

Native parasitoids and their potential for natural control of the invasive fruit pest *Drosophila suzukii* (Diptera: Drosophilidae)

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The spotted wing drosophila, *Drosophila suzukii* (Matsumura), is a vinegar fly that is closely related to *D. melanogaster* and has expanded its distribution from Asia to America and recently to Europe. It has been reported in most of the Mediterranean countries in Europe and is rapidly spreading towards north and east. In 2012, *D. suzukii* has been identified in southwestern parts of Germany.

This species infests commercial small and stone fruits as opposed to most species of drosophilids that only infest overripe, fallen or rotting fruits. Female *D. suzukii* possess a distinctive serrated ovipositor that allows them to lay eggs successfully into healthy and ripening fruits. After oviposition, the larval stages causes a high risk to divers marketable crops, especially soft or thin-skinned fruits which are collapsing through larval feeding.

We will give a short overview of the actual situation and our monitoring programme of *D. suzukii* in the Rhein-Main-Area. Within the project it turned out that traps with a vinegar-water-mixture as bait at a ratio of 2:3 has been shown a highly efficient quantity of trapped drosophilids. We started the monitoring in April 2013 to investigate the species composition of the different Drosophilidae throughout the year. In

order to found a laboratory rearing for parasitoid-experiments we disposed mush traps that enable oviposition through drosophilids. In cooperation with the *Hessian Plant Protection Service* we started also a small monitoring project of infested fruits by *D. suzukii* at a commercial fruit farm nearby Darmstadt.

First results reveal that there are strong distinctions in the species composition of different native Drosophilidae-communities between rural and urban areas. We also found differences for surrounding trap location conditions, especially those between wood and cropland. Our data confirmed former studies which found that adult animals were not trapped before July. Hence, we presume that the new invasive fruit pest *D. suzukii* could occupy any ecological niche and build stable populations.

Furthermore, we trapped native parasitoids with *Drosophila*-larvae from our laboratory rearing as bait. In further laboratory experiments we hope to estimate the potential of biological control of *D. suzukii* through parasitic wasp-species. This could raise the hope for a prospective natural control strategy against the invasive fruit pest *D. suzukii*.