

Anoplophora glabripennis (Coleoptera: Cerambycidae) Mistakenly Reported in Turkey

Authors: Arslangündoğdu, Zeynel, and Hızal, Erdem

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

Published By: Florida Entomological Society

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

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Anoplophora glabripennis (Coleoptera: Cerambycidae) mistakenly reported in Turkey

Zeynel Arslangündoğdu^{1,*}, and Erdem Hızal¹

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 erróneamente identificado. Se eliminó *Anoplophora glabripennis* de la lista de verificación de la fauna de cerambycidos invasores en Turquía.

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

¹University of Istanbul - Cerrahpaşa, Faculty of Forestry, Department of Forest Entomology and Protection, Istanbul, Turkey; E-mail: zeynel@istanbul.edu.tr (Z. A.); hizal@istanbul.edu.tr (E. H.)

*Corresponding author: E-mail: zeynel@istanbul.edu.tr

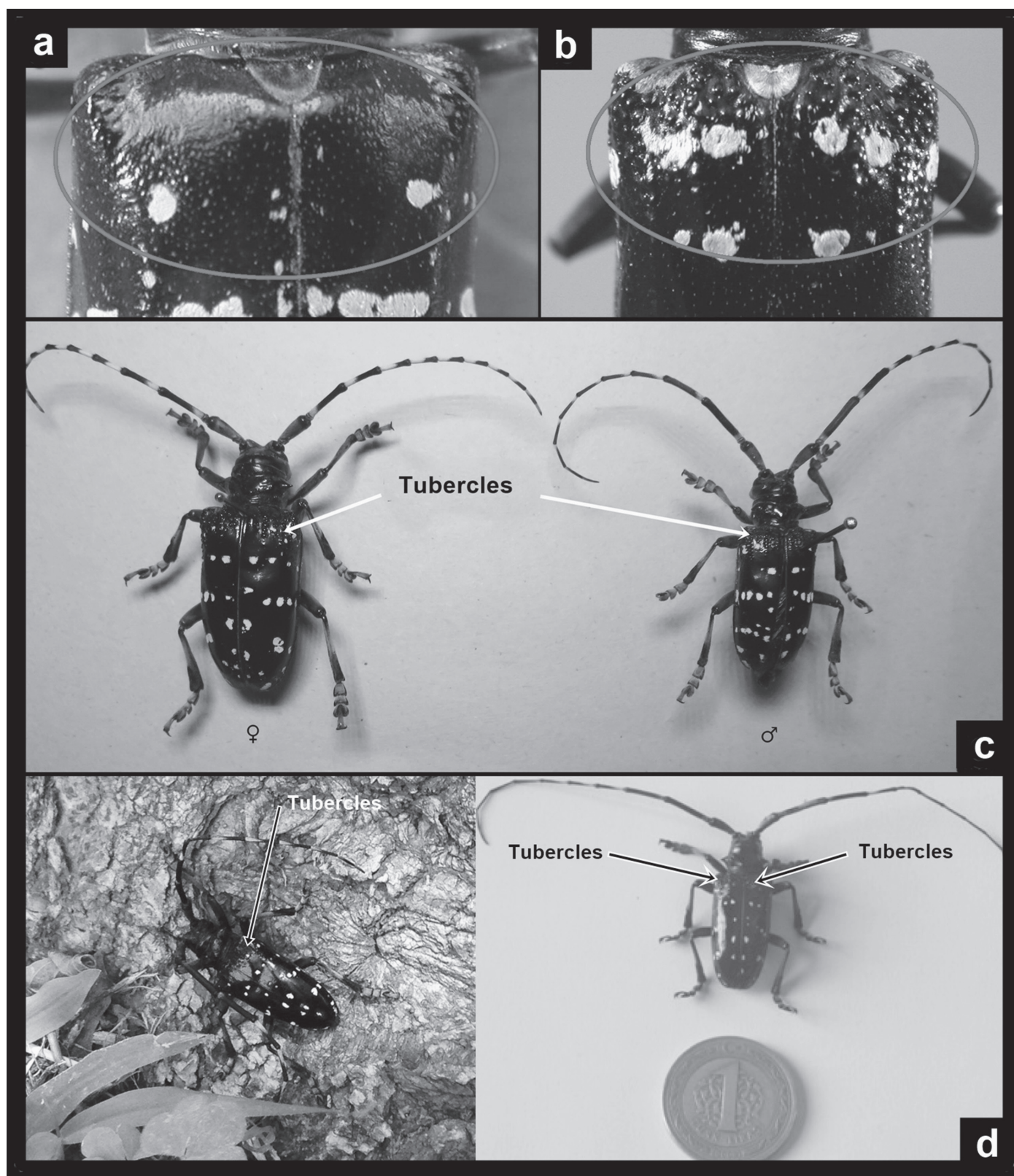


Fig. 1. (a) *Anoplophora glabripennis*; (b) *A. chinensis* (Haack et al. 2010); (c) specimens from Zeytinburnu (photographs by Erdem Hizal); (d) The tubercles on the elytra (Ayberk et al. 2014).

References Cited

- Altunışık S. 2015. *Anoplophora chinensis*, Turuncgil tekeböceği. İstanbul Büyükşehir Belediyesi, Park Bahçe Yeşil Alanlar Daire Başkanlığı, Avrupa Yakası Park ve Bahçeler Müdürlüğü, Makale Arşivi, İstanbul, Turkey. (online) <http://www.avrupaparkbahceler.com/makale.php?baslik=turuncgil-teke-bocegi&no=57>
- Anonymous. 2018. 2018 Yılı Bitki Sağlığı Uygulama Programı. T.C. Gıda Tarım ve Hayvancılık Bakanlığı Gıda ve Kontrol Genel Müdürlüğü, Mıtsa Basımevi, Ankara, Turkey.
- Arslangündoğdu Z, Hızal E. 2010. The western conifer seed bug, *Leptoglossus occidentalis* (Heidemann, 1910), recorded in Turkey (Heteroptera: Coreidae). *Zoology in the Middle East* 50: 138–139.
- Ayberk H, Özdiğmen H, Cebeci H. 2014. A serious pest alert for Turkey: a newly introduced invasive longhorned beetle, *Anoplophora glabripennis* (Cerambycidae: Lamiinae). *Florida Entomologist* 97: 1852–1855.
- CABI. 2016a. *Anoplophora chinensis* (black and white citrus longhorn). Invasive Species Compendium. (online) <http://cabi.org/isc/datasheet/5556> (last accessed 5 Jun 2016).
- CABI. 2016b. *Anoplophora glabripennis* (Asian longhorned beetle). Invasive Species Compendium. (online) <http://cabi.org/isc/datasheet/5557> (last accessed 5 Jun 2016).
- Çetin G, Orman E, Polat Z. 2014. First record of the Oriental chestnut gall wasp, *Dryocosmus kuriphilus* Yasumatsu (Hymenoptera: Cynipidae) in Turkey. *Bitki Koruma Bülteni* 54: 303–309.
- Colautti RJ, MacIsaac HJ. 2004. A neutral terminology to define ‘invasive’ species. *Diversity and Distributions* 10: 135–141.
- EPPO. 2016. *Anoplophora glabripennis* (ANOLGL) (online) <https://gd.eppo.int/taxon/ANOLGL/distribution/TR> (last accessed 10 Aug 2016).
- Eroğlu M, Coşkun KA, Usta Y. 2017. *Anoplophora chinensis* (Forster, 1771) (Coleoptera: Cerambycidae) Trabzon’da; tanıtımı, gelişimi ve zararı. *Kastamonu University Journal of Forestry Faculty* 17: 565–579.
- Haack RA, Herard F, Sun J, Turgeon JJ. 2010. Managing invasive populations of Asian longhorned beetle and citrus longhorned beetle: a worldwide perspective. *Annual Review of Entomology* 55: 521–46.
- Hızal E, Arslangündoğdu Z, Göç A, Ak M. 2015. Türkiye istilacı yabancı böcek faunasına yeni bir kayıt *Anoplophora chinensis* (Forster, 1771) (Coleoptera: Cerambycidae). *Journal of the Faculty of Forestry, Istanbul University* 65: 7–10.
- Hızal E, Arslangündoğdu Z. 2017. Biological observations for invasive and exotic insect species *Anoplophora chinensis* (Forster, 1771). *Journal of the Faculty of Forestry, Istanbul University* 67: 227–233.
- Hızal E, Arslangündoğdu Z. 2018. The first record of two lined chestnut borer *Agrilus bilineatus* (Weber, 1801) (Coleoptera: Buprestidae) from Europe. *Entomological News* 127: 333–335.
- Hızal E, Köse M, Yeşil C, Kaynar D. 2012. The new pest *Cydalima perspectalis* (Walker, 1859) (Lepidoptera: Crambidae) in Turkey. *Journal of Animal and Veterinary Advances* 11: 400–403.
- Lingafelter SM, Hoebeke ER. 2002. Revision of the Genus *Anoplophora* (Coleoptera: Cerambycidae). *Entomological Society of Washington, Washington, DC, USA*.
- Sahin M. 2016. Phytosanitary status of citrus longhorn beetle (*Anoplophora chinensis*, Coleoptera: Cerambycidae) and Asian longhorn beetle (*Anoplophora glabripennis*, Motschulsky) in Turkey. (online) https://www.ippc.int/static/media/files/pestreport/2016/04/07/IPPC_-_Anoplophora_spp_Turkey_2016.pdf2, and https://www.ippc.int/static/media/files/pestreport/2016/04/07/IPPC_-_Anoplophora_spp_Turkey_2016.pdf (last accessed 10 Aug 2016).
- Sakai AK, Allendorf FW, Holt JS, Lodge DM, Molofsky J, With KA, Baughman S, Cabin RJ, Cohen JE, Ellstrand NC, McCauley DE, O’Neil P, Parker IM, Thompson JN, Weller SG. 2001. The population biology of invasive species. *Annual Review of Ecology and Systematics* 32: 305–332.
- Topakçı N, Yükselbaba U, Göçmen H. 2017. Detection and identification of citrus long-horned beetle *Anoplophora chinensis* (Forster, 1771) (Coleoptera: Cerambycidae), a new pest in Antalya Province, Turkey by sequencing of mtCOI region. *Türkiye Entomoloji Dergisi* 41: 325–331.
- Usta Y, Coşkun KA, Eroğlu M. 2017. The damage potential of *Anoplophora chinensis* (Coleoptera, Cerambycidae) on *Corylus* spp. IFES (International Forestry & Environment Symposium), 07–10 November 2017, Trabzon, Turkey.
- Yafes Y. 2017a. *Anoplophora chinensis* (Forster, 1771) (Coleoptera: Cerambycidae) reported at new location in Turkey. *Applied Ecology and Environmental Research* 15: 111–116.
- Yafes Y. 2017b. Invasive species *Anoplophora chinensis* (Forster, 1771) (Coleoptera: Cerambycidae) in Turkey. pp. 74–76 *In* ISFOR (International Symposium on New Horizons in Forestry), 18–20 Oct 2017, Isparta, Turkey.