

## A new and dangerous pest for the Caucasus – *Drosophila suzukii* (Matsumura, 1931) (Diptera: Drosophilidae)

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### ABSTRACT

*Drosophila suzukii* (Matsumura, 1931) (Diptera: Drosophilidae), an agricultural pest originating from Southeast Asia, has been recorded for the first time in the Caucasus and may threaten crops within the region. In 2016, two introduced species, the Brown Marmorated Stink Bug – *Halyomorpha halys* Stal (Hemiptera: Pentatomidae) and the Buxus moth – *Cydalima perspectalis* (Walker) (Lepidoptera: Crambidae), were considered the most dangerous pest species in western Georgia and spreading rapidly east. Because the Spotted Wing Drosophila has only been recently recorded, its damage is not yet known.

In past decades, many regions have suffered severe damage to native flora and agricultural plantations as a number of pests have spread out of their natural range into new habitats. Georgia (Sakartvelo) is no exception; many introduced pest species have invaded the country, such as *Hyphantria cunea* (Drury) recorded by Japoshvili et al. [1], *Ceroplastes japonicus* (Green) (Hemiptera: Coccidae) recorded by Yas-nosh, Japoshvili [2], *Comstockaspis perniciosus* (Comstock) (Hemiptera: Diaspididae) recorded by Borchsenius [3], *Cydalima perspectalis* (Walker) (Lepidoptera: Crambidae) recorded by Nikolaishvili [4], *Halyomorpha halys* Stal (Hemiptera: Pentatomidae) [5] and others. Upon their invasion, these pests have damaged the country's crops and forests.

The genus *Drosophila* is one of the largest genus in the family Drosophilidae (Diptera) and contains more than 1500 species [6]. *Drosophila suzukii* (Matsumura) (Diptera: Drosophilidae), a vinegar fly commonly called the Spotted Wing Drosophila (SWD), is a widely distributed invasive pest which oviposits in commercially-grown fruits [7]. Morphologically its easy recognisable with dark spot on the male wings and with cogs on the ovipositor in female. SWD originated in Southeast Asia, from where it has invaded western countries. Although it was described in Japan [8], the fly is also present in China [9], Myanmar [10], India [11], Thailand [12], Italy [13,14], Spain [15], the Russian Far East [16], France [17], the USA [18], Turkey [19], and Hungary

[20]. In fewer than 10 years following its first detection in 2008, the species invaded most parts of Europe and North America, appearing also in South America [21].

In September and October of 2017, special traps were installed to detect the presence of *D. suzukii* within the Ajara region of Georgia. The traps consisted of commercial plastic bootle (1 L) with tiny holes on the upper part, filled with 2 dl of apple vinegar (20% v/v) to lure, kill and preserve the insects (for the trapping method [20]). One plastic bottle (1 L) was hung in each of two villages (Zanakidzebi 41°35'20.9"N, 41°40'43.7"E and Sameba 41°37'51"N, 41°40'19"E) in the Khelvachauri municipality, and two bottles in city Batumi streets of Javakhishvili 41°38'15.96"N, 41°37'30.91"E and Lermontov 41°38'15.87"N, 41°37'44.53"E. Localities were chosen near agricultural markets. After 10 days, we collected the bottles and examined the collected insects in the laboratory. The flies were preserved in 96% ethanol. Specimens of *Drosophila suzukii* were identified under a stereo microscope (Micros) by fourth author. (Fig. 1). 1 male and 1 females of *D. suzukii* were identified from each location. We conducted similar experiments in Tbilisi near a fruit market; however, we did not identify *D. suzukii* there. Voucher specimens are preserved in 96% ethanol at the Institute of Entomology, Agricultural University of Georgia, Tbilisi.

Our results confirm continuing rapid worldwide invasion of SWD. In the coming years, intensive efforts will be needed to monitor the

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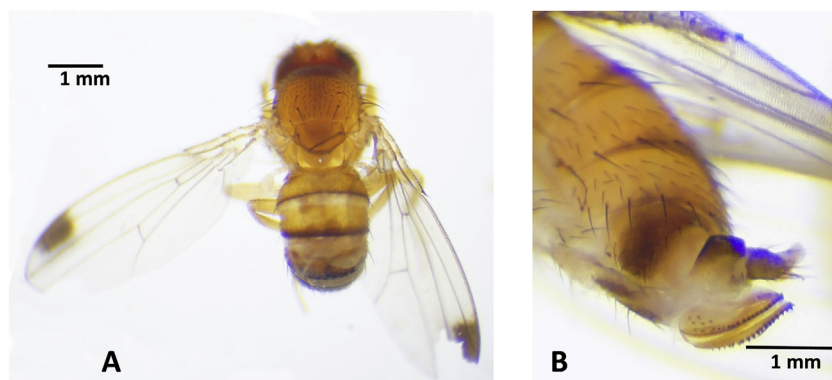


Fig. 1. *Drosophila suzukii*, A – Male, Dorsal view; B – Female ovipositor.

changing status of this dangerous fruit pest in Georgia.

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