

**APHIDS OF FOREST AND ORNAMENTAL TREES AND SHRUBS OF ISRAEL\***

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**ABSTRACT**

A list is given of 108 species of aphids feeding on forest and ornamental trees and shrubs in Israel, including new data on host plants, phenology and distribution. A further list is given of 239 species of forest and ornamental plants and of aphids feeding on them. The food valence and economic importance of the insects are discussed. **KEY WORDS:** Aphidoidea, forest, ornamentals, trees and shrubs, Israel.

**INTRODUCTION**

The present list of plant lice (Aphidoidea) feeding on forest and ornamental trees and shrubs in Israel is based mainly on three publications: (a) Bodenheimer and Swirski (1957) (BS) includes comprehensive data on aphid species found here until 1957; (b) Swirski (1963) (S) lists species recorded between 1957 and 1963; (c) Halperin, Binazzi and Swirski (1988) (HIBiS) list aphids found in Israel since 1963. Some records based on other sources are also referred to (Amitai, i. l.; Eastop and Raccah, 1988; Halperin, i. l.; Harpaz, 1953; Hille Ris Lambers, 1957; Koacn and Wool, 1977; Wertheim, 1954, 1955; Wool, 1984; and Zehavi and Rosen, 1987).

The present paper also includes unpublished data by Halperin and Swirski (HS) obtained since 1963 on new host plants, phenology and distribution in Israel.

Separate enumerations are given of the aphids (in systematical order) and of the host-plants (in alphabetical order). Synonyms of aphids and plants are given only for species previously mentioned in Israel under other names. For aphid species found only once, or at a single site, the locality is listed; for other species, the known distribution in Israel is indicated. The nomenclature of Eastop and Hille Ris Lambers (1976) is followed.

Identifications of aphids in the last 25 years are by (in chronological order) E. Swirski, the late D. Hille Ris Lambers (Bennekom, The Netherlands), V.F. Eastop and J.H. Martin (British Museum, Natural History, London), and A. Binazzi.

Abbreviations are: AV, Arava Valley; Ca, Mt. Carmel; CN, Central Negev; CP, Coastal Plain; DS, Dead Sea area; GH, Golan Heights; HV, Hula Valley; JD, Judean Desert; JM,

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Judean Mountains (Judean Hills); JV, Jordan Valley; LG, Lower Galilee; MH, Mount Hermon; NN, Northern Negev; Sa, Samaria; Sh, Shefela (Foothills of Judea); UG, Upper Galilee; YV, Yizre'el Valley; a.y.r., all year round. Months of collection are indicated by Roman numerals.

## Part 1. ENUMERATION OF APHIDOIDEA

### LACHNIDAE

#### LACHNINAE

1. *Lachnus crassicornis* Hille Ris Lambers  
*Quercus ithaburensis*, Dafna (HV); viviparae, IV (BS).
2. *Lachnus roboris swirskii* Hille Ris Lambers  
*Quercus boissieri*, *Q. ithaburensis*, *Q. suber*; GH, LG, CP; viviparae, summer (BS, HS).
3. *Lachnus subnudus* Börner  
*Quercus* sp.; Nahalal (YV); viviparae, VII (BS).
4. *Pterochloroides persicae* (Cholodkovsky)  
*Amygdalus communis*, *Prunus pissardii*; HV, YV, CP, Sh, JM; viviparae, a.y.r. (BS, HS).
5. *Tuberolachnus salignus* (Gmelin)  
*Salix acmophylla*, *S. alba*, *S. babylonica*, *S. humboldtiana*, *Populus nigra* (rare); GH, CP, SH, JM; viviparae, a.y.r. (BS, S, HS).

#### CINARINAE Tribus Cinarini

6. *Cinara cupressi* (Buckton)  
*Callitris* sp., *Cupressus arizonica*, *C. benthamii*, *C. sempervirens*, *Juniperus oxycedrus*, *Sequoia sempervirens*, *Tetraclinis articulata*; LG, CP, JM; viviparae, IV, V (HBiS).
7. *Cinara fresai* (Blanchard)  
*Juniperus oxycedrus*, Beit Jann (UG), spring (Mendel and Zehavi, 1987; HBiS).
8. *Cinara maritimae* (Dufour) (= *excelsae* Hille Ris Lambers)  
*Pinus canariensis*, *P. excelsa*, *P. pinaster*, *P. pinea*, *P. radiata*; GH, Ca, SA, CP, JM; viviparae, I-VII (Hille Ris Lambers, 1948; BS, S, HS).
9. *Cinara palaestinensis* Hille Ris Lambers  
*Pinus brutia*, *P. halepensis*; Ca, SA, CP, JM, NN; viviparae, I-XI (Hille Ris Lambers, 1948; BS, HS).
10. *Cinara tujaefilina* (del Guercio)  
*Thuja orientalis*; CP, JM; viviparae, a.y.r. (BS, HS).

#### Tribus Eulachnini

11. *Eulachnus rileyi tauricus* Bozhko  
*Pinus pinea*; Qiryat Anavim (JM); viviparae, III-X (HBiS).

12. *Eulachnus tuberculostemmatus* (Theobald)

*Pinus brutia*, *P. canariensis*, *P. halepensis*, *P. pinea*; GH, UG, LG, JV, YV, Ca, Sa, CP, JM, NN; viviparae, II-XI (BS, HS).

CHAITOPHORIDAE

13. *Chaitophorus euphraticus* Börner

*Populus euphratica*; JV, DS, AV; viviparae, II-X (BS, HS).

14. *Chaitophorus leucomelas* Koch (= *versicolor* Koch)

*Populus canadensis*, *P. deltoides*, *P. eugenei*, *P.x euramericana*, *P. nigra*; GH, HV, UG, Sa, CP; viviparae, II-VII, X-XII (S, HS).

15. *Chaitophorus minutus* Hille Ris Lambers

*Salix* sp.; Deganya (JV); viviparae, V (BS).

16. *Chaitophorus populeti* (Panzer) s.l.

*Populus alba*, *P. nigra*, *Populus* sp.; GH, HV, UG, LG, Ca, Sa, CP, JM; amphigonic cycle during XII-III, also viviparae a.y.r. (BS, S, HS). Includes *C. populeti* ssp. *populeti* and *C. populeti* ssp. *sensoriatus* Mimeur.

17. *Chaitophorus populialbae* (Boyer de Fonscolombe)

*Populus alba*, *P. nigra*; HV, LG, CP, JM; viviparae, IV-VI, IX (HBiS).

18. *Chaitophorus syriaca* Börner, i.l.

*Salix* sp.; Deganya (JV); viviparae, VII (BS).

Note: Probably *C. minutus* Hille Ris Lambers.

CALLAPHIDIDAE

19. *Myzocallis boernerii* Stroyan

*Quercus ilex*, *Q. ithaburensis*, *Q. suber*; HV, CP; viviparae, II-IV (HBiS).

20. *Myzocallis* sp. *castanicola* Baker gp.

*Quercus ilex*; Ilanot (CP); IV (HBiS).

21. *Myzocallis* sp.

*Quercus calliprinos*; Ilanot (CP); IV (HBiS).

Note: The late Dr. D. Hille Ris Lambers considered it as a new species (letter, 7.VIII.74).

22. *Myzocallis (Dryomyzus) glandulosus* Hille Ris Lambers

*Quercus ithaburensis*, JV, CP, JM; amphigonic cycle during the winter, viviparae in III-V, X-XII (BS, HS).

23. *Myzocallis komareki* Pašek

*Quercus ithaburensis*; YV, CP; III-V (HBiS).

24. *Myzocallis schreiberi* Hille Ris Lambers and Stroyan

*Quercus ithaburensis*; Miqwe Yisrael (CP); IV (HBiS).

Note: According to Eastop and Hille Ris Lambers (1976) possibly a synonym of *M. boernerii* Stroyan.

25. *Hoplocallis pictus* (Ferrari) (= *bodenheimeri* Hille Ris Lambers)

*Quercus boissieri*, *Q. cerris*, *Q. ilex*, *Q. ithaburensis*; HV, CP, JM; amphigonic cycle during the winter, viviparae in spring-autumn (BS, HS).

26. *Hoplochaetaphis parvula* Hille Ris Lambers and van den Bosch  
*Quercus boissieri*, *Q. ithaburensis*; GH, YV; viviparae, IV-VI (HBiS).
27. *Ctenocallis israelicus* Hille Ris Lambers  
*Calycotome villosa*; Ca, CP; viviparae, IV-VI (Hille Ris Lambers, 1954; BS, HBiS).
28. *Tuberculatus (Tuberculoides) moerickei* Hille Ris Lambers  
*Quercus boissieri*; YV, CP; I, III, IV, XI (HBiS).

#### PHLOEOMYZIDAE

29. *Phloeomyzus passerinii* (Signoret)  
*Populus canadensis*, *P. eugenei*, *P. x euramericana*, *P. nigra*; GH, HV, Sa, CP; viviparae, III-XI (S, HS).

#### THELAXIDAE

30. *Thelaxes suberi* (del Guercio) (= *confertae* Börner)  
*Quercus boissieri*, *Q. calliprinos*, *Q. ithaburensis*; GH, UG, JV, YV, CP, JM; viviparae, IV-VI, IX-XI (BS, HS).

#### APHIDIDAE

##### PTEROCOMMATINAE

31. *Pterocomma populeum* (Kaltenbach)  
*Populus alba*, *Populus* sp.; HV, CP, JM; viviparae, IV, V (S, HS).

##### APHIDINAE

Tribus Aphidini

32. *Aphis bougainvilleae* Börner, i.l.  
*Bougainvillea spectabilis*; Tel Aviv (CP); XII (BS).
33. *Aphis chloris* Koch  
*Hypericum* sp.; Ca, CP; viviparae, VIII,XI (S, HS).
34. *Aphis citricola* van der Goot (= ? *A. spiraecola* Patch)  
*Acacia saligna*, *Acalypha wilkesiana*, *Agonis flexuosa*, *Anagyris foetida*, *Bauhinia purpurea*, *B. variegata*, *Bougainvillea glabra*, *B. spectabilis*, *Buddleia madagascariensis*, *Calycotome villosa*, *Carissa grandiflora*, *Celtis australis*, *C. bungeana*, *C. sinensis*, *Cestrum purpureum*, *Chaenomeles japonica*, *Chamaecium uncinatum*, *Combretum krausii*, *Cotoneaster franchetii*, *C. frigidus*, *C. henryana*, *C. horizontalis*, *C. pannosa*, *Crataegus aronia*, *C. monogyna*, *C. oxyacantha*, *Cryptostegia madagascariensis*, *Dodonaea viscosa*, *Dovyalis caffra*, *Ficus bengalensis*, *F. microcarpa*, *F. pumila*, *F. religiosa*, *F. sycomorus*, *Gardenia jasminoides*, *Hibiscus rosa-sinensis*, *Hypericum canariense*, *Jacaranda acutifolia*, *J. chelonia*, *Jasminum mesnyi*, *Lagerstroemia indica*, *Lantana camara*, *Lycium* sp., *Melia sempervirens*, *Morus nigra*, *Murraya paniculata*, *Paulownia tomentosa*, *Pittosporum crassifolium*, *P. tobira*, *Plumbago capensis*, *Prunus lyoni*, *P. pissardii*, *Pyracantha angustifolia*, *P. coccinea*, *P. crenato-serrata*, *P. crenulata*, *P. koidzumii*, *Raphiolepis umbellata*, *Rhamnus alaternus*, *R. palaestinus*,

*Robinia pseudacacia*, *Ruta* sp., *Spiraea vanhouttei*, *Thevetia peruviana*, *Ulmus canescens*, *Viburnum odoratissimum*, *V. suspensus*, *V. tinus*; HV, JV, YV, Ca, Sa, CP, Sh, JM, DS, NN; viviparae, a.y.r. (Amitai, i.l.; HBiS).

35. *Aphis craccivora* Koch

*Acacia* sp., *Ailanthes altissima*, *Asparagus* sp., *Atriplex halimus*, *Calotropis procera*, *Calycotome villosa*, *Cassia corymbosa*, *Celtis australis*, *C. bungeana*, *C. sinensis*, *Ceratonia siliqua*, *Colutea istria*, *Crotalaria* sp., *Cryptostegia grandiflora*, *C. madagascariensis*, *Dalbergia sissoo*, *Fagonia arabica*, *F. mollis*, *Ficus religiosa*, *Genista canariensis*, *Gymnocarpos decander*, *Laburnum anagyroides*, *Lycium shawii*, *Mandevilla laxa*, *Peganum harmala*, *Pittosporum heterophyllum*, *P. tobira*, *P. undulatum*, *Platanus orientalis*, *Prosopis* sp., *Raphiolepis indica*, *Retama raetam*, *Rhamnus alaternus*, *R. libanoticus*, *R. palaestinus*, *Robinia pseudacacia*, *Rosa* spp., *Rubus sanctus*, *Spartium junceum*, *Tamarix* sp., *Tipuana tipu*, *Virgilia arboides*, *Wisteria sinensis*; GH, HV, JV, Ca, Sa, CP, Sh, JM, DS, NN, CN, AV; viviparae, a.y.r. (BS, S, HS).

36. *Aphis fabae* Scopoli, sensu latioire

*Amygdalus communis*, *Asparagus sprengeri*, *Atriplex halimus*, *Cassia corymbosa*, *Centranthus ruber*, *Cestrum purpureum*, *Eucalyptus camaldulensis*, *Euonymus japonicum*, *Lavatera* sp., *Pittosporum tobira*, *P. undulatum*, *Rosa* sp., *Rubia tenuifolia*; HV, UG, JV, YV, Sa, CP, JM, DS, NN; viviparae, a.y.r. (BS, S, HS).

37. *Aphis ficus* Theobald (= ? *gossypii* Glover)

*Ficus sycomorus*; Tel Aviv (CP); I-VIII (BS).

38. *Aphis frangulae* Kaltenbach

*Rhamnus alaternus*; HV, Sa; viviparae, III, IV (HBiS).

39. *Aphis gossypii* Glover

*Acacia* sp., *Acalypha wilkesiana*, *Agonis flexuosa*, *Ailanthus altissima*, *Amygdalus communis*, *Asparagus* sp., *Bauhinia purpurea*, *B. variegata*, *Bontia daphnoides*, *Broussonetia papyrifera*, *Buddleia madagascariensis*, *Callistemon* sp., *Campsis radicans*, *Catalpa hybrida*, *C. speciosa*, *Celtis* sp., *Chaenomeles japonica*, *Combretum krausii*, *Cordia* sp., *Crataegus aronia*, *C. monogyna*, *Duranta repens*, *Eucalyptus camaldulensis*, *E. melliodora*, *Ficus bengalensis*, *F. microcarpa*, *F. religiosa*, *F. sycomorus*, *Fraxinus excelsior*, *F. syriaca*, *Gardenia jasminoides*, *Grevillea robusta*, *Grewia tilifolia*, *Hibiscus liliiflorus*, *H. rosa-sinensis*, *H. schizopetalus*, *H. syriacus*, *Hypericum canariense*, *Inula viscosa*, *Jacaranda acutifolia*, *J. chelonia*, *Kigelia pinnata*, *Lagerstroemia indica*, *Lawsonia inermis*, *Liquidambar styraciflua*, *Luehea divaricata*, *Malvaviscus arborescens*, *Periploca graeca*, *Pistacia atlantica*, *P. palaestina*, *Pittosporum tobira*, *Pyracantha crenato-serrata*, *Rhamnus alaternus*, *R. libanoticus*, *R. palaestinus*, *Robinia pseudacacia*, *Rosa multiflora*, *Rosa* sp., *Russelia equisetiformis*, *Sarcopoterium spinosum*, *Schinus terebinthifolius*, *Spiraea vanhouttei*, *Tamarix* sp., *Tecomaria capensis*, *Terminalia arjuna*, *Trachycarpus fortunei*, *Ulmus* sp., *Zizyphus lotus*, *Z. spina-christi*; throughout the country; viviparae, a.y.r. (BS, S, HS).

40. *Aphis hederae* Kaltenbach

*Hedera helix*; JV, YV, CP, JM; viviparae, a.y.r. (BS, HS).

41. *Aphis nerii* Boyer de Fonscolombe

*Araujia sericofera*, *Asclepias curassavica*, *Calotropis procera*, *Gomphocarpus fruticosus*, *G. sinaicus*, *Hoya carnosa*, *Nerium oleander*, *Pergularia tomentosa*; JV, YV, CP, JM, AV; viviparae, a.y.r. (BS, HS).

42. *Aphis passeriniana* del Guercio  
*Salvia* sp.; Ca; viviparae, XI. (S).
43. *Aphis pomi* de Geer  
*Cotoneaster franchetii*, *C. henryana*, *C. horizontalis*, *C. pannosa*; YV, Sa, CP, JM;  
 hibernates as egg, reproduces parthenogenetically from spring until autumn (BS, HS).
44. *Aphis punicae* Passerini  
*Duranta repens*, *Plumbago capensis*; YV, CP, JM; amphigonic cycle during autumn and  
 winter on pomegranate and a parthenogenetic cycle on *Duranta* a.y.r. (BS, HS).
45. *Aphis ruborum* (Börner)  
*Rubus sanctus*; JV, CP, JM; viviparae, a.y.r. (BS).
46. *Aphis aff. salviae* Walker  
*Adhatoda vasica*; Beit Jimal (Sh), IV (BS).  
 Note: According to Eastop and Hille Ris Lambers (1976) *A. salviae* is probably a  
 synonym of *A. craccivora* Koch.
47. *Aphis serpylli* Koch, sensu latiore  
*Thymus capitatus*; Ca; viviparae, XI (S).
48. *Aphis verbasci* Schrank  
*Buddleia davidii*, *B. madagascariensis*; JV, CP, JM; viviparae, a.y.r. (BS, HS).
49. *Aphis ? viticis* Ferrari  
*Vitex agnus-castus*; JV, CP; viviparae, IV, VI. (BS).
50. *Aphis zizyphi* Theobald (= ? *nasturtii* Kaltenbach)  
*Zizyphus spina-christi*; GH, JV; viviparae, IV, V (BS, HS).
51. *Brachyunguis harmalae* Das  
*Astragalus spinosus*, *Callionum comosum*, *Fagonia arabica*, *F. mollis*, *Gymnocarpos decander*, *Loranthus acaciae*, *Lycium shawii*, *Nitraria retusa*, *Peganum harmala*, *Suaeda asphaltica*, *S. monoica*, *S. palaestina*; JV, NN, AV; viviparae, II, III, V, VI, XII (BS, S, HS).
52. *Brachyunguis* nr. *harmalae* Das  
*Callionum comosum*; Qiryat Hayyim (CP); II, VI. (HBiS).
53. *Brachyunguis tamaricis* (Lichtenstein)  
*Tamarix* spp.; CP, JD, DS, NN, AV; viviparae, IV-VII (BS, HS).
54. *Brachyunguis* sp.  
*Suaeda asphaltica*, *Tamarix aphylla*, *Tamarix* sp.; CP, JD, DS; viviparae, IV, VI, VIII (HBiS).
55. *Toxoptera aurantii* (Boyer de Fonscolombe)  
*Agonis flexuosa*, *Campsis radicans*, *Carissa grandiflora*, *Casuarina torulosa*, *Catalpa hybrida*, *Celtis australis*, *C. bungeana*, *C. sinensis*, *Crotalaria madurensis*, *Dovyalis caffra*, *Eucalyptus camaldulensis*, *E. gomphocephala*, *Ficus microcarpa*, *F. religiosa*, *Hypericum canariense*, *Ilex cornuta*, *Jacaranda acutifolia*, *J. chelonia*, *Myrtus communis*, *Pittosporum heterophyllum*, *P. tobira*, *P. undulatum*, *Rhamnus alaternus*, *Schinus terebinthifolius*, *Schotia latifolia*, *Styrax officinalis*, *Tamarix aphylla*, *Thunbergia grandiflora*, *Ulmus canescens*, *U. glabra*; HV, JV, YV, Sa, CP, Sh, JM; viviparae, a.y.r. (BS, HS).
56. *Hyalopterus amygdali* (Blanchard)  
*Prunus* sp., Dan (HV), 8.VI.77 (HBiS).
57. *Hyalopterus pruni* (Geoffroy)

*Amygdalus communis*, *Arundo donax*, *Phragmites communis*, *Prunus pissardii*, *P. ursina*; GH, HV, UG, VJ, YV, CP, AV; amphigonic cycle on *Prunus* spp. viviparae on *Phragmites* and *Arundo* a.y.r. (BS, HS).

58. *Melanaphis donacis* (Passerini)

*Phragmites communis*; CP, DS; viviparae, II, VI, XI (BS).

59. *Rhopalosiphum rufiabdominalis* (Sasaki)

*Bambusa vulgaris*, *Phragmites communis*; CV, Ca, CP, Sh, AV; viviparae, IX, XII-V (BS, HS).

#### Tribus Macrosiphini

60. *Brachycaudus (Thuleaphis) amygdalinus* (Schouteden)

*Amygdalus communis*; JV, YV, CP, Sh, JM, NN, CN; amphigonic cycle on *Amygdalus*, viviparae a.y.r. on *Polygonum* (BS, HS).

61. *Brachycaudus helichrysi* (Kaltenbach)

*Russelia equisetiformis*; Ca, CP, JM, DS, NN; viviparae, XII-VI. (BS, HS).

62. *Hayhurstia atriplicis* (Linnaeus)

*Atriplex halimus*; CP, AV; viviparae, III, VII (S).

63. *Xerophilaphis* sp.

*Calligonum comosum*; *Tamarix aphylla*; CP; viviparae, VI-VIII. (Halperin, i.l.).

64. *Hyadaphis asparagi* (Börner), i.l.

*Asparagus palaestinus*; Tel Aviv (CP; XI (BS).

Might be *Brachycorynella asparagi* (Aizenberg).

65. *Hyadaphis foeniculi* (Passerini)

*Lonicera canadensis*, *L. caprifolium*, *L. etrusca*; GH, YV, CP, JM; viviparae, II-VII, XII (BS, S, HS).

66. *Myzaphis turanica* Nevsky

*Rosa* sp.; CP, JM; viviparae, II, IV, V, XI, XII (BS).

67. *Chaetosiphon (Pentatrichopus) tetrarhodus* (Walker)

*Rosa* sp.; CP, JM; viviparae, V, VI (BS).

68. *Cavarrella aegopodii* (Scopoli)

*Salix alba*; HV, CP, JM, AV; viviparae, IV-VI (BS, HS).

69. *Ovatus insitus* (Walker)

*Crataegus aronia*, *C. monogyna*; YV, Ca, Sa, CP; viviparae, IV-VI (BS, HS).

70. *Myzus persicae* (Sulzer)

*Acalypha wilkesiana*, *Amygdalus communis*, *Asclepias curassavica*, *Asparagus* sp., *Atriplex* sp., *Bougainvillea spectabilis*, *Buddleia davidii*, *Catalpa hybrida*, *Centranthus ruber*, *Cercis siliquastrum*, *Duranta repens*, *Eucalyptus camaldulensis*, *Euonymus* sp., *Fagonia mollis*, *Gymnocarpos decander*, *Inula viscosa*, *Lycium europaeum*, *L. shawii*, *Mandevilla laxa*, *Nerium oleander*, *Peganum harmala*, *Periploca graeca*, *Reseda muricata*, *Rubus sanctus*, *Russelia equisetiformis*, *Salvia aegyptiaca*, *Tamarix aphylla*, *Tecomaria capensis*, *Withania somnifera*, *Zilla spinosa*; GH, UG, LG, JV, YV, CP, Sh, JM, NN, CN, AV; viviparae, a.y.r. (BS, HS).

71. *Cryptomyzus* sp. nr. *korschelti* Börner

*Prasium majus*; Ilanot (CP); V (HBiS).

72. *Capitophorus inulae* (Passerini)  
*Inula viscosa*; UG, Ca, CP; viviparae, XII-VI (S).
73. *Capitophorus inulae* (Passerini), gp.  
*Pulicaria crispa*; AV; II, III (Eastop and Raccah, 1988).
74. *Eucarazzia elegans* (Ferrari)  
*Majorana syriaca*, *Salvia* sp.; CP, JM; viviparae, II, V (BS, HS).
75. *Aulacorthrum solani* (Kaltenbach)  
*Euonymus japonicus*, *Pyrostegia ignea*, *Russelia equisetiformis*, *Tecomaria capensis*; CP, JM; viviparae, II, IV (BS, HS).
76. *Acyrthosiphon pisum* (Harris)  
*Dalbergia sissoo*, *Spartium junceum*; JV, YV, CP, JM, DS; viviparae, XII-VI (BS, HS).
77. *Acyrthosiphon gossypii* Mordvilko  
*Alhagi maurorum*, *Astragalus spinosus*, *Fagonia arabica*, *F. mollis*, *Spartium junceum*; Kokhav haYarden (LG), Yotvata (AV); II, V, VI (S).
78. *Macrosiphum euphorbiae* (Thomas)  
*Ailanthus altissima*; GH, JV, CP, NN; viviparae, a.y.r. (S, HS).
79. *Macrosiphum rosae* (Linnaeus)  
*Rosa* sp.; UG, JV, YV, Ca, CP, JM; viviparae, a.y.r. (BS, HS).
80. *Metopolophium* sp.  
*Rosa* sp.; UG, JV; viviparae, II, IV (Halperin, i.l.).
81. *Rhodobium porosum* (Sanderson)  
*Rosa* spp.; UG, JV, CP; viviparae, IX-IV (BS, HS).
82. *Sitobion fragariae* (Walker)  
*Rosa* sp.; HV, CP, Sh, JM; viviparae, XII-VI (BS, HS).
83. *Uroleucon (Belochilum) inulae* (Ferrari)  
*Inula viscosa*; LG, JV, Ca, CP, Sh, JM, NN; viviparae, II, IV, VI-X (BS).
84. *Wahlgreniella nervata arbuti* (Davidson)  
*Arbutus andrachne*; Mt. Meron (UG); IV (HBiS).

#### PEMPHIGIDAE

##### ERIOSOMATINAE

85. *Eriosoma (Schizoneura) lanuginosum* (Hartig)  
*Ulmus* sp. (in galls); Merom Golan (GH), Yiftah(UG); V (HBiS).
86. *Tetraneura caerulescens* (Passerini) (= *aegyptiaca* Theobald)  
*Ulmus* sp. (in galls); Yizre'el (YV); V (HBiS).

##### PEMPHIGINAE

87. *Pemphigus immunis* Buckton (= *lichtensteinii* Tullgren)  
*Populus nigra* (in galls); UG, HV, JV, CP, JM; V-VII (BS, S, HS).

##### FORDINAE

88. *Apaloneura lentisci* (Passerini)

- Pistacia lentiscus*; UG, LG, JV, YV, Ca, Sa, CP, Sh, JM, NN; in galls of *Pistacia*, IV-XI, secondary viviparae on roots of Gramineae, XII-IV (Harpaz, 1953; BS, HS).
89. *Asiphonella dactylonii* Theobald  
*Pistacia palaestina* (in galls); MH, UG, CP, JM; VI-XI; secondary viviparae on roots of Gramineae (Wool, 1984).
90. *Forda marginata* Koch (= *follicularia* Passerini, = *trivialis* Passerini)  
*Pistacia palaestina* (in galls); HV, UG, Ca, Sa, CP, JM; galls, IV-VII (BS, HS).
91. *Forda formicaria* von Heyden (= *semilunaris* Passerini)  
*Pistacia palaestina*; HV, UG, LG, CP, JM; in galls on *Pistacia*, IV-X, secondary viviparae on roots of Gramineae (BS, HS).
92. *Forda hirsuta* Mordvilko  
*Bambusa vulgaris*, *Pistacia atlantica*; HV, UG, CP, JM, NN, CN; in galls of *Pistacia*, IV-XI, secondary viviparae on roots of Gramineae. Found (in I and XII) on the sheathed nodes of *Bambusa vulgaris* cane (BS, HS).
93. *Forda dactylinis* Börner (= *mordvilkoi* Börner)  
*Pistacia atlantica*; UG, LG, Sa, Sh, JM, NN, CN; gall on *Pistacia* IV-X, secondary viviparae on roots of Gramineae (Wertheim, 1954; BS, HS).
94. *Forda riccobonii* (Stefani)  
*Pistacia atlantica*; UG, HV, JM, N; in galls on *Pistacia*, IV-XI, secondary viviparae on roots of Gramineae (BS, HS).
95. *Rectinasus buxtoni* Theobald  
*Pistacia atlantica* (galls); GH, UG; in galls VI-XI (Wool, personal communication); secondary viviparae on roots of Gramineae (BS).
96. *Paracletus cimiciformis* von Heyden  
*Pistacia palaestina*; UG, Ca, Sa, CP, JM; in galls on *Pistacia*, IV-X, secondary viviparae on roots of Gramineae (BS, HS).
97. *Smynthurodes betae* Westwood (= *phaseoli* Passerini)  
*Bambusa vulgaris*, *Pistacia atlantica*; GH, HV, UG, JV, YV, Sa, CP, Sh, JM, NN, CN; in galls on *Pistacia*, III-XI, secondary viviparae on roots of mono- and bi-cotyledonous grasses. Found in X, XI on young shoots of *Bambusa vulgaris*, under the sheathed nodes (BS, HS).
98. *Baizongia pistaciae* (Linnaeus)  
*Pistacia palaestina*; GH, UG, LG, YV, Ca, Sa, CP, JM; in galls on *Pistacia*, VI-XI, secondary viviparae on roots of Gramineae (Harpaz, 1953; Wertheim, 1954; BS, HS).
99. Baizongiini gen. sp.  
*Pistacia palaestina*; MH, UG; in galls on *Pistacia*, X, XI (Koach and Wool, 1977).
100. Baizongiini gen. sp.  
*Pistacia khinjuk*, Jerusalem, in galls (BS).
101. *Geoica utricularia* (Passerini)  
*Pistacia atlantica*, *P. palaestina*; GH, UG, LG, Ca, Sa, CP, Sh, JM; in galls on *Pistacia*, IV-XI, secondary viviparae on roots of Gramineae (BS, HS).
102. *Geoica* sp. A  
*Pistacia atlantica*, emigrant alatae, JM, X; secondary viviparae on roots of Gramineae; JM, Sh, CP; II, III, X, XI (R.L. Blackman, in litt.; HBiS).
103. *Geoica* sp. B  
*Pistacia atlantica*, emigrant alatae, JM, XI; secondary viviparae reared by G. Wertheim

on roots of Gramineae, XI (Blackman, in litt.; Koach and Wool, 1977).

104. *Slavum wertheimae* Hille Ris Lambers

*Pistacia atlantica*; GH, UG, LG, Sa, JM, NN, CN; in galls, VI-X; the aphids live on *Pistacia* a.y.r. (Hille Ris Lambers, 1957; Wertheim, 1954, 1955).

PHYLLOXERIDAE

105. *Phylloxera quercus* Boyer de Fonscolombe

*Quercus boissieri*, *Q. calliprinos*; GH, Sa, CP, JM; viviparae, IV-X (BS, as *florentina*; HS).

106. *Phylloxera* sp. cf. *glabra* (von Heyden)

*Quercus boissieri*; Beit Ummar (JM); VIII (HBiS).

107. *Phylloxerina salicis* (Lichtenstein)

*Salix* sp.; Binyamina (CP); VI (BS).

108. *Aphanostigma piri* (Cholodkovsky and Mokrzecky)

*Pyrus syriaca*; HV, YV, CP, JM; parthenogenetic cycle a.y.r. (BS, S).

## Part 2. ENUMERATION OF HOST-PLANTS

<i>Acacia saligna</i> (Mimosaceae)	<i>Bambusa vulgaris</i> (Gramineae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Forda hirsuta</i>
<i>Acacia</i> sp.	<i>Rhopalosiphum rufulabdominalis</i>
<i>Aphis craccivora</i> , <i>A. gossypii</i>	<i>Smynthurodes betae</i>
<i>Acalypha wilkesiana</i> (Euphorbiaceae)	<i>Bauhinia purpurea</i> , <i>B. variegata</i> (Caesalpiniaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>
<i>A. gossypii</i>	<i>Bontia daphnoides</i> (Myoporaceae)
<i>Myzus persicae</i>	<i>Aphis gossypii</i>
<i>Adhatoda vasica</i> (Acanthaceae)	<i>Bougainvillea glabra</i> (Nyctaginaceae)
<i>Aphis aff. salviae</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Agonis flexuosa</i> (Myrtaceae)	<i>Bougainvillea spectabilis</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Aphis bougainvilleae</i> , <i>A. citricola</i> (= ? <i>A. spiraecola</i> )
<i>Toxoptera aurantii</i>	<i>Myzus persicae</i>
<i>Ailanthus altissima</i> (= <i>A. glandulosa</i> )	<i>Broussonetia papyrifera</i> (Moraceae)
(Simarubiaceae)	<i>Aphis gossypii</i>
<i>Aphis craccivora</i> , <i>A. gossypii</i>	<i>Buddleia davidii</i> (Loganiaceae)
<i>Macrosiphum euphorbiae</i>	<i>Aphis verbasci</i>
<i>Alhagi maurorum</i> (Papilionaceae)	<i>Myzus persicae</i>
<i>Acyrthosiphon gossypii</i>	<i>Buddleia madagascariensis</i>
<i>Amygdalus communis</i> (Rosaceae)	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i> ,
<i>Aphis fabae</i> s.l., <i>A. gossypii</i>	<i>A. verbasci</i>
<i>Brachycaudus amygdalinus</i>	
<i>Hyalopterus pruni</i>	<i>Calligonum comosum</i> (Polygonaceae)
<i>Myzus persicae</i>	<i>Brachyunguis harmalae</i> , <i>Brachyunguis</i> sp. nr.
<i>Pterochloroides persicae</i>	<i>harmalae</i>
<i>Anagyris foetida</i> (Papilionaceae)	<i>Xerophilaphis</i> sp.
<i>Aphis craccivora</i>	
<i>Araujia sericifera</i> (Asclepiadaceae)	<i>Callistemon</i> sp. (Myrtaceae)
<i>Aphis nerii</i>	<i>Aphis gossypii</i>
<i>Arbutus andrachne</i> (Ericaceae)	<i>Callitris</i> sp. (Cupressaceae)
<i>Wahlgrenella nervata arbuti</i>	<i>Chama cupressi</i>
<i>Arundo donax</i> (Gramineae)	<i>Calotropis procera</i> (Asclepiadaceae)
<i>Hyalopterus pruni</i>	<i>Aphis craccivora</i> , <i>A. nerii</i>
<i>Asclepias curassavica</i> (Asclepiadaceae)	<i>Calycotome villosa</i> (Papilionaceae)
<i>Aphis nerii</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. craccivora</i>
<i>Myzus persicae</i>	<i>Ctenocallis israelicus</i>
<i>Asparagus palaestinus</i> (Liliaceae)	<i>Campsis radicans</i> (Bignoniaceae)
<i>Hyadaphis asparagi</i>	<i>Aphis gossypii</i>
<i>Asparagus sprengeri</i>	<i>Toxoptera aurantii</i>
<i>Aphis fabae</i> , s.l.	<i>Carissa grandiflora</i> (Apocynaceae)
<i>Asparagus</i> sp.	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Aphis craccivora</i> , <i>A. gossypii</i>	<i>Toxoptera aurantii</i>
<i>Myzus persicae</i>	<i>Cassia corymbosa</i> (= <i>C. floribunda</i> )
<i>Astragalus spinosus</i> (Papilionaceae)	(Caesalpiniaceae)
<i>Acyrthosiphon gossypii</i>	<i>Aphis craccivora</i> , <i>A. fabae</i> , s.l.
<i>Brachyunguis harmalae</i>	<i>Casuarina torulosa</i> (Casuarinaceae)
<i>Atriplex halimus</i> (Chenopodiaceae)	<i>Toxoptera aurantii</i>
<i>Aphis craccivora</i> , <i>A. fabae</i> s.l.	<i>Catalpa bignonioides</i> (Bignoniaceae)
<i>Hayhurstia atriplicis</i>	<i>Aphis gossypii</i>
<i>Atriplex</i> sp.	<i>Myzus persicae</i>
<i>Myzus persicae</i>	<i>Toxoptera aurantii</i>

<i>Catalpa speciosa</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Aphis gossypii</i>	
<i>Celtis australis</i> , <i>C. bungeana</i> , <i>C. sinensis</i> ( <i>Ulmaceae</i> )	<i>Toxoptera aurantii</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. craccivora</i>	<i>Duranta repens</i> (= <i>D. plumieri</i> ) ( <i>Verbenaceae</i> )
<i>Toxoptera aurantii</i>	<i>Aphis gossypii</i> , <i>A. puniceae</i>
<i>Celtis</i> sp.	<i>Myzus persicae</i>
<i>Aphis gossypii</i>	
<i>Centranthus ruber</i> ( <i>Valerianaceae</i> )	<i>Eucalyptus camaldulensis</i> ( <i>Myrtaceae</i> )
<i>Aphis fabae</i>	<i>Aphis fabae</i> , <i>A. gossypii</i>
<i>Myzus persicae</i>	<i>Myzus persicae</i>
<i>Ceratonia siliqua</i> ( <i>Caesalpiniaceae</i> )	<i>Toxoptera aurantii</i>
<i>Aphis craccivora</i>	<i>Eucalyptus gomphocephala</i>
<i>Cercis siliquastrum</i> ( <i>Caesalpiniaceae</i> )	<i>Toxoptera aurantii</i>
<i>Myzus persicae</i>	<i>Eucalyptus melliodora</i>
<i>Cestrum purpureum</i> ( <i>Solanaceae</i> )	<i>Aphis gossypii</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. fabae</i> , s.l.	<i>Euonymus japonicus</i> ( <i>Celastraceae</i> )
<i>Chaenomeles japonica</i> ( <i>Rosaceae</i> )	<i>Aphis fabae</i> , s.l.
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Aulacorthum solani</i>
<i>Chamaelaelium uncinatum</i> ( <i>Myrtaceae</i> )	<i>Euonymus</i> sp.
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Myzus persicae</i>
<i>Colutea istria</i> ( <i>Papilionaceae</i> )	
<i>Aphis craccivora</i>	<i>Fagonia arabica</i> ( <i>Zygophyllaceae</i> )
<i>Combretum krausii</i> ( <i>Combretaceae</i> )	<i>Acyrrhosiphon gossypii</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Brachyunguis harmalae</i>
<i>Cordia</i> sp. ( <i>Boraginaceae</i> )	<i>Fagonia mollis</i>
<i>Aphis gossypii</i>	<i>Acyrrhosiphon gossypii</i>
<i>Cotoneaster franchetti</i> , <i>C. henryana</i> , <i>C.</i> <i>horizontalis</i> , <i>C. pannosa</i> ( <i>Rosaceae</i> )	<i>Aphis craccivora</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. pomifera</i>	<i>Brachyunguis harmalae</i>
<i>Cotoneaster frigidus</i>	<i>Myzus persicae</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Ficus bengalensis</i> ( <i>Moraceae</i> )
<i>Crataegus aronia</i> , <i>C. monogyna</i> ( <i>Rosaceae</i> )	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Ficus microcarpa</i> (= <i>F. nitida</i> )
<i>Ovatus insitus</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>
<i>Crataegus oxyacantha</i>	<i>Toxoptera aurantii</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Ficus pumila</i>
<i>Crotalaria madurensis</i> ( <i>Papilionaceae</i> )	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Toxoptera aurantii</i>	<i>Ficus religiosa</i>
<i>Crotalaria</i> sp.	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. craccivora</i> , s.l.
<i>Aphis craccivora</i>	<i>Toxoptera aurantii</i>
<i>Cryptostegia grandiflora</i> , <i>C. madagascariensis</i> ( <i>Asclepiadaceae</i> )	<i>Ficus sycomorus</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. craccivora</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. ficus</i> , <i>A.</i> <i>gossypii</i>
<i>Cupressus arizonica</i> , <i>C. benthamii</i> , <i>C. sempervirens</i> ( <i>Cupressaceae</i> )	<i>Fraxinus excelsior</i> , <i>F. syriaca</i> ( <i>Oleaceae</i> )
<i>Cinara cupressi</i>	<i>Aphis gossypii</i>
<i>Dalbergia sissoo</i> ( <i>Papilionaceae</i> )	
<i>Acyrrhosiphon pisum</i>	<i>Gardenia jasminoides</i> ( <i>Rubiaceae</i> )
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>
<i>Dodonaea viscosa</i> ( <i>Sapindaceae</i> )	<i>Genista canariensis</i> ( <i>Papilionaceae</i> )
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis craccivora</i>
<i>Dovyalis</i> (= <i>Aberia</i> ) <i>caffra</i> ( <i>Flacourtiaceae</i> )	<i>Gomphocarpus fruticosus</i> , <i>G. sinicus</i> ( <i>Asclepiadaceae</i> )
	<i>Aphis nerli</i>
	<i>Grevillea robusta</i> ( <i>Proteaceae</i> )
	<i>Aphis gossypii</i>
	<i>Grewia tiliifolia</i> ( <i>Tiliaceae</i> )

<i>Aphis gossypii</i>	<i>Hyadaphis foeniculi</i>
<i>Gymnocarpos decander</i> (Caryophyllaceae)	<i>Loranthus acaciae</i> (Loranthaceae)
<i>Aphis craccivora</i>	<i>Brachyunguis harmalae</i>
<i>Brachyunguis harmalae</i>	<i>Luehea divaricata</i> (Tiliaceae)
<i>Myzus persicae</i>	<i>Aphis gossypii</i>
<i>Hedera helix</i> (Araliaceae)	<i>Lycium europaeum</i> (Solanaceae)
<i>Aphis hederae</i>	<i>Myzus persicae</i>
<i>Hibiscus liliiflorus</i> , <i>H. schizopetalus</i> , <i>H. syriacus</i> (Malvaceae)	<i>Lycium shawii</i>
<i>Aphis gossypii</i>	<i>Aphis craccivora</i>
<i>Hibiscus rosa-sinensis</i>	<i>Brachyunguis harmalae</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Myzus persicae</i>
<i>Hoya carnosa</i> (Asclepiadaceae)	<i>Lycium</i> sp.
<i>Aphis nerii</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Hypericum canariense</i> (Hypericaceae)	<i>Majorana syriaca</i> (Labiatae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Eucarazzia elegans</i>
<i>Toxoptera aurantii</i>	<i>Malvaviscus arborescens</i> (Malvaceae)
<i>Hypericum</i> sp.	<i>Aphis gossypii</i>
<i>Aphis chloris</i>	<i>Mandevilla laxa</i> (Apocynaceae)
<i>Ilex cornuta</i> (Aquifoliaceae)	<i>Aphis craccivora</i>
<i>Toxoptera aurantii</i>	<i>Myzus persicae</i>
<i>Inula viscosa</i> (Compositae)	<i>Melia sempervirens</i> (Meliaceae)
<i>Aphis gossypii</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Capitophorus inulae</i>	<i>Morus nigra</i> (Moraceae)
<i>Myzus persicae</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Uroleucon (Belochilum) inulae</i>	<i>Murraya paniculata</i> (= ? <i>M. exotica</i> ) (Rutaceae)
<i>Jacaranda acutifolia</i> , <i>J. chelonia</i> (Bignoniaceae)	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. gossypii</i>	<i>Myrtus communis</i> (Myrtaceae)
<i>Toxoptera aurantii</i>	<i>Toxoptera aurantii</i>
<i>Jasminum mesnyi</i> (Oleaceae)	<i>Nerium oleander</i> (Apocynaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis nerii</i>
<i>Juniperus oxycedrus</i> (Cupressaceae)	<i>Myzus persicae</i>
<i>Cinara cupressi</i> , <i>C. fresai</i>	<i>Nitraria retusa</i> (Zygophyllaceae)
<i>Kigelia pinnata</i> (Bignoniaceae)	<i>Brachyunguis harmalae</i>
<i>Aphis gossypii</i>	<i>Paulownia tomentosa</i> (Scrophulariaceae)
<i>Laburnum anagyroides</i> (Papilionaceae)	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Aphis craccivora</i>	<i>Peganum harmala</i> (Zygophyllaceae)
<i>Lagerstroemia indica</i> (Lythraceae)	<i>Aphis craccivora</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Brachyunguis harmalae</i>
<i>A. gossypii</i>	<i>Myzus persicae</i>
<i>Lantana camara</i> (Verbenaceae)	<i>Pergularia tomentosa</i> (Asclepiadaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis nerii</i>
<i>Lavatera</i> sp. (Malvaceae)	<i>Periploca graeca</i> (Asclepiadaceae)
<i>Aphis fabae</i> , s.l.	<i>Aphis gossypii</i>
<i>Lawsonia inermis</i> (Lythraceae)	<i>Myzus persicae</i>
<i>Aphis gossypii</i>	<i>Phragmites communis</i> (Gramineae)
<i>Liquidambar styraciflua</i> (Hamamelidaceae)	<i>Hyalopterus pruni</i>
<i>Aphis gossypii</i>	<i>Melanaphis donacis</i>
<i>Lonicera canadensis</i> , <i>L. caprifolium</i> , <i>L. etrusca</i> (Caprifoliaceae)	<i>Rhopalosiphum rufobranchialis</i>
<i>Cinara palaestinensis</i>	<i>Pinus brutia</i> , <i>P. halepensis</i> (Pinaceae)
<i>Bulachnus tuberculostemmatus</i>	<i>Cinara palaestinensis</i>
	<i>Pinus canariensis</i>

<i>Cinara maritimae</i>	<i>Phloeomyzus passerinii</i>
<i>Eulachnus tuberculostemmatus</i>	<i>Tuberolachnus salignus</i>
<i>Pinus excelsa</i> , <i>P. pinaster</i> , <i>P. radiata</i>	<i>Populus</i> sp.
<i>Cinara maritimae</i>	<i>Pterocomma populeum</i>
<i>Pinus pinea</i>	<i>Prasium majus</i> (Labiatae)
<i>Cinara maritimae</i>	<i>Cryptomyzus</i> sp. nr. <i>korschelti</i>
<i>Eulachnus rileyi tauricus</i> , <i>E. tuberculo-</i>	<i>Prosopis</i> sp. (Mimosaceae)
<i>stemmatus</i>	<i>Aphis craccivora</i>
<i>Pistacia atlantica</i> (Anacardiaceae)	<i>Prunus lyoni</i> (Rosaceae)
<i>Aphis gossypii</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Forda dactylidis</i> , <i>F. hirsuta</i> , <i>F. riccobonii</i>	<i>Prunus pissardii</i>
<i>Geoica utricularia</i> , <i>Geoica</i> sp. A, <i>Geoica</i> sp. B	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Rectinasus buxtoni</i>	<i>Hyalopterus pruni</i>
<i>Slavum wertheimae</i>	<i>Pterochloroides persicae</i>
<i>Smynthurodes betae</i>	<i>Prunus ursina</i>
<i>Pistacia khinjuk</i>	<i>Hyalopterus pruni</i>
<i>Baizongiini</i> gen. sp.	<i>Prunus</i> sp.
<i>Pistacia lentiscus</i>	<i>Hyalopterus amygdali</i>
<i>Aploneura lentisci</i>	<i>Pulicaria crispa</i> (Compositae)
<i>Pistacia palaestina</i>	<i>Capitophorus inulae</i> gp.
<i>Aphis gossypii</i>	<i>Pyracantha angustifolia</i> , <i>P. coccinea</i> , <i>P. crenulata</i> ,
<i>Asiphonella dactyloniti</i>	<i>P. koidzumii</i> (Rosaceae)
<i>Baizongia pistaciae</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Baizongiini</i> gen. sp.	<i>Pyracantha crenato-serrata</i>
<i>Forda formicaria</i> , <i>F. marginata</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ) <i>A. gossypii</i>
<i>Geoica utricularia</i>	<i>Pyrostegia ignea</i> (Bignoniaceae)
<i>Paracletus cimiciformis</i>	<i>Aulacorthum solani</i>
<i>Pittosporum crassifolium</i> (Pittosporaceae)	<i>Pyrus syriaca</i> (Rosaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphanostigma piri</i>
<i>Pittosporum heterophyllum</i>	
<i>Aphis craccivora</i>	<i>Quercus bolssieri</i> (Fagaceae)
<i>Toxoptera aurantii</i>	<i>Hoplocallis pictus</i>
<i>Pittosporum tobira</i>	<i>Hoplochaetaphis parvula</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. cracci-</i>	<i>Lachnus roboris swirskii</i>
<i>vora</i> , <i>A. fabae</i> , s.l., <i>A. gossypii</i>	<i>Phylloxera</i> sp. cf. <i>glabra</i> , <i>P. quercus</i>
<i>Toxoptera aurantii</i>	<i>Thelaxes suberi</i>
<i>Pittosporum undulatum</i>	<i>Tuberculatus moerickei</i>
<i>Aphis craccivora</i> , <i>A. fabae</i> , s.l.	<i>Quercus calliprinos</i>
<i>Toxoptera aurantii</i>	<i>Myzocallis</i> sp.
<i>Platanus orientalis</i> (Platanaceae)	<i>Phylloxera quercus</i>
<i>Aphis craccivora</i>	<i>Thelaxes suberi</i>
<i>Plumbago capensis</i> (Plumbaginaceae)	<i>Quercus cerris</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. puniceae</i>	<i>Hoplocallis pictus</i>
<i>Populus alba</i> (Salicaceae)	<i>Myzocallis boernerii</i> , <i>Myzocallis</i> sp. <i>castanicola</i> EP.
<i>Chaitophorus populeti</i> , s.l., <i>C. popullalbae</i>	<i>Quercus ilex</i>
<i>Pterocomma populeum</i>	<i>Hoplocallis pictus</i>
<i>Populus canadensis</i> , <i>P. eugenei</i> , <i>P. euramericana</i>	<i>Myzocallis boernerii</i> , <i>Myzocallis</i> sp. <i>castanicola</i> EP.
<i>Chaitophorus leucomelas</i>	<i>Hoplochaetaphis parvula</i>
<i>Phloeomyzus passerinii</i>	<i>Lachnus crassicornis</i> , <i>L. roboris swirskii</i>
<i>Populus euphratica</i>	<i>Myzocallis boernerii</i> , <i>M. glandulosus</i> , <i>M.</i>
<i>Chaitophorus euphraticus</i>	<i>komareki</i> , <i>M. schreiberi</i>
<i>Populus nigra</i>	<i>Thelaxes suberi</i>
<i>Chaitophorus leucomelas</i> , <i>C. populeti</i> , <i>C.</i>	<i>Quercus suber</i>
<i>popullalbae</i>	<i>Lachnus roboris swirskii</i>
<i>Pemphigus immunis</i>	

<i>Myzocallis boernerii</i>	<i>Chaitophorus minutus, C. syriaca</i>
<i>Quercus</i> sp.	<i>Phylloxerina salicis</i>
<i>Lachnus subnudus</i>	<i>Salvia</i> sp. (Labiatae)
<i>Raphiolepis indica</i> (Rosaceae)	<i>Aphis passeriniana</i>
<i>Aphis craccivora</i>	<i>Eucarazzia elegans</i>
<i>Raphiolepis umbellata</i> (= <i>R. japonica</i> )	<i>Myzus persicae</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Sarcococarium spinosum</i> (Rosaceae)
<i>Reseda muricata</i> (Resedaceae)	<i>Aphis gossypii</i>
<i>Myzus persicae</i>	<i>Schinus terebinthifolius</i> (Anacardiaceae)
<i>Retama raetam</i> (Papilionaceae)	<i>Aphis gossypii</i>
<i>Aphis craccivora</i>	<i>Toxoptera aurantii</i>
<i>Rhamnus alaternus</i> (Rhamnaceae)	<i>Schotia latifolia</i> (Caesalpiniaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. cracci-vora</i> , <i>A. frangulae</i>	<i>Toxoptera aurantii</i>
<i>A. gossypii</i>	<i>Sequoia sempervirens</i> (Pinaceae)
<i>Toxoptera aurantii</i>	<i>Cinara cupressi</i>
<i>Rhamnus libanoticus, R. palaestinus</i>	<i>Spartium junceum</i> (Papillonaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. cracci-vora</i> , <i>A. gossypii</i>	<i>Acyrtosiphon gossypii, A. pisum</i>
<i>Robinia pseudacacia</i> (Papilionaceae)	<i>Aphis craccivora</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> ), <i>A. cracci-vora</i> , <i>A. gossypii</i>	<i>Spiraea vanhouttei</i> (Rosaceae)
<i>Rosa multiflora</i> (= <i>R. polyantha</i> ) (Rosaceae)	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Aphis gossypii</i>	<i>A. gossypii</i>
<i>Rosa</i> spp.	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Aphis craccivora, A. fabae, s.l., A. gossypii</i>	<i>Styrax officinalis</i> (Styraceae)
<i>Chaetosiphon (Pentatrichopus) tetrarhodus</i>	<i>Toxoptera aurantii</i>
<i>Macrosiphum rosae</i>	<i>Suaeda asphaltica</i> (Chenopodiaceae)
<i>Metopolophium</i> sp.	<i>Brachyunguis harmalae, Brachyunguis</i> sp.
<i>Myzaphis turanica</i>	<i>Suaeda monoica, S. palaestina</i>
<i>Rhodobium porosum</i>	<i>Brachyunguis harmalae</i>
<i>Sitobion fragariae</i>	
<i>Rubia tenuifolia</i> (Rubiaceae)	<i>Tamarix aphylla</i> (Tamaricaceae)
<i>Aphis fabae, s.l.</i>	<i>Brachyunguis</i> sp.
<i>Rubus sanctus</i> (Rosaceae)	<i>Myzus persicae</i>
<i>Aphis craccivora, A. ruborum</i>	<i>Toxoptera aurantii</i>
<i>Myzus persicae</i>	<i>Xerophilaphis</i> sp.
<i>Russelia equisetiformis</i> (= <i>R. juncea</i> ) (Scrophulariaceae)	<i>Tamarix</i> spp.
<i>Aphis gossypii</i>	<i>Aphis craccivora, A. gossypii</i>
<i>Aulacorthum solani</i>	<i>Brachyunguis tamaricis, Brachyunguis</i> sp.
<i>Brachycaudus helichrysi</i>	
<i>Myzus persicae</i>	<i>Tecomaria capensis</i> (Bignoniaceae)
<i>Ruta</i> sp. (Rutaceae)	<i>Aphis gossypii</i>
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aulacorthum solani</i>
<i>Salix acmophylla, S. humboldtiana</i> (Salicaceae)	<i>Myzus persicae</i>
<i>Tuberolachnus salignus</i>	<i>Terminalia arjuna</i> (Combretaceae)
<i>Salix alba</i>	<i>Aphis gossypii</i>
<i>Cavariella aegopodii</i>	<i>Tetraclinis articulata</i> (Cupressaceae)
<i>Tuberolachnus salignus</i>	<i>Cinara cupressi</i>
<i>Salix babylonica</i>	<i>Thevetia peruviana</i> (Apocynaceae)
<i>Tuberolachnus salignus</i>	<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )
<i>Salix</i> sp.	<i>Thuja orientalis</i> (Cupressaceae)

<i>Trachycarpus fortunei</i> (Palmaceae)	<i>Virgilia arboides</i> (Papilionaceae)
<i>Aphis gossypii</i>	<i>Aphis craccivora</i>
<i>Ulmus canescens</i> (Ulmaceae)	<i>Vitex agnus-castus</i> (Verbenaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis ? viticis</i>
<i>Toxoptera aurantii</i>	
<i>Ulmus glabra</i>	<i>Wisteria sinensis</i> (Papilionaceae)
<i>Toxoptera aurantii</i>	<i>Aphis craccivora</i>
<i>Ulmus</i> sp.	<i>Withania somnifera</i> (Solanaceae)
<i>Aphis gossypii</i>	<i>Myzus persicae</i>
<i>Eriosoma lanuginosum</i>	
<i>Tetraneura caerulescens</i>	<i>Zilla spinosa</i> (Cruciferae)
<i>Viburnum odoratissimum</i> , <i>V. suspensum</i> , <i>V. tinus</i>	<i>Myzus persicae</i>
(Caprifoliaceae)	<i>Zizyphus lotus</i> (Rhamnaceae)
<i>Aphis citricola</i> (= ? <i>A. spiraecola</i> )	<i>Aphis gossypii</i>
	<i>Zizyphus spina-christi</i>
	<i>Aphis gossypii</i> , <i>A. zizyphi</i>

#### DISCUSSION

The list of plant lice feeding on forest and ornamental trees and shrubs in Israel includes 108 species, 97 mono-oligophagous (including 17 species of Fordinae having secondary, mostly gramineous hosts) and 11 polyphagous species. Aphid species feeding on the highest number of hosts are *Myzus persicae*, *Toxoptera aurantii*, *Aphis craccivora*, *A. citricola* (= ? *A. spiraecola*) and *A. gossypii*, which were found on 30, 30, 43, 67 and 69 plant species, respectively.

Aphids were recorded from 239 host-plant species, which belong to 146 genera (62 families). The botanical families having the highest number of aphid-hosting genera are Rosaceae with 12 and Papilionaceae with 15 plant genera. Other conspicuous aphid-hosting families are Myrtaceae, Caesalpiniaceae and Cupressaceae (5 genera each), Bignoniaceae (6 genera) and Asclepiadaceae (8 genera). Plant genera hosting the highest number of aphid species are: *Populus* — 8 mono-oligophagous species, including one gall-forming species; *Rosa* — 9 species, 6 of them mono-oligophagous; *Quercus* — 15 mono-oligophagous species; and *Pistacia* — 18 species, 17 of them mono-oligophagous, gall-forming species. Plant species hosting the highest number of mono-oligophagous species are: *Populus nigra*, *Quercus boissieri*, *Pistacia palaestina*, *Pistacia atlantica* and *Quercus ithaburensis* — with 6, 7, 7, 9 and 9 aphid species, respectively.

Most of the aphids belong to the local fauna, but some are of foreign origin. The following species are considered to be foreign [data of the first records are based on Bytinski-Salz (1966); Porath et al. (1974); Mendel and Golan (1983) and Halperin (1980, 1986a, b)]: 1) *Cinara cupressi* — 1980, central Coastal Plain; common in the Mediterranean Basin (Barbagallo and Stroyan, 1980). 2) *C. tujafilina* — 1946, Jerusalem (JM) and Coastal Plain; known from Europe. 3) *Eulachnus rileyi tauricus* — 1985; Qiryat 'Anavim (JM); known from Europe. 4) *E. tuberculostemmata* — 1922, Jericho (JV); first described from Egypt in 1915. 5-8) *Chaitophorus leucomelas*, *C. populeti* and *Pterocomma populeum* — probably introduced from Europe with poplar logs or cuttings; *Chaitophorus populialbae* — 1971, Kefar Blum (HV); introduced probably from Europe. 9) *Phloeomyzus passerinii* —

Euro-Siberian, re-introduced in 1958 from Italy with poplar cuttings. 10) *Aphis citricola* (= ? *A. spiraecola*) — 1970, Sedot Yam (CP); one of the most polyphagous, most common and most noxious aphids on ornamentals and fruit trees. 11) *A. ficus* — 1931, Tel Aviv (CP). 12) *A. hederae* — 1938, Nahalal (YV); European. 13) *A. pomi* — probably an old introduction. 14) *Toxoptera aurantii* — 1922, Miqwe Yisra'el (CP); widely distributed in tropical regions. 15) *Brachycaudus helichrysi* — 1923, Ramat Gan (CP); cosmopolitan. 16) *Aulacorthum solani* — 1946, Jerusalem. 17) *Macrosiphum rosae* — very old introduction. 18) *Rhodobium porosum* — 1946, Mishmar haSharon (CP); widely distributed in warmer countries. 19) *Pemphigus immunis* — 1922; Tel Aviv (CP); probably introduced from Europe. 20) *Aphanostigma piri* — 1935, 'Afula, 'En Harod (YV); introduced from Europe.

Damage done by aphids to forest and ornamental plants is expressed mainly by defiling various parts of the plant and by occasional early leaf shedding. There are records of leaf deformation caused by *Aphis citricola* (= ? *A. spiraecola*) (Halperin, 1982 and Zehavi, 1985) of wilting of branchlets from mass feeding by *Cinara cupressi*, and of tree decline — from *Phloeomyzus passerinii* (Halperin, 1980). *Aphis gossypii* and *A. citricola* (= ? *A. spiraecola*) are considered as vectors of the Tristeza virus in citrus (Raccah et al., 1978), but nothing is yet known in Israel on aphids as vectors of plant diseases in forest and ornamental trees and shrubs.

The following species are considered as pests:

a) Mono-oligophagous species: 1) *Eulachnus tuberculostemmatus* on *Pinus*; 2) *Cinara cupressi* on Cupressaceae and *Sequoia sempervirens*; 3-6) *Chaitophorus leucomelas*, *C. populeti*, *C. populialbae* and *Pterocomma populeum* on *Populus*; 7,8) *Myzocallis* spp. and *Hoplocallis pictus* on *Quercus*; 9) *Brachycaudus amygdalinus* on *Amygdalus*; 10,11) *Macrosiphum rosae* and *Rhodobium porosum*, on *Rosa*.

b) Polyphagous species: 12) *Aphis citricola* (= ? *A. spiraecola*), 13) *A. craccivora*, 14) *A. fabae*, 15) *A. gossypii*, 16) *A. nerii*, 17) *Brachycaudus helichrysi* and 18) *Myzus persicae*.

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