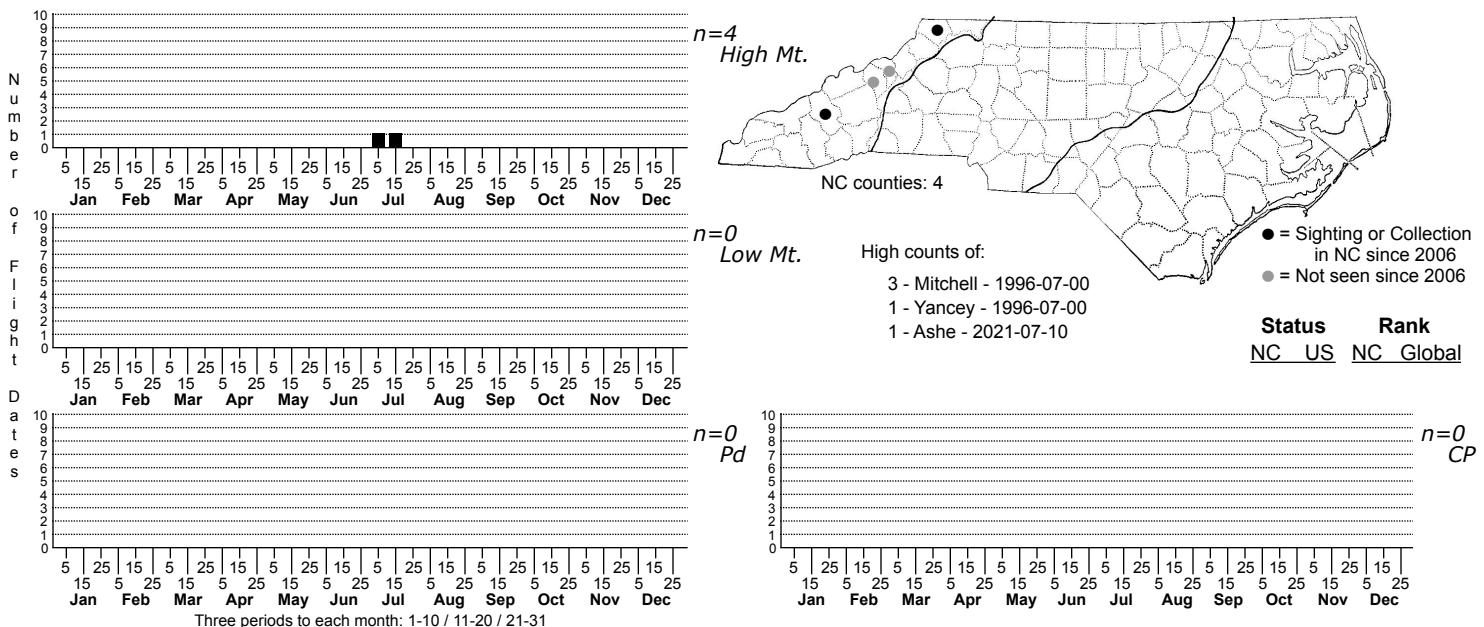


Korscheltellus gracilis Conifer Swift Moth



FAMILY: Hepialidae SUBFAMILY: [Hepialinae] TRIBE: [Hepialini]

TAXONOMIC COMMENTS: *Korscheltellus gracilis* is a member of the ghost moth, or swift family, a primitive group of over 500 species that is found worldwide. In North America the family is made up of at least 20 species in four genera, a vast majority of them of northerly or westerly affinities. *Korscheltellus gracilis* is one of only two *Korscheltellus* species that are currently recognized in North America, and the only one found in North Carolina. The taxonomy of the group remains in flux, and *K. gracilis* may eventually prove to be better placed in *Pharmacis* (Wagner, 1988).

FIELD GUIDE DESCRIPTIONS: Beadle and Leckie (2012)

ONLINE PHOTOS:

TECHNICAL DESCRIPTION, ADULTS: Forbes (1923), Wagner (1988)

TECHNICAL DESCRIPTION, IMMATURE STAGES:

ID COMMENTS: This species is smaller than the other hepialids which occur in North Carolina. The forewings show a variable pattern of mottled gray and cream bands and patches, against a dark to rusty brown background. The banding is heaviest through the median and post-median areas, but also appears along the inner margin, along the costa, and in the subterminal area. These lighter areas are typically edged with black scaling, which is also peppered across the rest of the forewing. The fringe on both the forewing and hindwing is checked black and white. The hindwings, which are proportionally large and similar in shape to the forewings, are light to dark brown and largely unmarked, though some gray and brown patterning can sometimes be seen along the costa. The antennae are greatly reduced, and females are typically paler, with less distinctly patterning than the males. Males in the Great Smoky Mountains National Park tend to be darker than the mean (Wagner, 1988).

DISTRIBUTION: *Korscheltellus gracilis* is widely distributed across southern Canada and adjoining areas of the eastern US, then southward along the Appalachians to North Carolina. In North Carolina, populations are restricted to the higher elevations of the western mountains.

FLIGHT COMMENT: Please refer to the flight charts.

HABITAT: All of our records come from Spruce-Fir Forest located above 5,000'. This fits the habitat description given by Wagner (1988), who lists Boreal forests, particularly those dominated by Red Spruce and Fir.

FOOD: Reported hosts include Red Spruce (*Picea rubens*), White Spruce (*Picea glauca*), Balsam Fir (*Abies balsamea*) and probably Fraser Fir (*Abies fraseri*), Yellow Birch (*Betula alleghaniensis*), and Paper Birch (*Betula papyrifera*), but also Mountain Wood-fern (*Dryopteris campyloptera*; Wagner, 1988) and Northern Lady Fern (*Athyrium angustum*; McCabe & Wagner, 1989).

OBSERVATION METHODS: Like other members of the family, this species flies largely at dusk and is at least modestly attracted to lights.

NATURAL HERITAGE PROGRAM RANKS: GNR S1S2

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

COMMENTS: A largely northern species that reaches the southern edge of its range in the southern Appalachians. In North Carolina this is a high elevation (boreal) species that is associated with its primary food plants. In the proper habitat at the proper time of year, it appears to be common. As a species restricted to Spruce-Fir Forests at high elevations in the mountains, it may be highly vulnerable to the effects of global climate change.