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A new apricot pest: *Omaloplia labrata* (Burmeister) (Coleoptera: Scarabaeidae: Sericini)

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Abstract
The study was carried out between April and July in the apricot fields of Baskil District of Elazığ Province in 2023-2024. In this study; within the scope of observations of harmful and beneficial insect fauna in apricot fields, it was determined that Omaloplia labrata fed and caused damage especially on the young leaves on the upper shoots of 1-3 year old apricot saplings. It was determined that individuals of the species fed intensively especially on the growth cone and left the upper parts of the saplings leafless in a short time without distinguishing the variety. It is thought that this species, which was found to have caused damage on cherry trees in the same region in previous years, will cause extensive damage on stone fruit trees. It was determined that the species was more densely found on young plants especially in April-May when leafing began and increased its population from the first week of July. It is important in terms of determining the host range of the pest that the species is seen on new saplings in much higher amounts especially in weed-free gardens where agricultural processing is intensive. Detailed study of the pest's damage status in the coming years, the climatic factors that increase its population and its control are important for apricot integrated control studies.

Keywords: Apricot, new pest, *Omaloplia labrata*, IPM

Introduction

The homeland of apricots is Central Asia, China, Iran and the Caucasus. While its cultivation is intensively carried out in Mediterranean countries and Europe, significant apricot production is also carried out in Uzbekistan and Algeria thanks to entrepreneurs and new plantations. Iran has also gained a significant share of this market in recent years. Although there are many apricot species and varieties grown in different climate conditions, Turkey is the most important producer country for dried varieties. According to FAO data, 3.6 million tons of apricot production was realized in approximately 552 thousand hectares of land in the world in 2021, and Turkey provided 484 million dollars of export income in 2022 (Anonymous, 2023) [1]. There are important diseases and pests that affect yield and quality in apricot fields (Öztürk *et al*., 2004) [6]. Among the pests, there are many pests that cause significant quality and quantity losses such as *Anarsia lineatella* Zell (Lepidoptera: Gelechiidae), *Sphaerolecanium prunastri* Fonscolombe, 1834, *Eurytoma schreineri* Schr., *Hyalopterus pruni* Geoffroy, *Ceratitis capitata* Wiedemann, Capnodis spp. (Coleoptera: Buprestidae), red spiders (Öztürk *et al*., 2004; Özgen and Bolu, 2009; Buğday and Keçeci, 2020; Ayaz *et al*., 2022) [6, 7, 3, 2]. The damage status of these pests varies from year to year, and varies according to many climatic factors such as irrigation, soil tillage, weed presence, temperature and humidity values of the apricot agroecosystem. In survey studies carried out in apricot fields, a species belonging to the Coleoptera order was found to cause damage to the upper green parts and growth cones of apricot saplings, and this species was determined to be *Omaloplia labrata* (Burmeister) (Coleoptera: Scarabaeidae: Sericini), which was found to have caused damage in cherry plantations in previous years (Özgen and Ahrens, 2018) [5].

In this study, information about the damage of this species, its distribution in the region and its damage status is given, and this information is the first data about the damage status and distribution of the pest in apricot areas.

Fig 1: *Omaloplia labrata* Causing Damage to Apricot Seedlings

Materıal and Methods

The study was carried out in April-July between 2023-2024 in the apricot plantations in the central and Baskil districts of Elazığ province. The material of the study consisted of apricot saplings, Omaloplia labrata adult individuals, atrap, loop, culture boxes and sterobinocular microscope. The spread of the pest in apricot fields, its population and damage status in two new apricot orchards were determined. Population change of the pest was carried out in two orchards in Sütlüce village in the centre of Elazığ province.

Results and Dıscussıon

The number of locations/orchards surveyed in the study, pest infestation status, sapling age/variety are given in Table 1.

Table 1. *Omaloplia labrata* distribution and the trees it damages according to age and variety.

Location/Number of Gardens	Pest status	Seedling Age/Variety
Elazığ Center/Sütlüce/5 gardens	Pest is available	2 years Kabaaşı, Çataloğlu
Elazığ / Baskil / Sultanuşağı / 3 Gardens	Pest is available	1 years Hacıhaliloğlu, Kabaaşı
Elazığ/Baskil Kayabeyli/ 2 gardens	Pest is available	2 years Kabaaşı
Elazığ/Baskil/ Gemici/ 1 garden	Pest is available	3 years Kabaaşı
Elazığ/Baskil/ Keluşağı/2 gardens	Pest is available	2 years Parlak
Elazığ/Merkez/Yenikonak/2 gardens	Pest is available	2 years Hacıhaliloğlu, Çataloğlu
Elazığ/Merkez/Yenikonak/2 gardens	Pest is available	2 years Çataloğlu, Kabaaşı

As shown in Table 1, it was determined that *O.labrata* was infested in all newly established 1-3 year old apricot orchards regardless of the variety. In these orchards, it was determined that the pest was feeding on the growth cone of the apricot as seen in Figure 1. In previous studies, it was reported by researchers that this pest was polyphagous, caused damage especially in cherry orchards in Elazığ province and would cause damage especially in apricot areas in the coming years (Özbek, H. 2011; Özgen and Ahrens, 2018) [4, 5]. The fact that this pest was also seen in newly established apricot orchards 5 years after the date of this study confirms this prediction. In the population monitoring study conducted in 2024 in two apricot orchards where the damage of the pest started to be seen, it was determined that the pest started to cause damage much earlier than the sixth month in which it had formed a population in previous years and continued its population throughout the months of April-July (Figure 2). It was determined that the pest changed host plants in both gardens after the seventh month when the leaves lost their crispness.

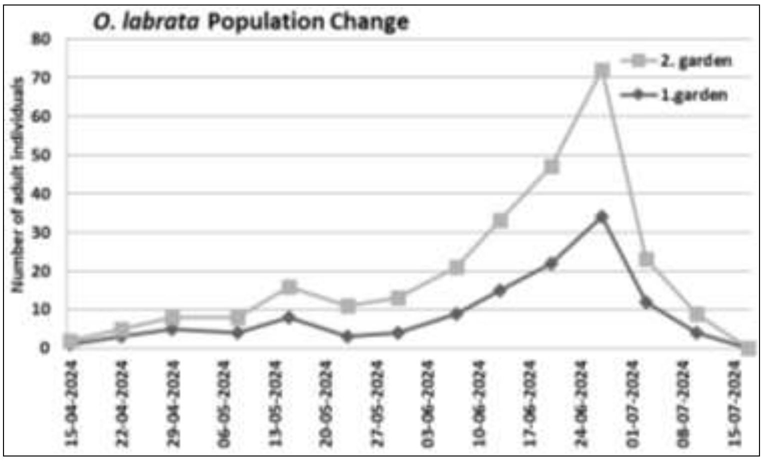

Fig 2: Population Change of *Omaloplia labrata* in Two Different Apricot Orchards

As a result, it is necessary to carry out detailed studies on the possibilities of combating the pest, first with biological control, and then with herbal and chemical active substances within the framework of integrated control principles, as the pest causes damage especially in 1-3 year old apricot orchards without making a variety selection, and increases its population towards July.

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