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Abstract. Significant new host and distribution records are presented for *Hylesinus mexicanus* (Wood) (Coleoptera: Curculionidae: Scolytinae), including its pest potential on cultivated olives. *Hylesinus mexicanus* is similar to *H. fasciatus* LeConte and information presented here suggests that the distinctiveness of these two species needs to be re-examined.

Introduction

Hylesinus mexicanus (Wood 1956) (Coleoptera: Curculionidae: Scolytinae) was originally described from Puebla and has since been reported from Durango, Aguascalientes, and the Distrito Federal in Mexico and other localities in central and western Texas (Wood 1982).

Recent collecting has produced additional records. Specimens are deposited in the following institutions: **CEAM**: Centro de Entomología y Acarología, Colegio de Postgraduados, Montecillo, Estado de México, México; **EGRC**: E.G. Riley collection, College Station, Texas; **TAMU**: Texas A&M University Entomological Collection, College Station, Texas; **UTIC**: University of Texas Insect Collection, Austin, Texas (formerly listed as TMM.)

New Records

The following new records include several new state records for Mexico and new host records (Fig. 1). New Localities: **U.S.**, **Texas**: Goliad Co., Goliad, 30-V-2008, *Forestiera angustifolia* Torr. (NEW HOST), T.H. Atkinson (TAMU, 1); Travis Co., Austin, St. Edward's Park, 20-V-2011, *Forestiera pubescens* Nutt. (NEW HOST), M.A. Quinn (UTIC, 1); Burnett Co., Inks Lake State Park, 6-V-1989, R.S. Anderson (TAMU, 1); Uvalde Co., 6 mi south junction highways 127 and 83, E.G. Riley (EGRC, 1); Bowie Co., 2 mi. N Sulphur River on highway 259, 23-V-1998, E.G. Riley (EGRC, 1). **Mexico**, **Nuevo León** (NEW STATE RECORD): Valle Alto, 12-VI-1986, O. Cardóz G. (TAMU, 2); **Hidalgo** (NEW STATE RECORD): Ixmiquilpan, Comunidad del Olivo, 5-IX-2008, *Olea europea* L. (NEW HOST), E. Pioquinto N. (CEAM, 6).

Discussion

Hylesinus mexicanus (Fig. 2) and *H. fasciatus* LeConte are very similar in terms of external characteristics. Even at the time that Wood (1956) described *H. mexicanus* the difficulty in distinguishing the 2 species was evident. In that article he identified female specimens collected at Three Rivers, Texas and at San Juan del Río, Durango as *H. fasciatus*, stating that they cannot be distinguished from female speci-

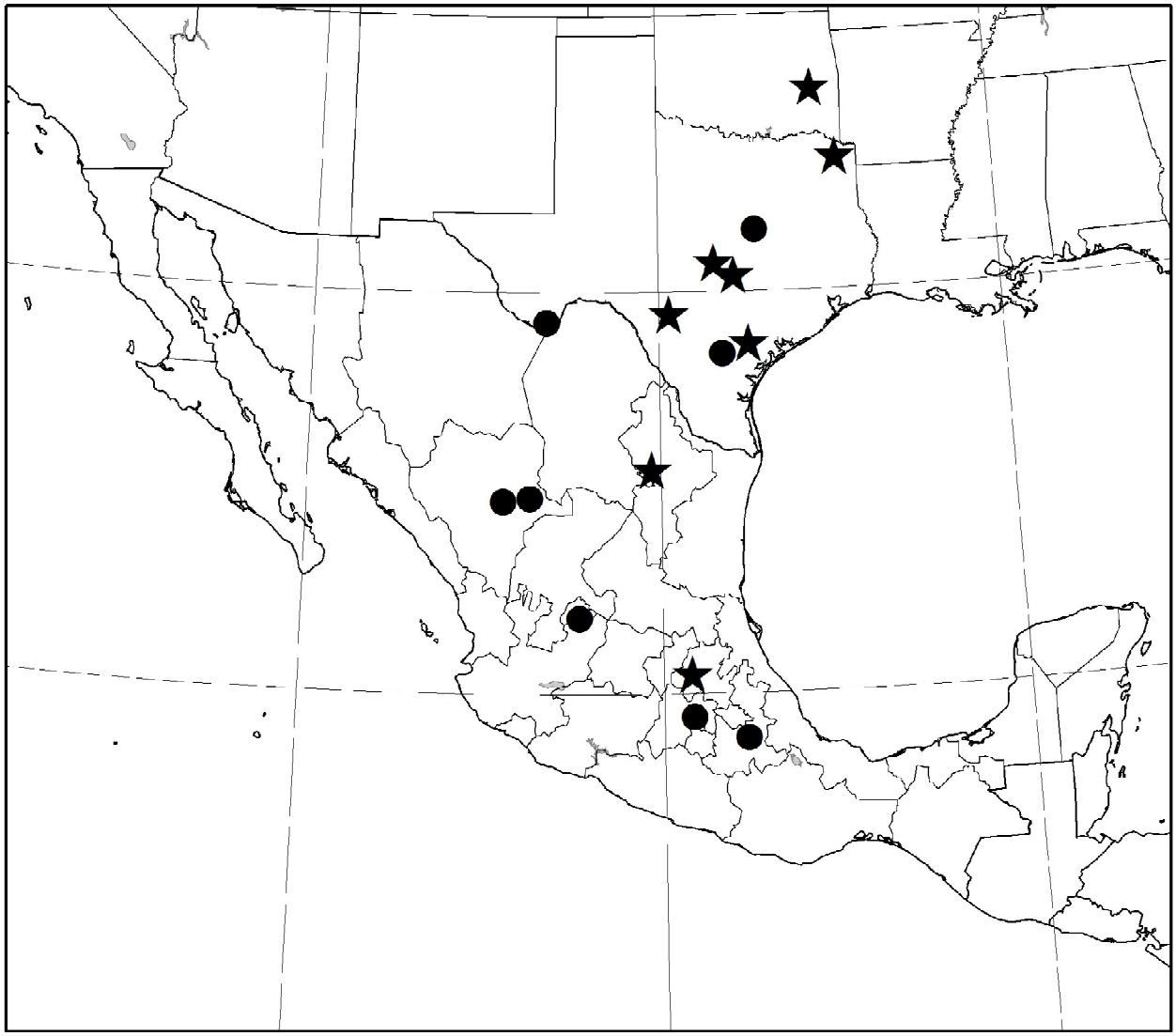

Figure 1. Known collection localities for *Hylesinus mexicanus* Newly reported localities are shown as stars. Previously published localities (Wood 1982; Equihua and Burgos 1993) are shown as solid dots.

mens taken near the type locality. In his later monograph (Wood 1982) these were identified as *H. mexicanus*, and the 2 species as treated as occurring in widely separated localities (Mexico and Texas vs. north-central and northeastern U.S.) and were distinguished mainly by size and coloration of scales. From the biological standpoint it seems plausible that a species known from the temperate deciduous forests of eastern North America (*H. fasciatus*) would be distinct from one found in semi-arid subtropical habitats in Mexico and Texas (*H. mexicanus*).

Specimens from Latimer Co. in southeastern Oklahoma were found in the Texas A&M collection identified as *H. fasciatus* by Wood in 1985. I have examined the Oklahoma specimens with Wood's ID label and they key to *H. fasciatus* in his 1982 key. One of the new records reported above (Bowie Co., Texas) is near the Texas-Oklahoma state line and close to the Oklahoma locality. The new localities for *H. mexicanus* in northeastern Texas and the unpublished record of *H. fasciatus* from southeastern Oklahoma suggest that there may be an overlap between the 2 putative species and that further study, including new characters may be needed to definitively decide if the species are distinct.

Most species of the genus *Hylesinus* in North America breed in ash trees (*Fraxinus* spp., Oleaceae). In his species description, Wood (1956) listed the hosts from Tecamachalco, Puebla (type locality) and San del Río, Durango as a desert shrub. In his North American monograph (Wood 1982) the listed host

Figure 2. *Hylesinus mexicanus* (Wood), a) dorsal view, b) lateral view, c) ventral view.

was given as desert tree (Oleaceae). Later he cited the host as *Fraxinus anomala*, or similar (Wood and Bright 1992). *Fraxinus anomala* Torr. ex S. Watson, or single-leaf ash, occurs in the southwestern U.S. and Chihuahua. This plant is not known to occur at or near any locality where *H. mexicanus* has been collected, including those where Wood personally collected this species (Puebla, Durango, and Aguascalientes). We interpret this to mean that Wood recognized the host as a member of the family Oleaceae with a single leaf, but that he incorrectly ascribed the host in retrospect with a species with which he was familiar. The first reliably identified host for *H. mexicanus* was *Ligustrum japonicum* Thunb. an exotic ornamental in the Oleaceae growing in Chapultepec Park in Mexico City (Equihua and Burgos 1993). The new records reported here in the genus *Forestiera* (Oleaceae) probably represent the principal native hosts of this species. At Goliad and Austin, Texas, dead branches of *F. angustifolia* Torr. and *F. pubescens* Nutt, respectively commonly show abundant galleries of *H. mexicanus*. The genus *Forestiera* is widely distributed in the southwestern U.S to southern Mexico in various tropical forest and dryland plant communities. It is very likely that Wood collections of *H. mexicanus* were made in a species of *Forestiera*.

In 2008 specimens were brought to us by Edgar Pioquinto Nandho who reported that they were feeding on shoots of olive, *Olea europaea* L. (Oleaceae). According to the collector attacks were more prevalent on young trees under drought stress. In areas where the trees are irrigated damage was absent. In some cases the insects bored into the tips of shoots, which later flagged and dropped off. When breeding occurs, adults make

Figure 3. *Olea europaea* L. with incipient breeding attacks of *Hylesinus mexicanus*.

biramous galleries at the phloem - sapwood interface. Larval tunnels then move vertically away from the oviposition galleries (Fig. 3). This was the pattern observed in *Forestiera* spp. in Texas and similar to that described by Wood (1982).

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Literature Cited

Equihua M., A., and A. Burgos S. 1993. Notas sobre la distribución de Scolytidae (Coleoptera) de México y el sur de Texas (EUA). Agrosciéncia, Protección Vegetal 4(3): 305-318.

Wood, S. L. 1956. New species of bark beetles (Coleoptera: Scolytidae), mostly Mexican. Part III. Canadian Entomologist 88 (6): 247-258.

Wood, S. L. 1982. The bark and ambrosia beetles of North and Central America (Coleoptera: Scolytidae), a taxonomic monograph. Great Basin Naturalist Memoirs 6: 1-1359.

Wood, S. L., and Bright, D. E. 1992. A catalog of Scolytidae and Platypodidae (Coleoptera), Part 2. Taxonomic Index Volume A. Great Basin Naturalist Memoirs 13: 1-833.

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