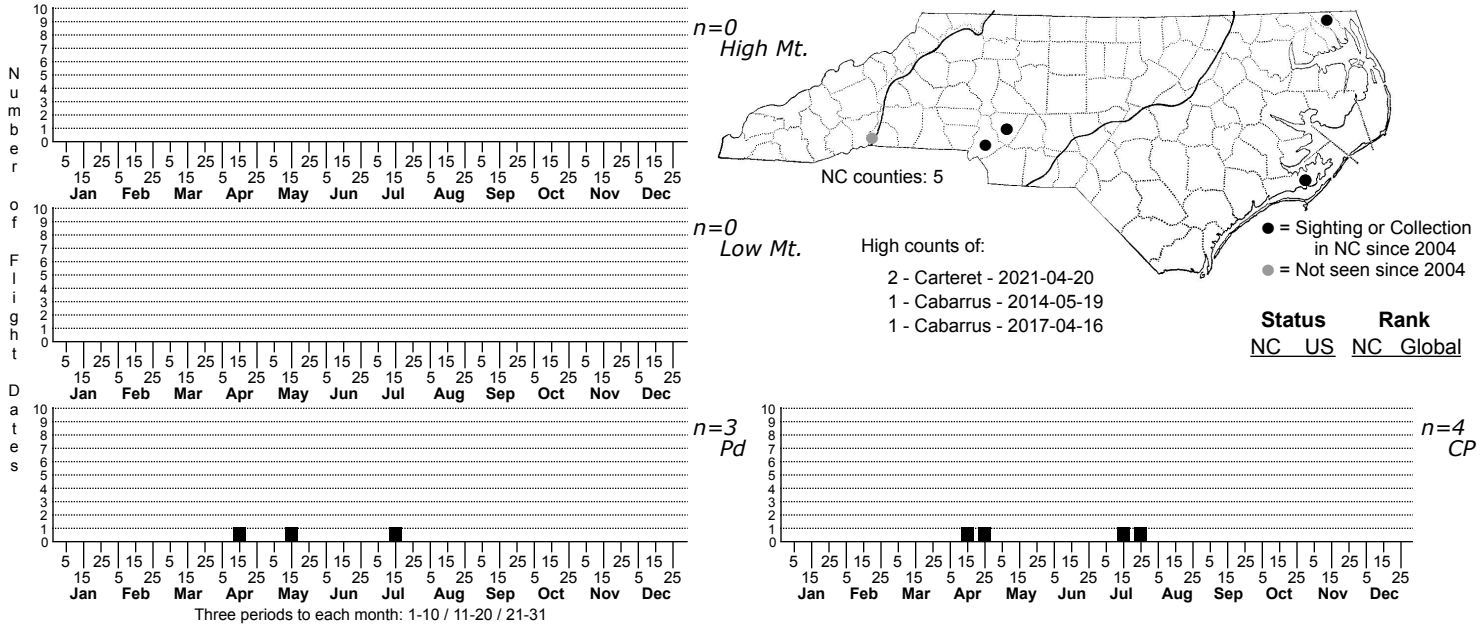
Eucosma radiatana No common name



FAMILY: Tortricidae SUBFAMILY: Olethreutinae TRIBE: Eucosmini
TAXONOMIC_COMMENTS: Eucosma radiatana is a member of the radiatana species group of Wright and Gilligan (2015). This group includes a complex of 9-13 species that have been difficult to resolve due to their overall external appearances, suspected sexual dimorphism in forewing coloration and patterning in some species, and a scarcity of well-defined diagnostic features in the genitalia. Wright and Gilligan (2015) recognized only nine species in North America and relegated four previously recognized species to synonymy.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Wright and Gilligan (2015)
TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: The head and palps are varying shades of brownish fuscous to brownish black, while the antennae are a lighter brown. The thorax is cream-colored with a narrow brown streak in the middle and a wide brownish streak along each side. The forewing ground is cream-colored with a series of longitudinally brownish to reddish brown streaks. The darker patterning on the wing is variable, but the base of the wing typically has dark shading or streaks that are concentrated above and below the middle of the wing. This includes a short streak that is continuous and concolorous with the brownish streak along the side of the thorax, and a faint subcostal streak that fades after reaching the middle of the wing. The apical third is dusted with dark brown to reddish-brown pigmentation that matches that of the basal region, and fine dark lines are also usually evident along the veins. The ocellus varies from being faint to somewhat better defined. The apical third of the costa usually has a series of irregular pale-colored streaks (strigulae) that run obliquely towards the apical half of the termen and often coalesce with two similar streaks that begin at the apex and project slightly basally. The fringe is dark gray with a fine salt-and-pepper patterning, while the hindwing is brownish with a paler fringe.

Eucosma radiatana was described from a single specimen and exhibits substantial variation in forewing patterning. A redescription of the species is needed that better defines its diagnostic characters. Wright and Gilligan (2015) tentatively assigned specimens from Arkansas, Indiana, Iowa, and Mississippi that resembled E. formosana externally -- but had male genitalia of E. radiatana -- to this species. These tend to have the ocellus and costal strigulae better defined relative to typical specimens. Specimens are best identified by male genitalia since differences between E. radiatana and other species in this species group are slight (Wright and Gilligan, 2015).

In North Carolina this species is most likely to be confused with E. umbrastriana. It is generally similar, but has a heavy wash of orangish-brown on the apical third. In addition, the contrast between the central region of the thorax and the brownish streaks along the sides is less pronounced in E. umbrastriana compared with that of E. radiatana.

DISTRIBUTION: Eucosma radiatana appears to be widely distributed across much of the eastern US and adjoining areas in southern Canada. Wright and Gilligan (2015) examined specimens from Nova Scotia to Manitoba and southward to Ohio, Indiana, and Virginia. Other specimens from Arkansas, Indiana, Iowa, and Mississippi that resembled E. formosana externally, but had male genitalia of E. radiatana, were tentatively assigned to this species.

FLIGHT COMMENT: Wright and Gilligan (2015) reported that the adults of typical Eucosma radiatana fly from May and early June, while specimens from Arkansas, Indiana, Iowa, and Mississippi that were tentatively assigned to this species fly from mid-April to early July. As of 2022, our records extend from mid-April through mid-July and are more consistent with the latter.

HABITAT: Local populations are generally found in open, sunny habitats that support composites, which are presumed to be the likely hosts.

FOOD: Heinrich (1923) reported goldenrod (Solidago) to be a host, and Miller (1987) stated that the larvae feed in goldenrod stems.

OBSERVATION_METHODS: The adults appear to occasionally visit lights.

NATURAL HERITAGE PROGRAM RANKS: GNR [S3-S4]

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 host use, abundance, and distribution within the state to accurately assess the conservation status of this species.