

First Record of a Whitefringed Beetle, *Naupactus leucoloma* Boheman, 1840 (Coleoptera: Curculionidae), in Illinois

Shannon C. Voss and William J. Poly
Department of Zoology and Center for Systematic Biology
Southern Illinois University
Carbondale, Illinois 62901-6501

ABSTRACT

The exotic weevil *Naupactus leucoloma* was collected on five occasions between 1995 and 2001 in Jackson County, Illinois. This beetle has not been reported from Illinois previously although it has been collected in southern Kentucky and Missouri. *Naupactus leucoloma* feeds on hundreds of plant species including several common species of cultivated plants such as soybean and could become an agricultural pest in Illinois.

The beetle genus *Naupactus* (Coleoptera: Curculionidae) is native to Central and South America (O'Brien and Wibmer, 1982; Lanteri and Marvaldi, 1995; Bordón, 1997). There are currently three species of the genus *Naupactus* recognized in the U.S.: *Naupactus leucoloma* Boheman, 1840, *N. minor* (Buchanan, 1942), and *N. peregrinus* (Buchanan, 1939). These beetles were placed in the genera *Pantomorus* and *Graphognathus* in earlier literature (Buchanan, 1942; 1947), but Lanteri and Marvaldi (1995) concluded that all belong to the genus *Naupactus*. All three species, commonly referred to as whitefringed beetles, are native to South America and are considered introduced species in the U.S. (Lanteri and Marvaldi, 1995). The first collection of a whitefringed beetle in the U.S. was made in 1936 near Svea, Okaloosa County, Florida (Buchanan, 1947; Warner, 1975). The three species of *Naupactus* are distributed throughout the southeastern U.S., and at least one species of *Naupactus* (specific identity not provided) has been introduced to California (Warner, 1975; CDFA, 1989). *Naupactus leucoloma* has the widest distribution of the three species in the U.S., occurring from Florida to New Mexico and from Virginia to Missouri (Warner, 1975; Sites and Thorvilson, 1988). *Naupactus leucoloma* is a parthenogenetic species, but in South America bisexual populations are known; only females have been collected in the U.S. (Lanteri and Marvaldi, 1995). The larvae and adults of this highly polyphagous species have been reported to feed on 385 species of plants (Young et al., 1950). Larvae attack the roots and other hypogean plant structures, whereas adults feed on foliage (Young et al., 1950). Whitefringed beetles can be serious pests of agricultural crops and cultivated plants (Young et al., 1950; Lanteri and Marvaldi, 1995; Zehnder et al., 1998).

In August 2001 we collected an adult *N. leucoloma* on the campus of Southern Illinois University at Carbondale, Jackson County, Illinois. Four additional unidentified speci-

mens of *N. leucoloma* were found in the Southern Illinois University Entomology Collection (SIUEC), all of which had been collected on the SIUC campus between 1995 and 1999. The five specimens of *N. leucoloma* were collected on 12 October 1995, 2 September 1997, 4 September 1999, 2 October 1999, and 8 August 2001. The latter specimen is in the personal collection of Dr. Charles W. O'Brien (Tallahassee, FL).

Neither *Naupactus leucoloma* nor the other whitefringed beetles have been reported in Illinois, but *N. leucoloma* has been collected in southern Kentucky and southern Missouri (Warner, 1975). Young et al. (1950) predicted that whitefringed beetles might be expected to survive as far north as southern Iowa and southern New York. Our records of *N. leucoloma* in southern Illinois extend the distribution of the species northward in the U.S.

ACKNOWLEDGMENTS

The authors thank C. W. O'Brien (Florida A&M University) for determining the species identity, J. E. McPherson (SIUC Entomology) for loaning specimens, L. Bezark (California Department of Food and Agriculture) and G. B. Marshall (Florida A&M University) for supplying literature references, and two anonymous referees for their comments.

LITERATURE CITED

- Bordón, C. 1997. El genero *Naupactus* Dejean (Coleoptera: Curculionidae) en Venezuela. Acta. Biol. Venez. 17:11-51.
- Buchanan, L. L. 1942. Four new species of white-fringed beetles (subgenus *Graphognathus*) from the southeastern part of the United States (Coleoptera: Curculionidae). Bull. Brooklyn Entomol. Soc. 37:107-110.
- Buchanan, L. L. 1947. A correction and two new races in *Graphognathus* (white-fringed beetles) (Coleoptera: Curculionidae). J. Wash. Acad. Sci. 37:19-22.
- California Department of Food and Agriculture (CDFA). 1989. Program options for the whitefringed beetle (*Graphognathus* spp.): final environmental impact report (EIR) (March 1989). CDFA, Division of Plant Industry, Sacramento. 102 p.
- Lanteri, A. A. and A. E. Marvaldi. 1995. *Graphognathus* Buchanan a new synonym of *Naupactus* Dejean and systematics of the *N. leucoloma* species group (Coleoptera: Curculionidae). Coleopt. Bull. 49:206-228.
- O'Brien, C. W. and G. J. Wibmer. 1982. Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America, and the West Indies (Coleoptera: Curculionidae). Mem. Am. Entomol. Inst. 34. ix + 382 p.
- Sites, R. W. and H. G. Thorvilson. 1988. The first records of the whitefringed beetle, *Graphognathus leucoloma* (Coleoptera: Curculionidae), in New Mexico and Texas. Florida Entomol. 71:657-659.
- Warner, R. E. 1975. New synonyms, key, and distribution of *Graphognathus*, whitefringed beetles (Coleoptera: Curculionidae), in North America. U.S. Dept. Agric. Coop. Econ. Insect Rpt. 25: 855-860.
- Young, H. C., B. A. App, J. B. Gill, and H. S. Hollingsworth. 1950. White-fringed beetles and how to combat them. U.S. Dept. Agric. Circ. 850. 15 p.
- Zehnder, G. W., T. H. Briggs, and J. A. Pitts. 1998. Management of whitefringed beetle (Coleoptera: Curculionidae) grub damage to sweet potato with adulticide treatments. J. Econ. Entomol. 91:708-714.