

FIRST RECORDS OF MEDITERRANEAN CYPRESS BARK BEETLE *PHLOEOSINUS AUBEI* (PERRIS, 1855) (COLEOPTERA, SCOLYTINAE) FROM POLAND

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ABSTRACT

It is the first full information about the occurrence of the Mediterranean cypress bark beetle *Phloeosinus aubei* (Perris, 1855) in Poland. The first observation was made in 2014 near Wrocław and then in 2017 in Poznań. It has been observed that *Phloeosinus aubei* has no big impact on Polish forests. So far its role is limited to trees which are cultivated as ornamental plants (*Chamaecyparis*, *Juniperus* and *Thuja*).

Keywords: *Phloeosinus aubei*, Mediterranean cypress bark beetle, Scolytinae, Phloeosinini

INTRODUCTION

There are six species of genus *Phloeosinus* native to Europe (Löbl and Smetana, 2011). All of them are mainly associated with trees and shrubs from Cupressaceae family (Andrews, 2002).

So far only *Phloeosinus thujae* (Perris, 1855) was incorporated in Polish fauna (Kozikowski and Nunberg, 1925; Mokrzycki et al., 2011). Mediterranean cypress bark beetle *Phloeosinus aubei* (Perris, 1855) (Coleoptera, Scolytinae) is a species native to Mediterranean countries, southern part of Central Europe, Crimea, Caucasus, Armenia, Turkmenistan and North Africa (Postner, 1974; Pfeffer, 1995). It is one of the most important scolytid pest of cypress forests and windbreaks in the Mediterranean basin and North Africa (Belhabib et al., 2007).

AREA OF STUDY

Insects were collected in two localizations: Poznań (Wielkopolska) and Zacharzyce near Wrocław (Dolny Śląsk; Fig. 1).

In both cases insects infested not native ornamental trees (*Chamaecyparis*, *Juniperus* and *Thuja*). The first observation of *P. aubei* in Poland took place in autumn 2014 in Zacharzyce, where many trees had been affected. During the next two years the amount of injuries caused by the insects increased, maturation feedings and also adult insects were found in a big number. Maturation feeding and flight of *P. aubei* were observed from second half of April.

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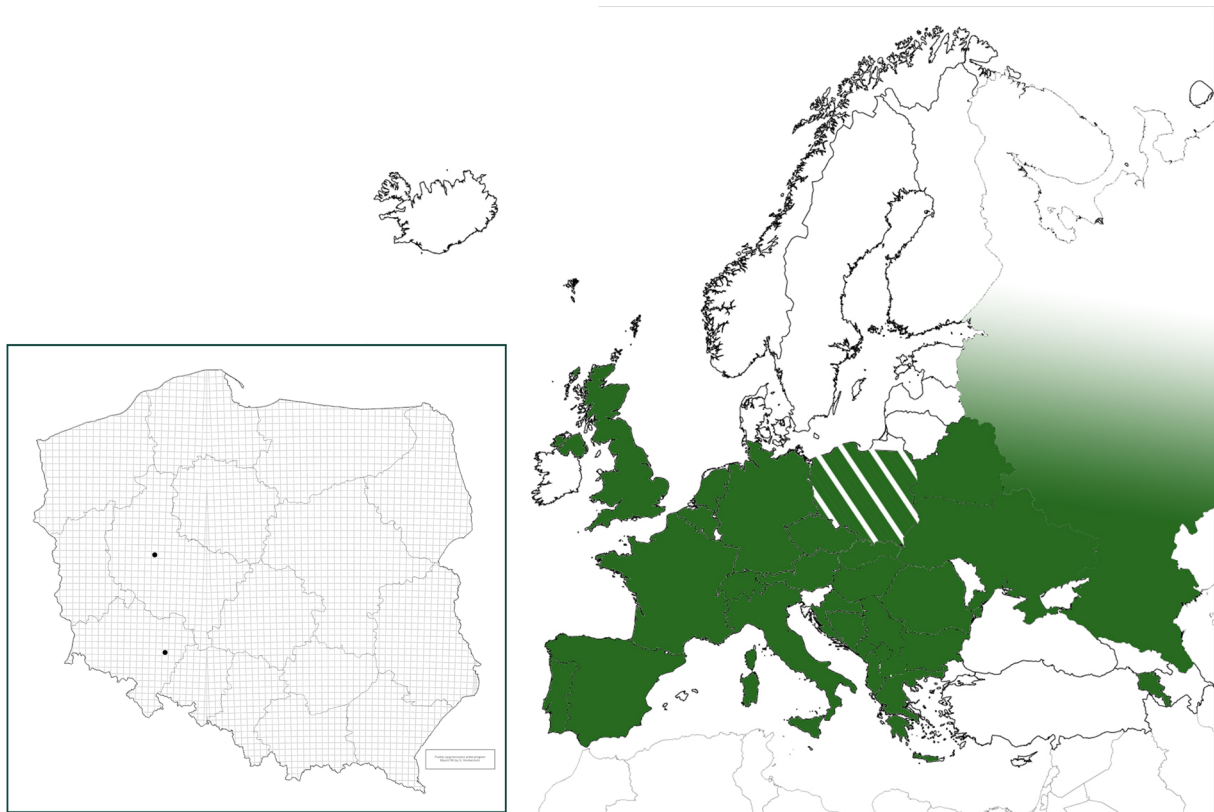


Fig. 1. Occurrence of *Phloeosinus aubei* in Europe and first localizations in Poland
Rys. 1. Występowanie *Phloeosinus aubei* w Europie i pierwsze stanowiska w Polsce

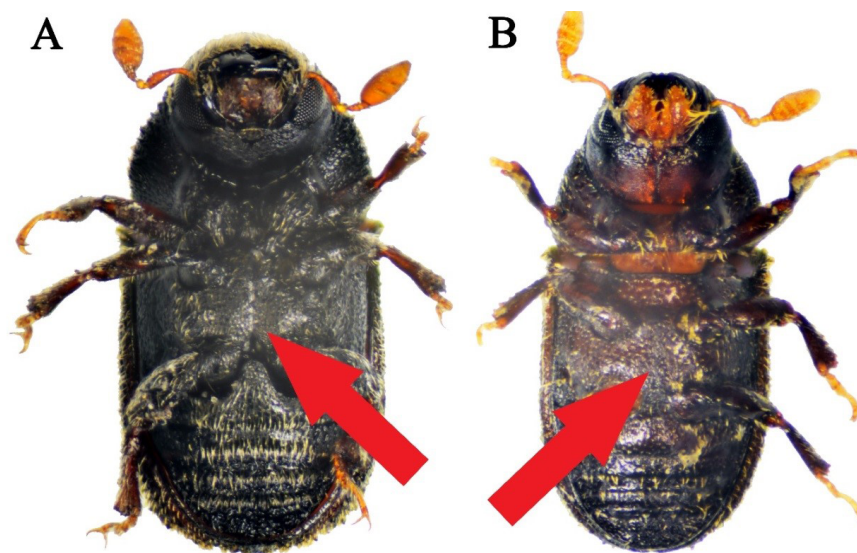


Fig. 2. Differences between *Phloeosinus aubei* (A) and *Phloeosinus thujae* (B)
Rys. 2. Różnice pomiędzy *Phloeosinus aubei* (A) i *Phloeosinus thujae* (B)

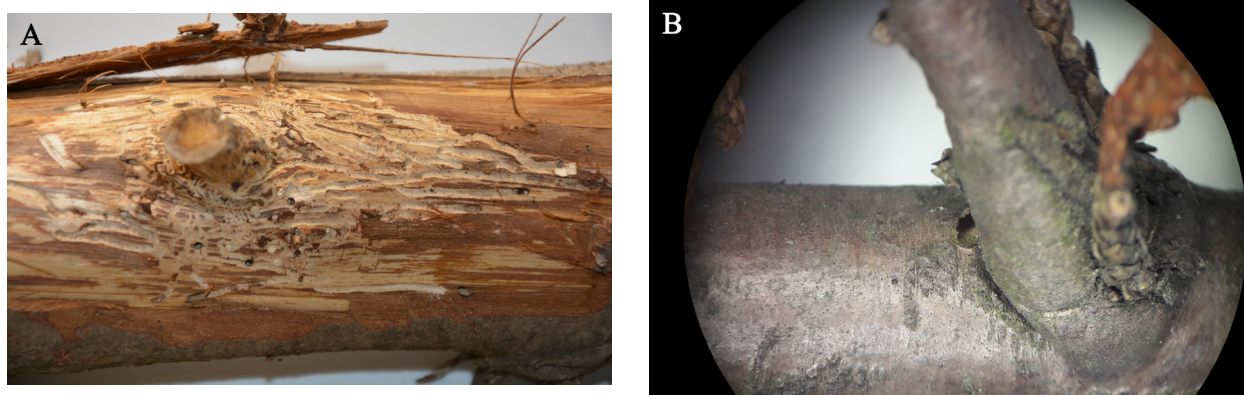


Fig. 3. Breeding galleries of *Phloeosinus aubei* (A), and hole excavated during maturation feeding (B)
Rys. 3. Żerowiska *Phloeosinus aubei* (A) i otwór wygrzynany podczas żeru uzupełniającego (B)

RESULTS

During the identification works females of *P. aubei* and *P. thujae* were compared and one difference, not included in available identification keys was noticed. *P. aubei* female (Fig. 2A) has a suture along metasternum, whilst *P. thujae* female does not have it (Fig. 2B). Adult insects moved from outdoor conditions, after a night when temperature was -15°C , to room temperature after few minutes were active and started excavating galleries. Four specimens were collected April 1, 2017 in Poznań, when the temperature was over 20°C . Piece of an infested tree was taken to laboratory where after a few days, three more insects appeared.

DISCUSSION

P. aubei is known from most of European countries including Poland (sic!) (Löbl and Smetana, 2011). However, there is no data about the place and time of observation of this species in Poland. It is the reason of excluding it this species from the checklist of Polish Scolytinae (Mokrzycki et al., 2011). It is assumed then, that it is the first data backed up by evidence about the occurrence of *P. aubei* in Poland.

The fact that *Juniperus communis* is the only species native to Poland from the Cupressaceae family, it has no big impact on Polish forests. Its role is limited to trees which are cultivated as ornamentals (*Chamaecyparis*, *Juniperus* and *Thuja*). The trees are often planted in parks and other forms of urban green areas,

also in home gardens. Maturation feeding causes death of shoots which makes the plants lose their aesthetic qualities and thus lose their value (Fig. 3). Both imagines and larvae overwintering in Poland, and they occur throughout the year.

In the Mediterranean basin, the bark beetles *Phloeosinus aubei*, *P. thujae*, and *P. armatus* Reitt. are vectors of the fungus *Seiridium cardinale*, the cause of lethal canker disease on cypress and other related conifers (Covassi et al., 1975; Praciak, 2013). Following the introduction of *Seiridium cardinale* from California, millions of cypress trees were killed in southern Europe. In Greece, Italy and southern France, cypress tree mortality reached 25–75% (Desprez-Loustau, 2009). Cypress cancer was found in Germany, Lithuania and Ukraine (Urbasch, 1993; Vilà et al., 2009). Therefore, it is impossible to use selective traps to detect the occurrence of this species or predict risk from this pest. There are not any known pheromones which can be used for attracting *P. aubei*. Therefore, it is impossible to use selective traps to predict risk from this pest.

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PIERWSZE STWIERDZENIE *PLOEOSINUS AUBEI* (PERRIS, 1855) (COLEOPTERA, SCOLYTINAE) Z POLSKI

ABSTRAKT

Jest to pierwsze doniesienie zawierające kompletną informację dotyczącą występowania *Phloeosinus aubei* (Perris, 1855) w Polsce. Pierwsza obserwacja tego gatunku miała miejsce w 2014 roku nieopodal Wrocławia, a następnie w 2017 roku w Poznaniu. *Phloeosinus aubei* nie ma dużego znaczenia dla polskich lasów. Jego rola i znaczenie gospodarcze ograniczają się do drzew uprawianych jako rośliny ozdobne (*Chamaecyparis*, *Juniperus* i *Thuja*).

Słowa kluczowe: *Phloeosinus aubei*, Scolytinae, Phloeosinini