

عنوان مقاله:

Population Abundance and Seasonal Activity of Zetzellia pourmirzai (Acari: Stigmaeidae) and Its Preys Cenopalpus irani and Bryobia rubrioculus (Acari: Tetranychidae) in Sprayed Apple Orchards of Kermanshah, Iran

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خلاصه مقاله:

The population densities and spatial distribution patterns of Zetzellia pourmirzai Khanjani and Ueckermann and its preys Cenopalpus irani Dosse and Bryobia rubrioculus (Scheuten) were studied in a sprayed orchard in Kermanshah, a western province of Iran, from ۳۱ May till ۷ November, ۲۰۰۷. The interaction (density dependence) between the plant feeding mites and their predator was determined as well. Population density of the phytophagous mites and their predator were counted on ۱۳۰ leaves (sampling unit) every ۱۰ days. The mean population density of C. irani per leaf was significantly higher than that of the other mites. The population densities of C. irani, B. rubrioculus, and Z. pourmirzai were highest on ۹ August (۱۱.۰۹۲ per leaf), ۲۰ July (۰.۵۵۴ per leaf) and ۳۰ July (۱.۳۸۵ per leaf), respectively. The index of dispersion, regression models (Taylor and Iwao), and Lloyd's mean crowding to mean showed an aggregated distribution for all species. Some changes in the distribution from aggregated to random was indicated by Morisita's index during different sampling dates. These changes showed that the spatial distribution of these mites can vary during the season. The smallest optimum sample sizes, calculated with Taylors' coefficients, were ۲۰.۸۰۶, ۱۹۲.۹۱۲, and ۱۲۸.۱۱۷ for C. irani, B. rubrioculus and Z. pourmirzai, respectively. Linear regression of predator to prey population densities showed a density-dependant predation by Z. pourmirzai on C. irani and on B. rubrioculus. In addition, a significant linear regression was obtained between temperature and the population fluctuations of these mites. The spatial distribution parameters of the tetranychoid mites and their predator could be used to improve sampling programs and to estimate the population densities of these mites and the efficacy of the predator being used in orchards IPM.

کلمات کلیدی:

Bryobia rubrioculus, Cenopalpus irani, Zetzellia pourmirzai, Population density, Spatial distribution

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