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Occurrence and phenology of the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae) in the peach producing area of Central Macedonia, Greece

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The Mediterranean fruit fly (medfly), *Ceratitis capitata* is a major pest of many fruit commodities growing in tropic, subtropic and temperate areas, including peaches and other stone fruits. Besides direct damage on fruits, its presence in an area may impede fruit trading and impose quarantine regulations. Detection and population monitoring of medfly populations is of great importance to develop response strategies and establish long term management plans. Earlier studies suggest that medfly can only sporadically occur in central Macedonia, Greece, which is one of the main stone producing areas of Europe. However, because of climate change and changes in agronomic practices in recent years there are reports of medfly infestation in commercial areas in this area. In the frameworks of the Horizon 2020 funded project FF-IPM "In-silico boosted, pest prevention and off-season focused IPM against new and emerging fruit flies" we studied the occurrence, spatial dispersion, and seasonal phenology of the Mediterranean fruit fly in Central Macedonia, Greece. Overall, 25 trap stations of conventional traps (plastic McPhail; baited with Biolure; and Jackson trap baited with trimedlure) were deployed in the area of Pella, Imathia and Katerini following a structured experimental plan. Traps operated from June 2020 until November 2021. They were serviced weekly and captured insects were counted and removed from traps. The traps were placed to appropriate hosts based on seasonality of ripening. Hosts included apples, persimmons, nectarines, peaches and quinces. Capture data were coded by the coordinates of trap location, host, date and sex and were entered into a structured database. First analysis of the data showed that nearly zero captures of adults in traps up to the end of summer (August) and a substantially increase towards autumn, with peak captures in October. Adult captures declined in November and cease in mid-December. Overall adults were detected in all three regional directorates. Our results demonstrate in a thorough and systematic way that low populations of medfly are wide dispersed in central Macedonia and hence the risk for the commercial fruit commodities in the areas is substantial. We discuss the possible measures that should be taken to reduce the impact of medfly dispersion of fruit production and trading.

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