

NEODIPRION EXCITANS (HYMENOPTERA: DIPRIONIDAE) ON SAND PINE IN FLORIDA¹

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ABSTRACT

Neodiprion excitans Rohwer larvae caused severe defoliation in a natural stand of sand pine, *Pinus clausa* (Chapm.) Vasey, during the fall of 1970 in west Florida, a new host record for this sawfly. The outbreak resulted in 10% mortality of older trees by May 1971, and was apparently terminated by heavy parasitism of sawfly larvae by *Endasys subclavatus* (Say).

Sand pine, *Pinus clausa* (Chapman) Vasey, occurs almost exclusively in Florida, where it grows naturally on relatively infertile, deep sandy soils. It is an important ornamental tree in recreation and resort areas, is utilized as pulpwood, and strains have been selected for Christmas tree production. Two races are recognized, Choctawhatchee sand pine in west Florida and Ocala sand pine in peninsular Florida. Choctawhatchee sand pine has been favored for pulpwood plantings in recent years because it is relatively resistant to certain root-rotting fungi; both races of sand pine have been considered to be relatively free of serious insect pests until recently. The web-spinning sawfly, *Acantholyda circumcincta* (Klug), (Hymenoptera: Pamphiliidae) was reported by Chellman (1969) as a potentially serious defoliator of sand pine in west Florida.

An outbreak of *Neodiprion excitans* Rohwer was reported by C. W. Chellman of the Florida Division of Forestry during the fall of 1970 on Choctawhatchee sand pine near Mexico Beach in Bay County. Approximately 300 acres in a natural stand of trees 4-10 inches diam were defoliated and an estimated 10% mortality had occurred by May 1971 in older trees with defoliation in excess of 90%. Cocooned larvae collected from soil during late February 1971 were heavily parasitized by the ichneumonid, *Endasys subclavatus* (Say)², which was the principal recognized control agent terminating the outbreak by May 1971. Dr. D. R. Smith of the U. S. National Museum identified *N. excitans* and stated (personal communication) that this was the first official record of this species on sand pine.

The 1970 fall outbreak of *N. excitans* on sand pine was concurrent with localized outbreaks of this sawfly on loblolly pine, *Pinus taeda* L., in northwest peninsular Florida (Jefferson, Taylor, Lafayette, and Dixie Counties). Adults subsequently emerged in these loblolly stands during mid-March and mid-June 1971. *N. excitans* spring development on sand pine was also synchronized with development on loblolly pine; feeding instars 2-5

¹Florida Agricultural Experiment Station Journal Series No. 4009.

²*E. subclavatus* was identified by A. T. Drooz, U. S. Forest Service, Research Triangel Park, N. C.

were collected from an isolated stand of sand pine at Cedar Key (Levy County) on 11 May 1971 and adults emerged from cocoons spun by these larvae during mid-June 1971. *N. excitans* is a multivoltine species that causes severe defoliation of loblolly pine during the fall at approximately 5-10 year intervals in Florida (Hetrick 1959, Wilkinson 1964). Defoliation of more than 87.5% of current year's foliage in mature loblolly pine during the fall is associated with reduction of growth in the following growing season and some tree mortality commonly occurs (Wilkinson, unpublished). *N. excitans* should also be considered as a potentially serious defoliator of the many sand pine stands now reaching maturity in Florida.

LITERATURE CITED

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The Florida Entomologist 54(4) 1971