**Biological activity of *Citrus monstruosa* on the medfly *Ceratitis capitata* Wiedemann (Diptera: Tephritidae)**

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The Mediterranean fruit fly or medfly, *Ceratitis capitata* Wiedemann (Diptera: Tephritidae), is a polyphagous pest that infests numerous plant species of agronomic interest, such as pomaceous and citrus and easily adapts to novel host plants according to their availability. Recently, behavioral and electrophysiological studies were performed to investigate the interactions between insect and different host-plants. *Citrus monstruosa*, belonging to the *Rutaceae* family, is a Sardinian endemic species. These fruits are characterized by a very high acidity of the pulp juice, by a bitter albedo and by a flavedo traditionally used for the preparation of typical sweet gastronomic product and liqueur. With the aim to identify biologically active compounds that could be used in sustainable control of the medfly, flavedo, albedo and flesh of fruit were evaluated in our laboratory in a behavioral experiment. Our behavioral data indicated that flavedo attracted the moiety of insects (n°=68), while albedo was less attractive (n°=19) due to its bitter taste. Moreover, in a second behavioral bioassay, we evaluated the essential oil of these fruits obtained by Headspace solid-phase microextraction (HS-SPME). Chemical composition of *Citrus monstruosa* essential oil, obtained from the fresh peels of the fruits, reported that limonene was the main volatile component (94%). Essential oils attracted more insects (n°=42) than the water used as control (n°=11) and insects that ingested this essential oil died in few minutes.

In conclusion, the essential oil of *Citrus monstruosa* increase feeding behavior in the medfly but had a toxic effect probably due to the presence of limonene.

Further studies are necessary to evaluate the effects of *Citrus monstruosa* essential oil in field tests.