

NOTE: **The Malvastrum Mealybug *Ferrisia malvastra***  
**(Hemiptera: Coccoidea: Pseudococcidae): Distribution,**  
**Host Plants and Pest Status in Israel**

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The malvastrum mealybug *Ferrisia malvastra* (McDaniel) (Hemiptera: Coccoidea: Pseudococcidae) is widely distributed in Israel, recorded so far from 30 species of host plants belonging to 18 families. Its occurrence on herbal plants and on avocado should be considered by farmers in Israel.

KEY WORDS: Scale insects; Coccoidea; Pseudococcidae; *Ferrisia malvastra* (McDaniel); Mediterranean Basin; Israel.

The production of herbs and spices in Israel has an annual value estimated at 50 million euros. In recent years a remarkable increase has been observed in populations of, and the damage caused by mealybugs (Hemiptera: Pseudococcidae) in several species of herbs and spices; the mealybugs were identified as the citrus mealybug, *Planococcus citri* (Risso) (Yunis, H., *et al.* 2004. The citrus mealybug on green spices. [in Hebrew]. Israel Ministry of Agriculture, Extension Service, Tel Aviv).

This note records the occurrence of an additional species of mealybugs, namely, *Ferrisia malvastra* (McDaniel), on herbs in this country.

The malvastrum mealybug, *Ferrisia malvastra* (McDaniel) (Hemiptera: Coccoidea: Pseudococcidae), is a recent addition to the mealybug fauna of the Mediterranean Basin, having been first recorded from Israel in 1980 (as *Ferrisia consobrina* Williams & Watson, which is a junior synonym) (1), from a few host plants. Since then this mealybug has been extensively collected in the country along the Coastal Plain, and in the Jordan Valley and the Arava Valley. Listed below are records from Israel of this mealybug from approx. 30 species of host plants belonging to 18 families:

**Apocynaceae:** *Nerium oleander*, Bet

Dagan, 29/07/1999 (D. Blumberg-3251). **Asclepiadaceae:** *Calotropis procera*, En Yahav, 01/10/1978 (D. Gerling-1154). **Boraginaceae:** *Echium angustifolium*, Rehovot, 23/06/1978 (-1100); *Echium* sp., Gedera, 01/07/1999 (- 3313). **Cactaceae:** Cactaceae sp., Qiryat Tivon, 19/07/1991 (N. Plaut-2700); Cactaceae sp., Haifa, 14/09/2000 (-3414); *Hylocereus polyrhizus*, Mivtahim, 25/10/2004 (- 3912); *Lobivia* sp., Qiryat Tivon, 09/01/1990 (N. Plaut-2623); *Rebutia* sp., Qiryat Tivon, 01/09/1989 (N. Plaut-2592). **Chenopodiaceae:** *Beta vulgaris*, Bet Dagan, 23/09/1990 (M. Klein-2640); *Chenopodium mariana*, Bazra, 13/09/1989 (- 2546); *Kochia*, Bazra, 13/05/1988 (- 2462); *Suaeda monoica*, Tel Aviv, 05/12/1977 (- 996). **Compositae:** *Artemisia dracuncul* Renen, 17/08/2004 (R. Tamari-3859); *A. dracuncul*, Renen, 18/11/2004 (R. Tamari-3923); *Erigeron* sp., Rehovot, 24/10/1979 (- 1335); *Erigeron* sp., Sede Nizan, 05/11/1981 (M. Berlinger-1739); *Erigeron* sp., Alfe Menashe, 18/10/1986 (-2292); *Solidago*, Sede Yitzhaq, 24/10/2001 (Z. Ben-David-3542); *Tagetes* sp., Be'er Sheva, 20/11/1977 (M. Berlinger-1022, 1026). **Convolvulaceae:** *Cressa cretica*, Tel Aviv, 05/12/1977 (-999). **Cruciferae:** *Brassica rapa*, Bet Dagan, 19/01/1987

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(-2309). **Labiatae:** *Mentha*, Mekhola, 23/09/2004 (S. Gros-3900). **Lauraceae:** *Persea americana*, Bet Dagan, 01/09/1985 (Y. Pinkas-2184). **Leguminosae:** *Acacia negevensis*, Ma'ale Adumim, 25/12/2001 (N. Sapir-3568); *Phaseolus vulgaris*, Bet Dagan, 06/06/1985 (S. Amitai-2152). **Liliaceae:** *Ruscus aculeatus*, Rehovot, 25/10/1984 (-2075). **Malvaceae:** *Gossypium hirsutum*, Tel Aviv, 17/11/1977 (D. Gerling-980); *G. hirsutum*, Bet Dagan, 29/12/1992 (Z. Klein-2797); *G. hirsutum*, Tel Aviv, 15/12/1986 (I. Susman-2304); *G. hirsutum*, Gilat 26/10/1984 (M. Berlinger-2079). **Myrtaceae:** *Chamelaucium uncinatum*, Yated, 03/09/2003 (Y. Skutalsky-3776). **Onagraceae:** *Oenothera drummondii*, Rishon Leziyyon, 24/11/1991 (-2715). **Proteaceae:** *Macadamia*, Yotvata, 04/10/1974 (A. Venezian-2087). **Solanaceae:** *Solanum luteum*, Rehovot, 25/08/1985 (-2182); *Solanum tuberosum*, Bet Dagan, 29/10/1997 (E. Tanne-3187). **Verbenaceae:** *Avicennia marina*, Tel Aviv, 05/12/1977 (-997).

*Ferrisia malvastra* has been recorded (2,3,4,5) from the Afrotropical realm (South Africa; Swaziland); Australasian, Australia (Queensland); Cook Islands; Kiribati; New Caledonia; Papua New Guinea; Tonga; Tuvalu; Vanuatu; Nearctic (Mexico); Neotropical (Argentina; Bahamas; Bermuda; Cuba; Jamaica; Peru; Trinidad); Oriental: India (Karnataka, Maharashtra), and in Israel at the Palearctic realm. Most of the records were from the South Pacific, and from South and Central America, suggesting that the malvastrum mealybug may have originated in these regions. The disjunct distribution in Israel, which is the only record for the Mediterranean Basin, is probably an indication that this mealybug has been accidentally introduced into the country.

No males were found in any populations of

*F. malvastra* collected in Israel. Under laboratory conditions the mealybug was successfully reared for several generations on sprouting potato tubers (*Solanum tuberosum*). These mealybugs always reproduced parthenogenetically.

*Ferrisia malvastra* develops in Israel under varying climatic conditions. It was found in Jerusalem at an altitude of 800 meters, along the mild Coastal Plain, and in the arid Arava Valley. In Israel it was found to be parasitized by *Neoplatycercys palestinensis* (Rivnay) (Hymenoptera: Encyrtidae); identified by Dr. John Noyes (The Natural History Museum, London).

Further studies will be required to evaluate the economic importance of *F. malvastra*, among other mealybug species that infest herbs and spices in Israel.

The striped mealybug, *Ferrisia virgata* (Cockerell) (a species morphologically related to *F. malvastra*), does not occur in Israel. However, *F. virgata* has been recorded in the Mediterranean region from Egypt and France (2). These two congeners may be distinguished from each other by the following key:

Dorsal, enlarged ducts each with rim about same size as a multilocular disc pore or smaller, with setae situated either adjacent to rim or just outside it; multilocular disc pores either absent from venter of abdominal segment VI, or occasionally numbering 1-3 . . . . . *Ferrisia malvastra* (McDaniel)

Dorsal, enlarged ducts each with rim larger than a multilocular disc pore, containing setae situated within border of rim; multilocular disc pores present in row on venter of abdominal segment VI, numbering at least 8 . . . . . *Ferrisia virgata* (Cockerell)

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