

The little fire ant (*Wasmannia auropunctata*) in Israel

Merav Vonshak, Tamar Dayan and Abraham Hefetz, Tel Aviv University, Tel Aviv,
Israel 69978

meravwei@post.tau.ac.il

Biological invasions are considered as the second most important factor in biodiversity decline worldwide. Among these invaders, species of social insects, especially ants, are particularly destructive. In Israel there are around 30 alien ant species, i.e., have been found at least once. The little fire ant (*Wasmannia auropunctata*), which is on the “one hundred of the world’s worst invasive alien species” list of The World Conservation Union, was recently discovered in Israel. This is the first record of this ant in the Middle East, which is also the northern most point (32°43') of this ant’s distribution. The little fire ant is known for its devastating impact on the native fauna in its alien range, for its ferocious sting to humans, and as an agricultural pest both in its native and alien ranges.

We conducted a limited survey in the area where it was first reported (3 villages) in order to study the ant's distribution in Israel, using baits, hand collection and pitfall traps. We also located the ants in 5 additional villages in the same area as well as in a nature reserve and at the edges of agricultural fields. A substantial difference was found in the ant's population density between the various sites studied. In the two most heavily infested sites, Kibbutz Afikim and the adjacent Kibbutz Bet Zera, the little fire ant is found almost everywhere, and constitutes the only ant species. In such heavily infested areas other ant species can be found only on the periphery of the fire ant’s distribution, whereas in non-infested areas 10 to 15 different ant species can co-occur. To assess whether the little fire ant forms supercolonies in Israel we conducted intra- and interspecific aggression tests. There was no intraspecific aggression even between workers from the most distant poles within their local distribution. However, hand interspecific aggression was high and generally culminated in death of the heterospecific ant species. This suggests that, as in other invaded areas in the world, *W. auropunctata* forms supercolonies. It further supports the hypothesis that its ecological success lies in its ability to outcompete other ant species. We are now conducting chemical molecular and behavioral analyses to substantiate these conclusions.