

October 1982

The Distribution of *Xylosandrus Germanus* in America North of Mexico (Coleoptera: Scolytidae)

B. C. Weber
Southern Illinois University

J. E. McPherson
Southern Illinois University

Follow this and additional works at: <https://scholar.valpo.edu/tgle>



Part of the [Entomology Commons](#)

Recommended Citation

Weber, B. C. and McPherson, J. E. 1982. "The Distribution of *Xylosandrus Germanus* in America North of Mexico (Coleoptera: Scolytidae)," *The Great Lakes Entomologist*, vol 15 (3)

DOI: <https://doi.org/10.22543/0090-0222.1432>

Available at: <https://scholar.valpo.edu/tgle/vol15/iss3/6>

This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in *The Great Lakes Entomologist* by an authorized administrator of ValpoScholar. For more information, please contact a ValpoScholar staff member at scholar@valpo.edu.

THE DISTRIBUTION OF *XYLOSANDRUS GERMANUS* IN AMERICA NORTH OF MEXICO (COLEOPTERA: SCOLYTIDAE)¹

B. C. Weber² and J. E. McPherson³

Xylosandrus germanus (Blandford) (= *Xyleborus germanus*), a sexually dimorphic beetle, was first described in 1894 from specimens collected in Japan; it is now also known from Korea, the Kuril Islands, Vietnam, China, Taiwan, central Europe, and the U.S. (Nobuchi 1981). It was first discovered in the U.S. in a greenhouse on Long Island, New York (Felt 1932). Since then, this beetle has been occasionally reported from the eastern half of the U.S. (e.g., Bright 1968) but, as yet, has not been reported from Canada. It appears to be increasing in economic importance in the U.S. (Weber 1982) and has already damaged young plantation black walnut (*Juglans nigra* L.) in Indiana (Anonymous 1979) and tulip poplar (*Liriodendron tulipifera* L.) in Ohio (Anderson and Hoffard 1978). Because its reported distribution in North America is based upon scattered records, and because of its potential pest status, we have updated the distribution of *X. germanus* in America north of Mexico.

METHODS AND MATERIALS

The distribution of *X. germanus* was determined by examining literature reports; by examining and extracting label information from about 300 specimens in collections at the Illinois Natural History Survey (17 specimens), the National Museum of Natural History (9), North Carolina State University (25), the Northeastern Forest Experiment Station (30), Ohio State University (54), Purdue University (70), Southern Illinois University at Carbondale (2), University of Georgia (17), University of Minnesota (72), and University of Missouri (8); by field-collecting about 600 specimens in North Carolina, Ohio, Tennessee, Indiana, and Illinois; and by examining three specimens sent from South Carolina and Kentucky by state protection personnel.

RESULTS AND DISCUSSION

X. germanus ranges from Connecticut and New York south to Georgia, and west to Missouri and Louisiana (Fig. 1). Specific localities are given in Table 1.

Two specimens in the collection of the National Museum of Natural History were collected at ports of entry, one in Baltimore, Maryland, and the other in Portland (Maine?—state not given on label), in dunnage boards and on wooden crates, respectively, that originated from Japan. Another specimen was collected in Oakland, California, in timber imported from Japan (Nobuchi, pers. comm.). Because no further specimens have been reported from Maryland, Maine, or California, the species has apparently not become established in these states and, thus, these records are not included in Figure 1 or Table 1.

X. germanus has not been reported, to date, from Florida, Alabama, Mississippi, Arkansas, Iowa, Minnesota, Wisconsin, or southeastern Ontario in Canada, but, based on its presently known distribution (Fig. 1), it probably occurs in these areas as well.

¹Part of a dissertation submitted to Southern Illinois University by the senior author in partial fulfillment of the requirements of the Ph.D. degree in Zoology.

²North Central Forest Experiment Station, Forestry Sciences Laboratory, Southern Illinois University, Carbondale, IL 62901.

³Department of Zoology, Southern Illinois University, Carbondale, IL 62901.

Table 1. Distribution records of *X. germanus* in America north of Mexico.

CONNECTICUT. New Haven Co., Bright 1968.
 GEORGIA. Clark, Macon Co., Weber 1982.
 ILLINOIS. Unspecified county, Miller 1973; Alexander Co., Kessler 1974, Weber 1982; Jackson Co., Weber 1982.
 INDIANA. Unspecified county, Miller 1973; Brown Co., Deyrup 1981, Weber 1982; Clark Co., Deyrup 1981; Daviess Co., Weber 1982; Dubois Co., Anonymous 1979, Deyrup 1981, Weber 1982; Fountain Co., USDA 1975, Weber 1982; Green Co., Anonymous 1979, Deyrup 1981; Hamilton Co., Weber 1982; Jefferson Co., Bright 1968; Montgomery Co., Weber 1982; Parke, Pike, Putnam, Starke Co., Deyrup 1981; Tippecanoe, Vanderburgh Co., Deyrup 1981, Weber 1982; Wabash Co., Deyrup 1981; Washington Co., Anonymous 1979, Weber 1982; Wayne Co., Deyrup 1981.
 KENTUCKY. Breathitt, Rowan Co., Weber 1982.
 LOUISIANA. Pointe Coupee Parish, USDA 1978, Weber 1982.
 MICHIGAN. Washtenaw Co., Kirkendall (in litt.).
 MISSOURI. Cape Girardeau Co., USDA 1968, USDA 1969, Weber 1982.
 NEW JERSEY. Bergen Co., Hoffmann 1941; Essex Co., Hoffmann 1941, Weber 1982; Middlesex Co., Hoffmann 1941; Morris Co., Hoffmann 1941, Weber 1982; Somerset Co., Weber 1982; Union Co., Hoffmann 1941, Weber 1982.
 NEW YORK. Nassau Co., Felt 1932, Felt and Bromley 1937, Hoffmann 1941; Rockland Co., Hoffmann 1941; Suffolk Co., Bright 1968, Weber 1982; Westchester Co., Hoffmann 1941.
 NORTH CAROLINA. Bertie Co., Schneider and Farrier 1969; Cumberland Co., Weber 1982; Halifax Co., Schneider and Farrier 1969; Johnston, Macon, McDowell, Wake, Watauga, Wayne Co., Weber 1982.
 OHIO. Clinton, Delaware Co., Weber 1982; Lawrence Co., Bright 1968, Hoffmann 1941, Weber 1982; Ross Co., Bright 1968, Weber 1982; Scioto, Tuscarawas Co., Weber 1982; Washington Co., Anderson and Hoffard 1978, Weber 1982.
 PENNSYLVANIA. Unspecified county, Batra 1963; Bucks, Franklin Co., Weber 1982.
 SOUTH CAROLINA. Dorchester Co., Weber 1982.
 TENNESSEE. Davidson, Montgomery Co., Weber 1982.
 VIRGINIA. Pittsylvania Co., USDA 1972, Weber 1982.
 WEST VIRGINIA. Cabell Co., Hoffmann 1941, Weber 1982.

ACKNOWLEDGEMENTS

We thank Dr. S. W. Wilson, California State University, Chico, for obtaining collection records for *X. germanus* from the National Museum of Natural History, and the following individuals for allowing us to examine the scolytid collections at their respective institutions: Drs. G. W. Byers, University of Kansas, Lawrence; E. Cook, University of Minnesota, St. Paul; M. Deyrup, Purdue University, West Lafayette, Indiana; M. Kosztarab, Virginia Polytechnic Institute and State University, Blacksburg; J. C. Morse, Clemson University, Clemson, South Carolina; J. Peacock, Northeastern Forest Experiment Station, Delaware, Ohio; A. Provonsha, Purdue University, West Lafayette, Indiana; C. Smith, University of Georgia, Athens; and C. A. Triplehorn, Ohio State University, Columbus. Scolytid collections were also examined at Auburn University, Auburn, Alabama; Illinois Natural History Survey, Champaign; Michigan State University, East Lansing; Mississippi State University, Mississippi State; North Carolina State University, Raleigh; and the University of Wisconsin, Madison. We also thank Drs. L. Kirkendall, University of Michigan, Ann Arbor, for providing distribution records from Michigan, and A. Nobuchi, Forestry and Forest Products Research Institute, Ibaraki, Japan, for providing information about the specimens collected in California. We appreciate the identifications of scolytids by Drs. S. L. Wood, Brigham Young University, Provo, Utah, and D. E. Bright, Biosystematics Research Institute, Ottawa, Canada.

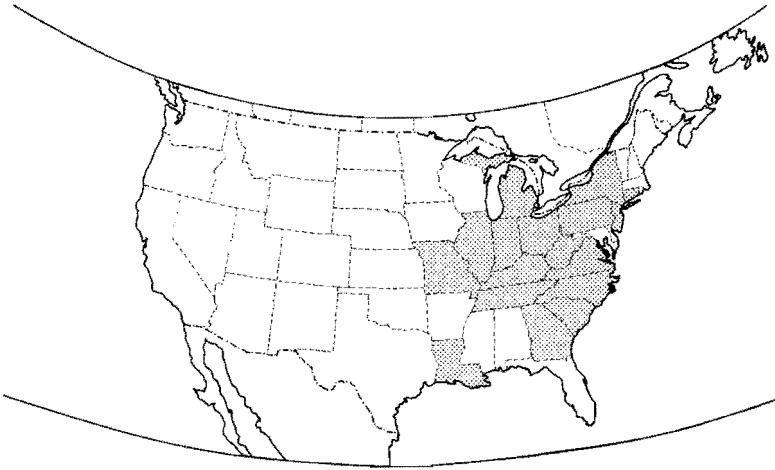


Fig. 1. Distribution of *X. germanus* in America north of Mexico.

LITERATURE CITED

- Anderson, R. L. and W. H. Hoffard. 1978. Fusarium canker-ambrosia beetle complex on tulip poplar in Ohio. *Plant Dis. Rep.* 62:751.
- Anonymous. 1979. Summary of forest pests for 1979. *Indiana For. Pest Informer*, February. 25 p.
- Batra, L. R. 1963. Ecology of ambrosia fungi and their dissemination by beetles. *Trans. Kansas Acad. Sci.* 66:213-236.
- Blandford, W. F. H. 1894. The rhyncophorus Coleoptera of Japan. Part III. Scolytidae. *Trans. Entomol. Soc. London*, Part I:53-141.
- Bright, D. E. 1968. Review of the tribe Xyleborini in America north of Mexico (Coleoptera: Scolytidae). *Canadian Entomol.* 100:1288-1323.
- Deyrup, M. 1981. Annotated list of Indiana Scolytidae (Coleoptera). *Great Lakes Entomol.* 14:1-9.
- Felt, E. P. 1932. A new pest in greenhouse grown grape stems. *J. Econ. Entomol.* 25:418.
- Felt, E. P. and W. S. Bromley. 1937. A new ambrosia beetle, *Xyleborus germanus* Blandf., in America. *Bartlett Tree Res. Lab. Bull.* 2:20.
- Hoffmann, C. H. 1941. Biological observations on *Xylosandrus germanus* (Bldfd.). *J. Econ. Entomol.* 34:38-42.
- Kessler, K. J., Jr. 1974. An apparent symbiosis between *Fusarium* fungi and ambrosia beetles causes canker on black walnut stems. *Plant Dis. Rep.* 58:1044-1047.
- Miller, W. E. 1973. Insects as related to wood and nut production. p. 91-96 in *Black walnut as a crop*. USDA For. Serv. Gen. Tech. Rep. NC-4.
- Nobuchi, A. 1981. Studies on Scolytidae XXIII. The ambrosia beetles of the genus *Xylosandrus* Reitter from Japan (Coleoptera). *Forest. For. Prod. Res. Inst. Bull.* 314:27-37.
- Schneider, I. and M. H. Farrier. 1969. New hosts, distribution, and biological notes on an imported ambrosia beetle, *Xylosandrus germanus* (Coleoptera: Scolytidae). *Canadian Entomol.* 101:412-415.
- USDA. 1968. A scolytid beetle (*Xylosandrus germanus*)—Missouri Coop. Econ. Insect Rep. 18:821.
- . 1969. A scolytid beetle (*Xylosandrus germanus*)—Missouri. Coop. Econ. Insect Rep. 19:16.

- . 1972. A scolytid beetle (*Xylosandrus germanus*)—Virginia. Coop. Econ. Insect Rep. 22:640.
- . 1975. A scolytid beetle (*Xylosandrus germanus*)—Indiana. Coop. Econ. Insect Rep. 25:783.
- . 1978. A scolytid beetle (*Xylosandrus germanus*)—Louisiana. Coop. Plant Pest Rep. 3:350.
- Weber, B. C. 1982. The biology of the ambrosia beetle *Xylosandrus germanus* (Blandford) (Coleoptera Scolytidae) and its effects on black walnut. Ph.D. dissert. Southern Illinois Univ., Carbondale.