

Forest Insect Defoliators

Janet's Looper (*Nepytia janetae* (Rindge))

Hosts: Engelmann spruce, corkbark fir in Arizona; Engelmann spruce, corkbark fir, Douglas-fir, ponderosa pine, and southwestern white pine in New Mexico

Symptoms/signs: The taxonomic status of this species is uncertain as there is considerable variation in body coloration and host feeding between Arizona and New Mexico. Studies are attempting to determine if there are two separate species or two subspecies. Larvae feed on foliage, chewing needles of all ages. Early instar larvae scrape or score the outer surface of needles, while later instars consume, partially consume, or clip needles. Partially consumed or clipped needles accumulate beneath defoliated trees.

Mature caterpillars are approximately 2.5 cm in length. The upper surfaces of larvae are gray with dark brown and green markings in a herringbone pattern and with irregular pale cream lateral stripes. The head capsule is mottled with a distinct black stripe above the mouthparts. Larvae can be seen in the foliage, hanging from silken threads, beneath the tree on ground or snow and climbing up the bole of the tree. Adults are small light gray moths that can be seen flying singly through the woods or flying in large numbers around the tops of host trees. Pale green (Arizona) to mottled brown and cream (New Mexico) colored pupa can be seen on the foliage wrapped in webbing.

Biology: *Nepytia janetae* has one generation per year. Adults appear in late June, peak flight is reached in early July.



Figure 39. Adult *Nepytia janetae*.

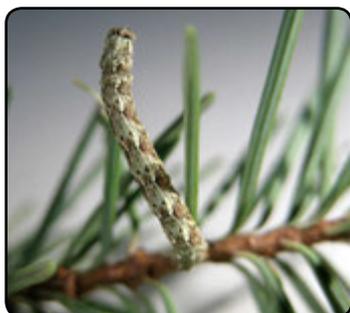


Figure 40. Larva of *Nepytia janetae*.

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Eggs hatch in late September. Larvae feed throughout winter and spring. Soome larvae are present until early July and there can be considerable overlapping of life stages.

Effects: Outbreaks develop rapidly, last 2 to 3 years, and collapse due to starvation, parasites, and disease. During outbreaks, heavy defoliation results in growth loss and, with

multiple years of defoliation, tree mortality. Mortality can be due to defoliation alone or due to secondary infestation by bark beetles. This insect caused extensive damage and mortality to spruce and corkbark fir in the White Mountains and Pinaleno Mountains of Arizona in the late 1990s. Associated spruce beetle mortality occurred only in the Pinaleno Mountains. During the mid-2000s, an outbreak also occurred in the mixed conifer forest type of the Sacramento Mountains, New Mexico. All conifer species in the impacted area were defoliated.



Figure 42. Partially consumed white fir needles by Nemytia janetae.



Figure 41. Defoliation of mixed conifer trees by Nemytia janetae near Cloudcroft, New Mexico.

Similar Insects and Diseases: See New Mexico fir looper. Another species of looper (Mountain girdle, *Enypia grisiata*) has caused heavy defoliation to spruce-fir in the White Mountains of Arizona. Similar insects in other regions (e.g. western hemlock looper and western false hemlock looper) have not been observed in the Southwest.

References: 57, 81