Further Records of New Jersey Aphids (Homoptera: Aphididae)

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Abstract: Listed are 93 aphids arranged alphabetically by genera and by species under each genus. Detailed records of the localities, dates, food plants and collectors are given for each species and a list of 101 food plants on which the aphids have been collected is included. Of the aphids 20 species and of the food plants 26 have not previously been recorded from New Jersey. At present 227 aphids on 267 plants are known to occur in New Jersey.

This is a third paper on the distribution and food plants of New Jersey aphids. The previous paper entitled "Additional records of New Jersey aphids" was published in the Jour. N. Y. Ent. Soc. **72**: 79–101, 1964. It increased the number of aphids known to occur in New Jersey to a total of 207 on 241 food plants.

The present paper, based largely on collections made during the past three years, 1963–1965, records 93 aphids on 101 plants of which 20 aphids and 26 plants were not in the previous papers. At present 227 aphids on 267 plants are known to occur in New Jersey.

During visits to Haddonfield I have continued to operate a yellow water-pan or Moericke Trap (in text as MT) in the back yard garden at 217 Rhoads Ave. Starting with 1963 I used the inverted top of an old ash can about 22 inches in diameter placed on a standard which raised it about two and one-half feet above the ground. This pan was exposed continuously in 1963 from 23 July to 30 November during which period about 2500 winged aphids were taken from it. Nearly 25% of this total was collected during November and a little over 40% during October, both of which months were unusually mild. Because of the difficulty of identifying so many free-flying aphids only a few of the records of these are here included. It is hoped at some later time more complete records from the yellow water-pan can be published.

LIST OF APHIDS*

Acyrthosiphon dirhodum (Wlk.)—see Metopolophium.

*Acyrthosiphon pelargonii (Kaltenbach), Geranium Aphid. Maywood (Hoffman, Florist), 5 Aug. 1965, a general heavy infestation of all plants of Salmon Irene geraniums (*Pelargonium* sp.) on stock in a greenhouse which is open in the summer (Conlon coll.)

Acyrthosiphon pisum (Harris), Pea Aphid. In November, 1961, L. W.

^{*} Names preceded by an asterisk (*) are in addition to those in the previous two papers.

Coles of the Japanese Beetle Laboratory, USDA, Moorestown, wrote me about the status of parasites of this aphid in New Jersey. This was omitted from "Additional Records." He says: "The parasites of the pea aphid in New Jersey that we are familiar with are *Aphidius pisivorus* C. F. Smith and *Praon simulans* Provancher. We have observed them in all areas of New Jersey every season for the past six years. *A. pisivorus* is very common and very effective we feel. *Praon* can be found commonly but not nearly so as *A. pisivorus*."

Also omitted from "Additional Records" were any notes on the pea aphid although it is given in the Plant List under alfalfa and red clover. The data is as follows: "The pea aphid caused less damage than usual [to alfalfa]. In some areas of southern counties populations reached 200–300 per sweep during May but, in general, populations were much lighter." (Summary of Insect Conditions—1957 in New Jersey in CEIR $\mathbf{8}(1)$: 6, Jan. 3, 1958.) "Was far less damaging than usual." (Summary of Insect Conditions—1958 in New Jersey in CEIR $\mathbf{9}(7)$: 189–190, 1958.) New Brunswick, 16, 20 May and Beemerville, 6 May 1960 on alfalfa (Wave coll.), Middlebush, 8 June 1960 on red clover (Wave coll.).

Acyrthosiphon porosum (Sanderson), Yellow Rose Aphid. McGuire Air Force Base, 3 alatae, 2 "pupae," 2 mature and 3 immature apterae, collected from the buds of cultivated rose in mid-May 1965 (Quinden coll.). Second record for New Jersey.

*Acyrthosiphon sibericum (Mordvilko). Haddonfield, 2 Sept. 1965 on Urtica sp. (MDL and DLW coll.—ATO det.).

Although this aphid is recorded as fairly common in the Rocky Mountain Region it is known elsewhere in the USA only by one collection in N. Y. and 2 in Pa.

Acyrthosiphon solani (Kaltenbach) (placed by some in Aulacorthum), Foxglove Aphid. New Brunswick, 23 June 1960, 1 mature aptera on Taraxacum officinale (Wave coll.). Omitted from the previous paper.

Anoecia corni Fabricius. Haddonfield, 16–30 Sept., 9 alatae; 1–15 Oct., 2 alatae; 16–31, 4 alatae;—1963 and 1–5 Nov. 1965, 2 alatae—all in MT (MDL coll.).

Anuraphis viburnicola (Gillette)—see Ceruraphis viburnicola (Gillette).

Aphis coreopsidis Thomas. Whitesbog, 13 July 1961 on Nyssa sylvatica (Marucci coll.).

Aphis crataegifoliae Fitch--see Brachycaudus crataegifoliae Fitch.

Aphis fabae Scopoli, Bean Aphid. Moorestown, 12 April 1963 on Euonymus europaeus (EAR coll.); 21 May 1963 on rhubarb plants in a garden heavily infested, with leaves curled and crinkled (HWA coll.); 5 Sept. 1963 on cult. nasturtiums (EAR coll.). Bordentown, 24 May 1963, abundant on Philadelphus sp. (Webber coll.). Ridgewood, 10, 18 June 1963 a few on Arctium *minus* (MDL coll.). Columbus, 1 Oct. 1963, 20 alatae from *Arctium* sp. (LW Coles coll.). Haddonfield, 27 Aug. 1963, scarce on nasturtiums (MDL coll.).

Dr. Allen's heavily infested rhubarb made me realize that I had seldom seen records of this aphid on rhubarb. A search reveals it appears there are not many in the United States. The files of Survey and Detection Operations, Plant Pest Control Div., USDA have only the following: USDA Yearbook for 1908, p. 570 "caused serious injury to rhubarb in New Jersey"; Manhattan, Kans., 1 July 1948 taken on rhubarb (R. C. Smith coll.—LMR det.); "Serious damage caused to rhubarb on Mar. 20, 1948 in Arcadia." (Calif. Truck Crop Emergency Survey); Palmer in Aphids of the Rocky Mt. Region states that it occurs on rhubarb. For New York there are only two records: Lockport, 1959 and Orient, L.Id, 1962. Amherst, Mass., 6 June 1960 on rhubarb.

Aphis gossypii Glover, Cotton or Melon Aphid. Whitesbog (Pemberton), 13 July 1961, 3 alatae, 3 apterae on Leucothoe racemosa and 9 apterae on Rhododendron (Azalea) viscosa (Marucci coll.—JOP det. with query).

In litt. from Marucci-"Aphis gossypii apparently can live on ericaceous plants. On 1 Sept. 1947 we found it colonizing blueberries in our screen-house at Pemberton. The aphids were being attended by ants. We used these aphids to try to transmit blueberry stunt disease and they lived quite well on blueberries. USNM made the determination." Moorestown, 15 May 1963, abundant on shoots of rose-of-sharon (MDL coll. in EAR's garden); 13 June 1963, several mature apterae and some younger ones on Sophora japonica (EAR coll. in his garden); 21 May 1965, 9 alatae on Aguilegia longissima (HWA coll.)-these may be "drifts" since this aphid has been recorded from Aguilegia only by Hall in Egypt; 21 May 1965, 8 alatae on tips of several shoots of Forsythia sp. (HWA coll.)-these may be "drifts" since this aphid has been recorded from Forsythia only in Japan; 9 alatae on buds of peony (HWA coll.)—probably "drifts" since aphids were stuck to the buds and presumably no aphid has been recorded from peony. Haddonfield, 15 May 1963 a very few apterae on *Campsis radicans* (MDS); 19-26 Sept. 1964, an occasional leaf on two rose-of-sharon shrubs with a single alate, one of these near several very small pale young (MDL); mid-May 1965, a very small immature on a tender tip of rose-of-sharon (MDL & DLW coll.). Trenton, 2 Sept. 1964, the "small form" heavy on leaves of Catalpa sp. (Stinson coll.). Princeton, 17 Aug. 1964, heavy infestation on small twigs of several 4-5 foot trees of Sophora japonica (Stinson coll.).

*? Aphis incognita Hottes & Frison. Pemberton, 1948, an alate on sticky board trap in blueberry field (Marucci coll.—LMR det. as "near incognita"). This species has been recorded from Utah, Colorado, and Illinois from Symphoricarpos.

Aphis oestlundi Gillette. Mt. Laurel, 25 May 1963 on Oenothera sp. (HWA

coll.). Indian Mills, 26 May 1963 on *Oenothera* sp. (HWA coll.). Moorestown, 17 Oct. 1963 on *O. biennis* (T. L. Ladd coll.).

Aphis pomi DeGeer, Apple Aphid. Bordentown, 27 May 1963 on crabapple (Weber coll.). Somerville, 19 June 1963 on flowering crab (Stinson coll.). Bridgeton, 7 Aug. 1964 on Jap flowering quince (W. Junghans coll.). Moorestown, 21 May 1965 on Jap flowering crab, heavily infested (HWA coll.).

Aphis pseudohederae Theobald, Ivy Aphid. Haddonfield, 1963—none could be found during the season on the English ivy at 217 Rhoads Ave., until about Sept. 1 when three or four occurred on as many tender tips; on 31 Oct. 4 small colonies (1 or 2 alatae in each) on vines in another similar situation; 2 Dec. a few were found including several alatae from which several atypical *Lysephlebius testaceipes* (Cresson), det. Muesebeck, were reared; on 25 Sept. 1964 a few, including 3 or 4 alatae, on the tender tips of the English ivy on the house at 217 Rhoads Ave. (MDL); 6 Nov. 1965 a very small colony on the same vines attended by the ant, det. D. R. Smith, as *Prenolepis imparis* (Say). Ridgewood, 28 Oct. 1965, a fair sized colony on a tender shoot of an English ivy vine on a tree trunk, attended by the ant, det. by D. R. Smith as *Prenolepis imparis* (Say), (MDL).

Aphis rumicis Linnaeus, Dock Aphid. Rancocus, 13 May 1963, a heavy infestation on Rumex crispus (B Puttler coll.). Moorestown, 17 May 1963 on R. crispus (EAR coll.). Deerfield, 20 May 1963 on R. crispus (Buck coll.). Mt. Laurel, 25 May 1963 on R. crispus (HWA coll.).

Aphis spiraecola Patch, Spiraea Aphid. Whitesbog (Pemberton), 13 July 1961, alatae (possibly "drifts") on Aronia atropurpurea (Marucci coll.—JOP det.) and 5 apterae on Lyonia (Pieris) mariana (Marucci coll.—JOP det.). Haddonfield, 1963—several plantings of Spiraea sp. in a garden only slightly infested throughout the season. Shiloh (Perkins-deWilde Nursery), 15 May 1963, many on Pyracantha coccinea var. lalandi (Pope coll.). Moorestown, 21 May 1965, terminal growth of Spiraea prunifolia and of Pyracantha sp. moderately infested (HWA coll.).

Aulacorthum solani (Kalt.)—see Acyrthosiphon solani (Kalt.).

Brachycaudus crataegifoliae (Fitch), formerly Aphis. Old Bridge (Helka Bros.), 12 Aug. 1964, heavy on leaves of Crataegus sp. (Driver coll.).

Brevicoryne brassicae (Linnaeus), Cabbage Aphid. "Observed generally throughout the State on cabbage, broccoli, and other cole crops (Ins.-Dis. Newsltr. in CEIR 14(33): 941, 14 Aug. 1964).

Calaphis betulaecolens (Fitch) group. Cherry Hill and Haddonfield, 1963 on Betula lenta (MDL coll.—Richards det.).

Calaphis betulella Walsh. Haddonfield, 1961, 1 alate in MT (Gladys Testerman coll.); 1–15 Aug. 1963, 3 alatae in MT; 16–22 May 1965, 6 alatae in MT; 24 Aug.–2 Sept. 1965, 1 alate in MT (all MDL).

Calaphis castaneae (Fitch). Medford Lakes, 6 June 1965, 1 alate and

several small apterae, the latter whitish with antennae black, on chestnut (HWA coll.).

Capitophorus elaeagni (Del Guercio), Oleaster Thistle Aphid. Haddonfield, all 1961, alatae in MT—May 15–25, 3; 1–15 June, 3 and Oct. 4 (Gladys Testerman coll.); 26–30 May 1961, 3 (MDL coll.); 1963—1–15 Oct., 4, 16–31, 3, Nov. 1–15, 32, 16–30, 21, all males (MDL coll.); 1–15 Nov. 1965, 3 alatae in MT (MDL coll.). Riverton, 14 Oct. 1963 on *Elaeagnus umbellata* (EAR coll.).

Capitophorus glandulosus (Kaltenbach). Haddonfield, 1963—The small patches of mugwort reported on during the past several seasons were abundantly infested on 26 June but were only very slightly infested during July and early August and none could be found from then on. Nov. 15 one ovipara containing a single egg was blown into the MT and on Nov. 17 several eggs were found on the underside of several lower leaves. None could be found during 1964 nor in 1965 although during this latter year almost all of the mugwort had been pulled out of the garden.

Capitophorus hippophaes (Walker), Polygonum Aphid. Wycoff, 14 Oct. 1960, very abundant on a small patch of *Polygonum caespitosum* var. *longisetum* (det. E. C. Leonard, USNM), (MDL & DDL coll.). Moorestown, 1 Aug. 1962, 1 alate in MT (EAR coll.). Haddonfield, 14 Sept. 1963, scarce on *Polygonum caespitosum* (det. Shetler), (MDL coll.); by daily collecting in MT throughout Oct. and Nov. 1963 at least 100 alatae were obtained, all males (MDL coll.); 29 Aug. and 2 Sept. 1965, scarce on a large patch of *P. pennsylvanicum* (det. Shetler), (MDL & DLW coll.).

Capitophorus ribis (L.)—see Cryptomyzus ribis (L.).

Cepegillettea myricae Patch. Medford Lakes, 27 Oct. 1963, several plants of Comptonia (Myrica) peregrina var. asplenifolia growing in a woods lightly infested (G. G. Rohwer coll.).

Chaitophorus sp. Haddonfield, 16–31 Nov. 1963, 1 alate in MT (MDL coll. —ANT det.).

Chaitophorus populicola Thomas, Cloudy-winged Cottonwood Leaf Aphid. Haddonfield, 1–15 June 1961, 1 alate in MT (Gladys Testerman coll.). Pittsgrove, 11 Sept. 1963, heavily infested, scattered small aspens, *Populus grandidentata* (C. W. Holsworth, Senior Forester, Parvin State Park coll.). Medford Lakes, 3 June 1965, 1 "stray" alate on laurel (Quinden coll.).

Chaitophorus viminicola Hille Ris Lambers. Indian Mills, 20 May 1963 on Salix sp. (HWA coll.—MacGillivray det.). Recorded elsewhere only from Iowa, Illinois, and Pennsylvania.

*Chromaphis jugandicola (Kaltenbach), Walnut Aphid. Moorestown, 28 Aug. 1965, fairly common on a large English walnut (MDL & EAR coll.).

Cryptomyzus ribis (Linnaeus), (formerly in Capitophorus). Currant aphid. Moorestown, 26 May 1963 on currant (HWA coll.).

Dactynotus spp. The following collections were examined by Dr. Olive

who was unable to determine them specifically; Ridgewood, July 1963 on *Rudbeckia hirta* (DDL coll.). Haddonfield, 1, 16 Oct. 1963 on *Aster simplex* (Shetler det.), (MDL coll.); 1–15 Sept. 1963 in MT (MDL coll.); a number of alatae from mid-Sept. to mid-Oct. 1963 in MT (MDL coll.). Moorestown, 26 Aug. 1963 on *Rudbeckia* sp. and many specimens on *Rudbeckia* sp., 30 June 1965 on *Solidago* sp. (HWA coll.).

Dactynotus (Dactynotus) ambrosiae (Thomas), Brown Ambrosia Aphid. Haddonfield, 20 Sept. 1963 and Ridgewood, 24 Oct. 1963 on Ambrosia trifida (MDL coll.—ATO det.).

Dactynotus (*Lambersius*) *anomalae* (Hottes & Frison). The small patch of hardy purple asters in the garden at 217 Rhoads Ave., Haddonfield was moderately infested several times during the 1963 season but most of the colonies dried up. Predators were often present but no parasites were observed. The last collection was made 18–22 Oct. and soon after the plants were mostly dead. No aphids were observed on these plants in 1964 and fairly early in 1965 all the plants were dug out.

Dactynotus (Dactynotus) chrysanthemi (Oestlund). Medford, 11 Sept. 1963 on Bidens coronata var. trichosperma (EAR coll.).

*Dactynotus (Uromelan) eupatorifoliae Tissot. Haddonfield, 27, 30 Sept. 1963, fairly common on a small patch of Eupatorium rugosum (Shetler det.), (MDL coll.—ATO det.).

*Dactynotus (Lambersius) gravicornis (Patch). Haddonfield, 27, 30 Sept. 1963 on Solidago rugosa (MDL coll.—ATO det.).

*Dactynotus (Dactynotus) leonardi Olive. Ridgewood, July 1963 on Rudbeckia hirta (paratypes) and Aug. 1964 on R. hirta (DDL coll.—ATO det.).

Dactynotus (Dactynotus) sonchellus (Monell). Indian Mills, 26 May 1963 on Lactuca sp. (HWA coll.—ATO det.).

*Dactynotus (Uromelan) taraxaci (Kaltenbach), Dark Dandelion Aphid. Cherry Hill, 5 Nov. 1963, a number of dandelion plants, on leaves and some of the stems, heavily infested with apterae in a back yard lawn and on Nov. 11 many more found, including two alates (DLW coll.—ATO det.).

Dactynotus (Lambersius) tissoti (Boudreaux). Haddonfield, 27, 30 Sept. and 15 Oct. 1963 on Solidago rugosa (Shetler det.), (MDL coll.—ATO det.).

Dactynotus (Uromelan) tuataiae Olive—Correction to records in "Additional Records"—the data for this species should read as follows: Medford Lakes, 2 Aug. 1962 (G. G. Rohwer coll.) and Moorestown 1 Aug. 1962 (HWA coll.), both on Ambrosia artemisiifolia.

Drepanaphis sp. Haddonfield, 16–31 Oct. 1963, 26 males in MT (MDL coll. –-CFS det. who writes "I cannot identify these at the present time.").

Drepanaphis acerifolii Thomas, Painted Maple Aphid. Haddonfield, 15 Sept. 1963 on Acer rubrum var. trilobum (MDL coll.—CFS det.); 25 Sept. 1963 a large trilobum maple very heavily infested (MDL coll.—CFS det.); 4

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Oct. many males, oviparae, nymphs and 16 Oct. 1963 males and oviparae on *trilobum* maple; in MT, 1963—Aug., 1 alate, 1–15 Sept., 1 alate, 15–30 Sept., 5 alatae, 16–31 Oct., 26 alatae. Cherry Hill, 30 Sept. 1963 apterae on a *trilobum* maple (MDL & DLW coll.—CFS coll.).

*Drepanaphis carolinensis Smith. Haddonfield, 15 Sept. 1963, 1 alate on trilobum maple (MDL coll.—CFS det.); 16–30 Sept. 1963, 4 alatae in MT (MDS coll.—CFS det.).

Drepanaphis parvus Smith. Haddonfield, 16–31 Oct., 1963, 2 alatae in MT (MDL coll.—CFS det.). Second record for New Jersey.

*Drepanaphis simpsoni Smith. Haddonfield, 16-31 Oct., 2 alatae in MT (MDL coll.—CFS det.).

Eriosoma crataegi Oestlund. Princeton Nurseries, Allentown Farm, 3 Aug. 1964 on *Crataegus mollis* (Stinson coll.). Dunellen, 18 Aug. 1964, heavy infestation on *Crataegus* sp. (Stinson coll.).

**Euceraphis lineata* Baker. Ridgewood, 29 Oct. 1962 at Duck Pond, oviparae on *Betula alba* (MDL & DDL coll.—Richards det.).

**Eulachnus rileyi* (Williams). Haddonfield, 1963 in MT—1–15 Oct., 1 alate, 2 Oct., 15 alatae, 3–15 Oct., 1 alate (MDL coll.—ANT det.).

*Georgiaphis ulmi (Wilson). Bound Brook, 31 May 1963 on leaves and bark of Ulmus sp. (Weber coll.—CFS det.).

Hamamelistes spinosus Shimer, Spiny Bud-gall of Witchhazel. Tems River, H. B. Scammell & Son, 10 June 1964 in corrugated leaves of white birch (Pope coll.).

Lachnus salignus (Gmelin), Giant willow Aphid. Freehold, 5 Aug. 1963 on Salix sp. (Pope coll.).

**Macrosiphoniella millefolii* (deGeer). Indian Mills, 26 May 1963, several on *Achillea millefolium* (HWA coll.).

Macrosiphoniella sanborni (Gillette), Chrysanthemum Aphid. Haddonfield, 1963—a small patch of chrysanthemums in a garden was uninfested until about mid-Oct. when some colonies began to appear. Moorestown, 21 May 1965, "hardy" mums lightly infested (HWA coll.).

Macrosiphum spp. Haddonfield, 21 Oct. 1963 on *Mentha spicata* (MDL coll.—ATO det.); alatae in MT—1–15, 16–30 Sept. and 1–15 Oct. 1963 (MDL coll.—ATO det.); a number of specimens were collected.

Macrosiphum dirhodum (Wlk.)-see Metopolophium dirhodum (Wlk.).

Macrosiphum euphorbiae (Thomas), Potato Aphid. Cherry Hill, 6 May 1962, 1 alate, several young on Euonymus europaeus (DLW coll.). Moorestown, 2 Aug. 1962 on tomato in a garden (HWA coll.); 21 May 1965, a single mature aptera among many Aphis fabae on rhubarb (HWA coll.). Medford Lakes, 28 May 1963, heavy infestation on cult. roses (G. G. Rohwer coll.). Medford, 31 May 1963 and 17 June 1964, light on tomato (Quinden coll.). Mt. Laurel, 25 May and Indian Mills, 26 May 1963 on Apocynum cannabinum (HWA coll.). Linwood, 29 April 1963 light on *Tulipa* sp. and Shiloh, 15 May 1963, heavy on cult. roses (Buck coll.). Haddonfield, 16–31 Aug., 1 alate and 1–15 Nov., 6 alatae 1963 in MT (MDL coll.—ATO det.); 9–22 May 1965, many alatae in MT (MDL coll.—JOP det.). McGuire Air Force Base, mid-May 1965, several apterae on cult. rose (Quinden coll.).

POTATO APHID (*Macrosiphum euphorbiae*)—NEW JERSEY—Survey at 25 sites in Cumberland, Salem, Gloucester, Burlington, Mercer, Monmouth, and Middlesex counties revealed smaller number of eggs than in 1964; however, percentage of viable eggs higher. Counts higher in Mercer, Monmouth, and Cumberland counties. Table below gives total number of eggs found and percentage which were viable at time of survey, for last 9 years. (Ins.-Dis. Newsltr.). (CEIR 15(19): 447, 1965).

Comparison of Total Number of Eggs and Percentage of Viable Eggs 1959 Year 1957 1958 1960 1961 1962 1963 1964 1965 Total No. Eggs 427 226 1522 178 713 411 745 1192 774 Percent Viable 65.6 53.1 54.7 74.7 25.2 74.2 78.3 45.6 73.6

Note: It should be pointed out that the egg surveys are made on plants of the swamp rose (*Rosa palustris*).

Macrosiphum liriodendri Monell, Tuliptree Aphid. The following collections were inadvertently omitted from "Additional Records": Montclair, 27 May 1954 (Bartlett Tree Research Laboratories). New Brunswick, 10, 26 June 1962 (Wave coll.—CFS det.). Moorestown, 19 July 1962 (HWA coll.) and 29 July 1962 (det. W. Jones coll.). Oldwick, 8 Aug. 1960 (Wave coll.). Westmont, 28 June 1962 (J. J. Earley of PPCD, USDA coll.).

The following collections were made 1963–1965, all on tuliptree unless otherwise specified: Waterford, 26 May 1963, immatures on *Magnolia virginiana* (HWA coll.—ATO det.). Summit, 22 June 1963, common on a very large tree (MDL coll.). Moorestown, scarce, 31 July 1963 (EAR coll.) and 21 May 1965 (HWA coll.). Haddonfield, 24, 31 July, 19 Aug., 13 Sept., and 27 Aug. 1965, a small street shade tree lightly infested when examined on each of these dates (MDL & DLW coll.), Medford Lakes, 6 June 1965, about 35 apterae of various sizes on *Magnolia virginiana* (HWA coll.).

Macrosiphum rosae (Linnaeus), Rose Aphid. Haddonfield, no aphids could be found on roses at 217 Rhoads Ave., except a few in mid-May, until late Sept. 1963 when the tender shoots on one large bush became heavily infested; several alatae in MT, 16–30 Sept. 1963 (MDL coll.—ATO det.); during May, Aug., and in late Dec. 1965 no aphids could be found. Moorestown, 27 Dec. 1965 EAR collected 3 mature apterae and several young on a rose cutting which had been taken indoors—the weather had been unseasonably mild.

**Masonaphis* sp. Cooper Creek, Haddonfield, 2 Sept. 1965 alatae on *Boehmeria cylindrica* (MDL & DLW coll.—MacGillivray det. who states "I cannot place these in any species known to me.").

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Masonaphis (Ericobium) azaleae (Mason). Philip E. Marucci, Cranberry and Blueberry Research Laboratory, N. J. Ag. Exp. Sta., New Lisbon wrote me on 8 Oct. 1965 that Leon Coles' statement in my "Additional Records" in regard to light parasitism by *Aphelinus* sp. needs correction. Marucci says "*Aphelinus* is a very effective parasite of *M. azaleae* in the field. Last year the ratio of mummified aphids to live aphids was 50 to 1 and this year it is about 71 to 1." Ben Puttler writes me, 11 Jan. 1966 that it was he who originally identified this parasite as undoubtedly *Aphelinus semiflavus* How. but that no specimens were preserved. A hyperparasite reared from this aphid from Lebanon State Forest by Marucci was determined by Paul M. Marsh, USNM, as *Logocerus niger* (How.). It has been recorded as parasitizing a species of *Aphidius*.

Melanocallis caryaefoliae (Davis), Black Pecan Aphid. (Richards, Mem. Ent. Soc. Can. 44: 102, 1965 places this in *Tinocallis*). Moorestown, 1 Aug. 1962, 2 alatae in MT (EAR coll.).

**Metopolophium dirhodum* (Walker), Rose Grass Aphid. (Has also been placed in *Acyrthosiphon* and *Macrosiphum*). Ridgewood, 28 Oct. (MDL coll.) and Summit (MDL & DDL coll.), 29 Oct. 1965, rose bushes in the garden had a number of leaves, each bearing on the underside a single (occasionally two) alate, each with a number of newly born young nearby. This is the first time these fall migrants have been noticed on roses in New Jersey (MacGillivray det.).

Monellia caryae (Monell), American Walnut Aphid. (Richards, Mem. Ent. Soc. Can. 44: 99, 1965, places this in Monelliopsis). Ft. Lee, 2 July 1909 on Juglans nigra (Gillette in Jour. Econ. Ent. 3(4): 367, 1910). Moorestown, 19 July, 1 Aug. 1962, 10 alatae in MT (EAR coll.—Bissell det.). Haddonfield, 29 Aug. 1965, fairly common on several large black walnut trees (MDL & DLW coll.—Bissell det.).

Monellia caryaella Fitch. Moorestown, 23 May 1962, very scarce on large Juglans nigra (MDL & EAR coll.—Richards det.).

Monellia costalis (Fitch), Black-margined Aphid. Haddonfield, 30 May 1947 on Carya sp. (MDL coll.—Bissell det.); 1–15 Sept. 1963, 1 alate in MT (MDL coll.—Richards det.).

Monellia nigropunctata Granovsky. Haddonfield, 30 May 1947 on Carya sp. (MDL coll.—Bissell det.).

Myzocallis alhambra Davidson, Western Dusky-winged Oak Aphid. (Richards, Mem. Ent. Soc. Can. 44: 57, 1965 considers this as merely a melanistic form of *M. punctata* (Monell). (This species was in the Plant List but not in the Aphid List of "Additional Records"). Haddonfield, 30 May 1947, "drift" alatae on chestnut (MDL coll.); 23–31 July, 1 alate, 16–31 Aug., 6 alatae and 1–5 Sept., 6 alatae—all 1963 in MT (MDL coll.). New Brunswick, 15 July 1960, a "drift" alate on *Ulmus americana* (Wave coll.). Moorestown, 1 Aug. 1962, 1 alate in MT (EAR coll.) and 26 Aug. 1965, 1 alate in MT

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(EAR coll.). Ridgewood, 18–22 June 1963, 1 alate in MT (MDL coll.). Summit, 22 June 1963 on *Quercus rubra* (MDL & DDL coll.).

Myzocallis bella (Walsh), Haddonfield, Aug. 1963, 3 alatae in MT (MDL coll.—ANT det.).

**Myzocallis exultans* Boudreaux & Tissot. Haddonfield, 15–17 Sept. 1963, 1 alate mixed in with several *M. frisoni* B & T on a small pin oak street tree (MDL coll.—ANT det.); Aug. 1963, 3 alatae in MT (MDL coll.—ANT det.). Medford Lakes, 3 June 1964, 1 "stray" alate on laurel (Quinden coll.).

**Myzocallis frisoni* Boudreaux & Tissot. Haddonfield, 15, 27 Sept. 1963, alatae, nymphs, 3 oviparae from several small moderately infested pin oaks (MDL coll.—ANT det.); 16–31 Aug., 4 alatae and 1–15 Sept. 1963, 4 alatae and 2 alatae, 24 Aug.–2 Sept. 1965 in MT (MDL coll.—ANT det.); 25–28 Aug. 1965 several large colonies on a pin oak (MDL coll.).

Myzocallis melanocera Boudreaux & Tissot. Haddonfield, Aug. 1963, 2 alatae in MT (MDL coll.—ANT det.).

Myzocallis multisetis Boudreaux & Tissot. Haddonfield, 1–15 1963, 2 alatae in MT (MDL coll.—ANT det.).

Myzocallis punctata (Monell), Clear-winged Oak Aphid. Haddonfield, 16–30 Sept. 1963, 1 alate in MT (MDL coll.).

Myzocallis tiliae (Linnaeus), Linden Aphid. Haddonfield, 16–31 Aug., 1 alate, 1–15 Sept., 2 alatae, and 1–15 Nov., 1 alate 1963 all in MT (MDL coll.). Moorestown, 28 Aug. 1965 scarce in a *Tilia europaea* (MDL & EAR coll.).

Myzocallis ulmifolii (Monell), Elm Leaf Aphid, (Richards, Mem. Ent. Soc. Can. 44: 104, 1965 places this in *Tinocallis*). Princeton, 22 Sept. 1965 common on *Ulmus* sp. (Weber coll.).

Myzocallis walshii (Monell). Cherry Hill, 30 Sept. 1963, a few leaves of a large *Quercus velutina* lightly infested, alatae and nymphs present (MDL & DLW coll.—ANT det.). Haddonfield, Aug. 1963, 2 alatae and 16–31 Oct. 1963, 2 alatae in MT (MDL coll.—ANT det.).

Myzus cerasi (Fabricius), Black Cherry Aphid. Helmetta, 5 Aug. 1964, light on leaves of Kwanzan cherry, Prunus sp. (Driver coll.). Moorestown, 21 May 1965, a cult, sour cherry, Prunus cerasus, lightly infested (HWA coll.).

**Myzus dianthi* Schrank, Carnation Aphid. In my "Additional Records" *Myzus polaris* Hille Ris Lambers is recorded from Weston, 5 April 1946 on carnation (F. S. Smith coll., 1 slide in USNM). It has since been found that this is the carnation aphid.

This aphid and/or Myzus persicae presumably occurs on carnations in New Jersey but no collections (other than the above) have been made to substantiate the presence of either. However, on 31 Dec. 1965 I visited a florist in Barrington who had a large glass house of carnations. Unfortunately time did not permit me to examine any of the plants but I was told by the production

foreman that small infestations of a small greenish aphid occasionally appeared but were readily held in check by timely applications of an insecticide.

Myzus persicae (Sulzer), Green Peach Aphid. Moorestown, 19 Sept. 1962, many on *Cleome spinosa* (MDL & EAR coll.); omitted from "Additional Records." Linwood, 4 June 1963, a heavy infestation on *Anthurium* sp. (Sohl coll.). Mrs. Sohl writes that "the tips and flower stems of the new growth of many plants growing in a greenhouse were heavily infested and that the leaves and flowers were affected by slight crinkling and/or gnarling." I can find no previous record of any aphid on this plant. Haddonfield, 1963, alatae in MT; 23–31 July, 2; 1–15 Aug., 5; 16–31 Aug., 1; 1–15 Sept., 7; 16–30 Sept., 1; 1–15 Oct., 3; (MDL coll.); 24 Aug.–2 Sept. 1965, 25 alatae in MT (MDL coll.).

New Jersey—"Heavy flight noted throughout State during past week. Control recommended for peppers and tomatoes." (Ins.-Dis. Newsltr. in CEIR 15(32): 897, 6 Aug. 1965). New Jersey—"Increasingly important on broccoli in southern area; controls recommended." (Ins.-Dis. Newsltr. in CEIR 15(34): 968, 20 Aug. 1965).

Ridgewood, 27 Oct. 1965, the buds and stems moderately infested in a large house of 'mums (Schweinfurth's Florists), (MDL & DDL coll.). Barrington, 31 Dec. 1965, a large greenhouse of 'mums very lightly infested. The propagation foreman told me that occasional spraying readily held the aphids in check. Summit, 30 Oct. 1965, a very few apterae on an indoor plant of Jerusalem cherry (MDL coll.).

P. E. Marucci wrote me on 8 Oct. 1965 "I am sure Myzus persicae often invades strawberries. Last year a very heavy infestation of peppers overflowed into adjacent strawberries and the population was so high that the grower found it necessary to spray for them."

On 20 May 1965 E. A. Richmond found a number of plants of *Duranta* repens moderately infested in the Mall, a large enclosed shopping center at Cherry Hill. The writer and Dr. Richmond examined these plants together on 28 Aug. At this time no aphids could be found but the leaves were rather heavily infested with a whitefly. I find only one previous record of the occurrence in the USA of this aphid on this plant. In 1900 Gillette and Taylor published Colorado Agr. Exp. Sta. Bull. 133 entitled "A few orchard plant lice." In the discussion of *Myzus persicae* a list of plants is given on which this aphid had been found establishing colonies in the greenhouses (presumably at Ft. Collins). One of the plants listed is *Duranta plumieri* (now repens). It has been reported elsewhere from Egypt and Israel.

Neoceruraphis viburnicola (Gillette), (formerly in Anuraphis), Snowball Aphid. Haddonfield, 13 Nov. 1963, 1 viviparous alate and several oviparae on a large Viburnum opulus (MDL coll.). Moorestown, 21 May 1965, a Viburnum sp. heavily infested with heavily parasitized aphids (HWA coll.); many parasites emerged within the next four days in a covered box and were identified by Paul Marsh, USNM as *Lysephlebius testaceipes* (Cresson).

Neoprociphilus aceris (Monell). Chatham, 21 May 1963 on sugar maple, woolly aphids (Weber coll.).

Ovatus crataegarius (Walker), Mint Aphid. Medford, 28 July 1963, 34–40 apterae; 18 May 1965, 3 alatae, several "pupae" and apterae; 6 June 1965, several alatae and apterae, 4 of the latter obviously parasitized; a small dipterous larvae also present—all on mint and coll. by Quinden.

Periphyllus californiensis Shinji. Haddonfield, 9–15 May 1965, 540 alatae in MT most of which came to the yellow pan in the first 4 days. The total number of aphids in the pan during the week was 1336 of which this aphid constituted about 40%. 16–22 May 1965, 15 alatae of this aphid in the MT out of a total of 647 aphids. This species was described from California and has been recorded elsewhere from Washington and Pennsylvania and once before, with a query, in New Jersey. It is recorded as feeding on Japanese maple.

Periphyllus negundinis Thomas, Boxelder Aphid. Moorestown, 24 Sept. 1963, scarce on a large boxelder (MDL & HWA coll.); 21 May 1965, a boxelder heavily infested and leaves sticky with honeydew (HWA coll.).

Phyllaphis fagi (Linnaeus). Bound Brook, 31 May 1963 on beech (Weber coll.—CFS det.). Haddonfield 1963—the copper beech at 213 Rhoads Ave. only very slightly infested when first observed on 28 June and continued so until into Oct. at which time somewhat more were present and 9 alatae were obtained; 1965—in mid-May this tree was heavily infested and sticky with honeydew; alatae scarce on leaves but infested leaves placed in a closed box soon produced many alatae.

Rhopalosiphum maidis (Fitch), Corn Leaf Aphid. Bridgeton, 30 July 1963, a heavy infestation on the stalks of corn (Sohl coll.).

Rhopalosiphum nymphaeae (Linnaeus), Waterlily Aphid. Saddle River, 17 June 1965, a heavy infestation on pond lilies in a greenhouse (Wm. Tricker, Inc.), (Condon coll.), Chatsworth, 26 Sept. 1965 on *Nuphar advena*, a number of plants considerably infested (HWA coll.).

Rhopalosiphum serotinae Oestlund. Waterford, 26 May 1963 on Solidago sp., 17 apterae (HWA coll.).

*Schizolachnus piniradiatae (Fabricius). Boonton, 22 July 1964 on Pinus resinosa (Kegg coll.).

*Therioaphis maculata (Buckton), Spotted Alfalfa Aphid. In regard to the first find of this aphid in New Jersey L. Donald DeBlois, Entomologist, Division of Plant Industry, N. J. Dept. Agr. wrote me on May 6, 1965 as follows: "The collections were made in the course of a survey for this insect during the fall of 1964 in 95 alfalfa fields throughout New Jersey. Rough sorting of the collections was done here and final identifications were made by Louise

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Russell. The spotted alfalfa aphid collections were made by one of our inspectors, G. Robert Glass. One alate and one apterous viviparous female was taken in Greenwich in Cumberland County on September 24, 1964. We will be making extensive surveys throughout the State to determine the extent of the infestation."

1965—Cape May County: Woodbine 29 Nov., 7 apterae. Cumberland County: Canton 23 Sept., 100 apterae; Greenwich 11 apterous viviparae, 1 ovipara; Jones Island 17 Nov., 4 apterae; Rhoadstown 23 Sept., 9 apterae; Shiloh 23 Nov., 5 apterae. Gloucester County: Jefferson 10 Dec., 1 aptera; Mullica Hill 23 Nov., 1 aptera; Pitman 23 Nov., 1 aptera. Salem County: Alloway 21 Sept., 1 aptera; Centerton 20 Sept., 4 apterae; Elmer 20 Sept., 10 apterae; Hancock's Bridge 23 Sept., 8 apterae. All collections were made on alfalfa by G. R. Glass and submitted by L. D. DeBlois both of the N. J. Dept. Agr. Trenton, N. J. Determinations by Louise M. Russell, Ent. Res., USDA, Washington, D. C.

(*Therioaphis trifolii* (Monell), Yellow Clover Aphid. Ben Puttler wrote me on 11 Jan. 1966 that he has taken *Aphelinus semiflavus* Howard from this aphid in New Jersey.)

FOOD PLANT LIST*

Acer negundo (Boxelder) Periphyllus negundinis Acer rubrum var. trilobum Drepanaphis acerifolii Drepanaphis carolinensis Acer saccharum (Sugar or Hard Maple) Drepanaphis acerifolii Neoprociphilus aceris *Achillea millefolium (Common Yarrow) Macrosiphoniella millefolii Alfalfa-see Medicago Ambrosia trifida (Giant Ragweed) Dactynotus ambrosiae *Anthurium sp. Myzus persicae Apocynum cannabinum (Dogbane) Macrosiphum euphorbiae *Aquilegia longissima (Longspur Columbine) Aphis gossypii Arctium sp. (Burdock) Aphis fabae Arctium minus (Common Burdock) Aphis fabae *Aronia atropurpurea Aphis spiraecola

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| Artemisia vulgaris (Mugwort) | |
| Capitophorus glandulosus | |
| Aspen—see Poplus grandidentata | |
| Aster novae-angliae (New England of | or |
| Hardy Purple Aster) | |
| Dactynotus anomalae | |
| *Aster simplex | |
| Dactynotus sp. | |
| *Azalea viscosa (Swamp Azalea) | |
| ?Aphis gossypii | |
| Beech—see Fagus | |
| Betula alba (European White Birch) | |
| Euceraphis lineata | |
| Hamamelistes spinosa | |
| Betula lenta (Black Birch) | |
| Calaphis betulaecolens group | |
| *Bidens coronata var. trichosperma | |
| Dactynotus chrysanthemi | |
| Birch—see Betula | |
| Blackeyed Susan-see Rudbeckia hirta | |
| Blueberry-see Vaccinium corymbosum | |
| *Boehmeria cylindrica | |
| Masonaphis sp. | |
| Boxelder—see Acer negundo | |
| Brassica oleracea var. botrytis (Broccoli) | |
| Brevicoryne brassicae | |

* Plants marked with an asterisk (*) are additions to the two previous lists.

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Myzus persicae Brassica oleracea var. capitata (Cabbage) Brevicoryne brassicae Broccoli-see Brassica oleracea var. botrytis Burdock—see Arctium Cabbage-see Brassica oleracea var. capitata Campsis (Tecoma)radicans (Trumpet Creeper) Aphis gossypii Capsicum frutescens (Redpepper) Myzus persicae Carnation-see Dianthus Carva sp. (Hickory) Monellia costalis Monellia nigropunctata Castanea dentata (American Chestnut) Calaphis castaneae Catalpa sp. Aphis gossypii Chaenomeles sp. (Flowering Quince) Aphis pomi Cherry, Sour-see Prunus cerasus Chestnut-see Castanea Chinese Scholar Tree-see Sophora japonica Chrysanthemum sp. Macrosiphoniella sanborni Myzus persicae Cleome spinosa Myzus persicae Columbine—Aquilegia Comptonia (Myrica) peregrina var. asplenifolia (Sweetfern) Cepegillettea myricae Corn-see Zea Cowlidy-see Nuphar advena Crab, Flowering—Malus sp. Crataegus sp. (Hawthorn) Brachycaudus crataegifoliae Eriosoma crataegi *Crataegus mollis Eriosoma crataegi Currant—see Ribes Dandelion-see Taraxacum Dianthus caryophyllus (Carnation) Myzus dianthi Dock, Curled—see Rumex crispus Dogbane—see Apocynum *Duranta repens (Golden Dewdrop)

Myzus persicae Elaeagnus umbellata Capitophorus elaeagni Elm-see Ulmus English Ivy—Hedera Euonymus europaeus (European Spindletree) Aphis fabae Macrosiphum euphorbiae *Eupatorium rugosum (White Snakeroot) Dactynotus eupatorifoliae Evening Primrose—see Oenothera Fagus sp. (Beech) Phyllaphis fagi Fagus sylvatica var. purpurea (Copper or Purple Beech) Phyllaphis fagi Firethorn—see Pyracantha Quince, Flowering-see Chaenomeles *Forsythia sp. Aphis gossypii Fragaria sp. (Strawberry) Myzus persicae Geranium-see Pelargonium Golden Dewdrop-see Duranta Goldenrod--see Solidago Hawthorn-see Crataegus Hedera helix (English Ivy) Aphis pseudohederae *Helianthus annuus (Common Sunflower) Aphis helianthi Hibiscus syriacus (Rose-of-Sharon) Aphis gossypii Hickory—see Carya Ipomoea batatas (Sweet Potato) Myzus persicae Jerusalem Cherry-see Solanum pseudocapsicum Juglans nigra (Black Walnut) Monellia caryae Monellia caryaella *Juglans regia (English or Persian Walnut) Chromaphis juglandicola Lactuca sp. (Lettuce) Dactynotus sonchellus Lettuce-see Lactuca *Leucothoe racemosa Aphis gossipyi Linden-see Tilia Liriodendron tulipifera (Tuliptree) Macrosiphum liriodendri

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Lycopersicon esculentum (Tomato) Macrosiphum euphorbiae Myzus persicae Lyonia (Pieris) mariana (Stagger bush) Aphis spiraecola *Magnolia virginiana (Sweetbay) Macrosiphum liriodendri Malus sp. (Flowering Crab) Aphis pomi Maple, Hard or Sugar-see Acer saccharum Medicago sativa (Alfalfa) Acyrthosiphon pisum Therioaphis maculata Mentha sp. (Mint) Ovatus crataegarius Mentha spicata (Spearmint) Macrosiphum sp. Mint—see Mentha Mockorange-see Philadelphus Mugwort-see Artemisia vulgaris Nasturtium-see Tropaeolum *Nuphar advena (Cowlily) Rhopalosiphum nymphaeae Nyssa sylvatica (Tupelo) Aphis coreopsidis Oak-see Quercus Oenothera sp. (Evening Primrose) Aphis oestlundi Oenothera biennis (Common Evening Primrose) Aphis oestlundi *Pelargonium sp. (Geranium) Acyrthosiphon pelargonii Peonia sp. Aphis gossypii *Philadelphus sp. (Mockorange) Aphis fabae Pine—see Pinus Pinkweed-see Polyonum pennsylvanicum *Pinus resinosa (Red Pine) Schizolachnus piniradiatae *Polygonum caespitosum Capitophorus hippophaes *Polygonum caespitosum var. longisetum Capitophorus hippophaes Polygonum pennsylvanicum (Pinkweed) Capitophorus hippophaes Populus grandidentata (Aspen) Chaitophorus populicola Prunus sp. (Kwanzan Cherry) Myzus cerasi

Prunus cerasus (Sour Cherry) Myzus cerasi Pyracantha sp. (Firethorn) Aphis spiraecola Pyracantha coccinea var. lalandi (Laland Firethorn) Aphis spiraecola Quercus palustris (Pin Oak) Myzocallis exultans Myzocallis frisoni Quercus rubra (Red Oak) Myzocallis alhambra Quercus velutina (Black Oak) Myzocallis walshii Ragweed—see Ambrosia Red Clover-see Trifolium pratense Redpepper—see Capsicum Rheum rhaponticum (Rhubarb) Aphis fabae Macrosiphum euphorbiae Rhubarb-see Rheum Ribes sp. (Currant) Cryptomyzus ribis Rosa sp. (Rose) Acyrthosiphon porosum Macrosiphum euphorbiae Macrosiphum rosae Metopolophium dirhodum Rosa palustris (Swamp Rose) Macrosiphum euphorbiae Rose of Sharon-see Hibiscus Rudbeckia (serotina) hirta (Blackeved Susan) Dactynotus sp. Dactynotus leonardi Rumex crispus (Curled Dock) Aphis rumicis Salix sp. (Willow) ? Chaitophorus viminicola Lachnus salignus Snakeroot—see Eupatorium rugosum *Solanum pseudocapsicum (Jerusalem Cherry) Myzus persicae Solidago sp. (Goldenrod) Dactynotus sp. Rhopalosiphum serotinae Solidago rugosa Dactynotus gravicornis Dactynotus tissoti *Sophora japonica (Chinese Scholar Tree)

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| Aphis gossypii | |
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| Spiderflower—see Cleome | |
| Spindle Tree, European—see Euonymus | |
| <i>Spiraea</i> sp. | |
| Aphis spiraecola | |
| *Spiraea prunifolia (Bridalwreath Spiraea) | |
| Aphis spiraecola | |
| Staggerbush—see Lyonia | |
| Strawberry—see Fragaria | |
| Sunflower-see Helianthus | |
| Sweetbay-see Magnolia virginiana | |
| Sweetfern—see Comptonia | |
| Sweetpotato—see Ipomoea | |
| Taraxacum officinalis (Common Dandelion) | |
| Acyrthosiphon solani | |
| Dactynotus taraxaci | |
| *Tilia europaea (European Linden) | |
| Myzocallis tiliae | |
| Tomato—see Lycopersicon | |
| Trifolium pratense (Red Clover) | |
| Acyrthosiphon pisum | |
| | |

Tropaeolum sp. (Nasturtium) Aphis fabae Trumpet creeper—see Campsis Tulipa sp. Macrosiphum euphorbiae Tulip Tree-see Liriodendron Tupelo-see Nyssa Ulmus sp. (Elm) Georgiaphis ulmi Myzocallis ulmifolii Urtica sp. (Nettle) Acyrthosiphon sibericum Vaccinium corymbosum (cult. Highbush Blueberry) Aphis gossypii Masonaphis azaleae Viburnum sp. Neoceruraphis viburnicola Willow-see Salix Yarrow-see Achillea Zea mays (Corn) Rhopalosiphum maidis

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