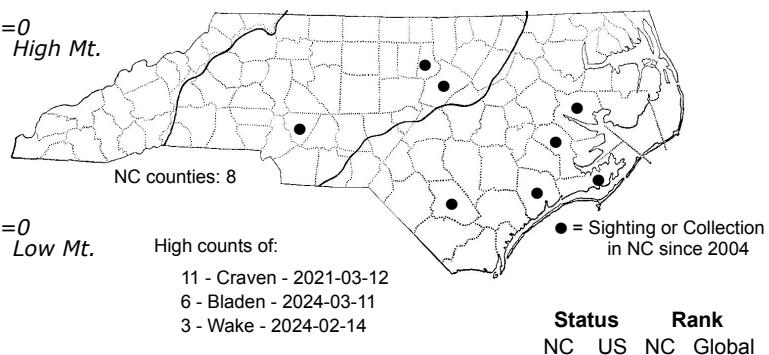
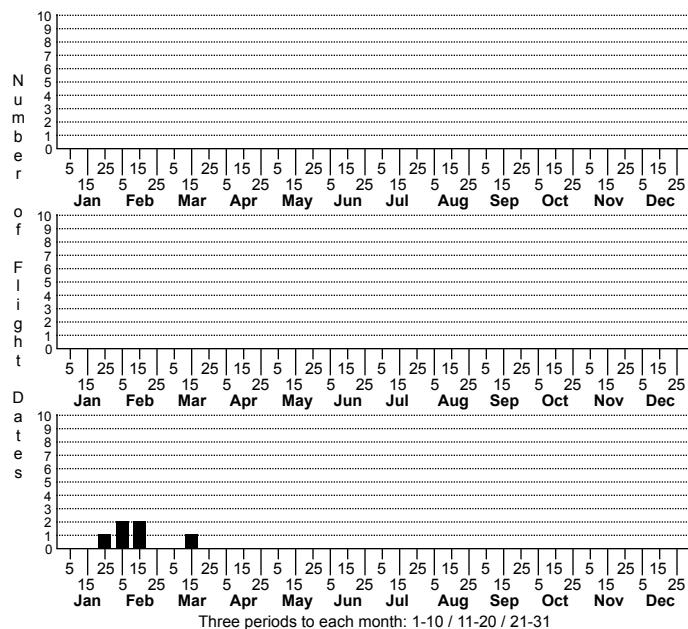


# Rhyacionia busckana Red Pine Tip Moth



FAMILY: Tortricidae SUBFAMILY: Olethreutinae TRIBE: Eucosmini

TAXONOMIC COMMENTS: The genus *Rhyacionia* is widespread in the Holarctic Region, ranging from Japan and Asia to the Caribbean Antilles and Mexico (Powell and Miller, 1978). There are 33 described species worldwide and 24 in North America. The larvae feed on the needles, buds, and growing tips of pines.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Miller (1985)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: Except for their antennal morphology, *Rhyacionia busckana* is externally indistinguishable from a sibling species, *R. granti*. The following is based on the original description by Miller (1985) of *R. granti*. The description of *R. busckana* by Powell and Miller (1978) was actually based on both species, since *R. granti* had not been described at that time. The labial palps, crown of the head, and thorax are clothed with either reddish scales or brownish black scales with white tips. The length of the second segment of the labial palp is subequal to the eye diameter, and the length of the third segment is one-fourth that of the second. The front of the head is brownish black. The antennal pecten length is less than that of the antennal segment length. The basal two-thirds of the forewing has a series of narrow, alternating, pale gray and grayish brown cross-bands. The apical third of the forewing has red and yellow scales. The hindwing is uniformly light gray above and the abdomen is shiny gray. The leg scaling is similar to that of the thorax.

*Rhyacionia granti* and *R. busckana* are most easily distinguished by the male antennae (Miller, 1985). In *R. granti* the length of the pecten on the basal third of the antenna greatly exceeds the length of the antennal segments. In *R. busckana*, the length of the pecten is shorter than the length of the antennal segments (see image above and structural photos below). These species can also be distinguished by the male and female genitalia. Specimens of *R. granti* in North Carolina most commonly have reddish scales on the upper head and anterior regions of the thorax, while those of *R. busckana* tend to be more grayish. As of 2024, the two species also sort out geographically, with *R. granti* restricted to the Blue Ridge and *R. busckana* to the eastern Piedmont and Coastal Plain. *R. busckana* might also be confused with *R. adana*, but the latter has very short lateral projections on the antennae of males (the antennae appear smooth), the head tuft is reddish, and the grayish basal shade extends farther out into the wing on the costal half than on dorsal half of fore wing.

DISTRIBUTION: *Rhyacionia busckana* is found primarily in eastern North America, with scattered records in the West from British Columbia, Oregon, and Colorado (Powell and Miller, 1978). The range in the East is rather poorly defined because records for *R. granti* were confused with those of *R. busckana* prior to 1985. Populations occur in extreme southern Canada (Manitoba; Ontario; Quebec), and from Maine southward to at least South Carolina. The range extends westward to Tennessee, Kentucky, and Illinois, with an isolate occurring in southeastern Texas. As of 2023, all of our records are from near the coast except for one eastern Piedmont record.

FLIGHT COMMENT: This is a late-winter to early spring species. Records in the eastern US extend from January through April, with a seasonal peak in March. Adults in the most northern populations most fly between March and June. As of 2023, our records that extend from mid-January through late-March.

HABITAT: Populations require pines for successful reproduction, but the specific hosts that are used in the southeastern US are undocumented. Our collection records from the coast are near pocosins.

FOOD: The larvae are pine specialists (Prentice, 1966; Powell and Miller, 1978; Miller, 1985a; Lam et al., 2011; Eiseman, 2022). In Canada, the larvae use Jack Pine (*Pinus banksiana*), Red Pine (*P. resinosa*) and Scotch Pine (*P. sylvestris*). Our collections from the coast are near pocosins with Pond Pine (*P. serotina*), which suggests that it could be a host.

OBSERVATION\_METHODS: The adults are attracted to lights. More information is needed concerning host use, so we encourage naturalists to document aspects of the larval ecology and life history.

NATURAL HERITAGE PROGRAM RANKS: GNR SU

STATE PROTECTION:

COMMENTS: We currently do not have sufficient information on the distribution and abundance of this species to assess its conservation status.