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### **Presence of *Drosophila suzukii* (Matsumura, 1931) (Diptera Drosophilidae) in Liguria (Italy)**

**Abstract** - The presence of *Drosophila suzukii* in Liguria (Italy) on strawberries and raspberries is reported.

**Riassunto** - *Presenza di Drosophila suzukii (Matsumura, 1931) (Diptera Drosophilidae) in Liguria (Italia).*

Viene segnalata la presenza di *Drosophila suzukii* in Liguria, su coltivazioni di fragola e lampone.

**Key words:** *Drosophila suzukii*, alien insects, strawberry pest, raspberry pest, new presence, Spotted Wing Drosophila.

In fall 2010 was noticed a heavy infestation on strawberries in a greenhouse and on raspberry in fields, near Savona (Liguria, Italy); the attacks were produced by larvae of a Diptera, with activity in the fruits close to ripening.

After the breeding in the laboratory, from the fruits came some adults of *Drosophila suzukii* (Matsumura, 1931), (Spotted Wing Drosophila), a species from Extreme Orient, but recently signaled both in North America and in Europe as noxious on strawberries (*Fragaria* spp.), raspberries (*Rubus idaeus*) and other *Rubus* spp., blueberries (*Vaccinium* spp.), sweet cherries (*Prunus avium*), plums (*P. domestica*) and many others fruit crops (kiwis, persimmons, peaches, table and wine grapes) (EPPO Quarantine Alert, 2010).

In the area near Savona some sporadic attacks were ascertained in the year 2009, but for the farmer there weren't important (pers. comm.).

In the year 2010 the presence of this Diptera increases, with 30%-40% damages on strawberries until 80% in the period of the most important attack.

The most infested cultivar was Mara de Bois, a strawberries very fragrant, but with the increasing of the attack, the cultivars Annabel, Diamante and Sant'Andrea were damaged too.

The top of the infestation was in September; the presence of *Drosophila suzukii* was reduced in fall.

The Spotted Wing Drosophila (SWD) belongs, at systematic level, to the *melanogaster* group, *suzukii* subgroup.

Okada (1954) studied the general structures of the fallic organs of the *melanogaster* group. In the case of *D. suzukii* the male genitalia are characterized by “*aedeagus apparently bifid, pubescent ventroapically. Anterior paramere (forcep) broad, abruptly narrowing near apex and with a few subapical sensilla. Posterior paramere (stylus) dorsobasally dilated and pubescent. Ventral fragma triangular. Novasternum (9<sup>th</sup> sternite, or hypandrium) with low lateral processes, paired fine spines and a small median projection instead of a medium notch*” (Figure 1).

The female can put the eggs in the fruits, close to the ripening, because the ovipositor is characterized on the very long *valvae*, by a series of strong stings and another inner triple row of teeth (Figure 2).

The damages on the fruits at the beginning appears as a light depression; the fruit collapse around the feeding site; secondary fungal or bacterial infection may contribute to the total destruction of the fruits.

In Italy, the SWD was first found in the Province of Trento (Grassi *et al.*, 2009). The Authors provides detailed description of this pest, the World distribution, biology and damages.

Consequently to the ascertained infestations in particular in USA, starting from 2008, and to the damages in Trento Province in 2009, this insect was added to the Alert list (EPPO RS 2010/007).



Figure 1 - *Drosophila suzukii*: male genitalia.



Figure 2 - *Drosophila suzukii*: female genitalia.

In 2010 it was found in Tuscany Region in occasion of faunistic studies without causing damages (EPPO RS 2010/112). The diffusion in Trentino-Alto Adige Region was confirmed (EPPO RS 2010/178); since 2010 the SWD has been found in France, in particular on cherry in Corse, on strawberries in Alps-Maritimes and Var and in other Regions, on various fruit crops (EPPO RS 2010/111; EPPO RS 2010/179).

The short life cycle (8-15 days, depending of the climatic conditions), the high number of generation per year (in Japan this insect complete about 13 generations per year) (Grassi *et al.*, 2009), the damages on fruits of particular value render very worried the progressive diffusion of *D. suzukii* in Italy. At the consequence, studies on the possibility to get ready suitable strategies of pest control are necessary.

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