

# BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

## Geometer Moths and Golden-crowned Kinglets

POST #14—January 6, 2022

It might be odd to see a post about moths during the winter season, but there is a very good reason to profile this diverse group of species right now!

Moths in the family Geometridae make up 20% of the moth biodiversity in the Sax-Zim Bog: 122 species of 582 total moth species. This family of moths is incredibly variable, though most have similar body shapes and wing postures. A typical geometer has broad, angular wings, generally held open and flat at rest. With names like emerald, pug, carpet, wave, infant, geometer, angle, granite, and spanworm their names are as diverse as their patterns! This group is usually quite cryptic, blending in with the bark of trees or leaves during the day. However, there are a few flashy representatives (as seen below!).

Moths and butterflies in our area may overwinter at every life stage, depending on the species. Most moths and butterflies overwinter below the snow in leaf litter at these various life stages. Very uncommonly, however, moths will overwinter on the

branches of trees as caterpillars. These caterpillars, especially those in the family Geometridae, make up an incredibly important winter food source for one of the smallest birds in Minnesota... Golden-crowned Kinglet!

Golden-crowned Kinglets overwinter in the conifer forests of northern Minnesota in low numbers, often surviving temperatures reaching -40 F or colder! These birds, weighing only a couple of ounces, must constantly forage during the daylight hours or they could starve and freeze! They eat geometer moth caterpillars that are overwintering on the branches of conifers and deciduous trees, almost exclusively, in order to maintain their 110+F body temperatures.

Typically, even the keenest observers never see the caterpillars that kinglets find during their foraging hours. Even so, the winter moth biodiversity is critical to their survival during the winter, as are the dense stands of conifers they prefer at night for roosting.

More information included with each photo below!

(Moth photos by Head Naturalist Clinton; Kinglet photo by Sparky Stensaas)



White-fringed Emerald is one of a few small, showy, and angular moths seen during the summer. These moths are always a treat and sometimes can be found during the day.



Mottled Euchlaena is a large moth and a great example of the wing shape of a member of Geometridae. The Euchlaenas are varying shades of brown, with serrated wing borders making them look a little like dead leaves!



Birch Angle is a beautiful moth! The moths in the genus *Macaria* are commonly known as inchworms as most are quite thin and cryptic.



Carpets are a very diverse group of moths, but most are not nearly as colorful as Orange-barred Carpet! This group of moths have distinctly rounded wings, and often hold their wings folded down.



Golden-crowned Kinglets are amazing survivors! This kinglet is showing off its namesake crown as it forages for caterpillars through tangled branches in the Bog.