

Araştırma makalesi

***Cinara curvipes* (Patch, 1912) (Hemiptera; Aphididae) as new aphid species for Turkish aphidofauna**

***Türkiye afit faunası için yeni bir afit türü: Cinara curvipes* (Patch, 1912) (Hemiptera; Aphididae)**

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Abstract

Cinara curvipes (Patch, 1912) feeding on *Abies* sp. and *Cedrus* sp. were sampled from Afyonkarahisar, Kütahya and Bartın provinces between 2012 and 2014 were determined as invasive and new aphid species for Turkey aphidofauna. The most important implication of the finding is that recording *C. curvipes* from their almost all potential host plant in Turkey.

Keywords: Aphid, *Cinara curvipes*, invasive, new record, Turkey

Özet

Cinara curvipes (Patch, 1912) türü 2012-2014 yılları arasında *Abies* sp. ve *Cedrus* sp. konak bitkileri üzerinden Afyonkarahisar, Kütahya ve Bartın illerinden örneklenmiş ve bu türün Türkiye afit faunası için yeni kayıt ve yayılımı bir tür olduğu ortaya konulmuştur. Çalışmanın en önemli yanı ise *C. curvipes* türünün literatürde belirtilen muhtemel konak türlerinin hepsinden Türkiye'den kayıt verilmiş olmasıdır.

Anahtar kelimeler: Afid, *Cinara curvipes*, yayılımı, yeni kayıt, Türkiye.

INTRODUCTION

Cinara species feed on Coniferae of the families Cupressaceae and Pinaceae. *Cinara* aphids do not show host alteration and they generally find with ant attended as they produced huge amount of honeydew. They generally feed on the roots, branches, trunk, twigs, shoots and foliage of their host plant. Apteran individuals are bright or dull black and during summer period their bodies are covered by wax powder. They easily recognized with their long legs. *Cinara* includes about 205 described species, many of these species are native to North America, but also 55 species recorded from Europe and Asia (Favret & Voegtlin 2004; Gorur et al. 2012; Blackman & Eastop 2014; URL1). 28 *Cinara* species has been recorded from Turkey up to now and it was shown that *C. indica* and *C. juniperensis* are invasive for Turkey Aphidofauna (Tooper Kaygin & Canakcioglu, 2003; Senol et al., 2014a; Senol et al., 2014b). *Cinara curvipes* is

originally Nearctic, but now it is widely distributed in Europe, especially in Britain, Germany, Slovenia, Serbia, Switzerland, Slovakia, Czech Republic (Jurc et al. 2009; Blackman & Eastop 2014; URL1, URL2). Despite *C. curvipes* was recorded in 1999 in Britain, then spread over most part of the Europe in 15 years and arrived to Turkey in 2012 indicating that how it is important invasive and dangerous species.

MATERIALS AND METHODS

The field study conducted in Inner Western Anatolian Part of Turkey and Western Black Sea Region from 2012 to 2014. Collected samples were diagnosed according to Blackman & Eastop (2014) and their current distributions were determined from previous studies (Jurc et al 2009; Blackman & Eastop 2014; URL1).

RESULTS AND DISCUSSION

Two samples were collected on *Cedrus* sp. from

Kutahya/Aslanapa (24.vii.2012) and Afyonkarahisar (30.vii.2012), 2 samples collected on *Abies* sp. from Afyonkarahisar/Büyükkalecik/Yuzbaşı Agah Efendi Sehatligi (13.ix.2013) and Afyonkarahisar-Kocatepe/Buyukkalecik (29.x.2013) and also 2 samples were collected on *Abies nordmanniana* subsp. *bornmulleriana* Mattf. in Bartın-Hasankadi (28.iv.2013) and *Abies* sp. in Bartın-GecenVillage

(07.v.2014). It was shown that dense colonies of blackish-grayish individuals of *C. curvipes* fed on branches and stem bark of two potential host plants, *Abies* sp. and *Cedrus* sp. (Figure 1). Their body was covered with wax powder. It was also shown that all individuals in the colony reacted to irritation with rocking motion.



Figure 1. Dense colonies of *C. curvipes* feed on branch of *Abies* sp. (by GORUR).

It was shown that *C. curvipes* colonies are heavily visited by ants as they produced huge amount of honeydew. For example, heavily colonized population on 60 years old *Abies nordmanniana* subsp. *bornmulleriana* and 15 years old *Abies* sp. produced tremendous honeydew and visited by ants as expected, but aesthetically damaged the colonized parts of both plants and caused sooty moulds (Figure 2). They

almost caused the death of young *Abies* sp. These findings are parallel with the Poljakovic-Pajnik & Petrovic-Obradovic (2002) finding and discussions. There were also many multicolored Asian lady beetle, *Harmonia axyridis* (Pallas), consumed considerable number of the *C. curvipes* individuals on some young *Abies* trees (Figure 3a and 3b).



Figure 2. *C. curvipes* colonies, honeydew production and caused sooty moulds (by TOPER KAYGIN).

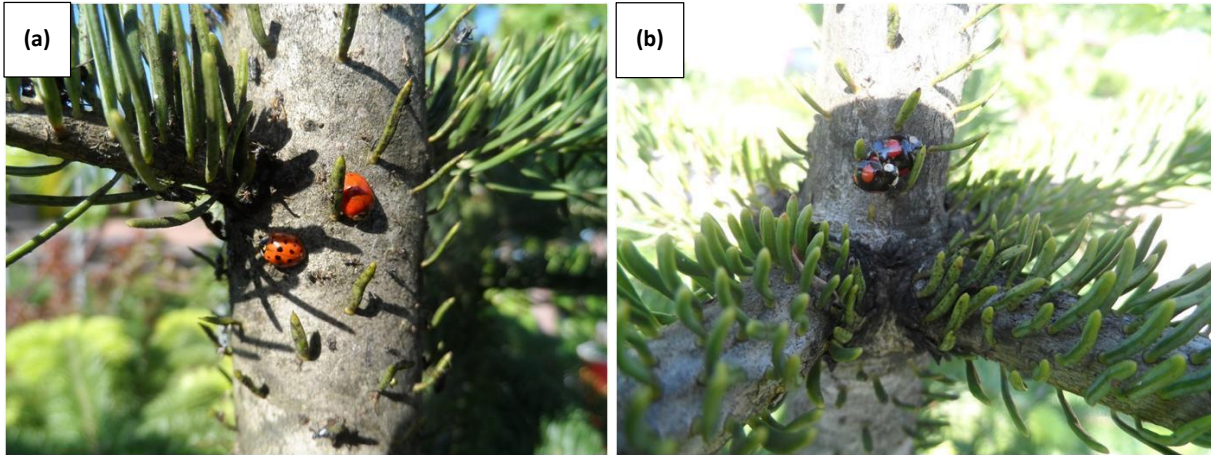


Figure 3. (a and b) *Harmonia axyridis* (Pallas) Multicolored Asian Lady Beetle (by TOPER KAYGIN).

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