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Occurrence of *Xyleborus bispinatus* (Coleoptera: Curculionidae: Scolytinae) Eichhoff in southern Florida

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Abstract

Xyleborus bispinatus Eichhoff is reported from Florida for the first time. It was previously unrecognized and not distinguished from *Xyleborus ferrugineus* (F.). There is no reason to believe at this point that it represents an introduction. Rather it is one of a group of widely distributed Neotropical species that are also found in southern Florida. Characters are discussed to allow it to be distinguished from *X. ferrugineus* and *X. impressus* Eichhoff.

Xyleborus ferrugineus (F.), presumably of New World origin, is currently found in all tropical and warm temperate areas of the world (Wood 1982; Wood & Bright 1992). Consequently it has been named many times from different areas. Wood & Bright (1992) list 18 synonyms. A closer examination of the variability of characters within regions has shown that several of these synonymies were unjustified. Rabaglia (2005) restored *X. impressus* Eichhoff from synonymy, a species that co-occurs with *X. ferrugineus* over most of eastern North America but has not been found elsewhere. Kirkendall & Jordal (2006) resurrected *X. bispinatus* Eichhoff which is distributed from Belize through Brazil.

In studies of the ambrosia beetle complex associated with avocado, *Persea americana*, in southern Florida (Carrillo et al. 2012), it became apparent that 2 distinct, and readily distinguishable forms of “*Xyleborus ferrugineus*” were present in samples, in some cases emerging from the same host plant. Examination of the larger, darker form showed this to be identical to material of *X. bispinatus* from Central and South America.

Kirkendall & Jordal stated that *X. bispinatus* is larger than *X. ferrugineus*, but they provided no quantitative data. While Rabaglia did include measurements, his size range for *X. ferrugineus* probably included *X. bispinatus*. Wood’s treatment (1982) combined all 3 species so the measurements given are not useful. We include length and width measurements for all 3 species. Based on specimens from, *X. bispinatus* is clearly larger than *X. ferrugineus* with non-overlapping size ranges (Table 1). Including measurements from both species from Panama and other localities in Florida does broaden the respective size ranges of both species to the point that some overlap does occur. In part, this overlap has made distinguishing the 2 species more difficult when comparing smaller series of specimens from many localities. The material studied here provides the unique opportunity to compare sympatric, contemporaneous populations from the same host material.

The 3 species are shown in Figs. 1 and 2. A comparison of characters useful in separating them is given in Table 1. Illustrations and characters are only given for females. In this group of ambrosia beetles males are reduced in size, flightless, and present as a very low proportion of the population. Consequently they are seldom encountered. All species of the tribe Xyleborini have a haplo-diploid sex determination system (males haploid) and inbred (Wood 1982).