

Review and key to aphids (Hemiptera: Aphididae) in Micronesia¹

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Abstract

The aphid species from eleven of the major islands of Micronesia ranging from Majuro, Republic of the Marshall Islands in the east to Koror and Babeldaup, Republic of Palau in the west, are documented based on 1,691 collections. Other islands sampled included Yap, Kosrae, and Chuuk in the Federated States of Micronesia, Saipan, Tinian and Rota in the Commonwealth of the Northern Mariana Islands, and the Territory of Guam. Host plant associations were documented at each collection site. Thirty-five aphid species were collected from 139 plant species in 43 different plant families. None of the aphids collected are indigenous to Micronesia. A key to the identification of the aphid species is provided.

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Introduction

All aphids occurring in the major Micronesian Islands of Guam, Saipan, and Tinian in the Marianas Archipelago, the Caroline Islands of Kosrae, Chuuk, Pohnpei, and Yap, the Marshall Island of Majuro, and in Palau are introduced species. Some species are serious agricultural pests and vector plant diseases while others are of lesser economic importance. Many aphids infest introduced crops or ornamental plants, with the most common introduced crops infested throughout Micronesia including citrus, tomato, banana, beans, eggplant, melon, okra, taro, and betel palm. Some aphids infest common exotic weeds such as *Chromolaena odorata* and *Bidens pilosa*, while others infest indigenous plants such as *Osmoxylon oliveri*, *Scaevola sericea* and *Schefflera actinophylla*. Ornamental plants (including varieties of *Bougainvillea*, *Heliconia*, *Alpinia*, and *Hibiscus*) used in hotel resort landscapes and in private residences throughout the region are also subject to aphid infestation.

Control of pestiferous aphids varies among Micronesian islands. The US governed islands of the Marianas, Guam, Saipan, Tinian, and Rota, generally have access to pesticides available in the more tropical areas of the mainland United States and Hawaii subject to local and national regulations. Pesticide use is generally prohibited or costly throughout the rest of Micronesia, forcing farmers to endure high levels of aphid damage or adopt less efficient local remedies.

The purpose of this paper is to describe the range of aphid species and their plant hosts occurring throughout Micronesia from the Marshall Islands to Palau, and to provide a key to the aphid species of the region. Such information is critical to future efforts to control aphids using aphid-specific natural enemies in biological control, and will provide a guide to plant protection officers in Micronesia who must frequently make decisions on the disposition of imported produce infested by aphids from outside the region.

Materials and methods

Aphids were sampled by the authors from cultivated agricultural areas, residential areas, hotels and resorts, parks, and roadsides on the Micronesian islands of Babeldaup (Palau), Yap, Chuuk, Pohnpei, Kosrae (Federated States of Micronesia), Majuro (Marshall Islands), Saipan, Tinian, Rota (Commonwealth of the Northern Mariana Islands), and Guam from 1997 – 2011 using direct sampling methods described in Pike *et al.* (2000). Approximately 5 to 200 aphids per sample were collected from each of 1,691 collections. Collected aphids were preserved in 95% ethanol. Selected aphids were cleared and mounted on micro-slides (Footitt and Maw 1999). Voucher specimens were deposited in the Wilfred Leon Guerrero Insect Museum, University of Guam, Mangilao, at the Washington State University Aphid Collection, Prosser, and in the Canadian National Collection, Agriculture and Agri-Food Canada, Ottawa. Aphid nomenclature generally follows Remaudière and Remaudière (1997). Host plants were identified by the authors with assistance from the late C.L. Raulerson, Division of Natural Sciences, University of Guam, Mangilao and followed the nomenclature of Stone (1970).

Results

This review of the aphids of Micronesia combines records made by the authors with those of previous collectors (Table 1) organized alphabetically by aphid (Aphid X Plant Host) (Appendix 1) and plant host (Plant Host X Aphid Index) (Appendix S2, available online). Plant common names, where available, are included with scientific names. A key to the aphids of Micronesia is also provided (Table 2).

Thirty-five species of aphids were collected from ten Micronesian islands (Table 1). *Aphis gossypii* Glover and *Pentalonia caladii* van der Goot were collected on all islands

sampled. *Rhopalosiphum maidis* (Fitch) was collected on all islands except Kosrae. *Pentalonia nigronervosa* Coquerel was collected on all sampled islands except for the island of Weno in Chuuk State in the Federated States of Micronesia. *Hysteroneura setariae* (Thomas) was collected on all islands except for Kosrae and Saipan. *Myzus persicae* (Sulzer) and *Nasonovia ribisnigri* (Mosley) were only collected on Guam while *Pseudoregma panicola* (Takahashi) was only collected on Pohnpei.

Twenty-seven aphid species were collected on Guam, followed by Palau with 16 species collected. Nine aphid species were collected on Rota and ten species collected on Tinian. Rota and Tinian are largely rural agricultural islands lying between Guam and Saipan. More aphid species were collected on these small islands than on the larger island of Saipan on which seven species were collected. In the Northern Mariana Islands, *Aphis spiraecola* Patch was found only on Saipan, while *H. setariae* and *Toxoptera aurantii* (Boyer de Fonscolombe) were collected on Rota and Tinian but not collected on Saipan. Ten aphid species were collected on the Caroline Island of Yap, while eight, six and three species were collected on Pohnpei, Chuuk (Weno) and Kosrae, respectively. Six species were collected on Majuro, the largest of the Marshall Islands.

Discussion

A number of studies have been conducted on Guam and Micronesia describing aphid species and host plant ranges. These include an extensive review by Essig (1956) and earlier reports by Fullaway (1912), Takahashi (1936, 1941), Swezey (1942), Beller (1948), Oakley (1953), and Gressit (1954). Recent aphid surveys include Pike *et al.* (2000) who recorded 18 aphid species occurring on Guam, as opposed to the 15 species described by all previous researchers. More recently, Idechiil (2007) described aphid and ant associations on the islands of Koror and Babeldaup in Palau, and Duay *et al.* (2013) described the distribution of *Pentalonia*

aphids and the incidence of banana bunchy top virus (BBTV), which they vector, in Micronesia from Palau eastward to the Marshall Islands. Since Pike *et al.* (2000), the aphid *Uroleucon formosanum* (Takahashi) has been collected on *Youngia japonica* from Guam and Rota, and *R. maidis* has been recovered from feral sorghum on Guam. *Brevicoryne brassicae* (cabbage aphid), which was collected in 1998 by Pike *et al.* (2000) and was collected by previous workers on a small farm in central Guam, has not been found recently.

Other aphids collected by previous workers but not found by either Pike *et al.* (2000) or more recent studies include *Aphis helianthi* Monell (sunflower aphid), *Aphis rumicis* L. (dock aphid, probably a misidentification of *Aphis fabae solanella*), *Lipaphis erysimi* (Kaltenbach) (as used by various authors; the widespread species is *L. pseudobrassicae* (Davis)), *Rhopalosiphum rufiabdominale* (Sasaki) (rice root aphid), and *Tetraneura akinire* Sasaki.

The four most widely distributed aphids in Micronesia continue to be *A. gossypii* (cotton or melon aphid), *A. craccivora* (black legume aphid), *T. citricida* (tropical citrus aphid) and *P. nigronervosa* (banana aphid). *Pentalonia caladii*, formerly considered a “form” of *Pentalonia nigronervosa* (Remaudière and Remaudière 1997, Eastop and Hille Ris Lambers 1976), was recently elevated to full species status (Footitt *et al.* 2010) and was found on many islands of Micronesia where it occurred predominately on ornamental comb ginger (Zingiberaceae) and *Heliconia* (Heliconiaceae).

Twenty two aphids species reported in Micronesia are also among the 85 aphid species currently established, in the Hawaiian Islands (Footitt *et al.* 2012). These include the cosmopolitan and commonly found crop aphids *A. gossypii*, *A. craccivora*, *M. persicae*, *P. caladii*, *P. nigronervosa*, *R. maidis*, and *T. citricida*. Nine aphids reported from Micronesia have not been recorded in Hawaii. These include three species of *Astegopteryx* on Palau, ie. *A. bambusae*, *A. esakii*, and *A. rhapsidis*. Also not found in Hawaii were *A. cytisorum* collected in

Micronesia on Palau, Guam, and Saipan; *A. helianthi* collected from Guam; *H. pruni* collected from Guam and Palau, *P. panicola* collected from Pohnpei, *T. akinire* collected from Guam, and *U. formosanum* collected from Guam and Rota. No adelgids have been reported in Micronesia.

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<i>Brevicoryne brassicae</i> (L.)		○								
<i>Cerataphis brasiliensis</i> (Hempel)		○			○					○
<i>Cerataphis lataniae</i> (Boisduval)										○
<i>Cerataphis</i> sp.		○								
<i>Glyphinaphis bambusae</i> van der Goot		○								
<i>Hyalopterus pruni</i> (Geoffroy)		○			○					
<i>Hysteroneura setariae</i> (Thomas)	■	■○		■	○	■	■		■	■
<i>Lipaphis pseudobrassica</i> Davis		○								
<i>Myzus persicae</i> (Sulzer)		■○								
<i>Nasonovia ribisnigri</i> (Mosley)		○								
<i>Neotoxoptera formosana</i> (Takahashi)						■				
<i>Pentalonia caladii</i> van der Goot	■○	■○	■	■	■○	■	■	■	■	■○
<i>Pentalonia nigronervosa</i> Coquerel		■○	■	■	■○	■	■	■	■	■○
<i>Pseudoregma panicola</i> (Takahashi)						■				
<i>Rhopalosiphum maidis</i> (Fitch)	○	■○		■	○	○	■	○	○	○
<i>Rhopalosiphum rufiabdominale</i> (Sasaki)		○								
<i>Sarucallis kahawaluokalani</i> (Kirkaldy)		○								
<i>Tetraneura akinire</i> Sasaki		○								
<i>Tetraneura</i> sp.					■					
<i>Toxoptera aurantii</i> (Boyer de Fonscolombe)	○	○					■		■	

Toxoptera citricida (Kirkaldy)

■○

○

■

■

■

Uroleucon formosanum (Takahashi)

■○

■

Table 2. Key to Aphids in Micronesia.

Key is for adult wingless viviparae (exception, see couplet 1)

Abbreviations	
ABD	Abdomen or abdominal
ABDI, ABDII	Abdominal segment I, abdominal segment II, etc.
ANT	Antenna or antennal
ASIII, ASIV	Antennal segment III, antennal segment IV, etc.
B	Base of ultimate antennal segment (part up to and including primary rhinarium)
bdIII	Basal diameter of antennal segment III
FT	Frontal (antennal) tubercles
PT	Processus terminalis of ultimate antennal segment (part beyond primary rhinarium)
SIPH	Siphunculus or siphunculi
URS	Ultimate rostral segment (composed of fused penultimate & ultimate segments, IV+V)

- 1 Adult viviparae all winged; with dark spots at apex of forewing veins; FT undeveloped; ABDII tergum with a large, dark, bifurcate spinal tubercle; SIPH truncate; cauda knobbed; anal plate bilobed; on crape myrtle.....
 *Sarucallis kahawaluokalani*
- Adults comprised of both winged and wingless forms, and not with the combination of morphological feature above; if wing pigmented, then along bordering veins; not on crape myrtle 2

2(1)	SIPH mere pore to very shallow cone.....	3
-	SIPH elongate	10
3(2)	Body round to oval, dorsal-ventrally flattened, body margined by distinct wax glands (in life body fringed by a ring of wax).....	4
-	Aphid not as above.....	5
4(3)	Head underside with at least one pair of short, stout spines on strongly tuberculate bases positioned ventrolateral of frontal horns	<i>Cerataphis brasiliensis</i>
—	Head underside without stout spines, but with elongate slender setae on flat or slightly raised bases positioned ventrolateral of frontal horns.....	<i>Cerataphis lataniae</i>
5(3)	Head and prothorax not fused; without frontal horns between ANT bases; tarsi 1- segmented	<i>Tetraneura sp.</i>
-	Head and prothorax fused; with or without frontal horns; tarsi 2-segmented	6
6(5)	Body with conspicuous dorsal and marginal long, stout, spine-like hairs; head without frontal horns; on bamboo	<i>Glyphinaphis bambusae</i>
-	Body without long, stout, spine-like hairs; head with frontal horns; on bamboo, coconut, palm, or tropical grasses.....	7

7(6)	Prothorax posterior margin with elongate oval nodulose swellings on each side of median; on tropical grasses (e.g., <i>Cyrtococcum</i> , <i>Opilismenus</i> , <i>Panicum</i> , <i>Setaria</i>)	
	<i>Pseudoregma panicola</i>
-	Prothorax posterior margin smooth, without swellings; on bamboo, coconut or palm	8
8(7)	Tips of frontal horns pointed; on coconut or palms	<i>Astegopteryx rhapsidis</i>
-	Tips of horns pointed or rounded; on bamboo	9
9(8)	Tips of horn rounded.....	<i>Astegopteryx bambusae</i>
-	Tips of horns pointed (possibly syn. of <i>A. pallida</i>).....	<i>Astegopteryx esakii</i>
10(2)	ABDI and VII with marginal tubercles (may be very small).....	11
-	ABDI and VII without marginal tubercles.....	25
11(10)	SIPH flangeless, smooth, thin, cylindrical, and < cauda in length	
	<i>Hyalopterus pruni</i>
-	SIPH flanged, other features variable	12
12(11)	ABDVII with strongly developed lateroventral ridges (stridulatory mechanism) and postsiphuncular sclerites; hind tibia with row of peg-like setae; SIPH and cauda uniformly pigmented.....	13

- ABDVII without lateroventral ridges (rows of small spinules may be present); tibia without a well developed row of peg-like setae..... 14

- 13(12) ASIII-V apically darkened (ANT appears banded); ABD ventrolateral serrate ridges coarse; length of longest seta on ASIII < bdIII; cauda usually with < 20 setae
..... *Toxoptera aurantii*

- ASIII-IV not apically darkened (pale); ABD ventrolateral serrate ridges fine; length of longest seta on ASIII \geq bdIII; cauda with > 20 setae *Toxoptera citricida*

- 14(12) PT/B = 5–7; cauda pale and SIPH dark; on grasses *Hysteroneura setariae*

- PT/B usually < 4, but if > 4, then cauda and SIPH both dark..... 15

- 15(14) ABD dorsal microsculpture reticulation comprised of fine bead-like spinules forming polygons; tibia all dark; ABD terga without dark markings anterior to SIPH; cauda and SIPH dark; mainly on grasses 16

- ABD dorsal microsculpture reticulation comprised of irregular lines forming polygons (maybe difficult to see in cleared specimens); tibia partially pale; other features variable 17

- 16(15) PT/B 1.5-2.8; SIPH short, 0.07–0.08x body; body elongate, length about 2x greatest width *Rhopalosiphum maidis*

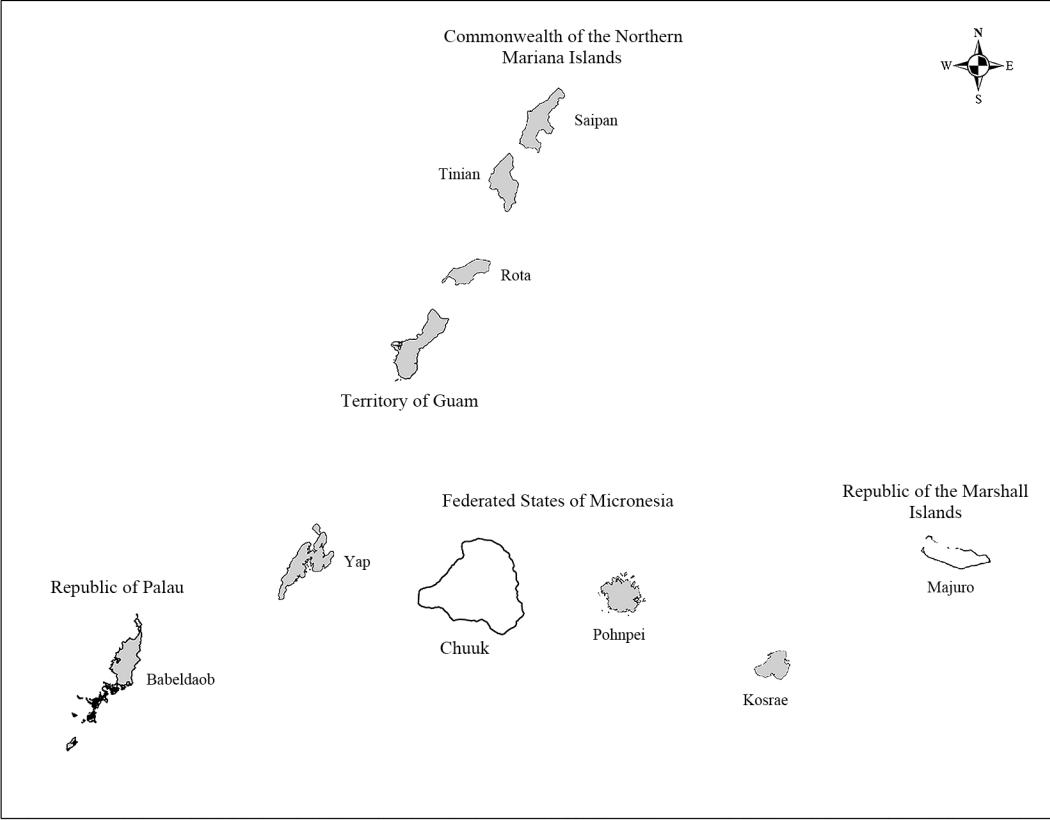
- PT/B 4.0–6.5; SIPH 0.08–0.15x body; body more oval, length < 2x greatest width ...
..... *Rhopalosiphum rufiabdominale*

- 17(15) URS with 6–10 accessory setae; cauda with 10–15 setae.....*Aphis (Bursaphis) sp.*
 - URS with 2–4 accessory setae; caudal setae number variable18
- 18(17) ABD dorsum usually heavily pigmented with carapace or patch (sometimes partially fragmented or divided).....19
 - ABD dorsum without pigmented carapace or patch (may be membranous or with transverse stripes or other markings)20
- 19(18) Adult aphids dark (green, brown, or black) with dense gray wax powder on dorsum; anterior half of genital plate commonly with 5 setae (range 2–8) (after Blackman and Eastop 2006); on woody Fabaceae*Aphis cytisorum*
 - Adult aphids shiny black with sparse or no wax powder; anterior half of genital plate with 2–3 setae (after Blackman and Eastop 2006); on a wide diversity of plants including Fabaceae*Aphis craccivora*
- 20(18) SIPH \geq 0.40 mm; URS 0.14–0.17 mm; PT/B 3.3–4.7; color in life bright yellow-orange; on *Adenium*, *Asclepias*, and *Nerium**Aphis nerii*
 - SIPH < 0.40 mm; URS usually < 0.14 mm (if \geq 0.14 mm, then SIPH \leq 0.30 mm); PT/B 1.3–3.6; color not as above.....21

- 21(20) Cauda pale to dusky-dark, but lighter than SIPH; ABD dorsum membranous; cauda slightly-spoon shaped (with mid-length constriction) with 5–7 setae; URS 09–0.11mm *Aphis gossypii*
- Cauda and SIPH concolorous; other features variable22
- 22(21) ABD dorsum without dark markings; cauda slightly-spoon shaped with 7–15 setae *Aphis spiraeicola*
- ABDVIII (or VII and VIII) with dorsal transverse stripe, other ABD segments with or without dark markings23
- 23(22) Cauda tapering with 5–10 setae; cauda and SIPH dusky; second antennal similar in color to base of third segment, paler than first segment *Aphis helianthi*
- Cauda usually slightly spoon-shaped with 11–27 setae; cauda and SIPH dark; first and second antennal segments equally dark, darker than base of third segment24
- 24(23) ABDVI tergum with a well-developed broad transverse pigmented band; other ABD terga with variably developed irregular bands or stripes (sometimes fragmentary or incomplete); ANT dark on part of ASIII, and all of IV, V, and VI; on *Rumex* *Aphis rumicis*
- ABD VI dorsum without a well-developed broad transverse band (may be weakly developed); other terga markings usually minimal or lacking; ANT dark on distal part of ASV and all of VI; on a wide range of host plants *Aphis fabae*

25(10)	FT moderately to well developed, exceeding vertex	26
-	FT weakly developed, not exceeding vertex (front of head maybe w-shaped)	31
26(25)	FT (inner sides) convergent	<i>Myzus persicae</i>
-	FT (inner sides) divergent or parallel.....	27
27(26)	SIPH with 6 or more rows of apical reticulation	<i>Uroleucon formosanum</i>
-	SIPH with 0–2 rows of apical reticulation	28
28(27)	SIPH swollen Wing veins heavily bordered with dark pigment.....	29
-	SIPH not swollen Wing veins not heavily pigmented	<i>Nasonovia ribisnigri</i>
29(28)	FT not widely separated (distance between less than height of tubercles); PT/B < 5.0; on <i>Allium</i>	<i>Neotoxoptera formosana</i>
-	FT widely separated (distance between greater than 2x height of tubercles); PT/B > 5.5; not on <i>Allium</i>	30
30(29)	URS 0.14–0.16 mm; on banana, rarely taro.....	<i>Pentalonia nigronervosa</i>
-	URS 0.11–0.13 mm; on <i>Alpinia</i> , <i>Hedychium</i> , <i>Heliconia</i> , <i>Zingiber</i> , and taro	<i>Pentalonia caladii</i>

- 31(25) SIPH nearly smooth with distinctive subapical groove before flange; cauda short, helmet-shaped or pentangular; spiracles circular and relatively distinctive (larger than most species); ABD dorsum without dark markings *Brachycaudus helichrysi*
- SIPH imbricate without subapical groove; cauda, triangular; spiracles not as above; ABD dorsum with or without dark markings 32
- 32(31) ABD with dark markings anterior to SIPH; SIPH < cauda in length; cauda broadly triangular (length and width about equal)..... *Brevicoryne brassicae*
- ABD without dark markings anterior to SIPH; SIPH > cauda in length; cauda tapering (length > width) *Lipaphis pseudobrassicae*
-



APPENDIX 1. Aphids in Micronesia: Plant hosts listed by aphid species

Plant names after the USDA, NRCS Plant Profile database/checklist (USDA, NRCS. 2012. The PLANTS Database (<http://plants.usda.gov>, 3 January 2012). Guam records from 1997–1999 summarized from Pike *et al.* 2000; Palau records prior to 2005 summarized from Idechiil *et al.* 2007; records summarized from Fullaway 1912, Beller 1948, and Essig 1956 marked [‡], [†], and [*], respectively.

Aphis craccivora Koch

Abelmoschus esculentus (L.) Moench (Malvaceae), okra. - GUAM, Dededo, Jan-98;

Malojloj, Apr98, May98 (2 collections); Barrigada, Nov98, Talofof, Feb98–Dec98 (35 collections); Inarajan, Feb99; Yigo, Mar98–May99 (7 collections).

Abelmoschus moschatus Medik. (Malvaceae), musk okra. - TINIAN, Apr03.

Acacia confusa Merr. (Fabaceae), acacia. - GUAM, Mangilao, Mar99.

Amaranthus spinosus L. (Amaranthaceae), spiny amaranth. - GUAM, Yigo, May98.

Bougainvillea spectabilis Willd. (Nyctaginaceae), bougainvillea. - GUAM, Agat, May99; Dededo, Jan99.

Capsicum annuum L. (Solanaceae), pepper. - GUAM, Yigo, Jun97–Jun98 (3 collections).

Cassia fistula L. (Fabaceae), golden shower. - GUAM, Tamuning, Apr00.

Cestrum sp. (Solanaceae), jessamine. - GUAM, Potts Junction, Oct52 [*].

Citrofortunella microcarpa (Bunge) Wijnands (Rutaceae), calamansi. - GUAM, Barrigada, Apr00.

Citrullus lanatus (Thunb.) Matsum. & Nakai (Cucurbitaceae), watermelon. - GUAM, Talofof, Jul98.

Citrus limon (L.) Burm. (Rutaceae), lemon. - GUAM, Barrigada, Sep98–Dec98 (4

collections).

Citrus sinensis (L.) Osbeck (Rutaceae), sweet orange. - GUAM, Maite, Apr00; Mangilao, Apr00, May00; Yogo, Mar00.

Citrus sp. (Rutaceae). - GUAM, Barrigada, Dec97; Dededo, Oct97.

Colocasia esculenta (L.) Schott (Araceae), taro. - GUAM, Barrigada, Sep98; Yigo, Jul98; MAJURO. - Jan04.

Cucumis sativus L. (Cucurbitaceae), cucumber. - GUAM, Yigo, Jul97; ROTA. - Apr99.

Dalbergia sissoo Roxb. ex DC. (Fabaceae), sissoo-tree. - GUAM, Barrigada, Aug98, Sep98.

Gliricidia sepium (Jacq.) Kunth ex Walp (Fabaceae), quick-stick. - GUAM, Barrigada, Feb99.

Hibiscus tiliaceus L. (Malvaceae), hibiscus. - GUAM, Mt. Lamlam, Oct52 [*].

Hibiscus sp. (Malvaceae), hibiscus. - YAP, Oct04.

Indigofera teysmannii Miq. (Fabaceae), indigo. - GUAM Barrigada, Mar98, Apr99.

Lablab purpureus (L.) Sweet (Fabaceae), hyacinth-bean. - GUAM ([*] aphid listed as *A. laburni*).

Malpighia emarginata Sessé & Moc. ex DC. (Malpighiaceae), Barbados cherry. - GUAM, Yona, Oct 98, Dec98.

Mimosa pudica L. (Fabaceae), mimosa. - GUAM, Barrigada, Mar99; Yona, Feb99; TINIAN, Feb99.

Momordica charantia L. (Cucurbitaceae), bitter melon. - PALAU, Babeldaob, Apr01.

Moringa oleifera Lam. (Moringaceae), horseradish-tree GUAM, Mangilao, Mar98; Dededo, Apr01.

Phaseolus vulgaris L. (Fabaceae), common bean. - GUAM, Barrigada, Jun36 ([*] aphid listed as *A. medicaginis* Koch), and 1997–2000 (46 collections); Dededo, 1998–2011 (10 collections); Inarajan, May97–May99 (6 collections); Mangilao, 1997–2000 (13

collections); Talofofu, 1998–2000, 2003 (32 collections); Yigo, 1997–1999 (26 collections); and Yona, Jun98; MAJURO, Jan04; PALAU, Aimeliik, Apr01; Ngeremlengui, Apr01; and Babeldaob, Apr01; ROTA. - Jan99; TINIAN, Apr01.

Portulaca oleracea L. (Portulacaceae), pigweed. - GUAM, Yona, Feb99.

Pueraria phaseoloides (Roxb.) Benth. (Fabaceae), parda. - GUAM, Dededo, Dec98–Apr01 (7 collections); Inarajan, Jul00; Talofofu, Mar98–Jun99 (4 collections).

Senna alata (L.) Roxb. (Fabaceae), candlebush. - GUAM, Chalan Pago, Apr99, Jan00; Yona, Nov98–Apr01 (8 collections).

Solanum melongena L. (Solanaceae), eggplant. - GUAM, Dededo, May97; Talofofu, Dec98; Yigo, Sep97–May99 (4 collections); ROTA, Apr99.

Solidago sp. (Asteraceae), goldenrod. - GUAM, Yona, Oct98.

Spinacia oleracea L. (Chenopodiaceae), spinach. - GUAM, Dededo, Apr98.

Spondias purpurea L. (Anacardiaceae), purple mombin. - GUAM, Barrigada, Feb03.

Vigna mungo (L.) Hepper (Fabaceae), cowpea. - GUAM ([*] aphid listed as *A. medicaginis* Koch; plant listed as *Phaseolus mungo*].

Vigna unguiculata (L.) Walp. (Fabaceae), cowpea. - GUAM ([*] aphid listed as *A. medicaginis* Koch; plant listed as *V. sinensis*); PALAU, Airai, Dec00.

Wisteria sp. (Fabaceae), wisteria. - GUAM, Yona, Feb99.

Zea mays L. (Poaceae), corn. - ROTA, Apr01.

Unidentified, leguminose vine. - PALAU, Tobi, Sep52 [*].

Aphis cytisorum Hartig

Unknown plant [USNM slide]

Aphis fabae Scopoli

Unknown plant [USNM slide]

Aphis gossypii Glover

Abelmoschus esculentus (L.) Moench (Malvaceae), okra. - GUAM, Barrigada, Nov98; Dededo, Jan98, Jan05; Inarajan, Feb-99; Malojloj, Apr98; Mangilao, May03; Talafofo, 1998–2005 (46 collections); Yigo, 1998–2003 (12 collections); PALAU, Babeldaob, Apr01, Apr03; Aimeliik, Apr01; and Ngeremlengui, Apr03; POHNPEI, Apr05; ROTA, Feb03–May04 (6 collections); SAIPAN, Mar98–May04 (3 collections); TINIAN, Mar03, Apr03.

Acalypha hispida Burm. f (Euphorbiaceae), red-hot cat's tail. - CHUUK, Apr05; GUAM, Yona, Jan05; PALAU, Koror, Apr01.

Abelmoschus moschatus Medik. (Malvaceae), musk okra. - TINIAN, Apr03.

Artocarpus altilis (Parkinson) Fosberg (Moraceae), breadfruit. - GUAM, 1911 [‡]; Aug45[*].

Bidens pilosa L. (Asteraceae), hairy beggarticks. - GUAM, Dededo, Jan05–Aug05 (3 collections); Talafofo, Jan05, Aug05.

Blechnum pyramidatum (Lam.) Urb. (Acanthaceae), John-bush. - GUAM, Mt. Alutom, 1946 [*]; Merizo, Mar98 (2 collections).

Brassica sp. (Brassicaceae), mustard. - GUAM, Dededo, Feb98.

Caesalpinia pulcherrima (L.) Sw. (Fabaceae), barados. - GUAM, Yona, Feb00.

Calophyllum inophyllum L. (Clusiaceae), Alexandrian laurel. - GUAM, Mangilao, Feb99.

Capsicum annuum L. (Solanaceae), pepper. - GUAM, Dededo, Feb98; Maite, Apr00; Mangilao, Aug97; Talafofo, Aug98–May00 (3 collections); Tamuning, May00 (2 collections); Yigo, Jun97–Aug00 (10 collections); Yona, May00; MAJURO, Jun04; ROTA, Apr01 (3 collections); YAP, Oct04.

Capsicum sp. (Solanaceae), pepper. - GUAM [†].

Cassia fistula L. (Favaceae), golden shower. - PALAU, Angaur, Jan53 [*].

Cestrum diurnum L. (Solanaceae), day jessamine. - GUAM [†].

Chamaesyce hirta (L.) Millsp. (Euphorbiaceae), garden spurge. - GUAM, Barrigada, Mar98;
Mangilao, Mar98.

Chromolaena odorata, (L.) King & H. Rob (Asteraceae), Siam-weed. - GUAM, Asan,
Aug00 (2 collections); Barrigada, Jan98–Mar99 (8 collections); Chalan Pago, Apr01,
Aug 03; Dededo, Aug00–Jan05 (5 collections); Inarajan, Mar03–Aug05 (5 collections);
Maina, Apr03; Maite, Apr00, May00; Mangilao, Jul97–Feb98 (4 collections); Jul97–
Aug00 (8 collections); Piti, Aug03; Ritidian Point, Dec98, Jan05; Santa Rita, May00 (2
collections); Talafofo, Feb99–Jul03 (9 collections); Yigo, Dec97–Oct88 (6 collections);
Dec97–Aug03 (11 collections); Yona, Mar98–Feb99 (5 collections); Mar98–Mar01 (7
collections); PALAU, Aimeliik, Apr01, Apr03; Airai, Apr01–Apr03 (5 collections);
Babeldaob, Apr01–Apr03 (6 collections); Koror, Apr01–Apr03 (6 collections); Ngchesar,
Jan04 (5 collections); Peleliu, Jul03 (2 collections); POHNPEI, Apr05 (3 collections);
TINIEN, Feb99, Apr01.

Citrofortunella microcarpa (Bunge) Wijnands (Rutaceae), calamansi. - PALAU, Airai,
Apr03.

Citrullus lanatus (Thunb) Matsum. & Nakai (Cucurbitaceae), watermelon. - GUAM [Ful12,
aphid listed as probably *A. gossypii*]; Barrigada, May97; Talofofo, Feb98–Aug00 (4
collections); MAJURO, Apr03 (2 collections); POHNPEI, Apr05; ROTA, Aug98–May04
(6 collections); TINIEN, Aug98, Apr01.

Citrus limon (L.) Burm. (Rutaceae), lemon. - GUAM, Barrigada, Jan98, Sep98; Chango
Pago, Aug03; Mangilao, Aug03 (2 collections); Talofofo, Mar98; PALAU, Koror,
Apr01.

Citrus sp. (Rutaceae), citrus. - GUAM, Barrigada, Jan98.

Coccoloba uvifera (L.) L. (Polygonaceae), seagrape. - TINIAN, Apr03 (4 collections).

Colocasia esculenta (L.) Schott (Araceae), taro. - CHUUK, Apr05 (3 collections); GUAM [†]; Barrigada, May97–Feb00 (22 collections); Chalan Pago, May97; Dededo, May97–Mar03 (10 collections); Inarajan, May36 (Swezey 1942), Jul98–Aug05 (17 collections); Malojloj, Mar98; Mangilao, May36 (Swezey 1942), May97–Jan00 (39 collections); Ritidian Reserve, Sep05; Talofofu, Jun98–Feb03 (20 collections); Yigo, Apr98–Feb03 (22 collections); Yona, Mar98; KOSRAE, Jun04; MAJURO, Apr03–Jun04 (18 collections); PALAU, Airai, Apr03–Mar06 (3 collections); Angaur, Jan53 [*]; Babeldaob, Apr01–Apr03 (5 collections), Jul46 [*]; Koror, Apr03 (4 collections); Ngchesar, Dec00–Jan04 (5 collections); Ngeremlengui, Dec00–Apr03 (4 collections); POHNPEI, Apr05–Aug05 (7 collections); ROTA, Aug98–Apr03 (4 collections); SAIPAN, Mar98–May04 (8 collections); TINIAN, Apr01.

Cucumis sativa L. (Cucurbitaceae), cucumber. - GUAM, 1911 [Ful12, aphid listed as resembling *A. gossypii*]; Barrigada, Jul97; Dededo, Sep97–Aug05 (5 collections); Inarajan, Mar98–Apr03 (4 collections); Malojloj, May98; Mangilao, Aug97–May98 (7 collections); Merizo, Mar98–Mar03 (3 collections); Talofofu Feb98–Jan02 (26 collections); Yigo, Jul97–Feb03 (24 collections); Yona, Aug98; KOSRAE, May04; MAJURO, Jun04 (2 collections); PALAU, Airai, Apr03; Babeldaob, Koror, Apr53 [*]; Ngeremlengui, Dec00; POHNPEI, Apr05 (5 collections); ROTA, Aug98–May04 (12 collections); SAIPAN, Apr98; TINIAN, Aug98–Mar03 (5 collections); YAP, Oct04–Mar06 (3 collections).

Cucurbita pepo L. var. *ozarkana* D. Decker (Cucurbitaceae), zucchini. - GUAM, Dededo, Jan98–Feb98 (5 collections); Inarajan, Mar03; KOSRAE, Jun04; MAJURO, Apr03; POHNPEI, Apr05 (2 collections); ROTA, Aug98–Apr01 (3 collections); SAIPAN, Feb03 (4 collections); TINIAN, Aug98; YAP, Oct04.

Cucurbita sp. (Cucurbitaceae), melon. - GUAM, Barrigada, Jul97; Inarajan, Mar98; Talofof, Apr98, Jan05; Yigo, Jul97, Aug97; ROTA, May04; SAIPAN, Apr98 (12 collections); TINIAN, Aug98.

Euphorbia hirta L. (Euphorbiaceae), garden spurge. - GUAM, Barrigada, Mar98; Mangilao, Mar98.

Ficus prolixa G. Frost. (Moraceae), fig. - GUAM, Mangilao, Oct76.

Garcinia livingstonei T. Anderson (Clusiaceae), Livingstone's garcinia. - GUAM, Inarajan, Feb99.

Gliricidia sepium (Jacq.) Kunth ex Walp (Fabaceae), quickstick. - TINIAN, Apr03.

Gossypium hirsutum L. (Malvaceae), cotton. - GUAM, Yona, Oct98–Aug05 (4 collections)

Gossypium sp. (Malvaceae), cotton. - GUAM, 1911 [‡]; Yona, Oct98.

Hibiscus rosa-sinensis L. (Malvaceae), shoeblackplant - GUAM, Agat, Mar98 (2 collections); Barrigada, Mar98; Merizo, Mar98.

Hibiscus tiliaceus L. (Malvaceae), hibiscus. - CHUUK, Apr05; GUAM, Agat, Mar98 (2 collections); Barrigada, Mar98; Inarajan, Mar98; Merizo, Mar98; Tumon, Apr01; Yigo, Mar01; Yona, Feb00; KOSRAE, May04–Jun04 (3 collections); POHNPEI, Apr05 (2collections); ROTA, Apr99; SAIPAN, Feb99 (3 collections); TINIAN, Apr01; YAP, Oct04.

Hyptis capitata Jacq. (Lamiaceae), false ironwort. - PALAU, Koror, Apr01.

Ixora chinensis sensu Stone p.p., non Lam (Rubiaceae), Chinese ixora. - MAJURO, Jun04 (2 collections); PALAU, Aimeliik, Apr01.

Lathyrus odoratus L. (Fabaceae), sweetpea. - GUAM, Inarajan, Aug98.

Leucaena leucocephala (Lam.) de Wit (Fabaceae), white leadtree. - GUAM, Talofof, Feb99.

Luffa cylindrica M. Roem. (Cucurbitaceae), luffa. - GUAM, Merizo, Mar98.

Malpighia glabra L. (Malpighiaceae), wild crapemyrtle. - SAIPAN, Feb99 (2 collections).

Mikania micrantha Kunth (Asteraceae), bittervine. - GUAM, Merizo, Mar98.

Mikania scandens (L.) Willd. (Asteraceae), climbing hempvine. - GUAM, Merizo, Mar98.

Momordica charanti L. (Cucurbitaceae), balsampear. - PALAU, Aimeliik, Apr01.

Nerium oleander L. (Apocynaceae), oleander. - GUAM, Barrigada, Aug00; SAIPAN, Feb99–Mar03 (5 collections).

Osmoxylon oliveri Fosb. & Sachet (Araliaceae). - PALAU, Airai, Apr03; Koror, Apr03 (3 collections); Ngaraard, Jan04, Ngchesar, Jan04.

Osmoxylon sp. (Araliaceae), osmoxylon. - PALAU, Koror, Apr03; Ngchesar, Jan04.

Panax sp. (Araliaceae), ginseng. - GUAM, Mangilao, Nov75.

Phaseolus coccineus L. (Fabaceae), scarlet runner. - GUAM, Jul45 ([*] plant listed as *P. multiflorus*).

Phaseolus vulgaris L. (Fabaceae), common bean. - GUAM, Barrigada, Jun97; Talofof, Jul98 (3 collections); Yigo, Dec97, May98; POHNPEI, Apr05; SAIPAN, Mar98.

Piper methysticum G. Frost. (Piperaceae), kava. - POHNPEI, Apr05 (2 collections).

Polygonum perfoliatum L. (Polygonaceae), Asiatic tearthumb. - ROTA, Apr01.

Premna obtusifolia R. Br. (Verbenaceae), premna. - CHUUK, Apr05 (3 collections); PALAU, Koror, Apr01, Mar06; Ngchesar, Jan04.

Pseuderanthemum carruthersii (Seem.) Guillaumin, (Acanthaceae) Carruthers' falseface. - PALAU, Aimeliik, Apr01; Airai, Apr01; Babeldaob, Apr01.

Raphanus sativus L. (Brassicaceae), cultivated radish. - GUAM, 1911 [Ful12, aphid thought to be *A. gossypii*]; POHNPEI, Apr05.

Scaevola sericea Vahl (Goodeniaceae), beach naupaka. - GUAM, Anderson AFB, Feb99; Agat, Aug03 (2 collections), Asan, Aug03; Asanati Beach, Mar06; Dededo, Aug03; Inarajan, Jul03 (2 collections); Piti, Aug03; Serena Beach, Feb99–Apr01 (3 collections);

Ritidian, Mar03–Mar06 (11 collections); Talofof, Feb99–Aug03 (11 collections);
Tumon, Mar03 (2 collections); Umatac, Mar98; Yigo, Feb03–Aug03 (12 collections).
Schefflera actinophylla (Endl.) Harms (Araliaceae), octopus tree. - GUAM, Agat, Mar98;
TINIAN, Apr01.
Solanum lycopersicum L. (Solanaceae), tomato. - GUAM (Gressitt 1954).
Solanum melongena L. (Solanaceae), eggplant. - GUAM, 1911 [Ful12, aphid reported as
probably *A. gossypii*]; 1912 [Swe12]; Barrigada, Mar98–Feb99 (13 collections); Dededo,
Oct98–Aug05 (11 collections), Mangilao, Jul97–May99 (16 collections); Santa Rita,
Feb03; Talofof, Jun98–Aug03 (10 collections); Yigo, Jun97–Jan05 (16 collections);
POHNPEI, Aug05; ROTA, Apr99–Feb03 (4 collections); SAIPAN, Mar98; TINIAN,
Aug98–Aug01 (3 collections); YAP, Mar06.
Solanum nigrum L. (Solanaceae), black nightshade. - GUAM, Yigo, Dec1977.
Solanum tuberosum L. (Solanaceae), Irish potato. - GUAM [†].
Tabebuia rosea (Bertol.) DC. (Bignoniaceae), pink trumpet-tree. - SAIPAN, Apr01.
Tectona grandis L. f. (Verbenaceae), teak. - GUAM, Mangilao, Feb99.
Trichosanthes cucumerina L. (Cucurbitaceae), snakegourd. - GUAM, Talofof, Feb99 (2
collections).
Tridax procumbens L. (Asteraceae), coat buttons. - GUAM, Agat, Mar01; Asan, Aug00;
Barrigada, Mar98, Apr99; Inarajan, Jul00–Jul03 (3 collections); Malojloj, Mar98;
Mangilao, Mar98–Sep03 (9 collections); Yigo, May00; Yona, Feb99.
Tunera pumilea L. (Turneraceae), yellow alder. - GUAM, Talofof, Jan05.
Vigna unguiculata (L.) Walp. (Fabaceae), cowpea. - GUAM, 1911 [†]; PALAU, Babeldaob,
Apr01; ROTA, Aug00–Apr01 (7 collections).
Wollastonia biflora (I.) Dc. (Asteraceae). - PALAU, [†].
Zea mays L. (Poaceae) corn. - GUAM, Maite, Apr00 (2 collections).

Unidentified composite flower. - PALAU, Pulo Anna, Sep52 and Sensorol, Sep52 [*].

Unknown plant. - GUAM, Agana, May45–Oct47 (3 collections) [*]; Asan, Nov47 [*]; Yona, Oct45 [*].

***Aphis helianthi* Monell**

Helianthus annuus L. (Asteraceae), common sunflower. - GUAM, [†].

Unknown plant [USNM slide].

***Aphis nerii* Boyer de Fonscolombe**

Adenium obesum (Forssk.) Roem. & Schult (Apocynaceae), desert rose. - GUAM, Tamuning, Jun00.

Asclepias sp. (Asclepiadaceae), milkweed. - PALAU, Mt. Alifan, Jun46; Yigo, Jul52 [*].

Nerium oleander L. (Apocynaceae), oleander. - GUAM, Agat, Mar03; Agana, Mar03–Jul03 (5 collections), Anigua, Mar03; Talofofo, Feb99–Mar03 (9 collections); Yigo, May99 (2 collections); SAIPAN, Feb99–Mar03 (5 collections); TINIAN, Apr01.

Unknown plant [USNM slide].

***Aphis rumicis* L.**

(probably *Aphis fabae solanella*)

Allium cepa L. (Liliaceae), garden onion. - GUAM, [†].

In the early 20th century, the name *Aphis rumicis* was usually applied to the species now known as *A. fabae*.

***Aphis* sp.**

Abelmoschus esculentus (L.) Moench (Malvaceae), okra. - GUAM, Talofofo, Oct98.

Arachis hypogaea L. (Fabaceae), peanut. - ROTA, Apr01.

Brassica oleracea L. (Brassicaceae), cabbage. - SAIPAN, Apr01.

Chromolaena odorata, (L.) King & H.Rob (Asteraceae), Siam-weed. - GUAM, Anderson AFB, Feb99; Barrigada, Dec97; Merizo, Mar98; Yona, Mar98.

Cucurbita pepo L. var. *ozarkana* D. Decker (Cucurbitaceae), zucchini. - ROTA, Apr01.

Cucumis sativus L. (Cucurbitaceae), cucumber. - SAIPAN, Mar98.

Phaseolus vulgaris L. (Fabaceae), common bean. - GUAM, Barrigada, Aug97–Sep98 (3 collections); Yigo, Sep97; ROTA, Apr01.

Solanum melongena L. (Solanaceae), eggplant. - GUAM, Dededo, May97.

Tridax procumbens L. (Asteraceae), coatbuttons. - GUAM, Inarajan, Mar99.

Aphis (Bursaphis) sp.

Colocasia esculenta (L.) Schott (Araceae), taro. - GUAM, Inarajan, Jan05. Probably an errant alate.

***Aphis spiraecola* Patch**

Alpinia purpurata (Vieill.) K. Schum. (Zingiberaceae), red ginger. - TINIAN, Apr01.

Chromolaena odorata, (L.) King & H.Rob (Asteraceae), Siam-weed. - CHUUK, Apr05; GUAM, Agat, Aug03; Barrigada, Feb03; Chalan Pago, Mar01, Apr01; Inarajan, Jul03, Aug03; Maina, Jul03; Mangilao, Apr03; Merizo, Apr03; Talofofo, Feb99–Jul03 (4 collections); Ritidian, Aug03, Sep03; Yona, Feb98–Jul03 (11 collections); PALAU, Airai, Apr03; Koror, Apr03–Jun03 (6 collections); Ngerard, Jan04; POHNPEI, Apr05; TINIAN, Apr01; YAP, Oct04 (2 collections).

Citrus limon (L.) Burm. (Rutaceae), lemon. - GUAM, Yigo, Dec98.

Colocasia esculenta (L.) Schott (Araceae), taro. - PALAU, Koror, Apr03.

Gardenia sp. (Rubiaceae), gardenia. - GUAM [†].

Gliricidia sepium (Jacq.) Kunth ex Walp (Fabaceae), quickstick. - TINIAN, Apr03.

Ixora chinensis Lamk (Rubiaceae), Chinese ixora. - CHUUK, Apr05.

Mikania scandens (L.) Willd. (Asteraceae), climbing hempvine. - PALAU, May03.

Mussaenda frondosa sensu G. Forst., non L. (Rubiaceae), flag bush. - PALAU, Koror, Jun03.

Pisonia grandis R. Br. (Nyctaginaceae), grand devil's-claw. - GUAM, Mangilao, Mar75.

Polygonum perfoliatum L. (Polygonaceae), Asiatic tearthumb. - TINIAN, Feb99.

Scaevola sericea Vahl (Goodeniaceae), beach naupaka. - GUAM, Inarajan, Aug03.

Schefflera actinophylla (Endl.) Harms (Araliaceae), octopus tree. - TINIAN, Apr01.

Tecoma stans (L.) Juss. ex Kunth (Bignoniaceae), yellow trumpetbush. - GUAM, Malojloj,
Mar 98.

Unknown plant [USNM slide].

***Astegopteryx bambusae* (Buckton)**

Bambusa sp. (Poaceae), bamboo.—PALAU, Koror, Feb36 [¢], Ngermid, Feb38 [*];

Ngerkesoaol, Feb36 [*]: YAP, Sep39 [§].

***Astegopteryx esakii* (Takahashi)**

Bambusa sp. (Poaceae), bamboo. - PALAU, Ngchesar, Aug39 [*].

***Astegopteryx rhapsidis* (van der Goot)**

Cocos nucifera L. (Arecaceae), coconut palm. - PALAU, Peleliu, Aug39 [*].

***Brachycaudus helichrysi* (Kaltenbach)**

Cucurbita pepo L. var. *ozarkana* D. Decker (Cucurbitaceae), zucchini. - GUAM, Dededo, Feb98.

***Brevicoryne brassicae* (L.)**

Brassica napus L. (Brassicaceae), rape. - GUAM, ([*] plant listed as *B. chinensis*).

***Cerataphis brasiliensis* (Hempel)**

Areca catechu L. (Arecaceae), betel palm.—PALAU, Airai, Oct04; YAP, Nov05 [USNM slide].

Areca sp.—PALAU, Oct87 (found on plant from Palau at Honolulu, HI) [USNM slide].

Musa sp. —YAP, Nov90 (found on plant from Yap at Guam) [USNM slides].

Unknown palm.—GUAM, Tamuning, Apr68 (aphid labeled *Cerataphis variabilis* Hille Ris Lambers)[USNM slides].

***Cerataphis lataniae* (Boisduval)**

Areca catechu L. (Arecaceae), betel palm.—YAP, Sep39 [§].

Cocos nucifera L. (Arecaceae), coconut palm.—YAP, Sep39 [§].

***Cerataphis* sp.**

Miscanthus floridulus (Labill.) Warb. ex K. Schum. & Lauterb. (Poaceae), Pacific Island silvergrass. - GUAM, Talofofo, May74.

Unknown plant. - GUAM [USNM slide].

***Glyphinaphis bambusae* van der Goot**

Unknown plant. - GUAM [USNM slide].

***Hyalopterus pruni* (Geoffroy)**

Phragmites karka (Retz.) Trin. ex Steud. [excluded] (Poaceae), tall reed. - GUAM, Inarajan,

Jun36 [*]; Yona Feb78.

Unidentified host - GUAM [USNM slide]; PALAU, Melekeok, Feb36 [*].

***Hysteronadura setariae* (Thomas)**

Cenchrus echinatus L. (Poaceae), southern sandbur. - GUAM, Mangilao, Mar99.

Chloris barbata Sw. (Poaceae), swollen fingergrass. - GUAM, Barrigada, Mar98 (2 collections); Dededo, Mar99; Inarajan, Mar98, Mar99; Malojloj, Mar98; Mangilao, Feb99, Sep03; Talofof, Feb99 (2 collections); Yona, Feb99.

Chloris radiata (L.) Sw. (Poaceae), radiate fingergrass. - GUAM, Inarajan, Mar98; Malojloj, Mar98.

Cyperus rotundus L. (Cyperaceae), nutsedge. - GUAM, Inarajan, Mar98; Mangilao, Mar99.

Dactyloctenium aegyptium (L.) Willd (Poaceae), Egyptian grass. - GUAM, Barrigada, Mar98; Dededo, Mar01; Inarajan, Mar98 (3 collections); Mangilao, Mar98, Mar99.

Dichanthium bladhii (Retz.) Clayton (Poaceae). - GUAM, Barrigada, Mar99; Mangilao, Mar99.

Digitaria sanguinalis (L.) Scop. (Poaceae), hairy crabgrass. - GUAM, Barrigada, Mar98; Inarajan, Mar98; Mangilao, Sep03; PALAU, Koror, Apr01; Ngchesar, Jan04.

Digitaria sp. (Poaceae), crabgrass. - GUAM, Yona, Jan78.

Digitaria violascens Link (Poaceae), violent crabgrass. - GUAM, Barrigada, Mar98; Inarajan, Mar98; PALAU, Koror, Apr01; Ngeremlengui, Apr03; Ngchesar, Jan04.

Echinochloa colona (L.) Link (Poaceae), jungle rice. - GUAM, Inarajan, Mar98 (2 collections); Yigo, Mar98.

Eleusine indica (L.) Gaertn. (Poaceae), Indian goosegrass. - GUAM, Inarajan, Mar98,
Mar03; Yigo, Mar98.

Gentiana pennelliana Fernald (Gentianaceae), wiregrass gentian. - GUAM, Inarajan, Mar03.

Paspalum conjugatum P.J. Bergius (Poaceae), hilograss. - GUAM, Dededo, Mar99, Mar01;
Mangilao, Feb03; Talofofu, Feb03 (2 collections); Yigo, Feb03; PALAU, Babeldaob,
Apr01–Apr03 (4 collections).

Paspalum paniculatum L. (Poaceae), arrocillo - GUAM, Dededo, Mar99; PALAU, Airai,
Apr01; Ngeremlengui, Apr01.

Paspalum sp. (Poaceae), paspalum. - POHNPEI, Apr05 (2 collections); ROTA, Apr01 (2
collections); TINIAN, Apr01 (2 collections); YAP, Mar11.

Pennisetum polystachion (L.) Schult (Poaceae), mission grass. - GUAM, Talofofu, Feb99.

Pueraria phaseoloides (Roxb.) Benth. (Fabaceae), tropical kudzu. - GUAM, Dededo, Apr03.

Sorghum bicolor (L.) Moench (Poaceae), sorghum. - GUAM, Inarajan, Dec77.

Tridax procumbens L. (Asteraceae), coat buttons. - GUAM, Inarajan, Mar03; Mangilao,
Sep03.

Urochloa mutica (Forssk.) T.Q. Nguyen (Poaceae), para grass. - GUAM, Inarajan, Mar98.

Unidentified grass (Poaceae). - CHUUK, Apr05; MAJURO, Jun04; POHNPEI, Apr05 (2
collections); ROTA, Feb03 (2 collections).

***Lipaphis pseudobrassicae* Davis**

Brassica rapa L. (Brassicaceae), field mustard. - GUAM, [†].

Raphanus sativus L. (Brassicaceae), cultivated radish. - GUAM, [†].

Unknown plant. - GUAM, [USNM slide].

***Myzus persicae* (Sulzer)**

Brassica napus L. (Brassicaceae), rape. - GUAM, Jul75.

Brassica rapa L. (Brassicaceae), field mustard. - GUAM, Santa Rita, Feb03

Colocasia esculenta (L.) Schott (Araceae), taro. - GUAM, Yigo, Feb02 (2 collections)

Unknown plant. - GUAM, [USNM slide].

***Nasonovia ribisnigri* (Mosley)**

Unknown plant. - GUAM, [USNM slide].

***Neotoxoptera formosana* (Takahashi)**

Raphanus sativus L. (Brassicaceae), cultivated radish. - POHNPEI, Apr05.

***Pentalonia caladii* van der Goot** (References and EMEC slides shown below reported as

Pentalonia sp. or *P. nigronervosa*, now recognized as *P. caladii*, see Footitt *et al.* 2010).

Alpinia pubiflora (Benth.) K. Schum. (Zingiberaceae), ginger. - PALAU, Koror, Apr01, Apr03; Ngeremlengui, Apr01.

Alpinia purpurata (Vieill.) K. Schum. (Zingiberaceae), red ginger. - GUAM, Barrigada, Feb99 (3 collections); Chalan Pago, Aug03; Mangilao, Feb99; Yona, Feb99–May99 (3 collections); PALAU, Airai, Dec00; Koror, Dec00, Jun03; POHNPEI, Kolonia, Sep07; ROTA, Apr99 (2 collections); SAIPAN, Feb99, Apr01; TINIAN, Feb99, Apr01.

Alpinia sp. (Zingiberaceae), ginger. - GUAM, Oct47 [*], Jan54 and Nov53 [EMEC slides].

Caladium sp. (Araceae), caladium. - GUAM, Mt. Santa Rosa, May45 [*]; PALAU, Koror, Jan53 [*].

Chromolaena odorata, (L.) King & H. Rob (Asteraceae), Siam-weed. - GUAM, Yona, Feb99.

Colocasia esculenta (L.) Schott (Araceae), taro. - CHUUK, Feb48 [EMEC slide]; GUAM, Barrigada, Oct97; Mangilao, Oct97, Mar98; Talofofu, Apr98; Yigo, Jun97; MAJURO, Jun04; PALAU, Peleliu, Jul03; ROTA, Apr01.

Costus speciosus (J. Koenig) Sm. (Costaceae), canereed. - PALAU, Airai, Apr01; Koror, Apr03.

Cucumis sp. (Cucurbitaceae), melon. - GUAM, Talofofu, Apr98.

Cucurbita pepo L. var. *ozarkana* D. Decker (Cucurbitaceae), zucchini. - GUAM, Dededo, Jan98.

Cyrtosperma chamissonis (Schott) Merr. (Araceae), swamp taro. - POHNPEI, Kolonia, Sep07

Hedychium coronarium J. Koenig (Zingiberaceae), white garland-lily. - PALAU, Koror, Sep52 and Jan53 [*], Dec00, Apr01; YAP, Oct52 [EMEC slides].

Heliconia psittacorum L.f. (Heliconiaceae), parakeetflower. - PALAU, Koror, Apr01; Ngeremlengui, Apr01.

Heliconia rostrata Ruiz & Pav. (Heliconiaceae), false-bird-of-paradise. - GUAM, Yona, Feb99–Mar03 (3 collections); TINIAN, Feb99.

Heliconia sp. (Heliconiaceae), heliconia. - GUAM, Yona, Feb99–Feb00 (3 collections); PALAU, Babeldaob, Apr01; Koror, Apr01; TINIAN, Apr01.

Hornstedtia scyphifera (J. König) Steud., spindle ginger - PALAU, Airai, Apr03; Ngetpang, Apr01.

Musa acuminata Colla (Musaceae), banana. - POHNPEI, near Sapwalap, Sep07.

Philodendron Schott (Araceae), philodendron. - GUAM, Jan54 [*].

Solanum melongena L. (Solanaceae), eggplant. - GUAM, Yigo, Apr98.

Strelitzia reginae Aiton (Strelitziaceae), bird-of-paradise. - TINIAN, Feb99.

Zingiber zerumbet (L.) Sm. (Zingiberaceae) bitter ginger. - GUAM, Anderson AFB, Mar01; Barrigada, Mar01; Chalan Pago, Mar01; Inarajan, Jun00 (5 collections); Mangilao, Aug00, Mar01; Tumon, Apr01; Yigo, Jan00–Feb00 (3 collections); Yona, Jan00–Aug05 (6 collections); KOSRAE, Jun04 (2 collections); PALAU, Apr01; Airai, Dec00; Babeldaob, Apr01; Koror, Dec00–Apr03 (5 collections); ROTA, Feb03 (3 collections).

***Pentalonia nigronervosa* Coquerel**

Musa acuminata Colla (Musaceae), banana. - GUAM, Agat, Oct97–Mar03 (5 collections); Barrigada, Mar98–Mar01 (4 collections); Chelan Pago, Apr00–May00 (5 collections); Dededo, Jun97–Apr01 (12 collections); Ipan, Feb98; Maite, May00; Mangilao, Jul97; Merizo, Mar98, Apr01; Talofofu, Jan98–Mar03 (15 collections); Tamuning, Apr00; Umatac, Mar98, Apr01; Yigo, Mar98–Aug05 (5 collections); Yona, Feb00, May00; KOSRAE, Jun04 (2 collections); MAJURO, Jun04 (3 collections); PALAU, Koror, Apr01; POHNPEI, Kolonia, Feb48 [EMEC slide], Sep07 (2 collections); ROTA, Apr99 (2 collections); SAIPAN, Feb99; TINIAN, Apr01–Mar02 (3 collections); YAP, Oct52 [EMEC slide], Mar06.

Musa sp. (Musaceae), banana. - GUAM, 1911 [‡]; Agat, Oct97; Barrigada, Mar98, Feb99; Dededo, Mar97–Feb98 (11 collections); Ipan, Feb98; Merizo, Mar98; Talofofu, Feb98–Feb99 (12 collections); Mangilao, Feb97; Umatac, Mar98; Yigo, Mar98 (2 collections); PALAU (records prior to 1950 summarized from [*]), Babeldaob, Feb36; Ngeremlengui, Mar36; Ngaraard, Dec47; Koror, Oct47; Aimeliik, Apr03; Airai, Apr03; Koror, Apr01, Apr03.

***Pseudoregma panicola* (Takahashi)**

Oplismenus compositus (L.) P. Beauv. (Poaceae), running mountaingrass. - POHNPEI, near Kolonia, Sep07 (2 collections).

***Rhopalosiphum maidis* (Fitch)**

Coix lacryma-jobi L. (Poaceae), Job's tears. - PALAU, Koror, Jul46 [*].

Digitaria violascens Link (Poaceae), violent crabgrass. - PALAU, Babeldaob, Apr01;

Ngeremlengui, Apr01.

Sorghum bicolor (L.) Moench (Poaceae), sorghum. - CHUUK, May46 [EMEC slides];

GUAM, 1911 [Ful12, reported as *Aphis maidis* on broom corn and kaffir corn); Inarajan, Dec77; Muniappan. Pt. Oka, Jun45 [*]; ROTA, Apr01.

Zea mays L. (Poaceae), corn. - GUAM, 1911 [†]; [Swe42, Bel48, Oak53]; PALAU, Koror,

Aug52 [EMEC slide]; POHNPEI, Aug46, Nov53 [EMEC slides]; YAP, Jul46, Aug50 [EMEC slides].

Unidentified grass, (Poaceae). - GUAM, Agana, Apr45 [*], Apr46 and Oct52 [EMEC slides],

Ritidian Reserve, Sep05; MAJURO, Jun04; PALAU, Koror, Mar56–Dec56 [*].

Unknown plant. - CHUUK, GUAM, PALAU, SAIPAN, and TINIAN [USNM slides].

***Rhopalosiphum rufiabdominale* (Sasaki)**

Oryza sativa L. (Poaceae), rice. - GUAM, [†].

***Sarucallis kahawaluokalani* (Kirkaldy)**

Unknown plant. - GUAM, [USNM slide].

***Tetraneura akinire* Sasaki**

Ulmus japonica (Rehder) Sarg. (Ulmaceae), Japanese elm. - GUAM, Tumon Bay, Apr46 [*];
Orote Pt., Oct47 [*].

T. akirine is probably a synonym of *T. nigriabdominalis* (Sasaki). Also, there has been confusion between *T. nigriabdominalis* and *T. fusiformis* Matsumura (see Blackman and Eastop 2005). The accuracy of the identification of the specimens reported by Essig (1956) has not been determined.

***Tetraneura* sp.**

Abelmoschus esculentus (L.) Moench (Malvaceae), okra. - PALAU, Aimeliik, Apr03.

***Toxoptera aurantii* (Boyer de Fonscolombe)**

Annona muricata L. (Annonaceae), soursop. - GUAM, Yona, Dec98; ROTA, Apr01;
TINIEN, Apr01.

Artocarpus heterophyllus Lam. (Moraceae), jackfruit. - TINIEN, Apr01.

Citrofortunella microcarpa (Bunge) Wijnands (Rutaceae), calamansi. - GUAM, Dededo,
Mar98; ROTA, Apr01.

Citrus limon (L.) Burm. (Rutaceae), lemon. - GUAM, Barrigada, Mar98.

Citrus maxima (Burm. f.) Merr. (Rutaceae), shaddock. - TINIEN, Apr03.

Citrus sp. (Rutaceae), citurs. - GUAM, Talofof, Dec52 [*].

Coffea arabica L. (Rubiaceae), Arabian coffee. - GUAM, Talofof, Feb99.

Ipomoea sp. (Convolvulaceae), astripomoea. - CHUUK, Feb52 [EMEC slide].

Unknown plant - GUAM, Pt. Oka, Dec45 [*]; Mt. Alifan, Apr46 [*].

***Toxoptera citricid* (Kirkaldy)**

Abelmoschus esculentus (L.) Moench (Malvaceae), okra. - GUAM, Talofof, Oct98.

Alpinia purpurata (Vieill.) K. Schum. (Zingiberaceae), red ginger. - GUAM, Yona, May99.

Chromolaena odorata, (L.) King & H. Rob (Asteraceae), Siam-weed. - GUAM, Barrigada, Jan98.

Citrofortunella microcarpa (Bunge) Wijnands (Rutaceae), calamansi. - GUAM, Barrigada, Aug97–Feb00 (31 collections); Dededo, May97–May03 (37 collections); Inarajan, Apr03 (2 collections); Talofof, Feb99 (3 collections); Yigo, Nov98; Yona, Oct98–Dec98 (4 collections); ROTA, Apr01; SAIPAN, Apr01.

Citrus aurantiifolia Linn (Rutaceae), lime. - GUAM, Dededo, Mar01.

Citrus limon (L.) Burm. (Rutaceae), lemon. - GUAM, Agat, Jul00; Barrigada, Aug98–Mar01 (26 collections); Dededo, Mar99, Jul00; Inarajan, Mar01; Maite, Feb00; Talofof, Sep98–Jun99 (7 collections); Yigo, Apr01, Apr03; Yona, Aug98–Mar01 (21 collections); ROTA, Apr99 (2 collections); SAIPAN, San Vincente, Apr98; TINIAN, Mar03.

Citrus reticulata Blanco (Rutaceae), tangerine. - GUAM, Barrigada, Mar98; Dededo, Mar98, Feb99; Talofof, Feb03; TINIAN, Apr01.

Citrus sinensis (L.) Osbeck (Rutaceae), orange. - GUAM, Anigua, Mar01; Barrigada, Feb99 (2 collections); Mangilao, May00; SAIPAN, Feb99–May03 (3 collections); TINIAN, Apr01, Apr03.

Citrus sp. (Rutaceae), citrus. - GUAM, 1911 [Full12, aphid reported as resembling *Myzus citricidus*]; Barrigada, Sep97–Jul98 (16 collections); Dededo, Sep97–Apr99 (8 collections); Inarajan, Jun97; Talofof, Sep97–Apr99 (3 collections); Yigo, Dec97; PALAU, Koror, Apr01; ROTA, Apr99 (2 collections); TINIAN, Feb 99 (2 collections).

Cucumis sativa L. (Cucurbitaceae), cucumber. - GUAM, Barrigada, Apr98.

Phaseolus vulgaris L. (Fabaceae), common bean. - GUAM, Barrigada, Aug98.

Solanum melongena L. (Solanaceae), eggplant. - GUAM, Dededo, May97.

***Uroleucon formosanum* (Takahashi)**

Youngia japonica (L.) DC. (Asteraceae), Oriental false hawksbeard. - GUAM, Mangilao,

Feb03, Aug03; ROTA, Feb03, May04.

APPENDIX S2. Aphids in Micronesia: Aphid species on plant hosts.

Abelmoschus esculentus (L.) Moench (Malvaceae), okra

Aphis craccivora Koch

Aphis gossypii Glover

Tetraneura sp.

Toxoptera citricida (Kirkaldy)

Abelmoschus moschatus Medik. (Malvaceae), musk okra

Aphis craccivora Koch

Aphis gossypii Glover

Acacia confusa Merr. (Fabaceae), acacia

Aphis craccivora Koch

Acalypha hispida Burm. f (Euphorbiaceae), red-hot cat's tail

Aphis gossypii Glover

Adenium obesum (Forssk.) Roem. & Schult (Apocynaceae), desert rose

Aphis nerii Boyer de Fonscolombe

Allium cepa L. (Liliaceae), garden onion

Aphis rumicis L.

(probably *Aphis fabae solanella*)

Alpinia pubiflora (Benth.) K. Schum. (Zingiberaceae)

Pentatonia caladii van der Goot

Alpinia purpurata (Vieill.) K. Schum. (Zingiberaceae), red ginger

Aphis spiraecola Patch

Pentalonia caladii van der Goot

Toxoptera citricida (Kirkaldy)

Amaranthus spinosus L. (Amaranthaceae), spiny amaranth

Aphis craccivora Koch

Annona muricata L. (Annonaceae), soursop

Toxoptera aurantii (Boyer de Fonscolombe)

Arachis hypogaea L. (Fabaceae), peanut

Aphis sp.

Areca catechu L. (Arecaceae), betel palm.

Cerataphis brasiliensis (Hempel)

Artocarpus altilis (Parkinson) Fosberg (Moraceae), breadfruit

Aphis gossypii Glover

Artocarpus heterophyllus Lam. (Moraceae), jackfruit

Toxoptera aurantii (Boyer de Fonscolombe)

Asclepias sp. (Asclepiadaceae), milkweed

Aphis nerii Boyer de Fonscolombe

Bambusa sp. (Poaceae), bamboo.

Astegopteryx bambusae (Buckton)

Astegopteryx esakii (Takahashi)

Bidens pilosa L. (Asteraceae), hairy beggarticks

Aphis gossypii Glover

Blechnum pyramidatum (Lam.) Urb. (Acanthaceae), John-bush

Aphis gossypii Glover

Bougainvillea spectabilis Willd. (Nyctaginaceae), bougainvillea

Aphis craccivora Koch

Brassica napus L. (Brassicaceae), rape

Brevicoryne brassicae (L.)

Myzus persicae (Sulzer)

Brassica oleracea L. (Brassicaceae), cabbage. - SAIPAN, Apr01.

Aphis sp.

Brassica rapa L. (Brassicaceae), field mustard

Lipaphis pseudobrassicae Davis

Myzus persicae (Sulzer)

Brassica sp. L. (Brassicaceae), mustard

Aphis gossypii Glover

Caesalpinia pulcherrima (L.) Sw. (Fabaceae), barados

Aphis gossypii Glover

Caladium sp. (Araceae), caladium

Pentalonia caladii van der Goot

Calophyllum inophyllum L. (Clusiaceae), Alexandrian laurel

Aphis gossypii Glover

Capsicum annuum L. (Solanaceae), pepper

Aphis craccivora Koch

Aphis gossypii Glover

Cassia fistula L. (Fabaceae), golden shower

Aphis craccivora Koch

Aphis gossypii Glover

Cenchrus echinatus L. (Poaceae), southern sandbur

Hysteroneura setariae (Thomas)

Cestrum diurnum L. (Solanaceae), day Jessamine

Aphis gossypii Glover

Cestrum sp. (Solanaceae), Jessamine

Aphis craccivora Koch

Chamaesyce hirta (L.) Millsp. (Euphorbiaceae), garden spurge

Aphis gossypii Glover

Chloris barbata Sw. (Poaceae), swollen fingergrass

Hysteroneura setariae (Thomas)

Chloris radiata (L.) Sw. (Poaceae), radiate fingergrass

Hysteroneura setariae (Thomas)

Chromolaena odorata (L.) King & H. Rob (Asteraceae), Siam-weed

Aphis gossypii Glover

Aphis spiraecola Patch

Pentalonia caladii van der Goot

Toxoptera citricida (Kirkaldy)

Citrofortunella microcarpa (Bunge) Wijnands (Rutaceae), calamansi

Aphis gossypii Glover

Aphis craccivora Koch

Toxoptera aurantii (Boyer de Fonscolombe)

Toxoptera citricida (Kirkaldy)

Citrullus lanatus (Thunb) Matsum. & Nakai (Cucurbitaceae), watermelon

Aphis craccivora Koch

Aphis gossypii Glover

Citrus aurantiifolia Linn. (Rutaceae), lime

Toxoptera citricida (Kirkaldy)

Cirtus limon (L.) Burm. (Rutaceae), lemon

Aphis craccivora Koch

Aphis gossypii Glover

Aphis spiraecola Patch

Toxoptera aurantii (Boyer de Fonscolombe)

Toxoptera citricida (Kirkaldy)

Citrus maxima (Burm. f.) Merr. (Rutaceae), shaddock

Toxoptera aurantii (Boyer de Fonscolombe)

Citrus reticulata Blanco (Rutaceae), tangerine

Toxoptera citricida (Kirkaldy)

Citrus sinensis (L.) Osbeck (Rutaceae), orange

Aphis craccivora Koch

Toxoptera citricida (Kirkaldy)

Coccoloba uvifera (L.) L. (Polygonaceae), seagrape

Aphis gossypii Glover

Cocos nucifera L. (Arecaceae), coconut palm

Astegopteryx rhapsidis (van der Goot)

Coffea arabica L. (Rubiaceae), Arabian coffee

Toxoptera aurantii (Boyer de Fonscolombe)

Coix lacryma-jobi L. (Poaceae), Job's tears.

Rhopalosiphum maidis (Fitch)

Colocasia esculenta (L.) Schott (Araceae), taro

Aphis craccivora Koch

Aphis gossypii Glover

Aphis spiraecola Patch

Aphis (*Bursaphis*) sp.

Myzus persicae (Sulzer)

Pentalonia caladii van der Goot

Costus speciosus (J. Koenig) Sm. (Costaceae), canereed

Pentalonia caladii van der Goot

Cucumis sativus L. (Cucurbitaceae), cucumber

Aphis craccivora Koch

Aphis gossypii Glover

Toxoptera citricida (Kirkaldy)

Cucurbita pepo L. (Cucurbitaceae), zucchini

Aphis gossypii Glover

Brachycaudus helichrysi (Kaltenbach)

Pentalonia caladii van der Goot

Cyperus rotundus L. (Cyperaceae), nutsedge

Hysteroneura setariae (Thomas)

Cyrtosperma chamissonis (Schott) Merr. (Araceae), swamp taro

Pentalonia caladii van der Goot

Dactyloctenium aegyptium (L.) Willd (Poaceae), Egyptian grass

Hysteroneura setariae (Thomas)

Dalbergia sissoo Roxb. ex DC. (Fabaceae), sissou-tree

Aphis craccivora Koch

Dichanthium bladhii (Retz.) Clayton (Poaceae)

Hysteroneura setariae (Thomas)

Digitaria sanguinalis (L.) Scop. (Poaceae), hairy crabgrass

Hysteroneura setariae (Thomas)

Digitaria violascens Link (Poaceae), violent crabgrass

Hysteroneura setariae (Thomas)

Rhopalosiphum maidis (Fitch)

Echinochloa colona (L.) Link (Poaceae), jungle rice

Hysteroneura setariae (Thomas)

Eleusine indica (L.) Gaertn. (Poaceae), Indian goosegrass

Hysteroneura setariae (Thomas)

Euphorbia hirta L. (Euphorbiaceae), garden spurge

Aphis gossypii Glover

Ficus prolixa G. Frost. (Moraceae), fig

Aphis gossypii Glover

Garcinia livingstonei T. Anderson (Clusiaceae), Livingstone's garcinia

Aphis gossypii Glover

Gardenia sp. (Rubiaceae), gardenia

Aphis spiraeicola Patch

Gentiana pennelliana Fernald (Gentianaceae), wiregrass gentian

Hysteroneura setariae (Thomas)

Gliricidia sepium (Jacq.) Kunth ex Walp (Fabaceae), quick-stick

Aphis craccivora Koch

Aphis gossypii Glover

Aphis spiraecola Patch

Gossypium hirsutum L. (Malvaceae), cotton

Aphis gossypii Glover

Hedychium coronarium J. Koenig (Zingiberaceae), white garland-lily

Pentalonia caladii van der Goot

Helianthus annuus L. (Asteraceae), common sunflower

Aphis helianthi Monell

Heliconia psittacorum L.f. (Heliconiaceae), parakeetflower

Pentalonia caladii van der Goot

Heliconia rostrata Ruiz & Pav. (Heliconiaceae), false-bird-of-paradise

Pentalonia caladii van der Goot

Hibiscus rosa-sinensis L. (Malvaceae), shoeblackplant

Aphis gossypii Glover

Hibiscus tiliaceus L. (Malvaceae), hibiscus

Aphis craccivora Koch

Aphis gossypii Glover

Hornstedtia scyphifera (J. König) Steud. (Zingiberaceae), great spindle ginger

Pentalonia caladii van der Goot

Hyptis capitata Jacq. (Lamiaceae), false ironwort

Aphis gossypii Glover

Indigofera teysmannii Miq. (Fabaceae), indigo

Aphis craccivora Koch

Ipomoea sp. (Convolvulaceae), astripomoea

Toxoptera aurantii (Boyer de Fonscolombe)

Ixora chinensis Lamk (Rubiaceae), Chinese ixora

Aphis gossypii Glover

Aphis spiraecola Patch

Lablab purpureus (L.) Sweet (Fabaceae), hyacinthbean

Aphis craccivora Koch

Lathyrus odoratus L. (Fabaceae), sweetpea

Aphis gossypii Glover

Leucaena leucocephala (Lam.) de Wit (Fabaceae), white leadtree

Aphis gossypii Glover

Luffa cylindrica- M. Roem. (Cucurbitaceae), luffa

Aphis gossypii Glover

Malpighia emarginata Sessé & Moc. ex DC. (Malpighiaceae), Barbados cherry

Aphis craccivora Koch

Malpighia glabra L. (Malpighiaceae), wild crapemyrtle

Aphis gossypii Glover

Mikania micrantha Kunth (Asteraceae), bittervine

Aphis gossypii Glover

Mikania scandens (L.) Willd. (Asteraceae), climbing hempvine

Aphis gossypii Glover

Aphis spiraecola Patch

Mimosa pudica L. (Fabaceae), mimosa

Aphis craccivora Koch

Miscanthus floridulus (Labill.) Warb. ex K. Schum. & Lauterb. (Poaceae), Pacific Island

silvergrass

Cerataphis sp

Momordica charantia L. (Cucurbitaceae), balsampear

Aphis craccivora Koch

Aphis gossypii Glover

Moringa oleifera Lam. (Moringaceae), horseradish-tree

Aphis craccivora Koch

Musa acuminata Colla (Musaceae), banana

Pentalonia nigronervosa Coquerel

Mussaenda frondosa sensu G. Forst., non L. (Rubiaceae), flag bush

Aphis spiraecola Patch

Nerium oleander L. (Apocynaceae), oleander

Aphis gossypii Glover

Aphis nerii Boyer de Fonscolombe

Oplismenus compositus (L.) P. Beauv. (Poaceae), running mountaingrass

Pseudoregma panicola (Takahashi)

Oryza sativa L. (Poaceae), rice

Rhopalosiphum rufiabdominale (Sasaki)

Osmoxylon oliveri Fosb. & Sachet (Araliaceae), osmoxyton

Aphis gossypii Glover

Panax sp. (Araliaceae), ginseng

Aphis gossypii Glover

Paspalum conjugatum P.J. Bergius (Poaceae), hilograss

Hysteroneura setariae (Thomas)

Paspalum paniculatum L. (Poaceae), arrocillo

Hysteroneura setariae (Thomas)

Pennisetum polystachion (L.) Schult (Poaceae), mission grass

Hysteroneura setariae (Thomas)

Phaseolus coccineus L. (Fabaceae), scarlet runner

Aphis gossypii Glover

Phaseolus vulgaris L. (Fabaceae), common bean

Aphis craccivora Koch

Aphis gossypii Glover

Toxoptera citricida (Kirkaldy)

Philodendron sp. (Araceae), philodendron

Pentalonia caladii van der Goot

Phragmites karka (Retz.) Trin. ex Steud. [excluded] (Poaceae), tall red

Hyalopterus pruni (Geoffroy)

Piper methysticum G. Frost. (Piperaceae), kava

Aphis gossypii Glover

Pisonia grandis R. Br. (Nyctaginaceae) grand devil's-claw

Aphis spiraecola Patch

Polygonum perfoliatum L. (Polygonaceae), Asiatic tearthumb

Aphis gossypii Glover

Aphis spiraecola Patch

Portulaca oleracea L. (Portulacaceae), pigweed

Aphis craccivora Koch

Premna obtusifolia R. Br. (Verbenaceae), premna

Aphis gossypii Glover

Pseuderanthemum carruthersii (Seem.) Guillaumin (Acanthaceae), Carruthers' falseface

Aphis gossypii Glover

Pueraria phaseoloides (Roxb.) Benth. (Fabaceae), parda

Aphis craccivora Koch

Hysteroneura setariae (Thomas)

Raphanus sativus L. (Brassicaceae), radish

Aphis gossypii Glover

Lipaphis pseudobrassicae (Davis)

Neotoxoptera formosana (Takahashi)

Scaevola sericea Vahl (Goodeniaceae), beach naupaka

Aphis gossypii Glover

Aphis spiraecola Patch

Schefflera actinophylla (Endl.) Harms (Araliaceae), octopus tree

Aphis gossypii Glover

Aphis spiraecola Patch

Senna alata (L.) Roxb. (Fabaceae), candlebush

Aphis craccivora Koch

Solanum lycopersicum L. (Solanaceae), tomato

Aphis gossypii Glover

Solanum melongena L. (Solanaceae), eggplant

Aphis craccivora Koch

Aphis gossypii Glover

Pentalonia caladii van der Goot

Toxoptera citricida (Kirkaldy)

Solanum nigrum L. (Solanaceae), black nightshade

Aphis gossypii Glover

Solanum tuberosum L. (Solanaceae), Irish potato

Aphis gossypii Glover

Solidago sp. (Asteraceae), goldenrod

Aphis craccivora Koch

Sorghum bicolor (L.) Moench (Poaceae), sorghum

Hysteroneura setariae (Thomas)

Rhopalosiphum maidis (Fitch)

Spinacia oleracea L. (Chenopodiaceae), spinach

Aphis craccivora Koch

Spondias purpurea L. (Anacardiaceae), purple mombin

Aphis craccivora Koch

Strelitzia reginae Aiton (Strelitziaceae), bird-of-paradise

Pentalonia caladii van der Goot

Tabebuia rosea (Bertol.) DC. (Bignoniaceae), pink trumpet-tree

Aphis gossypii Glover

Tectona grandis L. f. (Verbenaceae), teak

Aphis gossypii Glover

Tecoma stans (L.) Juss. Ex Kunth (Bignoniaceae), yellow trumpetbush

Aphis spiraecola Patch

Trichosanthes cucumerina L. (Cucurbitaceae), snakegourd

Aphis gossypii Glover

Tridax procumbens L. (Asteraceae), coat buttons

Aphis gossypii Glover

Hysteroneura setariae (Thomas)

Tunera pumilea L. (Turneraceae), yellow alder

Aphis gossypii Glover

Ulmus japonica (Rehder) Sarg. (Ulmaceae), Japanese elm

Tetraneura akinire Sasaki

Urochloa mutica (Forssk.) T.Q. Nguyen (Poaceae), para grass

Hysteroneura setariae (Thomas)

Vigna mungo (L.) Hepper (Fabaceae), cowpea

Aphis craccivora Koch

Vigna unguiculata (L.) Walp. (Fabaceae), cowpea

Aphis craccivora Koch

Aphis gossypii Glover

Wisteria sp. (Fabaceae), wisteria

Aphis craccivora Koch

Wollastonia biflora (L.) Dc. (Asteraceae)

Aphis gossypii Glover

Youngia japonica (L.) DC. (Asteraceae), Oriental false hawksbeard

Uroleucon formosanum (Takahashi)

Zea mays L. (Poaceae) corn

Aphis craccivora Koch

Aphis gossypii Glover

Rhopalosiphum maidis (Fitch)

Zingiber zerumbet Mill. (Zingiberaceae), ginger

Pentalonia caladii van der Goot