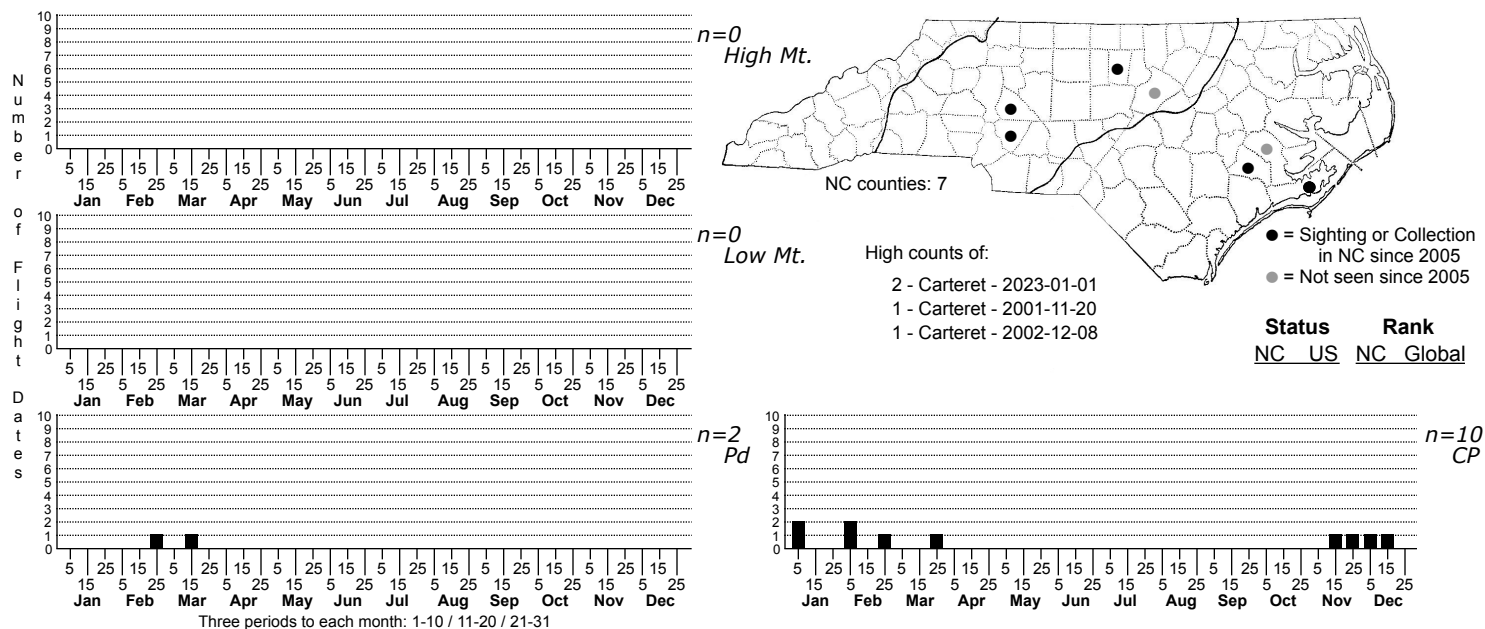


Lithophane lemmeri Lemmer's Pinion



FAMILY: Noctuidae SUBFAMILY: Noctuinae TRIBE: Xylenini

TAXONOMIC_COMMENTS: One of 51 species in this genus that occur in North America (Lafontaine and Schmidt, 2010, 2015), 25 of which have been recorded in North Carolina.

FIELD GUIDE DESCRIPTIONS:

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1954); Schweitzer et al. (2011)

TECHNICAL DESCRIPTION, IMMATURE STAGES: Maier et al., (2011); Schweitzer et al. (2011); Wagner et al. (2011)

ID COMMENTS: A medium-sized, gray Pinion. Marked with dark dashes, including a long basal dash and scattered shorter dashes over most of the forewings, representing fragments of the normal transverse lines (Forbes, 1954). Spots are obsolete but the lower portion of the reniform is represented by a whitish line (photographs online indicate that there is a reddish- or yellowish-brown patch just above this line). Hindwings are brown.

DISTRIBUTION: Recorded in both the Tidewater region of the Coastal Plain and in the Eastern Piedmont. The actual range within the state is unknown, but Schweitzer et al. (2011) describe *lemmeri* as a Coastal Plain and Piedmont species.

FLIGHT COMMENT: Flies in late fall, overwinters as an adult, and flies again in late winter/early spring.

HABITAT: All North Carolina records come from stands of Red Cedar, *Juniperus virginiana*, particularly of the Coastal subspecies, *J. v. silicicola*. Surveys of Atlantic White Cedar have not yet had any success in this state.

FOOD: Larvae are stenophagous, feeding on cedars, including Eastern Red Cedar (*Juniperus virginiana*) and Atlantic White Cedar (*Chamaecyparis thyoides*) (Maier et al., 2011; Schweitzer et al., 2011; Wagner et al., 2011). In North Carolina, larvae have been recorded on Eastern Red Cedar.

OBSERVATION_METHODS: Probably best surveyed using bait, but Schweitzer et al. (2011) suspect that it might be less attracted to bait than other species in this genus. Schweitzer et al. recommend using a combination of mercury vapor lights and bait to sample for this species. Searches for larvae should be conducted in late spring through mid-summer.

NATURAL HERITAGE PROGRAM RANKS: G3G4 S1S3

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

COMMENTS: Generally considered rare (Schweitzer et al., 2011; NatureServe, 2017) and only a few North Carolina records exist. However, the late-fall and late-winter flight period, plus its possibly a poor response to lights, may mean that this species has been substantially undersampled, at least in this state (Schweitzer et al., mention the possibility that it has been undersampled more generally). Its host plants suggest that it is probably not limited by habitat factors, at least for populations associated with inland populations of Red Cedar. Populations associated with Atlantic White Cedar, however, have likely declined due to overharvesting of that species and conversion of its peatland habitats. Populations associated with Coastal Red Cedar are at some risk due to coastal development as well as sea-level rise. Larval surveys or more intensive sampling for adults are needed in order to clarify its distribution, habitat affinities, host plant use; without more documentation, accurate assessments of its conservation status cannot be made.