

Heterophleps refusaria Three-patched Bigwing

FAMILY: Geometridae SUBFAMILY: Larentiinae TRIBE: Lobophorini TAXONOMIC_COMMENTS: A large genus with most members from India and China. Three species occur in the USA and two in North Carolina. Our species appear to be congeneric with some of the species from China while other species from China may be misplaced.

FIELD GUIDE DESCRIPTIONS: Covell (1984); Beadle and Leckie (2012) ONLINE PHOTOS: TECHNICAL DESCRIPTION, ADULTS: Forbes (1948) TECHNICAL DESCRIPTION, IMMATURE STAGES: Wagner et al. (2001)

ID COMMENTS: Lager and grayer than H. triguttaria but similar in possessing disproportionately large forewings. Adults can be mistaken for some species of Speranza with whom they fly, but the difference in size between the fore and hindwings is diagnostic.

DISTRIBUTION: Restricted to the Mountains in North Carolina.

FLIGHT COMMENT: Appears to have a single adult flight, from May to July.

HABITAT: Our records come primarily from Cove Forests and Northern Hardwoods in the Mountains, including from high elevations.

FOOD: Larvae have been reared on Clearweed ($\langle i \rangle$ Pilea $\langle i \rangle$) and nettles (Wagner et al 2001). There is a BugGuide record (Jim Sogaard, 2018) for a larva on nettles ($\langle i \rangle$ Urtica $\langle i \rangle$ sp.) The caterpillars hurl their frass pellets to avoid detection by parasitic wasps and flies.

OBSERVATION_METHODS: Adults come readily to light but not to bait.

NATURAL HERITAGE PROGRAM RANKS: G4 SNR [S3S5]

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

COMMENTS: Generally uncommon and somewhat specialized in terms of both host plants and habitats. High elevation mesic forests are threatened to some extent by global climate change, but for the moment, this species still has a wide range within the Mountains of North Carolina