



Short Communications

First report of damage of *Xylopertha reflexicauda* (Lesne, 1937) (Col.: Bostrichidae) on *Prosopis cineraria* in the mesquite forests of south Kerman

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Abstract

One of the most important forest trees in the south of Kerman province, which plays a vital role in the region's ecosystem and beekeeping industry and is infected by wood-eating beetles, is *Prosopis cineraria* (L.) Druce. These trees are an essential habitat for various animals and refresh the hot air of the region. In the sampling conducted during 2021-2022 from the mesquite forests of southern Kerman (Ghaleganj, Faryab, and Anbarabad), the wood-eating beetle *Xylopertha reflexicauda* (Lesne, 1937) (Bostrichidae) was collected for the first time from *P. cineraria* trees and was identified. Reliable scientific sources identified the species of wood-eating beetle, and Dr. Len Yu Liu finally confirmed it. This species was first identified and described by Lesne in 1937. Due to the lack of water and recent droughts, and the weakness of Iranian mesquite trees, the larvae of this beetle are active inside the trunk and bark of mesquite trees and feed on the wood and bark of tree trunks and causing great damage to *P. cineraria* trees in Kerman. Responsible organizations should pay attention to managing the mesquite forests' current situation.

Keywords: beetle, Iran, mesquite trees, pest

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Introduction

One of the most important forest species in the southern provinces of Iran is *Prosopis cineraria* (L.) Druce, which is very important in terms of ecology and economy. In addition to the country's southern coast, this tree grows up to the edge of the Lut desert. Floodplains and alluvial terraces are the main habitats of this tree. *Prosopis cineraria* trees have very low expectations and grow in poor soils with low fertility. So several tons of mesquite honey is harvested from these trees every year. Also, *P. cineraria* forests are a suitable habitat for birds and wildlife. Identifying the living and non-living factors that cause damage is important as the first step to having a management plan and protecting *P. cineraria* trees. Due to recent weather conditions and drought and the subsequent weakness of *P. cineraria* trees, these trees are facing the attack of wood-eating beetles. Bostrichidae species harm almost dry and dead wood and other decaying plant material. Also, they are harmful as pests of wooden products, including furniture (Borowski & Wegrzynowicz 2012). Bostrichidae wood-eating beetles are among the insects that cause a lot of damage by feeding on the trunk and bark of forest trees. In this research, infected trees of *P. cineraria* were examined, and samples of wood-eating beetles were collected and studied.

Materials and Methods

This study was conducted in 2021-2022 to investigate *P. cineraria* trees infected with wood-eating beetles. Target areas in Kerman province (including Ghaleganj, Faryab, and Anbarabad) were identified, and samples of wood-eating beetles were collected. To collect wood-eating beetles, the method of pulling plastic around the trunks of infected trees was used. Infected tree trunks full of holes, where these beetles are active, were also collected and kept in a suitable environment until the beetles came out. Then, the

collected beetles were labeled for identification and photography. The species of wood-eating beetle was identified by reliable scientific sources (Liu & Beaver, 2017) and finally confirmed by Dr. Lan-Yu Liu from the National Pingtung University of Taiwan.

Results and Discussion

The wood-eating beetle samples collected from *P. cineraria* were identified as *Xylopertha reflexicauda* (Lesne, 1937) species belonging to the Bostrichidae family. This species was collected and identified from *P. cineraria* trees in Iran for the first time. The larvae of this wood-eating beetle feed on the wood and bark of the trunks of Iranian mesquite trees and small holes can be seen where the adult insects exit the tree trunks. Due to the feeding of the larvae of this species, the wood of the trunk of the mesquite tree becomes soft and powdery.

Material Examined: 3♂, 12♀, Iran, Kerman, Ghaleganj, 1055m, 10.XI.2021, 13.XI.2022, 26°58'18.72" N 57°57'17.13" E; 2♂, 3♀, Iran, Kerman, Faryab, 642m, 05.X.2022, 28°05'08.50" N 57°23'31.23" E; 2♀, Iran, Kerman, Anbarabad, 595m, 10.XI.2022, 28°29'18.68" N 57°50'14.20" E.

Description

The body is 5-6 mm long and 3-4 mm wide, elongated, parallel-sided; head, prothorax, scutellum, metasternum, and abdomen black, elytra reddish anteriorly, black posteriorly, antennae and legs reddish; head in above finely punctured with grey or reddish setae, eyes moderate, pronotum wide, with long hairs anterolaterally, anterior angles armed with small, sharp-edged and pointed teeth, posterior part very finely, sparsely punctured, cylindrical part of elytra glabrous, fairly strongly punctured, apical deviation finely punctured, densely hairy, recumbent, very short, elytral deviation with a swollen and pointed spine located in the middle of the upper margin of the slope of each elytron (Figure 1).

Distribution

The distribution of the wood-eating beetle *X. reflexicauda* in Iran has been recorded from the provinces of Kerman, Fars, Gilan, Isfahan, Tehran, Azerbaijan-e- Sharghi, and Azerbaijan-e- Gharbi provinces. The species *X. reflexicauda* has been reported from the wood of *Pistacia vera* trees in Iraq, Iran, and Pakistan. In Iran, this species has been recorded on trees such as oak (*Quercus* sp.), fig (*Ficus carica*), mulberry (*Morus alba*), and Willow (*Salix* sp.). This wood-eating beetle has been reported in Pakistan from *P. cineraria*. This species is considered a secondary pest of pistachio trees in Israel. Liu and Burr (2017) reported this species from Greece.

General Conclusion

Considering that *P. cineraria* trees are important and resistant forest trees and keep the

hot climate of the south of the country refreshing, it is necessary to pay more attention the responsible organizations related to forests, pastures, and watershed management to improve the current situation and stop further destruction of these resistant and low-expected trees. Because wood-eating beetles are secondary pests and appear after water shortages on weak trees, it is necessary to strengthen mesquite forest trees and supply them with water scientifically and modernly.

Acknowledgements

I need to thank Dr. Len Yu Liu for cooperating in confirming the species identification of the wood-eating beetle. Also, Engineer Khosrow Mashayekhi is appreciated for his cooperation in collecting insect samples from *Prosopis cineraria* forests.



Figure 1. a) Head & prothorax b) Head with fine punctures with grey or reddish setae c) Sharp-edged and pointed teeth on pronotum d) Sharply pointed spine located on the middle of the upper margin of the declivity of each elytron

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گیاه پزشکی (مجله علمی کشاورزی)

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گزارش کوتاه انگلیسی

اولین گزارش از خسارت سوسک چوب‌خوار (*Xylopertha reflexicauda* (Lesne, 1937)) روی کهور ایرانی *Prosopis cineraria* (L.) Druce در جنگل‌های کهور جنوب کرمان

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چکیده

یکی از مهمترین درختان جنگلی جنوب کرمان که نقش مهمی در اکوسیستم منطقه و صنعت زنبورداری دارد و توسط سوسک‌های چوب‌خوار آلوده شده است، درختان کهور ایرانی (*Prosopis cineraria*) هستند. این درختان زیست‌بوم مهمی برای حیوانات مختلف و طراوت بخش هوای گرم جنوب می‌باشند. در نمونه‌برداری‌هایی که طی سال‌های ۱۴۰۱-۱۴۰۰ از جنگل‌های کهور جنوب کرمان (قلعه گنج، فاریاب و عنبرآباد) انجام گرفت، سوسک چوب‌خوار (*Xylopertha reflexicauda* (Lesne, 1937)) از خانواده Bostrichidae برای اولین بار از روی درختان کهور ایرانی جمع‌آوری و شناسایی شد. گونه سوسک چوب‌خوار با منابع معتبر علمی شناسایی و توسط دکتر لن یو لیو تایید نهایی شد. این گونه اولین بار توسط Lesne در سال ۱۹۳۷ شناسایی و توصیف شده است. با توجه به کم‌آبی و خشکسالی‌های اخیر و ضعف درختان کهور ایرانی، لاروهای این سوسک داخل تنه و پوست درختان کهور فعالیت و از چوب و پوست تنه درختان تغذیه کرده و خسارت زیادی به درختان کهور ایرانی وارد می‌کنند.

کلید واژه‌ها: آفت، ایران، درختان کهور، سوسک

دبیر تخصصی: دکتر مهدی اسفندیاری

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