

A Case of *Cnestus mutilatus* (Blandford) (Curculionidae: Scolytinae: Xyleborini) Females Damaging Plastic Fuel Storage Containers in Louisiana, U.S.A.

Author(s) :Chris Carlton and Victoria Bayless

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SCIENTIFIC NOTE

A CASE OF *CNESTUS MUTILATUS* (BLANDFORD) (CURCULIONIDAE: SCOLYTINAE: XYLEBORINI) FEMALES DAMAGING PLASTIC FUEL STORAGE CONTAINERS IN LOUISIANA, U.S.A.

CHRIS CARLTON AND VICTORIA BAYLESS
Louisiana State Arthropod Museum
Louisiana State University Agricultural Center
LSB 404, Louisiana State University
Baton Rouge, LA 70803, U.S.A.
ccarlton@agcenter.lsu.edu

Cnestus mutilatus (Blandford) is an introduced Asian ambrosia beetle that was first reported in the United States in Mississippi by Schiefer and Bright (2004). It was subsequently reported in Texas, Georgia, and elsewhere, including Louisiana (Cognato *et al.* 2006; Gandhi *et al.* 2009). By 2010, the species was present at numerous sites in north and central Louisiana (W. Johnson, U.S.D.A. Forest Service, personal communication). Host plants of *C. mutilatus* in Mississippi were reported by Stone *et al.* (2007). The taxonomy was reviewed by Dole and Cognato (2010), who transferred the species from *Xylosandrus* Reitter to *Cnestus* Sampson based on the results of phylogenetic analyses. Here we report an unusual case of damage to plastic gasoline storage containers by burrowing females in south-eastern Louisiana.

On 20 April 2011, we received a set of photographs taken by West Feliciana Parish Extension Agent André Brock. They depict a plastic gasoline container used for home fuel storage with numerous holes and embedded specimens of a xyleborine scolytine. Photographs of the scolytines allowed us to identify the causal agents as *C. mutilatus* females. A visit with the homeowner on 27 April revealed that three plastic fuel containers purchased during 2008 had been located in an open carport. One contained gasoline/oil 2-cycle mix. The other two contained gasoline only. The gasoline was purchased at a local station and had a 10% ethanol component. An 8-L container had 63 borings, a 19-L container had 48, and a 23-L container had 157. Several holes had been bored completely through so that when the containers were lifted to pour, the gasoline leaked from the holes. Numerous holes also contained dead females of *C. mutilatus* (Fig. 1). Surrounding habitat was open pasture and lawn with scattered large live oak trees. Mr. Brock also informed us of another case of damage to a plastic fuel container from another locality in the parish and similar boring damage to the air filter of a lawnmower.

The gasoline containers and embedded specimens (Fig. 1, arrows) are vouchered in the Louisiana State Arthropod Museum with the following locality data: USA, LA, W. Feliciana Parish, 11 km NNW of St. Francisville, 30°51'34"N, 91°24'38"W. Subsequently, the first author collected specimens of *C. mutilatus* from a nearby site with the following label data: USA, LA, W. Feliciana Parish, Feliciana Preserve, 30°47'41"N, 91°15'15"W, in flight 16–1700 hrs. CDT, 22 Apr. 2011, C. E. Carlton (21 ♀♀).

The question raised by this case is whether it represents an isolated event resulting from an unusual set of circumstances, or whether damage to plastic items can be expected frequently across the expanding range of this invasive species. We were unable to find any published or anecdotal records of similar boring activities in non-botanical substrates by scolytines. Wood (1982, p. 5) noted the construction of “emergency tunnels” in abnormal hosts, but made no mention of non-biological substrates. Our assessment is that the containers were leaching volatiles (*e.g.*, ethanol, a known attractant of scolytines [Ranger *et al.* 2010]) that stimulated boring by female *C. mutilatus*. Coleopterists, insect diagnosticians, and extension personnel should be aware of the potential for repeated events of this sort.

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Fig. 1. Plastic gasoline storage container (23-L) with numerous holes created by female *Cnestus mutilatus*. White arrows indicate embedded beetles. Black arrow indicates detailed inset of holes and elytral apices of embedded beetles.

REFERENCES CITED

- Cognato, A. I., C. E. Bogran, and R. J. Rabaglia. 2006.** An exotic ambrosia beetle, *Xylosandrus mutilatus* (Blandford) (Scolytinae: Xyleborina) found in Texas. *The Coleopterists Bulletin* 60: 162–163.
- Dole, S. A., and A. I. Cognato. 2010.** Phylogenetic revision of *Xylosandrus* Reitter (Coleoptera: Curculionidae: Scolytinae: Xyleborina). *Proceedings of the California Academy of Sciences* 61: 451–545.
- Gandhi, K. J. K., J. Audley, J. Johnson, and M. Raines. 2009.** Camphor shot borer, *Xylosandrus mutilatus* (Blandford) (Coleoptera: Curculionidae), an adventive ambrosia beetle in Georgia. *The Coleopterists Bulletin* 63: 407–500.
- Ranger, C. M., M. E. Reding, A. B. Persad, and D. Herms. 2010.** Ability of stress-related volatiles to attract and induce attacks by *Xylosandrus germanus* and other ambrosia beetles. *Agricultural and Forest Entomology* 12: 177–185.
- Schiefer, T. L., and D. E. Bright. 2004.** *Xylosandrus mutilatus* (Blandford), an exotic ambrosia beetle (Coleoptera: Curculionidae: Scolytinae: Xyleborini) new to North America. *The Coleopterists Bulletin* 58: 431–438.
- Stone, W. D., T. E. Nebeker, and P. D. Gerard. 2007.** Host plants of *Xylosandrus mutilatus* in Mississippi. *Florida Entomologist* 90: 191–195.
- Wood, S. L. 1982.** The Bark and Ambrosia Beetles of North and Central America (Coleoptera: Scolytidae), a Taxonomic Monograph. *Great Basin Naturalist Memoirs* 6.

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