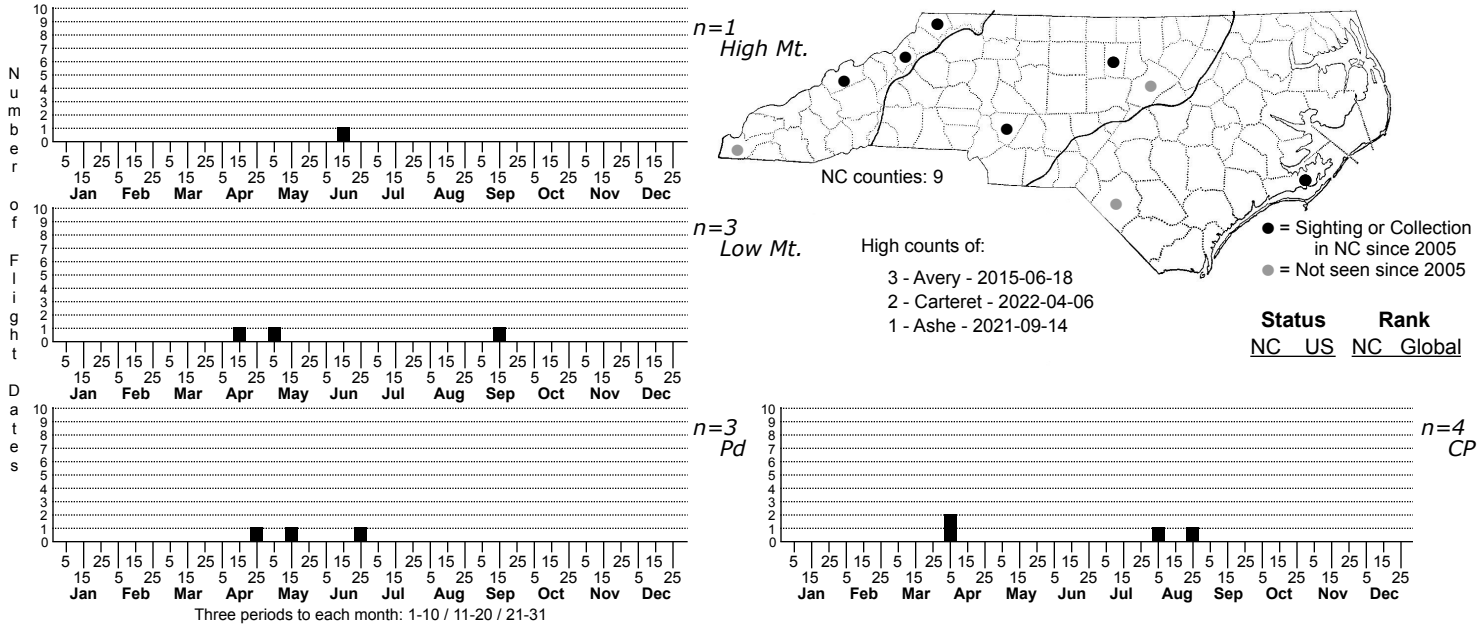
Paralobesia viteana Grape Berry Moth



FAMILY: Tortricidae SUBFAMILY: Olethreutinae TRIBE: Olethreutini
TAXONOMIC_COMMENTS: Paralobesia is a genus of small tortricid moths, with the majority of species found in the Nearctic Region. Royals et al. (2019) recently completed a much-needed revision of the genus, which now includes 43 species. Only 19 species were described prior to their work, and there appear to be a few remaining undescribed species in North America where there is insufficient material or data to formally describe them (Royals et al., 2019). We currently have 12 described species in North Carolina, as well as one undescribed species (J.B. Sullivan, pers. comm.). Many are very similar in external coloration and patterning, and are best identified using either genitalia or rearing from host-specific plants.

FIELD GUIDE DESCRIPTIONS: Beadle and Leckie (2012)
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Royals et al. (2019)
TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: The following description is based in part on that of Royals et al. (2019). The adults have a two-toned appearance, with the basal half of the forewing gray and the apical half a mixture of pale-brown to dark-brown blotches. The vertex is rough-scaled and reddish-brown and the labial palps pale brown to pale tan. The antenna is brown, and the thorax is reddish-brown with a brown crest. The ground color of the forewing is bluish-gray and is most prominent on the basal half of the wing where it is separated by a thin, outwardly angulated brown band at around one-fourth the wing length. The most prominent mark is a large median fascia that extends from the costa to the inner margin, with the middle portion greatly expanded distally, and the dorsal portion narrowing towards the inner margin. The median fascia is mostly dark brown, but becomes a lighter mottled brown towards the inner margin. The median fascia is followed by a prominent, brown, subterminal band (blotch) that is centered near the middle of the wing and has darker brown scales in the center. Several smaller blotches are present between it and the apical third of the costa, with the most prominent one at the apex. A brown pre-tornal patch is present along the inner margin, and all of the marks described above are usually margined with pale tan to whitish scales. The costal strigulae consist of 5-9 pairs of gray dashes along the costa, and the hindwing is brown, but paler at the base.

Paralobesia viteana is very similar in overall patterning to the P. liriodendrana complex, but has dark-brown marks on the apical half of the wing, lighter-colored palps, and a bluish-gray fringe (Forbes, 1923) versus the light reddish-brown fringe of P. liriodendrana and P. magnoliana. In addition, the costal remnant of the post-median fascia (the small, dark costal mark between the median fascia and the subterminal band) is reduced in size relative to that of P. liriodendrana complex, which is larger and more rectangular-shaped.

DISTRIBUTION: Paralobesia viteana is native to eastern North America where it occurs in southeastern Canada (Ontario; Quebec), and in the U.S. from New York and Massachusetts southward to northern Florida, and westward to central Texas, central Oklahoma, Missouri, Illinois, eastern Iowa, southern Wisconsin and Michigan (Royals et al., 2019; MPG). Specimens have also been found in Arizona, Colorado and Nebraska that are likely introductions. This species occurs statewide in North Carolina.

FLIGHT COMMENT: Adults have been observed during most months of the year. Royals et al. (2019) examined specimens that were collected from early-February through mid-October. As of 2024, we have records from late-April through mid-September.

HABITAT: This species is commonly found in grape orchards and in forests and edge habitats where native grapes are present.

FOOD: Native grapes appear to be the primary hosts in the wild, but commercially-grown grape cultivars are also exploited (Heppner, 2007; Hoffman et al., 1992; Gilligan and Epstein, 2014, Laiton-Jimenez et al., 2024). A few secondary hosts have been reported (Gilligan and Epstein, 2014) that appear to be used on rare occasion. These include a false indigo (Amorpha sp.), Sassafras (Sassafras albidum), and a blackberry (Rubus sp.). Species of cultivated and native grapes that are used include Muscadine (Muscadinia rotundifolia), Concord Grape (Vitis labrusca cultivars), Riverbank Grape (V. riparia) and Common Grape (V. vinifera hybrids).

OBSERVATION_METHODS: The adults are attracted to lights and pheromone traps, and the larvae can be found inside the fruits of grapes.

NATURAL HERITAGE PROGRAM RANKS: GNR[S4S5]

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

COMMENTS: This species appear to be secure in north Carolina where it can be a pest on commercially-grown grapes.