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Source: Florida Entomologist, 102(1) : 287-289

Published By: Florida Entomological Society

URL: https://doi.org/10.1653/024.102.0157

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Anoplophora glabripennis (Coleoptera: Cerambycidae) mistakenly reported in Turkey

Zeynel Arslangündoğdu[1,], and Erdem Hızal[1]*

The terminology and criteria for invasive species are controversial. The term as most often used applies to introduced species (also called "non-indigenous" or "non-native") that adversely affect the habitats and bioregions they invade economically, environmentally, or ecologically (Colautti & MacIsaac 2004). Some traits of invasive species may include high dispersal ability, fast growth, rapid reproduction, feeding on various food types, and tolerance of a wide range of environmental conditions (Sakai et al. 2001).

Turkey's international trade has been consistently increasing in recent years. Importation of plants and woody materials can result in introduction of invasive insect species to Turkey. *Leptoglossus occidentalis* (Heidemann) (Heteroptera: Coreidae) (Arslangündoğdu & Hızal 2010), *Cydalima perspectalis* (Walker) (Lepidoptera: Crambidae) (Hızal et al. 2012), *Dryocosmus kuriphilus* Yasumatsu (Hymenoptera: Cynipidae) (Çetin et al. 2014), and *Agrilus bilineatus* (Weber) (Coleoptera; Buprestidae) (Hızal & Arslangündoğdu 2018) are known as the most important invasive insects in Turkey.

Two invasive wood borers, *Anoplophora glabripennis* (Motschulsky) (Coleoptera: Cerambycidae) and *Anoplophora chinensis* (Forster) (Coleoptera: Cerambycidae), were reported from Istanbul in 2014 (Ayberk et al. 2014; Hızal et al. 2015). The purpose of this communication is the correction of a misidentification for *Anoplophora glabripennis* in Turkey.

Adult *Anoplophora* obtained from Abdi İpekçi Sports Complex and surrounding areas, and from the European Side Park and Gardens Directorate, were examined. In addition, documents published by the Republic of Turkey Ministry of Food, Agriculture, and Livestock (Republic of Turkey Ministry of Agriculture and Forestry) - Agricultural Quarantine Directorate, and European and Mediterranean Plant Protection Organization (EPPO) were evaluated.

According to Lingafelter and Hoebeke (2002), genus *Anoplophora* consists of 36 species. *Anoplophora malasiaca* (Thomson) was identified as synonymous with *A. chinensis*, but the former name still is commonly used in Japan (Haack et al. 2010). The native range of *A. chinensis* includes China, Korea, and Japan, whereas *A. glabripennis* is mainly distributed in China (Lingafelter & Hoebeke 2002; CABI 2016a, b). These 2 species are very similar to each other, but *A. chinensis* has numerous short tubercles on the base of elytra (Fig. 1a, b)

We collected 51 adults, and 36 adults were captured by the Directorate of European Side Parks and Gardens from Zeytinburnu between the years of 2014 to 2016. They were identified as *A. chinensis* (Fig. 1c).

When the figures of Ayberk et al. (2014) are examined, the tubercles on the elytra are clearly seen (Hızal & Arslangündoğdu 2017) (Fig. 1d). According to the Republic of Turkey Ministry of Food, Agriculture, and Livestock, and EPPO documents, *A. glabripennis* were misidentified in Turkey by Ayberk et al. (2014) (EPPO 2016; Sahin 2016).

So far, among the *Anoplophora* species only *A. chinensis* has been identified in Turkey (Altunışık 2015; Eroğlu et al. 2017; Hızal & Arslangündoğdu 2017; Topakçı et al. 2017; Usta et al. 2017; Yafes 2017a, b). As a result of the eradication studies carried out by the Republic of Turkey Ministry of Food, Agriculture, and Livestock, *A. chinensis* did not spread to new areas. Controls are ongoing in areas where this species was seen (Anonymous 2018).

Although it can be difficult to identify insects, particular attention should be directed to the identification of insect species found in quarantine lists. Incorrect identification of species may adversely affect a country's trade.

Summary

During the examination of voucher material of invasive Cerambycidae done in connection with a study of Istanbul fauna, we discovered that voucher material for *Anoplophora glabripennis* was misidentified. *Anoplophora glabripennis* was deleted from the check-list of invasive cerambycid fauna in Turkey.

Key Words: insect; *Agrilus bilineatus;* invasive; misidentification; Turkey

Sumario

Durante el examen del material de referencia (voucher) de los Cerambycidae invasivos realizado en relación con un estudio de la fauna de Estambul, descubrimos que el material de referencia para *Anoplophora glabripennis* fue erronemente identificado. Se eliminó *Anoplophora glabripennis* de la lista de verificación de la fauna de cerambícidos invasores en Turquía.

Palabras Clave: insecto; *Agrilus bilineatus*; invasor; identificación equivocada; Turquía

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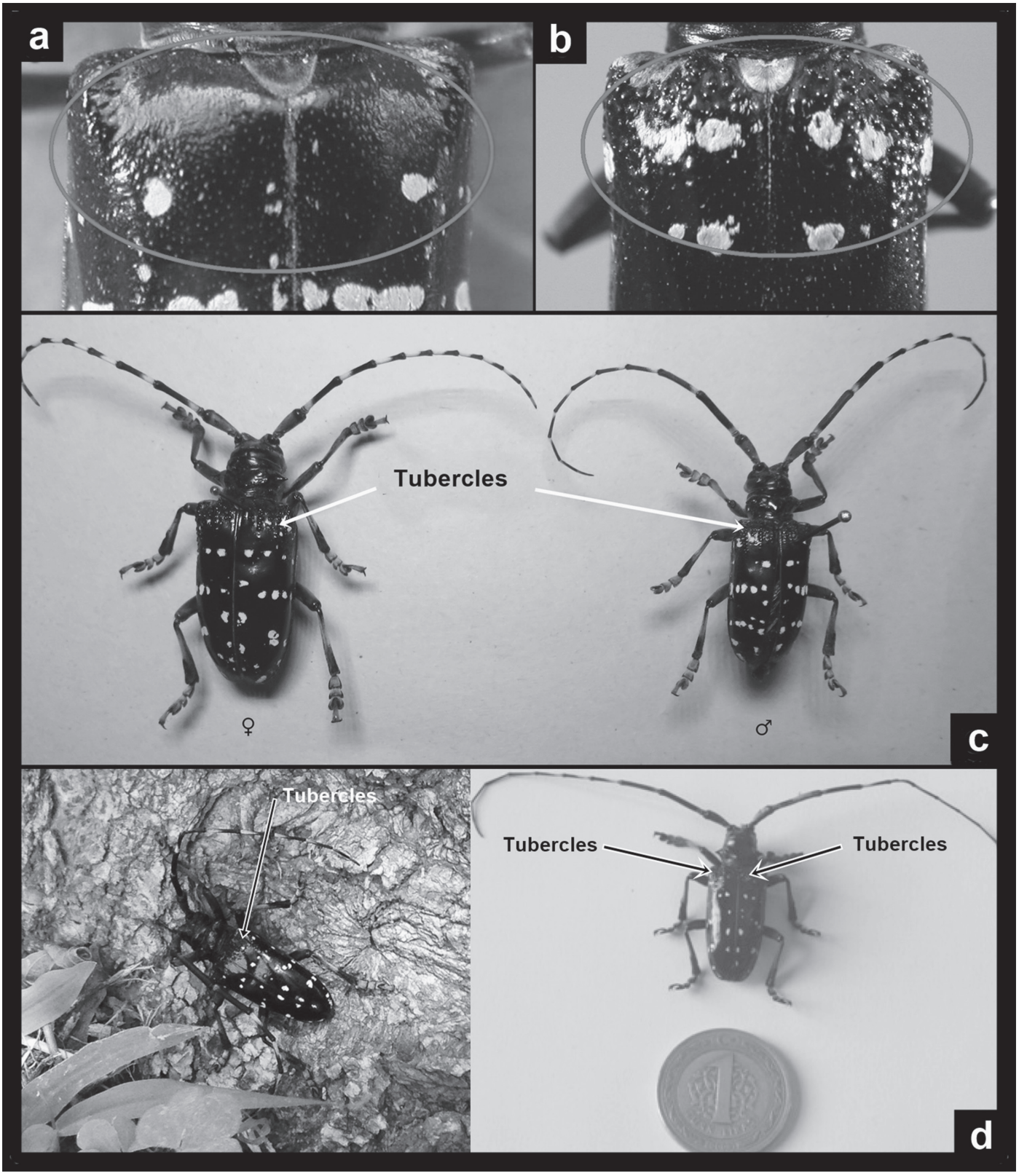

Fig. 1. (a) *Anoplophora glabripennis*; (b) *A. chinensis* (Haack et al. 2010); (c) specimens from Zeytinburnu (photographs by Erdem Hizal); (d) The tubercles on the elytra (Ayberk et al. 2014).

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