

## INTRODUCTION AND ESTABLISHMENT OF THREE SPECIES OF THE GENUS *ANOPLOPHORA* HOPE IN TURKEY (COLEOPTERA: CERAMBYCIDAE)

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[Özdikmen, H. 2017. Introduction and establishment of three species of the genus *Anoplophora* Hope in Turkey (Coleoptera: Cerambycidae). Munis Entomology & Zoology, 12 (2): 481-485]

**ABSTRACT:** The paper presents new and known data of the genus *Anoplophora* species (Coleoptera: Cerambycidae) for Turkey. Accordingly, a total of three species as *Anoplophora chinensis*, *Anoplophora glabripennis* and *Anoplophora malasiaca* for subfamily Lamiinae are given in the text. *Anoplophora malasiaca* is a new record to Turkish fauna of invasive alien longhorned beetles. Also *Anoplophora chinensis* is a new record to European Turkey. A key for the species of *Anoplophora* in Turkey is also proposed.

**KEY WORDS:** Cerambycidae, Lamiinae, *Anoplophora*, invasive alien species, new record, Turkey

International trade is increasing rapidly with developing transportation routes. As a result of this, it became easier for many animal species to move from their natural habitats with the breakdown of the natural barriers between countries and continents (Lowe et al., 2000). Many species are introduced outside their natural geographic range due to the increasing rate of trade in the world. Some of them are able to establish in their new environment and to develop dense populations where they can outcompete native species or disrupt ecosystem functioning. Insects take an important place among these animals. Insect populations are controlled by several factors in their natural habitats, but they causes important problems as they move by living plants and wood materials to another area. They are so called invasive alien species in their new location. These species' common characteristics are fast growth and reproduction, high dispersal ability, tolerance of wide range of environmental conditions and ability to feed with various food types (Anonymous, 2011). Phytosanitary standards and regulations are the basis for preventative management to avoid unintentional international movement of such plant pests.

The increase in importing of the plants and wood material in the recent years has been causing the presence of these species in Turkey. In this research *Anoplophora malasiaca* is given as new record to Turkish fauna of invasive alien longhorned beetles. Also *Anoplophora chinensis* is a new record to European Turkey.

### MATERIAL AND METHODS

Samples for this work were carried out in 2015 in Bartın and İstanbul provinces of Turkey. A map showing distribution patterns of each species in Turkey is added. The type information for each species is arranged according to Tavakilian (2015). For distributional data of the species, Löbl & Smetana (2010) and Danilevsky (2015) for Palaearctic are chiefly used in the text.

## RESULTS

**Subfamily Lamiinae Latreille, 1825****Tribe Monochamini Gistel, 1848****Genus *Anoplophora* Hope, 1839**(type species *Anoplophora stanleyana* Hope, 1839)**A key for the species of *Anoplophora* in Turkey**

1. Base of elytra smooth.....*A. glabripennis*  
 -. Base of elytra with numerous tubercles.....2
2. Pronotum entirely black.....*A. chinensis*  
 -. Pronotum with two bluish-white hair spots on either side of the pronotal disc.....*A. malasiaca*

***Anoplophora chinensis* (Forster, 1771)**

(Figs. 1A, 2)

**Original combination:** *Cerambyx chinensis* Forster, 1771: 39.**Type information:** Holotype ♀, ex collection Forster, Linnean Society of London [type locality “China”].**Synonyms:** *Cerambyx farinosa* Houttuyn, 1766: 536 [Homonym Name]; *Lamia punctator* Fabricius, 1777: 230 [China]; *Cerambyx sinensis* Gmelin, 1793: 1863 [China]; *Callophora abbreviata* J. Thomson, 1865: 553 [China: Manchuria]; *Callophora afflicta* J. Thomson, 1865: 553 [China]; *Callophora luctuosa* J. Thomson, 1865: 553 [China]; *Callophora sepulchralis* J. Thomson, 1865: 553 [China].**Range: Europe introduced:** Austria, Croatia, Germany, Italy, Netherland, and European Turkey **Asia:** China, Indonesia, Japan, Korea, Myanmar, Philippines, Taiwan, Asian Turkey, Vietnam and **Nearctic region introduced** (USA).**Report from Turkey:** This species was firstly reported by Hızal et al. (2015) from Şile (İstanbul province) in 12 June 2014 on *Acer palmatum* Thunberg, 1775 (Sapindaceae), *A. saccharum* Marshall, 1785 (Sapindaceae) and *Salix caprea* Linnaeus, 1753 (Salicaceae). I newly detected as 3 ♂♂ and 2 ♀♀ from Zeytinburnu (İstanbul province) in 15 June 2015 and as 2 ♂♂ and 2 ♀♀ from Gölbucağı (Bartın province) in 6 July 2015 from Gölbucağı (Bartın province) of North-Western Turkey.**Remarks:** This species is known as “Citrus Longhorned Beetle” commonly and also known as Black and White Citrus Longhorn, Citrus Root Cerambycid, Mulberry Longhorned Beetle, Mulberry White Spotted Longicorn, Sky Ox Beetle, Starry Night Sky Beetle, White Spotted Citrus Longhorned Beetle, White Spotted Longicorn Beetle”. It originated from Southern China-Vietnam. It was introduced in Korea, Myanmar, Indonesia, Philippines where it seriously damage many forest and agricultural plant hosts. It has been introduced to North America and Europe until now. It is a new record from European Turkey.***Anoplophora glabripennis* Motschulsky, 1854**

(Figs. 1B, 3)

**Original combination:** *Cerosterna glabripennis* Motschulsky, 1854: 48.

**Type information:** Lectotype, ex collection V. I. Motschulsky, Zoological Museum, University of Moscow [type locality “N China”].

**Synonyms:** *Cerosterna laevigatrix* J. Thomson, 1857: 297 [China]; *Melanauster nobilis* Ganglbauer, 1889: 82 [China]; *Melanauster angustata* Pic, 1925: 21 [China]; *Melanauster luteonotata* Pic, 1925: 21 [China]; *Melanauster nankinea* Pic, 1926: 2 [China]; *Melanauster laglasei* Pic, 1953: 3 [China].

**Range: Europe introduced:** Austria, Czech Republic, Finland, France, Germany, Italy, Netherland, Switzerland, European Turkey **Asia:** China, Indonesia, Japan, Korea, Myanmar, Philippines, Taiwan, Asian Turkey, Vietnam and **Nearctic region introduced** (USA, Canada).

**Report from Turkey:** This species was reported by Ayberk et al. (2014) from Zeytinburnu (İstanbul province) in 7 July 2014 on *Acer negundo* Linnaeus, 1753 (Sapindaceae).

**Remarks:** This species is known as “Asian Longhorned Beetle” commonly and also called as “Starry Sky Beetle”. It originate from Eastern Asia (China, Korea, Japan) where it seriously damage many forest and agricultural plant hosts. It has been introduced to North America and Europe until now. It is known only from European Turkey now.

### *Anoplophora malasiaca* (J. Thomson, 1865)

(Figs. 1C, 4)

**Original combination:** *Callophora malasiaca* J. Thomson, 1865: 553.

**Type information:** Lectotype ♀, ex collection J. Thomson > R. Oberthür, Muséum National d'Histoire Naturelle, Paris [type locality “Malasia” (Malaysia)].

**Synonyms:** *Melanauster perroudi* Pic, 1953: 3 [Japan].

**Range: Europe introduced:** Austria, Croatia, Czech Republic, Germany, Italy, Netherland **Asia:** Japan, Korea, Asian Turkey.

**Report from Turkey:** This species detected as 2 ♂♂ and 2 ♀♀ in early June 2015 on *Acer palmatum* Thunberg, 1775 (Sapindaceae) from Şile (İstanbul province) of North-Western Anatolia (Turkey).

**Remarks:** This species is known as “White Spotted Longhorned Beetle” commonly. It originate from Eastern Asia (Japan and South Korea) where it seriously damage forest and agricultural plant hosts. The genus *Anoplophora* was most recently revised by Lingafelter & Hoebeke (2002). The authors synonymized *Anoplophora malasiaca* (Thomson, 1865) with *Anoplophora chinensis* (Forster, 1771). Löbl & Smetana (2010) and Danilevsky (2015), however, gave *Anoplophora malasiaca* (Thomson, 1865) as a separate species. So some records from Europe of *Anoplophora chinensis* (Forster, 1771) should be belonging to *Anoplophora malasiaca* (Thomson, 1865) certainly. It is a new record from Turkey (Anatolia).

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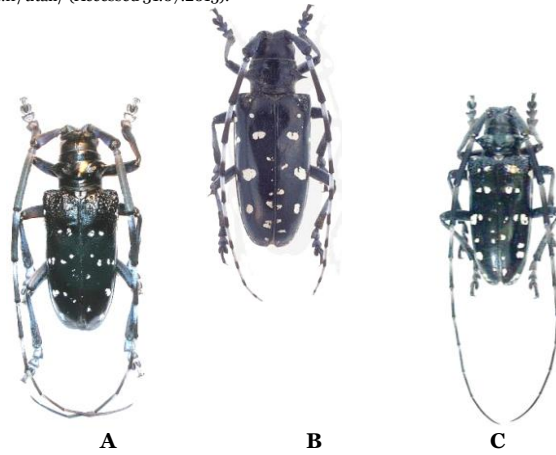


Figure 1. A. *Anoplophora chinensis* (Forster, 1771), male, B. *Anoplophora glabripennis* (Motschulsky, 1854), female, C. *Anoplophora malasiaca* (J. Thomson, 1865), male.

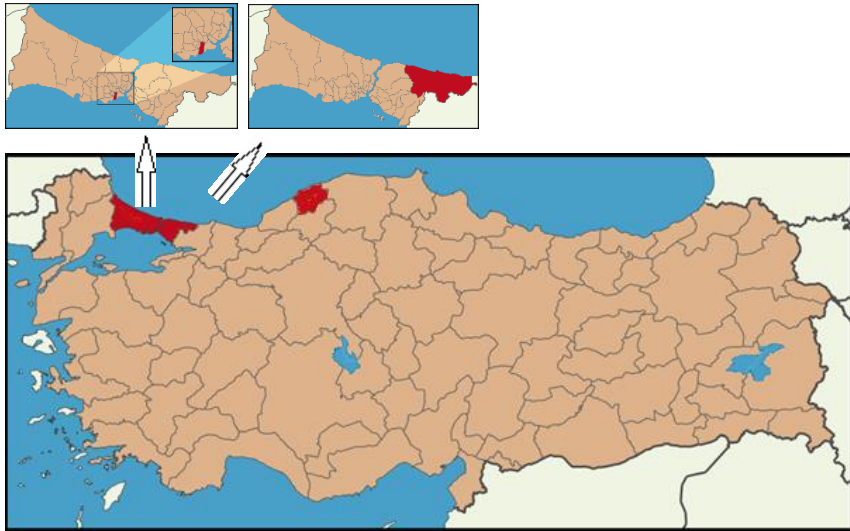


Figure 2. The distribution patterns of *Anoplophora chinensis* (Forster, 1771) in Turkey.

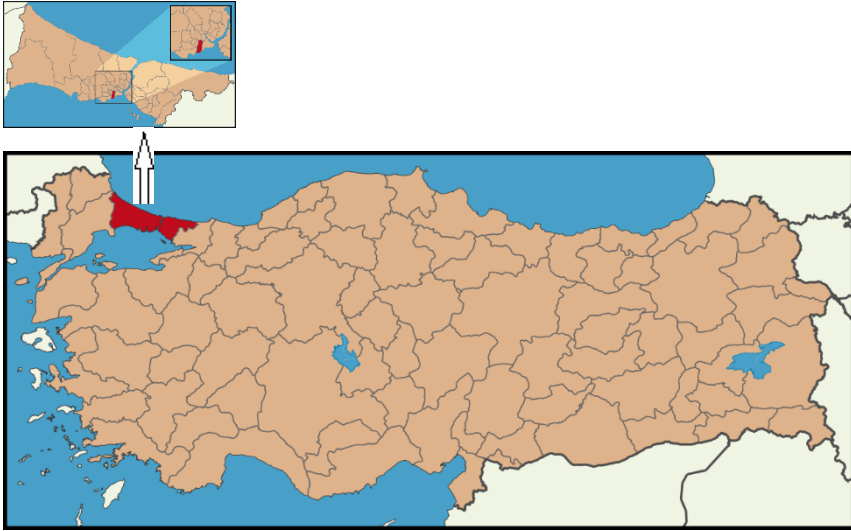


Figure 3. The distribution pattern of *Anoplophora glabripennis* (Motschulsky, 1854) in Turkey.

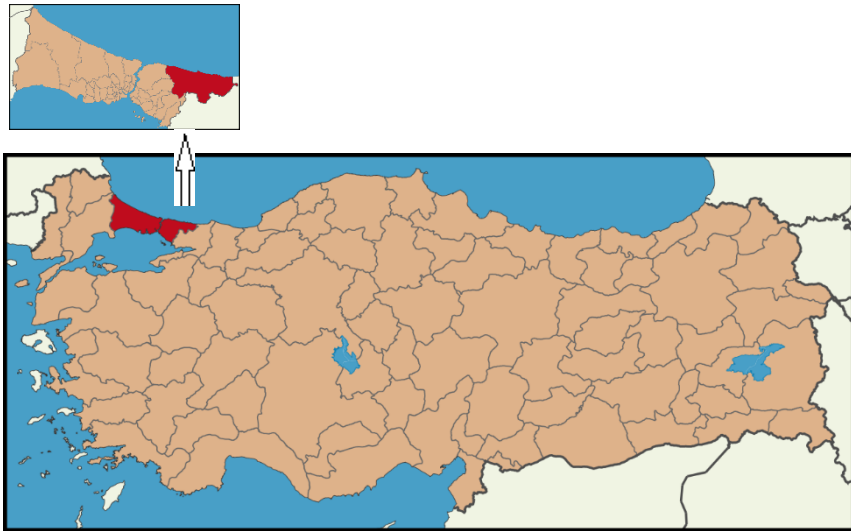


Figure 4. The distribution pattern of *Anoplophora malasiaca* (J. Thomson, 1865) in Turkey.