a small silvery spot on the dorsum in the middle of the apical area, and a broad white streak in the cilia at the apex. The cilia is brown and paler towards the dorsum. The hindwing is brownish gray and the cilia is brown.

Cosmopterix gemmiferella is externally similar to C. clandestinella and C. bacata. It differs from C. clandestinella by the presence of white median lines on the head and the thorax, by the golden brown ground color of the forewing, and by the three silver streaks in the basal area which are positioned in an outwardly oblique row (Koster, 2010). It is most easily distinguished from C. bacata by the antenna patterning. In C. gemmiferella, the last eight apical segments are white, compared with the last 14-17 segments in C. bacata.

DISTRIBUTION: Cosmopterix gemmiferella is widely distributed in eastern North America from Alberta, Ontario, Quebec, and Maine to as far south as Texas, Louisiana and Florida (Hodges, 1978; Koster, 2010; Eiseman 2019). Koster (2010) examined a male specimen from the British Museum of Natural History that was collected in 1883 by Morrison in North Carolina (county unknown). This is the only known record from the state that we are aware of as of 2020.

FLIGHT COMMENT: Adults emerge from April to early July and appear to be univoltine (Eiseman, 2019). Adults in southern populations are active from early April to June (Hodges, 1978).

HABITAT: The larvae feed on Dichanthelium species that are found in a variety of mesic to dry habitats such as open woods, woodland clearings, and roadsides.

FOOD: The larvae feed on Witchgrasses (Dichanthelium spp.). Among the known hosts are D. acuminatum and D. dichotomum (Eiseman, 2024).

OBSERVATION_METHODS: The adults are attracted to UV lights, and can be reared from Dichanthelium mines.

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 currently have insufficient data on the abundance and distribution of this species in the state to access its conservation status. As of 2020, we have only one record, and it is historic.