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Taxonomic revision of the *flavopalliata* species group of *Signiphora* (Hymenoptera: Signiphoridae)

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Abstract

The *flavopalliata* species group of *Signiphora* Ashmead (Hymenoptera: Signiphoridae) is revised. Twelve species are redescribed: *Signiphora aleyrodis* Ashmead, *S. aspidioti* Ashmead, *S. borinquensis* Quezada *et al.*, *S. coquilletti* Ashmead, *S. fax* Girault, *S. flavella* Girault, *S. flavopalliata* Ashmead, *S. lutea* Rust, *S. maculata* Girault, *S. merceti* Malenotti, *S. perpauca* Girault and *S. xanthographa* Blanchard. *Signiphora townsendi* Ashmead is synonymized under *S. aleyrodis* **n. syn.**; *Thysanus insularis* Dozier and *S. flavopalliata desantisi* De Santis are synonymized under *S. fax* **n. syns.**; *S. basilica* Girault, *S. euclidi* Girault, *S. flava* Girault, *S. caridei* Brèthes, *S. thoreauini* Girault and *Thysanus louisianae* Dozier are synonymized under *S. flavella* **n. syns.**; and *S. woolleyi* Hayat is synonymized under *S. perpauca* **n. syn.** Thirteen new species are described: *S. bennetti* **n. sp.**, *S. biloba* **n. sp.**, *S. brachyptera* **n. sp.**, *S. curepensis* **n. sp.**, *S. dozieri* **n. sp.**, *S. ehleri* **n. sp.**, *S. ensifera* **n. sp.**, *S. falcata* **n. sp.**, *S. jojobae* **n. sp.**, *S. longitibia* **n. sp.**, *S. plaumanni* **n. sp.**, *S. renuncula* **n. sp.** and *S. tridentata* **n. sp.** Lectotypes are designated for *S. aleyrodis, S. townsendi, S. fax, S. flavella, S. occidentalis, S. lutea, S. maculata* and *S. xanthographa.*

Key words: taxonomy, parasitoid, hyperparasitoid, parasitic wasps, Parasitica, Chalcidoidea, biological control, new species, Neotropics, Sternorrhyncha, Aleyrodidae, Diaspididae

Introduction

Signiphoridae (Hymenoptera) is a family of parasitoid wasps that includes parasitoids and hyperparasitoids associated with a variety of insect hosts, but mostly scale insects, mealybugs, and their predators. It is one of the smallest families of Chalcidoidea, currently with 84 described species in four genera (Noyes 2016), and most closely related to Azotidae, Aphelinidae, Trichogrammatidae and other chalcidoid families with a tendency to reduction in the number of antennomeres and tarsomeres (Noyes 1990; Heraty *et al.* 2013).

Signiphorids can be recognized by a set of conspicuous features such as the propodeum with a median, triangular plate and the modification of antennal flagellomeres into 1–4 anelli plus a long clava. The monophyly of the family is well supported by both morphological (Woolley 1988; Gibson *et al.* 1999) and molecular data (Heraty *et al.* 2013; Munro *et al.* 2011), as is a sister group relationship to Azotidae *sensu* Heraty *et al.* (2013). Sternal projections in the metasomal segments of the female (Woolley 1988, fig. 4) are known only from these two families (Woolley 1988; Gibson *et al.* 1999; Munro *et al.* 2011; Heraty *et al.* 2013). Molecular phylogenies based on ribosomal DNA (18S and 28S) and COI also support the monophyly of three out of the four valid genera in Signiphoridae: *Signiphora* Ashmead, *Chartocerus* Motschulsky and *Thysanus* Walker. The fourth genus, *Clytina* Erdős, appears as polyphyletic based on available molecular data (Munro *et al.* 2011; Dal Molin & Woolley, unpublished), in spite of its conspicuous and distinctive morphology. Woolley (1988) proposed morphological synapomorphies for the four genera.

The long history of taxonomic instability in Signiphoridae illustrates well the need for comprehensive taxonomic revisions for this group (De Santis 1968; Woolley 1986). Between 1930 and 1960 there were many nomenclatural changes, mainly due to disagreements about the synonymy of *Signiphora* and *Thysanus*, which produced a large amount of confusion in generic and family-level nomenclature (Woolley 1986). Woolley (1988) stabilized the current generic classification based on phylogenetic analysis of morphological characters. To date, there have been no comprehensive revisionary studies on a worldwide basis for any genus of Signiphoridae. However, regional reviews are available for India (Hayat 1976; Hayat & Verma 1980; Hayat & Subba Rao 1985, 1986; Hayat 2009), parts of the Neotropical region (De Santis (1973) for Argentina; Myartseva (2005) and Ramírez-Ahuja *et al.* (2015) for Mexico), and former USSR (Nikol'skaya 1950; Trjapitzin 1978). Other important contributions to signiphorid generic classification, morphology and biology include Domenichini (1954), De Santis (1968), Rozanov (1965), Subba Rao (1974), Woolley (1997) and Woolley & Hanson (2006).

Classification of *Signiphora* Ashmead, 1880

Signiphora is the most speciose genus in the Signiphoridae, with 46 valid species (Noyes 2016) and at least as many undescribed species. The great majority of these are known from the equatorial and tropical zones of the Neotropical region, especially Central America.

All species of *Signiphora* share two synapomorphies (Woolley 1988): 1) a lamelliform process extending posteriorly from the posterior margin of the medial sclerite of the propodeum, and 2) a comb of fine setae on the medial surface of the calcar on the protibia. These features have not been observed in any of the other genera of Signiphoridae. In addition, the occipital margin of *Signiphora* is distinctively acute and concave, causing the head to appear lens-shaped in dorsal view, whereas the occipital margin of *Chartocerus* species is narrowly rounded and that of *Clytina* and *Thysanus* species is broadly rounded. Woolley (1988) treated *Signiphora* as composed of four species groups: the *flavopalliata* group (there subdivided into the *aleyrodis* and *flavopalliata* groups for the phylogenetic analysis), the *bifasciata* group, the *dipterophaga* group, and the *coleoptrata* group. Although all these groups can be diagnosed with combinations of morphological features, only the *flavopalliata* group has been consistently well supported as monophyletic in both morphological (Woolley 1988) and molecular (Dal Molin, unpublished) studies. The *coleoptrata* group, a small group of highly apomorphic and rarely collected species, is likely monophyletic as well, but its relationships to other *Signiphora* are not yet clear.

The *flavopalliata* species group

The *flavopalliata* group includes the type species of *Signiphora*, *S. flavopalliata* Ashmead, plus 24 other species,

13 of which are new and described here. The *flavopalliata* species group, as defined by Woolley (1988), includes most of the smallest (~0.5–1mm) species in *Signiphora*. Specimens often present coloration varying from pale yellow to brown. Besides size, specimens of the *flavopalliata* group can be distinguished from other *Signiphora* by the fore wing with long marginal fringe (as long as or longer than the maximum width of the wing) and submarginal vein with one seta, hind wing parallel-sided (*e.g.* Fig. 7) also with very long marginal fringe setae, and male genitalia lacking medial denticles on the digitus.

Some species of the *flavopalliata* group are cosmopolitan, but as with other *Signiphora*, the greatest diversity occurs in the New World. They are among the most commonly collected Signiphoridae, and are arguably the species with most importance in biological and natural control of Hemipteran pests (Woolley 1990). Specimens are often encountered as either primary parasitoids or hyperparasitoids in biological control programs, particularly those targeting armored scales and whitefly pests (Woolley 1990; Woolley & Hanson 2006). Much of the material in some of the larger collections of Signiphoridae, such as USNM, UCR, FSCA, and TAMU, was collected in association with applied research on Hemipteran pests. Other large collections such as the one at BMNH and CNC are mixtures of material collected in association with applied programs and material collected for biodiversity research.

Unfortunately, species in the *flavopalliata* group are also among the most difficult Signiphoridae to identify. Due to the subtle nature of many of the features used for species identification and diagnosis, a series of well-prepared slide-mounts is an absolute requirement for confident identifications. If male specimens are available, these must be slide-mounted as well, since males provide several additional characters for study.

The species in the *flavopalliata* group fall into three informal groups based on patterns of body coloration and wing setation. One group has predominantly brown coloration on the mesosoma and metasoma, seta Ml and sometimes seta M2 missing from the fore wing marginal vein, and short ovipositor sheaths. As far as is known, these species are primary parasitoids of Diaspididae (Hemiptera) (Woolley 1990). A second group has predominantly brown body coloration, with a varying amount of yellow or tan color on the mesosoma, and a discal seta present in the fore wing. Most of these species are primary or secondary parasitoids of Diaspididae or Aleyrodidae (Hemiptera), although *Signiphora tridentata* **n. sp.**, is apparently a parasitoid of the eggs of Hemiptera. A third subgroup is characterized by predominantly yellow or yellow and brown body coloration, fore wing discal seta absent, fore wing marginal vein with seta Ml present or absent and seta M2 present, and longer ovipositor sheaths. These species are hyperparasitoids of Aleyrodidae or primary parasitoids (and possibly hyperparasitoids) of Diaspididae (Woolley 1990). Whether these three groups represent natural units (monophyletic clades) is a question that may be answered with further phylogenetic studies.

In the present work, we revise the world species of the *flavopalliata* group of *Signiphora*. Much of this work was started as part of the dissertation research of JBW (Woolley 1983), but it has been expanded to include several additional new species and numerous new records.

Methods

Specimen preparation. Specimens that had been kept in alcohol were critical-point-dried (Gordh & Hall 1979) and then individually card-mounted with a water-soluble glue to facilitate removal of wings for slide-mounting. As in other minute Chalcidoidea, specimens of *flavopalliata* group species are studied primarily using slide-mounted specimens. A good series of high quality slide-mounted specimens of females and males (if present) is usually required for confident identifications.

Hoyer's medium (see Brown 1997) was used for many slide mounts, especially in the 1970s through the 1990s. This medium tends to preserve coloration and results in high-contrast images in microscopy due to its low refractive index. Currently, the use of Hoyer's has largely been abandoned because of concerns about its permanence (Brown 1997) and the toxicity of chloral hydrate, one of its ingredients (WHO 2000). When coverslips of Hoyer's slide mounts have been ringed with Glyptal™ (an insulating paint available from electrical supply outlets) or other sealants, the slides are often stable for many years, but many will deteriorate over time as the medium reacts with atmospheric humidity, with subsequent damage to the specimens. Therefore, most new material was mounted in Canada balsam. For the slides mounted in balsam, we follow the slide-mounting protocols described by Noyes (1982) and Schmidt (2005), with some modifications: 1) wings are removed from card-mounted specimens using fine probes (usually stainless steel minuten pins mounted in small paint brush handles),

placed directly in clove oil, and set aside; 2) specimens are then cleared for 10 to 30 minutes or more (depending on the degree of sclerotization) in 10% KOH at 40˚C or overnight at room temperature; 3) specimens are then passed through distilled water, 35% ethanol, 50% ethanol, 75% ethanol, 95% ethanol, and 100% ethanol for at least 15 minutes each; 4) one half of the volume of 100% ethanol is then replaced by clove oil, and 15 minutes later one half of the ethanol /clove oil mixture is replaced by fresh clove oil. After the second clove oil bath, for approximately 30 minutes, the specimens are ready to be placed into Canada balsam. We mount wings, head including antennae, and body under separate 5 mm cover slips. First, the body parts are placed in a thin layer of Canada balsam, just thick enough to cover the material, which is allowed to dry overnight. The level of Canada balsam must remain above the specimen to avoid air bubbles. The following day, cover slips are affixed with a second, thin layer of Canada balsam and the slides are moved to a slide warmer at 40–48˚C for at least a couple of days prior to study to allow the Canada balsam to set. Higher temperatures are not recommended as they cause the balsam to darken.

Analysis and Photography. Specimens were first examined for color using a Leica MZ16 stereomicroscope. Photographs were made using an Olympus BH2 compound microscope fitted with planapochromat objectives and differential interference contrast (DIC) enhancement, and a Jenoptik ProgRes CT5 digital camera using ImagePro Plus software or a Zeiss MRc5 digital camera and Zeiss Axiovision software. Serially-focused stacks of images were compiled into in-focus montages using Helicon Focus Pro (Helicon Soft Ltd.) or Zerene Stacker (Zerene Systems LLC). Images were cropped, exposures and colors were corrected, and contrast was enhanced using Adobe Lightroom (Adobe Systems Inc.). Images were annotated when necessary in Photoshop (Adobe Systems Inc.). Plates were assembled using InDesign (Adobe Systems Inc.).

Species description data. Under each species treatment, besides regular references to original descriptions, name usage and synonymies, we include a life science identifier (LSID) corresponding to the Zoobank entry for the original descriptions. These LSIDs can be resolved into regular URLs by being prefixed with "zoobank.org" (e.g. http://zoobank.org/urn:lsid:zoobank.org:act:F0026B30-C2E5-46A4-A1C7-2F22E4372683 will lead to the nomenclatural act page for the original description of *Signiphora aleyrodis*). For previously described species, we also include a link to the corresponding Encyclopedia of Life (EOL) web page, a growing resource that makes available content from associated digital repositories, including taxonomic catalogues, photographs, electronic versions of the literature, and nucleotide sequences.

Specimen data. Almost all specimens have been assigned individual accession numbers, either from Texas A&M University or from their respective home institutions. Accession numbers are transcribed under "material examined" in the respective species descriptions. In the case of collections that were not assigning inventory numbers to specimens, we have used TAMU barcode labels, with the permission of the home institutions. Specimen repositories are given in parentheses after accession numbers.

For type specimens, we provide the verbatim host record, as stated on the labels, followed by the currently valid host name in square brackets if different. For other host records discussed for individual species, we provide the currently valid name, as determined from the following sources: ScaleNet (García *et al.* 2106), Mound & Halsey (1978), Hymenoptera On-Line (Various Contributors 2016), Universal Chalcidoidea Database (Noyes 2016).

While we provide only summarized details and unique identifiers in the material examined sections of descriptions, complete transcriptions of the labels are provided in Supplementary Material (Table S2: Material Examined). The supplementary tables containing specimen and locality information for species distribution maps are also available at Data Dryad (DOI: http://dx.doi.org/10.5061/dryad.fm03p) and from the authors. Maps of species distributions generated from material examined data are also provided as Supplementary Material (S3), as static reference for interactive maps from source files (KML), also available at Data Dryad and from the authors. The KML files can be read by most GIS software and allow the interactive display of specimen localities along with matching verbatim labels. Collecting localities were geo-referenced using multiple sources: Google Maps/ Google Earth (Google Inc.), GeoLocate (Tulane University Biodiversity Research Institute), GeoHack (MediaWiki.org), and Global Gazetteer (Falling Rain Genomics, Inc., fallingrain.com). The georeferenced accuracy is variable and, as a rule, the coordinates are based on the centroid of the smallest unambiguous geographical unit recognized, unless notes on label allowed further inference (*e.g.* distances indicated along roads, landmarks).

Links for relevant public data repositories containing vouched information and/or images produced in association with the present work are provided under the respective species sections.

We used the MX content management system (Yoder *et al.* 2006) for aggregation and indexing of taxonomic literature, storage of images, storage of label data from specimens examined, and for preparation of the material examined sections for each species. The data infrastructure underlying this project is described more completely in Dal Molin (2014).

Museum codens. The following acronyms for museum collections are used, followed in some cases by the abbreviation (institution code) used on specimen accession numbers (identifiers):

BMNH	Natural History Museum, London, UK (BMNH(E) or NHMUK);
BPBM	Bernice P. Bishop Museum, Honolulu, Hawaii, USA;
CAS	California Academy of Sciences, San Francisco, California, USA (CASENT);
CNC	Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario, Canada (CNCHYMEN);
CTAM	College of Tropical Agriculture, University of Hawaii at Manoa, Honolulu, Hawaii, USA;
CUIC	Cornell University, Ithaca, New York, USA;
FSCA	Florida State Collection of Arthropods, Gainesville, Florida, USA;
INHS	Illinois Natural History Survey, Urbana-Champaign, Illinois, USA;
IARA	Indian Agricultural Research Institute, New Delhi, India;
IFML	Fundación e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Tucumán, Argentina (SHYM);
INTA	Instituto Nacional de Tecnología, Tucumán, Argentina;
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland (MHNG ENTO);
MLPA	Museo de La Plata, La Plata, Argentina;
MNCN	Museo Nacional de Ciencias Naturales, Madrid, Spain;
MZUSP	Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil;
NZAC	New Zealand Arthropod Collection, Landcare Research, Auckland, New Zealand;
QM	Queensland Museum, Brisbane, Australia;
SANC	South African National Collection of Insects, Pretoria, South Africa;
TAMU	Texas A&M University Insect Collection, College Station, Texas, USA (TAMU-ENTO);
TAUI	Tel Aviv University, Tel Aviv, Israel (TAUZM);
UANL	Universidad Autónoma de Nuevo León, Monterrey, Mexico (CIBE);
UCD	R.M. Bohart Museum of Entomology, University of California, Davis, USA;
UCIS	University of California Insect Survey, Riverside, California, USA;
UCR	University of California, Riverside, California, USA (UCRC ENT);
UFES	Universidade Federal do Espírito Santo, Vitória, Brazil;
USNM	National Museum of Natural History, Washington, DC, USA (USNM ENT).

Morphology

The morphological terms and abbreviations used in this paper follow Woolley (1988, 1990), Heraty *et al.* (2013), Gibson (1997) and Gibson *et al.* (1998). Concepts and definitions are listed with their entries in the Hymenoptera Anatomy Ontology (HAO) in Supplementary Material Table S1 (URI table), according to the model described by Seltmann *et al.* (2012). However, some terms require further explanation due to their modified conditions in Signiphoridae. Most have been discussed in more depth elsewhere (Woolley 1988); some notes on pertinent terminology are provided below.

Head. The flagellum in the *flavopalliata* group always consists of three anelli and an unsegmented clava. Anellus length refers to the longest side parallel to the long axis of the antenna with the antenna lying flat in lateral view, which can only be accurately measured in slide-mounts. The mandibles of Signiphoridae, as in many other Chalcidoidea, contain rod or sphere-like structures in the internal hollow area, linked by a tube to the apex of the teeth, with apparent secretory function. We refer to them as mandibular ducts. The mandibular ducts of most species in the *flavopalliata* group are enlarged apically (*e.g.* Fig. 35); however, they are parallel-sided in *S. maculata* (Fig. 275).

Mesosoma. The mesoscutum of most species in the *flavopalliata* group bears two setae, one in each

posterolateral corner of the mesoscutum (*e.g.* Figs 12, 134). As in other Signiphoridae, the scutellum is transverse, with a row of 4–8 or more setae (*e.g.* Figs 12, 208), the number of which is sometimes useful in diagnosing species. The propodeum of species in the *flavopalliata* group has a structure similar to other species of Signiphoridae, in which a triangular medial sclerite is set off by sulci from each lateral sclerite (Fig. 12). As in other *Signiphora*, the median triangular process bears a posterior flange that extends over the anterior part of the first tergum (Mt1) (Fig. 12).

As in other Signiphoridae, the fore and hind wings are largely without microtrichia on the wing discs, except for a few setae that occur in characteristic locations. A discal seta is present in some fore wings (*e.g.* Figs 141,142) and absent in others (*e.g.* Figs 5, 6). The dorsal setae on the submarginal and marginal vein of the fore wing occur in well-marked places, and therefore a numbering system has been assigned (Woolley 1988, 1990), which we follow here (Fig. 6): setae M1 through M4 refer to strong setae projecting from the anterior side of the marginal vein whereas M5 and M6 are located in the posterior side of the marginal vein. Seta M1, if present, is always proximal to seta M5. However, Woolley (1988) incorrectly stated that seta M3 is always proximal to seta M6 when, in fact, it can be either proximal or distal to it. Seta M2b is used only for cases in which there are five setae on the anterior margin (*e.g. Chartocerus*). The lack of one or more of these dorsal setae on the marginal vein is often diagnostic. The abbreviation LMS in the descriptions refers to the 'longest marginal seta' on the fore wing or hind wing. Although fore wing coloration varies in some species treated here, in most cases the fore wing has an infuscated area between the wing base and the area behind or slightly beyond the distal end of the stigmal vein, with two transverse hyaline areas—one behind the submarginal vein and one at the posterior edge or margin of the wing (*e.g.* Fig. 5).

Metasoma. Numbering of tergites (Mt) refers to metasomal tergites and numbering of sternites (Ms) refers to metasomal sternites. As in most other *Signiphora*, the *flavopalliata* group species do not have a syntergum. Instead, Mt8 (bearing the cerci) and an apparent Mt9, sometimes referred to as the epiproct (*e.g.* Woolley 1988) are separate sclerites in both sexes. The shape of the posterior margin of Mt1 is diagnostic for many species, as is the ratio of the lengths of Mt1 and Mt2 (see Fig. 12 for an illustration of how this ratio is calculated). The shape of the anterior margin of Mt8 is also a useful diagnostic character—in many species it bears a distinct medial incision (*e.g.* Figs 10, 102), whereas in other species the anterior margin is transverse and lacks such an incision (*e.g.* Fig. 70). The male genitalia are largely uniform in structure throughout the group, although the apical denticles of at least one species are distinct and diagnostic (Fig. 179). Length of ovipositor in descriptions refers to the anterior-most portion of the ovipositor to the base (anterior end) of the gonostyli. In females, Ms6 (metasomal sternum 6) is the posterior-most sclerite in the metasoma that is complete across the venter. In males, Ms8 is the posterior-most ventral sclerite in the metasoma. The shape of Ms8 may also be diagnostic—in some species, the anterior margin is transverse or broadly rounded (Fig. 92) and in others, the anterior margin has a pointed, anteromedial projection (Figs 48, 196).

Taxonomy

Signiphora Ashmead, 1880

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Signiphora Ashmead, 1880: 30. Type-species: *Signiphora flavopalliata* Ashmead by monotypy.
Signiphora (*Signiphorella*) Mercet, 1916: 523. Type-species: *Signiphora merceti* Malenotti by original designation.
Kerrichiella Rozanov, 1965: 513. Type-species: *Thysanus coleoptratus* Kerrich, designated by International Commission on Zoological Nomenclature, Opinion 1143 (ICZN 1979). Synonymy by Woolley (1988).
Rozanoviella Subba Rao, 1974: 526. Type-species: *Signiphora polistomyiella* Richards by original designation. Synonymy by Woolley (1988).

Diagnosis. Coloration of head and body highly variable, ranging from entirely pale yellow to entirely black or dark brown. Head in dorsal view with occipital margin acute, hemispherical or lenticular. Face with scrobal impressions present, their lateral margins forming a right or an acute triangle, the impressions usually congruent dorsally. Mandible commonly bidentate, but also bidentate with a dorsal truncation or tridentate. Antenna with 4–7 antennomeres. Most species with 3 anelli in both sexes, a few species with 1 or 2 anelli, and one group with 4 anelli

in females and 3 in males. Mesoscutum with 2–30 or with 85–100 setae. Scutellum generally with 2 campaniform sensilla and with 4–12 or with 28–40 setae. Propodeum with medial sclerite with posterior lamelliform process, although this process is sometimes short and difficult to see. Mt1 shape variable, from transverse to strongly bilobed with medial portion transverse. Fore wing submarginal vein with 1 or 2 setae; marginal vein with varying number of dorsal setae, generally with at least setae M3, M4, M5 and M6 present, most commonly with 6 dorsal setae (M1–M6); discal seta present or absent. Hind wing varying in shape from parallel-sided to broadly rounded, discal seta present or absent; marginal vein with 1 or 2 dorsal setae. Protibia calcar with comb of fine setae on medial surface. Mesotibia obconic to very strongly obconic with long dorsal spines. Mesotibial spur with 4–15 teeth. Mesofemur with 1 or 2 long spines. Male genitalia with or without medial denticles; digitus with 1 denticle at apex or occasionally slightly proximal to apex. Male Ms7 varying in size and shape, ranging from narrowly transverse to broadly triangular or broadly crescent-shaped; in both sexes Mt8 and apparent Mt9 (the "epiproct") forming two separate sclerites.

Key to genera of Signiphoridae and species groups of *Signiphora*

1) Fore wing marginal vein with seta M6 absent (Woolley 1988, fig. 19) and marginal fringe long; occipital margin rounded; hind wing with parallel margins 2

\- Fore wing marginal vein with seta M6 present (Fig. 6) or if seta M6 absent then marginal fringe on fore wing short, fore wing LMS:fore wing width about 0.05); occipital margin narrowly rounded or acute; hind wing shape variable 3

2(1) Head prognathous and subrectangular in frontal aspect; mesotibia subcylindrical and without long spines on dorsal surface; mandibular ducts not enlarged apically; male genitalia with digitus bearing a single apical denticle, and bearing medial denticles on phallobase between digiti . . . . . *Clytina* Erdős

\- Head hypognathous and approximately round in frontal aspect; mesotibia obconic and with long spines on dorsal surface; mandibular ducts enlarged apically; male genitalia with digitus bearing two denticles, one at apex and one at midpoint, and without medial denticles between digiti . . . . . *Thysanus* Haliday in Walker

3(1) Protibia calcar without a comb of fine setae; medial sclerite of propodeum without lamelliform process; female antenna with 4 anelli; male with 3 anelli; mesofemur usually with 3 or 4 long spines; body entirely black or dark brown, often with metallic reflections, but without light coloration on mesosoma or metasoma . . . . . *Chartocerus* Motschulsky

\- Protibia calcar with a comb of fine setae; medial sclerite of propodeum with lamelliform process; female antenna variable but often with 3 anelli; male antenna also variable but usually with 3 anelli; mesofemur with 1 or 2 long spines; body color variable . . . . . *Signiphora* Ashmead ... 4

4(3) Fore wing submarginal vein with 1 seta; hind wing marginal vein with 2 setae; hind wing with parallel margins and discal seta absent; male genitalia without medial denticles . . . . . *flavopalliata* species group

\- Fore wing submarginal vein with 2 setae (one species with 1 seta but lacking other features above); hind wing marginal vein with 1 seta; hind wing with posterior margin narrowly or broadly rounded and with discal seta present or absent; male genitalia with medial denticles variable. 5

5(4) Female antenna with 4 anelli; male antenna with 3 anelli; hind wing without discal seta; male genitalia without medial denticles. . . . . *dipterophaga* species group (part)

\- Antenna of either sex with 1–3 anelli; hind wing with or without discal seta; male genitalia with medial denticles 6

6(5) Fore wing marginal vein without seta M6; fore wing with very short marginal fringe (LMS fore wing:fore wing width about 0.05) . . . . . *coleoptrata* species group

\- Fore wing marginal vein with seta M6; fore wing with fringe variable, often long (LMS fore wing:fore wing width at least 0.20). 7

7(6) Hind wing without discal seta; medial sclerite of propodeum with lamelliform process very short (length of process:length of medial sclerite 0.05–0.15); female mesofemur with 1 long spine and 2 very short spines; male mesofemur often dilated; male with Mt8 with ventrolateral projections conspicuous and with long spines . . . . . *dipterophaga* species group (part)

\- Hind wing with or without discal seta; medial sclerite of propodeum with lamelliform process long (length of process:length of medial sclerite 0.35–1.20); mesofemur of both sexes bearing 1 or 2 long spines and 0 or1 short spines; male mesofemur not dilated; male Mt8 without ventrolateral projections . . . . . *bifasciata* species group

The *flavopalliata* species group

Diagnosis. Length (pronotum to epiproct) 0.29–0.83 mm. Female and male antenna with 3 anelli. Mandibles bidentate, bidentate with a dorsal truncation, or tridentate. Mandibular ducts usually enlarged apically (parallel-sided in *S. maculata*). Mesoscutum with 2 setae (rarely 4) and scutellum with 3–9 setae. Propodeum with medial sclerite with lamelliform process 1/4–1/2× length of medial sclerite. Fore wing submarginal vein with 1 seta, marginal vein with 4–6 dorsal setae (rarely 3). Fore wing with or without discal seta. Species with a discal seta in

fore wing usually bear 1 or 2 ventral setae on marginal vein. In a few species, fore wing infuscated from wing base to distal end of stigmal vein or beyond, with two hyaline areas—one under proximal half of submarginal vein, the other along posterior wing margin extending to seta M1 or M2 of marginal vein. Hind wing with parallel margins and without a discal seta. Hind wing marginal vein with 2 dorsal setae, one in proximal 1/4 and one in the distal 1/4 near posterior margin of the vein. Mesofemur with 1 long spine and 1 very short spine distal to the long spine. Mesotibia obconic but not strongly so, with widest part (at insertion of distal-most long spine) in distal 2/3–3/4. Mesotibial spur more or less straight and with 3–8 teeth. Male genitalia without medial denticles at apex of phallobase. Male Ms7 posteromedial margin transverse, without a medial emargination or incision. Male Ms8 shape varying from narrowly transverse to broadly triangular.

Key to species in the *flavopalliata* species group

1) Fore wing without discal seta (*e.g.* Figs 5, 6) 2
- Fore wing with discal seta (*e.g.* Figs 141, 142) 14
2(1) Fore wing marginal vein with 3 or 4 dorsal setae, at least setae Ml and M2 absent (Figs 234, 290) 3
- Fore wing marginal vein with 5 or 6 dorsal setae, seta M2 present, seta Ml present or absent 4
3(2) Fore and hind wings infuscated from base to apex (Fig. 290); fore wing marginal vein with seta M3 and M4 short (length M3:marginal vein 0.23–0.59); female Mt8 with anterodorsal margin transverse, without a medial incision (Fig. 294) . . . . . *merceti* Malenotti
- Fore wing infuscated from base to distal end of stigmal vein (Fig. 234) and hind wing hyaline; fore wing marginal vein with setae M3 and M4 long (M3 length:fore wing marginal vein length 0.50–1.31); female Mt8 with anterodorsal margin with a rounded, medial incision (Fig. 241) . . . . . *jojobae* **n. sp.**
4(2) Female metasoma uniformly brown to apex; fore wing marginal vein without seta M1 5
- Female metasoma entirely yellow, or with at least one tergum yellow, usually more; fore wing marginal vein with or without seta Ml 7
5(4) Mesosoma with posterior 1/2 of mesoscutum, scutellum and metanotum tan or yellow, lighter in color than anterior 1/2 mesoscutum and metasoma; female Mt8 with anterodorsal margin with a rounded medial incision (Fig. 42); Mt1 weakly bilobed or bilobed with posteromedial margin rounded (Fig. 44); fore wing marginal vein with 1 small, ventral seta . . . . . *bennetti* Woolley & Dal Molin **n. sp.**
- Mesosoma in dorsal view uniformly brown; female Mt8 with anterodorsal margin transverse, without a medial incision; Mt1 bilobed with posteromedial margin transverse; fore wing marginal vein lacking a ventral seta 6
6(5) Mandibular ducts enlarged apically (Fig. 79); female fore wing marginal vein with seta M3 approximately 1/3 length of marginal vein; male with fore and hind wings brachypterous . . . . . *brachyptera* Woolley & Dal Molin **n. sp.**
- Mandibular ducts with parallel sides (Fig. 275) (occasionally enlarged apically); female fore wing marginal vein with seta M3 1/2–3/4× length of marginal vein (Fig. 278); males not known (the species apparently uniparental) . . . . . *maculata* Girault
7(4) Mt1 consisting of two widely separated lobes (Fig. 58); female with Ms3–Ms5 with very short anterior projections, much shorter than on Ms6; mandibles with two very short teeth and with mandibular ducts not developed (Fig. 51) . . . . . *biloba* Woolley & Dal Molin **n. sp.**
- Mt1 consisting of a single sclerite, if bilobed the lobes clearly connected by medial portion; Ms3–Ms5 in females with anterior projections of approximately same length as on Ms6; mandibles with two or three teeth of normal length and with mandibular ducts conspicuous 8
8(7) Female Mt8 with anterodorsal margin transverse, without a medial incision (Figs 70, 206) 9
- Female Mt8 with anterodorsal margin with a rounded medial incision (Figs 10, 26, 102, 272, 370) 10
9(8) Fore wing marginal vein with 6 setae (seta M1 rarely absent); scutellum with 6 or 7 setae (rarely 4 or 5); antennal clava tan, entirely dusky brown or dusky brown in distal 1/4–1/2 . . . . . *flavella* Girault
- Fore wing marginal vein with 5 setae, seta M1 absent (occasionally present); scutellum with 4 setae; antennal clava uniformly pale tan or dusky only in distal 1/6 . . . . . *borinquensis* Quezada, DeBach and Rosen
10(8) Fore wing marginal vein with 5 setae, seta Ml absent (rarely present); scutellum with 4–6 setae; antennal clava usually pale with apical half or third dusky (darker); Mt1 with posteromedial margin transverse or rounded; parasitoids or hyperparasitoids of Diaspididae 11
- Fore wing marginal vein with 6 setae (seta M1 rarely absent); scutellum with 4 setae; antennal clava uniformly pale tan or pale brown; Mt1 with posteromedial margin transverse; parasitoids or hyperparasitoids of Aleyrodidae 12
11(10) Mt1 bilobed with posteromedial margin rounded (Fig. 270); mesofemur with apical spine 1/4–2/3× length of proximal spine; antennal clava slightly dusky in distal 1/3 (Fig. 262) . . . . . *lutea* Rust
- Mt1 bilobed with posteromedial margin transverse or rounded; mesofemur with apical spine very short, less than 1/4× length of proximal spine; antennal clava with distal 1/2 distinctly dusky, with abrupt transition between pale proximal half and dusky distal half (Fig. 18) . . . . . *aspidioti* Ashmead
12(10) Vertex and frons with reticulate sculpture, mesoscutum also reticulate (Fig. 361, 372); antennal clava short (clava length:scape length 1.20–1.57) (Figs 362, 364); male metasoma uniformly brown to apex (males common) . . . . *xanthographa* Blanchard
- Vertex and frons with finely and transversely striate sculpture, mesoscutum transversely imbricate (Figs 12, 104); antennal clava short or long; male with at least Mt5 and Mt6 pale yellow 13

13(12) Mt1 length:Mt2 length 1.0 (rarely 0.50); antennal clava usually short (clava length:scape length 1.15–1. 75) (Figs 2, 4); males common (biparental) . . . . . *aleyrodis* Ashmead
- Mt1 length:Mt2 0.50 (rarely 0.33); antennal clava usually long (clava length:scape length 1.52–1.82) (Figs 94, 96); males rare (uniparental) . . . . . *coquilletti* Ashmead
14(1) Mandibles tridentate (Fig. 347); female Mt8 with anterodorsal margin transverse (Fig. 354); Mt1 strongly bilobed with medial portion transverse or rounded (Figs 355, 356); Mt1 length:Mt2 length at least 2.0) . . . *tridentata* Woolley & Dal Molin **n. sp.**
- Mandible bidentate or rarely bidentate with short dorsal truncation; female Mt8 with anterodorsal margin variable; Mt1 shape variable but Mt1 length:Mt2 length less than 2.0 (except in *dozieri* **n. sp.** in which the mandibles are clearly bidentate) . . . 15
15(14) Ovipositor about as long as entire metasoma (Figs 163, 341), its anterior sclerites lying under propodeum, Mt1 or Mt2 . . . 16
- Ovipositor not as long as entire metasoma, its anterior sclerites lying under Mt3–Mt6 17
16(15) Mt1 strongly bilobed with medial portion transverse (Fig. 340); female Mt8 with a rounded medial incision (Fig. 338); vertex minutely reticulate sculpture (Fig. 329) . . . . . *renuncula* Woolley & Dal Molin **n. sp.**
- Mt1 bilobed with medial portion rounded (Fig. 162); female Mt8 with anterior margin straight, without a medial incision (Fig. 164); vertex with minutely, transversely striate sculpture (Fig. 153) . . . . . *ensifera* Woolley & Dal Molin **n. sp.**
17(15) Female antennal clava distinctly dusky in distal 1/6–¼ (Figs 302, 318) 18
- Female clava uniformly pale tan or slightly dusky in distal 1/3 19
18(17) Female mesosoma entirely yellow or mesoscutum brown in anterior 1/3–½ (Fig. 311); female metasoma yellow, occasionally Mt1–Mt3 dusky brown, but Mt8, Mt9 and ovipositor sheaths yellow or rarely dusky brown; scutellum with 5 or 6 setae (Fig. 312) (males common) . . . . . *perpauca* Girault
- Female mesosoma with medial third of pronotum and all of mesoscutum mostly brown, except in posterolateral corners, and scutellum, metanotum and medial sclerite of propodeum yellow, contrasting with brown lateral sclerites of propodeum and all of metasoma, including ovipositor sheaths (Fig. 325); scutellum with 4 setae (Fig. 326), the medial pair closer together than either are to the lateral-most setae (males not known) . . . . . *plaumanni* Woolley & Dal Molin **n. sp.**
19(17) Female Mt8 with anterodorsal margin transverse (Figs 136, 174) 20
- Female Mt8 with anterodorsal margin with a rounded, medial incision (Figs 118, 146,190, 222, 254) 21
20(19) Propodeum with medial sclerite tan or light brown, usually lighter in color than lateral sclerites [more apparent in male (Fig. 178) than female (Fig. 176)]; mesotibia and metatibia entirely dusky brown (Fig. 173); male genitalia with length of apical denticle on digitus subequal to length of digitus, medial denticles present between digiti (Fig. 179); male Ms8 a thin transverse strip apparently fused to posterior margin of Ms7 (Fig. 180) . . . . . *falcata* Woolley & Dal Molin **n. sp.**
- Propodeum entirely brown, medial sclerite not lighter in color than lateral sclerites (Figs 133, 134); mesotibia and metatibia pale (Fig. 128) or with metatibia pale but dusky in dorsoproximal half only (males not known) . . . . . *dozieri* Woolley & Dal Molin **n. sp.**
21(19) Frons (Fig. 245) and mesoscutum (Fig. 256) strongly reticulate; mesotibia length subequal to metatibia length (Fig. 253) . . . . . *longitibia* Woolley & Dal Molin **n. sp.**
- Vertex and frons finely and transversely striate, mesoscutum transversely imbricate; mesotibia length at most 1/2–2/3× metatibia length 22
22(21) Mt1 with posteromedial margin transverse (Fig. 224); propodeum color variable but both medial sclerite and lateral sclerites tan, yellow, or brown; scutellum with 4 setae; male Ms8 transverse, without an anteromedial projection (Fig. 228) . . . . . *flavopalliata* Ashmead
- Mt1 with posteromedial margin rounded (occasional males with posteromedial margin transverse); propodeum color variable; scutellum with 4–8 setae; male Ms8 with a pointed anteromedial projection (Figs 124, 152, 196). 23
23(22) Lateral region of Mt4–Mt8 in female with a group of at least 5 or 6 robust setae on each side (Fig. 149); mesotibial spur with 6–8 teeth (Fig. 145) . . . . . *ehleri* Woolley & Dal Molin **n. sp.**
- Female with of Mt4–Mt8 laterally with a group of 2 or 3 setae; mesotibial spur with 4 or 5 teeth 24
24(23) Propodeum with medial sclerite yellow or tan, contrasting with brown or dark brown lateral sclerites (Fig. 192); mesoscutum with 2 setae; scutellum with 4 (occasionally 5 or 6) setae; mesotibia with dorsal setae long, the proximal seta at least ½ length of mesotibia (Fig. 189) . . . . . *fax* Girault
- Propodeum entirely brown (as for metasoma) (Fig. 120); mesoscutum with 2 or 4 setae; scutellum with 5 or 6 setae; mesotibia with dorsal setae shorter, the distal seta at most 1/3 length of mesotibia (Fig. 117) . . . *curepensis* Woolley & Dal Molin **n. sp.**

***Signiphora aleyrodis* Ashmead, 1900**

Figures 1–16

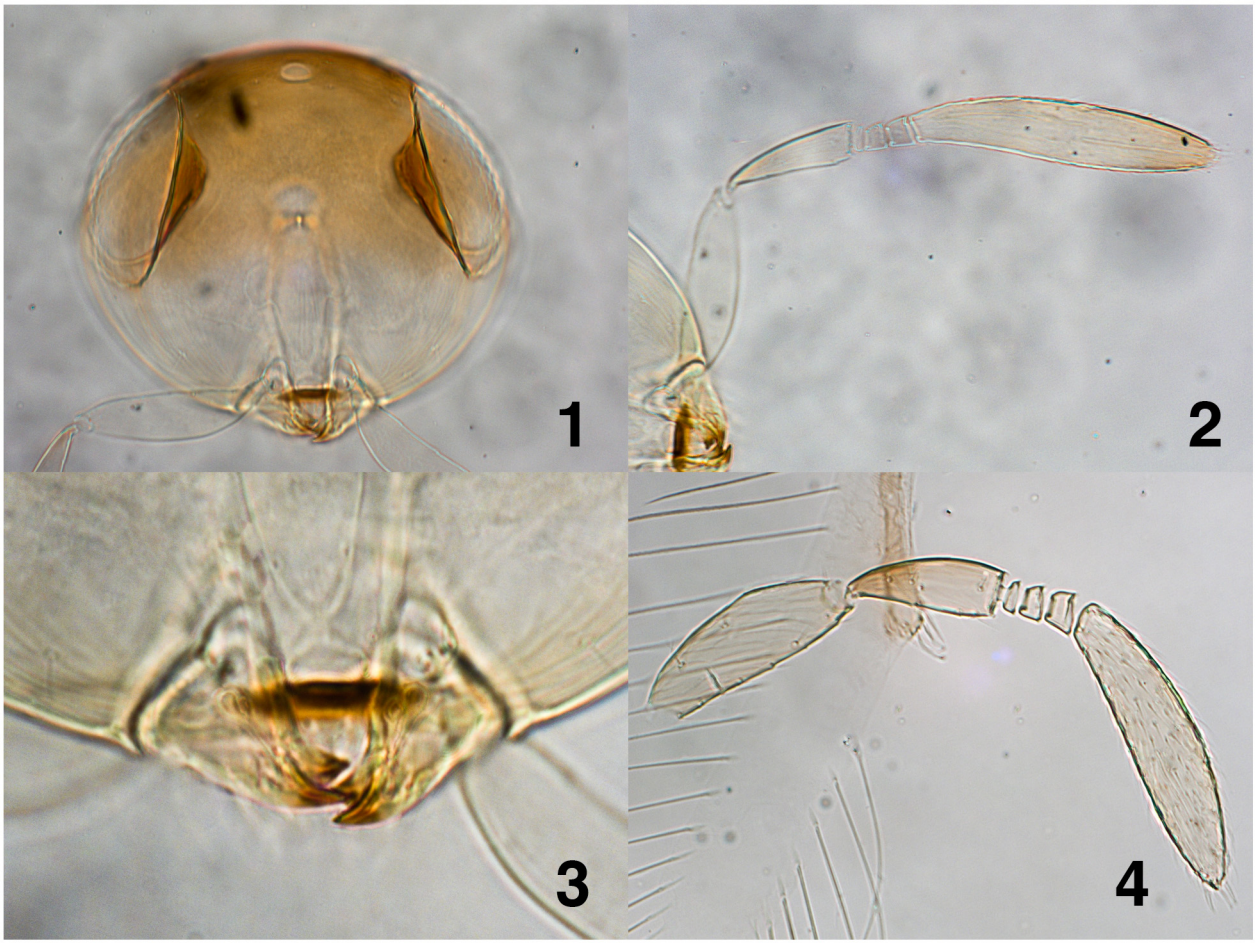
http://eol.org/pages/855972/

Signiphora aleyrodis Ashmead, 1900: 412. Female.
urn:lsid:zoobank.org:act:A70E9B8E-F76D-463D-B1F4-969A3D00DF3F
Signiphora townsendi Ashmead, 1900: 412. Female, male. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:E119E6AF-4769-4DB6-B5C6-0ADB808FCD0B
Thysanus townsendi: Dozier (1933).
Thysanus aleyrodis: Peck (1951, 1963).

Signiphora aleyrodis: Nikol'skaya (1952); Rozanov (1965).
Signiphora townsendi: Nikol'skaya (1952).

Diagnosis. Fore wing marginal vein with seta M1 present; scutellum with 4 setae, antennal clava uniformly tan or light brown; Mt8 anterodorsal margin with a rounded medial incision; Mt1 length:Mt2 length usually 1.0.

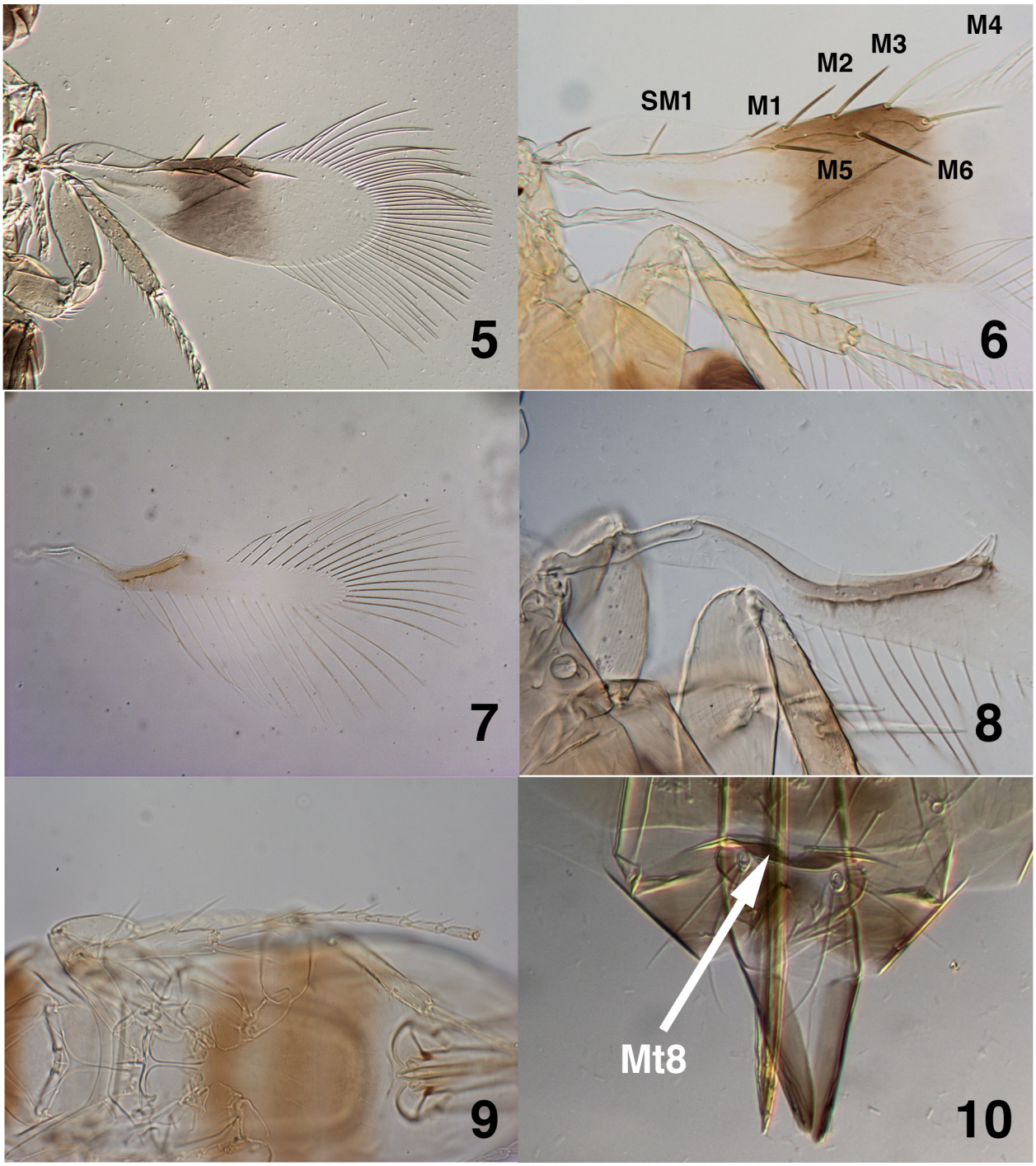
This species is very similar to *S. coquilletti* and although the two species are difficult to differentiate on the basis of structural characters or coloration, they appear to have different biologies and distinct allopatric distributions. *Signiphora coquilletti* is known to occur in California, Texas, Florida, Baja California, and the Mexican states of Queretaro and Morelos. *Signiphora aleyrodis* has been collected from Central America, the West Indies, and states in Mexico that can be considered Neotropical or at least southern coastal: Colima, Michoacan, Guerrero, Oaxaca, Chiapas, and Veracruz. *Signiphora coquilletti* is uniparental (males are very rare); whereas *S. aleyrodis* is biparental (males are common). As noted above, postovipositional web-spinning behavior has been observed only in *S. coquilletti*, despite extensive collections of *S. aleyrodis* (see below). *Signiphora aleyrodis* typically has a longer Mt1 (Mt1:Mt2 = 1.00) than *S. coquilletti* (Mt1:Mt2 = 0.50). The antennal clava of *S. coquilletti* is often longer than for *S. aleyrodis*, the ratio of clava length to scape length is 1.52–1.82 (mean = 1.64) in *S. coquilletti* females and 1.15–1.75 (mean=1.47) in *S. aleyrodis* females. The frons of *S. aleyrodis* (between the ocelli and above the scrobes) is evenly and distinctly reticulate, whereas the frons of *S. coquilletti* is transversely striate or imbricate, occasionally very weakly reticulate.



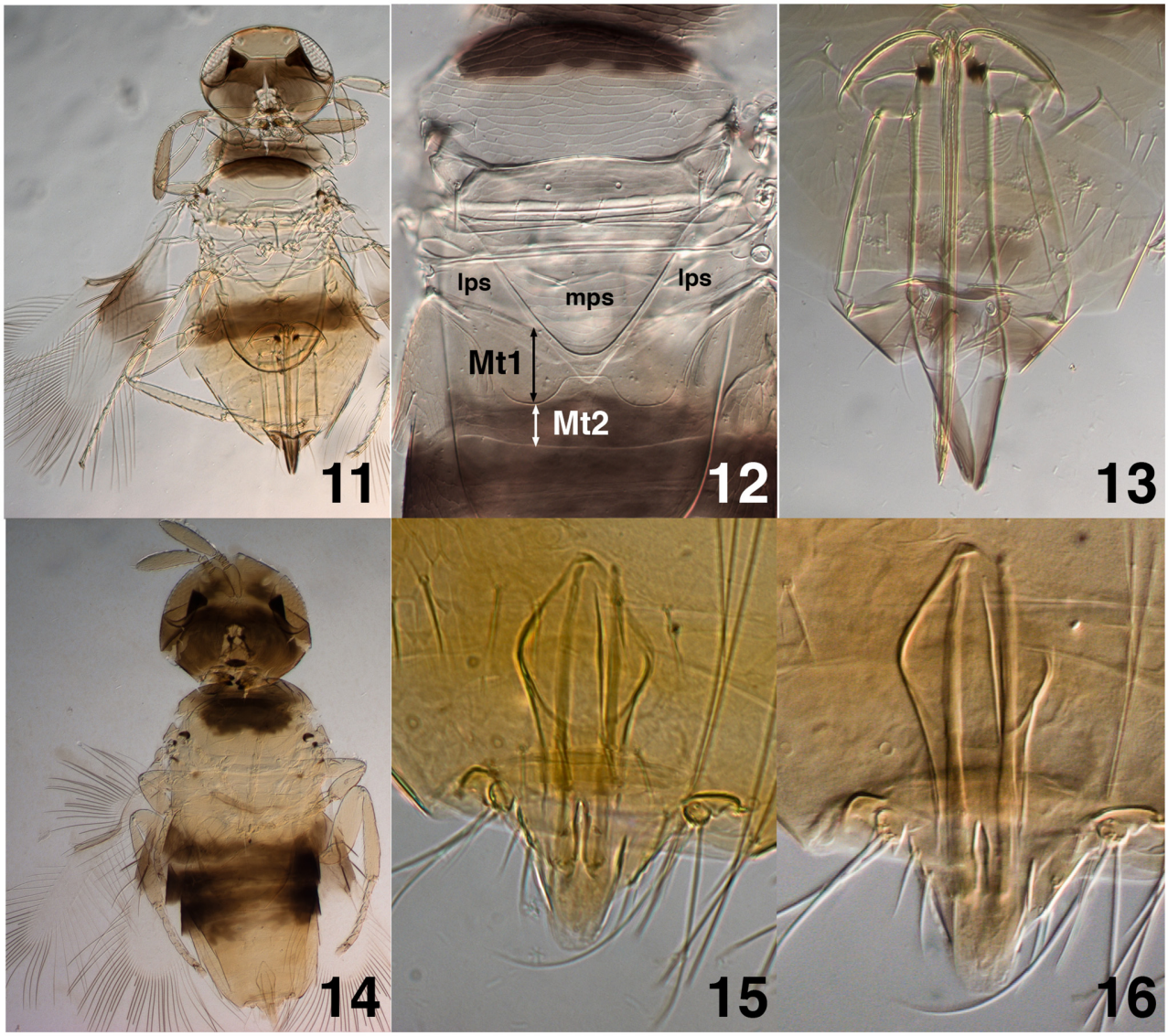
FIGURES 1–4. *Signiphora aleyrodis*: 1, head (UCRC ENT 299156); 2, female antenna (UCRC ENT 299149); 3, mandibles (UCRC ENT 299149); 4, male antenna (UCRC ENT 299536).

Description. ***Female***. Length, anterior margin of pronotum to apex of epiproct, 0.37–0.74 mm (n=30). Vertex and frons red-orange, yellow-tan, or light brown, face and gena brown, clypeus dark brown. Antennomeres uniformly light brown or tan, antennal clava occasionally dusky brown in distal 1/2. Pronotum light brown, often yellow in lateral 1/4 or 1/6. Mesoscutum brown or light brown in anterior 1/2–2/3, lateral quarters often yellow.

Remainder of mesoscutum, scutellum, metanotum and propodeum light or pale yellow. Mt1 pale yellow, sometimes slightly darker than propodeum or light brown in posterior 1/2. Mt2 and Mt3 brown, Mt4 brown or occasionally yellow or brown in anterior 1/2. Mt5 and Mt6 yellow. Mt7 yellow, occasionally dusky brown in medial 1/3 or posterior 1/2 or entirely dusky brown. Mt8, epiproct and ovipositor sheaths dusky brown. Fore wing infuscated from base to distal end stigmal vein with usual hyaline areas at wing base (Figs 5, 6).



FIGURES 5–10. *Signiphora aleyrodis*: 5, fore wing, female (UCRC ENT 299149); 6, venation of fore wing (UCRC ENT 299156); 7, hind wing, female (UCRC ENT 299149); 8, venation of hind wing (UCRC ENT 299156); 9, middle leg, female (UCRC ENT 299149); 10, Mt8 of metasoma, female (UCRC ENT 299154) (M1 = first dorsal seta, marginal vein, M2 = second dorsal seta, marginal vein, M3 = third dorsal seta, marginal vein, M4 = fourth dorsal seta, marginal vein, M5 = fifth dorsal seta, marginal vein, M6 = sixth dorsal seta, marginal vein, Mt8 = eighth metasomal tergum, SM1 = first seta, submarginal vein).



FIGURES 11–16. *Signiphora aleyrodis*: 11, female habitus (UCRC ENT 299149); 12, mesosoma of female (UCRC ENT 299161); 13, metasoma of female (UCRC ENT 299164); 14, male habitus (UCRC ENT 299536); 15, male genitalia (UCRC ENT 299182); 16, Ms8 of metasoma, male (UCRC ENT 299182) (lps = lateral propodeal sclerite, mps = medial propodeal sclerite, Mt1 = first metasomal tergum, Mt2 = second metasomal tergum).

Head. Mandibular ducts enlarged apically; pedicel length:scape length 0.56–0.90; funicle with 3 anelli, the second 1.5–3× length of the first, the third 1.5–4× length of the first; clava length:scape length 1.15–1.75. Vertex posterior to ocelli finely and transversely striate or imbricate; frons (between ocelli and scrobes) finely but distinctly reticulate.

Mesosoma. Pronotum and mesoscutum transversely imbricate. Scutellum, metanotum, and medial sclerite of propodeum weakly imbricate. Scutellum with 4 setae (rarely 5) and 2 campaniform sensilla, medial propodeal sclerite rounded, the process on medial sclerite rounded or pointed apically. Fore wing length:width 2.8–4.3; fore wing LMS:fore wing width 1.2–1.9; marginal vein length:stigmal vein length 2.1–2.9; marginal vein with 6 dorsal setae and without ventral setae; seta M3 length:marginal vein length 0.44–0.74; apical end of costal cell between seta M1 and M2 or at seta M2. Hind wing with subparallel margins, length:width 6.9–9.8; hind wing width:fore wing width 0.33–0.54; LMS hind wing:hind wing width 2.3–3.8. Mesofemur with 1 long spine and 1 short spine on posteroapical margin; mesotibial spur with 3–7 teeth; mesotibial spur length:basitarsus length 0.81–1.10; basitarsus length:mesotibia length 0.41–0.58.

Metasoma. Mt1 strongly bilobed with medial portion transverse, rarely bilobed with medial portion rounded;

Mt1 length:Mt2 length 0.5–1.0 (see discussion). Ovipositor with anterior-most portion lying under Mt3 or Mt4, occasionally under propodeum, Mt1 or Mt2; ovipositor length:metasoma length 0.50–0.98; ovipositor sheath length:ovipositor length 0.24–0.29; Ms3–Ms6 with anterior projections short to long; metasoma with Ms6 in posterior 1/4 and with 6–10 setae; Mt8 with anterodorsal margin with a rounded medial emargination (sometimes with anterolateral margins produced medially, forming a closed or partially closed cell); Mt8 margin lateral to medial emargination transverse or produced slightly anteriorly.

Male. Length, anterior margin of pronotum to apex of epiproct, 0.32–0.63 mm (n=16). As described for female except as follows: antennal clava uniformly tan, not dusky in distal 1/2. Apex of metasoma yellow or pale yellow, without dusky brown areas. Clava length:scape length 1.17–1.64. Genitalia normal for *flavopalliata* group, digitus without medial denticle but with a denticle at apex and a single seta at midpoint; digitus length approximately twice its width; Ms8 a transverse strip, without an anteromedial projection, extending to cerci laterally.

Discussion. In the lectotype and paralectotypes of *S. aleyrodis* and the majority of specimens examined of both sexes Mt1 is strongly bilobed with medial portion transverse; however, rarely Mt1 is bilobed with the medial portion rounded. The lengths of Mt1 and Mt2 are generally subequal in both sexes, rarely Mt1:Mt2 = 0.5.

This species is best known from the extensive collections made by DeBach and Rose during exploration for natural enemies of *Aleurothrixus floccosus* (Maskell). Both of Ashmead's names *S. aleyrodis* and *S. townsendi* are available for this species; we choose *S. aleyrodis* because the types are in better condition and because the name is descriptive of host relationships. It is quite possible that the species we are treating as *S. coquilletti, S. aleyrodis* and *S. xanthographa* actually represent a complex containing additional cryptic species. Our concept of *S. aleyrodis* includes material reared from whitefly in the Caribbean, Mexico and Central America, but it also includes several series from Brazil that fit our diagnosis for this species. However, other material from Brazil largely fits the diagnosis of *S. xanthographa* (see redescription of *S. xanthographa* for a list).

Type material. ***Signiphora aleyrodis*—LECTOTYPE ♀ [here designated]:** in balsam, USNM Type 4855, TRINIDAD, West Indies, "bred from Aleurodes [sic, *Aleyrodes* Latreille] on orange etc., w/6162". **PARALECTOTYPES:** 1 ♀ and 1 ♂, data as lectotype. Ashmead's type specimens are on one slide, USNM Type 4855, which was relabeled by Girault. The specimens are intact and in reasonably good condition for a balsam mount of this age. The female specimen to the left (slide oriented with red USNM type label to left and species name label to right) is here designated lectotype and the slide is labeled accordingly. ***Signiphora townsendi*—LECTOTYPE ♀ [here designated]:** in balsam, USNM Type 4856, MEXICO, Tabasco, coll. T. Townsend, 19-VI-1897, ex *Aleyrodes* sp., on coarse grass. **PARALECTOTYPES:** 2 ♀, 1 ♂ in balsam, data as lectotype (USNM Type 4856). *S. townsendi* was described by Ashmead (1900) from three female and one male specimen in Canada balsam on one slide, USNM Type 4856. The bottom center female on this slide (slide oriented with red USNM type label to the right) is here designated lectotype and the slide has been labeled accordingly.

Other material examined. BAHAMAS: 1 ♀, UCRC ENT 299149 (UCR). **BRAZIL: Amazonas:** 1 ♂, 4 ♀, TAMU-ENTO X0460250, X0460251, X0460252, X0460254, X0460256 (FSCA). **BRAZIL: Distrito Federal:** 2 ♀, TAMU-ENTO X0460239, X0460240 (FSCA). **BRAZIL: Sao Paulo:** 1 ♂, 2 ♀, TAMU-ENTO X0616133, X0616134, X0616137 (FSCA). **COSTA RICA: San José:** 1 ♀, TAMU-ENTO X0460245 (FSCA). **EL SALVADOR:** 1 mixed series, 2 ♀, UCRC ENT 299160-299162 (UCR). **FRANCE: Guadeloupe:** 2 ♀, TAMU-ENTO X0460253, X0460244 (FSCA). **HAITI:** 1 ♂, 4 ♀, USNM ENT 763000, 763004-763007 (USNM). **HONDURAS:** 6 ♀, TAMU-ENTO X0424826–X0424829, X0460242 (TAMU); TAMU-ENTO X0460243 (FSCA). **MEXICO: Chiapas:** 1 ♀, UCRC ENT 299151 (UCR). **MEXICO: Colima:** 1 ♂, 3 mixed series, 3 ♀, UCRC ENT 299154–299156, 299159, 299171–299173 (UCR). **MEXICO: Guerrero:** 8 mixed series, 3 ♀, UCRC ENT 299158, 299165, 299174–299182 (UCR). **MEXICO: Michoacán:** 2 ♀, 1 host remains. UCRC ENT 299153, 299157, 299163 (UCR). **MEXICO: Oaxaca:** 2 mixed series, 1 ♀, UCRC ENT 299166–299168 (UCR). **MEXICO: Veracruz:** 4 ♀, UCRC ENT 299150, 299152, 299169–299170 (UCR). **PUERTO RICO:** 8 ♀, TAMU-ENTO X0460237, X0460247, X0460248, X0460249 (FSCA); USNM ENT 763001–763003, 763009 (USNM).

Biology. This species is biparental and is commonly reared from whitefly of a variety of genera. Material collected by DeBach and Rose from Playa Azul, Michoacan, and Valle Nacional, Oaxaca, Mexico provides good evidence that *S. aleyrodis* is hyperparasitic through *Eretmocerus* Haldeman (Aphelinidae) and *Amitus* Haldeman (Hymenoptera: Platygastridae). In addition, DeBach and Rose collected this species in Mexico only in high-density whitefly populations in which several other parasitoid species were present (Rose, personal communication), a pattern typical of hyperparasitoids. Post-ovipositional web-spinning behavior such as described for *S. coquilletti*

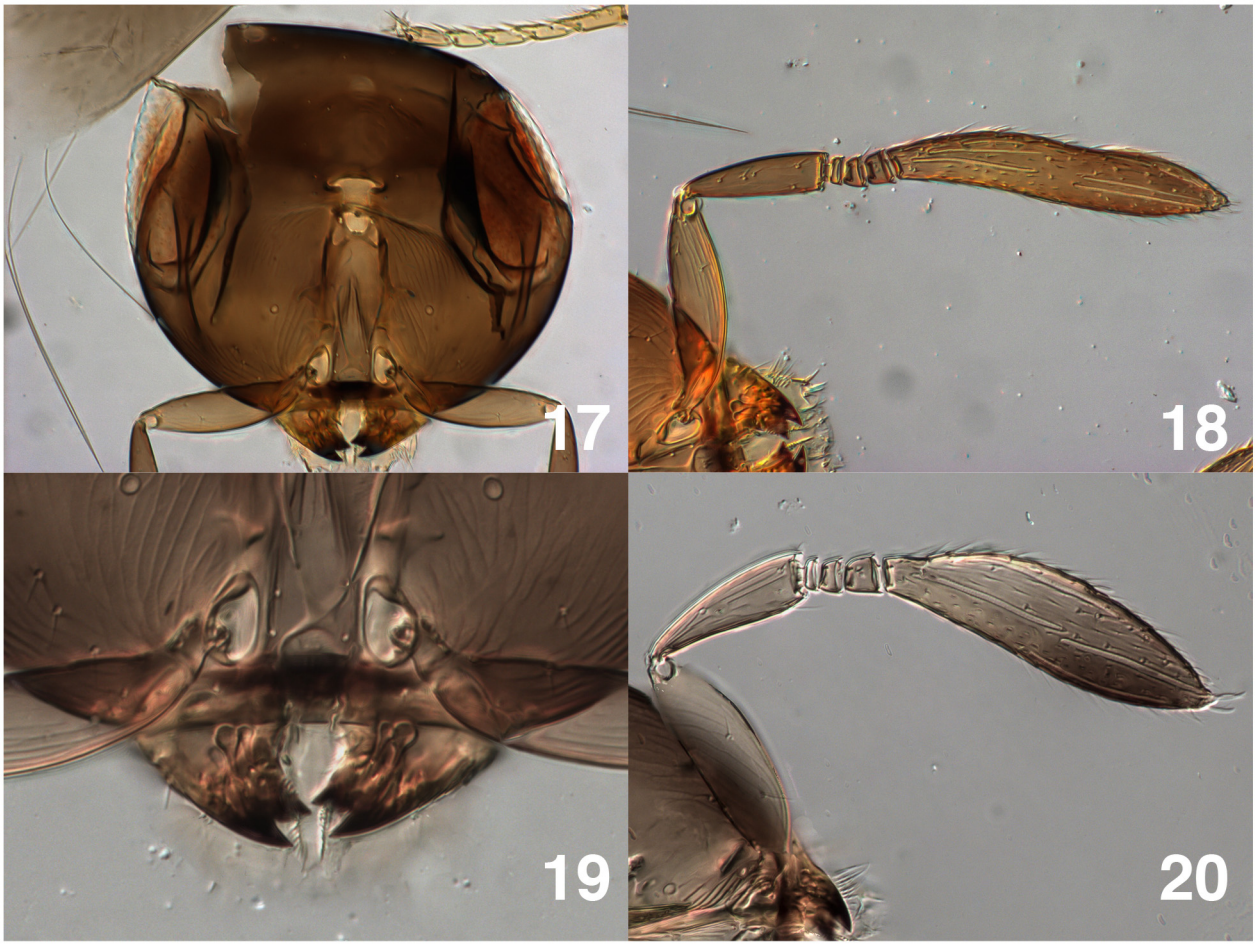
(Woolley & Vet 1981) has not been observed for this species, in spite of extensive observations of its behavior and of parasitized host material by DeBach and Rose on citrus in Mexico and in quarantine laboratories.

***Signiphora aspidioti* Ashmead, 1900**
Figures 17–32
http://eol.org/pages/855971/

Signiphora aspidioti Ashmead, 1900:412. Female.
urn:lsid:zoobank.org:act:F0026B30-C2E5-46A4-A1C7-2F22E4372683
Thysanus aspidioti: Peck (1951); Yoshimoto (1965).
Signiphora aspidioti: Nikol'skaya (1952); Rosanov (1965).

Diagnosis. Fore wing marginal vein without seta M1; male metasoma uniformly brown (males common); both sexes with antennal clava pale with apical 1/2 distinctly dusky; female with Mt1 length:Mt2 length usually 0.50 (0.50–0.62); female with Mt8 anterior margin with rounded medial incision or broadly concave.

This species is most similar to *S. borinquensis* and *S. lutea*. *Signiphora aspidioti* can be distinguished from *S. borinquensis* by the more deeply incised anterior margin of Mt8 in female and by the greater extent of dusky color on the antennal clava (apical 1/2 versus apical 1/6). *Signiphora aspidioti* females can be distinguished from *S. lutea* females by the distal 1/3 of the antennal clava slightly dusky and the distal spine on the mesofemur 1/4–2/3× length of the proximal spine in the latter. In *S. aspidioti* the distal spine is very short, less than 1/4× length of the proximal spine.



FIGURES 17–20. *Signiphora aspidioti*: 17, head (TAMU-ENTO X0460268); 18, female antenna (TAMU-ENTO X0460268); 19, mandibles (TAMU-ENTO X0460268); 20, male antenna (TAMU-ENTO X0460261).

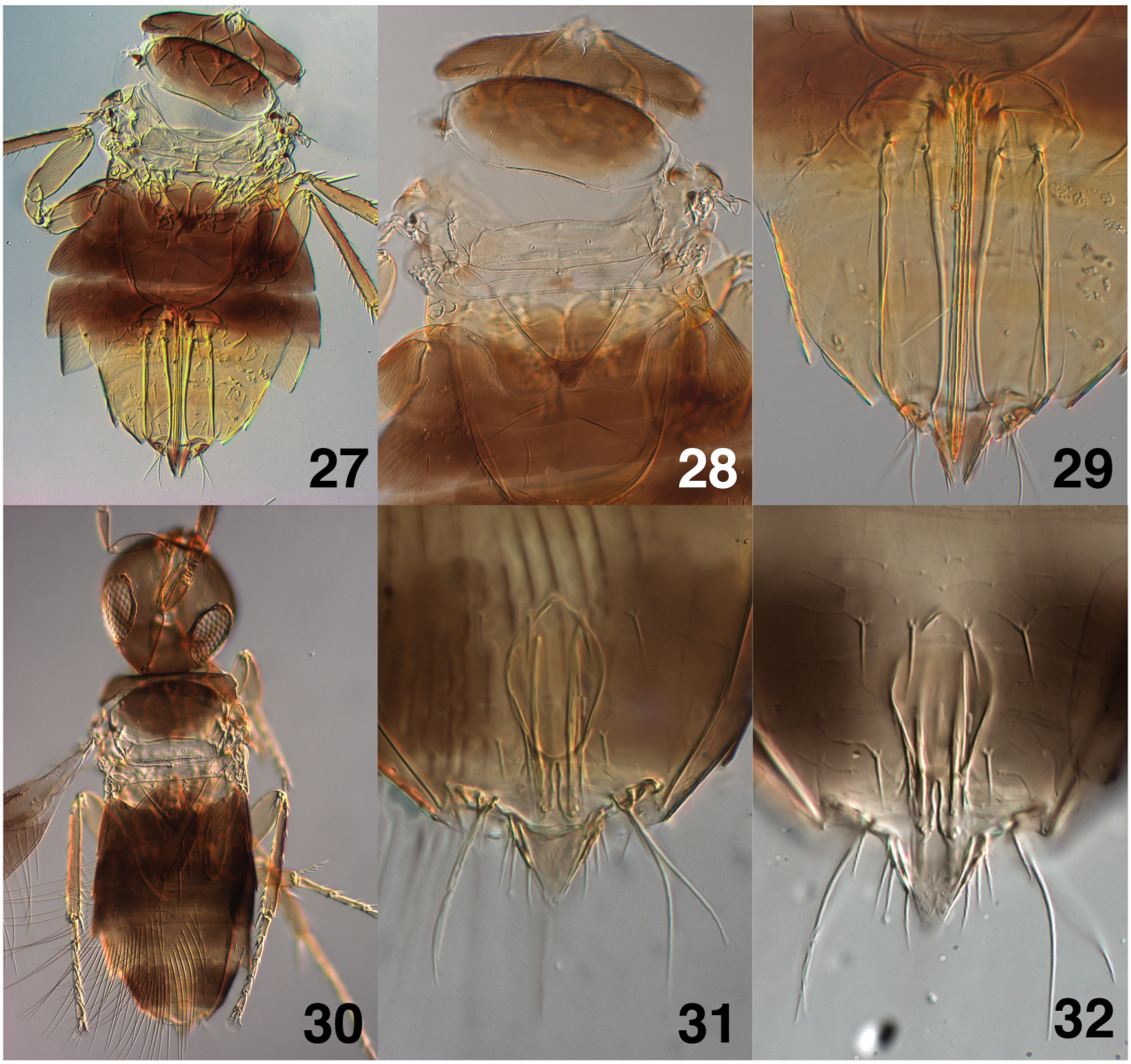
FIGURES 21–26. *Signiphora aspidioti*: 21; fore wing, female (TAMU-ENTO X0460286); 22, venation of fore wing (USNMType 4859 holotype female); 23, hind wing, female (TAMU-ENTO X0424922); 24, venation of hind wing (USNMType 4859); 25, middle leg, female (TAMU-ENTO X0460258); 26, Mt8 of metasoma, female (TAMU-ENTO X0460258).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.41–0.62 mm (n=10). Head uniformly brown, darkest at vertex and lightest at gena and frons. Antenna pale with distal half of clava dusky, margin between pale area and dusky area distinct. Pronotum except lateral margins, and anterior 1/2–5/6 and medial 2/3 mesoscutum brown. Remainder of pronotum and mesoscutum, scutellum, metanotum, propodeum, Mt1 orange or pale yellow to pale white; Mt2–Mt3 and anterior half of Mt4 to anterior half of Mt5 dark brown, darkest laterally; remainder of terga orange-yellow, Mt6 occasionally dusky laterally; Mt8, epiproct and ovipositor sheaths

slightly dusky; fore wing infuscated from base to below distal end of stigmal vein or occasionally slightly beyond with two hyaline areas under submarginal vein; legs pale yellow.

*Head***.** Mandibular ducts enlarged apically; pedicel length:scape length 0.60–0.75; funicle with 3 anelli, second anellus subequal to 3× length of first, third anellus 2.5–4× length of first, clava length:scape length 1.54–1.83; vertex and frons finely and transversely striate with four longitudinal rows of minute punctations.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate, scutellum, metanotum and propodeum weakly so; scutellum with 4 or 6 setae (see discussion) and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing length:width 3.3–3.7, fore wing LMS:fore wing width 1.4–1.8; marginal vein length:stigmal vein length 1.5–2.4; marginal vein with 5 dorsal setae and without ventral setae, seta M1 absent; seta M3 length:marginal vein length 0.42–0.73; apical end of costal cell at seta M2–M3. Hind wing with subparallel margins; length:width 6.7–11.7; hind wing width:fore wing width 0.30–0.46; hind wing LMS:hind wing width 3.17–5.67; mesofemur with 1 long spine and 1 short spine in posteroapical margin; mesotibial spur with 3–5 teeth, mesotibial spur length:basitarsus length 0.81–1.19; basitarsus length:mesotibia length 0.40–0.55.



FIGURES 27–32. *Signiphora aspidioti*: 27, female habitus (TAMU-ENTO X0460258); 28, mesosoma of female (TAMU-ENTO X0460258); 29, metasoma of female (TAMU-ENTO X0460258); 30, male habitus (TAMU-ENTO X0460261); 31, male genitalia (TAMU-ENTO X0460261); 32, Ms8 of metasoma, male (TAMU-ENTO X0460261).

*Metasoma***.** Mt1 bilobed to strongly bilobed with medial portion transverse (see discussion); Mt1 subequal to or slightly longer than Mt2; ovipositor with apical margin lying under Mt3–Mt5; ovipositor length:metasoma length 0.52–0.79; ovipositor sheath length:ovipositor length 0.20–0.27; Ms3–Ms6 with anterior projections short to medium; Ms6 in posterior 1/4 metasoma and with 8 or 9 setae; Mt8 with anterodorsal margin with rounded medial emargination or broadly and medially concave with convex lateral margins.

***Male*.** Length, anterior margin of pronotum to epiproct apex, 0.41–0.48 mm. As described for female except the following: anterior ¾ of mesoscutum brown, propodeum dusky lateral to medial sclerite and medial sclerite pale brown, metasoma entirely brown or with Mt5 light brown and Mt6 brown. Antennal clava with pale basal 1/2 and dusky apical 1/2 more distinctly different than female clava (but see discussion). Genitalia normal for *flavopalliata* group; digitus length twice its width; digitus with one short apical denticle and one seta at its midpoint. Ms8 a narrow transverse strip, extending past cerci laterally.

Discussion. The holotype female of *S. aspidioti* has 6 setae on the mesoscutum, all other specimens examined have 4 setae on the mesoscutum. In addition, the lateral margins of the pronotum and posterolateral areas of the mesoscutum are light brown on the holotype, but these areas are much lighter in color on other specimens. The posterior portion of Mt1 is bilobed with the medial portion rounded in the holotype and topotypical female from San Luis, Mexico, and in the series from Weslaco, Texas, whereas in other specimens examined Mt1 is bilobed with the medial portion transverse. The series from Austin, Texas, otherwise agrees with the diagnosis for *S. aspidioti*, but the antennal clava in both sexes is uniformly pale or only very weakly dusky apically. Ashmead refers to only one "type in the description, although there is a second specimen with same collection data as holotype [USNM ENT 763012 (USNM)]. That specimen is labeled "homotype" and therefore has no nomenclatural standing.

Type material. *Signiphora aspidioti* Ashmead, HOLOTYPE ♀ [examined]: in balsam, USNM Type 4859, Mexico, [state unknown], San Luis, coll. C.H. Townsend, XI-1894, ex *Aspidiotus nerii* (Bouché).

Other material examined. AUSTRALIA: Queensland: 1 ♀, UCRC ENT 299185 (UCR). **ECUADOR: Galapagos:** 12 ♀, TAMU-ENTO X0424915, X0424922, X0424936, X0424928, X0424942 X0424946, X0609355, X0609360, X0609361, X0609370, X0609372, X0609373 (TAMU). **MEXICO:** 1 mixed series, 1 ♀, UCRC ENT 299186 (UCR); USNM ENT 763012 (USNM). **MEXICO: Baja California Sur:** 1 mixed series. UCRC ENT 299189 (UCR). **MEXICO: Michoacán:** 2 mixed series. UCRC ENT 299186–299187 (UCR). **USA: California:** 1 mixed series, 1 ♀, UCRC ENT 299188, 299190 (UCR). **USA: Hawaii:** 1 mixed series, 2 ♀, 1 unknown. USNM ENT 763008, 763011 (USNM); UCRC ENT 299183 (damaged); UCRC ENT 299184 (UCR). **USA: Texas:** 6 ♂, 29 ♀, 1 mixed series. INHS 72510 (INHS); USNM ENT 763010 (USNM); TAMU-ENTO X0424886–X0424893 (TAMU); TAMU-ENTO X0460255, X0460257–X0460262, X0460264–X0460276, X0460278–X0460282 (TAMU); TAMU-ENTO X0460277 (UCR).

Biology. This species appears to be biparental; however, the 21 specimens from the Weslaco, Texas reared series are all females. In continental USA and Mexico the species is an armored scale parasitoid. In particular, two genera are attacked, *Aspidiotus* Bouché and *Hemiberlesia* Cockerell. However, the single series from Hawaii was recorded to parasitize *Asterolecanium* Targioni Tozzetti (Hemiptera: Asterolecaniidae). Although further details are not available, this is a very unusual host record for a member of the *flavopalliata* group.

***Signiphora bennetti* Woolley & Dal Molin, n. sp.**

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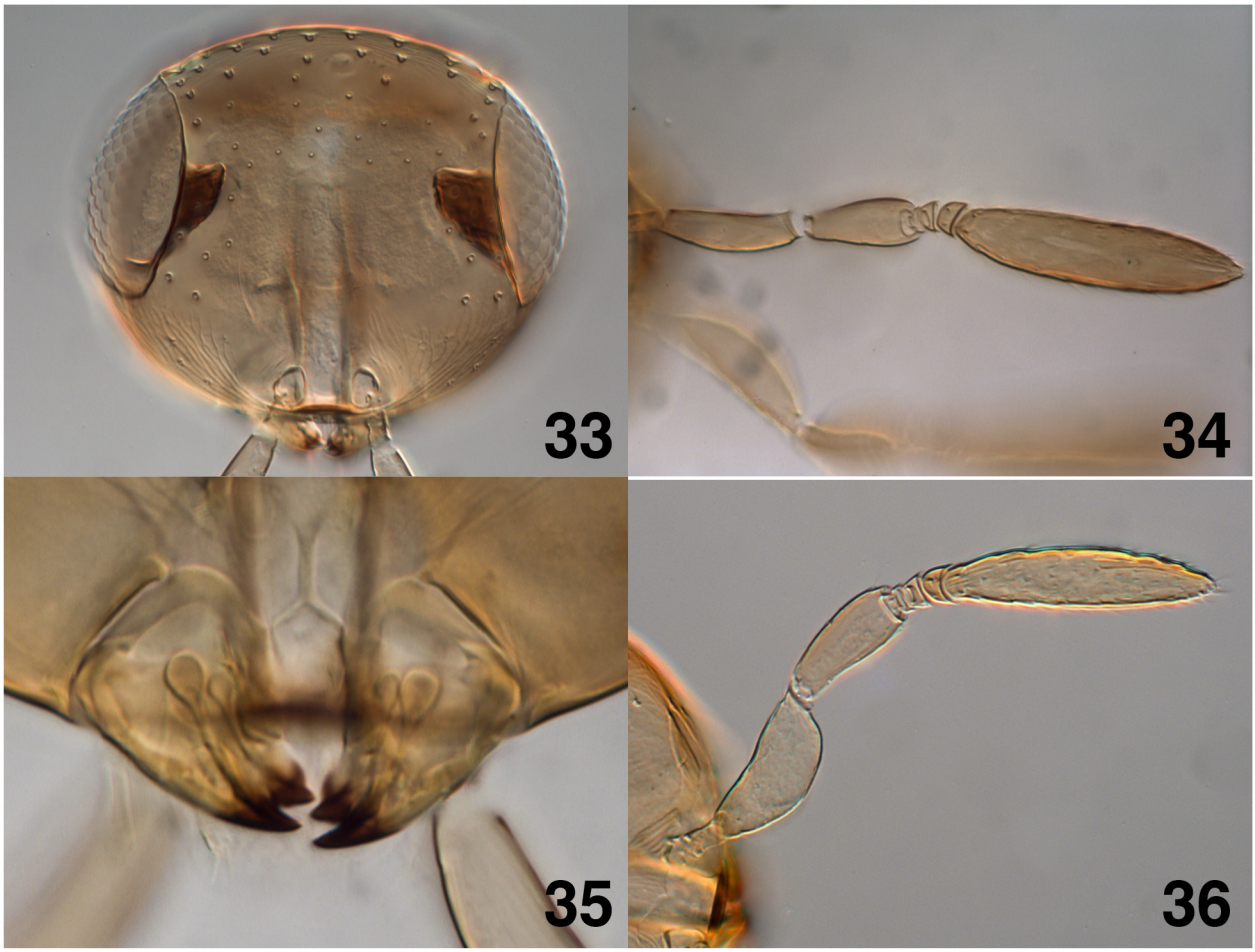
Figures 33–48

Diagnosis. Mandibular ducts enlarged apically, body brown except posterior 1/2 mesoscutum, scutellum and metanotum yellow to tan, scutellum with 4 setae, Mt1 weakly bilobed or bilobed with medial portion rounded, Mt8 with anterodorsal margin with a rounded medial incision, fore wing without discal seta, fore wing marginal vein without seta M1 and with 1 small ventral seta usually inserted between setae M2 and M3. In addition, the dorsal spines on the mesotibia are slightly shorter than those in other species (the longest spines are about ¼× length of the mesotibia, as compared to 1/3× or longer in most other species in the *flavopalliata* group). The male scape is slightly expanded (L/W about 3.6) compared to most species in this group (scape L/W at least 4.0). This is also the only species known in the *flavopalliata* group that both lacks a discal seta in the fore wing and has a ventral seta on

the marginal vein. The species is most similar to *S. maculata* but can be distinguished from it by the features given above.

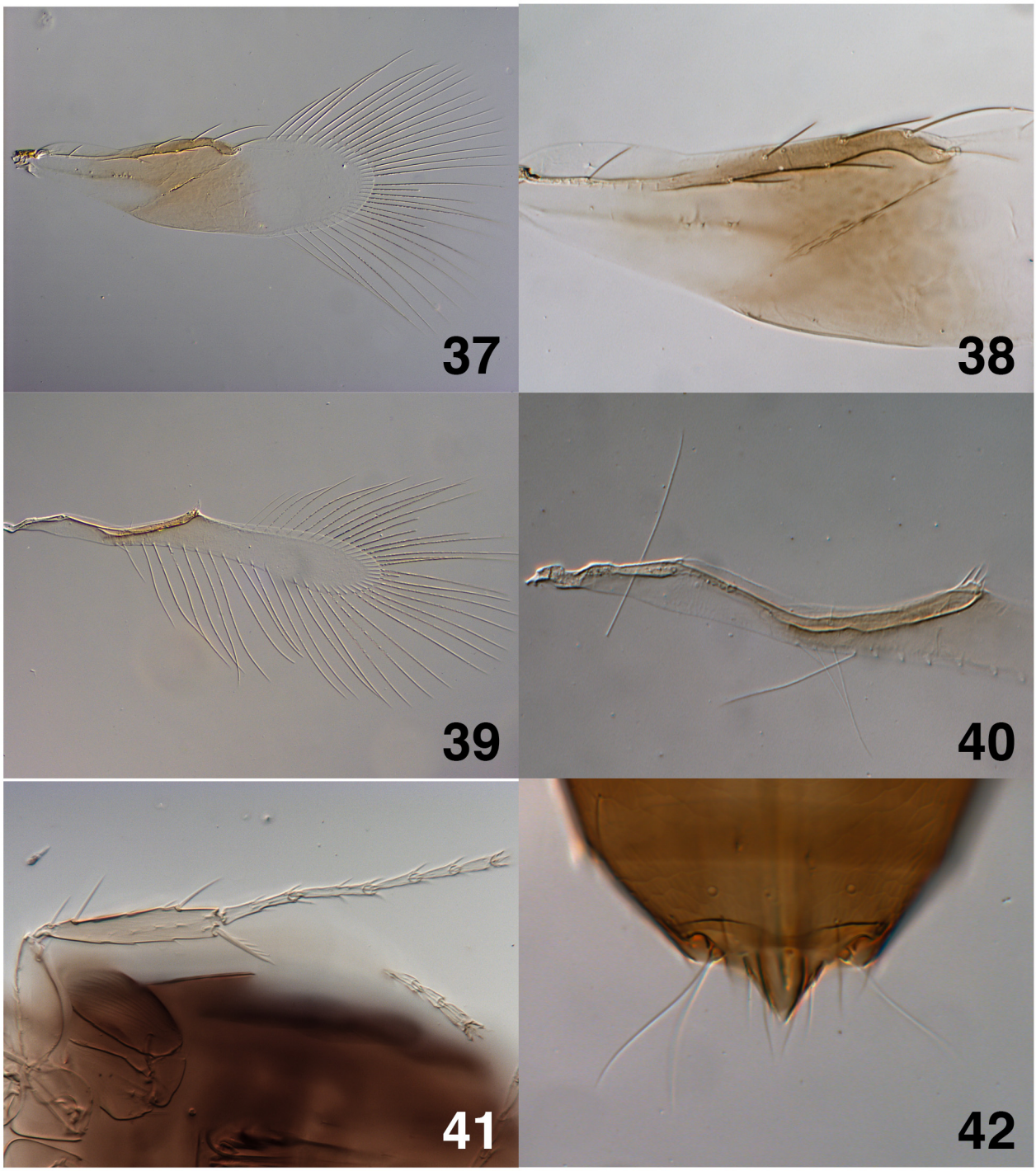
Description. ***Female*****.** Length from pronotum to epiproct apex, 0.48–0.75 mm (n=13). Vertex and frons pale tan or brown, occiput light brown at occipital margin, antenna pale brown, clava occasionally darkening very slightly and gradually to apex. Pronotum and anterior 1/2 of mesoscutum tan to brown, posterior 1/2 of mesoscutum through metanotum yellow to pale tan, propodeum except anterior 1/8 of medial sclerite light brown in posterior half to entirely light brown, metasoma uniformly light brown to apex, Mt8 and epiproct slightly darker. Fore wing infuscated from wing base to distal end of stigmal vein with normal hyaline areas at wing base.



FIGURES 33–36. *Signiphora bennetti* **n. sp.**: 33, head (BMNH(E) 991093); 34, female antenna (BMNH(E) 991092); 35, mandibles (BMNH(E) 991093); 36, male antenna (BMNH(E) 991101).

*Head***.** Mandible with two teeth, mandibular ducts enlarged apically. Pedicel length:scape length 0.51–0.71; three anelli, second anellus 2.0–3.3× length of the first, third anellus 2.0–3.3× length of the first; clava length:scape length 1.38–1.77. Vertex and frons finely and transversely striate with approximately 40–100 circular punctations extending down face to gena, these punctations not apparent in some specimens (see discussion).

*Mesosoma***.** Pronotum and mesoscutum weakly and transversely imbricate; medial sclerite propodeum weakly imbricate; scutellum with 4 setae and 1 or 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing without discal seta, fore wing length:width 3.4–3.9, fore wing LMS:fore wing width 1.4–2.0, marginal vein length:stigmal vein length 2.1–3.1, marginal vein with five dorsal and one ventral setae, seta M1 absent, seta M3 length:marginal vein length 0.47–0.66, apical end of costal cell at seta M2 or proximal to it. Hind wing with subparallel margins, length:width 7.0–10.6; hind wing width:fore wing width 0.32–0.48; hind wing LMS:hind wing width 3.00–4.56. Mesofemur with one long and one short spine on posteroapical margin, mesotibial spur with 3–5 teeth, mesotibial spur length:basitarsus length 0.63–0.89, basitarsus length:mesotibia length 0.40–0.54.



FIGURES 37–42. *Signiphora bennetti* **n. sp.**: 37, fore wing, female (BMNH(E) 991101); 38, venation of fore wing (BMNH(E) 990253); 39, hind wing, female (BMNH(E) 991101); 40, venation of hind wing (BMNH(E) 990253); 41, middle leg, female (BMNH(E) 990253); 42, Mt8 of metasoma, female (BMNH(E) 990257).

*Metasoma***.** Mt1 weakly bilobed to bilobed with medial portion rounded, Mt1 length:Mt2 length 0.5–1.0; ovipositor with anterior margin lying under Mt3–Mt4; ovipositor length:metasoma length 0.43–1.0; ovipositor sheath length:ovipositor length 0.14–0.24; Ms3–Ms6 with anterior projections of medium length; Ms6 in posterior 1/4 of metasoma and with 6 setae; Mt8 with anterodorsal margin with broadly rounded medial incision, Mt8 with anterior margins lateral to medial incision slightly convex, with lateral margins anterior to medial portion.

Male. Length, anterior margin of pronotum to epiproct apex, 0.51–0.55 mm (n=4). Coloration and sculpture as described for females, clava length:scape length 1.23–1.61; scape slightly expanded (L/W about 3.6); genitalia

normal for *flavopalliata* group, with digitus bearing one very short apical denticle and one seta at its midpoint; digitus length approximately 3× its width; Ms8 transverse with a short, triangular process at midpoint of anterior margin.

FIGURES 43–48. *Signiphora bennetti* **n. sp.**: 43, female habitus (BMNH(E) 990253); 44, mesosoma of female (BMNH(E) 990257); 45, metasoma of female (BMNH(E) 990257); 46, male habitus (BMNH(E) 991095); 47, male genitalia (BMNH(E) 991095); 48, Ms8 of metasoma, male.

Discussion. The minute, scattered punctations on the frons and vertex are quite apparent on the type specimens and other Neotropical material, but less apparent on specimens collected in the USA.

Type material. HOLOTYPE ♀: in Canada balsam (UFES 144.462), BRAZIL, SAO PAULO, Araras, coll. F.D. Bennett, XI-1981, ex female *Melanaspis smilacis* (Comstock) on sugar cane. Deposited at UFES. **PARATYPES:** 4 ♀, 1 ♂ in balsam with data as holotype except ex: 3rd stage nymph or male pupa, same host [BMNH(E) 991096, BMNH(E) 991097, BMNH(E) 991099, BMNH(E) 991100, BMNH(E) 991101]; 3 ♀, 2 ♂ in balsam: BRAZIL, SAO PAULO, Sta. Rosa de Viterbo, coll. F.D. Bennett, XI-XII-1981, endoparasite of mature *Melanaspis smilacis* on sugar cane [BMNH(E) 991091–991095], 1 specimen (sex not clear), card mounted: BRAZIL, xii.1981, F.D. Bennett, ex: *Melanaspis smilacis* [BMNH(E) 1038864]; 14 specimens (sex not clear) on 4 card mounts: BRAZIL, Amalia, xii.1982, F.D. Bennett, ex: *Melanaspis smilacis* on sugarcane [UFES 144.463 (2 specimens on one card); BMNH(E) 1038866–1038868]. Paratypes deposited in UFES, MZUSP, TAMU, USNM, CNC, and BMNH, with permission of BMNH(E).

Other material examined. ARGENTINA: Buenos Aires: 1 ♂, 3 ♀, (MLPA). **BAHAMAS:** 4 ♀, UCRC ENT 299622 (UCR); CNCHYMEN 122353–122355 (CNC). **BRAZIL: Santa Catarina**: 2 ♂, BMNH(E) 990316–990317 (BMNH). **COSTA RICA:** 1 ♀, CNCHYMEN 122502 (CNC). **CUBA:** 1 mixed series, 2 ♀, USNM ENT 763131–763133 (USNM). **ECUADOR:** 1 ♀, TAMU–ENTO X0609367 (TAMU). **ECUADOR: Galápagos:** 2 ♀, TAMU-ENTO X0424932, X0609366 (TAMU). **MEXICO: Michoacán:** 1 ♀, TAMU-ENTO X0424861 (TAMU). **PUERTO RICO:** 2 ♀, USNM ENT 763129–763130 (USNM). **TRINIDAD AND TOBAGO:** 12 sex unknown, 12 ♀, CNCHYMEN 122356–122359, 122516, 122538, 122656–122666 (CNC); BMNH(E) 990253, 990254, 990255, 990256, 990257, 990315, 990322 (BMNH). **USA: Florida:** 1 ♂, CNCHYMEN 122463 (CNC). **USA: Massachusetts**: 1 ♀, USNM ENT 763140 (USNM). **USA: New Jersey:** 2 mixed series, 1 sex unknown. USNM ENT 763138, 763141–763142 (USNM). **USA: New York:** 1 ♀, USNM ENT 763139 (USNM). **USA: Pennsylvania:** 2 ♂, 1 ♀, USNM ENT 763135–763137 (USNM). **USA: District of Columbia:** 1 ♂, USNM ENT 763134 (USNM).

Biology. Dr. Fred Bennett kindly furnished an unpublished CIBC report (Bennett 1981) that contains details on the biology of this species on *Melanaspis smilacis* (Diaspididae) on sugar cane in Brazil. The following is paraphrased from the report. The larvae of this species develop as gregarious or solitary endoparasitoids. Oviposition probably occurs in all host stages except crawlers. Single individuals are reared from smaller scales but 7 or 8 individuals are reared from mature females. Most development takes place internally but larvae frequently (but not always) emerge from the host body at some point and feed externally until development is completed. Pupation occurs within the scale cover. Numerous *M. smilacis* were dissected, but no evidence of hyperparasitic development was noted. *Signiphora bennetti* was the most common parasitoid found in *M. smilacis* on sugar cane at Araras and Sta. Rosa de Viterbo, Sao Paulo State, Brazil, with rates of parasitization exceeding 50% at the latter locality. Records from the Nearctic material include the following Diaspididae: *Hemiberlesia oxycoccus* (Woglum); *Melanaspis obscura* (Comstock); and *Pseudaulacaspis pentagona* Targioni Tozzetti *Comstockaspis perniciosa* (Comstock) and *Aspidiella sacchari* (Comstock).

Etymology. The species is named for Dr. Fred Bennett, renowned collector and biological control specialist who collected the type series and provided extensive information on its biology.

Signiphora biloba Woolley & Dal Molin, n. sp.

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Figures 49–60

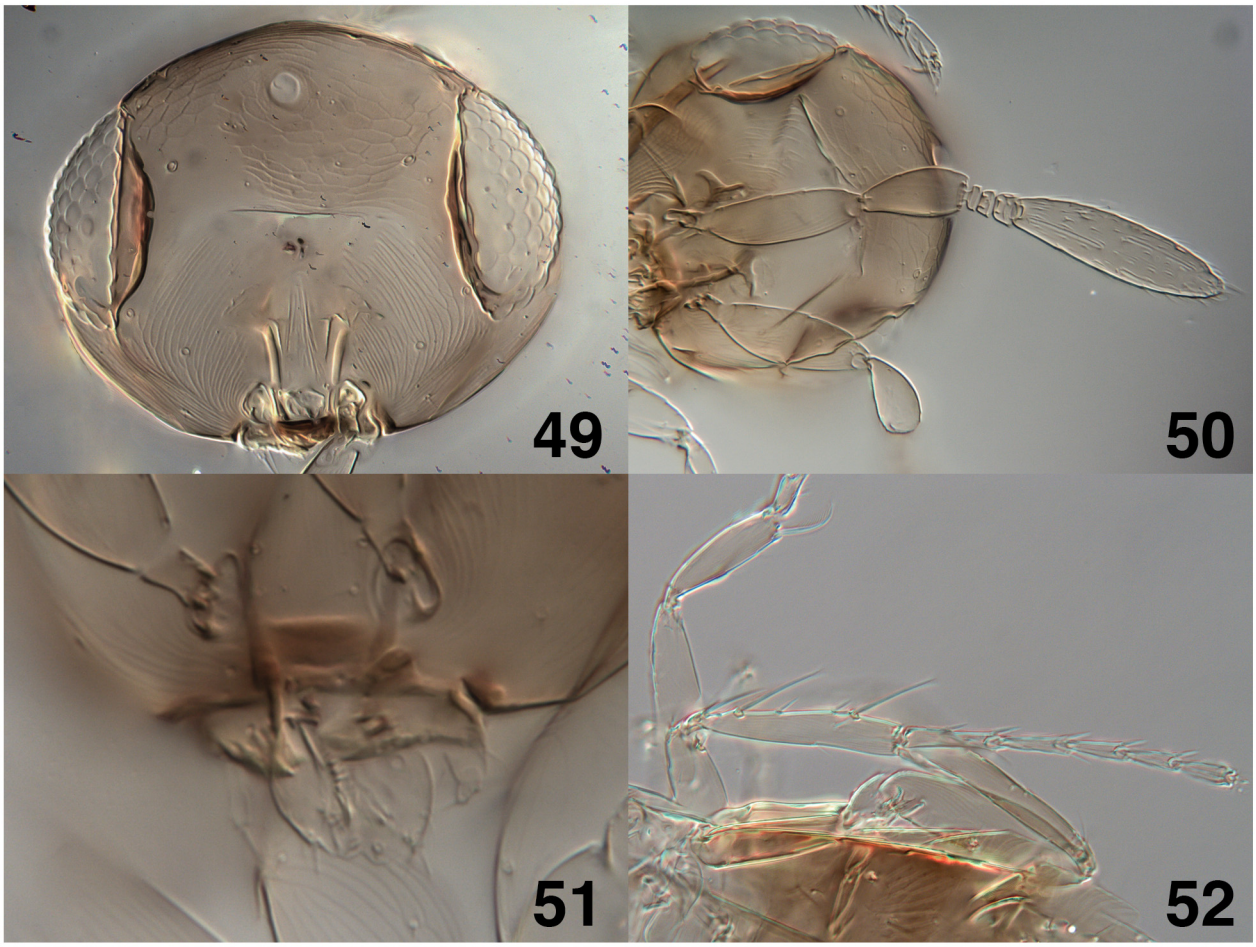
Diagnosis. Mt1 shape unique and distinctive, consisting mostly of two widely separated lateral lobes (Fig. 58); female sternites with distinctive shape of anterior projections: those on Ms6 are of normal length, but those on Ms3–Ms5 are quite short. The small mandibles with very short teeth are also diagnostic. Other diagnostic features, in combination with the above, are a fore wing without discal seta and marginal vein with at least seta M1 absent, sometimes also M1 and M2. This is also one of the smallest species of *Signiphora*.

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.34–0.36 mm (n=5). Head mostly pale tan with distinct dark band at clypeus. Pronotum and anterior half of mesoscutum brown, posterior half of mesoscutum and metanotum pale yellow, propodeum slightly darker (tan); Mt1–Mt4 brown, remainder of metasoma pale yellow. Antenna entirely pale tan. Fore wing with normal coloration for *flavopalliata* group, with infuscated area extending just beyond stigma vein and two hyaline areas at wing base.

Head. Vertex and frons weakly imbricate, with a few scattered punctations. Mandible with two very short teeth, the ducts not visible in slide mounts and apparently not well developed. Pedicel length:scape length 0.59–0.70; 3 anelli, second anellus 1.3–3.0 the length of first, third anellus 2.67–4.0 the length of first, clava length:scape length 1.22–1.43.

Mesosoma. Mesoscutum and medial sclerite of propodeum transversely imbricate. Scutellum with 4 setae and 2 campaniform sensilla, medial propodeal sclerite rounded, process on medial sclerite narrowly rounded. Fore wing without discal seta, length:width 3.9–4.2, fore wing LMS:fore wing width 2.1; marginal vein length:stigmal vein length 1.2–1.7; marginal vein with 4 or 5 dorsal and no ventral setae; M1 or M1 and M2 without setae; seta M3 length:marginal vein length 0.8–1.0, apical end of costal cell at M2 or M3. Hind wing with margins parallel, hind wing length:width 14.7; hind wing width:fore wing width 0.25; hind wing LMS:hind wing width 6.67.

Mesofemur with 1 long spine and usually 1 short spine on posteroapical margin about ¼–1/5 length of long spine, mesotibial spur with 2 or 3 teeth; mesotibial spur length:basitarsus length 1.06–1.07; basitarsus:mesotibia length 0.40–0.42.



FIGURES 49–52. *Signiphora biloba* **n. sp.**: 49, head (TAMU-ENTO X0616378); 50, female antenna (TAMU-ENTO X0616380); 51, mandibles (TAMU-ENTO X0616380); 52, middle leg, female (TAMU-ENTO X0616381).

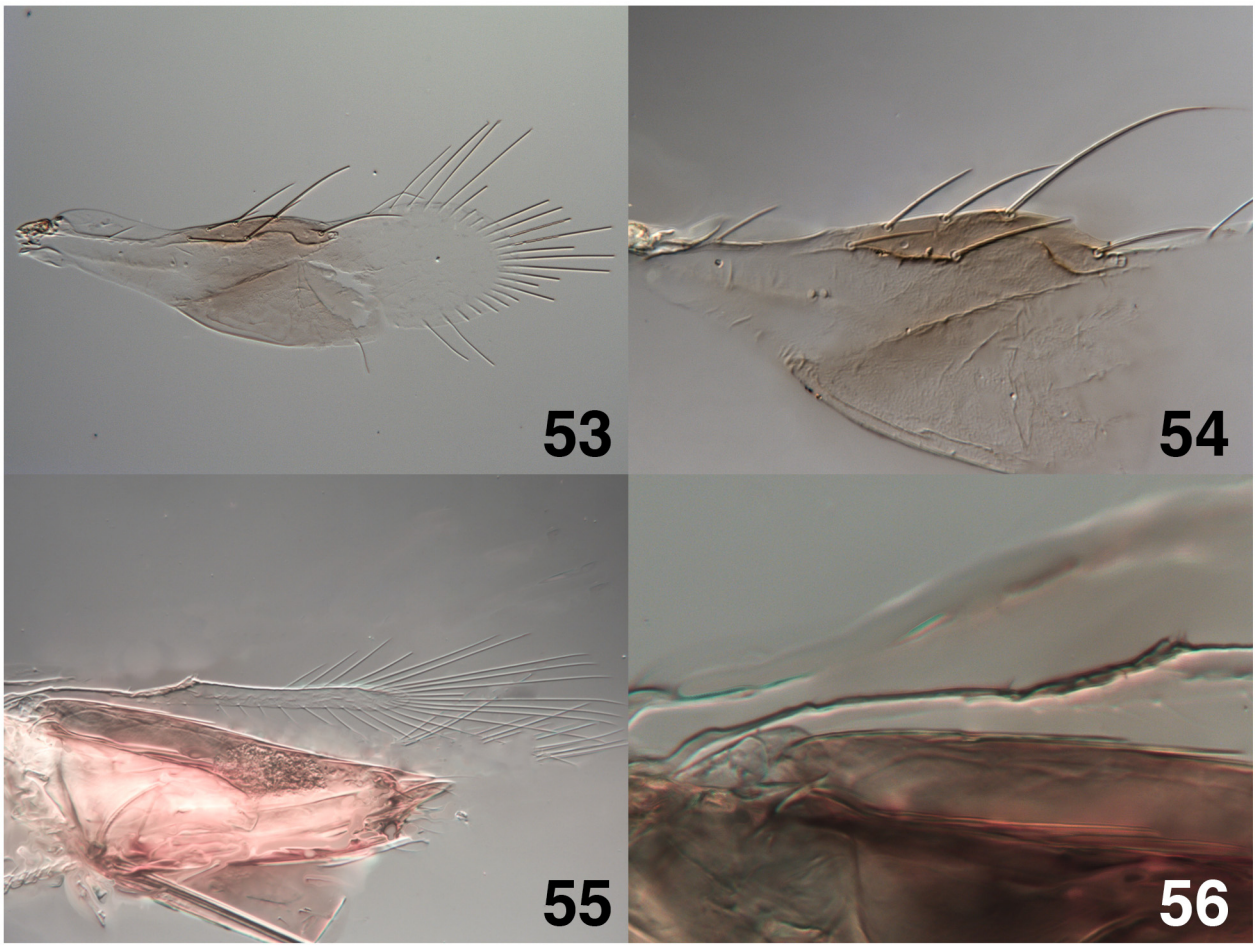
*Metasoma***.** Mt1 shape distinctive, consisting of two widely separated lobes; Mt1 length:Mt2 length subequal or Mt1 slightly longer than Mt2; ovipositor with anterior-most portion lying under Mt3–Mt5; ovipositor length:metasoma length 0.54–0.77; ovipositor sheath length:ovipositor length 0.18–0.23; Ms3–Ms6 with anterior projections distinctive, those on Ms6 long but those on Ms3–Ms5 very short; Ms6 in posterior ¼–posterior ¼–1/5 of metasoma and with 6–9 setae; Mt8 with anterodorsal margin apparently transverse with broad medial incision, but not clear in specimens examined.

Male. Unknown.

Discussion. Unfortunately, the shape of Ms8 is not clear in any of the specimens available. A series of five specimens mounted in balsam (Guatemala, Cocales, coll. E.J. Hambleton, 16.v.1965, ex: *Odonaspis* Leonardi sp.) appears to be this species, but the specimens are in poor condition. So far as can be determined in this series, Mt1 has the distinctive bilobed shape of this species but the lobes are a bit wider and closer together than in the type series. In addition, the anterior projects on Ms3–Ms6 are longer than in the type series.

Type material. HOLOTYPE ♀: slide-mounted in balsam (TAMU-ENTO X0616380) “Ithaca, N.Y. March ’25”. Deposited in CUIC. **PARATYPES:** Four ♀ mounted in balsam, same data (TAMU-ENTO X0616378–X0616379 and X0616381–X0616382); two additional paratype ♀ in balsam, apparently from the same rearing, collected Ithaca, N.Y., March 19, 1925, reared from *Diaspis boisduvalli* (Signoret) on *Cattleya* by Grace Griswold, USNM ENT 00763155 and USNM ENT 00763156. Paratypes deposited at CUIC, USNM, CNC, BMNH and TAMU.

Other material examined. GUATEMALA: 5 ♀, USNM ENT 763150–763154 (USNM).
Biology. The type series was reared from *Diaspis boisduvalli* on *Cattleya.*
Etymology. The species name refers to the distinctive shape of Mt1. It is to be treated as an adjective.



FIGURES 53–56. *Signiphora biloba* **n. sp.**: 53, fore wing, female (TAMU-ENTO X0616380); 54, venation of fore wing (TAMU-ENTO X0616379); 55, hind wing, female (USNM ENT 763154); 56, venation of hind wing (USNM ENT 763154).

Signiphora borinquensis **Quezada, DeBach, and Rosen, 1973**

Figures 61–76
http://eol.org/pages/855963

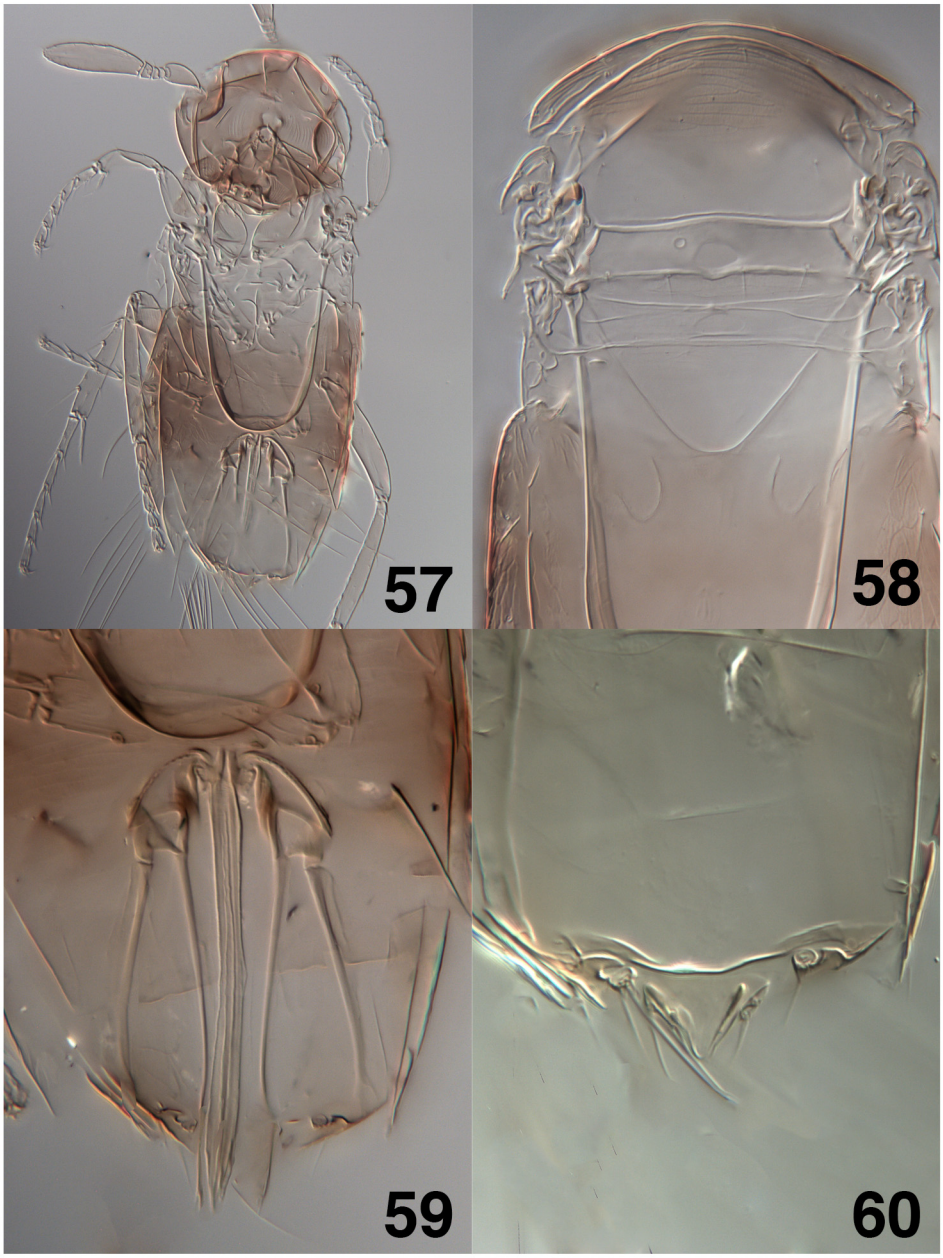
Signiphora borinquensis Quezada, DeBach, and Rosen 1973: 549. Female.
urn:lsid:zoobank.org:act:E372B413-3B12-4D22-8F86-85E2F1884352

Diagnosis. Scutellum with 4 setae; Mt8 with anterodorsal margin transverse, without a medial incision; antennal clava of uniform color or only weakly dusky in apical 1/6–1/8, Mt1 strongly bilobed with medial portion transverse; Mt1 length:Mt2 length 1.0–2.0; fore wing marginal vein without seta M1 (but see discussion).

The species is most similar to *S. flavella* and *S. lutea*. It can be distinguished from the former by the fewer number of setae on the scutellum and the absence of seta M1 on the fore wing marginal vein (rarely absent in *flavella*); and from the latter by the transverse anterior margin of Mt8 without a medial incision.

Description. ***Female*.** Length, anterior margin of pronotum to epiproct apex, 0.53–0.67 mm (n=9). Vertex dull orange frons, face, and gena orange-tan. Antennal clava uniformly pale brown or slightly dusky in distal 1/8–1/6, pedicel and scape pale tan. Pronotum uniformly pale brown or pale yellow in lateral third, anterior 1/3–1/2 mesoscutum pale brown, posterior 2/3–1/2 mesoscutum through propodeum pale yellow or tan. Medial sclerite propodeum slightly lighter than lateral sclerites. Mt1–Mt3 and anterior 1/2 or medial 2/3 of Mt4 pale brown, Mt5

and anterior 1/2 of Mt6 pale yellow, Mt6 with posterior 1/2 or posterolateral margins pale brown, Mt7 pale yellow. Mt8, epiproct, and ovipositor sheaths dusky brown. Fore wing infuscated from base to distal end stigmal vein with normal hyaline areas at wing base.



FIGURES 57–60. *Signiphora biloba* **n. sp.**: 57, female habitus (TAMU-ENTO X0616380); 58, mesosoma of female (TAMU-ENTO X0616379); 59, metasoma of female (TAMU-ENTO X0616380); 60, Mt8 of metasoma, female (TAMU-ENTO X0616830).

*Head***.** Mandibular ducts enlarged apically; pedicel length:scape length 0.63–0.70; 3 anelli, second anellus twice length of first, third anellus 3× length of first, clava length:scape length 1.50–1.79; vertex finely and transversely striate with 4 longitudinal rows of minute punctations.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate, scutellum through medial sclerite of propodeum weakly imbricate; scutellum with 4 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded to narrowly rounded apically. Fore wing length:width 3.2–3.7; fore wing LMS:fore wing width 1.4–1.7; marginal vein length:stigmal vein length 1.8–2.2; marginal vein most commonly with 5 dorsal setae and without ventral setae; seta M1 absent, but occasionally present; marginal vein commonly with aberrant setal patterns (see discussion); seta M3 length:marginal vein length 0.50–0.69; apical end

of costal cell between setae M2 and M3 or at seta M2. Hind wing with subparallel margins, hind wing length:width 7.2–11.0; hind wing width:fore wing width 0.30–0.50; hind wing LMS:hind wing width 3.00–5.00. Mesofemur with one long spine and one short spine in posteroapical margin; mesotibial spur with 3 or 4 teeth; mesotibial spur length:basitarsus length 0.82–1.00; basitarsus length:mesotibia length 0.24–0.50.

*Metasoma***.** Mt1 strongly bilobed with medial portion transverse; Mt1 length:Mt2 length 1.0–2.0; ovipositor with anterior-most margin lying under Mt3–Mt5; ovipositor length:metasoma length 0.43–0.55; ovipositor sheath length:ovipositor length 0.19–0.25; Ms3–Ms6 with anterior projections short to medium in length; Ms6 in posterior 1/4 metasoma and with 8 setae; Mt8 with anterodorsal margin transverse, without a medial emargination, although the lateral portions may be broadly rounded and produced slightly to the medial portion.

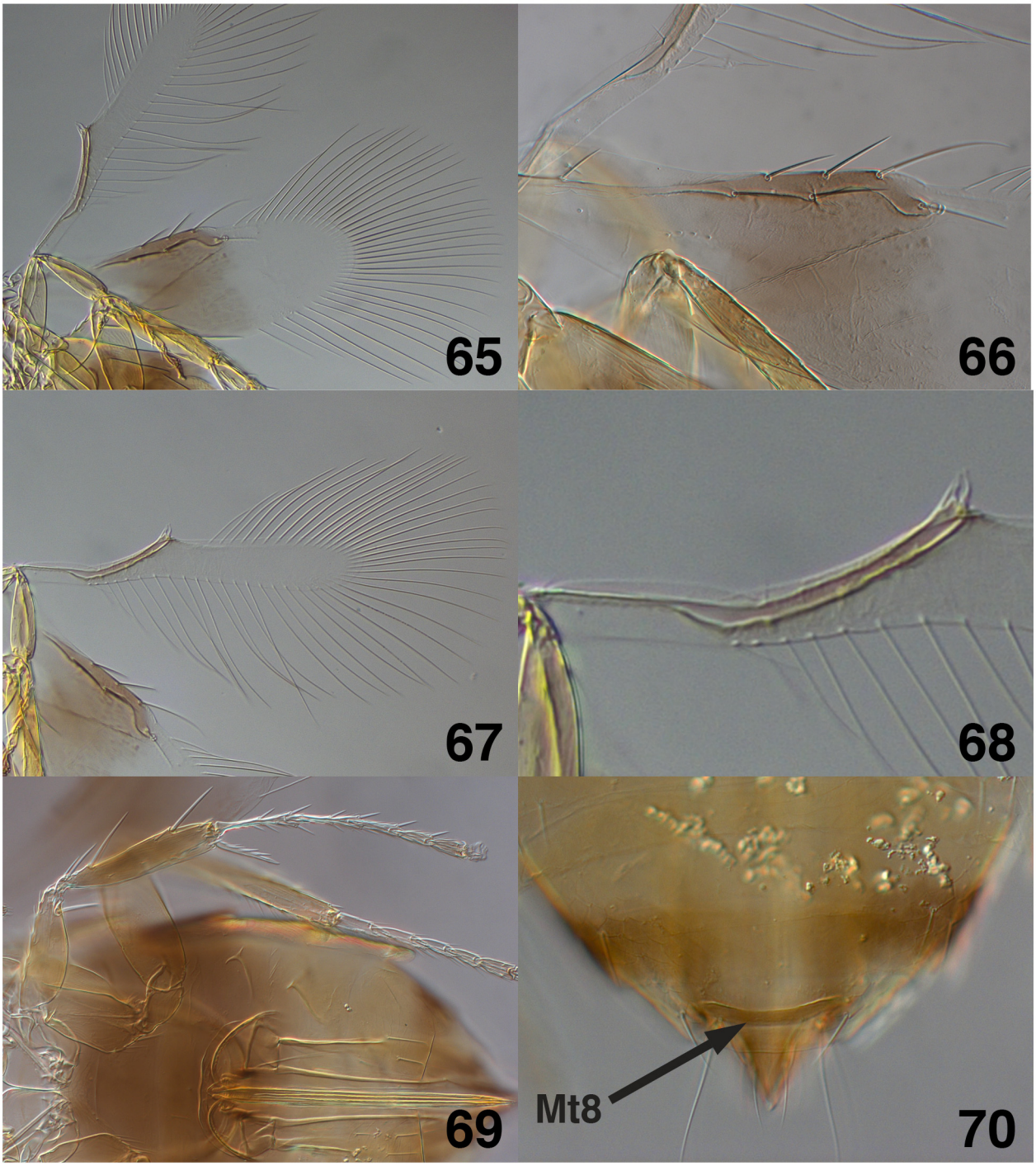
FIGURES 61–64. *Signiphora borinquensis*: 61, head (UCRC ENT 33001, holotype female); 62, female antenna (UCRC ENT 33001, holotype female); 63, mandibles (UCRC ENT 33001, holotype female); 64, male antenna (TAMU-ENTO X0460286).

Male. Length, anterior margin of pronotum to epiproct apex, 0.37–0.50 mm (n=6); clava length:scape length 1.3–1.7. As described for female except antennal clava uniformly pale tan or pale brown, pedicel and scape pale tan. Pronotum uniformly pale brown or pale yellow in lateral thirds, anterior 1/3–1/2 mesoscutum pale brown, posterior 2/3–1/2 mesoscutum to propodeum pale yellow or tan. Propodeum with medial sclerite slightly lighter than lateral sclerites. Mt1–Mt4 or Mt5 pale brown, Mt5 and anterior 1/2 of Mt6 pale yellow, posterior 1/2 or posterolateral margins of Mt6 pale brown, Mt7 pale yellow but with a pair of dusky brown spots on either side of midline. Genitalia normal for *flavopalliata* group, digitus about 3× as long as wide and with a single short denticle at apex, and a single seta just apical of midpoint, digitus with apical 1/3 darker than proximal portion. Ms8 a broad, transverse strip, with posteromedial 1/3 bearing a shallow, concave emargination.

Type material. HOLOTYPE ♀ [examined]: in balsam, UCRC ENT 300001, CALIFORNIA, Riverside Co., Riverside, from laboratory culture, Division of Biological Control, U.C. Riverside (UCR).

Other material examined. **MEXICO: Guerrero:** 3 ♀, 4 ♂, TAMU-ENTO X0460285–X0460291 (TAMU).

MEXICO: Michoacán: 5 ♀, 1 sex unknown, 2 ♂, TAMU-ENTO X0460283, X0460284, X0424894–X0424899 (TAMU). **PUERTO RICO:** 2 ♀, 1 ♂, 2 mixed series. TAMU–ENTO X0616328, X0616329 (FSCA); UCRC ENT 299196, 299198, 299215 (UCR). **USA: California:** 20 ♀, 3 mixed series. UCRC ENT 299191–299195, 299197, 299199–299214 (UCR); USNM ENT 763013 (USNM).

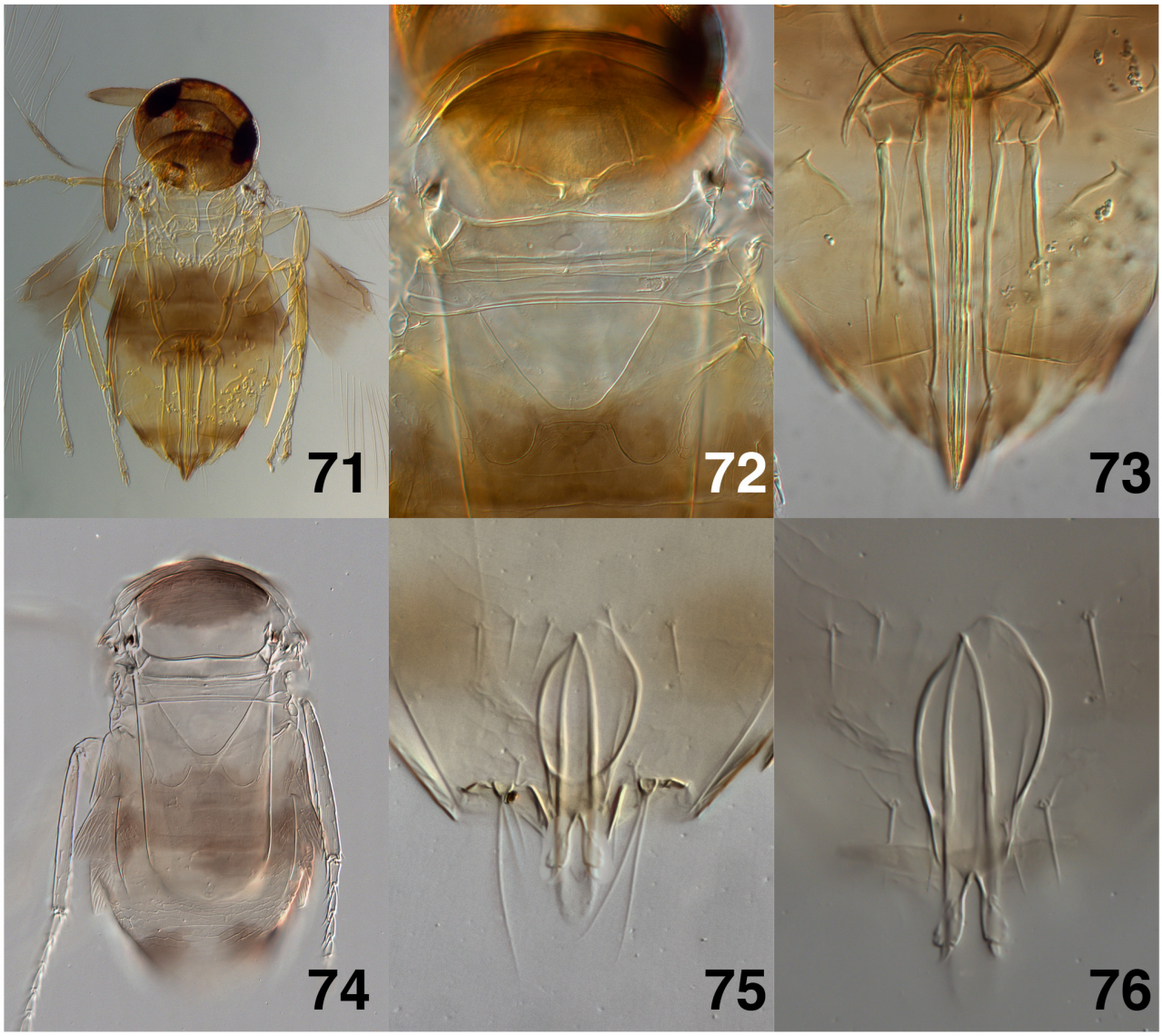


FIGURES 65–70. *Signiphora borinquensis*: 65, fore wing, female (UCRC ENT 33001, holotype female); 66, venation of fore wing (UCRC ENT 33001, holotype female); 67, hind wing, female (UCRC ENT 33001, holotype female); 68, venation of hind wing (UCRC ENT 33001, holotype female); 69, middle leg, female (UCRC ENT 33001, holotype female); 70, Mt8 of metasoma, female (TAMU-ENTO X0460288); (Mt8 = eighth metasomal tergum).

Discussion. This species was completely described by Quezada *et al.* (1973) and their publication can be consulted for additional details. In the large number of laboratory-reared specimens many individuals were noted with aberrant setation of the fore wing marginal vein. Approximately 80% of the specimens have a normal pattern

with seta M1 absent or with seta M1 occasionally present. Almost 20% of the specimens have setae M1 and M2 absent, or extra setae on the anterior or posterior margin of the marginal vein, or in the middle of the marginal vein. Female specimens in the series from Michoacan, Mexico are very light in coloration, with most of the body pale yellow.

Biology. Quezada *et al.* (1973) studied the biology of this species in detail, and the following is abstracted from their report. *Signiphora borinquensis* is a uniparental, primary parasitoid of Diaspididae. Viable male progeny was produced by females that received a heat treatment as pupae. The eggs of this species are laid internally in female scales, the 1st and 2nd instar larvae develop as endoparasitoids but the 3rd and 4th instar larvae develop as external parasitoids.



FIGURES 71–76. *Signiphora borinquensis*: 71, female habitus (UCRC ENT 33001, holotype female); 72, mesosoma of female (UCRC ENT 33001, holotype female); 73, metasoma of female (UCRC ENT 33001, holotype female); 74, male habitus (TAMU-ENTO X0460286); 75, male genitalia (TAMU-ENTO X0460288); 76, Ms8 of metasoma, male.

***Signiphora brachyptera* Woolley & Dal Molin, n. sp.**

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Figures 77–92

Diagnosis. The following combination of features is diagnostic for females: fore wing without discal seta; fore

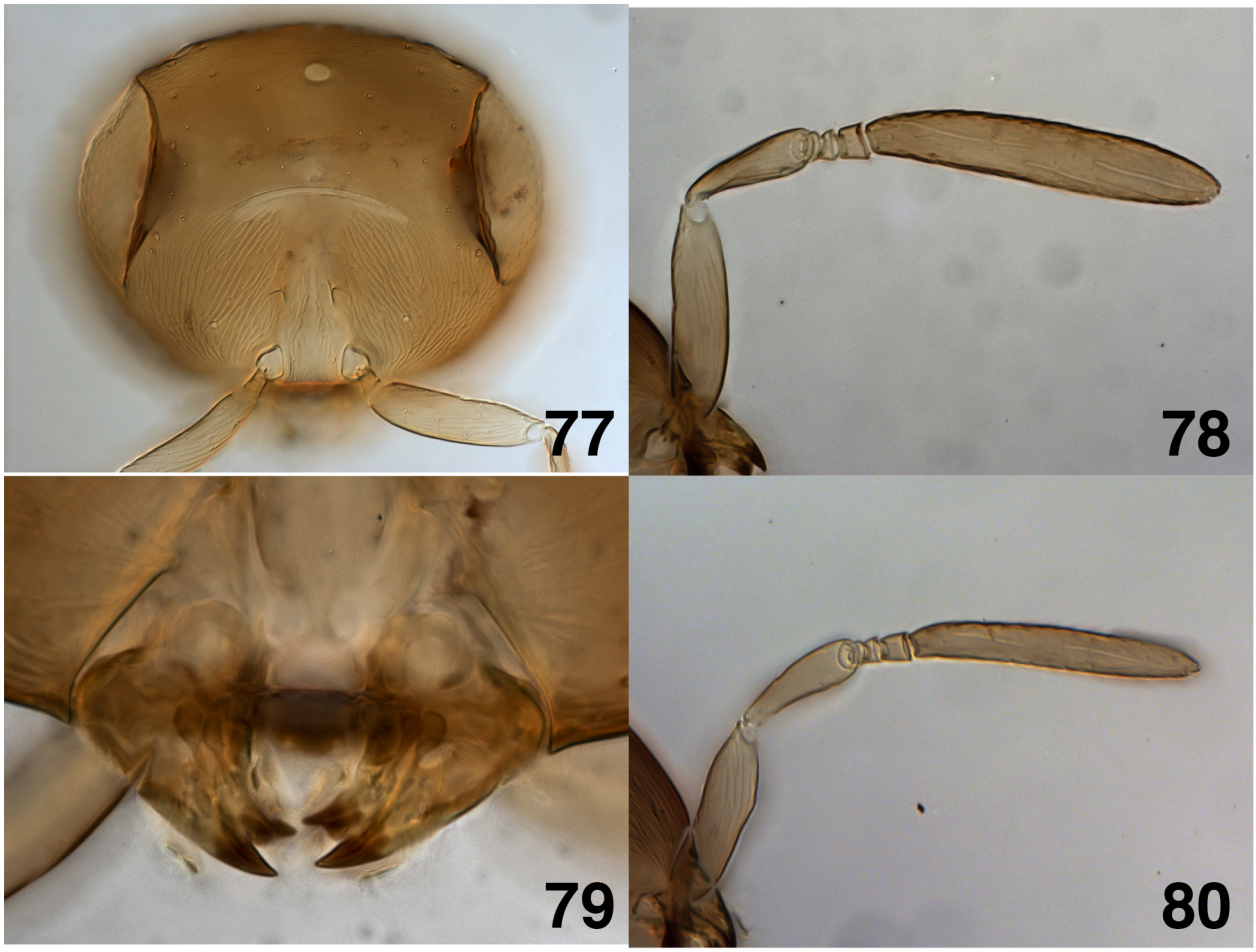
wing marginal vein without seta M1 and without ventral seta; Mt1 strongly bilobed with medial portion transverse; body entirely brown except for lighter metanotum. Males of this species can be easily recognized by the reduced fore and hind wings.

This species is most similar to *S. bennetti*, but can easily be distinguished from the latter by the shape of Mt1 and the lack of the ventral seta on the fore wing marginal vein (*S. bennetti* has one ventral seta on the fore wing marginal vein).

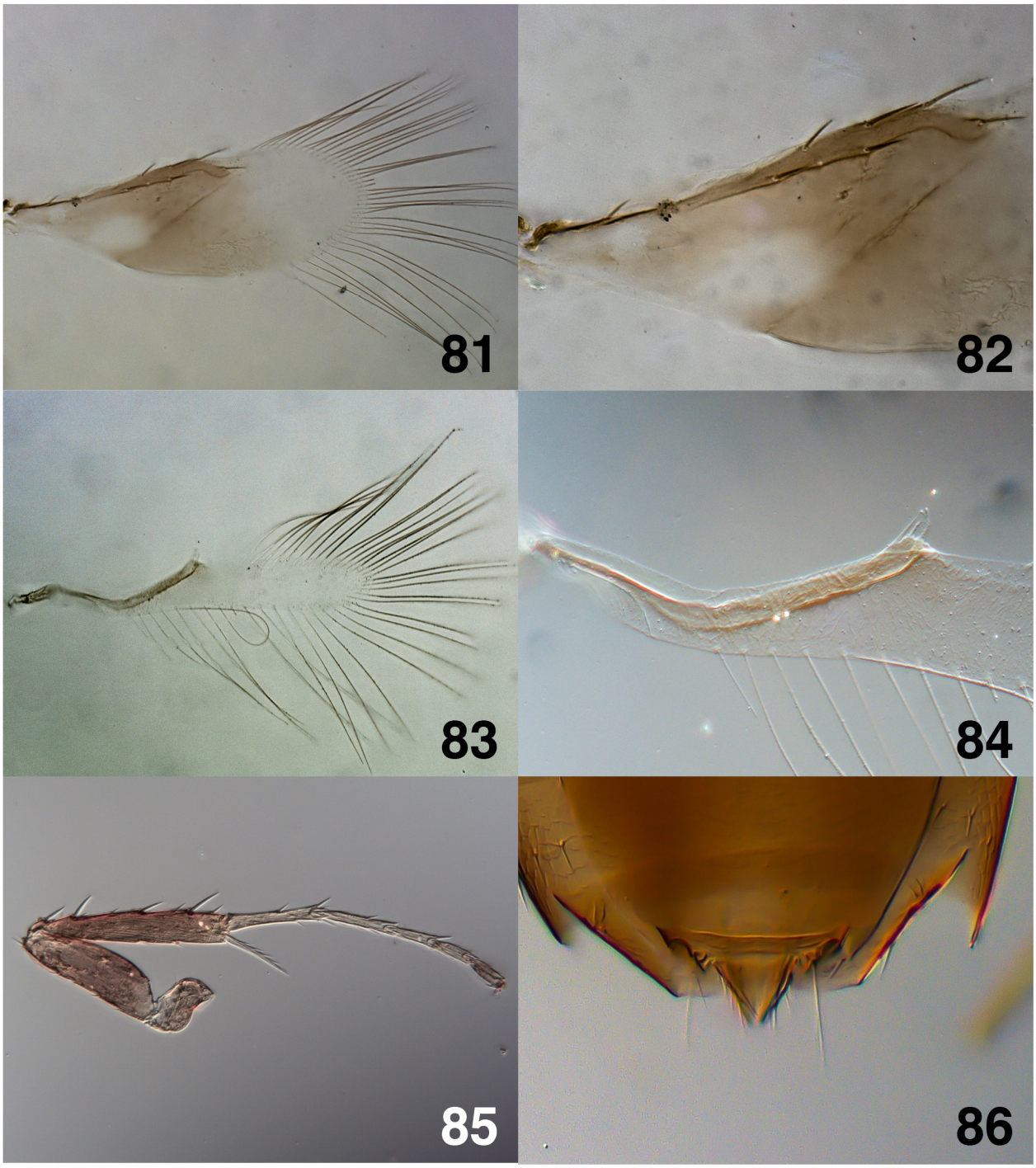
Description. ***Female*****.** Length, anterior margin of pronotum to epiproct apex, 0.63–0.77 mm (n=3). Vertex, frons, face, and gena brown antenna uniformly light brown pronotum, mesoscutum, and scutellum brown, metanotum light brown, propodeum including medial sclerite and metasoma brown, fore wing infuscated from base to distal end stigmal vein with usual hyaline areas at wing base.

*Head***.** Mandible with two teeth, mandibular ducts enlarged apically. Pedicel length:scape length 0.68–0.82; 3 anelli, the second 1.5–2.0×length of the first, the third 2.5× length of the first, clava length:scape length 1.70–1.89, vertex and frons finely and transversely striate, with 4 longitudinal rows minute punctations.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate, scutellum and metanotum weakly imbricate, medial sclerite of propodeum imbricate. Scutellum with 6 setae and 1 or no campaniform sensilla, medial propodeal sclerite rounded, process on medial sclerite rounded apically. Fore wing without discal seta, length:width 3.2; fore wing LMS:fore wing width 1.3–1.5; marginal vein length:stigmal vein length 2.2–2.3; marginal vein with 5 dorsal setae and no ventral setae; seta M1 absent; seta M3 length:marginal vein length 0.35–0.37; apical end of costal cell at seta M2–M3; hind wing with subparallel margins; length:width 7.4–10.0; hind wing width:fore wing width 0.32–0.40; hind wing LMS:hind wing width 3.00–4.14. Mesofemur with one long spine on posteroapical margin; mesotibial spur with 5 teeth; mesotibial spur length:basitarsus length 0.69–0.75; basitarsus length:mesotibia length 0.50–0.53.



FIGURES 77–80. *Signiphora brachyptera* **n. sp.**: 77, head (BMNH(E) 990226); 78, female antenna (BMNH(E) 990226); 79, mandibles (BMNH(E) 990226); 80, male antenna (BMNH(E) 990223).



FIGURES 81–86. *Signiphora brachyptera* **n. sp.**: 81, fore wing, female (USNM ENT 763124); 82, venation of fore wing (USNM ENT 763124); 83, hind wing, female (USNM ENT 763124); 84, venation of hind wing (USNM ENT 763124); 85, middle leg, female (BMNH(E) 990223); 86, Mt8 of metasoma, female (BMNH(E) 990226).

*Metasoma***.** Mt1 strongly bilobed with medial portion transverse, Mt1 length:Mt2 length 1.0; ovipositor with anterior-most margin lying under Mt3–Mt4; ovipositor length:metasoma length 0.47–0.55; ovipositor sheath length:ovipositor length 0.20–0.23; Ms3–Ms6 with anterior projections short; Ms6 in posterior 1/4 of metasoma and with 6–8 setae; Mt8 with anterodorsal margin transverse, without a medial incision.

Male. Length, anterior margin of pronotum to epiproct apex, 0.80 mm (n=1). As described for female except clava length:scape length 1.36, fore wing brachypterous, length:width 2.4. Genitalia normal for *flavopalliata* group, digitus with one denticle at apex; digitus with apical 1/4 and entire medial surface appearing sclerotized, the

remaining portions appearing almost membranous; digitus length approximately 3× its width; Ms8 weakly crescent-shaped, about 6× as wide as long.

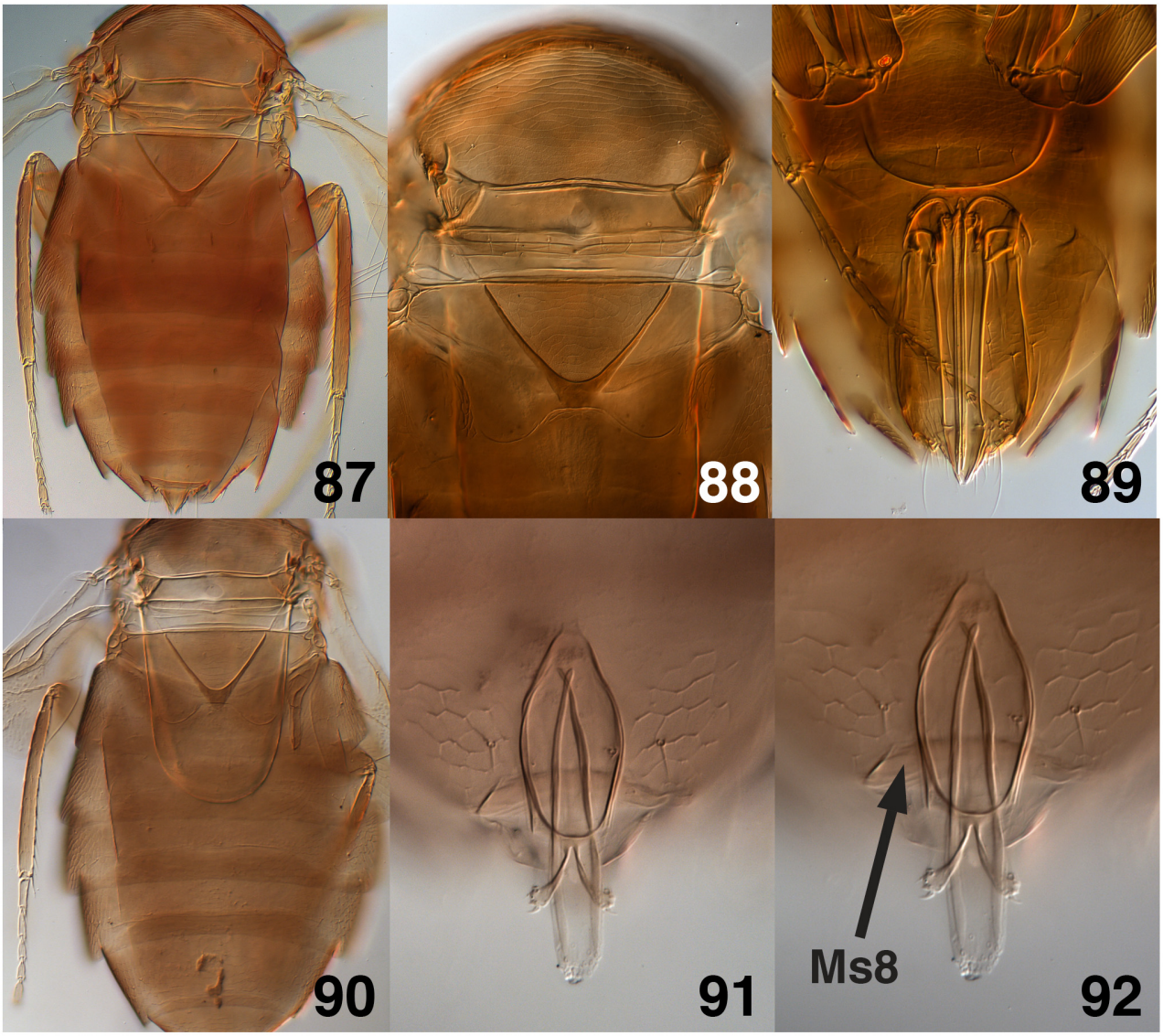
Discussion. This species is the first case of brachyptery reported in Signiphoridae.

Type material. HOLOTYPE ♀: in balsam (BMNH(E) 990226); PERU, Cuzco, Urubamba, 2900 m, coll. C. and M. Vardy, 9.viii.1971, BM 1971-345, bred August from *Baccharis* with Coccids. Holotype deposited in BMNH. **PARATYPES:** 3 ♀, 1 ♂ in balsam (BMNH(E) 990313, BMNH(E) 990223–990225, 5 ♀, 3 ♂ point-mounted (BMNH(E) 1038778–1038785); data as holotype. Paratypes deposited in CNC, BMNH, TAMU, with permission of BMNH(E).

Other material examined. URUGUAY: USNM ENT 763124 (1 ♀, USNM).

Biology. Nothing is known of the biology of this species beyond the data on the type specimens, which indicate that the specimens were reared from an unidentified Coccidae (Hemiptera).

Etymology. The species name refers to the brachypterous wings in the male. It is an adjective.



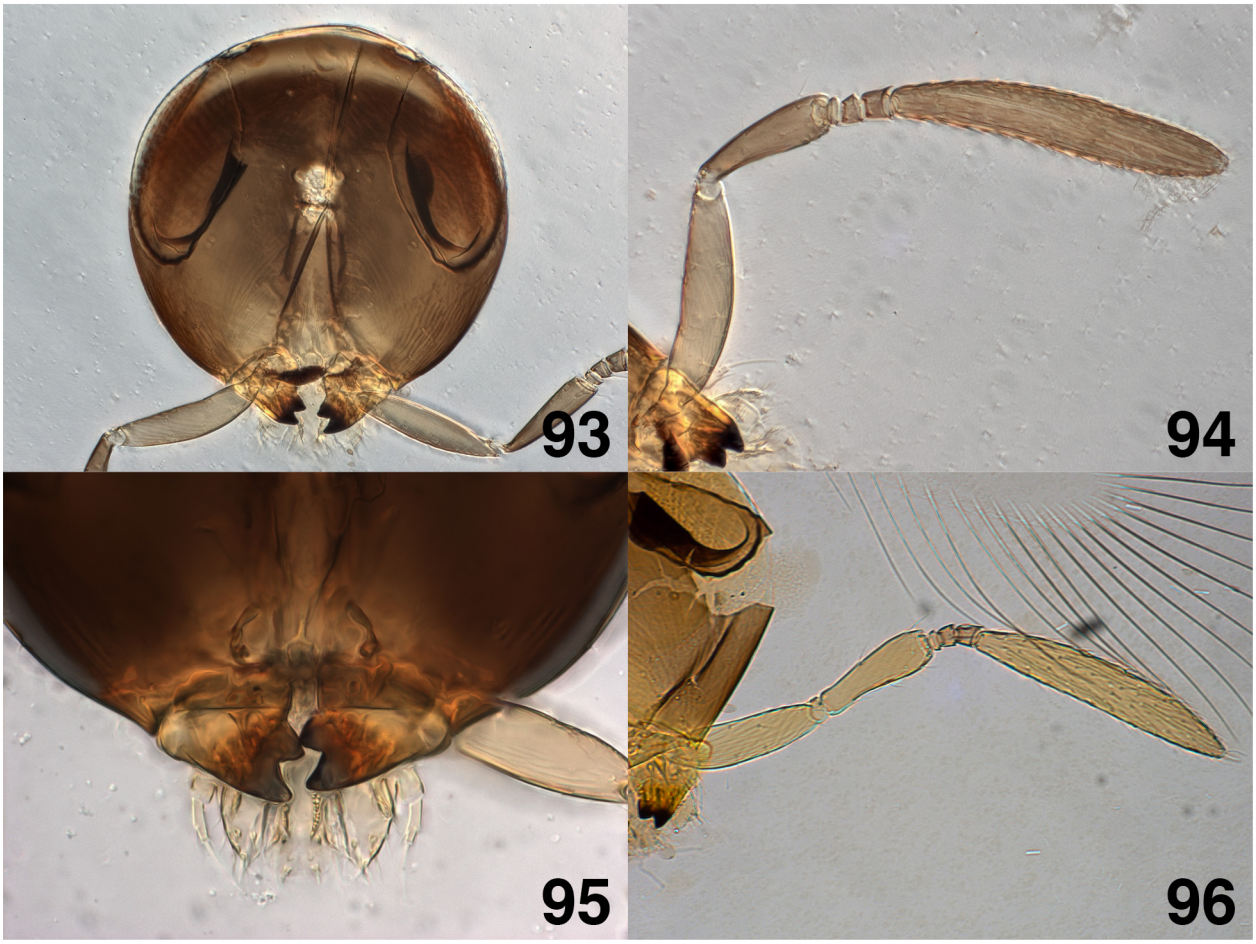
FIGURES 87–92. *Signiphora brachyptera* **n. sp.**: 87, female habitus (BMNH(E) 990226); 88, mesosoma of female (BMNH(E) 990226); 89, metasoma of female (BMNH(E) 990226); 90, male habitus (BMNH(E) 990223); 91, male genitalia (BMNH(E) 990223); 92, Ms8 of metasoma, male (BMNH(E) 990223); (Ms8 = eighth metasomal sternum, male).

***Signiphora coquilletti* Ashmead, 1900**
Figures 93–108
http://eol.org/pages/855961

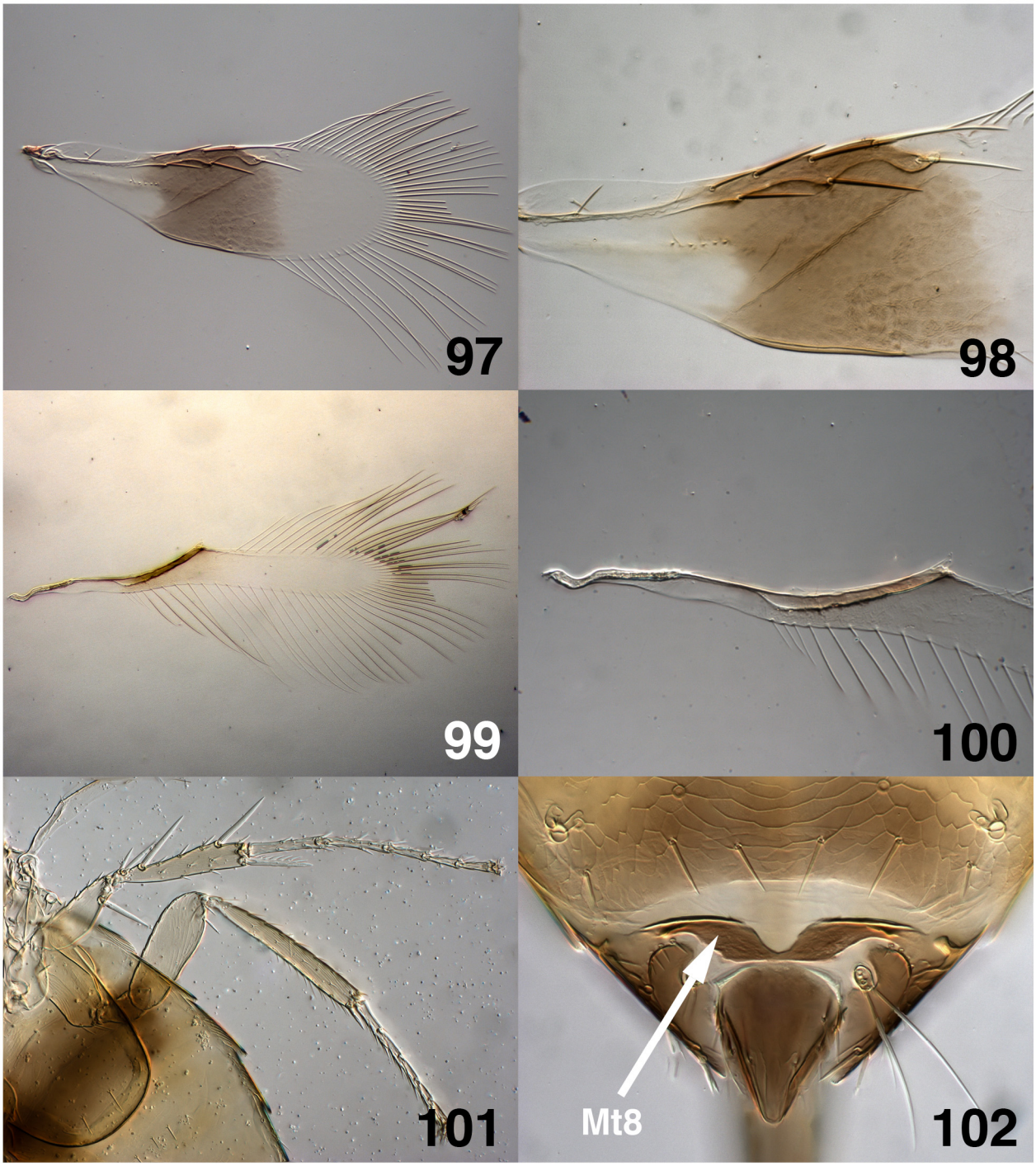
Signiphora coquilletti Ashmead, 1900: 412. Female.
urn:lsid:zoobank.org:act:308069C3-C2A6-4899-849B-17568C1DA68F
Thysanus coquilletti: Peck (1951).
Signiphora coquilletti: Rozanov (1965).

Diagnosis. Fore wing marginal vein with seta M1; scutellum with 4 setae; antennal clava uniformly tan or light brown; Mt8 with anterodorsal margin with a rounded medial incision; Mt1 length:Mt2 length generally 0.50.

This species is very similar to *S. aleyrodis* and the two species are difficult to differentiate on the basis of structural characters or coloration. Unique biological traits of *S. coquilletti* are summarized below. This species is known to occur in California and Baja California, whereas *S. aleyrodis* has been collected from the remainder of Mexico, the West Indies, and the southeastern USA. *Signiphora coquilletti* is uniparental (males are very rare); whereas *S. aleyrodis* is biparental (males are common). The short Mt1 of *S. coquilletti* (Mt1 length:Mt2 length typically 0.50) is characteristic; although specimens of *S. aleyrodis* with Mt1:Mt2 in this range have been observed they typically have a longer Mt2 (Mt1:Mt2 = 1.00). The antennal clava of *S. coquilletti* is slightly longer than that of *S. aleyrodis*, the ratio of clava length to scape length is from 1.52–1.82 in female *S. coquilletti* and 1.15–1.75 in female *S. aleyrodis*.

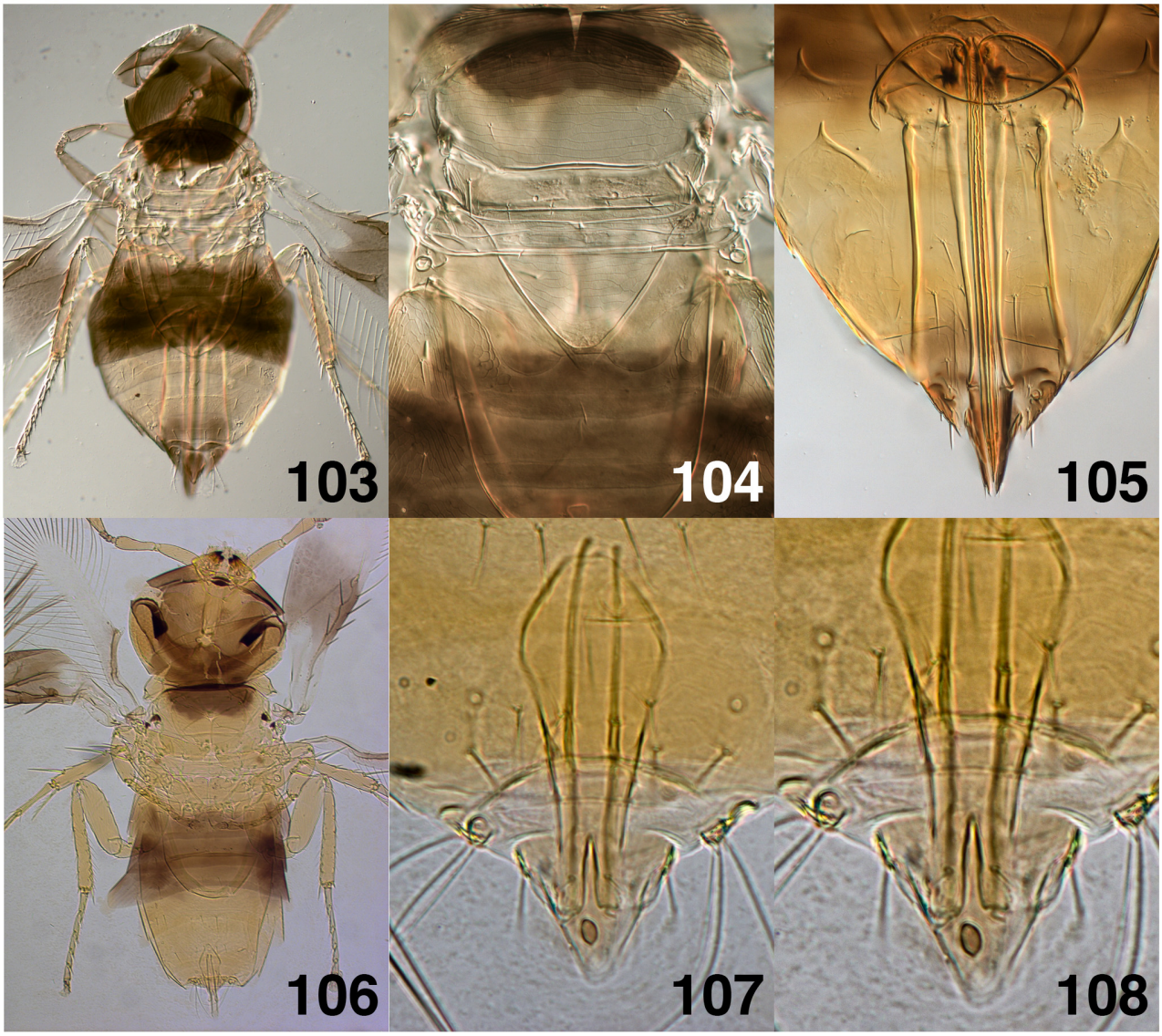


FIGURES 93–96. *Signiphora coquilletti*: 93, head (UCR 299253); 94, female antenna (UCR 299253); 95, mandibles (UCR 299253); 96, male antenna (UCR 299228).



FIGURES 97–102. *Signiphora coquilletti*: 97, fore wing, female (UCR 299293); 98, venation of fore wing (UCR 299293); 99, hind wing, female (UCR 299293); 100, venation of hind wing (UCRC ENT 299293); 101, middle leg, female (UCR 299315); 102, Mt8 of metasoma, female (TAMU-ENTO 0460295).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.46–0.70 mm (n=19). Vertex and frons orange–brown, gena pale yellow. Antenna pale tan to brown. Pronotum brown or yellow in lateral 1/8–1/6 of its width. Mesoscutum brown in anterior 1/3–3/4, the posterior 2/3–1/4 and the remainder of mesosoma pale yellow to orange-yellow. Mt1 yellow or brown in posterior 1/2. Mt2–Mt4 brown to dark brown, occasionally Mt4 lighter brown. Mt5 and Mt6 yellow to orange yellow, rarely light brown. Mt7 yellow, orange/yellow, or dusky brown in medial and posterior 1/2. Mt8, epiproct, ovipositor sheaths, and often the apical 1/4 of lateral plates of ovipositor dusky brown. Fore wing infuscated from wing base to distal end stigmal vein with the normal hyaline areas in the basal area.



FIGURES 103–108. *Signiphora coquilletti*: 103, female habitus (URC 299230); 104, mesosoma of female (TAMU-ENTO X0460297); 105, metasoma of female (TAMU-ENTO X0460297); 106, male habitus (UCR 299228); 107, male genitalia (UCR 299228); 108, Ms8 of metasoma, male (UCRC ENT 299228).

*Head***.** Mandibular ducts enlarged apically; pedicel length:scape length 0.64–0.77; 3 anelli, second anellus 1.5–2.0× the length of first, third anellus 2–4× the length of first; clava length:scape length 1.52–1.82; vertex and frons transversely striate with 4 longitudinal rows of minute punctations.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate; scutellum, metanotum and medial sclerite of propodeum weakly imbricate. Scutellum with 4 medial setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing length:width 2.9–3.7, fore wing LMS:width 1.3–1.6; marginal vein length:stigmal vein length 2.2–3.3; marginal vein with 6 dorsal setae and without ventral setae; seta M3 length:marginal vein length 0.45–0.64; apical end of costal cell at seta M1–M2. Hind wing with subparallel margins, its length:width 6.2–9.2; hind wing width:fore wing width 0.36–0.47; hind wing LMS:hind wing width 2.29–3.75. Mesofemur with 1 long spine and 1 short spine in posteroapical margin; mesotibial spur with 5–7 teeth (occasionally 4); mesotibial spur length:basitarsus length 0.83–1.00; basitarsus length:mesotibia length 0.56–0.68.

*Metasoma***.** Mt1 bilobed with medial portion transverse, Mt1 length:Mt2 length 0.5–1.0, (see discussion); ovipositor with anterior-most portion lying under propodeum–Mt4; ovipositor length:metasoma length 0.55–0.84; ovipositor sheath length:ovipositor length 0.25–0.28; Ms3–Ms6 with anterior projections medium to long; Ms6 in

posterior 1/4 metasoma and with 7 or 8 setae; Mt8 with anterodorsal margin with a rounded or v-shaped medial emargination; Mt8 with margins lateral to medial emargination slightly convex, occasionally with lateral ends produced forward.

Male. Length, anterior margin of pronotum to epiproct apex, 0.43–0.52 mm (n=6). As described for female except: metasoma with apex yellow or orange/yellow, not dusky brown as in females, Mt1 bilobed with medial portion transverse or occasionally rounded, Mt1 length:Mt2 length 0.25–0.50 (see discussion); fore wing marginal vein rarely without seta M1; hind wing length:width 7.2–10.7; hind wing LMS:hind wing width 3.00–4.33. Genitalia normal for *flavopalliata* group, digitus with one apical denticle and one seta at its midpoint; digitus length approximately twice its width; MS8 a transverse strip, extending to cerci laterally.

Type material. HOLOTYPE ♀ [examined]: in balsam, USNM Type 4857, coll. 4-X-1887, ex *Aleurodes* [sic, likely *Aleyrodes*] on *Quercus agrifolia*. Girault (1913) stated concerning this specimen: "probably reared in California by Coquillett (judging from the name, label, slide, and date).", and gave the type locality as "California (originally San Gabriel?)".

Other material examined. **MEXICO: Baja California Norte:** 16 ♀, UCRC ENT 299252, 299259, 299297–299310 (UCR). **MEXICO: Baja California Sur:** 1 ♂, 4 ♀, UCRC ENT 299253–299255, 299312–299313 (UCR). **MEXICO: Morelos:** 1 ♀, USNM ENT 763018 (USNM). **MEXICO: Querétaro:** 1 ♀, UCRC ENT 299256 (UCR). **USA: California:** 4 ♂, 72 ♀ UCRC ENT 299216–299219, 299221–299251, 299257–299258, 299260–299268, 299270–299296 (UCR); INHS 72.514 (INHS); TAMU-ENTO X0460292, X0460293 (TAMU); USNM ENT 763014, 763020 (USNM); 1 host material UCRC ENT 299220. **USA: Delaware:** 2 ♀, USNM ENT 763019, 763021 (USNM). **USA: Florida:** 15 ♀, UCRC ENT 299311, 299314–299325 (UCR); USNM ENT 763015–763016 (USNM). **USA: Texas:** 9 ♀, TAMU-ENTO X0460294–X0460302 (TAMU). **Country not specified:** 1 ♀, UCRC ENT 299269 (UCR).

Discussion. Although the range of the Mt1: Mt2 ratio is 0.5–1.0 in females and 0.33–1.0 in males, in the great majority of specimens examined the ratio is 0.50 in both sexes. A series collected by M. Rose at Loreto, Baja California Sur, (XI-1971, ex: ?*Tetraleurodes mori* (Quaintance) on Mexican guava, 3 ♀ in Hoyer's) appears also to be *S. coquilletti* but is very close to *S. aleyrodis.*

Biology. *Signiphora coquilletti* is a uniparental hyperparasitoid of a variety of whitefly through *Encarsia* Förster spp. and *Eretmocerus* spp. (Aphelinidae) and through *Amitus* spp. (Platygastridae). The few recorded rearings from armored scale are probably erroneous. Woolley & Vet (1981) observed that females of *S. coquilletti* would not oviposit in whitefly pupae unless the hosts contained prepupae or pupae of primary parasitoids. These authors described the unusual oviposition behavior of this species, in which the female deposits a fine silk-like web over the host whitefly pupa after oviposition. This behavior is not known to occur in other *Signiphora* spp. Males are very infrequently collected and unmated female *S. coquilletti* are capable of producing viable female progeny. However, JBW observed that males collected in the Riverside area readily mated with females in the laboratory. Copulation occurred after a brief courtship during which the males mounted the females and antennated the females' antennae and vertex. Following copulation, several mated females were dissected in saline, and active sperm were observed in the spermatheca.

Signiphora curepensis Woolley & Dal Molin, n. sp.

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Figures 109–124

Diagnosis. Fore wing with discal seta; mesoscutum with 2 or 4 setae; scutellum with 5 or 6 setae; Mt1 with medial portion rounded; propodeum and metasoma uniformly brown; Mt8 in female with anterodorsal margin with a rounded, medial incision; Ms8 in male with an anteromedial projection and anterior and posterior margins concave.

The seta on the axilla is short (less than length of the scutellum) compared to *S. flavopalliata* and *S. fax* (generally subequal to or more than the length of scutellum). The dorsal spines on the mesotibia are shorter (length distal spine:length mesotibia 0.26–0.36) than in *S. flavopalliata* females (0.48–0.60) or *S. fax* females (0.43–0.52).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.62–0.71 mm (n=5). Vertex and frons light brown, face and gena slightly lighter brown, antenna uniformly pale brown. Pronotum and mesoscutum (except posterolateral corners) light brown (dark brown, almost black in card-mounted specimens); scutellum and

metanotum very pale tan (yellow in card mounts); propodeum including medial sclerite and metasoma light brown to apex (dark brown to black in card-mounts); medial sclerite of propodeum sometimes slightly lighter brown than lateral sclerites, Mt8, epiproct and ovipositor sheaths often darker brown than Mt1 through Mt7. Fore wing infuscated from base to distal end stigmal vein with usual hyaline areas at wing base.

FIGURES 109–112. *Signiphora curepensis* **n. sp.**: 109, head (BMNH(E) 990282); 110, female antenna (BMNH(E) 990282); 111, mandibles (BMNH(E) 990282); 112, male antenna (BMNH(E) 990273).

*Head***.** Vertex and frons finely and transversely striate with four longitudinal rows of minute punctations. Mandible bidentate, mandibular ducts enlarged apically. Pedicel length:scape length 0.59–0.70; 3 anelli, second anellus 2.0–3.0× length of first, third anellus 3.0–4.0 length of first; clava length:scape length 1.44–1.60.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate, propodeum with medial sclerite weakly imbricate. Scutellum with 5 or 6 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded. Fore wing with discal seta, length:width 2.9–3.5; fore wing LMS:fore wing width 1.2–1.5; marginal vein length:stigmal length 2.4–3.1; marginal vein with 6 dorsal and 0 or 1 ventral setae; seta M3 length:marginal vein length 0.39–0.65; apical end of costal cell at seta M2 to seta M3. Hind wing margins subparallel, hind wing length:width 6.0–7.0; hind wing width:fore wing width 0.40–0.50; hind wing LMS:hind wing width 2.44–3.00. Mesofemur with one long and one short spine on posteroapical margin, mesotibial spur with 4 or 5 teeth; mesotibial spur length:basitarsus length 0.70–0.87, basitarsus length:mesotibia length 0.46–0.50.

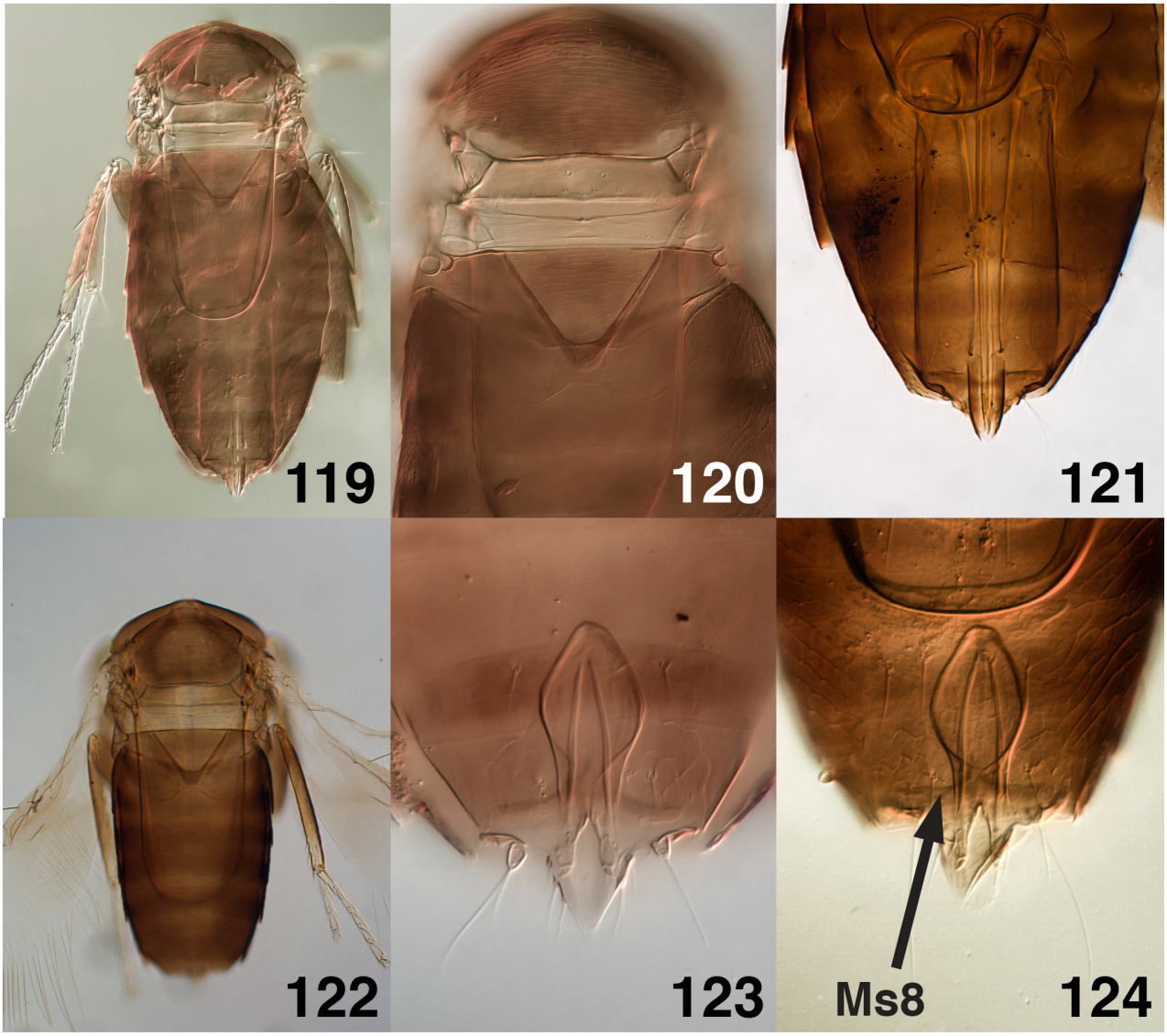
*Metasoma***.** Mt1 bilobed with medial portion rounded; Mt1 length:Mt2 length 1.0–2.0, ovipositor with anterior-most portion lying under Mt2–Mt4; ovipositor length:metasoma length 0.49–0.73; ovipositor sheath:ovipositor length 0.18–0.22; Ms3–Ms6 with anterior projections of medium length; Ms6 in posterior 1/4 of metasoma and with 6 setae; Mt8 with anterodorsal margin with a deep, rounded, medial incision, margins lateral to medial incision rounded and produced anteriorly.

Male. Length, anterior margin of pronotum to epiproct apex, 0.43–0.51 mm (n=4). As described for female except clava length:scape length 1.38–1.57. Genitalia normal for *flavopalliata* group, digitus with one apical

denticle and one seta at its midpoint; digitus length approximately twice its width; Ms8 with posterior margin broadly concave, anterior margin pointed medially and broadly concave lateral to anteromedial point; Ms8 length:width approximately 0.33.

Discussion. Specimens of both sexes examined from Trinidad have four setae on the mesoscutum, all other species in the *flavopalliata* group have 2 setae on the mesoscutum. The number of setae on the scutellum is apparently quite variable and ranges from 4–8 in females and 4–6 in males. A single female specimen collected by Plaumann, Nova Teutonia, Brazil, 1.vii.1944 (BMNH(E) 990320) generally fits the concept of this species, except that the dorsal spines on the mesotibiae are longer.

FIGURES 113–118. *Signiphora curepensis* **n. sp.**: 113, fore wing, female (BMNH(E) 990282); 114, venation of fore wing (BMNH(E) 990282); 115, hind wing, female (BMNH(E) 990282); 116, venation of hind wing (BMNH(E) 990282); 117, middle leg, female (BMNH(E) 990278); 118, Mt8 of metasoma, female (BMNH(E) 990282).



FIGURES 119–124. *Signiphora curepensis* **n. sp.**: 119, female habitus (BMNH(E) 990282); 120, mesosoma of female (BMNH(E) 990282); 121, metasoma of female (BMNH(E) 990282); 122, male habitus (BMNH(E) 990281); 123, male genitalia (BMNH(E) 990286); 124, Ms8 of metasoma, male (BMNH(E) 990286).

Type material. HOLOTYPE ♀: in balsam, (BMNH(E) 990282); BRAZIL, SANTA CATARINA, Nova Teutonia, coll. F. Plaumann, 23.xi.1949, BM 1957-341. Holotype deposited in BMNH. **PARATYPES:** 8 ♀ and 5 ♂ in balsam and 16 specimens on cards (sex not clear) data as holotype except some collected 17.xi.1949, 20.xi.1949, 21.xi.1949, or 30.xi.1949 [BMNH(E) 990273–990281 and BMNH(E) 990283–990286, BMNH(E) 1038877–1038892]. Paratypes deposited in BMNH, USNM, TAMU, MZUSP, UFES, with permission of BMNH(E).

Other material examined. BRAZIL: Santa Catarina: 1 ♀, BMNH(E) 990320 (BMNH). **MEXICO: Quintana Roo:** 1 ♀, CIBE 01-0204-003 (UANL). **TRINIDAD AND TOBAGO:** 2 ♂, 12 ♀, CNCHYMEN 122365–122378 (CNC).

Biology. Unknown.

Etymology. Named after Curepe, Trinidad, locality of one of longer series of specimens.

***Signiphora dozieri* Woolley & Dal Molin, n. sp.**

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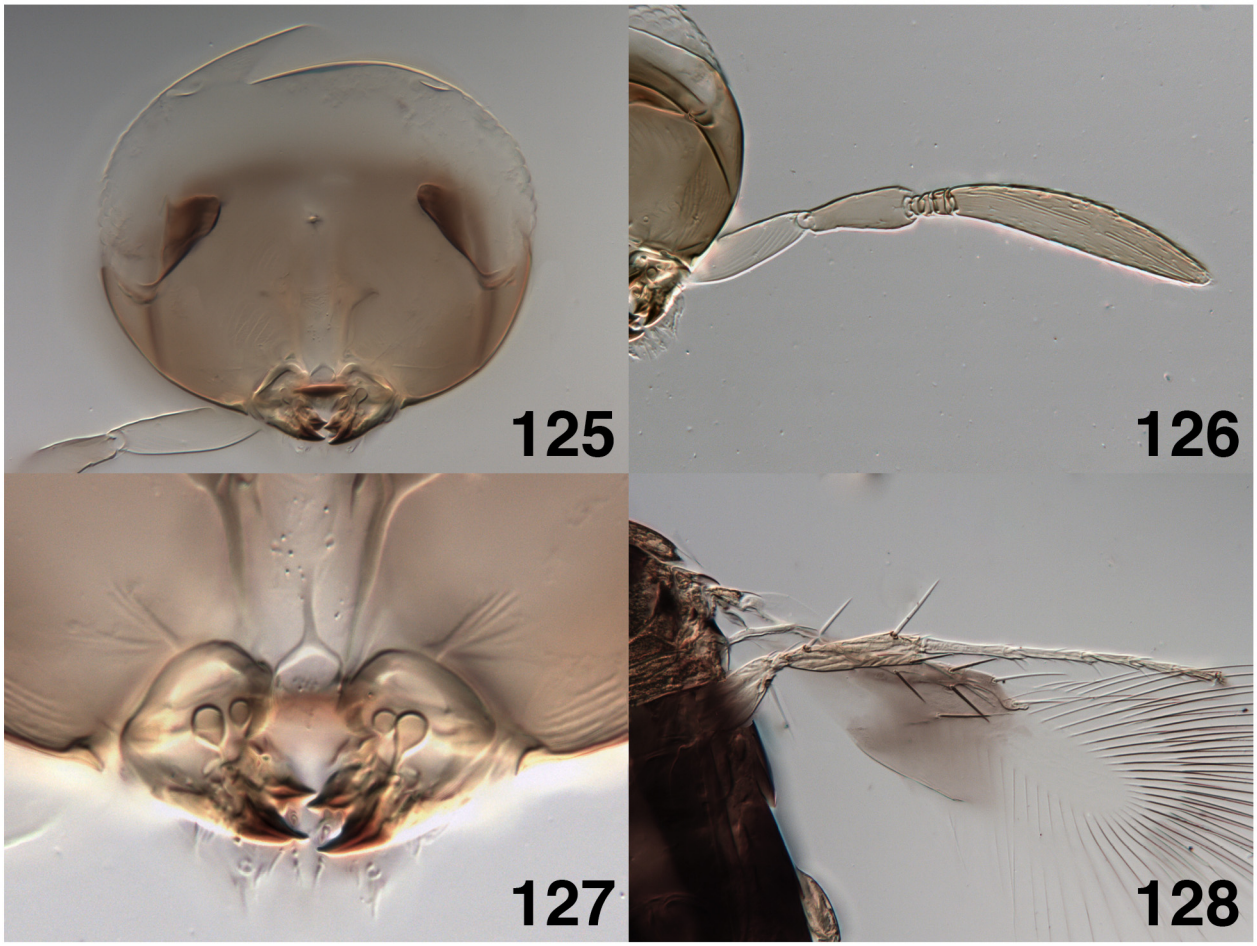
Figures 125–136

Diagnosis. Fore wing with discal seta; Mt8 with anterodorsal margin in female transverse, without a medial incision; Mt1 bilobed with medial portion rounded; propodeum including medial sclerite always as dark as metasoma.

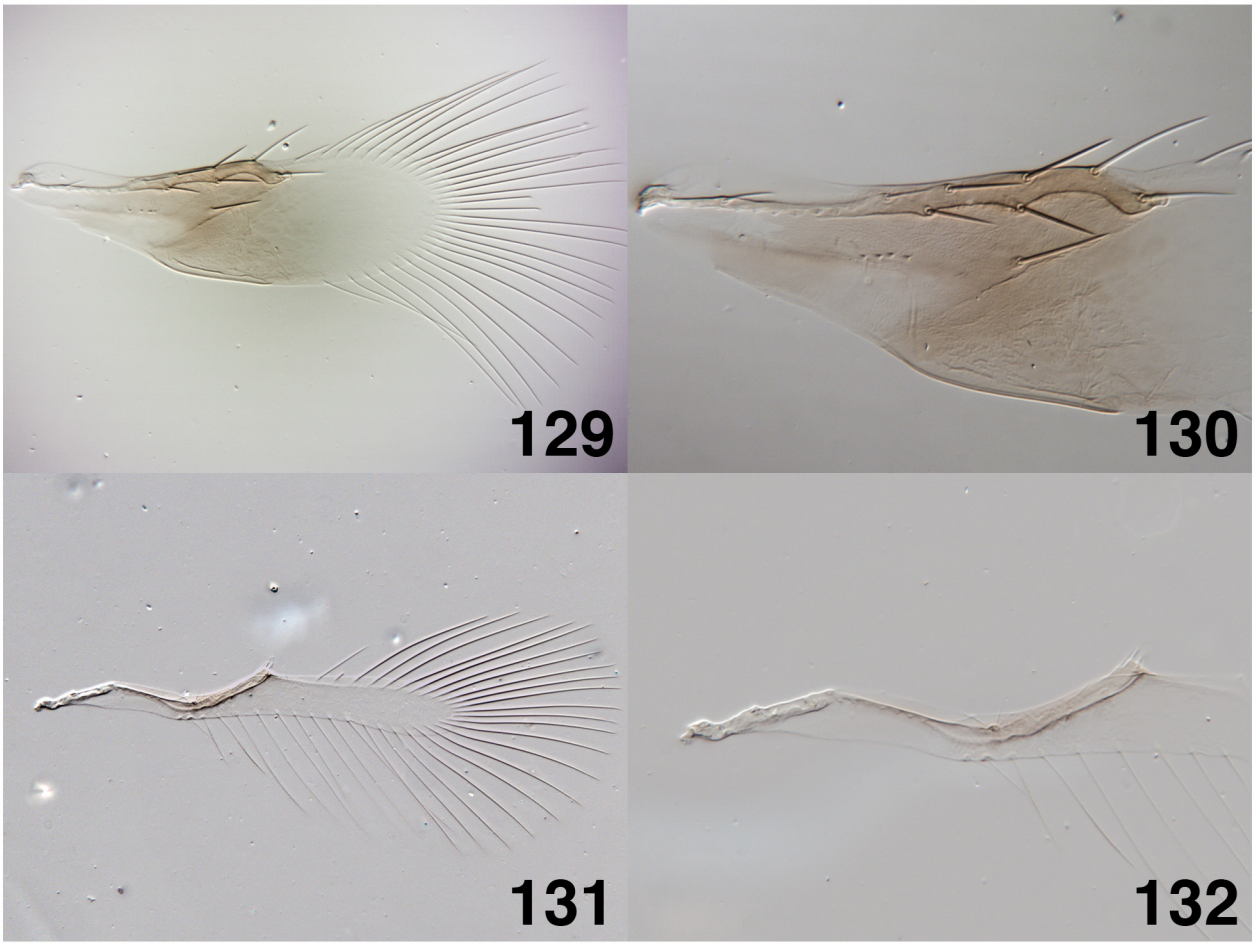
The species is most similar to *S. falcata* and *S. flavopalliat*a. It may be distinguished from both by the pale meso- and metatibia in *S. dozieri* and from *S. falcata* by the entirely dark color of the propodeum (medial sclerite usually lighter in *S. falcata*).

Description. ***Female*.** Length, anterior margin of pronotum to epiproct apex, 0.29–0.55 mm (n=12). Vertex, frons, face, and gena light brown, orange–brown, or pale tan, occiput entirely dusky brown, antenna uniformly pale tan or pale brown with clava often slightly darker in distal 1/3 (see discussion). Pronotum in medial 1/3 and anterior ¼–2/3 mesoscutum brown, remainder of mesoscutum, scutellum, and metanotum yellow or pale yellow. Propodeum, including medial sclerite, and metasoma brown; Mt8, epiproct and ovipositor sheaths dusky. Legs including mesotibia and metatibia pale, although metatibia often with dorsoproximal 1/2 dusky (see discussion). Fore wing infuscated from base to distal end stigmal vein with usual hyaline areas at wing base.

Head. Vertex and frons finely and transversely striate with four longitudinal rows of minute punctations. Mandible bidentate, mandibular ducts enlarged apically, pedicel length:scape length 0.61–0.78; 3 anelli, second anellus 1.5–2.0× length of first anellus, third anellus 2.0–3.0× length of first anellus; clava length:scape length 1.24–1.72.



FIGURES 125–128. *Signiphora dozieri* **n. sp.**: 125, head (TAMU-ENTO X0828063); 126, female antenna (TAMU-ENTO X0828063); 127, mandibles (TAMU-ENTO X0828063); 128, middle leg (USNM ENT 763149).



FIGURES 129–132. *Signiphora dozeri* **n. sp.**: 129, fore wing, female (TAMU-ENTO X0828062); 130, venation of fore wing (TAMU-ENTO X0828062); 131, hind wing, female (TAMU-ENTO X0828062); 132, venation of hind wing (TAMU-ENTO X0828062).

*Mesosoma***.** Pronotum, mesoscutum and scutellum transversely imbricate, medial sclerite propodeum weakly imbricate. Scutellum with 4 setae and 2 campaniform sensilla, medial propodeal sclerite rounded, process on medial sclerite rounded or narrowly rounded apically. Fore wing with discal seta, length:width 3.1–3.7; fore wing LMS:width 1.3–1.9; marginal vein length:stigmal vein length 2.3–2.9; marginal vein with 6 dorsal and 0–2 ventral setae; seta M3 length:marginal vein length 0.45–0.55; apical end of costal cell from between setae M1 and M2 to seta M3. Hind wing margins subparallel, hind wing length:width 7.0–8.8; hind wing width:fore wing width 0.36–0.45; hind wing LMS:hind wing width 2.80–4.00. Mesofemur with one long and one short spine on posteroapical margin; mesotibial spur with 4–6 teeth; mesotibial spur length:basitarsus length 0.87–1.07; basitarsus length:mesotibia length 0.52–0.70.

*Metasoma***.** Mt1 bilobed with medial portion rounded; Mt1 length:Mt2 length1.0–3.0; ovipositor with anterior-most portion lying under Mt2–Mt4; ovipositor length:metasoma length 0.54–0.71; ovipositor sheath length:ovipositor length 0.19–0.24; Ms3–Ms6 with anterior projections short to medium; Ms6 in posterior 1/4 of metasoma and with 6 setae; Mt8 with anterodorsal margin transverse, without a medial incision.

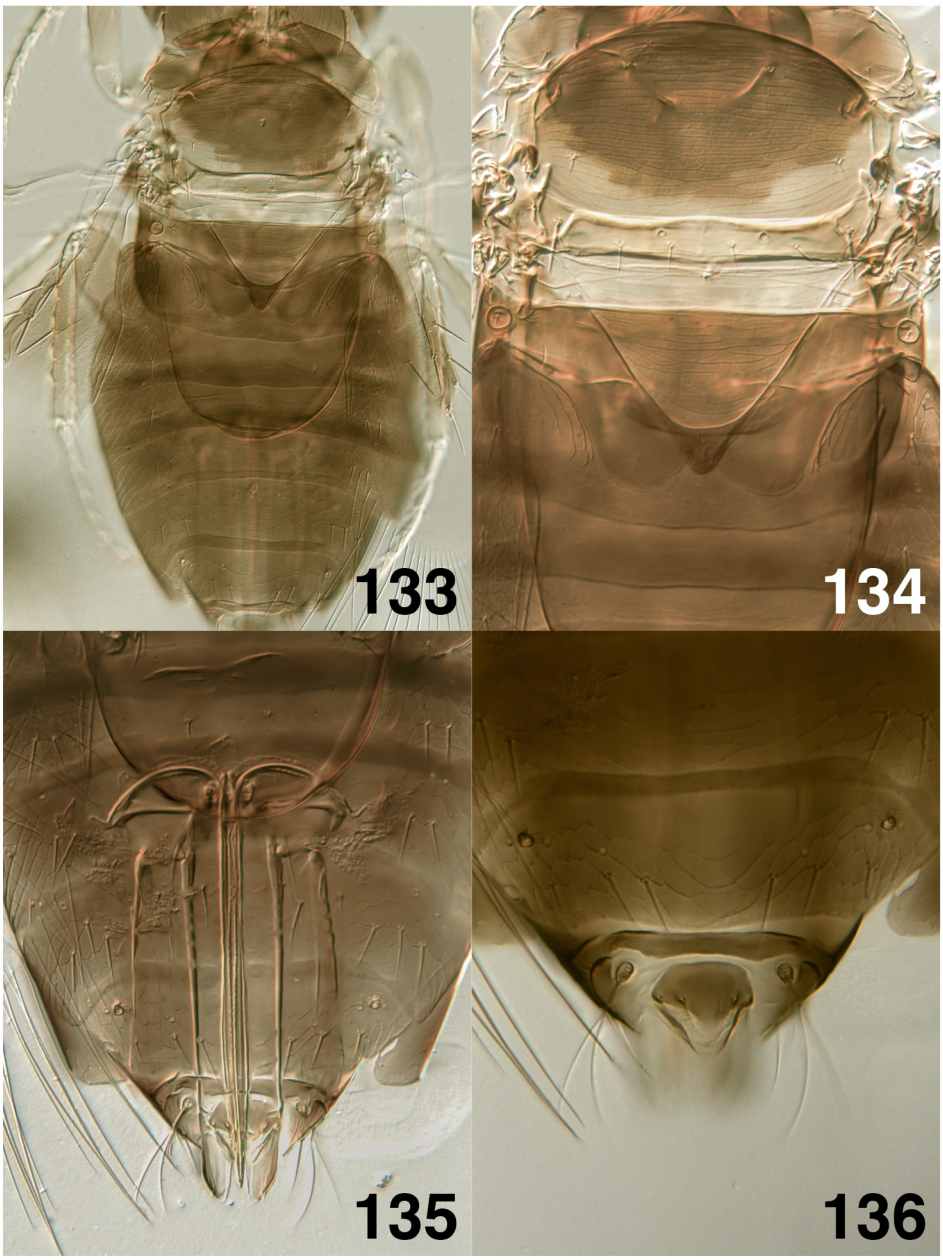
***Male*.** Unknown, despite the large number of specimens in various collections.

Discussion. The specimens from Brazil (USNM ENT 299599–299600) have the distal 1/3 of the antennal clava slightly darker than the proximal 2/3 and a dusky patch on the dorsoproximal 1/2 of the metatibia. Other specimens examined have a uniformly tan or pale brown antennal clava and a uniformly pale metatibia. The two specimens from Mexico, Chiapas (UCRC ENT 299620 and 299621) have darker mesotibia and metatibia than other specimens, but otherwise fit the diagnosis of this species.

Type material. HOLOTYPE ♀: in balsam (USNM ENT 00763149); HAITI, Damien, coll. H.L. Dozier, 13.iii.1931, reared from *Howardia biclavis* (Comstock) material on ornamental shrub. Holotype deposited in

USNM. **PARATYPES:** ♀ in balsam (USNM ENT HAITI, Damien 00763147); Puerto Rico, Mayaguez, ex: scale on *Cassia nodosa*, 6-5-1937, H.K. Plank, P.R. 2020. 14 ♀ in Hoyers mounted on two slides (UCRC ENT 299602 and UCRC ENT 299603); Clarendon, Jamaica, W.I., 28.ii.1968, coll. L.W. van Whervin, host purple, green (soft scale). 10 ♀ in balsam (TAMU-ENTO X0828054–X0828063) and 11 ♀ in Hoyers (8 slides, TAMU-ENTO X0828046–X0828053). Paratypes deposited in USNM, BMNH; TAMU, CNC, UCR.

Other material examined. BRAZIL: Rio de Janeiro: 2 ♀, UCRC ENT 299599–299600 (UCR). **HAITI**: 1 ♀, USNM ENT 763148 (USNM). **MEXICO: Chiapas:** 2 ♀, UCRC ENT 299620–299621 (UCR). **MEXICO: Tamaulipas:** 1 ♀, TAMU-ENTO X0424833 (TAMU). **PUERTO RICO:** 3 ♀, TAMU-ENTO X0852827, X0852825, X0852826 (FSCA). **TRINIDAD AND TOBAGO:** 2 ♀, UCRC ENT 299601 (UCR); BMNH(E) 990287 (BMNH). **UK: CAYMAN ISLANDS:** 1 ♀, TAMU-ENTO X0852769 (FSCA). **USA: Florida:** 7 ♀, TAMU-ENTO X0852817–X0852824 (FSCA).



FIGURES 133–136. *Signiphora dozeri* **n. sp.**: 133, female habitus (TAMU-ENTO X0828046); 134, mesosoma of female (TAMU-ENTO X0828047); 135, metasoma of female (TAMU-ENTO X0828047); 136, Mt8 of metasoma, female (TAMU-ENTO X0828046).

Biology. This species is apparently strongly uniparental, and it appears to be a hyperparasitoid of armored scales. Paul DeBach's notes on the series from Brazil indicate that this species develops as an internal, likely hyperparasitoid of Diaspididae. Mike Rose made a series of slide-mounts of host remains and dissections of parasitoids from hosts from the material collection by Fred Bennett on *Parlatoria ziziphi* (Lucas) in Florida (deposited in TAMU). These preparations clearly indicated that this species was developing as a hyperparasitoid on *Encarsia*. Although the *Encarsia* sp. was developing as an internal parasitoid, Rose's careful dissections indicate that *Signiphora dozieri* completes development as an external parasitoid, a type of development known to occur in other species of *Signiphora* developing in armored scales (Woolley 1990). Records of this species from whitefly or soft scales are presumably due to rearing from samples mixed with armored scales.

Etymology. Named after the entomologist Herbert L. Dozier, who reared the holotype from material collected in Haiti, and who also collected many other valuable specimens of Signiphoridae and other parasitoids from the Caribbean and southern USA, almost always reared from identified host material.

***Signiphora ehleri* Woolley & Dal Molin, n. sp.**

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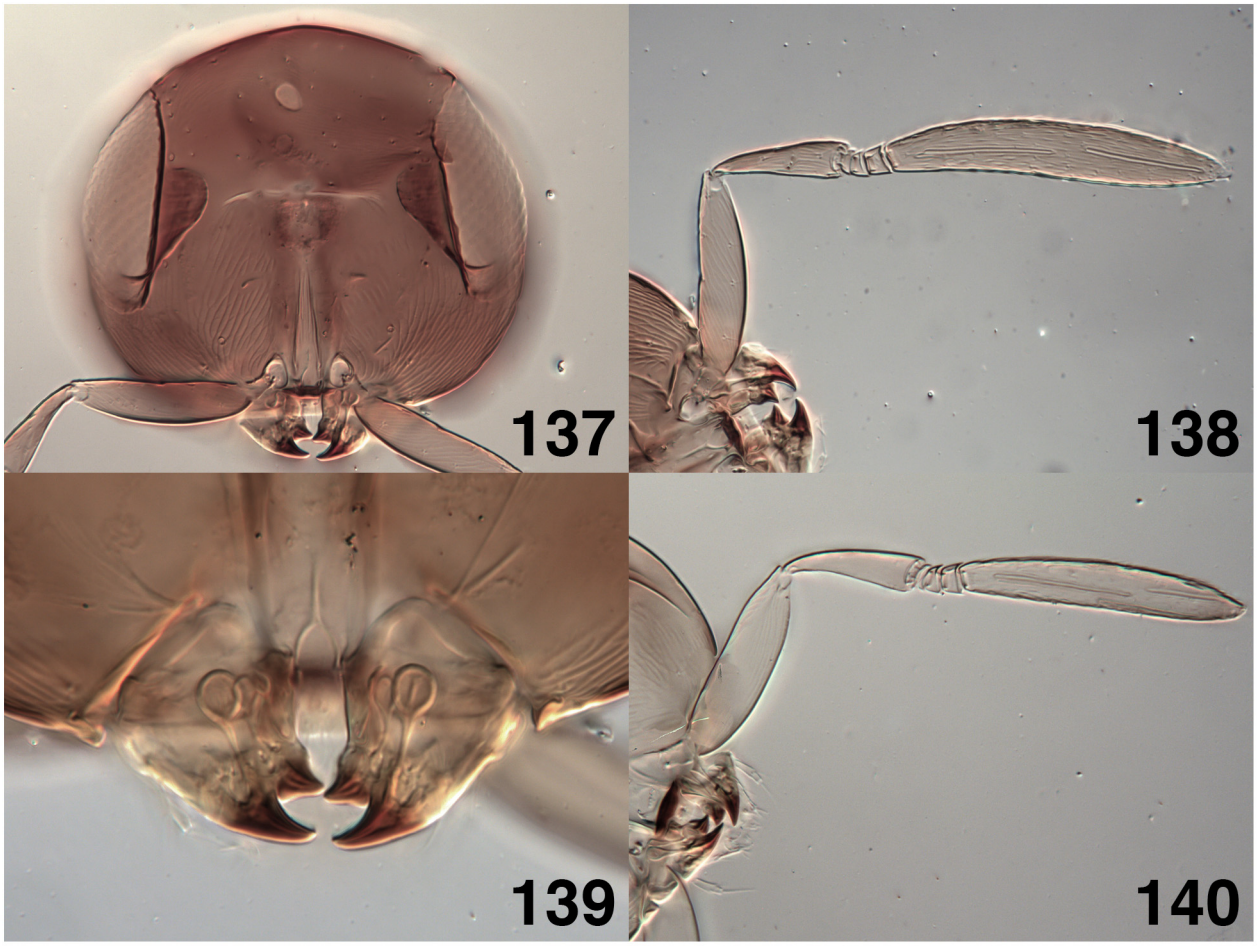
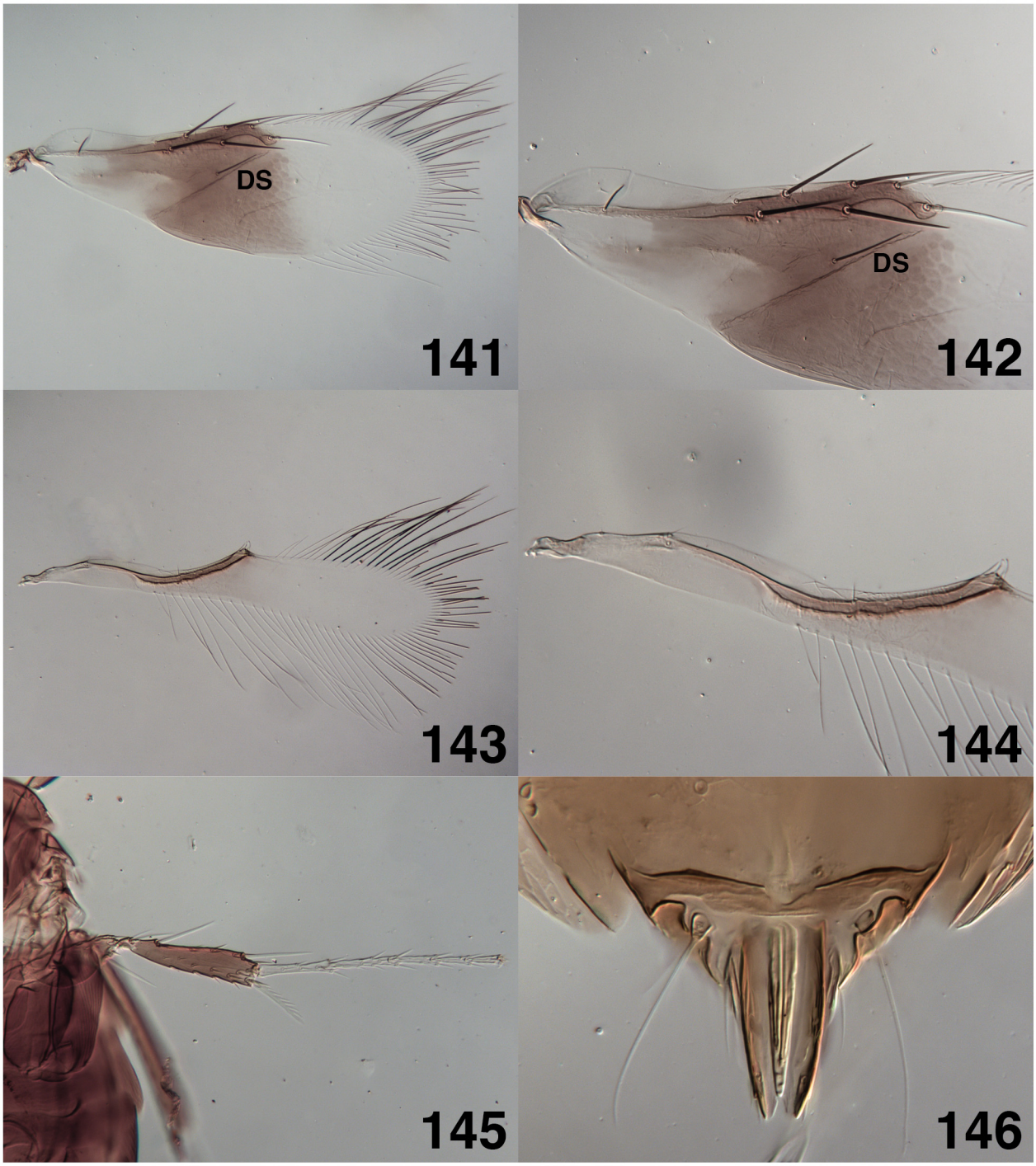
Figures 137–152

Diagnosis. Fore wing with discal seta; female Mt8 with rounded medial incision; lateral regions of female Mt4–Mt8 with a group of at least 5 or 6 robust setae on each side; mesotibial spur usually with 6–8 teeth; propodeum with medial sclerite same color as lateral sclerites.



FIGURES 137–140. *Signiphora ehleri* **n. sp.**: 137, head (TAMU-ENTO X0828072); 138, female antenna (TAMU-ENTO X0828072); 139, mandibles (TAMU-ENTO X0828072); 140, male antenna (TAMU-ENTO X0828068).



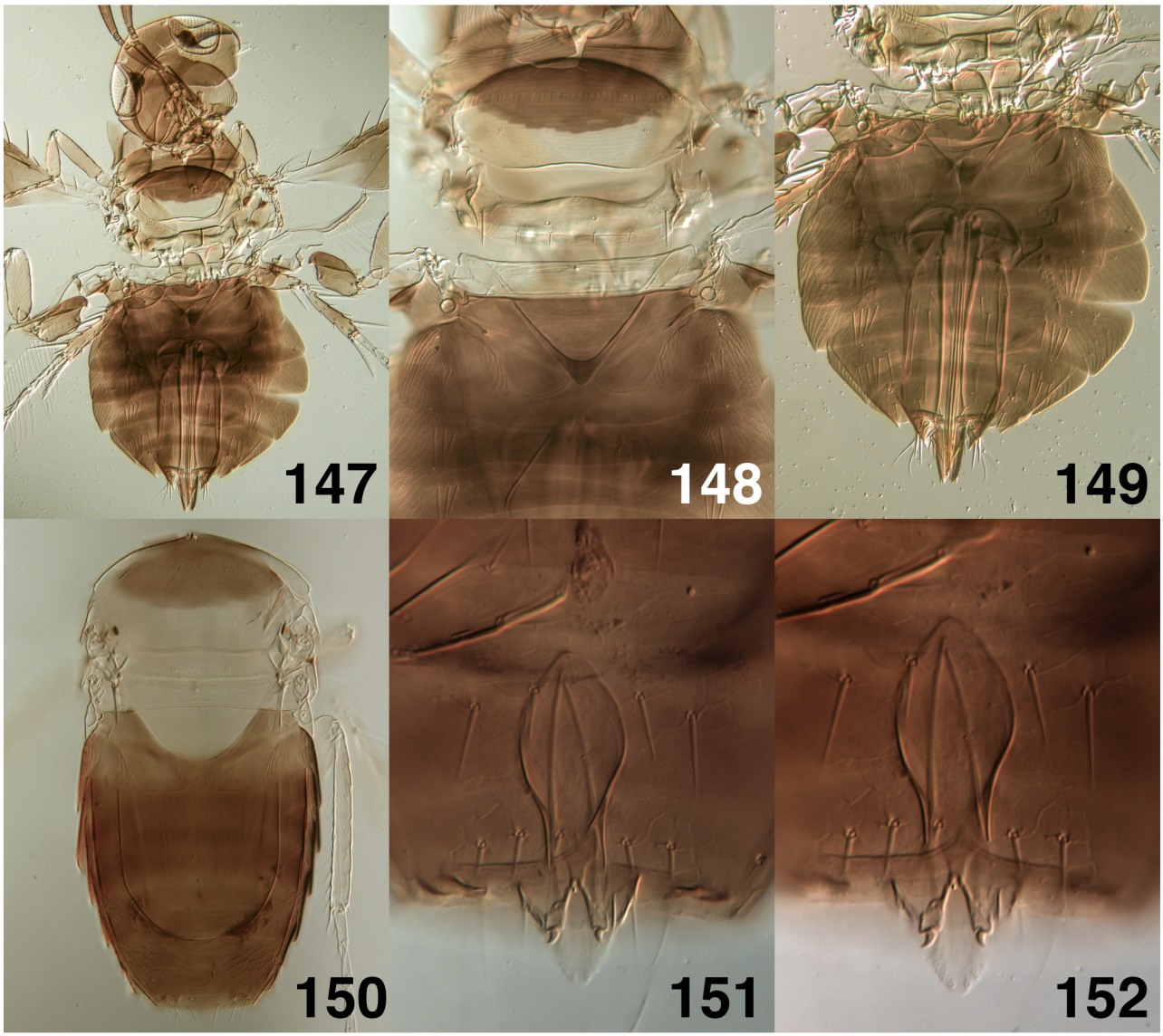
FIGURES 141–146. *Signiphora ehleri* **n. sp.**: 141, fore wing, female (TAMU-ENTO X0828072); 142, venation of fore wing (TAMU-ENTO X0828074); 143, hind wing, female (TAMU-ENTO X0828074); 144, venation of hind wing (TAMU-ENTO X0828074); 145, middle leg, female (TAMU-ENTO X0828077); 146, Mt8 of metasoma, female (TAMU-ENTO X0828073); (DS = discal seta, fore wing).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.69–0.79 mm (n=8). Head and antenna brown. Pronotum and mesoscutum brown, scutellum and metanotum lighter, propodeum to apex of metasoma dark brown. All femora and tibiae brown, tarsi white. Fore wing infuscated to apex of stigma vein, with two hyaline areas at base.

*Head***.** Sculpture and punctation vertex and frons minutely but transversely imbricate, with approximately 30 scattered punctations. Mandible with two teeth, mandibular ducts enlarged apically. Pedicel length:scape length

0.73–0.78; 3 anelli, second anellus 1.5–2.0× length of first, third anellus 2.0–2.8× length of first, clava length:scape length 1.60–1.66.

Mesosoma. Mesoscutum and medial sclerite of propodeum transversely imbricate. Scutellum with 4–7 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite narrowly rounded. Fore wing with discal seta, length:width 2.8–3.0; fore wing LMS:width 0.97–1.17; marginal vein length:stigmal vein length 2.9–4.2; marginal vein with 6 dorsal and 0–2 ventral setae; seta M3 length:marginal vein length 0.48–0.75; apical end of costal cell at M3 or between M2 and M3. Hind wing margins parallel; hind wing length:width 5.3–7.1; hind wing width:fore wing width 0.38–0.52; hind wing LMS:hind wing width 1.6–2.3. Mesofemur with one long spine and a second one approximately ¼–1/5 as long on posteroapical margin; mesotibial spur with 5–9 teeth (usually 6 or more); mesotibial spur length:basitarsus length 0.75–1.0; basitarsus length:mesotibia length 0.52–0.62.



FIGURES 147–152. *Signiphora ehleri* **n. sp.**: 147, female habitus (TAMU-ENTO X0852833); 148, mesosoma of female (TAMU-ENTO X0852833); 149, metasoma of female (TAMU-ENTO X0852833); 150, male habitus (TAMU-ENTO X0852833); 151, male genitalia (TAMU-ENTO X0828069); 152, Ms8 of metasoma, male (TAMU-ENTO X0828069).

Metasoma. Mt1 rounded medially; Mt1 length:Mt2 length 0.48–0.65; ovipositor with anterior-most portion lying under Mt3, sometimes Mt2; ovipositor length:metasoma length 0.64–0.75; ovipositor sheath length:ovipositor length 0.19–0.35; Ms3–Ms6 with anterior projections medium in length; Ms6 in posterior 1/3–1/4 of metasoma and with 6–8 setae; Mt8 with anterodorsal margin with rounded, medial incision.

Male. Length, anterior margin of pronotum to epiproct apex, 0.45–0.48 mm (n=12). As described for females except medial portion of propodeum distinctly lighter than lateral portions; clava length:scape length 1.46–1.49; mesotibial spur with 4 or 5 teeth. Genitalia normal for *flavopalliata* group, length:width of digitus 2.6–3.3; digitus with one small denticle at apex and no setae; Ms8 transverse but with pointed, anteromedial margin.

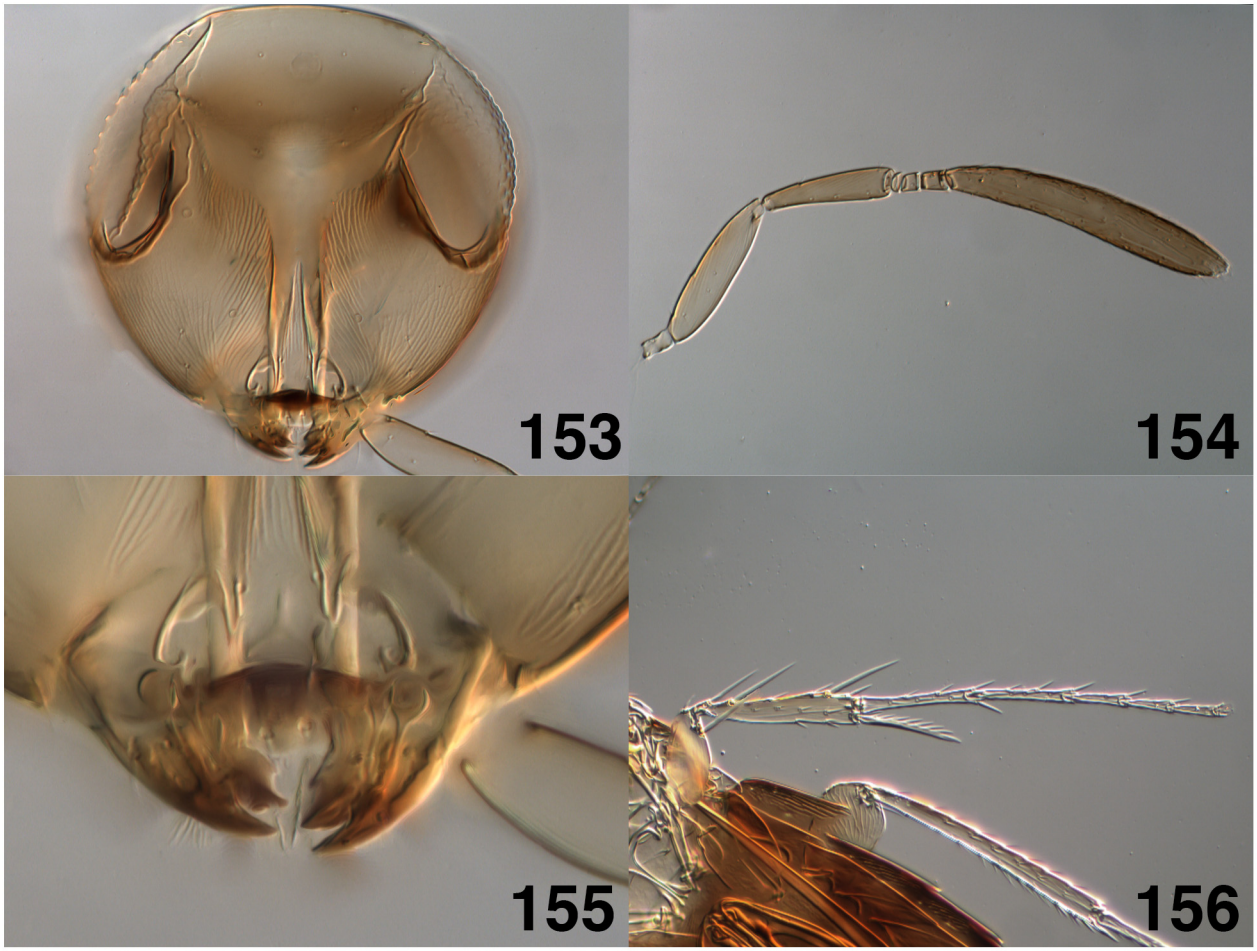
Discussion. Most of the known specimens were reared by Les Ehler from *Melanaspis obscura* on pecan twigs in Austin, TX, either in the field or in quarantine at Texas A&M University. Two specimens were reared by Fred Bennett from *Caenohomolopoda shikokuensis* (Tachikawa) (Hymenoptera: Encyrtidae) in *Froggattiella penicillata* (Green) (Diaspididae) on *Bambusa multiplex*, Mariana, FL. A single female specimen from Nova Teutonia, Brazil is far outside the range of the other specimens, but clearly fits the diagnosis for this species.

Type material. HOLOTYPE ♀: in balsam (TAMU-ENTO X0828077); "TX: Travis Co., Austin, 31.v.1987, L.E. Ehler, UCD 87-4, ex: pecan twigs infested with *Melanaspis obscura*". Holotype deposited at TAMU. **PARATYPES:** 13 ♀ and two ♂, data as holotype or as follows: "College Stn. Tex. June 1983, LEE, UCD 83-3, ex: pecan twigs infested with *Melanaspis obscura* (in quarantine)", TAMU-ENTO X0828068–X0828078 and UC BME 0092781–0092785. Paratypes deposited at UCD, USNM, BMNH; TAMU.

Other material examined. BRAZIL: Santa Catarina: 1 ♀, BMNH(E) 990319 (BMNH). **USA**: **Florida:** 1 ♀, TAMU-ENTO X0852833 (FSCA).

Biology. The rearing by Fred Bennett in Florida clearly indicates this species as a secondary parasitoid of armored scales, and the rearings by Ehler are possibly consistent with that, as the record is "reared from pecan twigs infested with *Melanaspis obscura*".

Etymology. The species is named after the late Prof. Les Ehler, UC Davis professor of entomology and biocontrol specialist, who collected the type series and most of the available material as part of a study on parasitoids of *Melanaspis obscura*.



FIGURES 153–156. *Signiphora ensifera* **n. sp.**: 153, head (BMNH(E) 990243); 154, female antenna (BMNH(E) 990243); 155, mandibles (BMNH(E) 990243); 156, middle leg, female (BMNH(E) 990243).

***Signiphora ensifera* Woolley & Dal Molin, n. sp.**

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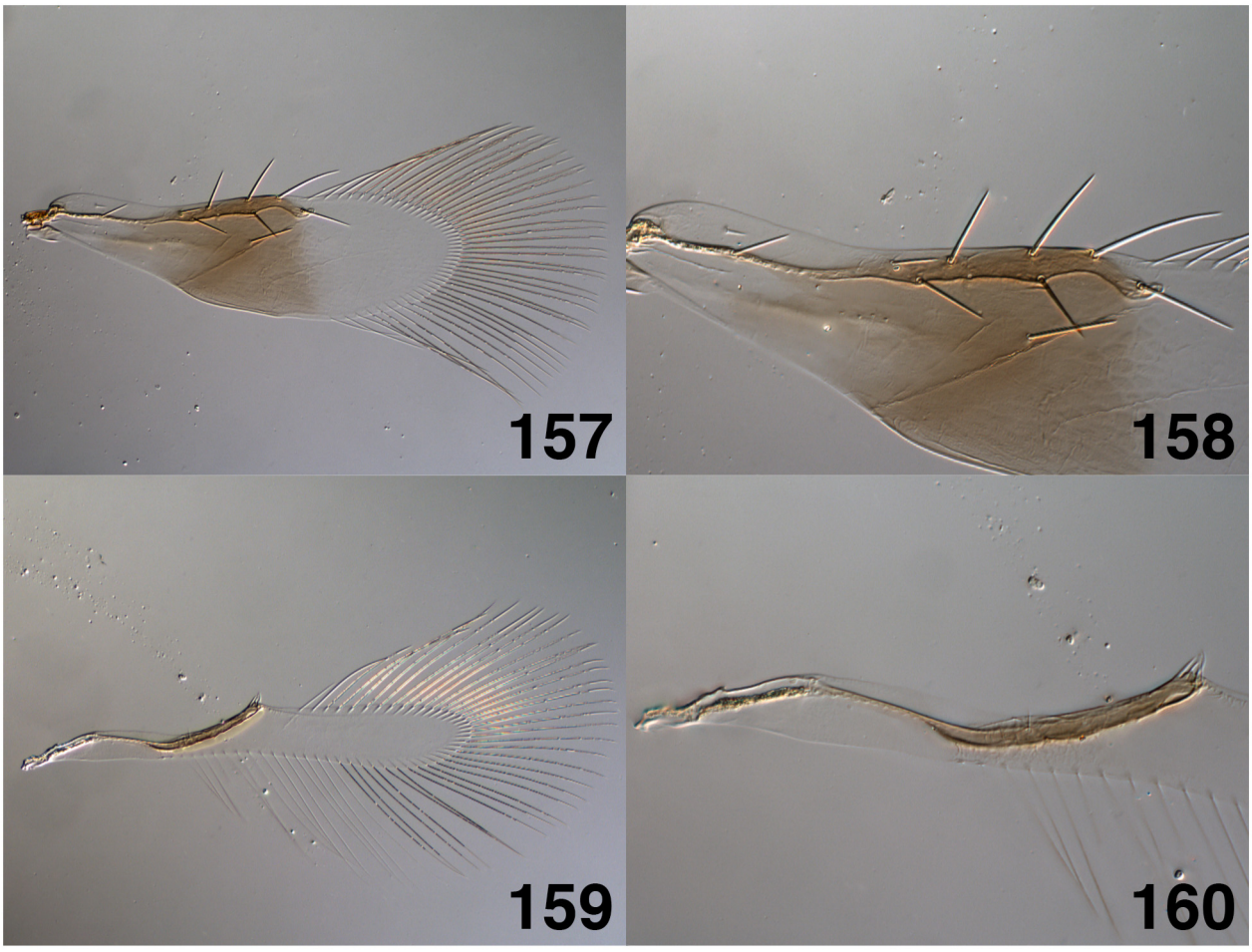
Figures 153–164

Diagnosis. Ovipositor and ovipositor sheaths very long, exerted approximately 1/3× length of the metasoma, fore wing with a discal seta, pedicel long relative to scape and clava, medial sclerite of the propodeum yellow, contrasting with the brown lateral sclerites, and Mt8 transverse and thick.

Signiphora ensifera is most similar to *S. renuncula* as both species share a discal seta in the fore wing and elongate ovipositors, but it can be distinguished from *S. renuncula* by the transversely striate sculpture on the vertex (minutely reticulate in *S. renuncula*); a bilobed Mt1 with medial portion rounded (bilobed with medial portion transverse in *S. renuncula*); and Mt8 lacking medial incision (rounded medial incision in *S. renuncula*).

Description. *Female*. Length, anterior margin of pronotum to epiproct apex, 0.57–0.74 mm (n=3). Coloration based on specimens cleared and mounted in Canada balsam. Head pale yellow with pale brown on occiput, scape pale tan, remainder of antenna uniformly tan or light brown. Medial 1/3 of pronotum and anterior 1/3 of mesonotum brown, remainder of mesosoma and medial propodeal sclerite pale yellow, lateral sclerites of propodeum and entire metasoma, including ovipositor sheaths, brown. Fore wing infuscated from base to apex of stigma vein, two hyaline areas under submarginal vein, infuscation even under marginal vein.

Head. Vertex and frons very finely and transversely imbricate, with a few scattered punctations. Mandible with two teeth, mandibular ducts enlarged apically. Pedicel length:scape length 0.80–0.86; 3 anelli, second anellus 2.0–2.5× the length of first, third anellus 2.5–3.5× the length of first; clava length:scape length 0.74–1.83.



FIGURES 157–160. *Signiphora ensifera* **n. sp.**: 157, fore wing, female (BMNH(E) 990243); 158, venation of fore wing (BMNH(E) 990243); 159, hind wing, female (BMNH(E) 990243); 160, venation of hind wing (BMNH(E) 990243).

FIGURES 161–164. *Signiphora ensifera* **n. sp.**: 161, female habitus (BMNH(E) 990243); 162, mesosoma of female (BMNH(E) 990243); 163, metasoma of female (BMNH(E) 990243); 164, Mt8 of metasoma, female (BMNH(E) 990243).

*Mesosoma***.** Pronotum, mesonotum, scutellum and medial sclerite of propodeum finely and transversely imbricate. Scutellum with 4 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite narrowly rounded. Fore wing with discal seta, length:width 3.4–3.5; fore wing LMS:width 2.5–2.6; marginal vein:stigmal vein 2.8; marginal vein with 6 dorsal and 0–2 ventral setae; seta M3 length:marginal vein length 0.48–0.65, apical end of costal cell at seta M2 or between seta M2 and M3. Hind wing margins subparallel, hind wing length:width 7.0–7.7; hind wing width:fore wing width 0.45–0.48; hind wing LMS:hind wing width 2.5–2.6. Mesofemur with one long and one short spine on posteroapical margin, mesotibial spur with 6–7 teeth, mesotibial spur:basitarsus 0.91–1.0, basitarsus:mesotibia 0.71–0.74.

*Metasoma***.** Mt1 bilobed with medial portion rounded or almost transverse, length Mt1:length Mt2 1.0–3.0; anterior-most portion of ovipositor lying under propodeum or Mt1; ovipositor length:metasoma length 1.2–1.3; ovipositor sheaths:ovipositor 0.32–0.38; Ms3–Ms6 with anterior projections medium to long; Ms6 at midpoint or between midpoint and ¾ length metasoma and with 6 long setae, Mt8 with anterodorsal margin absolutely transverse, Mt8 relatively wide.

Male. Unknown.

Discussion. Four female specimens from St. Vincent, W.I. reared by F. Bennett from an unidentified scale

(BMNH(E) 990323) may belong to this species as the ovipositor is fully the length of the metasoma, but the ovipositor sheaths are not as elongate and exerted as in the type series. The specimens are in poor condition and many of the other diagnostic features cannot be observed.

Type material. HOLOTYPE ♀: mounted in balsam (BMNH(E) 990243); Brazil, Nova Teutonia, 18.v.1943, F. Plaumann, B.M. 1957-341. Deposited in BMNH. **PARATYPES:** two ♀, same data as holotype except 19.xii.1943 and 19.v.1943, BMNH(E) 990244 and BMNH(E) 990245. Paratypes deposited in BMNH and TAMU, with permission of BMNH(E).

Biology is unknown for this species**.**

Etymology. From Latin *ensifer* = sword, referring to the long ovipositor characteristic of this species. The species name is an adjective**.**

Signiphora falcata **Woolley & Dal Molin, n. sp.**

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Figures 165–180

Signiphora endophragmata Blanchard in Blanchard (1938: 27) (*nomen nudum*).

Diagnosis. The male genitalia with the characteristic long denticle on the digitus is distinctive for this species and unique in the *flavopalliata* group. The following combination of features is also diagnostic: discal seta present on fore wing; anterodorsal margin of Mt8 in females transverse, without a medial incision; Ms8 in males a transverse strip, without an anterior process. This species is most similar to *S. dozieri*, *S. fax,* and *S. flavopalliata.* It may be distinguished from *S. dozieri* by the pale meso- and metatibia in *S. dozieri* (tan to brown in *S. falcata*) and by the entirely dark color of the propodeum in *S. dozieri* (medial sclerite usually lighter than lateral sclerites in *S. falcata*). In both *S. fax* and *S. flavopalliata* Mt8 bears a medial anterior incision, and in *S. fax*, Ms8 has a pointed anteromedial projection.

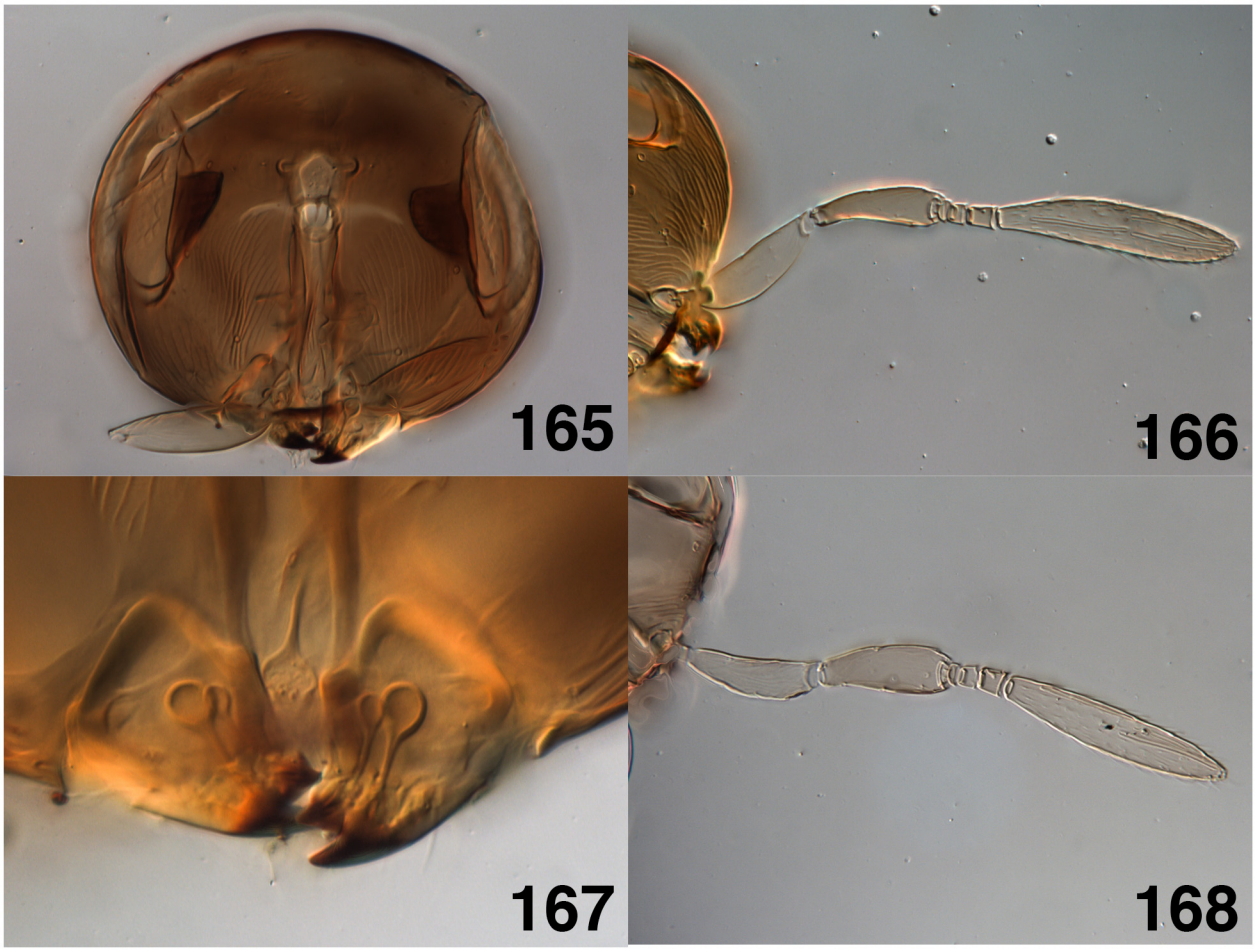
Description. ***Female*****.** Length, anterior margin of pronotum to epiproct apex, 0.36–0.46 mm (n=3). Vertex, frons, face and gena brown, clypeus dark brown, antenna uniformly pale tan. Pronotum and mesoscutum brown or lateral thirds of pronotum and posterior 1/2 of mesoscutum pale tan, scutellum and metanotum pale tan, propodeum excluding medial sclerite brown, medial sclerite of propodeum light brown or pale tan with posteromedial patch extending from halfway to entirely to anterior margin. Metasoma brown to apex, Mt5 through Mt7 sometimes lighter than preceding terga. Protibia, mesotibia, metatibia, profemur, mesofemur and metafemur dusky tan to brown. Fore wing infuscated from base to just beyond apex marginal vein, with two hyaline areas: just under submarginal vein and in basal fourth of wing at trailing edge.

*Head***.** Vertex and frons finely and transversely striate with four longitudinal rows of minute punctations. Mandible bidentate, often with a short dorsal truncation, mandibular ducts enlarged apically. Pedicel length:scape length 0.82–0.94; 3 anelli, second anellus 2.0× length of first, third anellus 2.5–3.0× length of first; clava length:scape length 1.59–1.69.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate; scutellum, metanotum, and medial sclerite of propodeum weakly so. Scutellum with 4 setae and 1 or 2 campaniform sensilla, medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing with discal seta, length:width 2.9–3.2, fore wing LMS:width 1.3–1.7; marginal vein length:stigmal vein length 2.4–2.8; marginal vein with 6 dorsal and 0 or 1 ventral setae; seta M3 length:marginal vein 0.56–0.96; apical end of costal cell between seta M1 to M3. Hind wing margins subparallel, hind wing length:width 7.0–9.3; hind wing width:fore wing width 0.33–0.36; hind wing LMS:hind wing width 3.20–4.00. Mesofemur with one long and one short spine on posteroapical margin; mesotibial spur with 5 or 6 teeth; mesotibial spur length:basitarsus length 0.94–1.12; basitarsus length:mesotibia length 0.49–0.55.

*Metasoma***.** Mt1 strongly bilobed with medial portion transverse or rounded and weakly reticulate in transverse medial portion between the lateral lobes; Mt1 length:Mt2 length 2.0–3.0, ovipositor with anterior-most portion lying under Mt2–Mt3; ovipositor length:metasoma length 0.67–0.84; ovipositor sheath length:ovipositor length 0.22–0.25; Ms3–Ms6 with anterior projections of medium length; Ms6 in posterior 1/4 of metasoma and with 6 setae; Mt8 with anterodorsal margin transverse, without a medial incision, but with lateral portions broadly rounded and produced very slightly anterior to medial portion.

Male. Length, anterior margin of pronotum to epiproct apex, 0.35–0.65 mm (n=8). As described for females except femora and tibiae of all legs brown to dark brown, Mt5–Mt7 not lighter than preceding terga, clava length:scape length 1.39–1.71. Male genitalia distinctive (Fig. 179); digitus with one long apical denticle, the apical denticle subequal in length to the digitus, digitus noticeably more sclerotized in its distal 1/3 and with one seta just proximal to the insertion of the apical denticle; Ms8 difficult to observe, apparently a very thin transverse strip, without an anteromedial projection, fused to posterior margin of Ms7 (Fig. 180).

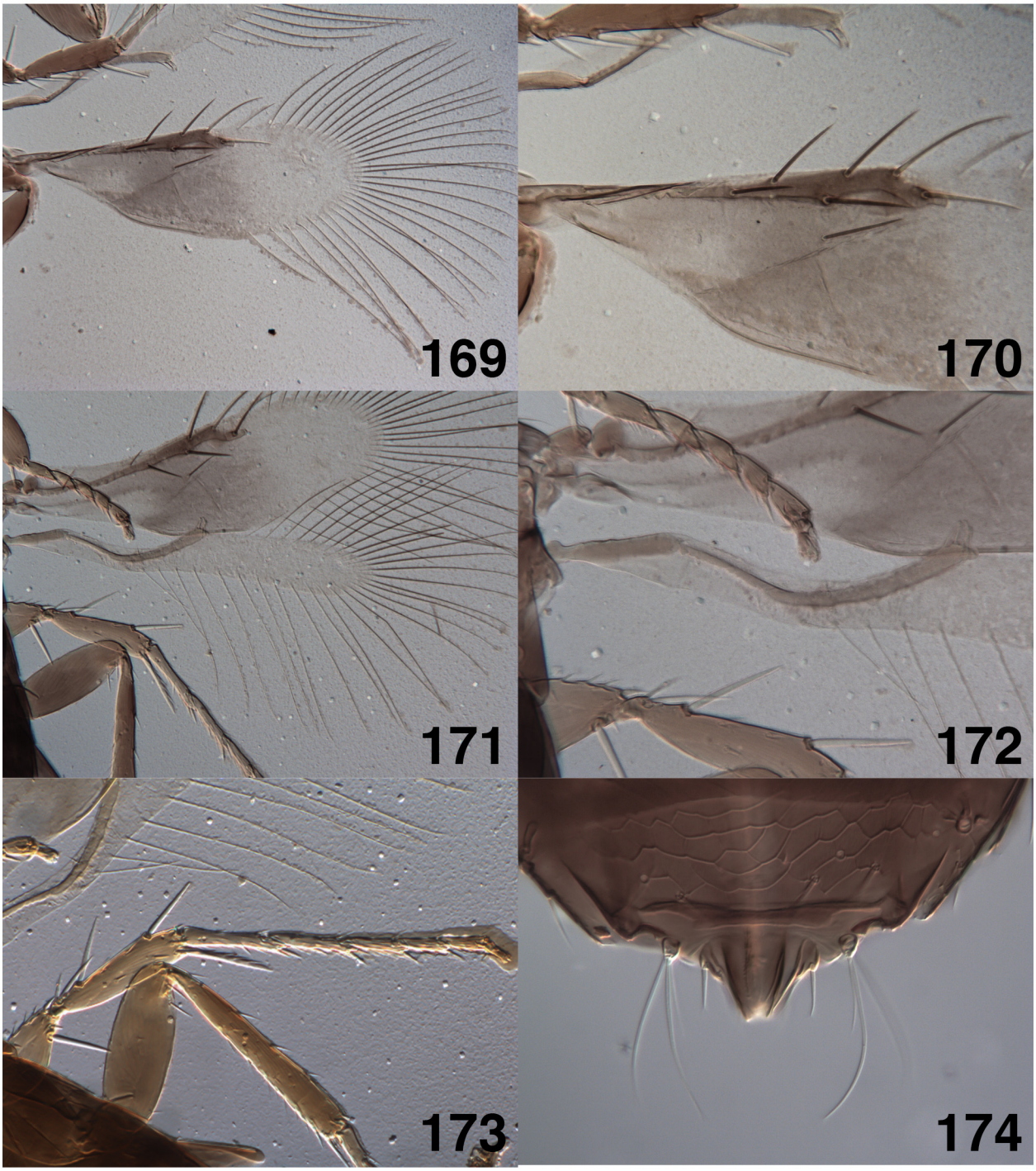


FIGURES 165–168. *Signiphora falcata* **n. sp.**: 165, head (TAMU-ENTO X0828031); 166, female antenna (TAMU-ENTO X0828030); 167, mandibles (TAMU-ENTO X0828031); 168, male antenna (TAMU-ENTO X0828026).

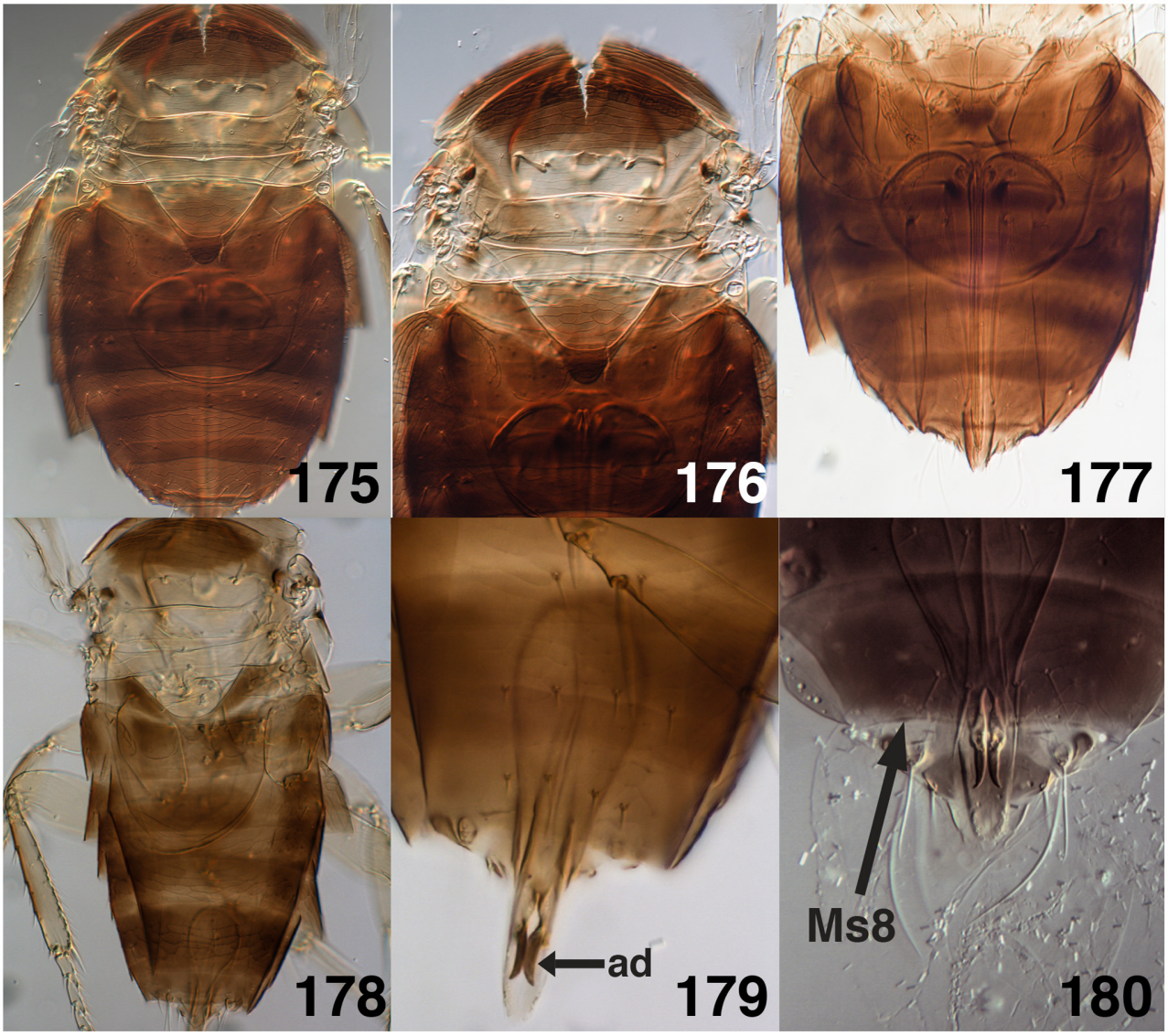
Discussion. The holotype and paratypes from Weslaco, Texas and the male specimen from North Carolina have 6 or 7 setae on the scutellum. The males and females from Monterrey, Mexico and El Salvador have 4 setae on the scutellum. Mt1 in the holotype and in one female from Monterrey, Mexico (USNM ENT 299588) is strongly bilobed with the medial portion transverse, in other specimens Mt1 is weakly bilobed or bilobed with the medial portion rounded. No campaniform sensilla are evident on the scutellum of the holotype or paratypes, other specimens examined have one or two campaniform sensilla on the scutellum. We examined a specimen from Buenos Aires (Argentina); labeled as "co-tipo" of *Signiphora endophragmata* Blanchard, a *nomen nudum* used by Blanchard (1938) but never formally published. It is clearly referable to this species. The locality for UCRC ENT 300234 is unclear, as the label states "Conception [sic], Misiones" in ink, in H. Compre's handwriting, but there is a note in pencil that says "Chile" in a different handwriting. We were unable to locate a matching locality. It may actually refer to Concepción de la Sierra, Misiones, Argentina.

Type material. HOLOTYPE ♂: in balsam (TAMU-ENTO X0828020), TEXAS, Hidalgo Co., Weslaco, coll. P. Krauter, 24-XI-1981, beneath elytron of boll weevil, *Anthonomus grandis* Boheman, caught in pheromone trap. Holotype deposited in TAMU. **PARATYPES:** 1 ♂ in balsam (TAMU-ENTO X0828021), data as holotype; 1 ♂ in Hoyers, TEXAS, Brazos Co. College Station, colls. P. Wilkinson and J.B. Woolley, ex: diaspidid on hackberry; 4 ♀ and 6 ♂ in balsam and 7 card-mounted specimens (sex not clear) (TAMU-ENTO X0828024, TAMU-ENTO

X0828026–X0828036 and TAMU-ENTO X0855784–X0855790), Mexico, Michoacan, 28.5 miles S. Nueva Italia, 9.vii.1985, ex: armored scale; 1 ♂ and 1 ♀ in balsam (TAMU-ENTO X0828022–X0828023), Mexico, Guanajuato, 8.6 mi. N. Guanajuato, 5.vii.1985, ex: armored scale on ?*Arctostaphylus*; 1 ♀ and 2 ♂ (UCRC ENT 299585–299586, UCRC ENT 299588), Mexico, N.L., Monterrey, coll. DeBach, ex: *Mycetaspis personata* (Comstock) on avocado; 1 ♀ and 1 ♂ in balsam (UCRC ENT 299584), Mexico, N.L., Linares, 4.vii.1954, ex: *Mycetaspis personata* on avocado; 1 ♂ in balsam (UCRC ENT 300235), Brazil, Sao Paulo, Pintanqueiras [sic], P. DeBach, dissected as internal ex: *Pseudaonidia trilobitiformis* (Green) on lemon, presumed secondary. Paratypes are deposited in TAMU, UCR, CNC, UANL, USNM, and BMNH.



FIGURES 169–174. *Signiphora falcata* **n. sp.**: 169, fore wing, female (TAMU-ENTO X0852816); 170, venation of fore wing (TAMU-ENTO X0852816); 171, hind wing, female (TAMU-ENTO X0852816); 172, venation of hind wing (TAMU-ENTO X0852816); 173, middle leg, female (TAMU-ENTO X0852816); 174, Mt8 of metasoma, female (UCR 299588).



FIGURES 175–180. *Signiphora falcata* **n. sp.**: 175, female habitus (UCRC ENT 299588); 176, mesosoma of female (UCRC ENT 299588); 177, metasoma of female (UCRC ENT 299580); 178, male habitus (UCRC ENT 299585); 179, male genitalia (UCRC ENT 299585); 180, Ms8 of metasoma, male (UCRC ENT 300235); (ad = apical denticles, male genitalia, Ms8 = eighth metasomal sternum, males).

Other material examined. ARGENTINA: Buenos Aires: 1 slide, mixed series. (MLPA). **ARGENTINA: Tucumán:** 1 ♀ and 1 ♂, SHYM0001-SHYM0002 (IFML). **ARGENTINA: Misiones (?)**: 1 mixed series. UCRC ENT 300234 (UCR). **EL SALVADOR**: 1 ♂, USNM ENT 763143 (USNM). **USA: Florida**: 1 ♀, TAMU-ENTO X0852816 (TAMU). **USA: North Carolina**: 1 ♂, CNCHYMEN 122360 (CNC). **USA: Texas:** 1 ♂, USNM ENT 763144 (USNM).

Biology. The holotype and one paratype were found under the elytra of boll weevils by P. Krauter of Texas A&M University, during a project in which the elytra of several thousand boll weevils were removed (R. Wharton and J. Cate, personal communications). The boll weevils were caught in pheromone traps and killed and preserved in formaldehyde until dissection. Both specimens were found in a similar position on the anterior region of the metasoma, facing forwards. The significance of this phenomenon is unknown, but phoresy is suggested. No other case of phoresy is known in Signiphoridae. Other records for this species (USNM ENT 299584–299588 and USNM ENT 00674143) indicate that this species is a parasitoid of armored scales. DeBach's notes on the specimen from Brazil indicate that this male was dissected as an internal parasitoid (presumed hyperparasitoid) of *Pseudaonidia trilobitiformis* (Diaspididae). The record from aphids (USNM ENT 00763144) is probably due to a

mixed rearing sample. Finally, the label of UCRC ENT 300234 indicates that a male and female were reared from a coccid killing a tung tree (Euphorbiaceae: *Vernicia fordii* (Hemsl.)), but a pencil addition indicates a rearing from *Aonidiella aurantii* (Maskell).

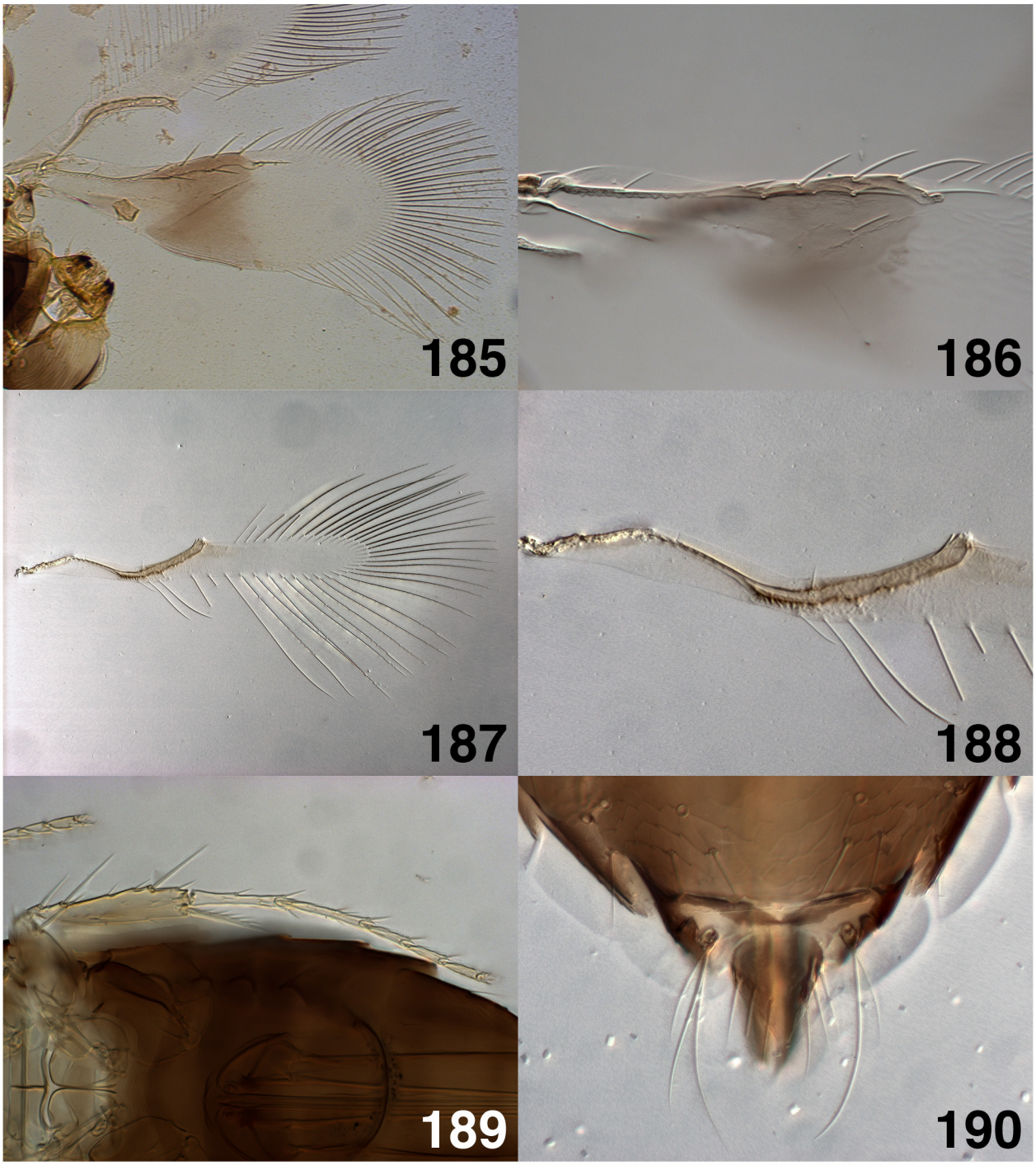
Signiphora fax **Girault, 1913**

Figures 181–196
http://eol.org/pages/855957

Signiphora fax Girault, 1913: 223. Female.
urn:lsid:zoobank.org:act:CA2E39BE-0D0F-41E5-99D5-66970222F477
Thysanus insularis Dozier, 1933: 98. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:94B45CB8-2715-4CD3-9BAC-435A1F108055
Signiphora insularis: Rozanov (1965).
Signiphora desantisi Blanchard in De Santis (1938: 240) (*nomen nudum*)
Signiphora flavopalliata desantisi De Santis, 1973: 148. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:9CF35B62-2067-4B26-BBE0-E9F25EE795C5

Diagnosis. Fore wing with discal seta; Mt1 bilobed with medial portion rounded; scutellum with 4 setae; medial sclerite of propodeum distinctly lighter in color than lateral sclerites (the difference in color is quite striking in card-mounted or point-mounted specimens); Mt8 of female with a rounded medial incision; Ms8 of male with a pointed anteromedial projection.

FIGURES 181–184. *Signiphora fax*: 181, head (MLPA 3839-4); 182, female antenna (MLPA 3839-7); 183, mandibles (MLPA 3839-4); 184, male antenna (BMNH(E) 990117).



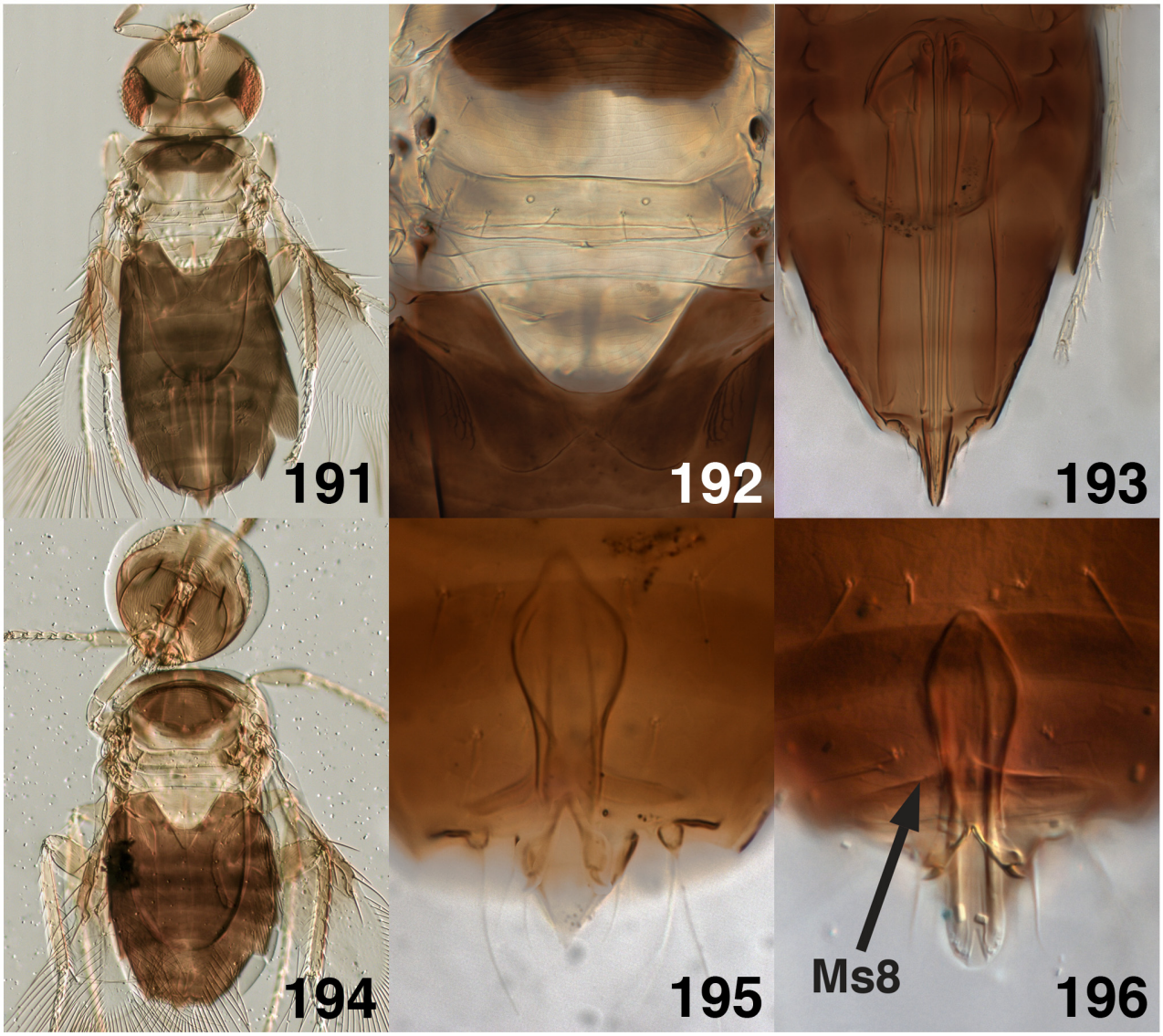
FIGURES 185–190. *Signiphora fax*: 185, fore wing, female (MLPA 3839-7); 186, venation of fore wing (USNM ENT 44818); 187, hind wing, female (BMNH(E) 990112); 188, venation of hind wing (BMNH(E) 990112); 189, middle leg, female (BMNH(E) 990123); 190, Mt8 of metasoma, female (BMNH(E) 990107).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.32–0.65 mm (n=23). Vertex and frons pale yellow to orange-brown (light brown in lectotype); face, gena and frontovertex yellow, tan or pale brown (lectotype). Antenna pale brown with distal ¼–1/3 of antennal clava occasionally dusky brown. Mesoscutum light brown to brown in anterior 1/3–¾ or entirely brown excepting posterolateral corners. Remainder of mesoscutum, scutellum, metanotum and medial sclerite of propodeum pale yellow (slide-mounts) or bright yellow (card-mounts). Lateral sclerites of propodeum and metasoma uniformly brown to apex; Mt4–Mt7 rarely lighter in color than preceding terga; Mt8, epiproct and ovipositor sheaths dusky brown. Fore wing infuscated from

base to approximately apex of stigmal vein, with hyaline areas below marginal vein and in basal area typical for *flavopalliata* group.

*Head***.** Mandible bidentate, mandibular ducts enlarged apically, pedicel length:scape length 0.59–0.88; 3 anelli, second anellus 2–4× length of the first, third anellus 3–4× length of the first; clava length:scape length 1.35–1.76. Vertex and frons finely, transversely striate or imbricate, with scattered minute punctations.

*Mesosoma***.** Pronotum through propodeum with transversely imbricate sculpture, each cell with fine longitudinal striations visible in good slide mounts at high magnification. Scutellum with 4 setae (occasionally 5 or 6) and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or narrowly rounded apically. Fore wing with discal seta, 2.2–3.9× as long as wide; fore wing LMS:fore wing width 1.0–1.7; marginal vein length:stigmal vein length 3.2–3.6, occasionally shorter; marginal vein with 6 dorsal and usually one ventral setae (occasionally 2 ventral setae or ventral seta absent); seta M3 length:marginal vein length 0.43–0.81; apical end of costal cell at seta M1 to M3. Hind wing with subparallel margins, 5.8–9.0× as long as wide, 0.31–0.55× width of fore wing; hind wing LMS:hind wing width 2.17–3.75. Mesofemur with one long and one short spine on posteroapical margin, mesotibial spur with 4–6 teeth, mesotibial spur length:basitarsus length 0.76–1.07, basitarsus length:mesotibia length 0.50–0.74.



FIGURES 191–196. *Signiphora fax*: 191, female habitus (TAMU-ENTO X0460312); 192, mesosoma of female (TAMU-ENTO 0460311); 193, metasoma of female (BMNH(E) 990123); 194, male habitus (BMNH(E) 990106); 195, male genitalia (BMNH(E) 990118); 196, Ms8 of metasoma, male (BMNH(E) 990105).

Metasoma. Mt1 bilobed with medial portion rounded; Mt1 length:Mt2 length 1.0–3.0; ovipositor with anterior-most margin lying under Mt1–Mt5; ovipositor length:metasoma length 0.49–0.84; ovipositor sheath of ovipositor:ovipositor of ovipositor 0.18–0.27; Ms3–Ms6 with anterior projections short to long; Ms6 in posterior 1/4 of metasoma or between ¼ and ½, and with 6–8 setae; Mt8 with anterodorsal margin transverse with a rounded, medial incision.

Male. Length, anterior margin of pronotum to epiproct apex, 0.35–0.57 mm. As described for females except antennal clava always uniformly pale brown; clava length:scape length 1.41–1.89. Genitalia normal for *flavopalliata* group, digitus with one apical denticle and one seta at its midpoint, digitus approximately 2× as long as wide; Ms8 transverse with a pointed anteromedial projection, or a broadly obtuse triangle with anteromedial angle pointed.

Discussion. De Santis (1973) described *S. flavopalliata desantisi*, to provide a name for a *nomen nudum* originally created by Blanchard, and subsequently cited by De Santis as a manuscript name (De Santis 1938, 1957, 1967). De Santis (1973) differentiated *S. flavopalliata desantisi* from the nominate subspecies by the light color on the medial sclerite of the propodeum and the frons and vertex. However, the color and structural characteristics of the types of *S. flavopalliata desantisi* are well within the range noted for *S. fax*. Six specimens reared by Dozier from *Aleurothrixus floccosus* on *Guayacum officinale* at Sarthe, Haiti (USNM ENT 00763039–00763042 and USNM ENT 00763034–00763038) are labeled as "paratypes" of "Thysanus guayaci", which is an unpublished manuscript name and therefore without nomenclatural standing. Two specimens in balsam (MLPA and IFML), ex: *Chrysomphalus paulistus* Hemp. [now *Acutaspis paulista* (Hempel), on: olivo, 27.ix.1916, are labeled as "cotypes" of "Signiphora pedicellata Blanchard", which is another unpublished name.

Type material. ***Signiphora fax*** **Girault—LECTOTYPE ♀ [here designated]:** in balsam (USNM Type 14205); West Indies, Grenada, Barbados, coll. D. Morris, 25-VII-1899, ex *Chrysomphalus personatus* [now *Mycetaspis personata*] on nutmeg. The slide contains 6 ♀; the ♀ specimen in the middle of the bottom row of 3 specimens (slide oriented with red USNM type label to right and data label to left) is designated lectotype and the slide is labeled accordingly. **PARALECTOTYPES:** 5 ♀, same slide as lectotype (USNM Type 14205); 3 ♀ in balsam (INHS 72.507) (INHS): Porto Rico [Puerto Rico], San Juan, coll. A. Busck, I-1899, ex *Asp. personatus* [probably *Aspidiotus personatus*, now *Mycetaspis personata*], on guanabana, 45091, 4590. ***Signiphora insularis*** **Dozier—HOLOTYPE ♀ [examined]:** in balsam (USNM Type 44818); HAITI, Damien, coll. H.L. Dozier, 27-I-1930, ex *Lepidosaphes alba* [manioc scale, now *Aonidomytilus albus* (Cockerell)], in association with *Aphytis limonus* (Rust) and *Signiphora maculata*. **PARATYPES:** 2 ♀ in balsam, HAITI, Damien, 29-I-1930, coll. H.L. Dozier, reared from manioc scale (USNM ENT 00763033). ***Signiphora flavopalliata desantisi*** **De Santis—HOLOTYPE ♀ [examined]:** in balsam (MLPA 3839/1); [ARGENTINA], Bs. Aires [Buenos Aires], La Plata, coll. Esquivel, V-1946. **PARATYPES:** 1 ♂ in balsam (allotype) (MLPA 3839/2); ARGENTINA, [Buenos Aires], La Plata, coll. L. De Santis, IX-1936, ex *Protargionia larreae* (Leonardi); 1 ♂ in balsam (MLPA 3839/3) [Argentina], Patagones, ex: *Aspidiotus hederae* (Bouché), on: olivo, D.S., ??.1938. 1 ♀ and 1 ♂ in balsam, (MLPA 3839/7 and 3839/4); [ARGENTINA], Corrientes, ex: *Chrysomphalus aonidum* Linn., coll. Esquivel, ii.1947 and x.1946. 1 ♂ in balsam (MLPA 3839/10); [ARGENTINA], Prov. de Entre Rios, Concordia, coll. Banfi, 2.ii.1940. 1 ♂ in balsam (MLPA 3839/6); [ARGENTINA, Corrientes] Gran Paz (Ctes), ex: *Chrysomphalus aonidum*, H. Esq. v.1946. 2 specimens in balsam (MLPA 3839/8 and 3839/9); [ARGENTINA] Tucumán, (Prov. De Tucumán), col. Teran 9.ix.56. 1 ♂ in balsam (MLPA 3839/11); [ARGENTINA, Misiones], Cero-Corá (?), Miss., iii.1934, ex: *Coccus hesperidum*, on: yerba mate.

Other material examined. ARGENTINA: Buenos Aires: 1 ♀, SHYM0003 (IFML). 1 ♀, 1 ♂ (MLPA). **ARGENTINA: Corrientes:** 1 mixed series. UCRC ENT 299343 (UCR). **ARGENTINA: La Rioja:** 1 mixed series. UCRC ENT 299329 (UCR). **ARGENTINA: Mendoza:** 1 ♀, 1 mixed series (MLPA). **ARGENTINA: Tucumán:** 4 ♂, 11 ♀, USNM ENT 763030 (USNM); UCRC ENT 299328 (UCR); TAMU-ENTO X0460303–X0460313 (TAMU); 2 sex unknown. SHYM0004-SHYM0005 (IFML). **BRAZIL: Bahia:** 1 mixed series. UCRC ENT 299341 (UCR). **BRAZIL: Pernambuco:** 4 mixed series, 1 ♀, UCRC ENT 299335–299336, 299338–299340 (UCR). **BRAZIL: Rio de Janeiro:** 3 mixed series, 2 ♀, UCRC ENT 299326, 299334, 299337, 300240 (UCR); UCRC ENT 299489 (UCR). **BRAZIL: Santa Catarina:** 9 sex unknown, 12 ♂, 12 ♀, BMNH(E) 1038919–1038927, 990101–990124 (BMNH). **BRAZIL: Sao Paulo:** 2 sex unknown, 1 ♂, USNM ENT 763025, 763029 (USNM); UCRC ENT 299342 (UCR). **CHILE: Tarapaca:** 1 ♂, 1 ♀ (MLPA). **GUYANA**: 1 mixed series. UCRC ENT 299327 (UCR). **HAITI:** 1 ♂, 9 ♀, USNM ENT 763033–763042 (USNM). **MEXICO: Mexico:** 1 mixed

series. USNM ENT 763028 (USNM). **PERU: Arequipa:** 1 mixed series. UCRC ENT 299333 (UCR). **PERU: Ica:** 2 mixed series, 1 ♀, UCRC ENT 299330–299332 (UCR). **PERU: Lima:** 1 ♀, USNM ENT 763031 (USNM). **PUERTO RICO:** 1 mixed series. USNM ENT 763024, 763027 (USNM). **TRINIDAD & TOBAGO:** CNCHYMEN 122347–122348 (CNC). **URUGUAY: Montevideo:** 1 ♀, USNM ENT 763023 (USNM). **USA: Florida:** 2 ♀, TAMU-ENTO X0852778, X0852779 (TAMU). **USA: Georgia:** 1 sex unknown. USNM ENT 763032 (USNM). **USA: Hawaii:** 1 ♀, TAMU-ENTO X0852780 (TAMU). **USA: Texas:** 1 ♂, USNM ENT 763022 (USNM).

Biology. Most of the records are from Diaspididae: *Aonidomytilus espinosai* (Porter); *Aonidiella aurantii, Aspidiotus* spp., *Chionaspis* sp., *Chrysomphalus* spp., *Hemiberlesia lataniae* (Signoret); and *Lepidosaphes beckii* (Newman). One series of males and females reared by Beingolea from *Lepidosaphes beckii* from the Chincha Valley, Ica, Peru was apparently hyperparasitic through *Aphytis lepidosaphes* (Aphelinidae). Two females collected by Parker from an armored scale on laurel or bay at Montevideo, Uruguay (USNM ENT 00763024) were suspected hyperparasitoids. There is one record from an Aleyrodidae: Dozier reared 6 females and 3 males from *Aleurothrixus floccosus* on *Guayacum officinale* at Sarthe, Haiti (USNM ENT 00763039–00763042 and USNM ENT 00763034–00763038).

Signiphora flavella Girault, 1913

Figures 197–212

http://eol.org/pages/855954

Signiphora flavella Girault, 1913: 214. Female.
urn:lsid:zoobank.org:act:EF3BFAB6-7CCE-44A6-BE3D-C7326B2B5F19
Signiphora basilica Girault, 1913: 215. Female.
urn:lsid:zoobank.org:act:2415DB5E-ABCE-4C3C-B7ED-0E294E5507CA
Signiphora euclidi Girault, 1935: 3. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:F263AE05-83ED-443C-A404-3E286A9C1841
Signiphora flava Girault, 1913: 213. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:73A50AFE-7F26-4CA8-8492-CE593189DEF5
Signiphora caridei Brèthes, 1914: 8. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:38881A2F-1168-46FD-8FA1-14A76035EB0B
Signiphora thoreauini Girault, 1916: 41. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:9D229455-B423-49EC-8275-AD3A7272A0BB
Thysanus louisianae Dozier, 1933: 100. Male. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:D60392F5-FB61-4B3E-89EC-87289659D931
Thysanus flavellus: Peck (1951).
Thysanus thoreauini: Peck (1951).
Signiphora flavella: Rozanov (1965).
Signiphora louisianae: Gordh (1979).
Signiphora thoreauini: Gordh (1979).

Diagnosis. Fore wing without discal seta, marginal vein with seta M1 present (rarely absent); Mt8 in female transverse, without a medial emargination; body coloration variable but generally yellow, with or without brown markings on meso- and metasoma; antennal clava commonly dusky brown in distal 1/4–1/3 or entirely dusky brown. Many specimens have a characteristically long pedicel, although this is not always the case.

Signiphora flavella is most similar to *S. aleyrodis*, *S. coquilletti* and *S. xanthographa;* however, these species are parasitoids of Aleyrodidae (*S. flavella* is a parasitoid of Diaspididae) and always have brown markings on the mesosoma and metasoma, a uniformly tan or light brown antennal clava, and females have a rounded or v-shaped medial emargination on Mt8. In addition, *S. flavella* lacks the distinct reticulate sculpture found on the vertex, frons and mesoscutum of *S. xanthographa*. *Signiphora flavella* is also similar to *S. perpauca*, however the latter species has a discal seta in the fore wing.

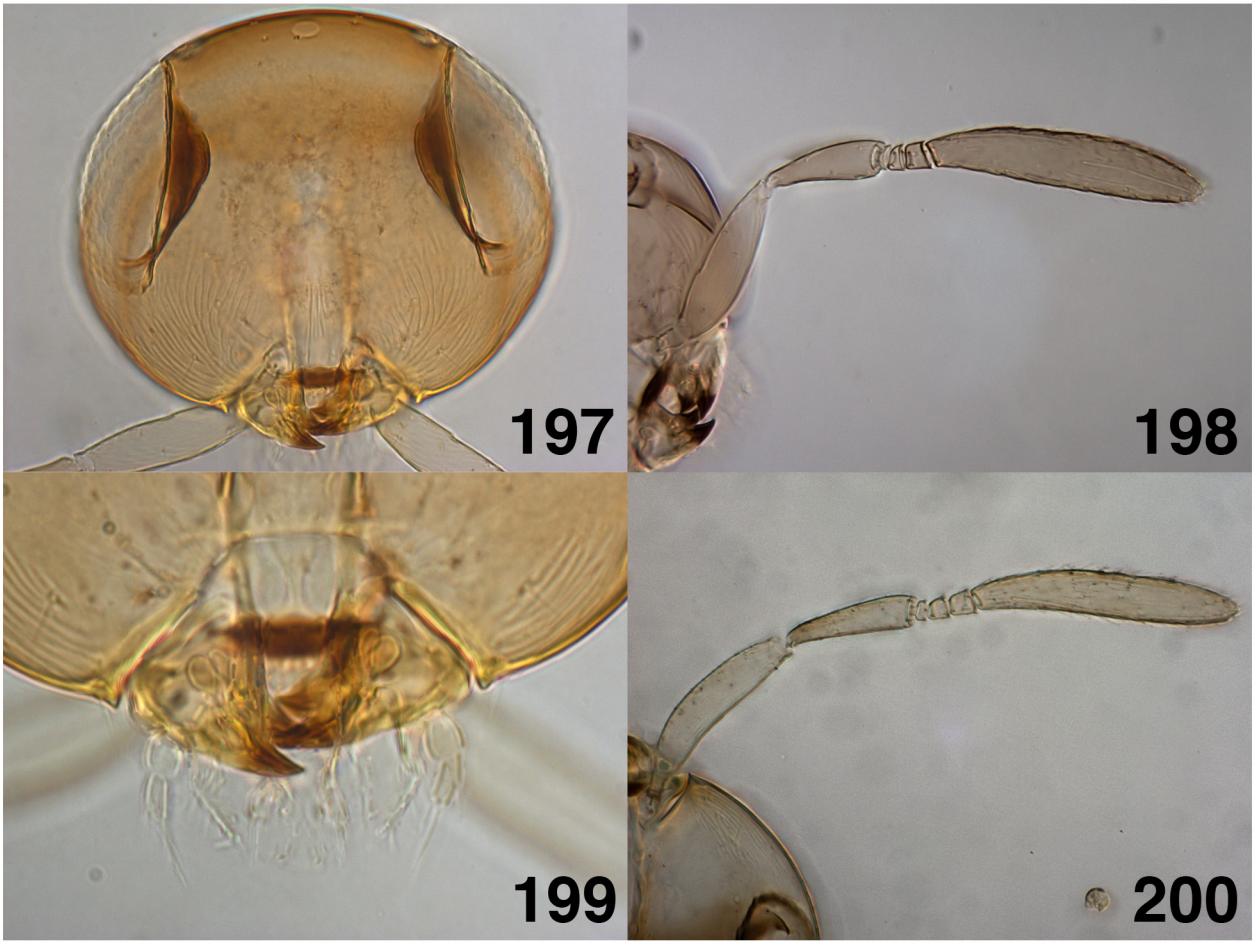
Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.31–0.79 mm (n=51). Vertex and frons orange–tan to light brown, face and gena yellow or pale tan, occipital margin ringed with a brown band, clypeus dark brown. Pedicel, anelli and clava dusky brown, distinctly darker than scape or body, or clava yellow or tan with distal 1/4–1/2 darker than proximal portion. Body coloration variable, most commonly body pale yellow except posterior 1/3–2/3 of mesoscutum, scutellum, metanotum and propodeum (particularly the median sclerite)

distinctly paler or lighter, almost white; Mt8, epiproct and ovipositor sheaths dusky brown; often more or less extensively marked with brown or dusky as follows: pronotum and anterior 1/4–3/4 mesoscutum light brown, Mt1 yellow or light brown, Mt2 only, or Mt2 and Mt3, or Mt2–Mt4 brown, Mt6 often with brown spots laterally or sometimes entirely dusky brown. Fore wing infuscated from base to below stigmal vein or beyond with hyaline areas behind submarginal vein normal for *flavopalliata* group.

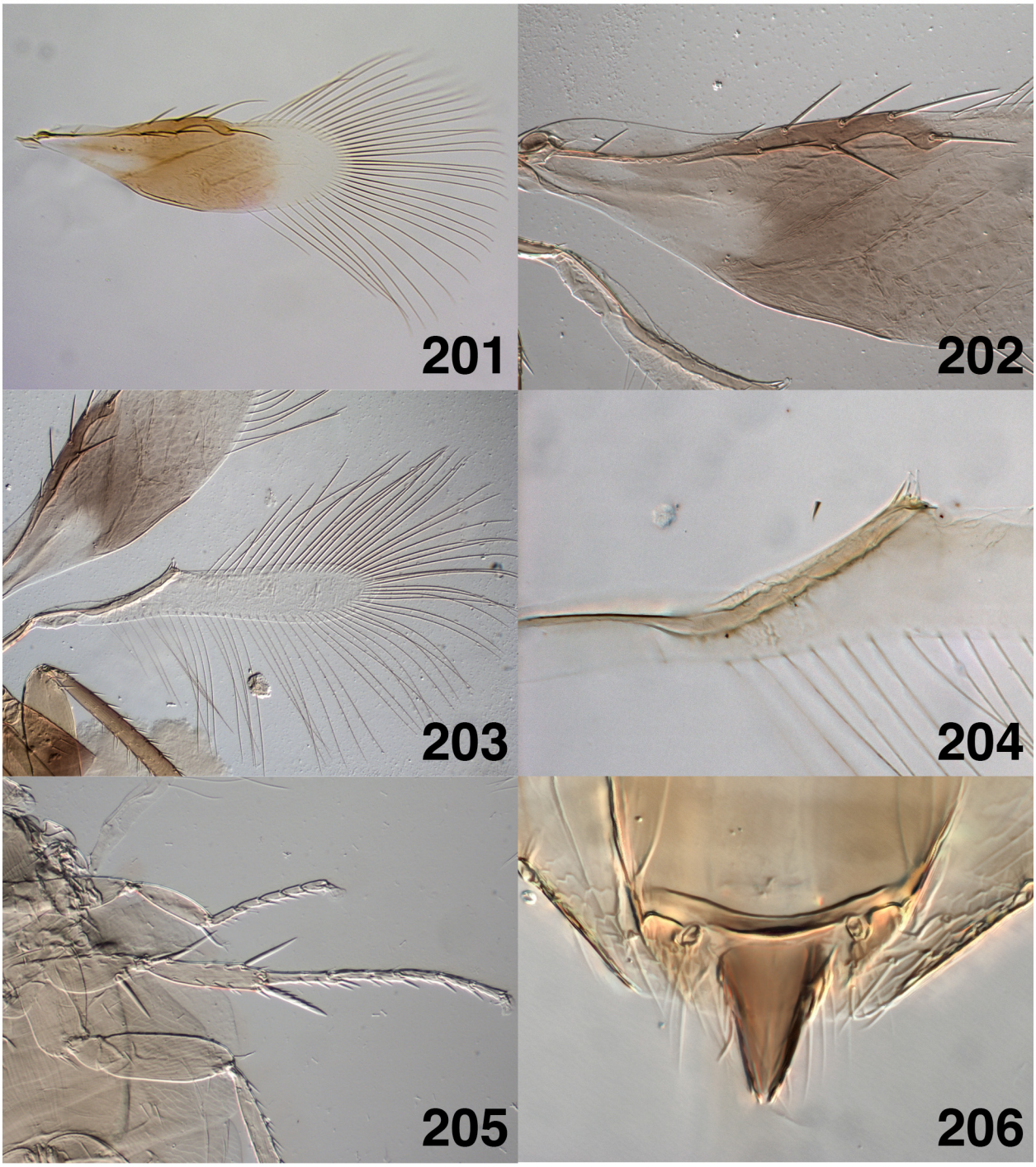
*Head***.** Mandibular ducts enlarged apically. Pedicel length:scape length 0.33–0.86; 3 anelli, the second from subequal to 3× length of first, the third 1.5–4.0× length of first; clava length:scape length 1.44–1.96. Vertex and frons minutely and transversely striate, frons with 4 longitudinal rows of minute punctations.

*Mesosoma***.** Pronotum and mesoscutum transversely imbricate. Scutellum, metanotum and medial sclerite of propodeum imbricate or weakly so. Scutellum with 6 or 7 setae (rarely 4 or 5) and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing 2.9–4.1× as long as wide; fore wing LMS:fore wing width 1.3–2.1; marginal vein 2.1–3.3× stigmal vein; marginal vein with 6 dorsal setae and without ventral setae; seta M1 rarely absent (see discussion); seta M3 length:marginal vein length 0.43–0.81; apical end of costal cell most commonly at seta M2 but may be from proximal to seta M2 to seta M3. Hind wing with subparallel margins, 6.4–10.9× as long as wide, 0.28–0.50× fore wing width, fore wing LMS:fore wing width 2.62–6.14. Mesofemur with 1 long spine and 1 short spine in posteroapical margin; mesotibial spur with 5–8 teeth, mesotibial spur length:basitarsus length 0.63–1.30; basitarsus length:mesotibia length 0.47–0.77.

*Metasoma***.** Mt1 strongly bilobed with medial portion transverse or occasionally with medial portion rounded; Mt1 length:Mt2 length 0.5–3.0 (most commonly 0.5, see discussion). Ovipositor in dorsal view with anterior-most portion under propodeum to Mt4; ovipositor length:metasoma length 0.45–0.95; ovipositor sheath length:ovipositor length 0.15–0.30; Ms3–Ms6 with anterior projections short to long; Ms6 in posterior 1/4 metasoma and with 6–10 setae; Mt8 with transverse anterodorsal margin, without a medial emargination (Fig. 206).



FIGURES 197–200. *Signiphora flavella*: 197, head (BMNH(E) 990140); 198, female antenna (BMNH(E) 990140); 199, mandibles (BMNH(E) 990140); 200, male antenna (BMNH(E) 990134).

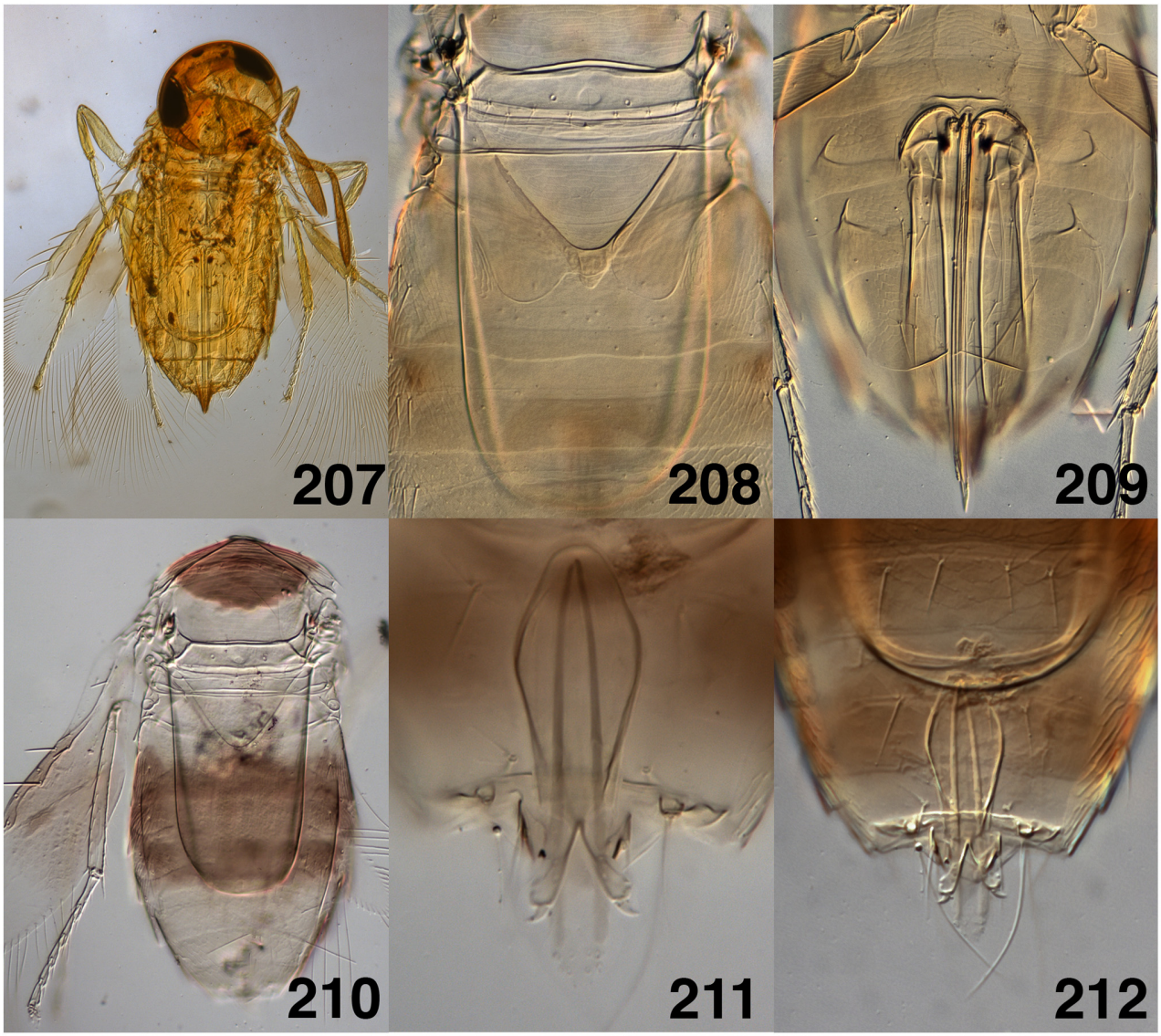


FIGURES 201–206. *Signiphora flavella*: 201, fore wing, female (BMNH(E) 990140); 202, venation of fore wing (UCRC ENT 299381); 203, hind wing, female (UCRC ENT 299381); 204, venation of hind wing (BMNH(E) 990153); 205, middle leg, female (UCRC ENT 299346); 206, Mt8 of metasoma, female (BMNH(E) 990153).

Male. Length, anterior margin of pronotum to epiproct apex, 0.29–0.61 mm (n=8). As described for females except the following. Male coloration highly variable: as in female but without the dusky brown area at apex of metasoma. Clava length: scape length 1.40–1.79. Genitalia normal for *flavopalliata* group, digitus with 1 apical denticle and 1 seta at its midpoint, length of digitus approximately 2× width. Ms8 a thin, transverse strip, extending to cerci laterally.

Discussion. The species we treat as synonyms of *S. flavella* were described primarily on the basis of differences in coloration. For example, *S. basilica* was distinguished primarily on the basis of lateral brown markings on Mt6 (the type of *S. basilica* is from the same rearing as the types of *S. flavella*). Peck (1951)

synonymized *S. basilica* with *S. flavella* and most authors (*e.g.* De Santis 1968; Gordh 1979) have followed this interpretation. This particular color pattern is most common in material from Argentina and Brazil, but with one possible exception, discussed below, we have no other evidence to indicate that it represents another species. In fact, the range of coloration in long series of reared material from California, Argentina, Brazil, Israel and Greece more than encompasses the patterns of coloration in the type specimens of *S. basilica, S. flava, S. thoreauini,* and *S. caridei*. *Signiphora louisianae* was described from several male specimens. Although males of this species are not common in North America, the structural features and coloration of Dozier's type specimens do not differ from that noted in the male specimens from Argentina, Mexico and Peru. *Signiphora euclidi* was described from a single female specimen in balsam. Although this is a new record for the species from Australia, *S. euclidi* appears to fall well within the limits of *S. flavella* as here defined.



FIGURES 207–212. *Signiphora flavella*: 207, female habitus (USNM type 14195, holotype of *flava* Girault); 208, mesosoma of female (BMNH(E) 990153); 209, metasoma of female (BMNH(E) 990153); 210, male habitus (BMNH(E) 990134); 211, male genitalia (BMNH(E) 990144); 212, Ms8 of metasoma, male (BMNH(E) 990144).

However, two different series of specimens may represent cryptic species. First, specimens from certain collections from four localities in Argentina [Buenos Aires, Saenz-Peña, 20-IV-1976, coll. Rose, ex armored scale on ivy, one ♀ in Hoyer's (UCRC ENT 299612); La Rioja, Aimogasta (Plaza), 30-XI-1968, coll. A. Teran, on olive or ex *Chrysomphalus* on olive 8 ♀ and 3 ♂ in Hoyer's (SHYM0006 (IFML); UCRC ENT 299613); La Rioja, Mazán, 17-XI-1978, coll. A. Teran, ex *Acutaspis paulista* on olive, 3 ♀ and 2 ♂ in Hoyer's (SHYM0007-

SHYM0008, IFML) Tucumán, Ticucho, 31-III-1969, coll. Teran and Guyot, on leaves of *Aspidosperma quebracho-blanco* Schltdl., 5 ♀ and 2 ♂ in Hoyer's (SHYM0009 (IFML); UCRC ENT 299614)] differ in minor but consistent ways from *S. flavella* as here interpreted. Males are relatively common in these collections (7 out of 24) but are rare in *S. flavella*. These specimens have short antennal clava (clava length:scape length 1.25–1.45 for females and 1.00–1.31 for males) and 4 or occasionally 5 setae on the scutellum, but agree with *S. flavella* with respect to other structural features. The coloration of the metasoma of females in these is consistent: Mt1 and Mt2 brown, Mt3–Mt5 yellow, Mt6 yellow with brown lateral spots. As noted above, metasomal coloration in *S. flavella* is quite variable but includes this pattern. We suspect that this material may represent a distinct species, but additional collections from Argentina and biological or molecular information will be required to confirm this. Second, many specimens in the long series from Nova Teutonia, Brazil, may represent another cryptic species. Males are also common in these collections, and specimens in of both sexes the frons and vertex are darker than typical *S. flavella* specimens, and the sculpture on the vertex is weakly but distinctly reticulate (transversely striate in typical *S. flavella*). In addition, in these female specimens Mt8 is not transverse, but u-shaped and many specimens have a distinct medial incision on Mt8. Mt1 is bilobed with the medial portion either transverse or rounded in the material examined from California, but in other material Mt1 is bilobed with the medial portion rounded. Most specimens from California have 6 or 7 setae on the scutellum, but specimens from South America typically have 4. The ratio Mt1 length:Mt2 length is 1.0 in most specimens, rarely the ratio is 0.5 or from 2.0–3.0. Seta M1 is absent from the marginal vein of the fore wing in some paralectotypes and from one fore wing of the lectotype of *S. flavella*. Otherwise, 6 setae are generally present on the marginal vein of the fore wing in this species.

Type material. ***Signiphora flavella*** **Girault—LECTOTYPE ♀ [here designated]**: in balsam, Florida, Miami, coll. E.A. Bessey, bred 8-VI-1908, ex *Aspidiotus lataniae* [now *H. lataniae*] on *Ochras sapota* (sapodilla); USNM Type 14196. **PARALECTOTYPES:** data as lectotype, 3 ♀ in balsam on same slide, USNM Type 14196. The specimen at the lower right (red USNM type labels to right) is here designated lectotype and the slide has been labeled accordingly. ***Signiphora basilica*** **Girault—HOLOTYPE ♀ [examined]:** in balsam on slide with lectotype and paralectotypes of *S. flavella*. Data as types of *flavella* (see above); USNM Type 14197. The specimen that matches the original description of *S. basilica* is to the left and slightly above the lectotype of *S. flavella* (red USNM type labels to right). ***Signiphora euclidi*** **Girault—HOLOTYPE ♀ [examined]:** in balsam, Indooroopilly, Feb. 3, 1935, QM Holotype T.8826. As noted in Dahms (1983); Girault provided the following information in his unpublished ms.: “The type was a single female taken from a window in forest country”. ***Signiphora flava*** **Girault—HOLOTYPE ♀ [examined]:** in balsam, Peru, Lima, coll. C.H.T. [Townsend], with following data: 192o3a, Nov. Gen. 2d, sp. 1, sec 31-09, T., USNM Type 14195. ***Signiphora thoreauini*** **Girault—HOLOTYPE ♀ [examined]:** in balsam, USNM Type 19209, California, Santa Barbara, coll. P.H. Timberlake, 14-XI-1911, ex *Aspidiotus hederae* [now *Aspidiotus nerii* (Bouché)] on ivy, 14594c. ***Signiphora louisianae*** **Dozier—HOLOTYPE ♂ [examined]:** in balsam, USNM Type 44819, Louisiana, New Orleans, coll. H.L. Dozier, 12-I-1932, ex *Aspidiotus lataniae* [now *H. lataniae*] or *C. [Chrysomphalus] dictyospermi* (Morgan) on oleander. **PARATYPES:** 2 ♂ in balsam, USNM Type 44819 (2 slides, one slide with holotype also); data as holotype. The slide with the holotype and paratype is not marked to indicate which specimen is the holotype. Dozier's (1933) description states only that the "type male and paratype male on single slide is deposited in the U.S. National Museum collection." Both specimens on the slide agree with Dozier's description. ***Signiphora caridei*** **Brèthes—SYNTYPES [examined]:** regarding material from which this species was described, Brèthes (1914) describes female and male, and then states only: “Dr. Pedro Caride Massini, to whom I dedicate this species, has sent me in the middle of winter a few branches of a palm tree attacked by *Diaspis pentagona*, from which I obtained more specimens of this interesting wasp.” Dr. Luis De Santis (personal communication) kindly informed us that the Brèthes collection was conserved in the Museo Argentino de Ciencias Naturales Bernadino Rivadavia (MACN). Following my request for the type(s) of this species, the MACN sent two slides. One bears three labels, as follows: "S17", "*S. caridei*" on a red paper strip, and “*S. caridei*” written in ink on the slide and covered with transparent tape. This slide has one female specimen mounted in Faure's or a similar medium, which has mostly dried out. The specimen is crushed and in poor condition, although the body and head are present and in adequate condition to allow observation of certain relevant details. This is one presumed female syntype. The other slide bears the following labels: "S18", a red paper strip with no writing, and “*S. caridei*” written in ink on the slide and covered with transparent tape, and "Museo Argentino de Ciencias Naturales, Signiphora caridei Br., 187, det. In'tulo

Semisman [the latter not clear]." This slide contains one female, condition as above, but more badly dried out. This specimen is a second syntype.

Other material examined. ALGERIA: Wilaya d'Alger: MHNG ENTO 00009849 (MHNG). **ARGENTINA: Buenos Aires:** 1 ♀, UCRC ENT 299612 (UCR); 1 other (host material); UCRC ENT 299611 (UCR). **ARGENTINA: La Rioja:** 3 ♀, 1 ♂, SHYM0006-SHYM0008 (IFML); UCRC ENT 299613 (UCR). **ARGENTINA: Salta:** 1 ♀, USNM ENT 763158 (USNM). **ARGENTINA: Tucumán:** 2 ♀, SHYM0009 (IFML); UCRC ENT 299614 (UCR). **AUSTRALIA: Queensland:** 1 ♀, BMNH(E) 991087 (BMNH). **BRAZIL: Pernambuco:** 1 ♀, UCRC ENT 299351 (UCR). **BRAZIL: Rio de Janeiro:** 2 ♀, UCRC ENT 299083, 299087 (UCR). **BRAZIL: Santa Catarina:** 43 ♀, 10 sex unknown, 16 ♂, BMNH(E) 1038934–1038943, 990125–990152, 990154–990182, 991088 (BMNH); UCRC ENT 299088 (UCR). **CHILE:** 4 ♀, UCRC ENT 299077, 299079–299081 (UCR). **CHILE: Santiago:** 1 ♀, UCRC ENT 299084 (UCR). **CHILE: Valparaíso:** 1 ♀, UCRC ENT 299078 (UCR). **GREECE:** 11 ♀, UCRC ENT 299106–299116 (UCR). **HONDURAS: Yoro:** 1 ♀, USNM ENT 763049 (USNM). **INDIA:** 1 ♀, UCRC ENT 299344 (UCR). **ISRAEL:** 19 ♀, 13 sex unknown. TAUZM 165462–165475, 165479–165487, 165492–165500 (TAUI). **MEXICO:** 1 mixed series. INHS 72494 (INHS). **MEXICO: Michoacán:** 1 ♀, UCRC ENT 299082 (UCR). **MEXICO: Morelos:** 1 mixed series. INHS 72508 (INHS). **MEXICO: Mexico:** 1 mixed series. USNM ENT 763118 (USNM). **MEXICO: Veracruz:** 1 ♀, USNM ENT 763044 (USNM). **MOROCCO: Rabat-Sale-Zemmour-Zaer:** 1 ♀, MHNG ENTO 00009853 (MHNG). **NEW ZEALAND:** 1 ♀, BMNH(E) 990153 (BMNH). **PERU:** 1 ♂, USNM ENT 763068 (USNM). **PERU: Callao:** 8 sex unknown. BMNH(E) 1038945–1038952 (BMNH). **PERU: Lima:** 1 ♀, USNM ENT 763043 (USNM). **PERU: Piura:** 1 ♀, 5 ♂, INHS 72509 (INHS); USNM ENT 763067, 763069–763072 (USNM). **PUERTO RICO:** USNM ENT 763046 (USNM). **SOUTH AFRICA:** 3 ♀, USNM ENT 763051 (USNM); TAMU–ENTO x0616172, x0616176 (SANC). **SOUTH AFRICA: Cape Province:** 12 ♀, UCRC ENT 299089–299099 (UCR); TAMU–ENTO x0616168 (SANC). **SPAIN:** 2 ♀, UCRC ENT 299345–299346 (UCR). **TRINIDAD & TOBAGO:** 3 ♀, CNCHYMEN 122361 (CNC); UCRC ENT 299085–299086 (UCR). **USA: California:** 58 ♀, 1 sex unknown. BMNH(E) 1038944 (BMNH); USNM ENT 299384; USNM ENT 763047 (USNM); UCRC ENT 299061–299076, 299100–299104, 299361, 299347–299350, 299352–299383 (UCR). **USA: Florida:** 1 ♀, 2 ♂, TAMU-ENTO X0852781, X0852782, x0853048 (TAMU). **USA: Louisiana:** 4 ♀, USNM ENT 763045, 763050, 763052–763053 (USNM). **USA: Texas:** 1 ♀, USNM ENT 763048 (USNM). **VENEZUELA: Mérida:** 3 ♀, 1 ♂, CNCHYMEN 122464–122467 (CNC). **Country not specified:** 1 ♀, UCRC ENT 299105 (UCR).

Biology. DeBach *et al.* (1958) mentioned that this species (cited as *Thysanus thoreauini*) develops as a primary parasitoid of *Hemiberlesia rapax* (Comstock) and *H. lataniae* (Diaspididae). It is commonly reared from these scales in southern California and elsewhere, often in sympatry with *S. merceti*. The species appears to be a common and cosmopolitan parasitoid of armored scales. The host range includes many species of Diaspididae including: *A. aurantii, Aonidiella ensifera* McKenzie*, A. nerii, A. spinosus, Aulacaspis rosae* (Bouché); *A. paulista, L. beckii, Hemiberlesia palmae* (Cockerell); *H. rapax, Oceanaspidiotus spinosus* (Comstock); *Parlatoria pergandii* (Comstock); *Parlatoria pittospori* (Maskell); *P. trilobitiformis*, and *C. perniciosa*. Three specimens from South Africa fit the diagnosis of *S. flavella* perfectly, but were reared from soft scales [Durban, Natal, iii.1964, C.J. Villiers, ex: soft scale on *Grewia* sp. [TAMU-ENTO x0616172 and x0616176, SANC]; Cape Province, Port Elizabeth, xii.1963, J.F. de Villiers with *Ceroplastes* sp. on *Dovyalis caffra* [TAMU-ENTO x0616168, SANC], perhaps an indication of another cryptic species. Interestingly, 3 additional specimens with identical label data as the Durban, Natal specimens appear to be *S. perpauca*, a similar species that has a discal seta in the fore wing, a feature which is not known to be polymorphic in *Signiphora*, despite the long series of reared specimens of each species. This species is generally uniparental. Males are unknown in California and rare in collections from the southeastern USA, Mexico and Argentina.

Signiphora flavopalliata Ashmead, 1880

Figures 213–228

http://eol.org/pages/855953/

Signiphora flavopalliata Ashmead, 1880: 29. Female. (As *Signiphora flavopalliatus*.)
urn:lsid:zoobank.org:act:EF95717A-BEBE-40FD-BBC4-0028B28E207B

Signiphora occidentalis Howard, 1894: 235. Female. **NEW STATUS, synonymy by Girault (1913)**

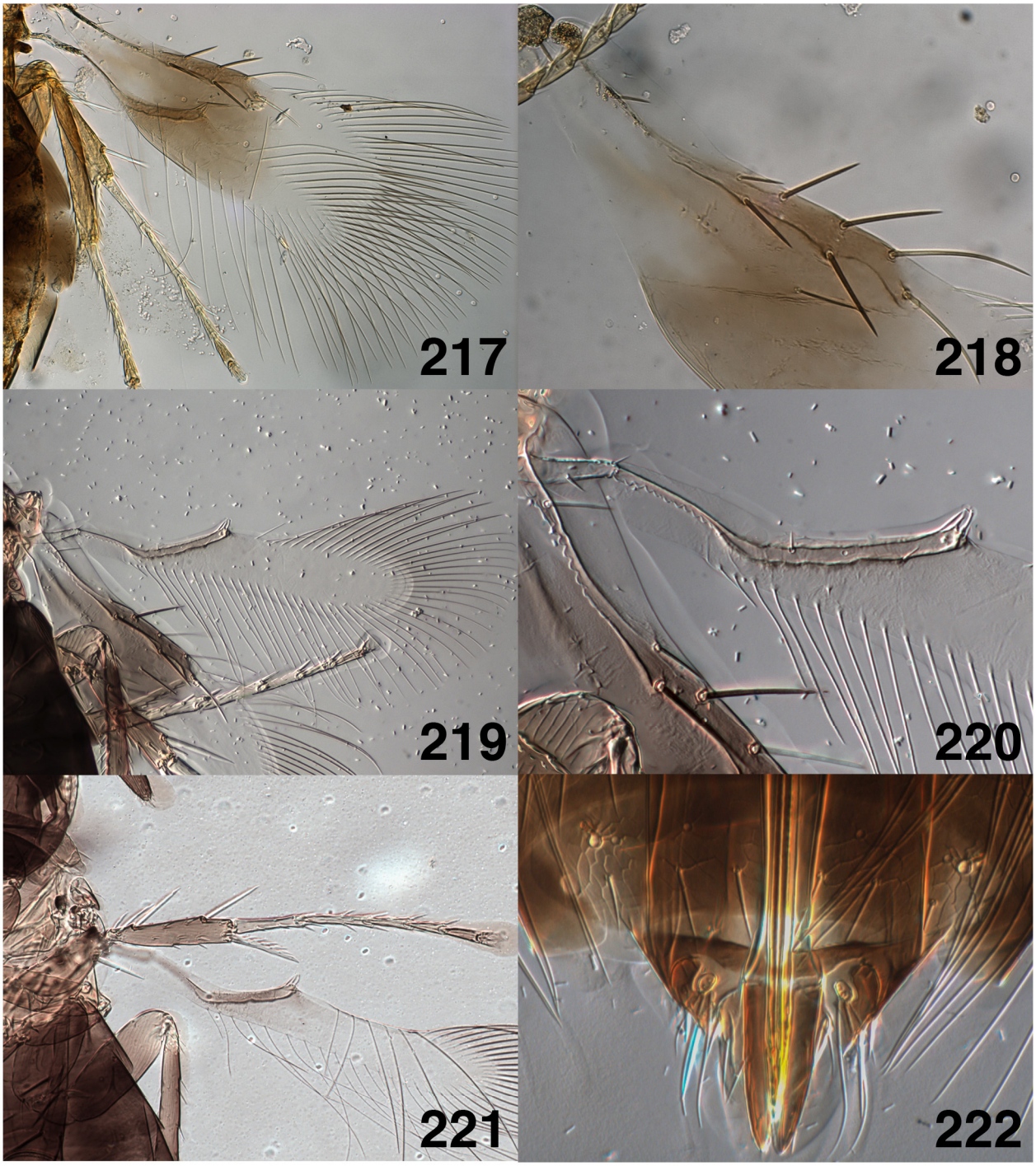
urn:lsid:zoobank.org:act:C745D543-0B2E-4677-B792-248567235049
Signiphora flavopalliata occidentalis: Girault (1916); De Santis (1973, 1979).
Thysanus flavopalliatus: Peck (1951); Burks (1967).
Thysanus occidentalis: Peck (1951).
Signiphora flavopalliata: Nikol'skaya (1952); De Santis (1967); Gordh (1979).
Signiphora occidentalis: Rozanov (1965); Gordh (1979).
Signiphora flavopalliata flavopalliata: De Santis (1973, 1979).

Diagnosis. Fore wing with discal seta present; Mt1 strongly bilobed with medial portion transverse; Mt8 with anterodorsal margin with a rounded medial incision; Ms8 in male transverse, without an anteromedial projection; scutellum generally with 4 setae.

Description. ***Female*.** Length, anterior margin of pronotum to epiproct apex, 0.35–0.69 mm (n=45). Vertex, frons, face and gena tan to brown, clypeus dark brown. Antenna uniformly pale brown. Pronotum and anterior 1/2 to entire mesoscutum except posterolateral corners light brown (see discussion). Posterior portion of mesoscutum, scutellum, metanotum and lateral sclerites propodeum pale yellow, orange or tan. Medial sclerite propodeum as metanotum, or light in anterior 1/6–1/2, or brown to dark brown. Mt1–Mt4 light to dark brown, Mt5–Mt7 lighter than preceding terga in some specimens (see discussion); or metasoma to Mt7 uniformly light to dark brown. Mt8, epiproct and ovipositor sheaths dusky brown. Fore wing infuscated from base to slightly beyond distal end stigmal vein, with two hyaline areas at base behind submarginal vein and along posterior edge of wing.

Head. Vertex and frons finely, transversely striate or imbricate with scattered punctations. Mandible with 2 teeth, mandibular ducts enlarged apically. Pedicel length scape length 0.64–0.94, antenna with 3 anelli, the second 1.5–3.0× length of the first, the third 2.0–4.0× length of the first; clava length:scape length 1.60–2.31.

FIGURES 213–216. *Signiphora flavopalliata*: 213, head (TAMU-ENTO X0460314); 214, female antenna (TAMU-ENTO X0460314); 215, mandibles (TAMU-ENTO X0460314); 216, male antenna (BMNH(E) 990185).



FIGURES 217–222. *Signiphora flavopalliata*: 217, fore wing, female (USNM type 2801, holotype female); 218, venation of fore wing (USNM type 2801); 219, hind wing, female (TAMU-ENTO X0460224); 220, venation of hind wing (TAMU-ENTO X0460224); 221, middle leg, female (TAMU-ENTO X0424907); 222, Mt8 of metasoma, female (TAMU-ENTO X0460225).

Mesosoma. Pronotum and mesoscutum transversely imbricate; scutellum, metanotum and medial sclerite of propodeum weakly imbricate. Scutellum with 4 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing with discal seta, length:width 2.3–4.5, fore wing LMS:fore wing width 1.1–2.1; marginal vein length:stigmal vein length 1.9–3.5; marginal vein with 5–6 dorsal setae seta M1 sometimes absent (see discussion); seta M3 length:marginal vein length 0.46–0.97; apical end of costal cell from proximal to seta M1 to seta M3. Hind wing with subparallel margins, 6.0–10.3× as long as wide, 0.30–0.55× fore wing width; hind wing LMS:hind wing width 2.20–5.00. Mesofemur with one long and one short

spine on posteroapical margin; mesotibial spur with 5–9 teeth, mesotibial spur length:basitarsus length 0.88–1.31; basitarsus:mesotibia length 0.46–069.

Metasoma. Mt1 bilobed with medial portion transverse, rarely bilobed with medial portion rounded; length Mt1 length:Mt2 length 0.5–2.0 (almost always 1.0, see discussion). Ovipositor with anterior-most portion lying under propodeum–Mt4; ovipositor length:metasoma length 0.51–0.96; ovipositor sheath length:ovipositor length 0.19–0.27; Ms3–Ms6 with anterior projections medium to long; Ms6 between posterior ¼ of metasoma and midpoint to almost apex of metasoma and with 6–8 setae; Mt8 with anterodorsal margin transverse with a rounded, medial incision.

Male. Length, anterior margin of pronotum to epiproct apex, 0.31–0.58 mm (n=9). As described for female except: scutellum and metanotum pale white to orange, metasoma uniformly light brown to brown to apex; clava length: scape length 1.70–2.05. Genitalia normal for *flavopalliata* group, digitus with an apical denticle and a single seta at its midpoint, length of digitus approximately 2× its width; Ms8 a thin, transverse strip, extending to cerci laterally, without an anteromedial projection.

FIGURES 223–228. *Signiphora flavopalliata*: 223, female habitus (BMNH(E) 990188); 224, mesosoma of female (BMNH(E) 990188); 225, metasoma of female (TAMU-ENTO 0460224); 226, male habitus (BMNH(E) 990185); 227, male genitalia (BMNH(E) 990185); 228, Ms8 of metasoma, male (BMNH(E) 990185).

Discussion. Howard (1894) described *S. occidentalis* from a series of specimens collected in San Gabriel, California. Girault (1913) treated *S. occidentalis* as a junior synonym of *S. flavopalliata*, but later (Girault 1916) he

treated *S. occidentalis* as a subspecies of *S. flavopalliata,* as did De Santis (1973, 1979). *Signiphora occidentalis* has been treated as a valid species by most authors (Peck 1951, 1963; Rozanov 1965; Burks 1967; Gordh 1979); but we treat it as a synonym of *S. flavopalliata*.

The material examined from California and Florida does show minor differences in coloration: the amount of yellow or tan color on the posterior portion of the mesoscutum is generally greater in material from the southeastern USA and in females from this area Mt5–Mt7 are typically lighter in color than Mt2–Mt4. In specimens from southern California and Baja California Norte, Mexico, the mesoscutum is typically entirely dark brown, or nearly so, and the metasoma is typically uniformly brown to Mt8. However, specimens from California with the coloration typical of the southeastern USA have been noted, and vice versa. Material from Texas displays both extremes of coloration. No consistent structural differences or indications of biological differences have been noted which would support maintaining *S. occidentalis* as a valid species or subspecies, and we therefore place *S. occidentalis* back into synonymy with *S. flavopalliata.*

Seta M1 is rarely absent from the fore wing marginal vein in material from the southeastern USA but seta M1 is absent in approximately half of the specimens observed from California and Mexico. The length of Mt1 relative to Mt2 is almost always 1.0 in this species, but may vary from 0.5–2.0.

Type material. ***Signiphora flavopalliata*** **Ashmead—HOLOTYPE [examined]:** ♀ in balsam (USNM Type 2801); FLORIDA, Jacksonville, coll. Wm. Ashmead.

Signiphora occidentalis **Howard—LECTOTYPE ♀ [here designated]:** in balsam, USNM Type 1473, CALIFORNIA, San Gabriel, coll. Coquillett, 1-VI-1887, ex *Aspidiotus aurantii* var. *citrinus* [now *Aonidiella citrina*]. **PARALECTOTYPES:** data as lectotype except 30-V-1887 and 3-VI-1887, 1 ♀ and 3 ♂ in balsam (3 slides, USNM Type 1473). The lectotype female is the only specimen on a slide labeled accordingly.

Other material examined. BERMUDA: 1 ♀, USNM ENT 763167 (USNM). **MEXICO:** 1 ♀, USNM ENT 763055 (USNM). **MEXICO: Baja California Norte:** 3 ♀, 1 ♂, 2 mixed series, 2 sex unknown. UCRC ENT 299121-299128 (UCR). **MEXICO: Baja California Sur:** 1 sex unknown, 4 ♀, 2 mixed series. UCRC ENT 299139–299143, 299590, 300233 (UCR). **MEXICO: Morelos**: 1 ♀, USNM ENT 763100 (USNM). **MEXICO: Nuevo León**: 1 ♀, UCRC ENT 299138 (UCR). **MEXICO: Oaxaca**: 1 ♀, 1 ♂, TAMU-ENTO X0460230, X0460229 (TAMU). **MEXICO: Sinaloa**: 1 sex unknown, 1 ♀, 1 mixed series. UCRC ENT 299129–299130, 299137 (UCR). **MEXICO: Tamaulipas**: 3 ♀, TAMU-ENTO X0424830, X0424831, X0424832 (TAMU). **USA: California:** 2 sex unknown, 10 ♀, UCRC ENT 299119–299120, 299131–299134 (UCR); USNM ENT 763065, 763162–763166 (USNM). **USA: Florida:** 1 sex unknown, 13 ♀, TAMU–ENTO x0616126, x0616127 (FSCA); BMNH(E) 990183, 990187, 990188 (BMNH); TAMU-ENTO X0852805–X852810 (TAMU); UCRC ENT 299117–299118 (UCR); USNM ENT 763054 (USNM). **USA: Louisiana:** 2 mixed series, 3 ♀, 2 ♂, USNM ENT 763058–763064 (USNM). **USA: Texas:** 2 sex unknown, 21 ♀, 3 ♂, BMNH(E) 990185, 990186 (BMNH); TAMU–ENTO X0424883, X0424900–X0424910, X0460221–X0460228, X0460314, X0852804, X0855842 (TAMU); USNM ENT 763056–763057 (USNM).

Biology. This species is biparental, although males are not common in the southeastern USA, and it is known to be hyperparasitic. DeBach (1953) found that *S. flavopalliata* developed as an external parasitoid of *Comperiella bifasciata* Howard (Encyrtidae) in *A. aurantii* (Diaspididae). Reproduction of *S. flavopalliata* was not observed when females were presented with unparasitized hosts, thus this species appears to be an obligate hyperparasitoid. One slide containing host material (UCRC ENT 299129) shows clear evidence of this species developing as a hyperparasitoid of *Encarsia* sp. on *Lepidosaphes gloverii* (Packard) and a second slide (TAMU-ENTO x04224906) shows evidence of hyperparasitic development on *Aphytis* sp. on *C. perniciosa.* Otherwise, material examined has been reared from a wide variety of Diaspididae and Aleyrodidae.

Signiphora jojobae **Woolley & Dal Molin, n. sp.**

urn:lsid:zoobank.org:act:97F524C4-EBDE-4672-B744-31E4DE662CBC

Figures 229–244

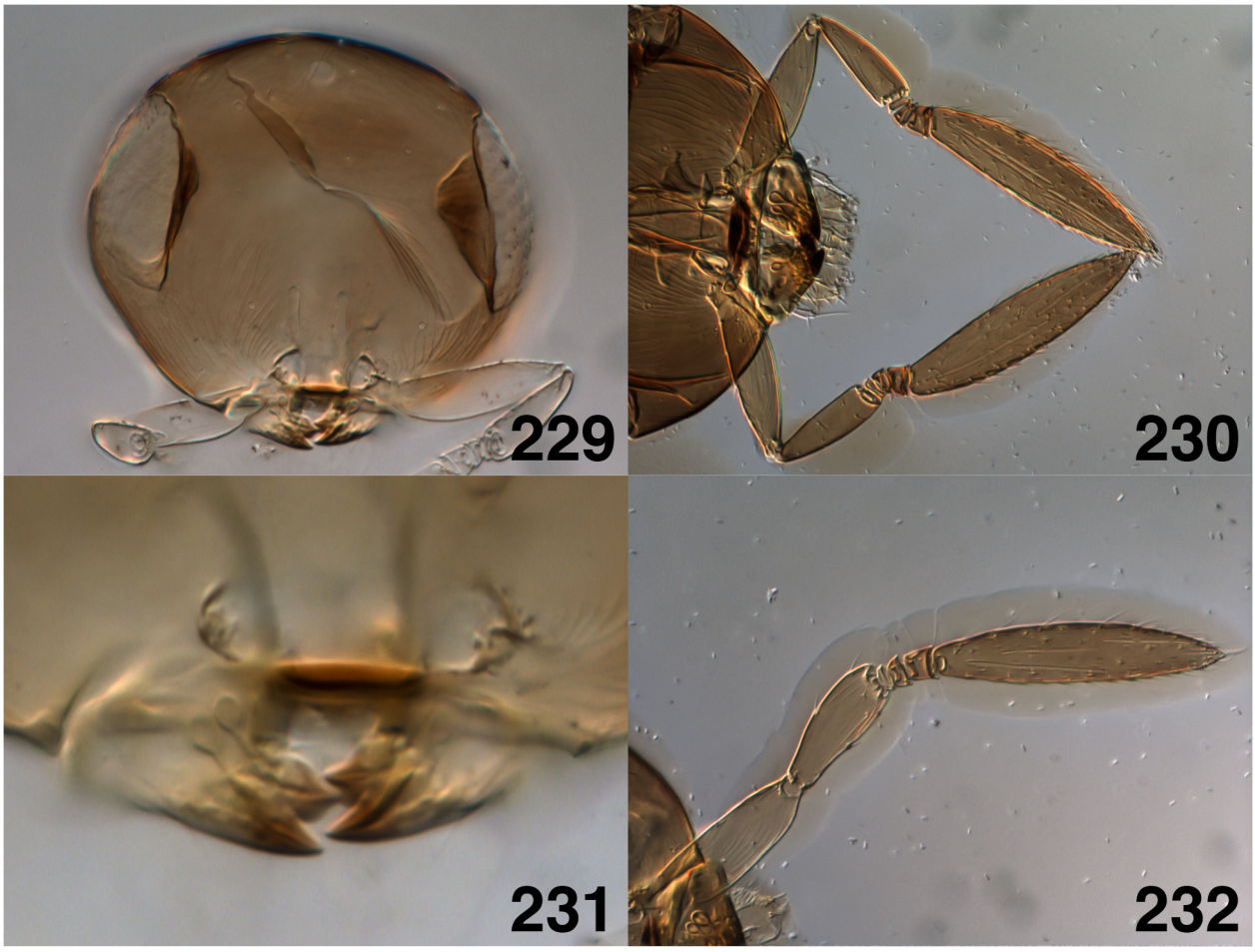
Diagnosis. Fore wing marginal vein without at least setae M1 and M2; Mt1 strongly bilobed with medial portion transverse; Mt8 in female with anterodorsal margin with a deep, rounded medial incision. *Signiphora jojobae* is most similar to *S. merceti*, however, *S. merceti* does not have the light coloration on the mesosoma and metasoma,

the fore and hind wings are infuscated from the base to the apices, seta M6 is always present on the fore wing marginal vein, and Mt8 (female) has the anterodorsal margin transverse.

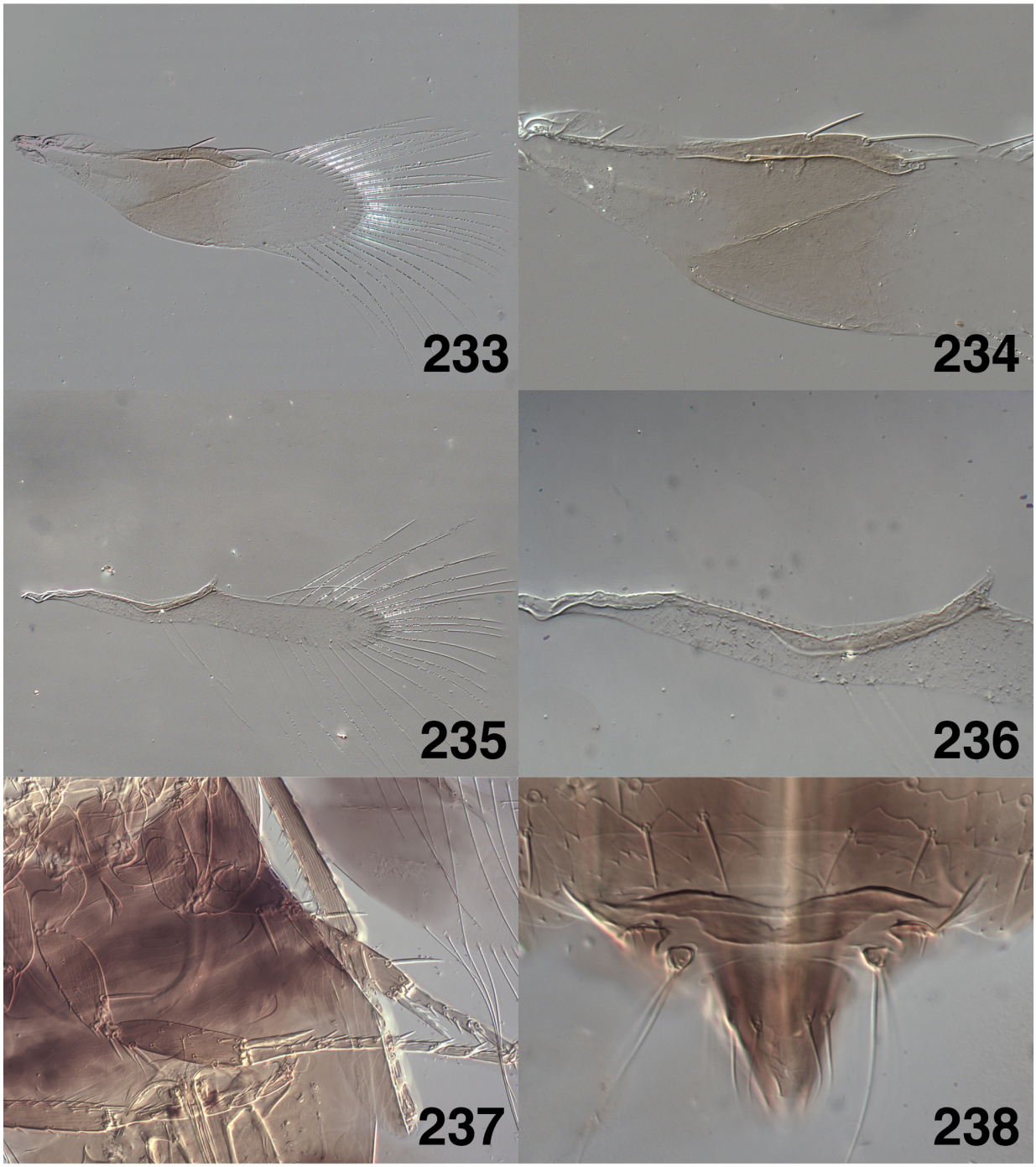
Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.41–0.58 mm (n=7). Vertex, frons, face and gena tan clypeus dark brown. Antenna uniformly pale tan. Pronotum and anterior ½–2/3 mesoscutum brown, remainder of mesoscutum, scutellum, metanotum and entire propodeum pale yellow, or medial sclerite of propodeum brown in posterior half or laterally. Mt1–Mt3 light brown, Mt4 pale brown, Mt5 tan, Mt6 and Mt7 pale brown, Mt8, epiproct and ovipositor sheaths brown, or metasoma entirely brown in some specimens, or Mt4–Mt7 lighter than Mt2 and Mt3. Fore wing infuscated from base to distal end of stigmal vein with normal hyaline areas at base.

Head. Mandible with two teeth, mandibular ducts enlarged apically. Pedicel length:scape length 0.61–0.83; 3 anelli, second anellus 2.0× length of first, third anellus 3.0× length of first; clava length:scape length 1.33–178. Vertex and frons minutely and transversely striate, vertex with approximately 10 scattered, minute punctations.

Mesosoma. Pronotum, mesoscutum, scutellum and metanotum weakly and transversely imbricate; propodeum with medial sclerite weakly imbricate. Scutellum with 4 (rarely 6) setae and without campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing without discal seta and 3.0–4.0× as long as wide, fore wing LMS:fore wing width 1.4–1.9; marginal vein length:stigmal vein length 1.7–2.2; marginal vein with 3 or 4 dorsal and without ventral setae; setae M1 and M2 absent, seta M6 present or absent; seta M3 length:marginal vein length 0.50–1.31; apical end of costal cell proximal to seta M3. Hind wing with subparallel margins, length:width 6.8–12.0; hind wing width:fore wing width 0.30–0.46; hind wing LMS:hind wing width 3.17–5.00. Mesofemur with one long and one short spine on posteroapical margin; mesotibial spur with 3–5 teeth; mesotibial spur length:basitarsus length 0.60–1.0; basitarsus length:mesotibia length 0.52–0.58.



FIGURES 229–232. *Signiphora jojobae* **n. sp.**: 229, head (SF 9); 230, female antenna (UCRC ENT 299580); 231, mandibles (UCIS 297367); 232, male antenna (UCRC ENT 299579).



FIGURES 233–238. *Signiphora jojobae* **n. sp.**: 233, fore wing, female (UCIS 297367); 234, venation of fore wing (UCIS 297367); 235, hind wing, female (UCIS 291336); 236, venation of hind wing (UCIS 291336); 237, middle leg, female (UCRC ENT 299580); 238, Mt8 of metasoma, female (UCRC ENT 299580).

Metasoma. Mt1 strongly bilobed with medial portion transverse; Mt1 length:Mt2 length 1.0–2.0. Ovipositor with anterior-most margin lying under Mt4–Mt5; ovipositor length:metasoma length 0.53–0.76; ovipositor sheath length:ovipositor length 0.17–0.31; Ms3–Ms6 with anterior projections short to medium; Ms6 in posterior 1/4 of metasoma and with 6–10 setae; Mt8 with anterodorsal margin with a rounded medial incision extending posteriorly almost to posterodorsal margin anterodorsal margin lateral to medial incision transverse.

Male. Length, anterior margin of pronotum to epiproct apex, 0.43–0.55 mm, (n=3). As described for female except clava length:scape length 1.44–1.72. Genitalia normal for *flavopalliata* group, digitus with 1 short apical denticle and one seta at its midpoint, digitus more sclerotized in the distal 1/2, digitus length approximately 2× its width, Ms8 a transverse strip, extending laterally to cerci.

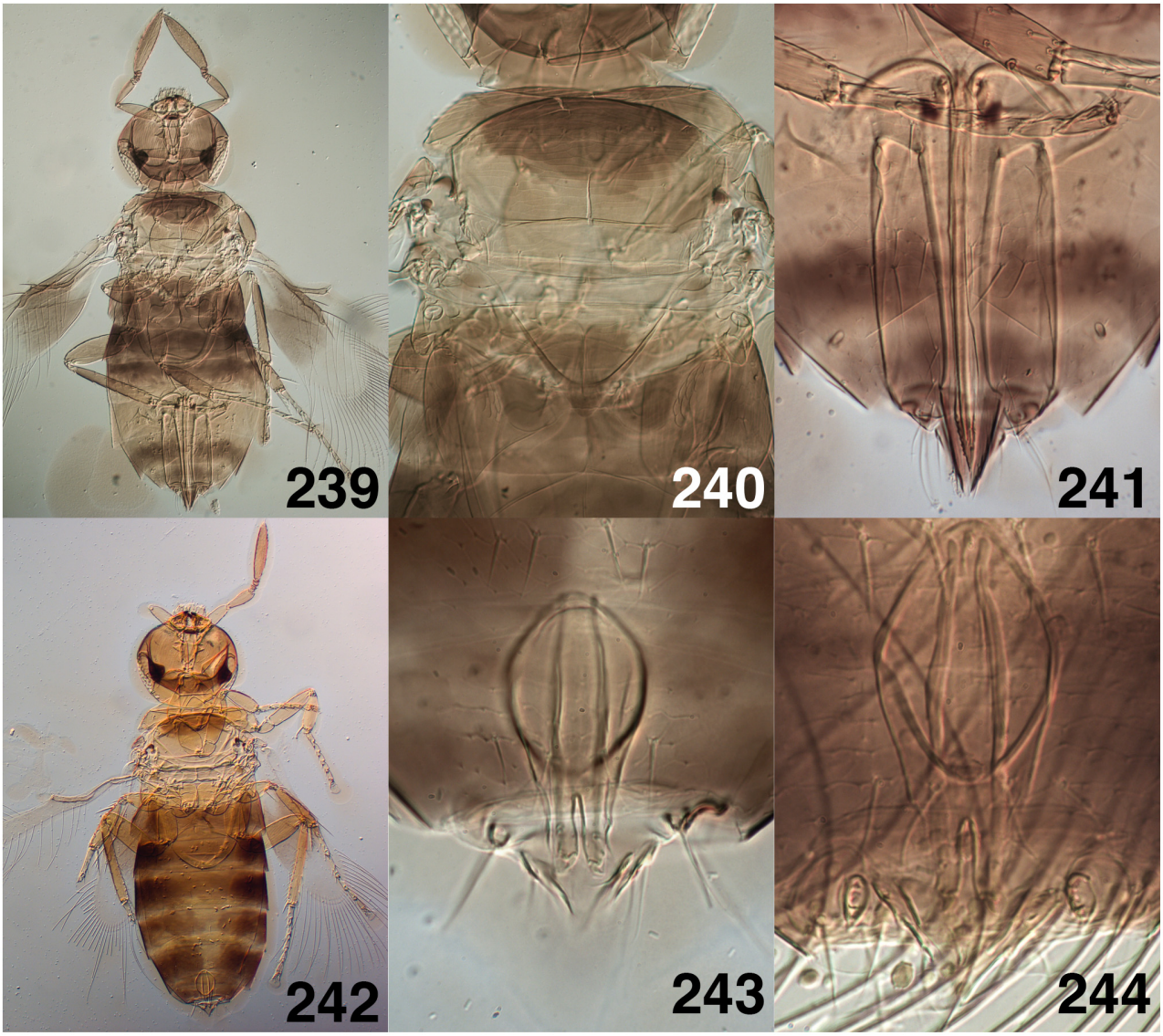
Discussion. One specimen from Baja California Sur (UCRC ENT 299581) has 6 setae on the scutellum, the remaining specimens from this series and all of the type specimens have 4 setae on the scutellum. The holotype and all of the paratypes save one specimen have seta M1, M2 and M6 missing (not simply broken off) from the fore wing marginal vein. One paratype has only setae M1 and M2 missing and seta M6 present. All of the specimens from Baja California Sur have setae M1 and M2 missing, seta M6 present on the fore wing marginal vein.

Type material. HOLOTYPE ♀: in balsam (UCIS 291336, Univ. California Insect Survey); USA, ARIZONA, Pinal Co., 7 mi W. Superior, elev. 2500', coll. S. Manweiler, 4.x.1980, UCIS 291336. Holotype deposited UCR. **PARATYPES:** One ♀ in balsam, data as holotype (UCIS 297367); 3 ♀ in balsam (UCIS 290310, UCIS 290714, UCIS 290715); ARIZONA, Pinal Co., 9 mi. W Superior, elev. 2350', coll. S. Manweiler, 9.v.1980, on *Simmondsia,* female. Paratypes deposited in USNM, UCR, TAMU.

Other material examined. MEXICO: Baja California Sur: UCRC ENT 299578–299582 (3 ♀, 2 ♂, UCR).

Biology. The specimens from Baja California Sur were reared from ?*Clavaspis subsimilis* (Cockerell) (Diaspididae).

Etymology. The species is named after the common name for host plant on which the type series was collected: jojoba, or *Simmondsia chinensis*.



FIGURES 239–244. *Signiphora jojobae* **n. sp.**: 239, female habitus (UCRC ENT 299580); 240, mesosoma of female (UCRC ENT 299580); 241, metasoma of female (UCRC ENT 299580); 242, male habitus (UCRC ENT 299579); 243, male genitalia (UCRC ENT 299579); 244, Ms8 of metasoma, male (UCRC ENT 299578).

***Signiphora longitibia* Woolley & Dal Molin, n. sp.**

urn:lsid:zoobank.org:act:3E2DC20F-A0CA-482F-ACAB-8B54D347E051

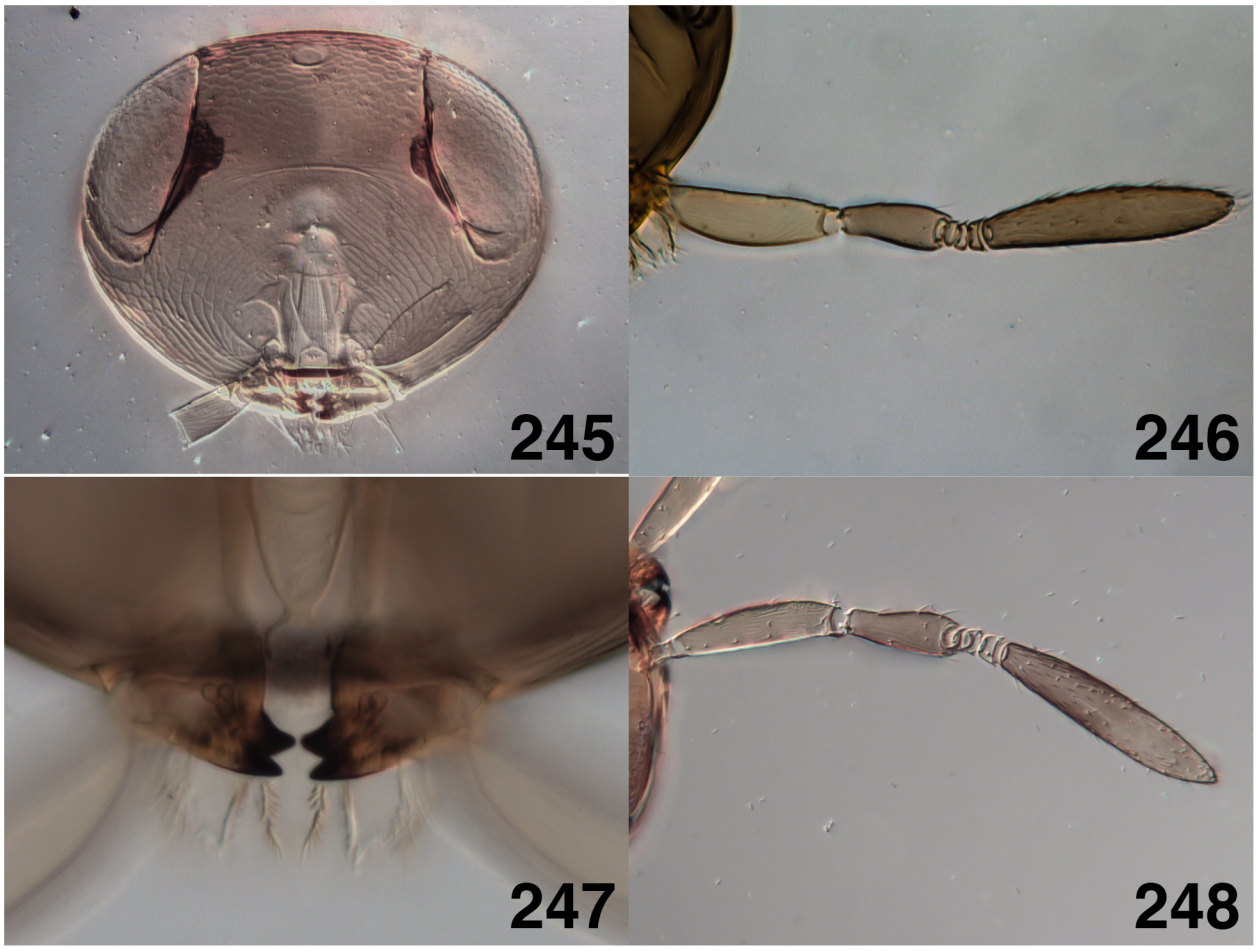
Figures 245–260

Diagnosis. Fore wing with discal seta; vertex, frons and mesoscutum with reticulate or transversely reticulate sculpture on vertex; mesotibia length subequal to metatibia; Mt8 in female with anterodorsal margin with a deep, rounded, medial incision; Ms8 in male with anterior margin with a short anterior projection.

Other species in the *flavopalliata* group have the mesotibia shorter than the metatibia (generally the ratio of mesotibia to metatibia is 0.66–0.75 in other species). This species is most similar to *S. fax* and *S. flavopalliata* but can be distinguished from both by the features given above. The sculpture on the vertex and mesoscutum in *S. fax* and *S. flavopalliata* is transversely imbricate.

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.46–0.73 mm (n=7). Vertex and frons brown, face and gena tan, clypeus dark brown. Antenna uniformly pale brown. Pronotum and anterior 2/3 mesoscutum brown, posterior 1/3 mesoscutum, scutellum, and metanotum pale tan. Propodeum including medial sclerite tan, medial sclerite dusky in medial portion, some specimens with the propodeum lateral to the medial sclerite dusky or medial sclerite of propodeum dusky in posterior 1/3–2/3. Metasoma uniformly brown to apex or Mt5–Mt7 occasionally lighter brown than the preceding terga. Fore wing infuscated from 1/4–1/2 the distance between distal end stigmal vein and wing apex with basal hyaline areas normal for *flavopalliata* group.

Head. Vertex and frons strongly reticulate. Mandible bidentate with short teeth, mandibular ducts enlarged apically. Pedicel length:scape length 0.53–0.62; 3 anelli, second anellus 2.0× length of first, third anellus 3.0× length of first; clava length:scape length 1.19–1.40.



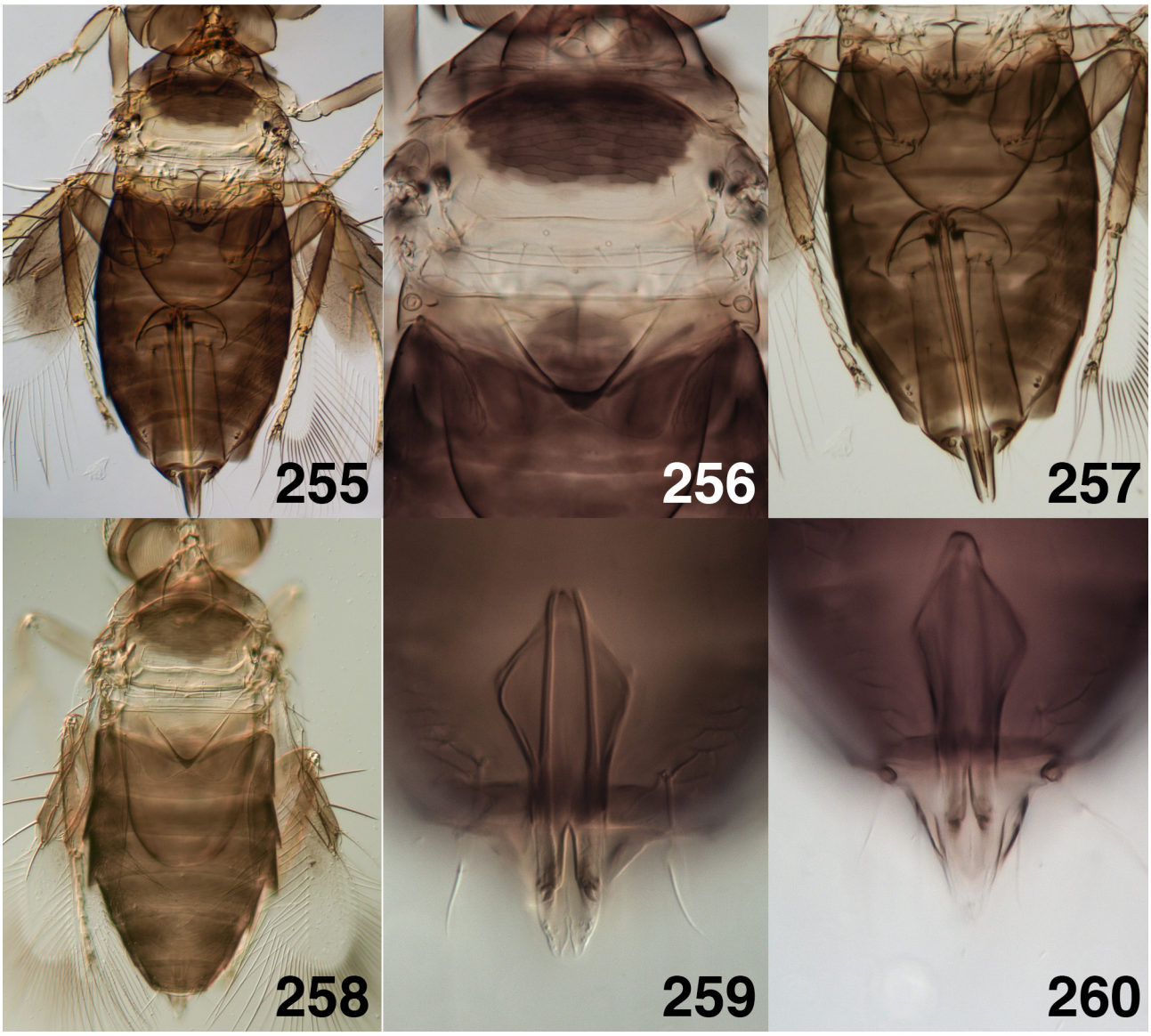
FIGURES 245–248. *Signiphora longitibia* **n. sp.**: 245, head (BMNH(E) 990271); 246, female antenna (TAMU-ENTO X0828038); 247, mandibles (TAMU-ENTO X0828038); 248, male antenna (UCR 299589).

FIGURES 249–254. *Signiphora longitibia* **n. sp.**: 249, fore wing, female (BMNH(E) 9900268); 250, venation of fore wing (BMNH(E) 9900268); 251, hind wing, female (BMNH(E) 9900268); 252, venation of hind wing (BMNH(E) 9900268); 253, middle leg, female (TAMU-ENTO X0828037); 254, Mt8 of metasoma, female (TAMU-ENTO X0828044).

Mesosoma. Pronotum transversely reticulate, mesoscutum strongly reticulate. Scutellum and metanotum weakly reticulate, propodeum with medial sclerite reticulate. Scutellum with 4 setae and 2 campaniform sensilla, medial propodeal sclerite rounded, process on medial sclerite narrowly rounded. Fore wing with discal seta, length:width 3.0–3.6; fore wing LMS:fore wing width 1.0–1.6; marginal vein length:stigmal vein length 2.4–2.7, marginal vein with 6 dorsal and 2 ventral setae; seta M3 length:marginal vein length 0.68–0.75; apical end of costal cell between seta M1 and M2. Hind wing margins subparallel, hind wing length:width 6.8–9.0; hind wing width:fore wing width 0.33–0.44; hind wing LMS:hind wing width 2.22–3.00. Mesofemur with one long and one

short spine on posteroapical margin, mesotibial spur with 6–8 teeth; mesotibial spur length:basitarsus length 0.86–1.00; basitarsus length:mesotibia length 0.44–0.51.

Metasoma. Mt1 bilobed with medial portion rounded or occasionally transverse (see discussion); Mt1 length:Mt2 length 1.0–2.0; ovipositor with anterior-most portion lying under Mt2 or Mt3; ovipositor length:metasoma length 0.68–1.03; ovipositor sheath length:ovipositor length 0.25–0.28; Ms3–Ms6 with anterior projections medium to long; Ms6 in posterior 1/4 of metasoma and with 6–8 setae; Mt8 with anterodorsal margin with a deep, rounded medial incision, extending almost to posterior margin, anterior margins lateral to medial incision transverse or sloping broadly anteriorly.



FIGURES 255–260. *Signiphora longitibia* **n. sp.**: 255, female habitus (TAMU-ENTO X0828044); 256, mesosoma of female (TAMU-ENTO X0828044); 257, metasoma of female (TAMU-ENTO X0828044); 258, male habitus (UCR 299589); 259, male genitalia (UCR 299589); 260, Ms8 of metasoma, male (UCR 299589).

Male. Length, anterior margin of pronotum to epiproct apex, 0.44–0.56 mm (n=4). As described for female except clava length:scape length 1.25–1.36. Genitalia normal for *flavopalliata* group, digitus with 1 apical denticle and 1 seta at its midpoint, digitus length approximately 2× its width. Ms8 with anterior margin with a pointed medial projection; Ms8 extending to cerci laterally.

Discussion. Mt1 is bilobed with a rounded medial portion in the type series and in most other specimens; one female from the Guatemala series (USNM ENT 00763145) has the medial portion of Mt1 transverse. The

metasoma is uniformly brown in specimens from Mexico, in the females from Guatemala Mt5–Mt7 are lighter brown than the preceding terga. Two series of specimens from Belize, Toledo District (CNC HYMEN 00122362) and Brazil, Amazonas, Fonte Boa [prob. Fonte Boas] (CNC HYMEN 00122363 and 00122364) fit the diagnosis for this species, except that the mesotibia is shorter than the metatibia (about 2/3 the length); as is typical in other species in the *flavopalliata* group.

Type material. HOLOTYPE ♀: in Hoyer's, UCRC ENT 299589 MEXICO, COLIMA, Manzanillo, coll. P. DeBach and M. Rose, 21-I-1975, ex: ?*Aleurothrixus floccosus* on citrus, original material. The holotype is mounted with 15 paratypes under a single cover slip. The holotype female is at the bottom of the left-most column of 4 specimens. The slide has been labeled accordingly and is deposited in UCR. **PARATYPES:** 10 ♀, 5 ♂ in Hoyer's, same slide as holotype, data as holotype female. 5 ♀ and 4 ♂ in Hoyer's (TAMU-ENTO X0828037–X0828045); Florida, Dade Co., Everglades National Park Visitor Center, 12.xii.1985, C.W. Melton and H.W. Browning, ex: whitefly on cocoa plum. Paratypes deposited UCR, TAMU, USNM, BMNH.

Other material examined. GUATEMALA: 1 mixed series. USNM ENT 763145 (USNM). **MEXICO:** 1 mixed series. USNM ENT 763146 (USNM). **MEXICO: Colima:** 2 ♂, 1 ♀, 1 sex unknown, all inside whitefly hosts. UCRC ENT 299595–299598 (UCR). **PERU: Huanaco:** 6 ♀ and 2 sex unknown. BMNH(E) 990267–990272 and BMNH(E) 1038875–1038876 (BMNH).

Biology. All material examined was reared from Aleyrodidae. Rose (personal communication) recalled that the collections in Manzanillo, Colima, Mexico (type locality) were from ant-run, high density *A. floccosus* populations, from which four or five other species of parasitoids were reared. Other *Signiphora* reared from whitefly in similar circumstances are usually hyperparasitoids.

Etymology. From Latin, *longus* = long, plus tibia, referring to the unusually long mesotibia. The specific epithet is an adjective.

FIGURES 261–264. *Signiphora lutea*: 261, head (USNM ENT 763066); 262, female antenna (USNM ENT 763066); 263, mandibles (USNM ENT 763066); 264, middle leg, female (USNMType 19064, lectotype female).

***Signiphora lutea* Rust, 1913**
Figures 261–272
http://eol.org/pages/855942/

Signiphora lutea Rust, 1913: 163. Female.
urn:lsid:zoobank.org:act:2AFF3CF1-6A31-45EE-AADA-A07F561F01AE

Diagnosis. Fore wing marginal vein without seta M1; Mt1 bilobed with medial portion rounded; length Mt1:length Mt2 1.00; scutellum with 4 setae; Mt8 with anterior margin with broadly rounded medial incision; antennal clava short (clava length:scape length 1.64–1.95) and with apical 1/3 slightly dusky; mesofemur with elongate apical spine on posteroapical margin 1/4–2/3 length of proximal spine. The elongate apical spine on posteroapical margin of mesofemur (from 1/4–2/3× length of proximal spine) is not known for other species in the *flavopalliata* group.

Signiphora lutea is most similar to *S. aspidioti* and *S. borinquensis*. In most specimens of *S. apidioti* and all specimens of *S. borinquensis*, Mt1 is strongly bilobed with medial portion transverse. The anterior margin of Mt8 in *S. borinquensis* is transverse (with rounded medial incision in *S. lutea*).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.35–0.48 mm (n=7). Vertex and frons pale yellow, occiput with brown band at occipital margin. Antenna slightly dusky in anterior third, pronotum and anterior 1/2 mesoscutum pale brown, remainder of mesosoma and Mt1 pale yellow, Mt2 brown in medial 1/3 or entirely brown, Mt3 through Mt4 or Mt5 light brown, remainder of metasoma pale yellow, Mt8 and ovipositor sheaths dusky. Mesoscutum transversely imbricate, other sculpture not discernible in specimens examined. Fore wing infuscated to apex of stigmal vein, with the two hyaline areas behind submarginal vein and in basal areas almost confluent with each other.

FIGURES 265–268. *Signiphora lutea*: 265, fore wing, female (USNMType 19064, lectotype female); 266, venation of fore wing (USNMType 19064, lectotype female); 267, hind wing, female (USNMType 19064, lectotype female); 268, venation of hind wing (USNMType 19064, lectotype female).

FIGURES 269–272. *Signiphora lutea*: 269, female habitus (USNMType 19064, lectotype female); 270, mesosoma of female (USNM ENT 763066, paralectotype female); 271, metasoma of female (USNM ENT 763066); 272, Mt8 of metasoma, female (USNMType 19064, paralectotype female).

Head. Mandible with two teeth, mandibular ducts enlarged apically. Pedicel length:scape length 0.64–0.74; 3 anelli, the second 1.5–2.0× length of the first, the third 2.5–3.0× length of the first, clava length:scape length 1.64–1.95. Sculpture and punctation on vertex and frons not discernable in specimens examined.

Mesosoma. Mesoscutum transversely imbricate, remainder of sculpture on available specimens not discernible. Scutellum with 4 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded to narrowly rounded. Fore wing without discal seta, length:width 3.1–3.5; fore wing LMS:fore wing width 1.2–1.7; marginal vein length:stigmal vein length 2.0–2.8; marginal vein with 5 dorsal setae, seta M1 absent, rarely present or marginal vein with an extra seta (see discussion); seta M3 length:marginal vein length 0.44–0.75; marginal vein without ventral setae, apical end of costal cell at seta M2. Hind wing with subparallel margins, length:width 7.4–9.3; hind wing width:fore wing width 0.33–0.42, hind wing LMS:hind wing width 3.00–4.67. Mesofemur with 1 spine (sometimes 0) on posteroapical margin (see discussion); mesotibial spur with 5 or 6 teeth, mesotibial spur length:basitarsus length 0.82–1.11; basitarsus length:mesotibia length 0.49–0.61.

Metasoma. Mt1 bilobed with medial portion rounded, Mt1 length:Mt2 length 1.0; ovipositor with anterior-most margin lying under propodeum to Mt2; ovipositor length:metasoma length 0.76–0.88; ovipositor sheath

length:ovipositor length 0.20–0.24; Ms3–Ms6 with anterior projections not visible in specimens examined; Ms6 in posterior 1/4 of metasoma and with 8 setae; Mt8 with anterodorsal margin with a broadly rounded, medial incision.

Male. Unknown.

Discussion. The apical spine on the posteroapical surface of the mesofemur of the lectotype is 1/3× length of the proximal spine. In other specimens the apical spine is 1/4–2/3× length of proximal spine. All but one specimens examined are without seta M1 from the fore wing marginal vein. In one specimen (USNM ENT 00763066); one marginal vein has six setae and the other, seven.

Type material. ***Signiphora lutea*** **Rust—LECTOTYPE ♀ [here designated]:** PERU, [PIURA], Saman, coll. Rust, 22-XII-1912, ex *Pseudaonidia articulata* [now *Selenaspidus articulatus* (Morgan)] A. 163o3a, in balsam (USNM Type 19064). **PARALECTOTYPES:** data as lectotype, 7 ♀ in balsam (USNM Type 19064). The lectotype and paralectotypes are on one slide, USNM Type 19064. The right-most female in the upper row of four females (slide oriented with red USNM type label to right) is designated lectotype and the slide has been labeled accordingly. The lectotype specimen is in fair condition and is entire except that the apex of the metasoma is missing. The paralectotypes are in poor to fair condition and most are broken or partially dissected.

Other material examined. PERU: Piura: 3 ♀ in balsam, USNM ENT 00763066.

Biology. Rust (1913) stated that he described this species from many male and female specimens reared during 1910–1912 from *Hemichionaspis minor* [now *Serenaspis minima* (Maskell)] and *Pseudaonidia* sp. on various hosts, principally cotton and citrus, from Lima and Department of Piura, Peru. However, many of the specimens determined as *S. lutea* by Rust are, in fact, *S. flavella*. The host record for the type specimens of *S. lutea, Selenaspidus articulatus* (Diaspididae); is the only *bona fide* host record known for this species and Piura, Peru is the only known locality.

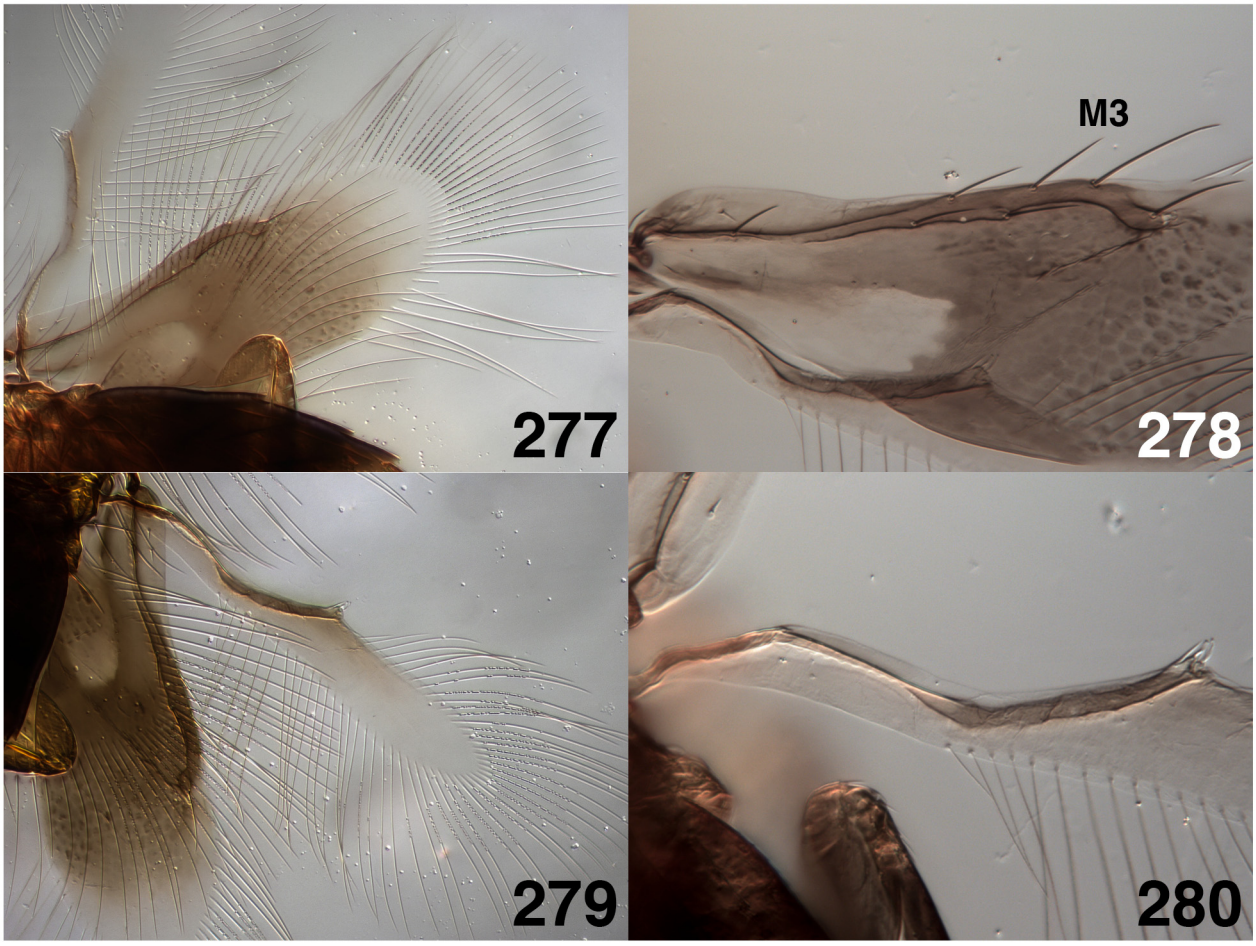
FIGURES 273–276. *Signiphora maculata*: 273, head (USNMType 14203, paralectotype female); 274, female antennae (USNMType 14203, lectotype female); 275, mandibles (USNMType 14203, lectotype female); 276, middle leg, female (USNMType 14203, paralectotype female).

***Signiphora maculata* Girault, 1913**
Figures 273–284
http://eol.org/pages/855949

Signiphora maculata Girault, 1913: 221. Female.
urn:lsid:zoobank.org:act:04DB756E-346A-48D0-A18B-C725E68E4A77
Thysanus maculatus: Dozier (1933).
Signiphora maculata: De Santis (1979).

Diagnosis. Body brown with Mt5 or Mt6–Mt7 lighter brown; mandibular ducts usually with parallel sides, not enlarged apically; scutellum with 5–7 setae; fore wing marginal vein with seta M1 (rarely M1 and M2) missing; Mt8 with anterodorsal margin transverse, without a medial incision; Mt1 bilobed with medial portion transverse.

This species is most similar to *S. bennetti* and *S. merceti*. *Signiphora bennetti* has Mt1 weakly bilobed or bilobed but with the medial portion rounded, the posterior 1/2 of mesoscutum, scutellum and metanotum yellow or tan, and the anterodorsal margin of Mt8 (female) with a broadly rounded medial incision. *Signiphora merceti* has the mandibular ducts enlarged apically, setae M1 and M2 absent, setae M3 and M4 short, and the fore wing and hind wing are infuscated from base to apex.



FIGURES 277–280. *Signiphora maculata*: 277, fore wing, female (USNMType 14203, paralectotype female); 278, venation of fore wing (USNMType 14203, paralectotype female); 279, hind wing, female (USNMType 14203, paralectotype female); 280, venation of hind wing (USNMType 14203, paralectotype female); (M3 = third dorsal seta, marginal vein).

Description. ***Female*.** Length, anterior margin of pronotum to epiproct apex, 0.46–0.62 mm (n=15). Vertex, frons, face, and gena a uniform light brown, clypeus dark. Antenna uniformly light brown. Body uniformly brown or with Mt5 or Mt6–Mt8 noticeably lighter than preceding terga. Fore wing strongly infuscated from base to halfway between distal end of stigmal vein and wing apex except for two hyaline areas at wing base behind

submarginal vein and along posterior wing margin. Infuscation of fore wing with a mottled pattern distal to middle of marginal vein. Hind wing faintly infuscated behind marginal vein.

Head. Mandibular ducts parallel-sided, occasionally enlarged apically. Pedicel length:scape length 0.61–0.75; 3 anelli, the second from 1.5–4.0× length of the first, the third from 2.3–5.0× length of the first; clava length:scape length 1.58–1.75. Vertex and frons finely and transversely striate.

Mesosoma. Pronotum and mesoscutum transversely imbricate, scutellum, metanotum, and medial sclerite of propodeum weakly imbricate. Scutellum with 6 setae (occasionally 5 or 7) and 2 or 3 campaniform sensilla. Medial propodeal sclerite rounded, process on medial sclerite rounded apically. Fore wing 2.8–3.3× as long as wide, fore wing LMS:fore wing width 1.2–1.4; marginal vein length 1.3–2.2× stigmal vein length, with 5 dorsal setae (seta M1 absent) and lacking ventral setae, or rarely with 4 dorsal setae (setae M1 and M2 absent); seta M3 length:marginal vein length 0.48–0.77; apical end of costal cell from seta M1 to between M2 and M3. Hind wing with subparallel margins; 5.9–8.3× as long as wide, 0.36–0.47× fore wing width; hind wing LMS:hind wing width 2.22–3.50. Mesofemur with 1 long spine and 1 short spine in posteroapical margin; mesotibial spur with 4 or 5 teeth; mesotibial spur:basitarsus 0.67–0.81; basitarsus:mesotibia 0.52–0.60.

FIGURES 281–284. *Signiphora maculata*: 281, female habitus (USNMType 14203, paralectotype female); 282, mesosoma of female (USNMType 14203, paralectotype female); 283, metasoma of female (USNMType 14203, paralectotype female); 284, Mt8 of metasoma, female (USNMType 14203, paralectotype female).

Metasoma. Mt1 strongly bilobed with medial portion transverse, Mt1 length:Mt2 length 1.0–2.0; ovipositor with anterior-most portion under Mt3 to Mt4; ovipositor length:metasoma length 0.46–0.74; ovipositor sheath length:ovipositor length 0.17–0.21; Ms3–Ms6 with anterior projections medium to long; Ms6 in posterior 1/4 or at apex of metasoma and with 6–9 setae; Mt8 with anterodorsal margin transverse, without a medial emargination.

Male. Unknown.

Type material. *Signiphora maculata* Girault—LECTOTYPE ♀ [here designated]: CUBA, Santiago de Las Vegas, coll. P. Cardin, 21-VI-1911, ex *Lepidosaphes alba* [now *A. albus*], 7231, in balsam (USNM Type 14203). **PARALECTOTYPES:** on three slides, all with data as lectotype: 10 ♀ in balsam with lectotype (USNM Type 14203); 4 ♀ in balsam (INHS 72495); and 3 ♀ in balsam (USNM ENT 763075). Girault's type series for this species included a slide labeled "Type" (USNM Type 14203) with 11 females under a large rectangular cover slip on one slide as noted. The female at the extreme lower right (slide oriented with red USNM type label to right) is here designated lectotype and the slide has been labeled accordingly. Girault also designated a slide with four females as "Cotypes" INHS 72495 and a third slide with 3 females as "Homotypes" (USNM ENT 763075). We conclude that all 18 specimens on the three slides had equal standing as syntypes, so the type series now consists of a lectotype and 17 paralectotypes.

Other material examined. HAITI: 11 ♀, USNM ENT 763073–763074, 763076–763084 (USNM).

Biology. The species is apparently uniparental. All material examined was reared from *A. alba* (Diaspididae).

Signiphora merceti **Malenotti, 1916**

Figures 285–300

http://eol.org/pages/855940

Signiphora merceti Malenotti, 1916: 181. Female.
urn:lsid:zoobank.org:pub:45102C12-C94F-4EDB-ABC8-72A1155AFDE1
Signiphora (Signiphorella) merceti: Mercet (1916).
Signiphora merceti: Mercet (1927); Peck *et al.* (1964).
Thysanus merceti: Peck (1951).
Signiphorella merceti: Ferrière (1953).

Diagnosis. Body uniformly brown; fore wing and hind wing infuscated from wing base to apex; fore wing with demarcation between submarginal and marginal veins not distinct; fore wing marginal vein without setae M1 and M2, setae M3 and M4 small and subequal in length (or M4 slightly longer than M4); M3 length only slightly greater than maximum width of marginal vein.

S. merceti is most similar to *S. jojobae*, but can easily be distinguished from the latter by the lack of a medial emargination on the anterodorsal margin of Mt8 and by the infuscation on the fore and hind wings.

Description. *Female.* Length, anterior margin of pronotum to epiproct apex, 0.43–0.83 mm (n=13). Head uniformly light brown from vertex to gena. Antenna uniformly brown with clava dusky in apical 1/4–1/3. Body uniformly brown. Fore wing infuscated from base to apex with hyaline area in posterobasal 1/3. Hind wing lightly infuscated from base to apex.

Head. Mandibular ducts enlarged apically. Pedicel length:scape length 0.56–0.68; 3 anelli, the second from 2.0–3.0× length of first, the third from 3.0–5.0× length of first; clava length:scape length 1.32–1.48. Vertex and frons finely and transversely striate with scattered, minute punctations.

Mesosoma. Pronotum and mesoscutum transversely imbricate; scutellum, metanotum and medial sclerite of propodeum weakly imbricate. Scutellum with 5–8 setae and 0, 1 or 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded apically. Fore wing length:width 2.4–3.2× as long as wide; fore wing LMS:fore wing width 0.9–1.6; marginal vein length 2.1–2.8× stigmal vein; marginal vein with 4 dorsal setae (setae M1 and M2 absent) and without ventral setae; seta M3 length:marginal vein length 0.23–0.59; apical end of costal cell at seta M3 or proximal to M3. Hind wing with subparallel margins, 5.7–7.2× as long as wide, 0.37–0.50× fore wing width; hind wing LMS:hind wing width 2.14–2.87. Mesofemur with 1 long spine and 1 short spine in posteroapical margin; mesotibial spur:basitarsus 0.78–1.00; mesotibial spur with 3–6 teeth; basitarsus:mesotibia 0.37–0.46.

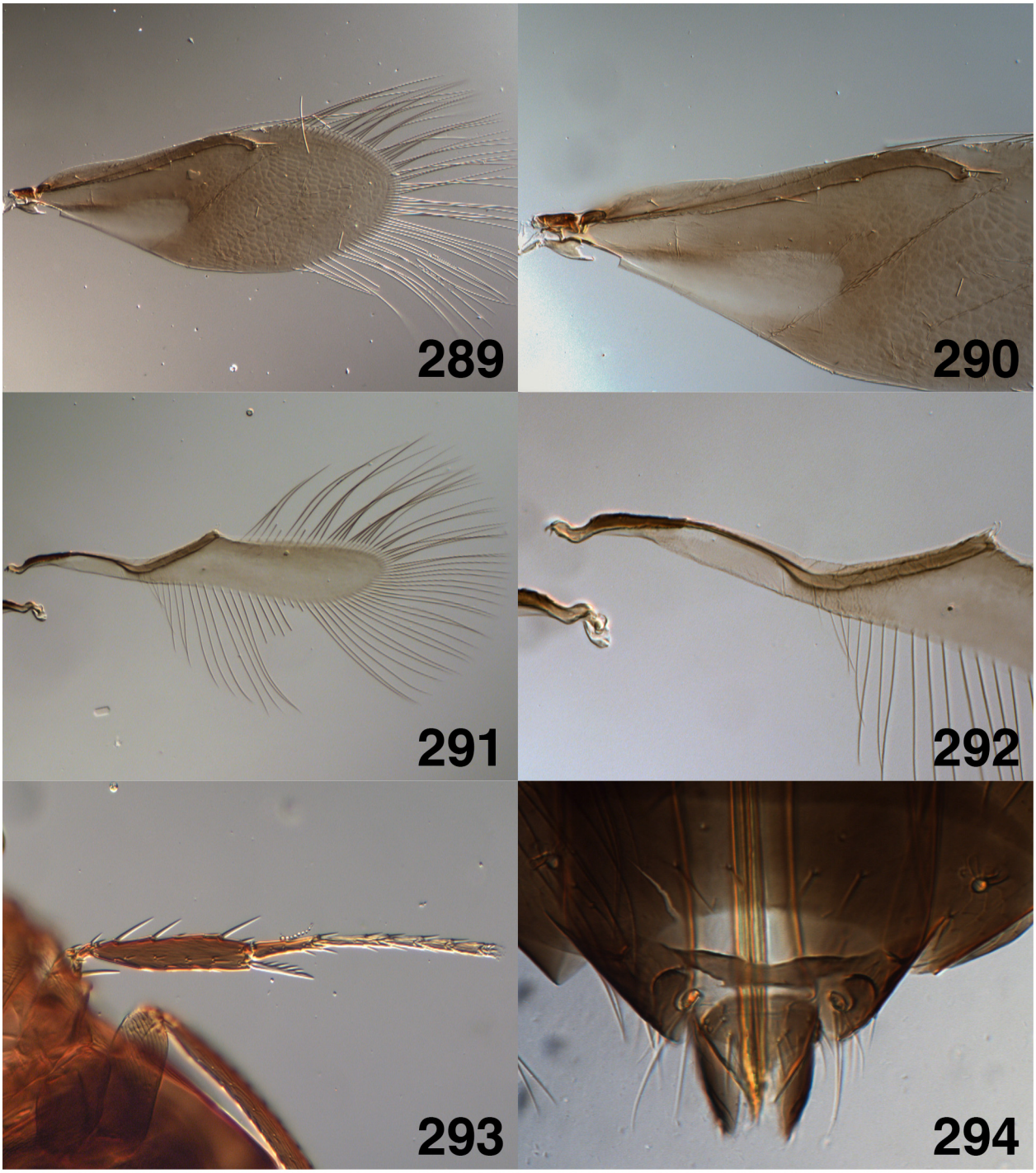
FIGURES 285–288. *Signiphora merceti*: 285, head (NZAC 09048993); 286, female antenna (NZAC 09048993); 287, mandibles (NZAC 09048993); 288, male antenna (USNM ENT 763090).

Metasoma. Mt1 bilobed with medial portion either rounded or transverse, Mt1 length:Mt2 length 2.0–3.0; ovipositor with anterior-most margins lying under Mt2–Mt4; ovipositor length:metasoma length 0.48–0.95; ovipositor sheath length:ovipositor length 0.17–0.22; Ms3–Ms6 with anterior projections short; Ms6 in posterior 1/4 of metasoma and with 8–10 setae; Mt8 with anterodorsal margin transverse, without medial emargination, but often with lateral portions widely convex and produced slightly anterior to medial portion.

Male with coloration and sculpture as female. Length, anterior margin of pronotum to epiproct apex, 0.42–0.51 mm (n=2). Antennal clava length:scape length 1.33–1.41, scutellum with 6 setae and 2 campaniform sensilla, Mt1 strongly bilobed with medial portion transverse. Genitalia normal for *flavopalliata* group, digitus 2× as long as wide and with a single denticle at the apex (other details not visible in specimens examined); MS8 a transverse strip, extending to cerci laterally.

Discussion. Mercet (1916) erected the subgenus *Signiphora (Signiphorella)* to hold this species. Ferrière (1953) elevated *Signiphorella* to genus level. Although this species is distinct and highly autapomorphic, we know of no evidence to suggest that it represents a separate monophyletic clade worthy of subgeneric status.

Type material. In his original description, Malenotti (1916) stated only: "Habitat in Hispania. E *Chrysomphalus dictyospermi* Morg. exorta tria exempla vidi. Cl. entomologo Richardo Garcia Mercet reverentissime dicata." No further information regarding the repository was provided in the original description or in Malenotti's (1918) subsequent redescription, which may have prevented this specimen from being located so far. We believe that we have located and examined the holotype of this species. **HOLOTYPE ♀ [examined]:** slide-mounted specimen in MNCN, labeled “tipo, Signiphora merceti Mal. [illegible], Santoña, 8-916” (MNCN_Ent No. Cat. 71293).



FIGURES 289–294. *Signiphora merceti*: 289, fore wing, female (BMNH(E) 990193); 290, venation of fore wing (BMNH(E) 990193); 291, hind wing, female (BMNH(E) 990193); 292, venation of hind wing (BMNH(E) 990193); 293, middle leg, female (BMNH(E) 990193); 294, Mt8 of metasoma, female (NZAC 04048993).

Other material examined. ALGERIA: 2 ♀, MHNG ENTO 00009850 (MHNG); **BENIN:** 1 ♀, BMNH(E) 990190 (BMNH). **CHILE:** 1 mixed series. USNM ENT 763091 (USNM). **FRANCE:** 1 sex unknown. MHNG 00009852 (MHNG). **ISRAEL:** 2 ♀, BMNH(E) 990191, 990195 (BMNH). **KENYA:** 1 ♀, BMNH(E) 990192 (BMNH). **MOROCCO:** 1 ♀, MHNG ENTO 00009851 (MHNG); **NEW ZEALAND:** 4 ♀, NZAC 4048815, 4048993 (NZAC); BMNH(E) 990193, 990194 (BMNH). **SOUTH AFRICA:** 1 ♀: UCRC ENT 299397 (UCR); 4 ♀, 5 sex unknown at Calif. State Insectary: UCRC ENT 299398–299401, 299935–299939. **SOUTH AFRICA: Cape Province:** 12 ♀, UCRC ENT 299389–299396, 299402–299405 (UCR). **PORTUGAL:** 1 ♀, USNM ENT

763095 (USNM). **SPAIN:** 1 ♀, USNM ENT 763094 (USNM). **URUGUAY: Montevideo:** 3 pinned specimens, 1 mixed series, 1 ♀, USNM ENT 763506–763508, 763089, 763090 (USNM). **USA: California:** 117 slides with ♀ (number of individuals vary): USNM ENT 763086–763087, 763092–763093, 763505 (USNM); UCRC ENT 299146–299148, 299385–299388, 299406–299465 (UCR); BMNH(E) 990189, 990196, 990197 (BMNH.). CASENT 2212700–2212701 (CAS). TAMU-ENTO X0827963–X0828004 (TAMU). 6 immatures: TAMU-ENTO X0460315–X0460319, X0827962 (TAMU). **USA: Louisiana:** 2 ♀, USNM ENT 763085, 763088 (USNM).

Biology. *Signiphora merceti* is known to be uniparental (Agekyan 1968; DeBach *et al*. 1958). No males have been observed in the very extensive collections from southern California. In fact, the only male specimens observed are the four from Carrasco, Uruguay (USNM ENT 00763090). This species is known to be a primary parasitoid of Diaspididae, most commonly species of *Hemiberlesia*, from which it is commonly reared in sympatry with *S. flavella.* Agekyan (1968) and DeBach *et al.* (1958) provided details of the biology on *H. rapax* and *H. lataniae*: eggs are deposited internally in mature female hosts, the 1st instar larvae develop initially as internal parasitoids, but after 5 or 6 days the larvae chew through the host integument and continue development as external parasitoids. In spite of the numerous records of this species reared from California red scale, *A. aurantii*, we were not able to obtain oviposition by females placed on *A. aurantii* of various ages (2nd instar to adult females) in the laboratory.

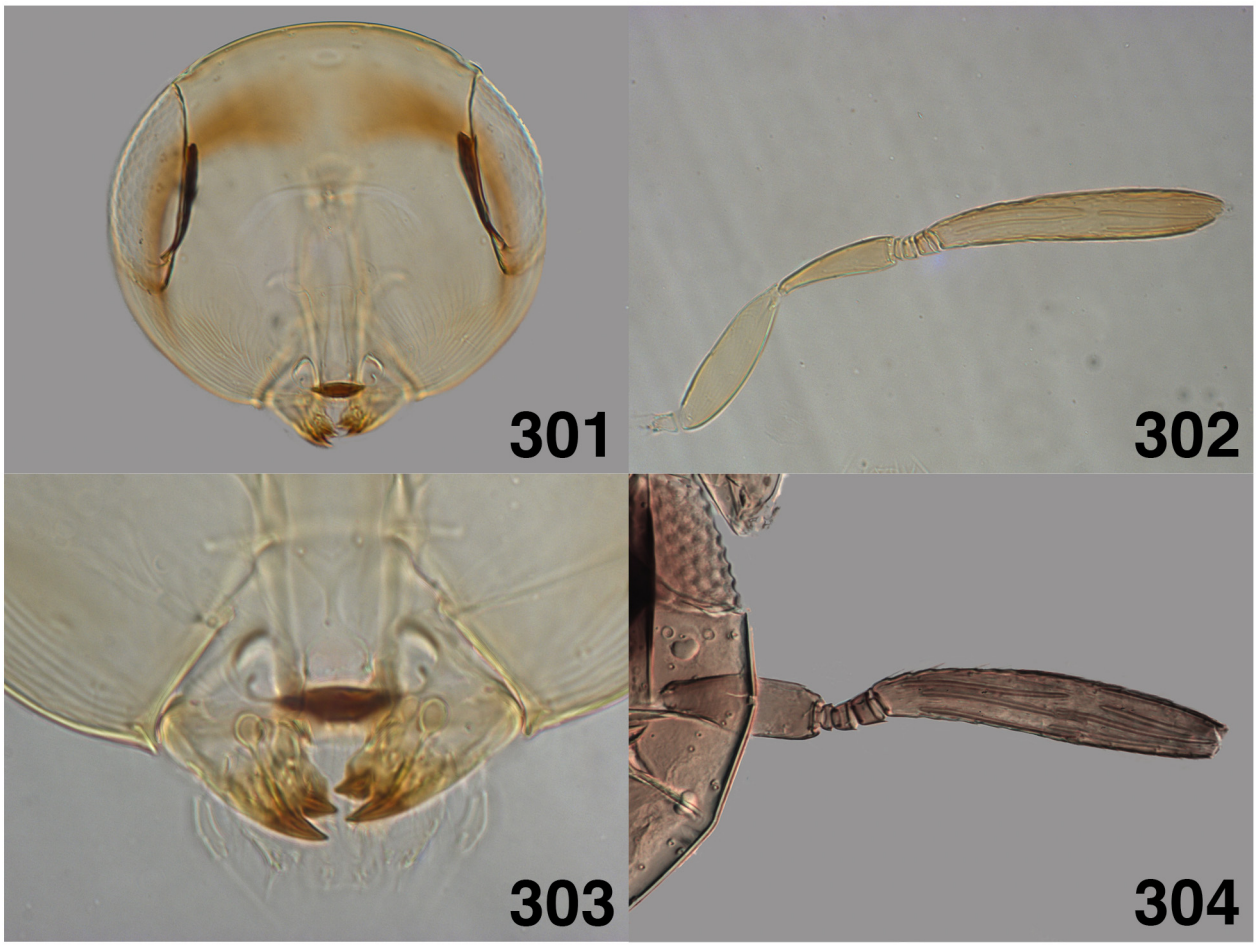
FIGURES 295–300. *Signiphora merceti*: 295, female habitus (UCRC ENT 299464); 296, mesosoma of female (BMNH(E) 990193); 297, metasoma of female (BMNH(E) 990193); 298, male habitus (USNM ENT 763090); 299, male genitalia (USNM ENT 763090); 300, Ms8 of metasoma, male (USNM ENT 763090).

***Signiphora perpauca* Girault, 1915**
Figures 301–316
http://eol.org/pages/855933

Signiphora perpauca Girault, 1915: 71. Female.
urn:lsid:zoobank.org:act:111F47A2-436B-450A-8D7B-2DE9DF894167
Signiphora woolleyi Hayat, in Hayat *et al.* 2003: 321. Female. **NEW SYNONYMY**
urn:lsid:zoobank.org:act:83B71D6A-9E6A-4620-B6A9-F347B2112669

Diagnosis. The light coloration of the female distinguishes this species from all others in the *flavopalliata* group with a discal seta in the fore wing. The following combination of features is also diagnostic: fore wing with discal seta; scutellum generally with 5 or 6 setae; female antennal clava distinctly dusky in apical 1/6–1/4; Mt8 with anterodorsal margin in female transverse, without a medial incision; Mt1 bilobed with medial portion rounded; Ms8 in male with a pointed, anteromedial projection.

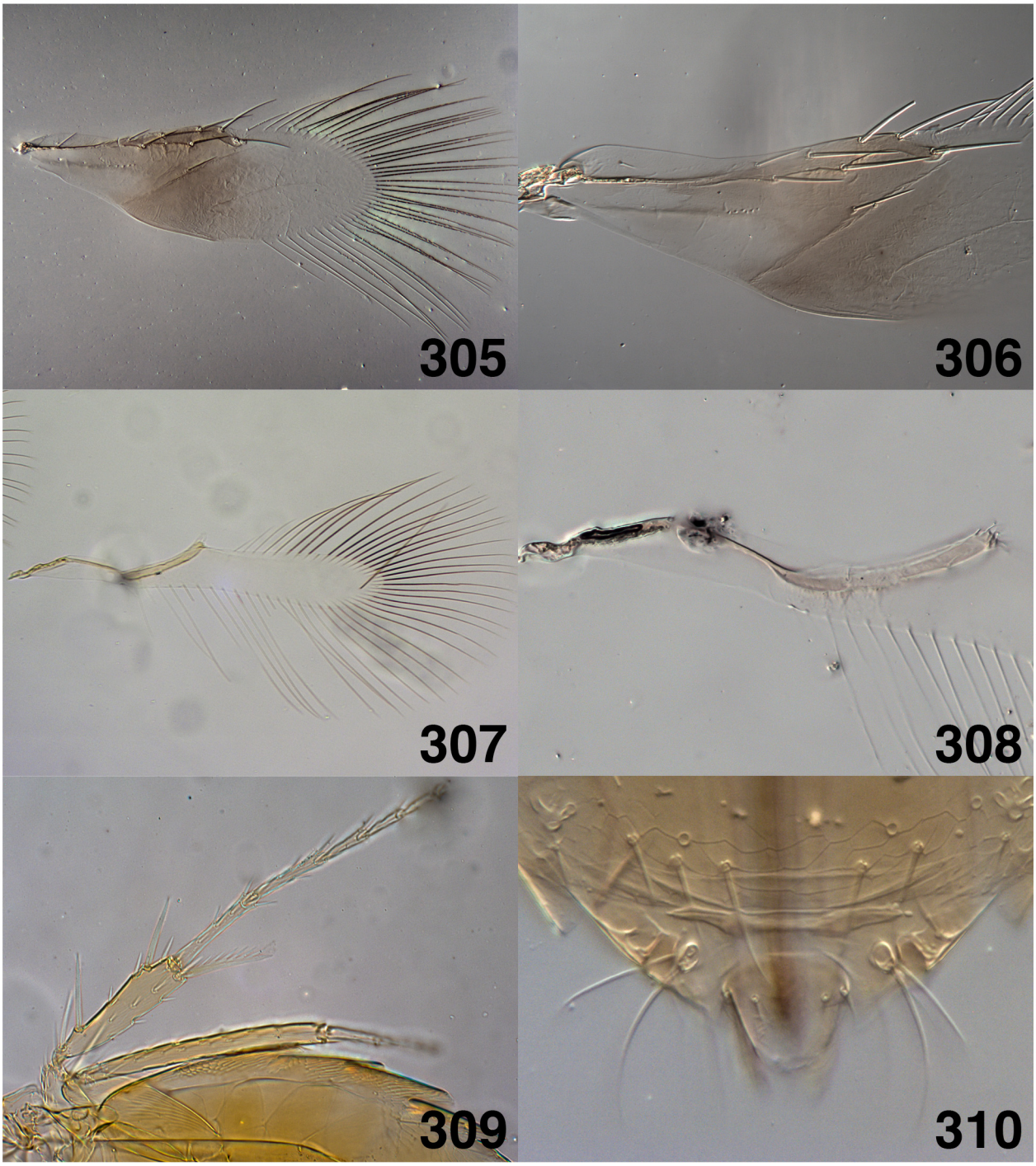
This species is most similar to *S. fax*, and is often reared in association with that species. Females can easily be distinguished from *S. fax* by the light coloration, but the separation of males is more difficult. Males of *S. fax* generally have 4 setae on the scutellum, whereas males of *perpauca* generally have 5 or 6 setae on the scutellum. The coloration of the metasoma of *S. fax* male is uniformly brown, whereas the metasoma of male of *S. perpauca* is often a mottled brown, or the terga are lighter in color laterally and at the apex of the metasoma.



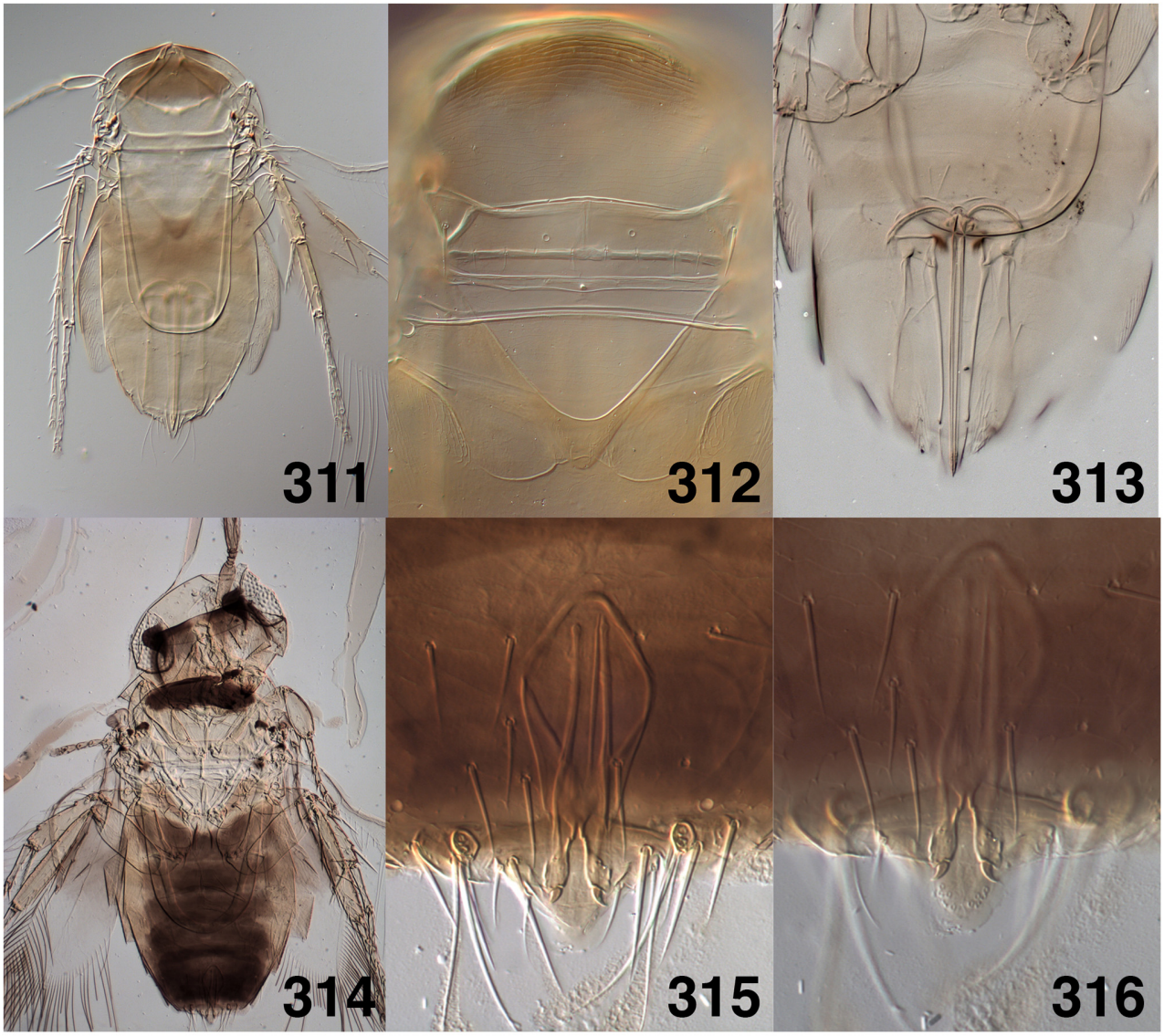
FIGURES 301–304. *Signiphora perpauca*: 301, head (BMNH(E) 990209); 302, female antenna (BMNH(E) 990209); 303, mandibles (BMNH(E) 990209); 304, male antenna (UCRC ENT 299491).

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.39–0.77 mm (n=20). Vertex yellow or tan, occiput with brown band at occipital margin, interrupted medially, face and gena pale yellow, clypeus dark brown. Antennal clava dusky in distal 1/6–1/4, remainder of clava and pedicel and scape pale brown or tan. Pronotum yellow, tan or light brown except lateral corners yellow. Mesoscutum entirely yellow or brown in

anterior 1/3–1/2 and yellow in posterior 1/2–2/3. Scutellum, metanotum and medial sclerite of propodeum pale yellow or white, distinctly lighter in color than mesoscutum and lateral sclerites of propodeum. Propodeum with lateral sclerites yellow or tan, occasionally embrowned at borders of medial sclerite. Metasoma usually entirely yellow but occasionally with varying amount of brown coloration as follows:Mt2 sometimes dusky brown in medial 1/3, or Mt1–Mt3 orange, brown, or with embrowned patches on yellow or orange background. In specimens with dark color on Mt1–Mt3, Mt4 in medial 1/3 and Mt5 may be embrowned in medial 1/5. Mt6 and Mt7 rarely with lateral embrowned areas. Mt8, epiproct and ovipositor sheaths generally yellow, rarely dusky dark brown which contrasts with preceding terga (see discussion). Fore wing infuscated from base to almost apex of stigma vein, with hyaline areas behind submarginal vein and in basal area, typical for *flavopalliata* group species.



FIGURES 305–310. *Signiphora perpauca*: 305, fore wing, female (BMNH(E) 990213); 306, venation of fore wing (BMNH(E) 990209); 307, hind wing, female (BMNH(E) 990205); 308, venation of hind wing (BMNH(E) 990218); 309, middle leg, female (BMNH(E) 990205); 310, Mt8 of metasoma, female (UCR 299470).



FIGURES 311–316. *Signiphora perpauca*: 311, female habitus (BMNH(E) 990205); 312, mesosoma of female (BMNH(E) 990218); 313, metasoma of female (BMNH(E) 990218); 314, male habitus (UCR 299490); 315, male genitalia (UCR 299490); 316, Ms8 of metasoma, male (UCR 299490).

Head. Mandible bidentate, mandibular ducts enlarged apically. Pedicel length:scape length 0.64–0.77; 3 anelli, the second 1.0–3.0× length of first, the third 2.0–4.0× length of first; clava length:scape length 1.41–1.88. Vertex and frons minutely and transversely striate, with scattered, minute punctations.

Mesosoma. Pronotum and mesoscutum transversely, weakly imbricate, medial sclerite of propodeum weakly imbricate. Scutellum with 5 or 6 setae (rarely fewer or up to 9) and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing with discal seta, length:width 2.9–3.9; fore wing LMS:fore wing width 1.2–1.7; marginal vein length:stigmal vein length 1.7–3.4, marginal vein with 6 dorsal setae and 0 or 1 ventral setae; seta M3 length:marginal vein length 0.56–0.75; apical end of costal cell at seta M2–M3. Hind wing with subparallel margins, length:width 6.9–8.5; hind wing width:fore wing width 0.36–0.50; hind wing LMS:hind wing width 2.50–3.40. Mesofemur with one long spine and one short spine in posteroapical margin; mesotibial spur length:basitarsus length 0.81–1.19; mesotibial spur with 4–7 teeth; basitarsus length:mesotibia length 0.54–0.83.

Metasoma. Mt1 weakly bilobed or bilobed with medial portion rounded; Mt1 length:Mt2 length 1.0–2.0; ovipositor with anterior-most margin lying under Mt4–Mt6; ovipositor length:metasoma length 0.40–0.65; ovipositor sheath length:ovipositor length 0.20–0.36; Ms3–Ms6 with anterior projections short to long; Ms6 in

posterior 1/4 of metasoma and with 4–6 setae; Mt8 with anterodorsal margin transverse, without a medial incision, although the lateral portions may be widely rounded and produced slightly anterior to medial portion.

Male. Length, anterior margin of pronotum to epiproct apex, 0.39–0.63 mm (n=7). Coloration as for female except vertex and frons yellow–orange or tan, occiput with brown band at occipital margin not interrupted medially, antenna uniformly brown or pale brown, clava not distinctly dusky in apical portion, pronotum light brown in anterior 1/3 or in medial 1/2, remainder of pronotum pale tan, mesoscutum brown in anterior 1/3–1/2, posterior 1/2–2/3 mesoscutum, scutellum, metanotum and medial sclerite of propodeum yellow, pale tan, or white; lateral sclerites of propodeum light brown, contrasting with lighter medial sclerite; Mt1 light brown, remainder of metasoma brown or light brown, often lighter in color laterally or a mottled brown which is lighter laterally and at apex. Sculpture as described for female. Genitalia normal for *flavopalliata* group, digitus with one apical denticle and one seta at its midpoint, digitus length approximately 2× its width, Ms8 a transverse strip with a pointed anteromedial projection, extending to cerci laterally.

Discussion. We have examined the holotype female of *S. woolleyi* Hayat, and (unfortunately) it falls well within the limits of *S. perpauca* as defined here. The marked sexual dimorphism in coloration characteristic of this species is unusual in Signiphoridae. The apex of the metasoma in female (Mt8, epiproct and the ovipositor sheaths) are generally yellow or pale yellow as the preceding terga. In one series from Pitangueiras, Sao Paulo State, Brazil (UCR ENT 299496 and 299503); Mt8, the epiproct and ovipositor sheaths are a dark, dusky brown and contrast with the preceding terga.

Type material. ***Signiphora perpauca*** **Girault—HOLOTYPE ♀ [examined]**: in balsam, QMB Type HY/2967, AUSTRALIA, Queensland, Seymour (Ingham); forest, [coll. probably A.A. Girault], 20-II. The holotype is in reasonably good condition. All appendages are present although the body has been crushed somewhat. ***Signiphora woolleyi*** **Hayat—HOLOTYPE ♀ [examined]:** in balsam, IARA 13/6/29/38, Delhi, India, INDIA, Karnataka, Bangalore, 7.ii.2001, *Ceroplastes actiniformis* Green on sandalwood.

Other material examined. ARGENTINA: Corrientes: 1 ♀, (MLPA). **ARGENTINA: Córdoba:** 1 ♀, USNM ENT 763106 (USNM). **ARGENTINA: Tucumán:** 2 ♀, UCRC ENT 299506–299507 (UCR). **AUSTRALIA: Queensland:** 1 ♀, BMNH(E) 990220 (BMNH). **BRAZIL:** 1 ♀, UCRC ENT 299505 (UCR). **BRAZIL: Minas Gerais:** 2 ♀, UCRC ENT 299499–299500 (UCR). **BRAZIL: Pernambuco:** 3 ♀, 4 ♂, UCRC ENT 299487–299488, 299490–299491, 299498, 299501–299502 (UCR). **BRAZIL: Rio de Janeiro:** 8 ♀, UCRC ENT 299470–299472, 299483–299486, 299497 (UCR). **BRAZIL: Santa Catarina:** 15 ♀, 6 sex unknown. BMNH(E) 990205–990219; NHMUK 010370264–010370265 (BMNH). **BRAZIL: Sao Paulo:** 1 mixed series, 8 ♀, 1 ♂, UCRC ENT 299481–299482, 299494–299496, 299503–299504, 300237–300239 (UCR). **CHILE:** 2 ♀, UCRC ENT 299467–299468 (UCR). **CUBA:** 2 ♀, USNM ENT 763103–763104 (USNM). **EGYPT:** 1 ♀, TAMU–ENTO X0852771 (TAMU). **FRENCH POLYNESIA:** 1 ♀, UCRC 299480 (UCR). **HAITI:** 10 ♀, USNM ENT 763107–763116 (USNM). **INDIA:** 1 ♀, USNM ENT 763026 (USNM). **MEXICO: Michoacán:** 1 ♀, TAMU-ENTO X0828006 (TAMU). **MEXICO: Sinaloa:** 2 ♀, UCRC ENT 299593–299594 (UCR). **PANAMA: Bocas del Toro:** 1 mixed series. UCRC ENT 299469 (UCR). **PAPUA NEW GUINEA:** 4 ♀, BMNH(E) 990306 (BMNH). **PERU:** 2 ♀, 1 sex unknown. UCRC ENT 299492–299493 (UCR), (MLPA). **SOUTH AFRICA: KwaZulu-Natal**: 3 ♀ TAMU-ENTO X0616173–X0616175 (SANC). **TAIWAN:** 1 ♀, UCRC ENT 299479 (UCR). **THAILAND:** 1 ♀, TAMU-ENTO X0852811 (FSCA). **TRINIDAD AND TOBAGO:** 1 ♀, CNCHYMEN 122468 (CNC). **USA: Florida:** 2 ♀, 3 sex unknown. TAMU-ENTO X0852766, X0852812, X0852813, X0852814, X0852815 (FSCA). **USA: Hawaii:** 6 ♀, UCRC ENT 299474–299478 (UCR); TAMU-ENTO X0856695 (CTAM). **USA: Pennsylvania:** 1 ♀, USNM ENT 763102 (USNM). **USA: Texas:** 4 ♀, TAMU-ENTO X0828064, X0828065, X0828066, X0828067 (TAMU). **USA: Virginia:** 1 ♀, USNM ENT 763101 (USNM). **USA: District of Columbia:** 1 ♀, USNM 763105 (USNM).

Biology. This species is biparental and has been reared from a wide variety of Diaspididae. It is often reared in association with *S. fax*. DeBach's notes on several slides of specimens from Brazil indicate that this species is a primary ectoparasitoid of armored scales. Flanders' notes in the Division of Biological Control, UCR (record for S&R 1804-II, unpublished) refer to this species as the dominant parasitoid on Florida red scale, *Chrysomphalus aonidum* (Linnaeus); in Brazil. This species has not previously been reported from the New World; in fact, until now it was known only from the holotype, collected at Ingham, Queensland. See discussion of *S. flavella* regarding apparent rearing of this species from a soft scale on *Grewia* sp. in apparent sympatry with that species.

***Signiphora plaumanni* Woolley & Dal Molin, n. sp.**

urn:lsid:zoobank.org:act:83BB7E43-C77E-43CE-B182-4D32A71641E3

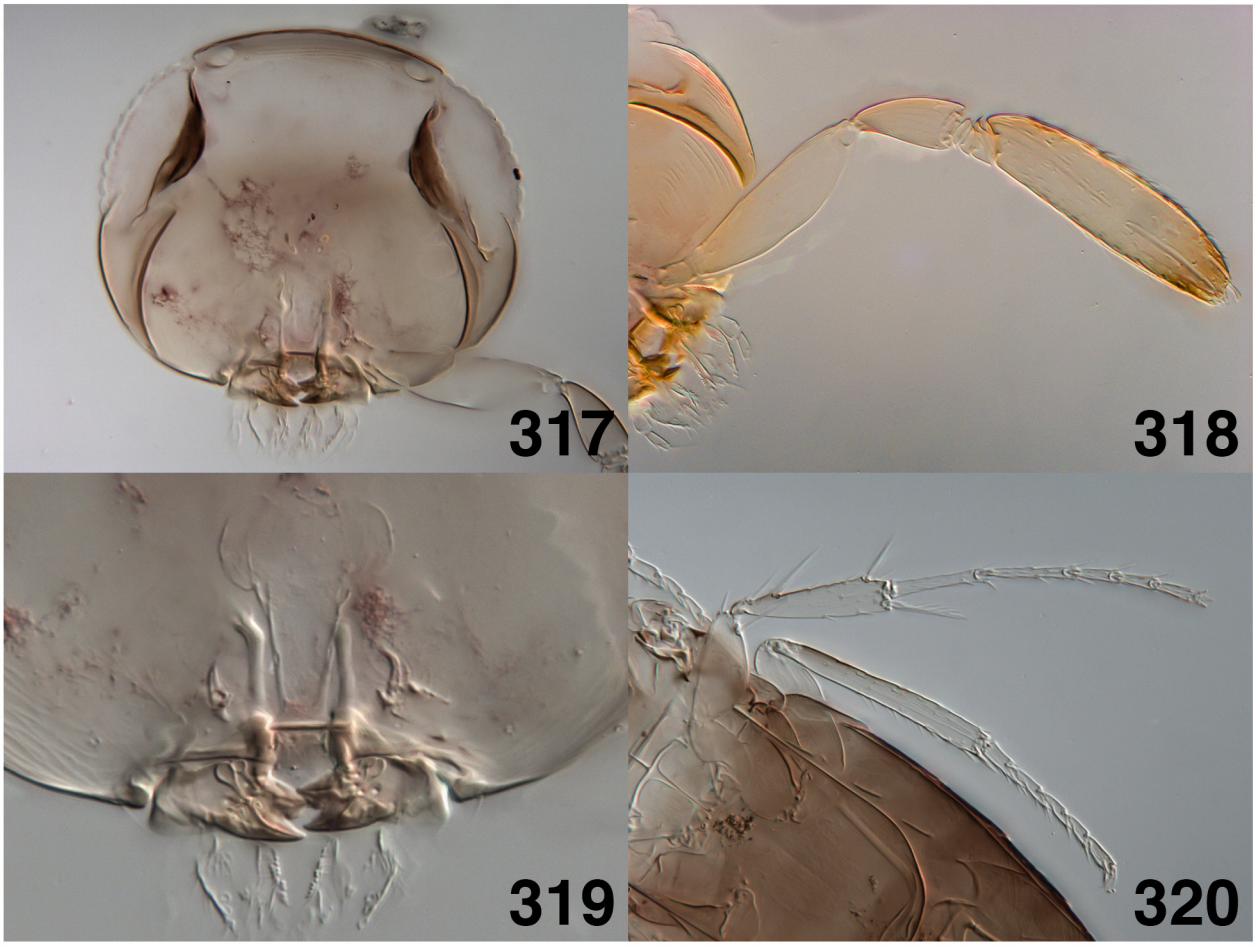
Figures 317–328

Diagnosis. Fore wing with discal seta; wing venation distinctive, with marginal vein straight, barely curved, and with relatively short setae; ovipositor and ovipositor sheaths short; Mt1 weakly bilobed or almost transverse, with medial portion slightly rounded; Mt8 a thin, transverse strip without a medial incision; antennal clava wide, infuscate in distal ¼, and with a single, finger-like sensillum at apex; scutellum with medial pair of setae closer together than either are to lateral-most setae.

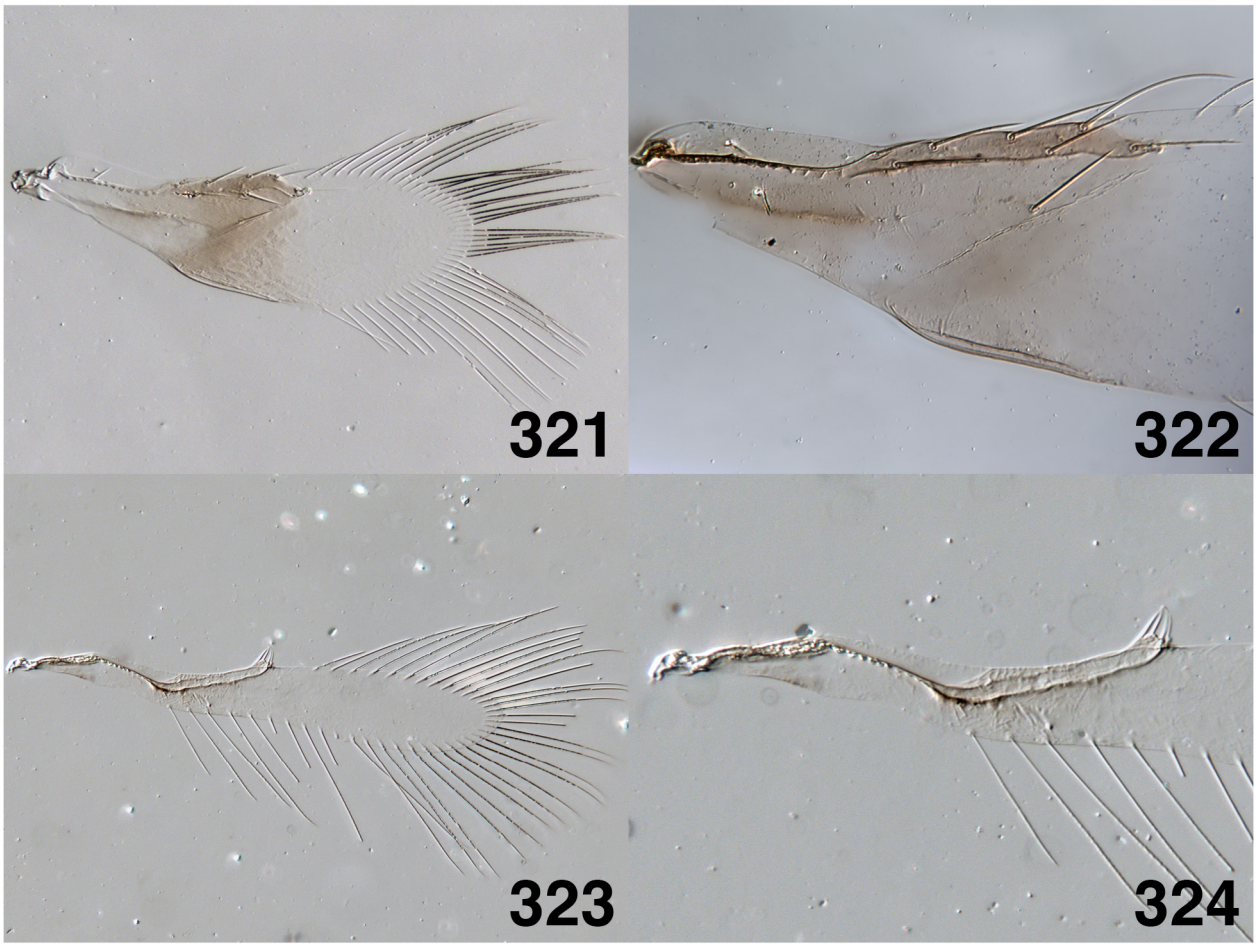
Signiphora plaumanni is most similar to *S. perpauca*, but can be distinguished from it by the mostly dark mesoscutum (brown in anterior 1/3–½ in *S. perpauca*) and metanotum (yellow or mostly yellow in *S. perpauca*) and other features given in the key.

Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.44–0.58 mm (n=7). Head yellow with brown band around occiput; antenna pale tan except distal 1/5–1/4 of clava distinctly darker. Medial third of pronotum brown, remainder yellow, mesoscutum mostly brown except posterolateral corners yellow, scutellum, metanotum and medial sclerite propodeum yellow or dusky yellow, contrasting with brown lateral sclerites of propodeum and all of metanotum. Fore wing infuscated from base to apex of venation, with lighter areas at wing base.

Head. Vertex and frons finely and transversely striate. Mandible bidentate, mandibular ducts enlarged apically. Pedicel length:scape length 0.39–0.53; 3 anelli, second anellus 1/3–2.5× length of first, third anellus 2.7–4.5× length of first, clava length:scape length 1.2–1.6.



FIGURES 317–320. *Signiphora plaumanni* **n. sp.**: 317, head (BMNH(E) 990304); 318, female antenna (BMNH(E) 990304); 319, mandibles (BMNH(E) 990304); 320, middle leg, female (BMNH(E) 990304).



FIGURES 321–324. *Signiphora plaumanni* **n. sp.**: 321, fore wing, female (TAMU-ENTO X0609369); 322, venation of fore wing (BMNH(E) 990269); 323, hind wing, female (BMNH(E) 990304); 324, venation of hind wing (BMNH(E) 990304).

Mesosoma. Mesoscutum and medial sclerite of propodeum transversely imbricate. Scutellum with 4 setae and 2 campaniform sensilla, the medial pair of setae closer together than either is to the lateralmost setae; medial propodeal sclerite rounded, process on medial sclerite narrowly rounded. Fore wing with discal seta, length:width 3.1–3.7; fore wing LMS:fore wing width 1.1–1.3; marginal vein:stigmal vein 2.3–2.8; marginal vein with 6 dorsal and 2 ventral setae; seta M3 length:marginal vein length 0.46–0.57; apical end of costal cell between seta M1 and M2. Hind wing with margins subparallel, hind wing length:width 6.2–6.7; hind wing width:fore wing width 0.47–0.56; hind wing LMS:hind wing width 2.0–2.2. Mesofemur with one long and one short spine on posteroapical margin, mesotibial spur with 4 or 5 teeth, mesotibial spur:basitarsus 0.78–0.96; basitarsus:mesotibia 0.59–0.65.

Metasoma. Mt1 weakly bilobed or almost transverse, with medial portion rounded; Length Mt1:length Mt2 1.0–2.0; anterior-most portion of ovipositor lying under Mt3–Mt5; ovipositor length:metasoma length 0.82–0.96; ovipositor sheath length:ovipositor length 0.18–0.23; Ms3–Ms6 with anterior projections very long; Ms6 between midpoint and posterior 3/4 of metasoma and with 6 setae; Mt8 a thin, transverse strip, without a medial incision.

Male. Unknown.

Type material. HOLOTYPE ♀: slide-mounted in Canada balsam, Brazil, Sta. Catarina, Nova Teutonia, 14.xii.1949, F. Plaumann coll., B.M. 1957-341, BMNH(E) 990296. Holotype deposited in BMNH. **PARATYPES:** 5 ♀ slide-mounted in balsam and 7 ♀ slide-mounted in Hoyers, data as holotype (BMNH(E) 990291–990294, 990297–990298, 990300–990304) except one ♀ collected 25.xi.1949 (BMNH(E) 990304). Paratypes deposited in BMNH, USNM, TAMU, and Museu Entomológico Fritz Plaumann, Seara, Brazil, with permission of BMNH(E).

Other material examined. ECUADOR: Galápagos: 2 ♀, TAMU-ENTO X0609369, X0609371 (TAMU).

Biology. Unknown.

Etymology. The species is named after Fritz Plaumann, the collector of the type specimens, and a famous and

extraordinary collector of micro-Hymenoptera and other insects, who devoted most of his 92 years to exploring and documenting the insect fauna of his region of Brazil.

FIGURES 325–328. *Signiphora plaumanni* **n. sp.**: 325, female habitus (BMNH(E) 990304); 326, mesosoma of female (BMNH(E) 990304); 327, metasoma of female (BMNH(E) 990304); 328, Mt8 of metasoma, female (BMNH(E) 990293).

***Signiphora renuncula* Woolley & Dal Molin, n. sp.**

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Figures 329–344

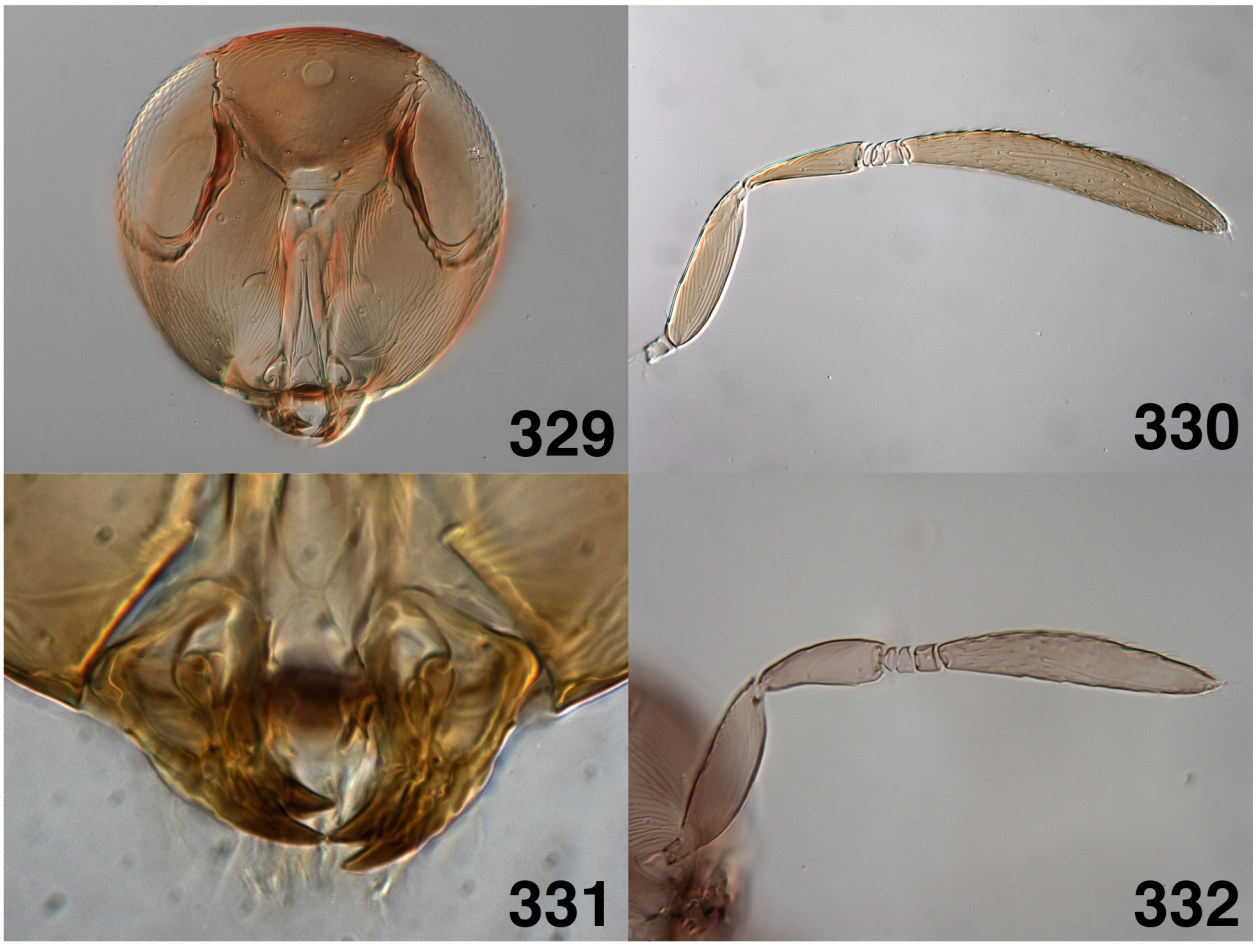
Diagnosis. Fore wing with discal seta; ovipositor very long, extending anteriorly under propodeum; Mt1 or Mt2, and with ovipositor sheaths strongly exserted; Mt1 strongly bilobed with medial portion transverse; Mt8 with rounded medial incision; vertex finely and minutely reticulate.

This species is very similar to *S. ensifera*, which also has a long ovipositor extending anteriorly to the base of the metasoma, but it can be distinguished from it by the sculpture on the frons (minutely and transversely striate in *S. ensifera*); the shape of Mt1 (rounded or barely transverse medially in *S. ensifera*); and the shape of Mt8 (anterior margin transverse in *S. ensifera*). In addition, the mandible of *S. ensifera* has a small dorsal truncation in addition to the two teeth, the mandible of *S. renuncula* does not. The relatively short fore wing marginal vein with long setae and the long discal seta are distinctive, as is the strongly pointed process on the medial sclerite of the propodeum.

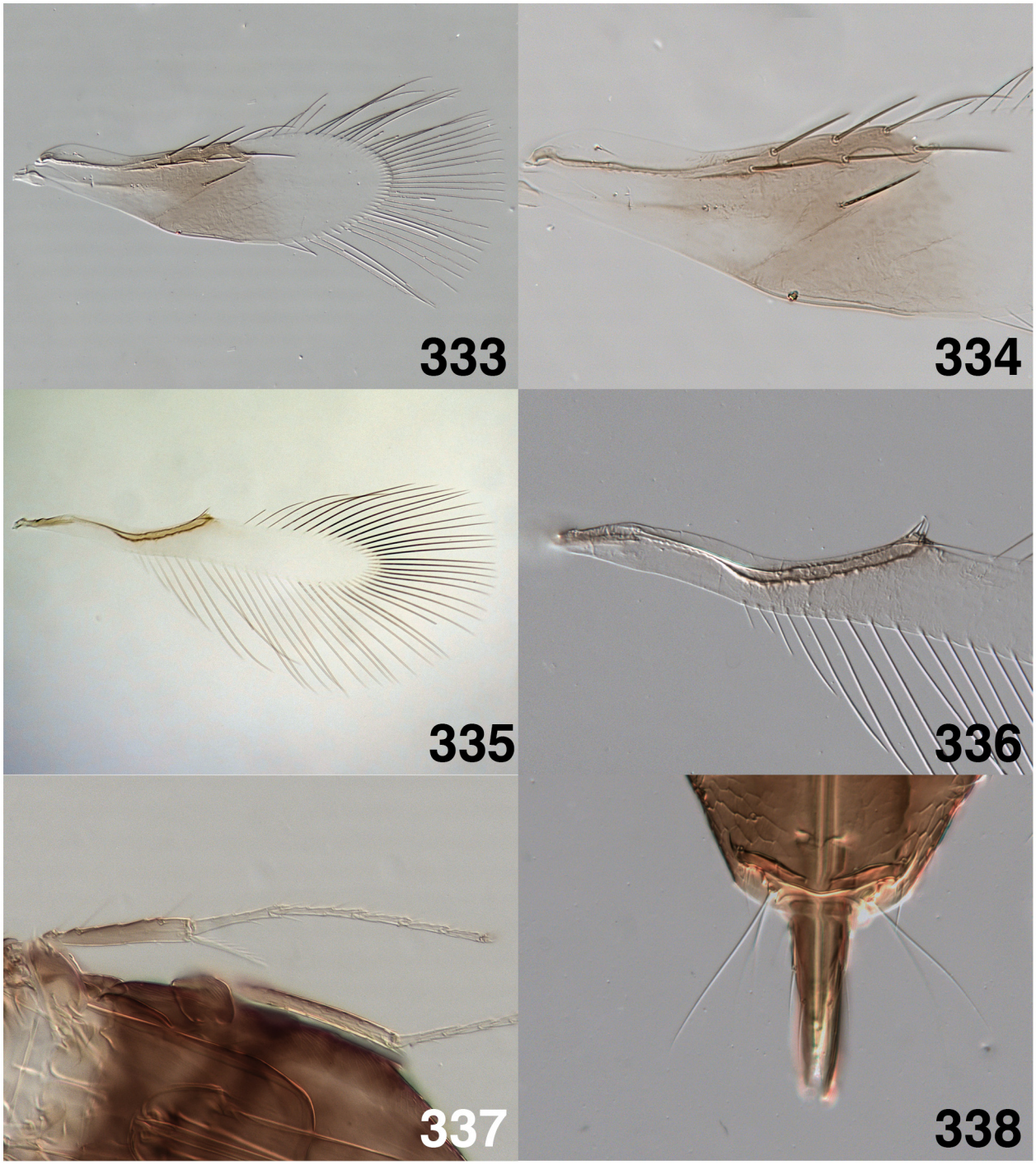
Description. ***Female.*** Length, anterior margin of pronotum to epiproct apex, 0.56–0.72 mm (n=6). Face, frons and vertex pale yellow, occiput slightly darker tan. Antenna entirely pale brown or tan, clava somewhat darker. Pronotum and anterior ½–2/3 mesoscutum brown. Posterior portion of mesoscutum, scutellum, metanotum and most of propodeum yellow; medial process of propodeum darker in posterior 1/5–2/3; lateral sclerites propodeum sometimes darker than scutellum but lighter than base of metasoma; Mt1–Mt4 brown; Mt5–Mt7 pale yellow, but darker in medial portions; Mt8, epiproct and ovipositor sheaths brown. Fore wing infuscated from base to apex of stigma vein or somewhat beyond, with hyaline area behind marginal vein typical of *flavopalliata* group species. Hind wing hyaline.

Head. Vertex and frons very finely and evenly reticulate, the reticulations about ¼ the diameter of the ocelli. Mandible bidentate, mandibular ducts enlarged apically. Pedicel length:scape length 0.66–0.78; 3 anelli, second anellus 1.5–2.0× length of first, third anellus 2.0–3.0× length of first; clava length:scape length 1.73–2.00.

Mesosoma. Pronotum and mesoscutum finely and transversely imbricate. Scutellum with 4 setae and 2 campaniform sensilla; medial propodeal sclerite narrowly rounded, process on medial sclerite pointed. Fore wing with discal seta, length:width 3.0–4.0; fore wing LMS:fore wing width 1.30–1.76; marginal vein:stigmal vein 2.4–2.9; marginal vein with 6 dorsal and usually no ventral setae (1 ventral seta, BMNH(E) 990288); seta M3 length:marginal vein length 0.50–0.69; apical end of costal cell from setae M2–M3 to seta M4. Hind wing margins subparallel, hind wing length:width 7.0–8.2; hind wing width:fore wing width 0.40–0.50; hind wing LMS:hind wing width 2.1–2.9. Mesofemur with one long and one short spine on posteroapical margin; mesotibial spur with 6–8 teeth; mesotibial spur length:basitarsus length 0.80–1.00; basitarsus length:mesotibia length 0.58–0.74.



FIGURES 329–332. *Signiphora renuncula* **n. sp.**: 329, head (BMNH(E) 990289); 330, female antenna (BMNH(E) 990288); 331, mandibles (BMNH(E) 990289); 332, male antenna (BMNH(E) 990295).



FIGURES 333–338. *Signiphora renuncula* **n. sp.**: 333, fore wing, female (CNC HYMEN 00122380); 334, venation of fore wing (CNC HYMEN 00122380); 335, hind wing, female (BMNH(E) 990288); 336, venation of hind wing (BMNH(E) 990288); 337, middle leg, female (BMNH(E) 990288); 338, Mt8 of metasoma, female (BMNH(E) 990289).

Metasoma. Mt1 strongly bilobed with medial portion transverse; Mt1 length:Mt2 length 1.0–1.8; ovipositor with anterior-most portion lying under propodeum, Mt1 or Mt2; ovipositor length:metasoma length 0.81–0.95; ovipositor sheath length:ovipositor length 0.21–0.32; Ms3–Ms6 with anterior projections long; Ms3 lying between medial and posterior ¾ of metasoma or less commonly between posterior ¾ and apex of metasoma and with 8 setae; Mt8 with anterodorsal margin with rounded, medial incision.

Male. Color and sculpture as described for female, except (in the one specimen examined): clava not noticeably darker, pronotum, mesoscutum, propodeum, and all of metasoma brown. Clava length:scape length 1.59. Digitus relatively short and wide, length about 1.3× its width, with a single, short and slightly curved laterally

denticle at apex, and a pair of short and straight medial denticles between bases of digiti; Ms8 a very thin transverse strip, without a medial anterior projection.

Discussion. This species has a disjunct distribution in Brazil, with the holotype and two paratypes from NW Brazil (Fonte Boa, Amazonas) and the other two series of paratypes from SE Brazil (Nova Teutonia and Represa Rio Grande). It is similar to *S. ensifera* but appears to be a different species based on the features given in the diagnoses. *Signiphora ensifera* is also known from Nova Teutonia, but the collecting dates are different. Although the collecting date on the single male specimen (BMNH(E) 990295) does not match any of those of the females, the association is based on the long discal seta and long setae on the marginal vein of fore wing, shape of Mt1, and the process on the medial sclerite of the propodeum. The male specimen has a pair of large structures inside the head, above the mouthparts and under the frons (Fig. 344), which appear to be glands of some sort. This has not been observed in other species of Signiphoridae. Finally, three slide-mounted specimens from Cuitlapetec, Veracruz, Mexico (UCRC ENT 299591) fit the diagnosis of this species, although the sculpture on the frontovertex is not clear, and the ovipositor sheaths are not quite as extended as in the Brazilian specimens.

FIGURES 339–344. *Signiphora renuncula* **n. sp.**: 339, female habitus (BMNH(E) 990288); 340, mesosoma of female (BMNH(E) 990288); 341, metasoma of female (BMNH(E) 990288); 342, male habitus (BMNH(E) 990295); 343, male genitalia (BMNH(E) 990295); 344, Enlarged glands in head of male (BMNH(E) 990295).

Type material. HOLOTYPE ♀: mounted in balsam, [Brazil], Fonte Boas [presumably Fonte Boa], Amazonas, ix.1975, F.H. Oliveira, CNC HYMEN 00122380. Holotype deposited in CNC. **PARATYPES:** four ♀ in balsam, same data as holotype (CNC HYMEN 00122379, 00122381, 00122363, 00122364); one ♀ in balsam,

Brazil, Repressa [sic] Rio Grande, [Sao Paulo], M. Alvarenga, vii.1972, sweep net (CNC HYMEN 00122382). Three ♀ in balsam: Brazil, Nova Teutonia, 28.vii.1943, 23.vii.1943, 10.2.1944, 7.xii.1943, F. Plaumann, B.M. 1957-341 (BMNH(E) 990288–990290 and 990295). Paratypes deposited in CNC, BMNH, and TAMU.

Biology. Unknown.

Etymology. From *renunculus*, diminutive form of L. *ren* = kidney, referring to the enlarged, kidney-shaped structures, apparently glands, in the head of the male. The species epithet is an adjective.

***Signiphora tridentata* Woolley & Dal Molin, n. sp.**

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Figures 345–360

Diagnosis. This species is distinguished from all other species in the *flavopalliata* group by the tridentate mandibles. The combination of a discal seta on the fore wing, the length of Mt1 relative to Mt2 (0.66–0.86 in females) and 4 setae on the scutellum are also diagnostic.

Description. ***Female*.** Length, anterior margin of pronotum to epiproct apex, 0.43–0.66 mm (n=9). Vertex tan with medial brown patch at occipital margin in most specimens, frons, face and gena yellowish–tan; clypeus dark brown. Antennal clava pale brown, dusky in distal 1/3–1/2, pedicel and scape tan. Pronotum and anterior 2/3 mesoscutum dark brown, posterior 1/3 mesoscutum, scutellum, metanotum and lateral sclerites of propodeum pale yellow. Medial sclerite propodeum pale yellow in anterior 1/3 to entirely pale yellow, remainder brown, Mt1–Mt4 brown, Mt5 and anterior 1/3 of Mt6 yellow, posterior 2/3 of Mt6 to apex of metasoma brown, or metasoma entirely light brown in some specimens. Fore wing infuscated from base to distal end stigmal vein with normal hyaline areas behind submarginal vein. Hind wing faintly infuscated behind marginal vein.

FIGURES 345–348. *Signiphora tridentata* **n. sp.**: 345, head (BMNH(E) 990227); 346, female antenna (BMNH(E) 990232); 347, mandibles (BMNH(E) 990227); 348, male antenna (BMNH(E) 990239).

FIGURES 349–354. *Signiphora tridentata* **n. sp.**: 349, fore wing, female (BMNH(E) 990230); 350, venation of fore wing (BMNH(E) 990230); 351, hind wing, female (BMNH(E) 990230); 352, venation of hind wing (BMNH(E) 990230); 353, middle leg, female (UCRC ENT 299577); 354, Mt8 of metasoma, female (BMNH(E) 990230).

Head. Vertex and frons minutely and transversely striate with four longitudinal rows of minute punctations. Mandible tridentate or rarely bidentate with a transverse, dorsal truncation, mandibular ducts enlarged apically. Pedicel length:scape length 0.56–0.75; 3 anelli, the second from 1.0–2.0× length of the first, the third from 2.5–3.0× length of the first; clava length:scape length 1.4–1.7.

Mesosoma. Pronotum and mesoscutum transversely imbricate. Scutellum, metanotum and medial sclerite propodeum weakly imbricate. Scutellum with 4 setae and 2 campaniform sensilla; medial propodeal sclerite rounded, process on medial sclerite narrowly rounded or pointed apically. Fore wing with discal seta, length:width

2.9–4.2; fore wing LMS:fore wing width 1.3–2.0; marginal vein length:stigmal vein length 2.5–3.1; marginal vein with 6 dorsal and 0–2 ventral setae; seta M3 length:marginal vein length 0.39–0.90, apical end of costal cell from seta M2 to between setae M3 and M4, or costa cell does not meet marginal vein. Hind wing with subparallel margins, length:width 6.3–9.3; hind wing width:fore wing width 0.33–0.50; LMS hind wing:hind wing width 2.5–4.1. Mesofemur with 1 long and 1 short spine on posteroapical margin; mesotibial spur with 4 or 5 teeth; mesotibial spur length:basitarsus length 0.86–1.0; basitarsus length:mesotibia length 0.47–0.64.

Metasoma. Mt1 strongly bilobed with medial portion rounded or transverse (see discussion); Length Mt1:length Mt2 2.0–3.2; ovipositor with anterior–most margin lying under propodeum to Mt3; ovipositor length:metasoma length 0.63–0.97; ovipositor sheath length:ovipositor length 0.16–0.25; Ms3–Ms6 with anterior projections short to long; Ms6 location variable, ranging from posterior ¼ to apex of metasoma; Ms6 with 6 setae; Mt8 with anterodorsal margin transverse or with a very shallow medial incision, occasionally with a deep, rounded medial incision.

Male. Length, anterior margin of pronotum to epiproct apex, 0.39 mm (n=1). Color and sculpture as described for female. Clava length:scape length 1.79. Ms8 with a short, pointed, anteromedial projection. Genitalia normal for *flavopalliata* group, digitus with one apical denticle, length of digitus approximately 3× its width, distal third and medial surface of digitus more strongly sclerotized than lateral portion of proximal two thirds.

FIGURES 355–360. *Signiphora tridentata* **n. sp.**: 355, female habitus (BMNH(E) 990230); 356, mesosoma of female (BMNH(E) 990230); 357, metasoma of female (BMNH(E) 990230); 358, male habitus (BMNH(E) 990234); 359, male genitalia (BMNH(E) 990227); 360, Ms8 of metasoma, male (BMNH(E) 990227).

Discussion. The female specimens from Barro Colorado Island have a distinct, rounded medial incision in the anterior margin of Mt8; all other females examined have the anterior margin of Mt8 transverse, without a medial incision. Mt1 is bilobed with the medial portion rounded in the holotype and paratype (both from Costa Rica) and the specimens from Barro Colorado Island (USNM ENT 00763125 and 00763126). In other material Mt1 is strongly bilobed with the medial portion of Mt1 transverse. The metasoma is uniformly brown in most specimens; however, in the holotype female Mt5 and the anterior 1/3 Mt6 are yellow, and in one series from Trinidad (Curepe, USNM ENT 00763127); Mt4–Mt7 are yellow.

Type material. HOLOTYPE ♀: in balsam (UCRC ENT 299577); COSTA RICA, Prov. Heredia, 6 km N. San Jose de Montana, Hotel el Portico, sweeping, coll. J.B. Woolley, 5.xi.1980. Holotype deposited in UCR. **PARATYPE**: ♀ in balsam (UCRC ENT 299576); COSTA RICA, Prov. Puntarenas, 8 km S. Miramar, at crossing of Rio Naranjo and Pan American Highway, sweeping, coll. J.B. Woolley, 7.xi.1980. Paratype deposited in TAMU.

Other material examined. BRAZIL: Santa Catarina: 6 ♂, 7 ♀, BMNH(E) 990227–990229, 990231–990235, 990237, 990239–990242 (BMNH). **PANAMA**: 2 ♀, USNM ENT 763125–763126 (USNM). **PUERTO RICO**: 1 mixed series. INHS 72506 (INHS).

TRINIDAD AND TOBAGO: 1 ♀, 1 mixed series. USNM ENT 763127–763128 (USNM).

Discussion. Two additional female specimens from Santa Catarina, Brazil (BMNH(E) 990230 and 990238) are probably this species, but the mandibles are not visible. They were collected on different dates than the other species from Santa Catarina, which may well indicate a different locality.

Biology. All material for which host records are available were reared from or were associated with the eggs of *Horiola* Fairmaire, *Tylopelta* Fowler or *Erecthia* Walker, and *Clastoptera* Germar (Hemiptera: Heteroptera). Egg parasitism in Signiphoridae is known for one other species, an undescribed species of *Thysanus*; however, the latter has been reared from the eggs of *Agrilus anxius* (Gory) (Coleoptera: Buprestidae).

Etymology. The species name refers to the tridentate mandibles; it is an adjective.

Signiphora xanthographa Blanchard, 1936

Figures 361–376

http://eol.org/pages/855928

Signiphora xanthographa Blanchard, 1936: 18. Female, male.

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Diagnosis. Fore wing marginal vein with seta M1; sculpture on vertex, frons and mesoscutum reticulate to strongly reticulate; antennal clava very short (clava length:scape length 1.20–1.57) with a uniform pale brown color; Length Mt1:length Mt2 in female usually 0.66 (0.50–0.66); male metasoma uniformly brown to apex. Males common. *S. xanthographa* is most similar to *S. coquilletti*, *S. aleyrodis*, and *S. flavella*. It is distinguished from *S. coquilletti* and *S. aleyrodis* by the reticulate sculpture, the short antennal clava (clava length:scape length for *S. coquilletti* females 1.52–1.82); and the male coloration. It is distinguished from *S. flavella* by the preceding attributes and by the medial emargination on the anterodorsal margin of Mt8 (the anterodorsal margin of Mt8 in *S. flavella* is transverse and without a medial emargination).

Description. ***Female*.** Length, anterior margin of pronotum to epiproct apex, 0.43–0.76 mm (n=31). Head brown, somewhat lighter brown on frons. Antenna uniformly tan, antennal clava occasionally dusky at apex. Pronotum uniformly light brown to light brown in medial 2/3. Mesoscutum brown in anterior 1/2–5/6 and in medial 2/3, yellow to pale yellow in posterior 1/2–1/6 and laterally. Scutellum and metanotum pale yellow. Propodeum including medial sclerite pale yellow except light brown along posterior margins of each. Mt1 and anterior 1/2 of Mt2 light brown, Mt3–Mt4 dark brown, Mt5–Mt7 yellow or light brown, occasionally with Mt4–Mt7 yellow or with metasoma uniformly brown to apex. Ovipositor sheaths dusky. Legs pale yellow. Fore wing infuscated from base to slightly beyond distal end of stigma vein, with usual hyaline areas at wing base.

Head. Mandibular ducts enlarged apically. Pedicel length:scape length 0.52–0.78; 3 anelli, second anellus from 1.5–3.0× length of the first, third from 1.5–4.0× length of the first; clava length:scape length 1.20–1.57. Vertex and frons reticulate to strongly reticulate, frons with four longitudinal rows of minute punctations.

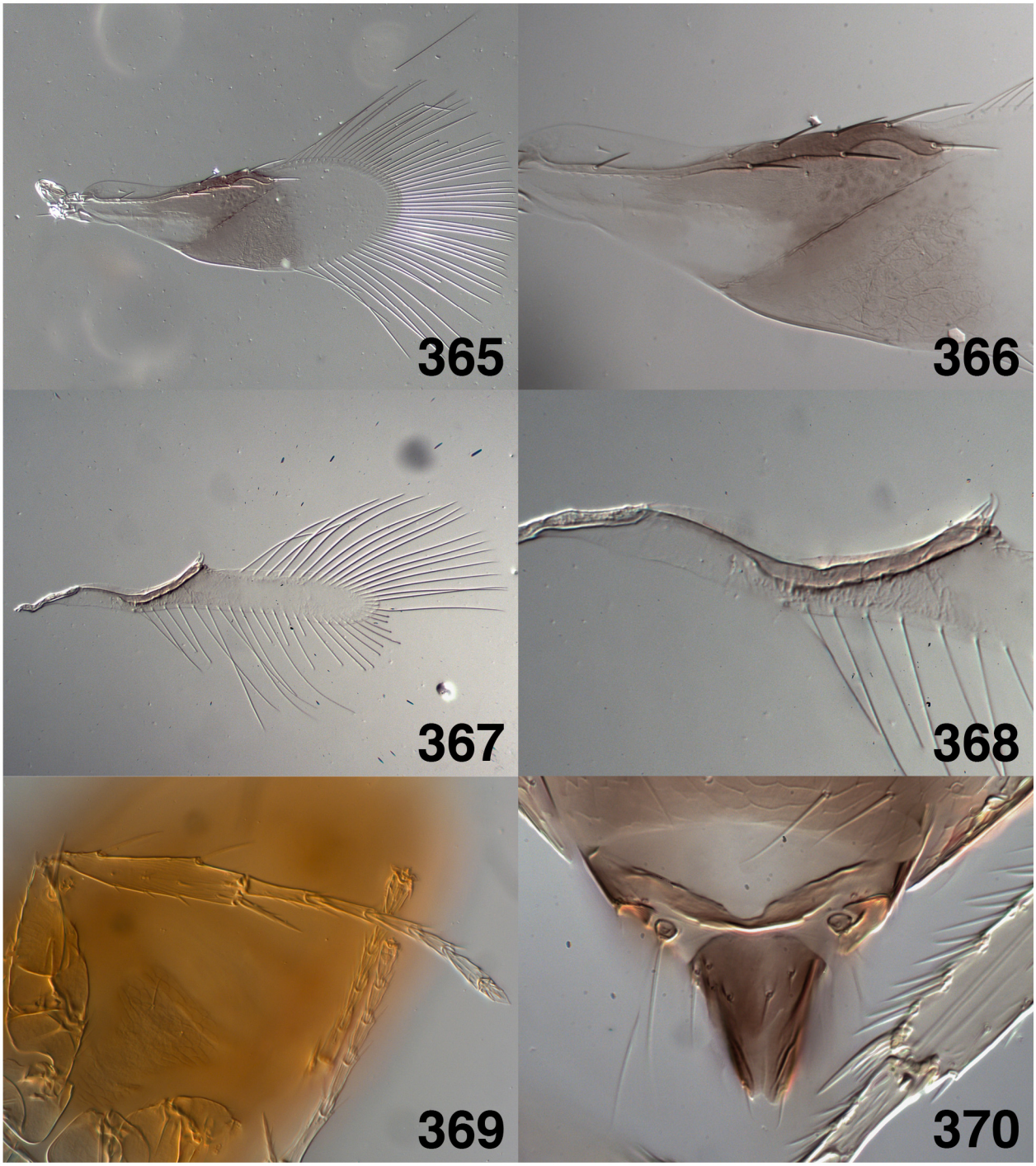
Mesosoma. Pronotum transversely reticulate to transversely imbricate. Mesoscutum reticulate to strongly reticulate, often transversely reticulate in anterior 1/3. Scutellum, metanotum and medial sclerite of propodeum

weakly reticulate to transversely and weakly reticulate. Scutellum with 4 setae and 2 campaniform sensilla. Medial propodeal sclerite rounded, process on medial sclerite rounded or pointed apically. Fore wing length:width 2.8–3.5; fore wing LMS:fore wing width 1.1–1.7; marginal vein:stigmal vein 1.9–3.1; marginal vein with 6 dorsal setae and no ventral setae, rarely without seta M1; seta M3 length:marginal vein length 0.33–0.57; apical end of costal cell at seta M1–M2. Hind wing with subparallel margins, length:width 6.7–10.7; hind wing width:fore wing width 0.29–0.47; LMS hind wing:hind wing width 2.5–4.5. Mesofemur with 1 long spine and 1 short spine in posteroapical margin, mesotibial spur with 3–5 teeth; mesotibial spur length:basitarsus length 0.63–1.13; basitarsus length:mesotibia length 0.39–0.50.

Metasoma. Mt1 strongly bilobed with medial portion transverse or rounded; Length Mt1:length Mt2 1.0–2.0; ovipositor with anterior-most portion lying under Mt2–Mt4; ovipositor length:metasoma length 0.42–0.96; ovipositor sheath length:ovipositor length 0.20–0.29; Ms3–Ms6 with anterior projections short to medium; Ms6 in posterior 1/4 metasoma and with 8–10 setae; Mt8 with anterodorsal margin with a rounded medial emargination and with anterolateral margins transverse.

FIGURES 361–364. *Signiphora xanthographa*: 361, head (UCRC ENT 299525); 362, female antenna (TAMU-ENTO X0616375); 363, mandibles (TAMU-ENTO X0616375); 364, male antenna (UCRC ENT 299525).

Male. Length, anterior margin of pronotum to epiproct apex, 0.40–0.65 mm (n=20). As described for female except the following: anterior 1/2–3/4 and medial 2/3 mesoscutum brown, scutellum to propodeum yellow to pale tan, medial sclerite of propodeum occasionally tan or pale brown. Metasoma uniformly brown to apex, occasionally with Mt6 and Mt7 lighter than preceding terga. Antennal clava length:scape length 1.2–1.8, mesotibial spur with 2–4 teeth; Ms8 a narrow transverse strip, without an anterior projection, extending past cerci laterally. Genitalia normal for the *flavopalliata* group, digitus length 2× its width, digitus with one short apical denticle and one seta at its midpoint.



FIGURES 365–370. *Signiphora xanthographa*: 365, fore wing, female (TAMU-ENTO X0616375); 366, venation of fore wing (TAMU-ENTO X0616375); 367, hind wing, female (TAMU-ENTO X0616376); 368, venation of hind wing (TAMU-ENTO X0616376); 369, middle leg, female (UCRC ENT 299525); 370, Mt8 of metasoma, female (TAMU-ENTO X0616377).

Discussion. De Santis (1973) recognized the similarity between *S. townsendi* and *S. xanthographa* and he stated that with further study the latter might come to be regarded as a subspecies of the former. We believe *S. townsend*i and *S. aleyrodis* (q.v.) to represent the same species for the reasons given above, and have synonymized the former under the latter. The type specimens of *S. xanthographa* have the strongly reticulate sculpture on the vertex and mesoscutum characteristic of this species, but are somewhat unusual in that Mt5–Mt7 are concolorous with Mt1–Mt4. However, females with this metasomal coloration are common in the long series collected by DeBach and Rose in Brazil and Argentina. In some specimens in a series from Palmira, Valle de Cauca, Colombia (collected by Fred Bennett from *Bemisia tabaci* on *Glycinis max*, TAMU-ENTO X046246, X0616124, X0616129–

136, FSCA); the sculpture on the frontovertex and occasionally the mesoscutum is transversely imbricate, as in *S. aleyrodis*. In addition, the coloration of Mt4–Mt6 in males is also somewhat lighter that the basal tergites, also characteristic of *S. aleyrodis*. We are treating these as *S. xanthographa*, but as discussed above under *S. aleyrodis*, it is quite possible that there are additional cryptic species involved that have this morphotype. Two specimens are known from Asia: TAMU-ENTO X0852767 (FSCA) coll. H.W. Browning ex: whitefly in Thailand (94-533-18); and UCRC ENT 299588, Hong Kong, New Territories, Bible Institute, coll. Cheng, 18-VII-1971, ex *Aonidiella aurantii* on *Cycas revoluta*, R71-55-c. The host record for the Hong Kong specimen is unusual for this species, but otherwise the specimen fits the diagnosis.

FIGURES 371–376. *Signiphora xanthographa*: 371, female habitus (TAMU-ENTO X0616377); 372, mesosoma of female (BMNH(E) 99021); 373, metasoma of female (TAMU-ENTO X0616377); 374, male habitus (TAMU-ENTO X0616376); 375, male genitalia (TAMU-ENTO X0616376); 376, Ms8 of metasoma, male (TAMU-ENTO X0616376).

Type material. *Signiphora xanthographa*—**LECTOTYPE ♀ [here designated]:** Cotypus 688, INTA, ARGENTINA, [ENTRE RIOS], Parana, coll. Baez, V-1936, ex *Aleurotrixus* [sic]. **PARALECTOTYPES:** data as lectotype, 1 ♀ and 3 ♂, *S. xanthographa* was described by Blanchard (1936) from two ♀ and three ♂ specimens on one slide, No. 688 Cotypus, INTA. The ♀ to the lower right (slide oriented with the two labels bearing species name and type number to the right) is here designated lectotype and the slide has been labeled accordingly.

Other material examined. ARGENTINA: Buenos Aires: 3 mixed series. UCRC ENT 299563–299564, 299572 (UCR). **ARGENTINA: Santa Fe:** 1 sex unknown. BMNH(E) 990222 (BMNH). **ARGENTINA:** 2 sex

unknown, 8 mixed series, 3 ♀, UCRC ENT 299560–299562, 299565–299571, 299573–299575 (UCR). **BRAZIL: Bahia:** 3 ♀, USNM ENT 763119–763121 (USNM). **BRAZIL: Mato Grosso do Sul:** 2 ♀, USNM ENT 763122–763123 (USNM). **BRAZIL: Pernambuco:** 2 ♂, 2 ♀, UCRC ENT 299533–299536 (UCR). **BRAZIL: Rio de Janeiro**: 1 sex unknown, 21 mixed series, 2 ♀, UCRC ENT 299527–299532, 299539–299555, 300236 (UCR). **BRAZIL: Sao Paulo:** 4 mixed series, 2 ♀, UCRC ENT 299537–299538, 299556–299559 (UCR). **CHILE:** 1 ♂, 7 ♀, BMNH(E) 991089, 991090 (BMNH); TAMU-ENTO X0616373–X0616377, X0855988 (TAMU). **CHINA: Hong Kong:** 1 ♂, UCRC ENT 299508 (UCR). **COLOMBIA:** 3 ♂, 5 ♀, TAMU-ENTO X0460246, X0616124, X0616129, X0616130, X0616131, X0616132, X0616135, X0616136 (FSCA). **PERU:** 1 mixed series, 6 ♀, UCRC ENT 299509–299515 (UCR). **THAILAND:** 1 ♀, TAMU-ENTO X0852767 (FSCA). **TRINIDAD AND TOBAGO:** 1 ♀, BMNH(E) 990221 (BMNH). **URUGUAY:** 4 ♂, 7 ♀: UCRC ENT 299516–299526 (UCR); 20 pinned specimens: USNM ENT 763509–763528 (USNM).

Biology. This species is biparental and has been reared primarily from Aleyrodidae of the genera *Aleurothrixus* Quaintance and Baker, *Aleyrodes*, and *Tetraleurodes* Cockerell. Of the two records from Diaspididae, one was a mixed rearing-sample containing *A. floccosus* and *L. gloverii* and one was from *C. aonidum.* In his description, Blanchard (1936) stated that this species is an internal parasitoid of *Aleurothrixus floccosus* and *A. howardi* (Quaintance). Slide-mounted host material from Argentina and Brazil collected by Rose and DeBach provides conclusive evidence that *S. xanthographa* is an external hyperparasitoid of *Amitus spiniferus* (Brèthes) (Platygastridae) pupae in *A. floccosus.* Rose observed the ovipositional behavior on *A. floccosus* in Argentina and in the UC-Riverside quarantine laboratory and noted that oviposition occurred only when females were provided with parasitized hosts (Rose, personal communication).

Unidentifiable species

Signiphora rectrix Girault, 1915

Signiphora rectrix Girault, 1915: 71. Female.
urn:lsid:zoobank.org:act:E5A3A465-2842-4711-AD40-2B0D4757966D

Discussion. *Signiphora rectrix* was described from a single female specimen in poor condition mounted under a cover slip fragment in Canada balsam, deposited in the Queensland Museum. The holotype is lacking fore wings and hind wings. It appears to be a member of the *flavopalliata* group, based on overall habitus and body coloration. However, without fore wings it is impossible to determine if it represents a valid species or is a synonym of another species. Details on the type (examined) are as follows (Dahms 1986): type locality Kuranda, Queensland, Forest. QM holotype HY 2966. The slide also bears a second QM type number, T.4144, which was a duplicate register number for the holotype of this species and has been cancelled (Dahms 1986).

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Supplementary Material Table S1: Morphological and anatomical terms used in species descriptions and their matching URIs on Hymenoptera Anatomy Ontology (HAO).

Term	HAO Term	Concept	URI	Reference (sensu)
anellus	anellus	One or more, usually transverse or ring-like, basal flagellar segments that lack longitudinal sensilla.	http://purl.obolibrary.org/obo/HAO_0000287	Gibson et al. 1998.
antenna		Paired segmental sensory appendage on the head, composed of the scape, pedicel and flagellum.	http://purl.obolibrary.org/obo/HAO_0000101	Gibson et al. 1998.
antennomere		A subdivision of the antenna, including true segments (scape, pedicel) and annuli of the flagellum (flagellomere).	http://purl.obolibrary.org/obo/HAO_0000107	Deans, A. R. 2009 in HAO Portal.
basitarsus		The tarsomere that is the basal-most subdivision of the tarsus, connected proximally with the tibia and distally with the second tarsomere.	http://purl.obolibrary.org/obo/HAO_0000178	Miko, I. 2009 -2014 in HAO Portal.
cercus		Paired sensory structures located apicolaterally on the last or second last metasomal tergite. Usually have a button-like or finger-like appearance and bear long setae.	http://purl.obolibrary.org/obo/HAO_0000191	Gibson et al. 1998.
club	clava	The anatomical cluster composed of the apical flagellomeres that are differentiated by size from the basal flagellomeres.	http://purl.obolibrary.org/obo/HAO_0001185	Bertone, M. A. 2009 in HAO Portal.
clypeus		The anteromedial area of the cranium, which is the site of origin of the clypeo-epipharyngeal muscle of the head capsule, lying below the (lower) face, and to which the labrum is articulated. Dorsally usually separated from the (lower) face by an epistomal sulcus and laterally by the clypeo-pleurostomal lines.	http://purl.obolibrary.org/obo/HAO_0000212	Karlsson & Ronquist 2012.
costa	costal margin	The margin that delimits the wing anteriorly.	http://purl.obolibrary.org/obo/HAO_0001977	Miko, I. 2009 -2014 in HAO Portal.
denticle	digital tooth/ digital spine	A short, strong cuticular projection located on the volsellar digitus of the male genitalia.	http://purl.obolibrary.org/obo/HAO_0001574	
digitus		The sclerite that is located on the distoventral part of the gonostyle/volsella complex, and is articulated with the more proximal sclerites of the gononstyle/volsella complex. Apically differentiated region of the volsella, which usually bears digital spines.	http://purl.obolibrary.org/obo/HAO_0000385	Miko, I. 2009 -2014 in HAO Portal; Gibson et al. 1998
disc		The apical region of the forewing beyond the basal cell.		Gibson et al. 1998.
discal seta		A strong seta present in the discal area of the wing (see figures 129, 130, 141, 142).		Woolley 1988.
dorsal setae (wing)		The setae present on the dorsal surface of the wing vein.		
epiproct		The sclerite that is located dorsally of the anal opening.	http://purl.obolibrary.org/obo/HAO_0000980	Miko, I. 2009 -2014 in HAO Portal.
face	lower face	The area that is limited dorsally by the ventral margin of the antennal foramen laterally by the malar sulcus and ventrally by the oral foramen.	http://purl.obolibrary.org/obo/HAO_0000502	Miko, I. 2009 -2014 in HAO Portal; Gibson et al. 1998
femur		Third segment of a leg that articulates basally with the trochanter and apically with the tibia.	http://purl.obolibrary.org/obo/HAO_0000327	Gibson et al. 1998.
flange		The projection that is lamella-like and is located on a rim, carina, apodeme or edge.	http://purl.obolibrary.org/obo/HAO_0000344	Miko, I. 2009 -2014 in HAO Portal.
fore wing		The wing that is located on the mesothorax.	http://purl.obolibrary.org/obo/HAO_0000351	Deans, A. R. 2009 in HAO Portal.
frons	upper face	The area that is located dorsally of the ventral margin of the antennal rim and ventrally of the anterior ocellus medial to the inner margins of the eye and malar line.	http://purl.obolibrary.org/obo/HAO_0001044	Miko, I. 2009 -2014 in HAO Portal.
frontovertex		The anatomical cluster that is composed of the vertex and the dorsal area of the upper face dorsal to the frontofacial ridge.	http://purl.obolibrary.org/obo/HAO_0001823	Miko, I. 2009 -2014 in HAO Portal.
gena		The area that is delimited by the intersection of the interorbital plane, the margin of the compound eye, the margin of the oral foramen, the occipital carina and the malar sulcus.	http://purl.obolibrary.org/obo/HAO_0000371	Yoder, M. J. 2009 in HAO Portal.
genitalia		The anatomical system that is involved in copulation, fertilization and/or oviposition.	http://purl.obolibrary.org/obo/HAO_0000374	Nichols 1989.
head		The first or anteriormost of the three main body regions of an insect, which bears the mouthparts and major sense organs.	http://purl.obolibrary.org/obo/HAO_0000397	Gibson et al. 1998.
hind wing		The wing that is located on the metathorax.	http://purl.obolibrary.org/obo/HAO_0000400	Deans, A. R. 2009 in HAO Portal.
leg		A thoracic appendage. The anatomical cluster that is composed of the coxa and all distal leg segments and is connected to the pectus.	http://purl.obolibrary.org/obo/HAO_0000494	Bertone, M. A. 2009 in HAO Portal.
mandible		The paired, heavily sclerotized biting and chewing lateral appendage of the mouthparts between the labrum and maxilla.	http://purl.obolibrary.org/obo/HAO_0000506	Goulet & Huber 1993.
mandibular ducts		Tubular structures that open in each mandibular teeth that end internally in a sac-like or globular-like gland.		Woolley 1988.
mandibular tooth		The projection that is located distally on the mandible.	http://purl.obolibrary.org/obo/HAO_0001019	Miko, I. 2009 -2014 in HAO Portal.
marginal vein	marginalis	Portion of the forewing vein complex that is along the leading edge of the wing basal to the stigmal vein; usually measured from the point at which the submarginal vein touches the leading edge of the wing to the point at which the stigmal vein and postmarginal vein unite (sometimes there is a narrow membranous region anterior to the marginal vein and in some families, e.g. Signiphoridae, defined to include what is likely the parastigma of most other chalcids)	http://purl.obolibrary.org/obo/HAO_0000512	Gibson et al. 1998.
medial propodeal sclerite		A triangular medial sclerite set off by sulci from the rest of the propodeum, usually with differentiated surface sculpture and sometimes, color.		Woolley 1988.
mesofemur		The femur that is located on the mid leg.	http://purl.obolibrary.org/obo/HAO_0001131	Bertone, M. A. 2009 in HAO Portal.
mesoscutum	anteromesoscutum	Region of the mesonotum anterior to the transscutal articulation and scutellar-axillar complex.	http://purl.obolibrary.org/obo/HAO_0001490	Gibson et al. 1998.
mesotibia		The tibia that is located on the mid leg.	http://purl.obolibrary.org/obo/HAO_0001351	Bertone, M. A. 2009 in HAO Portal.
mesotibial spur		The tibial spur that is located on the mesotibia.	http://purl.obolibrary.org/obo/HAO_0001120	Miko, I. 2009 -2014 in HAO Portal.
metafemur		The femur that is located on the hind leg.	http://purl.obolibrary.org/obo/HAO_0001140	Bertone, M. A. 2009 in HAO Portal.
metanotum	metanotum	The alinotum that is located in the metathorax, is connected with the mesoscutellum and the mesopostnotum anteriorly and the acrotergite of the first abdominal tergum posteromedially.	http://purl.obolibrary.org/obo/HAO_0000603	Miko, I. 2009 -2014 in HAO Portal.
metasoma	metasoma	The posteriormost of the three main body regions of apocritan Hymenoptera, which looks like the insect abdomen but excludes the first 'true' abdominal segment, the propodeum, which is fused to the thorax; the metasoma includes the second 'true' abdominal segment, the petiole (see also gaster).	http://purl.obolibrary.org/obo/HAO_0000626	Gibson et al. 1998.
metatibia		The tibia that is located on the hind leg.	http://purl.obolibrary.org/obo/HAO_0000631	Miko, I. 2009 -2014 in HAO Portal.
Ms3		The sternite of the third metasomal segment (fourth abdominal segment).	http://purl.obolibrary.org/obo/HAO_0001831	
Ms6		The sternite of the sixth metasomal segment (seventh abdominal segment).	http://purl.obolibrary.org/obo/HAO_0001834	
Mt1 (metasomal tergite 1)		The tergum that is located on abdominal segment 2.	http://purl.obolibrary.org/obo/HAO_0000053	Miko, I. 2009 -2014 in HAO Portal.
Mt2		The tergum that is located on the abdominal segment 3.	http://purl.obolibrary.org/obo/HAO_0000056	Miko, I. 2009 -2014 in HAO Portal.
occipital margin		The edge that separates the vertex and the occiput. Abruptly angled or carinate posterodorsal margin of the head that differentiates a dorsal surface from an abruptly declined posterior surface.	http://purl.obolibrary.org/obo/HAO_0001963	Hopper et al. 2012; Gibson et al. 1998.
occiput		The area that is located posteriorly on the head and is delimited externally by the vertex and the posterior margin of the gena, and medially by the postocciput.	http://purl.obolibrary.org/obo/HAO_0000658	Gibson et al. 1998.
ocellus		A simple eye, consisting of a single, usually round or oval facet.	http://purl.obolibrary.org/obo/HAO_0000661	Goulet & Huber 1993.
ovipositor		The anatomical cluster that is composed of the first valvulae, second valvulae, third valvulae, first valvifers, second valvifers and female T9.	http://purl.obolibrary.org/obo/HAO_0000679	Deans, A. R. 2009 in HAO Portal.
ovipositor sheaths	third valvula	Paired outer protective sclerites surrounding the ovipositor stylets, which are formed from the third valvulae or gonostyli.	http://purl.obolibrary.org/obo/HAO_0001012	Gibson et al. 1998.
pedicel		Second segment of the antenna, which articulates basally with the scape and apically with the flagellum.	http://purl.obolibrary.org/obo/HAO_0000706	Gibson et al. 1998.
process		Here, this term is applied to an extension of the medial portion of the propodeum that projects into the metasoma in *Signiphora.*		Woolley 1988.
profemur		The femur that is located on the fore leg.	http://purl.obolibrary.org/obo/HAO_0001124	Bertone, M. A. 2009 in HAO Portal.
projection	sternal apodemes	Here, this term is applied to anterior projections of metasomal sclerites 3-6 in signiphorid females.	http://purl.obolibrary.org/obo/HAO_0002007	Woolley 1988.
pronotum		Dorsal sclerite of the prothorax, which overlaps the sides of the thorax so as to be upside-down U-like.	http://purl.obolibrary.org/obo/HAO_0000853	Gibson et al. 1998.
propodeum	abdominal tergum 1	The tergum that is located on abdominal segment 1.	http://purl.obolibrary.org/obo/HAO_0000051	Snodgrass 1935.
protibia		The tibia that is located on the fore leg.	http://purl.obolibrary.org/obo/HAO_0000350	Deans, A. R. 2009 in HAO Portal.

Term	HAO Term	Concept	URI	Reference (sensu)
scape		The first or basal-most segment of the antenna, which articulates with the head by the radicle.	http://purl.obolibrary.org/obo/HAO_0000908	Gibson et al. 1998.
sclerite		Any plate of the body wall bounded by membrane or sutures.	http://purl.obolibrary.org/obo/HAO_0000909	Gibson et al. 1998.
scrobe	antennal scrobe	The scrobe that is located dorsally of the antennal foramen and is for the reception of the antenna.	http://purl.obolibrary.org/obo/HAO_0001432	Miko, I. 2009 -2014 in HAO Portal.
sculpture		Markings or a pattern of impressions or elevations on the surface of a structure.	http://purl.obolibrary.org/obo/HAO_0000913	Goulet & Huber 1993.
scutellar sensillum		The campaniform sensilla that is paired and is located submedially on the mesoscutellum.	http://purl.obolibrary.org/obo/HAO_0001965	Hopper et al. 2012; Gibson et al. 1998.
scutellum	mesoscutellar-axillar complex	Region of the mesonotum posterior the transscutal articulation; often simply referred to as the scutellum, but composed of the scutellum and axillae.	http://purl.obolibrary.org/obo/HAO_0000572	Gibson et al. 1998.
seta	sensillum trichodeum	Hair-like sensory structure that is articulated basally; sometimes called a trichoid sensillum.	http://purl.obolibrary.org/obo/HAO_0002299	Gibson et al. 1998.
seta M1		Seta projecting from the dorsal surface of the anterior margin of the wing vein (figure 6); if present, is basal to seta M5. Usually shorter than the other setae in signiphorid wings. Often opposite to or basal to the parastigmal sensilla.		Woolley 1988.
seta M2		Basal-most seta beyond seta M5, which projects from the dorsal surface of the anterior margin of the marginal vein (figure 6).		Woolley 1988.
seta M2b		When there are 5 setae projecting from the dorsal surface of the anterior margin of the marginal vein, a seta between setae M2 and M3. In these cases, M2 and M2b are between M5 and M6, and M3 is distal to M6.		Woolley 1988.
seta M3		Seta projecting from the dorsal surface of the anterior margin of the marginal vein in signiphorids, which is beyond seta M2 and basal to seta M4.		Woolley 1988.
seta M4		Apical-most seta projecting from the dorsal surface of the anterior margin of the marginal vein (figure 6).		Woolley 1988.
seta M5		Basal-most seta projecting from the dorsal surface of the posterior margin of the marginal vein (figure 6), next to parastigmal sensilla.		Woolley 1988.
seta M6		Apical-most seta projecting from the dorsal surface of the posterior margin of the marginal vein (figure 6).		Woolley 1988.
seta S		A strong seta projecting from the dorsal surface of the stigmal vein (figure 6).		Woolley 1988.
spine		The process that lacks non-sclerotised rings at the base.	http://purl.obolibrary.org/obo/HAO_0000949	Richards & Richards 1979; Miko, I. 2009 -2014 in HAO Portal.
spur		The process that is surrounded by conjunctiva and evaginated and that is basally sclerotized.	http://purl.obolibrary.org/obo/HAO_0000951	Richards & Richards 1979; Miko, I. 2009 -2014 in HAO Portal.
stigmal vein		Portion of the forewing vein complex that projects into the wing membrane from the apex of the marginal vein; measured from the point at which the stigmal vein and postmarginal vein unite, apically to where the vein appears to end.		Gibson et al. 1998.
submarginal vein		Basal-most portion of the forewing vein complex that occurs behind the costal cell; measured from the constriction that delimits the humeral plate to the point at which the vein touches the leading edge of the wing apically.	http://purl.obolibrary.org/obo/HAO_0000972	Gibson et al. 1998.
tarsomere		One segment of the tarsus.	http://purl.obolibrary.org/obo/HAO_0000991	Gibson et al. 1998.
ventral setae (wing)		The setae located on the ventral surface of a wing vein.		
vertex		The area that is delimited by the intersection of the margin of the compound eyes, the interorbital plane, and the anatomical line that is tangential to the point on the margin of the anterior ocellus which defines the minimum distance between the anterior ocellus and the oral foramen.	http://purl.obolibrary.org/obo/HAO_0001077	Yoder, M. J. 2009 in HAO Portal.
wing		The appendage with its base inserted between the notum and the pleuron and usually membranous, modified for flight.	http://purl.obolibrary.org/obo/HAO_0001089	
wing base		The proximal part of the wing.		

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Supplementary Material Table S2: List of specimens (material examined) with transcribed label information.

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora aleyrodis	USNM Type No. 4855	lectotype and paralectotypes	USNM	10.460556	-61.248611	Bred from || Aleurodes on || [illegible] || orange etc. || Trinidad, W. I. ++ 6162
Signiphora townsendi (=aleyrodis)	USNM Type No. 4856	lectotype and paralectotypes	USNM	17.966667	-92.583333	7841º || Par.: on Aleurodes || on coarse grass || Tabasco, Mex. || June 19 - 97 || (Townsend.)
Signiphora aleyrodis	UCRC ENT 299149		UCR	26.667464	-78.51843	Grand Bahama || Island || Bahamian Way || 6.4 mi NW Eight || Mile Rock || Coll. D.M. LaSalle || 16.x.1982
Signiphora aleyrodis	TAMU-ENTO X0460239		FSCA	-15.7833	-47.9167	Brasilia, DF, Brazil || 16.iv.2001 ||Bemisia tabaci on || Brassica oleracea || Armancio, E.
Signiphora aleyrodis	TAMU-ENTO X0460240		FSCA	-15.7833	-47.9167	Brasilia, DF, Brazil || 16.iv.2001 ||Bemisia tabaci on || Brassica oleracea || Armancio, E.
Signiphora aleyrodis	TAMU-ENTO X0460250		FSCA	-3.1	-60.016667	Brazil || Manaus || Amazonas || 13 X 1990 || FD Bennett 574 || Bemisia tabaci || Chamaesyce || hyssopifolia || hoyers
Signiphora aleyrodis	TAMU-ENTO X0460251		FSCA	-3.1	-60.016667	Brazil || Manaus || Amazonas || 11 X 1990 || FD Bennett 606 || Bemisia tabaci || Chamaesyce || hyssopifolia
Signiphora aleyrodis	TAMU-ENTO X0460252		FSCA	-3.1	-60.016667	Brazil || Manaus || Amazonas || 11 X 1990 || FD Bennett 608 || Bemisia tabaci || Chamaesyce || hirta || Hoyers
Signiphora aleyrodis	TAMU-ENTO X0460254		FSCA	-3.1	-60.016667	Brazil || Manaus || Amazonas || 11 X 1990 || FD Bennett 606 || Bemisia tabaci || Chamaesyce || hyssopifolia
Signiphora aleyrodis	TAMU-ENTO X0460256		FSCA	-3.1	-60.016667	Brazil || Manaus || Amazonas || 13 X 1990 || FD Bennett 573 || Bemisia tabaci || Chamaesyce || hyssopifolia || hoyers
Signiphora aleyrodis	TAMU- ENTO x0616133		FSCA	-22.712	-47.649	Brazil S.P. || Piracicaba || 25.ii.85 || F.D. Bennett || Ex. Bemesia tabaci || on Chamaecyce sp. || Hoyers
Signiphora aleyrodis	TAMU-ENTO x0616134		FSCA	-22.712	-47.649	Brazil || Sao Paulo || Piracicaba || 26.ii.89 || F.D. Bennett || Ex. Bemesia || tabaci on || Euphorbia || heterophylla || Hoyers
Signiphora aleyrodis	TAMU-ENTO x0616137		FSCA	-22.712	-47.649	Brazil || Sao Paulo || Piracicaba || 26.ii.89 || F.D. Bennett || Ex. Bemesia || tabaci on || Euphorbia || heterophylla || Hoyers
Signiphora aleyrodis	TAMU-ENTO X0460245		FSCA	9.9333	-84.0833	Costa Rica || San Jose || 21 II 1990 || FD Bennett 235 || Trialeurodes sp. || Helianthae || Hoyers
Signiphora aleyrodis	UCRC ENT 299160		UCR	13.7086	-89.2031	San Salvador || El Salvador || iii.23.1970 || A. || floccosus || on citrus || Coll. J. Quezada ++ Nt. Borinquensis No. R70-17
Signiphora aleyrodis	UCRC ENT 299161		UCR	13.7086	-89.2031	San Salvador || El Salvador || iii.23.1970 || A Wooly || whitefly || on citrus || Coll. J. Quezada|| No. R70-17
Signiphora aleyrodis	UCRC ENT 299162		UCR	13.7086	-89.2031	San Salvador || El Salvador || iii.23.1970 || WWF || on citrus || Coll. J. Quesada || No. R70-17
Signiphora aleyrodis	TAMU-ENTO X0460244		FSCA	16.20974	-61.490588	Guateloupe || Gosier || 28 XI 1990 || FD Bennett 587 || Bemisia tabaci || Euphorbia || heterophylla Hoyers
Signiphora aleyrodis	TAMU-ENTO X0460253		FSCA	16.20974	-61.490588	Guateloupe || Gosier || 8 XI 1990 || FD Bennett 592 || Bemisia tabaci || Euphorbia || heterophylla
Signiphora aleyrodis	USNM ENT 763000		USNM	18.541563	-72.336102	Reared from Para- || leyrodes || and Tetraleurodes || anonae Doxiet || Port-au-Prince || Haiti. Nov 9, 1929 || H. L. Dozier
Signiphora aleyrodis	USNM ENT 763004		USNM	18.541563	-72.336102	Thysanus || aleyrodis (ASHM) || Reared from Para || leyrodes || and Tetraleurodes || anonge Dozier || Port-au-Prince || Haiti. Nov. 11, 1929 || H.L. Dozier
Signiphora aleyrodis	USNM ENT 763005		USNM	19.08333	-72.38333	Thysanus || Reared from Tetral || eurodes || on Guaiac || Morne Cabrit || Haiti, Apr. 9, 1930 || H.L. Dozier
Signiphora aleyrodis	USNM ENT 763006		USNM	18.6	-72.28333	Thysanus || aleyrodis (ASHM) || Reared from Tetra || leurodes scutifer || mis Dozier on "Bois || juane". || Damien, Haiti || Dec 27, 1929 || H.L. Dozier
Signiphora aleyrodis	USNM ENT 763007		USNM	18.6	-72.28333	Thysanus || Reared from || Bemisia || on red beans || Damien, Haiti || Jan. 21, 1930 || H.L. Dozier
Signiphora aleyrodis	TAMU-ENTO X0460242		TAMU	14.019214	-87.096362	Honduras || Fco. Morazan || 30.vii.1988 || Host Whitefly || on citrus|| sinensis || Coll. R. Cave ++ Corr. Cave 21.v.91
Signiphora aleyrodis	TAMU-ENTO X0460243		FSCA	14.019214	-87.096362	Honduras || Fco. Morazan || Tatumbla || 30 July 1988 || Host Whitefly || on citrus sinensis ++ Corr. Cave 21.v.91
Signiphora aleyrodis	TAMU-ENT0 x0424826		TAMU	14.1	-87.21667	Honduras || Fco. Morazan || 30.vii.1988 || Host Whitefly || on citrus|| sinensis || Coll. R. Cave ++ Corr. Cave 21.v.91
Signiphora aleyrodis	TAMU-ENT0 x0424827		TAMU	14.1	-87.21667	Honduras || Fco. Morazan || 30.vii.1988 || Host Whitefly || on citrus|| sinensis || Coll. R. Cave ++ Corr. Cave 21.v.91
Signiphora aleyrodis	TAMU-ENT0 x0424828		TAMU	14.1	-87.21667	Honduras || Fco. Morazan || 30.vii.1988 || Host Whitefly || on citrus|| sinensis || Coll. R. Cave ++ Corr. Cave 21.v.91
Signiphora aleyrodis	TAMU-ENT0 x0424829		TAMU	14.1	-87.21667	Honduras || Fco. Morazan || 30.vii.1988 || Host Whitefly || on citrus|| sinensis || Coll. R. Cave ++ Corr. Cave 21.v.91
Signiphora aleyrodis	UCRC ENT 299150		UCR	19.17408	-96.133146	Canon del Rio Mentlac || Mex: Veracruz || 3 km W Fortin de los Flores || 6.vii.1981|| Coll. J. LaSalle ++ No. 81-7-6-1 || sweeping
Signiphora aleyrodis	UCRC ENT 299151		UCR	16.361189	-93.896141	Mexico: Chiapas || 19 km N Arraga || 3.vii.1981 || Coll. J. LaSalle ++ No. 81-7-3-3 || Prob. At edge || Rainforest/ Pine Forest
Signiphora aleyrodis	UCRC ENT 299152		UCR	19.17408	-96.133146	Canon del Rio Mentlac || Mex: Veracruz || 3 km W Fortin de los Flores || 6.vii.1981|| Coll. J. LaSalle ++ No. 81-7-6-1 || sweeping
Signiphora aleyrodis	UCRC ENT 299153		UCR	20.66349	-101.364856	Playa Azul || Guerrero Mexico || i.25.1975 || Aleurothrixus || floccosus || citrus || original material || Coll. DeBach, Rose ++
Signiphora aleyrodis	UCRC ENT 299154		UCR	19.120813	-104.352314	Mex. Colima || Santiago, Mazanillo || iv.26.1980 || Aleurothrixus || floccosus || citrus || orig. mat. || Coll. DeBach ++ No. R80-13-1
Signiphora aleyrodis	UCRC ENT 299155		UCR	19.120813	-104.352314	Mex. Colima || Santiago, Mazanillo || Aleurothrixus || floccosus || citrus || orig. mat. || Coll. DeBach ++ No. R80-13-1

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora aleyrodis	UCRC ENT 299156		UCR	19.120813	-104.352314	Mex. Colima || Mazanillo || iv.24.1980 || Aleurothrixus || floccosus || citrus || orig. mat. || Coll. DeBach ++ No. S+R 80-16 Orig. Mat.
Signiphora aleyrodis	UCRC ENT 299157		UCR	17.98088	-102.349849	Playa Azul || Michoacan Mexico || i.25.1975 || Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. DeBach & Rose
Signiphora aleyrodis	UCRC ENT 299158		UCR	17.644783	-101.552997	Zihuatanejo || Guerrero, Mexico || Aleurothrixus || floccosus || on citrus || Coll. DeBach & Rose
Signiphora aleyrodis	UCRC ENT 299159		UCR	19.120813	-104.352314	Mexico, Colima || Manzanillo || i.24.1980 || Aleurothrixus || floccosus || on citrus || Coll. P. DeBach ++ Det. DeBach 1980 ++ No. S&R 80-16 || Orig. Mat
Signiphora aleyrodis	UCRC ENT 299163		UCR	20.66349	-101.364856	Playa Azul || Guerrero Mexico || i.25.1975 || Aleurothrixus || floccosus || citrus || origi. Mat. || Coll. DeBach, Rose
Signiphora aleyrodis	UCRC ENT 299165		UCR	16.85	-99.9167	Acapulco || Guerrero, Mexico || i. 27. 1975 || Host (?) aleurothrixus || floccosus || on citrus || Coll. DeBach & Rose ++ No. A2
Signiphora aleyrodis	UCRC ENT 299166		UCR	17.068321	-96.720228	Oaxaca || Oaxaca, Mexico || i-30 & 31. 1975 || Host Aleurothrixus || floccosus || on citrus || Coll. DeBach & Rose
Signiphora aleyrodis	UCRC ENT 299167		UCR	17.068321	-96.720228	Oaxaca || Oaxaca, Mexico || i-30 & 31. 1975 || Host Aleurothrixus || floccosus || on citrus || Coll. DeBach & Rose ++ No. O2
Signiphora aleyrodis	UCRC ENT 299168		UCR	17.7833	-96.3167	Valle Nacional || Oaxaca, Mexico || ii-1.1975 || Host Aleurothrixus || * floccosus || on citrus || * Signiphora sp. As || hyper on amitus || Coll. DeBach & Rose ++ i- typical amitus || 2- x holes as in hyper
Signiphora aleyrodis	UCRC ENT 299169		UCR	19.2	-96.1333	Veracruz || Veracruz, Mexico || ii-3. 1975 || Host Aleurothrixus || floccosus || on citrus || Coll. DeBach & Rose ++ No. Vcz
Signiphora aleyrodis	UCRC ENT 299170		UCR	19.2	-96.1333	Veracruz || Veracruz, Mexico || ii-3. 1975 || Host Aleurothrixus || floccosus || on lime || Coll. DeBach & Rose ++ No. Vc 3
Signiphora aleyrodis	UCRC ENT 299171		UCR	19.2333	-103.7167	Colima || Mexico || i-21.1975 || Host Aleurothrixus || floccosus || on citrus || orig. material || Coll. DeBach & Rose
Signiphora aleyrodis	UCRC ENT 299172		UCR	19.2333	-103.7167	Colima || Mexico || i-21.1975 || Host Aleurothrixus || floccosus || on citrus || orig. material || Coll. DeBach & Rose
Signiphora aleyrodis	UCRC ENT 299173		UCR	19.2333	-103.7167	Colima || Mexico || i-21.1975 || Host Aleurothrixus || floccosus || on citrus || orig. material || Coll. DeBach & Rose
Signiphora aleyrodis	UCRC ENT 299174		UCR	16.85	-99.9167	Acapulco || Guerrero, Mexico || i. 27. 1975 || Host aleurothrixus || * floccosus || on citrus || * see Valle Nacional || Coll. DeBach & Rose ++ No. A1
Signiphora aleyrodis	UCRC ENT 299175		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299176		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299177		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299178		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299179		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299180		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299181		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	UCRC ENT 299182		UCR	17.0333	-100.0667	Playa Azul || Guerrero, Mexico || i-25.1975 || Host Aleurothrixus || floccosus || on citrus || orig. mat. || Coll. De Bach, Rose
Signiphora aleyrodis	USNM ENT 763001		USNM	18.166836	-67.15961	Thysanus || Reared from A. || cardini in assoc || with Encarsia || on guava || Guanajibo P. R. || Aug 10-1935 || H.L. Dozier
Signiphora aleyrodis	USNM ENT 763002		USNM	18.166836	-67.15961	Thysanus || Reared from A. || cardini Back on || guava, with Encar || sia || Guanajibo, P.R. || Aug 10-1935|| H.L. Dozier
Signiphora aleyrodis	USNM ENT 763003		USNM	18.201521	-67.145097	Thysanus || Ex. Aleurtrachelus || portoricensis Doz. || on Malphigia glabra || assoc. with Encarsia || Mayaguaz, P.R. || July 28, 1935 H.D.
Signiphora aleyrodis	USNM ENT 763009		USNM	18.092119	-67.183385	Thysanus || sweeping roadside || steep slopes of || fern, etc. || Miradero, P.R. || Sept. 18,1935 || H.L. Dozier
Signiphora aleyrodis	TAMU-ENTO X0460237		FSCA	18.397586	-66.049855	Puerto Rico || Rio Piedras || 28. xi. 1987 || FD Bennett 772 || Aleyrodidae on Bauhinia sp.
Signiphora aleyrodis	TAMU-ENTO X0460247		FSCA	18.3974	-66.0499	Puerto Rico || Rio Piedras || 4 VI 90 || FD Bennett 423 || Bemisia tabaci || on Poinsettia || sp. Hoyer
Signiphora aleyrodis	TAMU-ENTO X0460248		FSCA	18.3974	-66.0499	Puerto Rico || Rio Piedras || 28-XI-1988 || FD Bennett 780 || aleyrodid on || Bauhinia sp. || Hoyers
Signiphora aleyrodis	TAMU-ENTO X0460249		FSCA	18.3974	-66.0499	Puerto Rico || Rio Piedras || 2 VIII 1990 || FD Bennett 569 || Bemisia tabaci || Euphorbia || pulcherrima || Hoyers
Signiphora aspidioti	USNM Type No. 4859	holotype	USNM			Bred from || Aspidiotus || nerii || San Luis, Mex. || Nov. 94 ++ 470-02
Signiphora aspidioti	UCRC ENT 299185		UCR	-23.6833	150.7167	Marmor, Q || IX-18-1931 || Coll. S.E.F. || Ex. scale || On: lime
Signiphora aspidioti	TAMU-ENTO X0424915		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos, St, || Cruz, Los Gemelos || 31 km N Santa Rosa || 13-vi-15-vii-1985 || 570 m Scalesia || forest || FIT & MALAISE || Coll. S&J Peck || 85-188B
Signiphora aspidioti	TAMU-ENTO X0424922		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos || St. Cruz 2 km N. || Bellavista || 14-v-13-vi-1985 || 360 m || guava thicket || Agricultural || area, FIT || Coll. S&J Peck || 85-159

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora aspidioti	TAMU-ENTO X0424928		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos, St, || Cruz, Los Gemelos || 31 km N Santa Rosa || 13-vi-15-vii-1985 || 570 m Scalesia || forest || FIT & MALAISE || Coll. S&J Peck || 85-188B
Signiphora aspidioti	TAMU-ENTO X0424942		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos, St, || Cruz, Los Gemelos || 31 km N Santa Rosa || 13-vi-15-vii-1985 || 570 m Scalesia || forest || FIT & MALAISE || Coll. S&J Peck || 85-188B
Signiphora aspidioti	TAMU-ENTO X0424946		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos || St. Cruz 2 km N. || Bellavista || 14-v-13-vi-1985 || 620m || Coll. S&J Peck || 85-158
Signiphora aspidioti	TAMU-ENTO X0609355		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos || St. Cruz 2 km N. || Bellavista || 14-v-13-vi-1985 || 620m || Coll. S&J Peck || 85-158
Signiphora aspidioti	TAMU-ENTO X0609360		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos || St. Cruz 2 km N. || Bellavista || 14-v-13-vi-1985 || 620m || Coll. S&J Peck || 85-158
Signiphora aspidioti	TAMU-ENTO X0609361		TAMU	-0.608356	-90.339432	ECUADOR: Galapagos || St. Cruz 2 km N. || Bellavista || 14-v-13-vi-1985 || 620m || Coll. S&J Peck || 85-158
Signiphora aspidioti	TAMU-ENTO X0609370		TAMU	-0.95508	-90.966225	ECUADOR: Galapagos || St. Cruz, Academy || Bay, Ecco || 10-v-19-vii-1985 || 30 m aridzone || thornscrub || MALAISE-FIT || trap || Coll. S&J Peck || 85-155
Signiphora aspidioti	TAMU-ENTO X0609372		TAMU	-0.95508	-90.966225	ECUADOR: Galapagos || St. Cruz, Academy || Bay, Ecco || 10-v-19-vii-1985 || 30 m aridzone || thornscrub || MALAISE-FIT || trap || Coll. S&J Peck || 85-155
Signiphora aspidioti	TAMU-ENTO X0609373		TAMU	-0.95508	-90.966225	ECUADOR: Galapagos || St. Cruz, Academy || Bay, Ecco || 10-v-19-vii-1985 || 30 m aridzone || thornscrub || MALAISE-FIT || trap || Coll. S&J Peck || 85-155
Signiphora aspidioti	UCRC ENT 299186		UCR	19.420833	-102.062778	P67 || Thysanus || Ex. Hemiberlesia || lataniae || on orange || Uruapan, Mexico || July 14, 1954 || DeBach
Signiphora aspidioti	UCRC ENT 299187		UCR	19.420833	-102.062778	Thysanus || Ex. Hemiberlesia || lataniae || on orange || Uruapan, Mexico || July 17, 1954 || DeBach || P57
Signiphora aspidioti	UCRC ENT 299189		UCR	24.134065	-110.300016	La Paz || Baja Caliente || 15.i.1967 || Ex. 5 spp. || On: Banana
Signiphora aspidioti	USNM ENT 763012		USNM	22.603333	-100.429722	San Luis, ? (illegible) || XI-1894 || Ex. Aspidiotus nerii || Coll. ? ++ Homotype ++ 470 02
Signiphora aspidioti	UCRC ENT 299183		UCR	21.3069	-157.8583	Honolulu || Dec. 5, 1917 || P.H. Timberlake
Signiphora aspidioti	UCRC ENT 299184		UCR	21.3069	-157.8583	Honolulu || Dec. 5, 1917 || P.H. Timberlake
Signiphora aspidioti	UCRC ENT 299188		UCR	33.499239	-117.74253	Circle Dr., So. || Laguna || XI-22-1980 || Hemiberlesia || lataniae || On: Bird of Paradise
Signiphora aspidioti	UCRC ENT 299190		UCR	33.499239	-117.74253	CA. Orange Co. || Laguna, Circle Dr. || x-6-1980 || Ex. Hemiberlesia || lataniae || On: Bird of paradise
Signiphora aspidioti	USNM ENT 763008		USNM	21.3069	-157.8583	Honolulu, H.I. || iii-10-1899 || Coll. A. Koebele (1813) || Ex. Aspidiotus subrunescens Mask || On: oleander
Signiphora aspidioti	USNM ENT 763010		USNM	25.9017	-97.4975	Brownsville, Tex || Nov. 27, 1941 TEEX # 44927 || C.L. Pernell || Ex. Asp latanise || on avocado from || Mexico.
Signiphora aspidioti	USNM ENT 763011		USNM	20.8947	-156.47	Kahului, Maui || ii-26-69 || M-69-4 || Coll. N. Miyahira ++ Ex. Asterolecanium || pustulans (Ckll) || 69-1849
Signiphora aspidioti	TAMU-ENTO X0424886		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424887		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424888		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424889		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424890		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424891		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424892		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0424893		TAMU	30.267148	-97.772963	Walker Co. || Zilker Park || Austin || 20-ix-1986 || Ex. armored scale || On: Persimmon/ at end || of pool parking lot || Coll. J. Heraty
Signiphora aspidioti	TAMU-ENTO X0460255		TAMU	26.1595173	-97.9908333	TX: Hidalgo Co || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460257		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ H.V. Browning
Signiphora aspidioti	TAMU-ENTO X0460258		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ H.V. Browning
Signiphora aspidioti	TAMU-ENTO X0460259		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ H.V. Browning
Signiphora aspidioti	TAMU-ENTO X0460260		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ H.V. Browning
Signiphora aspidioti	TAMU-ENTO X0460261		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ Coll. H. V. Browning

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora aspidioti	TAMU-ENTO X0460262		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ H.V. Browning
Signiphora aspidioti	TAMU-ENTO X0460264		TAMU	25.9017	-97.4975	TX: Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: ponytail plam || beaucarnea recurvata ++ H.V. Browning
Signiphora aspidioti	TAMU-ENTO X0460265		TAMU	25.9017	-97.4975	Cameron Co. || Brownsville || v.8.1985 || Ex. Diaspidid scale || On: Ponytail palm || Beaucarnea recurata
Signiphora aspidioti	TAMU-ENTO X0460266		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460267		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 28-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460268		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460269		TAMU	26.159167	-97.9875	Hidalgo Co. TX || Weslaco || 22-V-85 || C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460270		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460271		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460272		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460273		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460274		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C. W. Melton
Signiphora aspidioti	TAMU-ENTO X0460275		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460276		TAMU	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460277		UCR	26.1595173	-97.9908333	Texas: Hidalgo || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460278		TAMU	26.159167	-97.9875	Hidalgo Co. TX || Weslaco || 22-V-85 || C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460279		TAMU	26.1595173	-97.9908333	TX: Hidalgo Co || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460280		TAMU	26.1595173	-97.9908333	TX: Hidalgo Co || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460281		TAMU	26.1595173	-97.9908333	TX: Hidalgo Co || Taes, Weslaco || 24-VII-1985 || Coll. C.W. Melton
Signiphora aspidioti	TAMU-ENTO X0460282		TAMU	26.159167	-97.9875	Hidalgo Co. TX || Weslaco || 22-V-85 || C.W. Melton
Signiphora aspidioti	INHS 72510		INHS	33.6562	-96.9069	Whitesboro, TX || I.M. Buchanan || Coll. Jan 25, 1908 || Ex. Hemib, lataniae || On: Peach ++ Homotype & Plesiotype
Signiphora aspidioti	TAMU-ENTO X0424936		TAMU			ECUADOR: Galapagos||St. Cruz, 2 km. E. Camote||29.vi.1985||670 m.||fern-bird litter++Coll. S&J. Peck||85-210
Signiphora bennetti	TBA (MLPA)		MLPA	-35	-57.9	Arana || Prov. De Bs. As. || 1-ii-1970 || Coll. DeSantis
Signiphora bennetti	TBA (MLPA)		MLPA	-34.9314	-57.9489	Eva Peron || Peia de Bs.As || 9-iv-1952 || Coll. Balcedo-Paes
Signiphora bennetti	TBA (MLPA)		MLPA	-34.9314	-57.9489	Eva Peron || Peia de Bs.As || 9-iv-1952 || Coll. Balcedo-Paes
Signiphora bennetti	TBA (MLPA)		MLPA	-34.9314	-57.9489	Eva Peron || Peia de Bs.As || 9-iv-1952 || Coll. Balcedo-Paes
Signiphora bennetti	CNC HYMEN 122353		CNC	24.077656	-74.475904	Bahamas || San Salvador || xii-8-13-1980 || Swimming pool || surface || Coll. B. Bowen
Signiphora bennetti	CNC HYMEN 122354		CNC	24.077656	-74.475904	Bahamas || San Salvador || xii-8-13-1980 || Swimming pool || surface || Coll. B. Bowen
Signiphora bennetti	CNC HYMEN 122355		CNC	24.077656	-74.475904	Bahamas || San Salvador || xii-8-13-1980 || Swimming pool || surface || Coll. B. Bowen
Signiphora bennetti	UCRC ENT 299622		UCR	26.667464	-78.51843	Grand Bahama || Island || Bahamian Way || 6.4 mi NW Eight || Mile Rock || Coll. D.M. LaSalle || 16.x.1982
Signiphora bennetti	BMNH(E) 990316		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ ii2i5
Signiphora bennetti	BMNH(E) 990317		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 1.vi.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora bennetti	BMNH(E) 991091	paratype		-21.4667	-47.35	Brazil || Sao Paulo || Sta. Rosa de || Viterbo || xi-xii-1981 || Ex. Endoparasite || of mature F || Melanaspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR1
Signiphora bennetti	BMNH(E) 991092	paratype		-21.4667	-47.35	Brazil || Sao Paulo || Sta. Rosa de || Viterbo || xi-xii-1981 || Ex. Endoparasite || of mature F || Melanaspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR1
Signiphora bennetti	BMNH(E) 991093	paratype		-21.4667	-47.35	Brazil || Sao Paulo || Sta. Rosa de || Viterbo || xi-xii-1981 || Ex. Endoparasite || of mature F || Melanaspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR1
Signiphora bennetti	BMNH(E) 991094	paratype		-21.4667	-47.35	Brazil || Sao Paulo || Sta. Rosa de || Viterbo || xi-xii-1981 || Ex. Endoparasite || of mature F || Melanaspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR1
Signiphora bennetti	BMNH(E) 991095	paratype		-21.4667	-47.35	Brazil || Sao Paulo || Sta. Rosa de || Viterbo || xi-xii-1981 || Ex. Endoparasite || of mature F || Melanaspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR1
Signiphora bennetti	BMNH(E) 991096	paratype		-22.3667	-47.3833	Brazil || Sao Paulo State || Araras || 25-xi-1981 || Ex. 3rd stage || nymph of || Melanspis smilaris || On: sugarcane || Coll. F.D. Bennett || CIBC-BR4

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora bennetti	BMNH(E) 991097	paratype		-22.3667	-47.3833	Brazil || Sao Paulo State || Araras || 29-xi-1981 || Ex. M Pupa || Melanspis smilaris || On: sugarcane || Coll. F.D. Bennett || CIBC-BR5
Signiphora bennetti	UFES 144.462	holotype	UFES	-22.3667	-47.3833	Brazil || Sao Paulo State || Araras || xi-1981 || Ex. (F) Melanspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR6
Signiphora bennetti	BMNH(E) 991099	paratype		-22.3667	-47.3833	Brazil || Sao Paulo State || Araras || xi-1981 || Ex. (F) Melanspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR6
Signiphora bennetti	BMNH(E) 991100	paratype		-22.3667	-47.3833	Brazil || Sao Paulo State || Araras || xi-1981 || Ex. (F) Melanspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR6
Signiphora bennetti	BMNH(E) 991101	paratype		-22.3667	-47.3833	Brazil || Sao Paulo State || Araras || xi-1981 || Ex. (F) Melanspis || smilacis || On: sugarcane || Coll. F.D. Bennett || CIBC-BR6
Signiphora bennetti	BMNH(E) 1038865	paratypes		-23.767122	-46.712165	BRAZIL || AMALIA ++ xii-1982 || F.D. Bennett ++ ex: Melanaspis || smilacis ++ On:sugarcane
Signiphora bennetti	BMNH(E) 1038866	paratypes		-23.767122	-46.712165	BRAZIL || AMALIA ++ xii-1982 || F.D. Bennett ++ ex: Melanaspis || smilacis ++ On:sugarcane
Signiphora bennetti	BMNH(E) 1038867	paratypes		-23.767122	-46.712165	BRAZIL || AMALIA ++ xii-1982 || F.D. Bennett ++ ex: Melanaspis || smilacis ++ On:sugarcane
Signiphora bennetti	BMNH(E) 1038868	paratypes		-23.767122	-46.712165	BRAZIL || AMALIA ++ xii-1982 || F.D. Bennett ++ ex: Melanaspis || smilacis ++ On:sugarcane
Signiphora bennetti	CNC HYMEN 122502		CNC	10.453907	-84.003494	Costa Rica || 'La Selva' Biol. || Station || Nr. Puerto Viejo || ii-1980 || Screen sweeping || rainforest || Coll. W.R. Mason
Signiphora bennetti	USNM ENT 763131		USNM			Cuba || 'G.A. Victoria' || Rice Inv. || Coll. J.V. McGuire
Signiphora bennetti	USNM ENT 763132		USNM	21.681944	-78.624444	Cuba || Ex. Targionia || sacchari Ckll. || Coll. C.F. Stahl || T.P.R.F. #3554
Signiphora bennetti	USNM ENT 763133		USNM	21.681944	-78.624444	Baragua, Cuba || Ex. scale || On: sugarcane || Coll. C.F. Stahl || T.P.R.fF. #307
Signiphora bennetti	TAMU-ENTO X0424932		TAMU	-0.608356	-90.339432	ECUDAOR: Galapagos; || St. Cruz; 4 km N. || Bellavista Medialund || 14-v-13-vii-1985 || 620 m || Miconia Zone FIT || (2.vii, trough) || Coll. S&J Peck || 85-158
Signiphora bennetti	TAMU-ENTO X0609366		TAMU	-0.95508	-90.966225	ECUADOR: Galapagos || St. Cruz, Academy || Bay, Ecco || 10-v-19-vii-1985 || 30 m aridzone || thornscrub || MALAISE-FIT || trap || Coll. S&J Peck || 85-155
Signiphora bennetti	TAMU-ENTO X0609367		TAMU	-0.95508	-90.966225	ECUADOR: Galapagos || St. Cruz, Academy || Bay, Ecco || 10-v-19-vii-1985 || 30 m aridzone || thornscrub || MALAISE-FIT || trap || Coll. S&J Peck || 85-155
Signiphora bennetti	TAMU-ENTO X0424861		TAMU	19.286517	-102.05349	MEX: Michoacan || 10 mi. S. Urupan || 7.vii.1985 || Ex. ? Chionaspis || On: pine || Coll. J. Woolley || 85/039
Signiphora bennetti	USNM ENT 763129		USNM	18.201521	-67.145097	Mayaquez, P.R. || Sept 12-1935 || Sweeping short || grass in backyard
Signiphora bennetti	USNM ENT 763130		USNM	18.201521	-67.145097	Mayaquez, P.R. || Aug 13-1935 || Sweeping pasture || at Expt. Sta. || Coll. H.L. Dozier
Signiphora bennetti	CNC HYMEN 122356		CNC	10.6333	-61.4	Trinidad || W.I., Curepe || CIBC lab grounds || 14-28.v.74 || Coll. F.D.Bennett ¨ No. 77.06.22.01 “
Signiphora bennetti	CNC HYMEN 122357		CNC	10.6333	-61.4	Trinidad || W.I., Curepe || CIBC lab grounds || 14-28.v.74 || Coll. F.D.Bennett || No. 77.06.15.04
Signiphora bennetti	CNC HYMEN 122358		CNC	10.653934	-61.402128	Trinidad || Curepe St. Morgan Cir. Rd. || 25.iii-13.iv.1974 || Coll. F.D. Bennett
Signiphora bennetti	CNC HYMEN 122359		CNC	10.629956	-61.413141	Trinidad || Valday || 101 Springfield Ave. || Moericke Trap || vii-5-viii-21-1974 || Coll. F.D. Bennett
Signiphora bennetti	BMNH(E) #990253		BMNH	10.65	-61.4	Trinidad: St. George || Augustine || 16.vi.1976 || Wasteground || Coll. J.S. Noyes || Brit. Mus. 1976-462
Signiphora bennetti	BMNH(E) #990254		BMNH	10.6667	-61.5	Trinidad: St. George || Belmont || 6.vii.1976 || Wasteground || Coll. J.S. Noyes || Brit. Mus. 1876-462
Signiphora bennetti	BMNH(E) #990255		BMNH	10.6667	-61.5	Trinidad: St. George || Belmont || 6.vii.1976 || Wasteground || Coll. J.S. Noyes || Brit. Mus. 1876-462
Signiphora bennetti	BMNH(E) #990256		BMNH	10.65	-61.4	Trinidad: St. George || Augustine || 18.vi.1976 || Wasteground || Coll. J.S. Noyes || Brit. Mus. 1976-462
Signiphora bennetti	BMNH(E) #990257		BMNH	10.123005	-61.116314	Trinidad: Mayaro || Trinity Hills Reserve || 5.viii.1976 || Rainforest || Coll. J.S. Noyes || Brit. Mus. 1976-462
Signiphora bennetti	BMNH(E)#990315		BMNH	10.65	-61.4	Trinidad: St. George || St. Augustine || Wasteground || 14.vi.1976 || Coll. J.S. Noyes || Brit. Mus. 1976-462
Signiphora bennetti	BMNH(E) #990322		BMNH	10.65	-61.4	Trinidad: St. George || Kingstown || Wasteground || 4.vi.1976 || Coll. J.S. Noyes || Brit. Mus. 1976-462
Signiphora bennetti	CNC HYMEN 122538		CNC	10.633446	-61.396455	Trinidad || Orange Grove || iii.1973 || Ex. Aspidiella || sacchari || On: sugarcane || Coll. F.D. Bennett || T4667
Signiphora bennetti	CNC HYMEN 122516		CNC	10.6333	-61.4	TRINIDAD, W.I.,Curepe || CIBC, lab grounds || 13-27.vi.1974 || M.N.Beg,Moericke trap
Signiphora bennetti	CNC HYMEN 122666		CNC	10.6333	-61.4	TRINIDAD, W.I.,Curepe || CIBC, lab grounds || 13-27.vi.1974 || M.N.Beg,Moericke trap
Signiphora bennetti	CNC HYMEN 122663		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 ++ Coll. || M.N.Beg
Signiphora bennetti	CNC HYMEN 122664		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 ++ Coll. || M.N.Beg ++ Signiphora || Det. C.M. Yoshimoto
Signiphora bennetti	CNC HYMEN 122657		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 || E.D. Bennett
Signiphora bennetti	CNC HYMEN 122658		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 || E.D. Bennett
Signiphora bennetti	CNC HYMEN 122659		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 || E.D. Bennett
Signiphora bennetti	CNC HYMEN 122660		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 || E.D. Bennett

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora bennetti	CNC HYMEN 122661		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 || E.D. Bennett
Signiphora bennetti	CNC HYMEN 122662		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 13.vii-21.viii.1974 || E.D. Bennett
Signiphora bennetti	CNC HYMEN 122665		CNC	10.6333	-61.4	TRINIDAD,W.I.,Curepe || CIBC lab. Grounds || 29.iv-13.v-1974 || M.N.Beg ++ CNC-LOANED || vii-1981
Signiphora bennetti	CNC HYMEN 122656		CNC	10.550259	-61.216643	TRINIDAD: St. George || Arena Reserve || 31.vii.1976 ++ J.S.Noyes || Brit. Mus. || 1976-462 ++ Rainforest
Signiphora bennetti	CNC HYMEN 122463		CNC	27.182272	-82.463751	FLA: Sarasota Co. || Oscar S. Chever || St. Rec. Area || v-27-29-1978 || N.F.Johnson || pan traps in || slush pine- || palmetto || forest
Signiphora bennetti	USNM ENT 763134		USNM	38.8951	-77.0364	Wash., D.C. || Aug 21-1907 || Ex. diaspis pentagona || Asp. Perniciosus || On: cherry || Coll. E.A. (?) Saercer
Signiphora bennetti	USNM ENT 763135		USNM	41.21	-77.196	PA || July 12, 1927 || Reared from Chry- || somphalus obscurus || On: oak || Coll. H.L. Dozier
Signiphora bennetti	USNM ENT 763136		USNM	41.21	-77.196	PA || July 12, 1927 || Reared from Chry- || somphalus obscurus || On: oak || Coll. H.L. Dozier
Signiphora bennetti	USNM ENT 763137		USNM	41.21	-77.196	PA || July 12, 1927 || Reared from Chry- || somphalus obscurus || On: oak || Coll. H.L. Dozier
Signiphora bennetti	USNM ENT 763138		USNM	39.9009	-74.8235	Medford, N.J. || Nov 1951 || Ex. Aspidiotus oxycoccus || Coll. Hutchinson || No G75 || 51-10373
Signiphora bennetti	USNM ENT 763139		USNM	40.7326	-73.4454	Farmingdale, N.Y. || Aug 3, 1965 || Unknown host || Coll. ?
Signiphora bennetti	USNM ENT 763140		USNM	42.3804	-72.5231	Amherst, Mass || Emerged Dec 1, 1924 || Ex. scale || On: cranberry || Coll. D.S. Lacroix
Signiphora bennetti	USNM ENT 763141		USNM	39.933889	-74.748611	Vincentown, N.J. || Ex. Asp. Oxycoccus || On: cranberry || Coll. Wm. E. Tomlinson Jr. || ID Lot. No. 50-13486
Signiphora bennetti	USNM ENT 763142		USNM	39.9009	-74.8235	Medford, N.J. || 1951-52 winter || Ex. Par of Aspidiotus || oxycoccus || Coll. M.T. Hutchinson || G75
Signiphora bennetti	BMNH(E) 1038864	paratype				BRAZIL||XII-1981||F.D. Bennett++ex: Melanaspis||smilacis
Signiphora biloba	USNM ENT 763150		USNM	14.388047	-91.195542	Guatemala || Cocales || May 16, 1965 || Ex. Odonaspis spp. || Coll. E.J. Hambleton
Signiphora biloba	USNM ENT 763151		USNM	14.388047	-91.195542	Guatemala || Cocales || May 16, 1965 || Ex. Odonaspis spp. || Coll. E.J. Hambleton
Signiphora biloba	USNM ENT 763152		USNM	14.388047	-91.195542	Guatemala || Cocales || May 16, 1965 || Ex. Odonaspis spp. || Coll. E.J. Hambleton
Signiphora biloba	USNM ENT 763153		USNM	14.388047	-91.195542	Guatemala || Cocales || May 16, 1965 || Ex. Odonaspis spp. || Coll. E.J. Hambleton
Signiphora biloba	USNM ENT 763154		USNM	14.388047	-91.195542	Guatemala || Cocales || May 16, 1965 || Ex. Odonaspis spp. || Coll. E.J. Hambleton
Signiphora biloba	USNM ENT 763155	paratype	USNM	42.4406	-76.4966	?|| Mar 19, 1925 || Reared from M || Diaspis boisduvalli || On: cattleya || Coll. ? ++ 0-3P.'
Signiphora biloba	USNM ENT 763156	paratype	USNM	42.4406	-76.4966	Ithaca, N.Y. || Mch 19, 1923 || Ex. scale || On: cattleya || Coll. Grace Griswald ++ P3-1
Signiphora biloba	TAMU-ENTO x0616378	paratype		42.4406	-76.4966	Ithaca, N.Y.||Mar. 25||Signiphora||coquilletti Ash||det. A. Gahan
Signiphora biloba	TAMU-ENTO x0616379	paratype		42.4406	-76.4966	Ithaca, N.Y.||Mar. 25
Signiphora biloba	TAMU-ENTO x0616380	holotype	CUIC	42.4406	-76.4966	Ithaca, N.Y.||Mar. 25
Signiphora biloba	TAMU-ENTO x0616381	paratype		42.4406	-76.4966	Ithaca, N.Y.||Mar. 25
Signiphora biloba	TAMU-ENTO x0616382	paratype		42.4406	-76.4966	Ithaca, N.Y.||Mar. 25||Signiphora||coquilletti Ash||det. A. Gahan
Signiphora borinquensis	UCRC ENT 299191		UCR	33.975787	-117.331846	Insectary reared F3 || Puerto Rico || 6 Oct 1965 || Ex. Diaspis echinocacti || Det Mar 20 1967 ++ No. R 65-53
Signiphora borinquensis	UCRC ENT 299192		UCR	33.975787	-117.331846	Lab Culture, UCR Insectary || X 1969 || UCR Insectary || Balsam
Signiphora borinquensis	UCRC ENT 299193		UCR	33.975787	-117.331846	UCR Insectary || October 1969 || Balsam
Signiphora borinquensis	UCRC ENT 299194		UCR	33.975787	-117.331846	UCR Insectary || October 1969 || Balsam
Signiphora borinquensis	UCRC ENT 299195		UCR	33.975787	-117.331846	Insectary reared F3 || Puerto Rico || 6 Oct 1965 || Ex. Diaspis echinocacti ++ No. R65-55
Signiphora borinquensis	UCRC ENT 299196		UCR	17.9841	-66.1138	Guayama || Puerto Rico || June 3 1965 || Ex. Aspidiotus || destructor || On: Banana || Coll. T.W. Fisher ++ No. R 65-55
Signiphora borinquensis	UCRC ENT 299197		UCR	33.975787	-117.331846	Insectary reared F3 || Puerto Rico || x-6-1965 || Ex. Diaspis || Echinocacti ++ No. R65-55
Signiphora borinquensis	UCRC ENT 299198		UCR	17.9841	-66.1138	Guayama || Puerto Rico || June 3 1965 || Ex. Aspidiotus || destructor || On: Banana || Coll. T.W. Fisher ++ No. R65-55
Signiphora borinquensis	UCRC ENT 299199		UCR	33.975787	-117.331846	UCR Insectary || October 1969 || Balsam, Canada
Signiphora borinquensis	UCRC ENT 299200		UCR	33.975787	-117.331846	UCR Insectary || October 1969 || Balsam, Canada
Signiphora borinquensis	UCRC ENT 299201		UCR	33.975787	-117.331846	October 1969 || UCR Insectary || Hoyer
Signiphora borinquensis	UCRC ENT 299202		UCR	33.975787	-117.331846	October 1969 || UCR Insectary || Hoyer
Signiphora borinquensis	UCRC ENT 299203		UCR	33.975787	-117.331846	October 1969 || UCR Insectary || Hoyer
Signiphora borinquensis	UCRC ENT 299204		UCR	33.975787	-117.331846	October 1969 || UCR Insectary || Hoyer || #1
Signiphora borinquensis	UCRC ENT 299205		UCR	33.975787	-117.331846	October 1969 || UCR Insectary || Hoyer

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora borinquensis	UCRC ENT 299206		UCR	33.975787	-117.331846	October 1969 || UCR Insectary || Hoyer || #2
Signiphora borinquensis	UCRC ENT 299207		UCR	33.975787	-117.331846	LAB Stock || I 65-55
Signiphora borinquensis	UCRC ENT 299208		UCR	33.975787	-117.331846	LAB Stock || I 65-55 || #3
Signiphora borinquensis	UCRC ENT 299209		UCR	33.975787	-117.331846	LAB Stock || I 65-55 || #4
Signiphora borinquensis	UCRC ENT 299210		UCR	33.975787	-117.331846	UCR Insectary || Riverside CA || 10/16/1969 || Coll. S. C. Warner || No. 65-55
Signiphora borinquensis	UCRC ENT 299211		UCR	33.975787	-117.331846	Insectary || X Culture -UCR || IX-24-1965 || x from residue || No. R65-55
Signiphora borinquensis	UCRC ENT 299212		UCR	33.975787	-117.331846	Insectary || X Culture -UCR || IX-24-1965 || x from residue || No. R65-55
Signiphora borinquensis	UCRC ENT 299213		UCR	33.975787	-117.331846	Insectary || X Culture -UCR || IX-24-1965 || x from residue || No. R65-55
Signiphora borinquensis	UCRC ENT 299214		UCR	33.975787	-117.331846	Insectary || X Culture -UCR || IX-24-1965 || x from residue || No. R65-55
Signiphora borinquensis	UCRC ENT 299215		UCR	17.9841	-66.1138	Guayama || Puerto Rico || June 3 1965 || Ex. Aspidiotus || destructor || On: Banana || Thysanus sp || R-65-55 || T.W. Fisher
Signiphora borinquensis	UCRC ENT 300001	holotype	UCR	33.975787	-117.331846	Lab Culture, UCR Insectary || X 1969 || UCR Insectary
Signiphora borinquensis	USNM ENT 763013		USNM	33.975787	-117.331846	Puerto Rico (Ex. || cult. Riverside, Calif.) || Dec. 1966 || Aspidiotus destructor || Coll. Jose R. Quesada
Signiphora borinquensis	TAMU-ENTO X0424894		TAMU	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora borinquensis	TAMU-ENTO X0424895		TAMU	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora borinquensis	TAMU-ENTO X0424896		TAMU	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora borinquensis	TAMU-ENTO X0424897		TAMU	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora borinquensis	TAMU-ENTO X0424898		TAMU	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora borinquensis	TAMU-ENTO X0424899		TAMU	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora borinquensis	TAMU-ENTO X0460283		TAMU	19.145817	-102.044563	MEX: Michoacan || 18.5 mi S. Nueva Italia || vi. 9.1985 || Ex. armored scale || On: pressed plant || Coll. Schffer ++ No. 85/046 2/3
Signiphora borinquensis	TAMU-ENTO X0460284		TAMU	19.145817	-102.044563	MEX: Michoacan || 18.5 mi S. Nueva Italia || vi. 9.1985 || Ex. armored scale || On: pressed plant || Coll. Schffer ++ No. 85/046 1/3
Signiphora borinquensis	TAMU-ENTO X0460285		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || Ex. (?) glover's scale || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ || 85/061C
Signiphora borinquensis	TAMU-ENTO X0460286		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || 14. vii. 1985 || Ex. (?) glover's scale || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ 85/ 061C
Signiphora borinquensis	TAMU-ENTO X0460287		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || 14. vii. 1985 || Ex. (?) glover's scale || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ 85/ 061C
Signiphora borinquensis	TAMU-ENTO X0460288		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || 14. vii. 1985 || Ex. (?) glover's scale || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ 85/ 061C
Signiphora borinquensis	TAMU-ENTO X0460289		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || 14. vii. 1985 || Ex. (?) glover's scale || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ 85/ 061C
Signiphora borinquensis	TAMU-ENTO X0460290		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || 14. vii. 1985 || Ex. (?) glover's scale || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ 85/ 061C
Signiphora borinquensis	TAMU-ENTO X0460291		TAMU	17.55	-99.5	Mex: Guerrero || Chilparcingo; Hotel Par. Del Marq. || 14. vii,. 1985 || On: citrus || Coll. J. Woolley & G. Zolnerowich ++ 85/061
Signiphora borinquensis	TAMU-ENTO X0616328		FSCA	17.9941	-66.5421	Puerto Rico || Fortuna || 17 xi 88 || E.D. Bennett || Ex. Coll. Dia- || spine scale || on coconut || Hoyers || B15
Signiphora borinquensis	TAMU-ENTO X0616329		FSCA	17.9941	-66.5421	Puerto Rico || Fortuna || 17 xi 88 || E.D. Bennett || Ex. Coll. Dia- || spine scale || on coconut || Hoyers || B15
Signiphora brachyptera	BMNH(E) #1038778	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #1038779	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #1038780	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #1038781	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora brachyptera	BMNH(E) #1038782	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #1038783	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #1038784	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #1038785	paratype		-13.3047	-72.1158	Bred August || from Baccharis || with Coccids ++ PERU: Cuzco, || Urubamba || 900m. 9.vii.1971 || C.&M.Vardy || B.M. 1971-533
Signiphora brachyptera	USNM 763124		USNM	-34.8581	-56.1708	No 12706 Montevideo || So. Amer. Paras. Lab || 4-8-1945 || Berry
Signiphora brachyptera	BMNH(E) #990313	paratype		-13.3047	-72.1158	Peru: Cuzco || Urubamba || 2,900m || 9.vii.1971 || Bred August || from Baccharis || with Coccids || Coll. C. & M. Vardy || B.M. 1971-533
Signiphora brachyptera	BMNH(E) #990223	paratype		-13.3047	-72.1158	Peru: Cuzco || Urubamba || 2900m || 9.viii.1971 || Bred August || from Baccharis || with Coccids || Coll. C.&M. Vardy || B.M. 1971-533 || BW_019 ++ Brachypterous
Signiphora brachyptera	BMNH(E) #990224	paratype		-13.3047	-72.1158	Peru: Cuzco || Urubamba || 2900m || 9.viii.1971 || Bred August || from Baccharis || with Coccids || Coll. C.&M. Vardy || B.M. 1971-534
Signiphora brachyptera	BMNH(E) #990225	paratype		-13.3047	-72.1158	Peru: Cuzco || Urubamba || 2900m || 9.viii.1971 || Bred August || from Baccharis || with Coccids || Coll. C.&M. Vardy || B.M. 1971-535 || BW_019
Signiphora brachyptera	BMNH(E) #990226	holotype	BMNH	-13.3047	-72.1158	Peru: Cuzco || Urubamba || 2900m || 9.viii.1971 || Bred August || from Baccharis || with Coccids || Coll. C.&M. Vardy || B.M. 1971-536 || H
Signiphora coquilletti	USNM Type No. 4857	holotype	USNM			Bred from || Aleurodes || on Quercus agrifolia || Oct. 4, 1847. (72
Signiphora coquilletti	UCRC ENT 299252		UCR	28.9333	-113.5667	Mex. Baja CA Norte || 1 mi S Bahia de los Angeles || On: Bursera || Microphylla || 79/019
Signiphora coquilletti	UCRC ENT 299253		UCR	25.9964	-112.1972	Mexico Baja Cal. Sur || Las Barracas || CA 30 km E. Santiage || 15-IV-1982 || Ex. Black whitefly || On: Woody || Evergreen || Coll. P. DeBach
Signiphora coquilletti	UCRC ENT 299254		UCR	25.9964	-112.1972	Mexico , Baja CA. Sur || Las Barracas || CA 30 km E. Santiago || 4-IV-1982 || Ex. Whitefly || On: Wild || Shrub || Coll. P. DeBach || No. D82-3
Signiphora coquilletti	UCRC ENT 299255		UCR	25.9964	-112.1972	Mexico Baja Cal. Sur || Las Barracas || CA 30 km E. Santiage || 15-IV-1982 || Ex. Black whitefly || On: Woody || Evergreen || Coll. P. DeBach
Signiphora coquilletti	UCRC ENT 299256		UCR	20.6	-100.3833	Queretaro || Quet., Mexico || iii-8-1974 || Ex. ? || On: lime || Coll. DeBach & Rose
Signiphora coquilletti	UCRC ENT 299259		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose ++ original material
Signiphora coquilletti	UCRC ENT 299297		UCR	32.518682	-117.025371	421 Guanijuarto || Tijuana || Baja Calif. Norte, Mexico || ii-26-1976 || Ex. Tetraleurodes || mori || On: Mexican guava || Coll. M. Rose || orig. mat. || M. Rose 5
Signiphora coquilletti	UCRC ENT 299298		UCR	32.518682	-117.025371	421 Guanijuarto || Tijuana || Baja Calif. Norte, Mexico || ii-26-1976 || Ex. Tetraleurodes || mori || On: Mexican guava || Coll. M. Rose || orig. mat. || M. Rose 4
Signiphora coquilletti	UCRC ENT 299299		UCR	32.518682	-117.025371	421 Guanijuarto || Tijuana || Baja Calif. Norte, Mexico || ii-26-1976 || Ex. Tetraleurodes || mori || On: Mexican guava || Coll. M. Rose || orig. mat. || M. Rose 3
Signiphora coquilletti	UCRC ENT 299300		UCR	32.518682	-117.025371	421 Guanijuarto || Tijuana || Baja Calif. Norte, Mexico || ii-26-1976 || Ex. Tetraleurodes || mori || On: Mexican guava || Coll. M. Rose || orig. mat. || M. Rose 1
Signiphora coquilletti	UCRC ENT 299301		UCR	32.518682	-117.025371	421 Guanijuarto || Tijuana || Baja Calif. Norte, Mexico || ii-26-1976 || Ex. Tetraleurodes || mori || On: Mexican guava || Coll. M. Rose || orig. mat. || M. Rose 2
Signiphora coquilletti	UCRC ENT 299302		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299303		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose || original material
Signiphora coquilletti	UCRC ENT 299304		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose || original material
Signiphora coquilletti	UCRC ENT 299305		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose ++ original material
Signiphora coquilletti	UCRC ENT 299306		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose ++ original material
Signiphora coquilletti	UCRC ENT 299307		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose ++ original material
Signiphora coquilletti	UCRC ENT 299308		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose ++ original material
Signiphora coquilletti	UCRC ENT 299309		UCR	32.496379	-116.950645	Calle B-5, Tijuana || Baja Calif Norte || iii-8-1973 || Ex. Tetraleurodes || mori || On: Mexican || guava || Coll. M. Rose ++ original material
Signiphora coquilletti	UCRC ENT 299310		UCR	32.531858	-117.116662	Calle Colina || #210, Tijuana, B.C. || ix 1970 || Ex. T. mori ? || On: citrus || Coll. M Rose || No. 19

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora coquilletti	UCRC ENT 299312		UCR	24.134065	-110.300016	La Paz || Baja Cal. Sur || ii-28-1974 || Ex. ? L. beckii || & A. aurantii || On: citrus || Coll. DeBach & Rose
Signiphora coquilletti	UCRC ENT 299313		UCR	26.0167	-111.35	Loreto || Baja Calif. Sur || Nov 1971 || Ex. Tetraleurodes || mori || On: Mexican guava || Coll. M. Rose
Signiphora coquilletti	USNM ENT 763018		USNM	18.9167	-99.25	Cuernavaca, Mex || Coll. H.D. Smith || Aug 1950 || Id. Lat#50-13984 ++ Said to be hyper-|| parasite on || Eretmocerus serius || & Prospaltella Smithi. ++ Encarsia || sp. || 1°specimen
Signiphora coquilletti	UCRC ENT 299216		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif. || 3-x-1978 || Ex. Trialeurodes || vaporariorum || Det. L. Vet 1978 || On: Nicotiana glauca || Coll. L. Vet || LV_11
Signiphora coquilletti	UCRC ENT 299217		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif. || 3-x-1978 || Ex. Trialeurodes || vaporariorum || Det. L. Vet 1978 || On: Nicotiana glauca || Coll. L. Vet || LV_10
Signiphora coquilletti	UCRC ENT 299218		UCR	34.338298	-117.270133	CA San Bern. Co. || Summit || Valley || 11-ix-1980 || Ex. ? Aleurupleurocerus || On: Arctostaphylus || Coll. J.B. Woolley || 80/060A
Signiphora coquilletti	UCRC ENT 299219		UCR	33.975787	-117.331846	CA Riverside Co. || U.C.R. Campus || IX-29-1978 || Trialeurodes || vaporariorum || On: Nicotinia || glauca || Col.. L. Vet
Signiphora coquilletti	UCRC ENT 299220		UCR	34.171192	-118.16999	CA. Pasadena || Arroyo Seco || x-25-1980 || Aleuroplatus || Coronatus || On: Quercus || 20 on Amitus || Coll. J. LaSalle
Signiphora coquilletti	UCRC ENT 299221		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif. || 3-x-1978 || Ex. Trialeurodes || vaporariroum || Det. L. Vet 1978 || On: Nicotiana || glauca|| Coll. L. Vet
Signiphora coquilletti	UCRC ENT 299222		UCR	33.9792	-118.0328	Ex: Aleyrodes sp on || Quercus agrifolia || Several possible host sp. in material || Whittier, Cal. || 14656 Ca June 15, 1912 || P.H. Timberlake
Signiphora coquilletti	UCRC ENT 299223		UCR	33.9792	-118.0328	Ex: Aleyrodes sp. || On: Quercus agrifolia || Whittier, Cal. || 14656 Ca June 15, 1912 || P.H. Timberlake
Signiphora coquilletti	UCRC ENT 299224		UCR	33.970556	-117.31977	(Lath House) || CA Riverside Co. || U.C.R. Campus || x-30-1979 || Ex. Trialeurodes || vaporariorum || Det. JBW 1979 || On: Nicotinia || glauca || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299225		UCR	33.970556	-117.31977	Lath House || CA Riverside Co. || U.C.R. Campus || x-30-1979 || Ex. Trialeurodes || Vaporariorum || On: Nicotinia || glauca || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299226		UCR	33.970556	-117.31977	Lath House || CA Riverside Co. || U.C.R. Campus || x-30-1979 || Ex. Trialeurodes || Vaporariorum || On: Nicotinia || glauca || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299227		UCR	33.429767	-117.625853	209 De la Grulla || CA Orange Co. || San Clemente || ix-7-1979 || Ca. Red Scale || & Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299228		UCR	33.970556	-117.31977	Lath House || CA Riverside Co. || U.C.R. Campus || x-30-1979 || Ex. Trialeurodes || Vaporariorum || On: Nicotinia || glauca || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299229		UCR	33.970556	-117.31977	Lath House || CA Riverside Co. || U.C.R. Campus || x-30-1979 || Ex. Trialeurodes || Vaporariorum || On: Nicotinia || glauca || Coll. M. Rose
Signiphora coquilletti	UCRC ENT 299230		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif. || 3-x-1978 || Ex. Trialeurodes || vaporariorum || On: Nicotinia || glauca || Coll. L. Vet ++ LV 9 ++ TIX ++ Illustr. Woolley 88
Signiphora coquilletti	UCRC ENT 299231		UCR	33.975787	-117.331846	CA Riverside Co. || U.C.R. Campus || IX-29-1978 || Trialeurodes || vaporariorum || On: Nicotinia || glauca || Coll. M. Wagner
Signiphora coquilletti	UCRC ENT 299232		UCR	33.975787	-117.331846	CA Riverside || U.C. Riv. Campus || x-1979 || Ex. Trialeurodes || vaporariorum || On: Nicotinia || glauca
Signiphora coquilletti	UCRC ENT 299233		UCR	33.925655	-117.443774	CA. Riverside Co. || Riverside || 3967 Stotts St. || x-13-1979 || Ex. Tetraleurodea || mori || On : Morus sp. || (mulberry)
Signiphora coquilletti	UCRC ENT 299234		UCR	33.283328	-116.634085	CA San Diego || Warner Springs || ix-15-1960 || Coll. ?
Signiphora coquilletti	UCRC ENT 299235		UCR	33.925655	-117.443774	CA Riverside Co. || Riverside || 3967 Stotts St. || x-13-1979 || Ex. Tetraleurodes || mori || On : Morus sp. || (mulberry) || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299236		UCR	33.925655	-117.443774	CA Riverside Co. || Riverside || 3967 Stotts St. || x-13-1979 || Ex. Tetraleurodes || mori || On : Morus sp. || (mulberry) || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299237		UCR	33.925655	-117.443774	CA Riverside Co. || Riverside || 3967 Stotts St. || ix-7-1979 || Ex. Assoc. with || Tetraleurodes mori || On : Mulberry || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299238		UCR	33.925655	-117.443774	CA Riverside Co. || Riverside || 3967 Stotts St. || ix-7-1979 || Ex. Assoc. with || Tetraleurodes mori || On : Mulberry || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299239		UCR	33.975787	-117.331846	CA Riverside Co. || UCR Campus || xi-19-1980 || Pan trap || On quercus || Agrifolia || Coll. LaSalle + Woolley
Signiphora coquilletti	UCRC ENT 299240		UCR	33.975787	-117.331846	CA Riverside Co. || UCR Campus || xi-19-1980 || Pan trap || On quercus || Agrifolia || Coll. LaSalle + Woolley
Signiphora coquilletti	UCRC ENT 299241		UCR	34.1478	-118.1445	CA. L.A. Co || Pasadena || Ex. Aleuroplatus || Spp. + T. Tentaculatus || On: Quercus || Agrifolia || Coll. J. LaSalle || 79/032
Signiphora coquilletti	UCRC ENT 299242		UCR	37.638	-120.9483	CA Riverside Co. || Riverside || ix-25-1963 || Ex. Tetraleyrodes || (?) acaciae || On: Robinia || Pseudacacia || Remount JBW '80 || Coll. D. Gerling
Signiphora coquilletti	UCRC ENT 299243		UCR	37.638	-120.9483	CA Riverside Co. || Hartford Springs || v-25-1979 || Beating || On: Quercus || Agrifolia || Coll. J.B. Woolley || No. 79/042 (1)
Signiphora coquilletti	UCRC ENT 299244		UCR	34.1214	-118.1065	Calif. L.A. Co. || San Marino || Huntington Gardens || 8-vii-1982 || Ex. Tetraleurodes || Mori || Det. Woolley 1982 || On : Valencia || Coll. J.B. Woolley

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora coquilletti	UCRC ENT 299245		UCR	34.1214	-118.1065	Calif. L.A. Co. || San Marino || Huntington Gardens || 8-vii-1982 || Ex. Tetraleurodes || Mori || Det. Woolley 1982 || On : Valencia || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299246		UCR	34.1214	-118.1065	Calif. L.A. Co. || San Marino || Huntington Gardens || 8-vii-1982 || Ex. Tetraleurodes || Mori || Det. Woolley 1982 || On : Valencia || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299247		UCR	34.338298	-117.270133	CA. San Benito Bern. Co. || Summit Valley || Horsethief Ranch || 10-IX-1980 || Ex. Whitefly || On: Prunus || Coll. J. B. Woolley || No. 80/OGIA
Signiphora coquilletti	UCRC ENT 299248		UCR	34.338298	-117.270133	CA San Bern Co. || Summit Valley || Horsethief Ranch || 10-IX-1980 || Ex. Whitefly || On: Prunus || Webbed Host ++ No. 80/OGIA
Signiphora coquilletti	UCRC ENT 299249		UCR	34.0556	-117.1825	Redlands || Calif || Aug 1941 || HC || Dissected
Signiphora coquilletti	UCRC ENT 299250		UCR	36.211368	-119.331512	Biscomer ||1084 Joaquin || Tulare || 6-14-61 || Ex: Calif Red Scale || On: lemon || Coll. White
Signiphora coquilletti	UCRC ENT 299251		UCR	34.2819	-118.439	Thysanus || EX: white-fly material || On: Calif Bay tree || San Fernando, Cal || 9/3/58 || Coll. DeBach
Signiphora coquilletti	UCRC ENT 299257		UCR	34.1214	-118.1065	CA. Los Angeles Co. || San Marino || Huntington Gards. || 20-IV-1981 || Ex. Tetraleurodes || mori || On: Valencias || Coll. Rose, Ferrentino
Signiphora coquilletti	UCRC ENT 299258		UCR	34.098598	-118.066652	CA. Los Angeles Co. || San Gabriel || 524 Hilton St. || 22-IV-1982 || Ex. Tetraleurodes || mori || On: Citrus || Coll. Rose, Ferrentino
Signiphora coquilletti	UCRC ENT 299260		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif || 6-x-1978 || Ex. Tetraleurodes || mori || Det: R. Gill 1978 || On: Morus spec. || (mulberry) || Coll. L. Vet || LV 6
Signiphora coquilletti	UCRC ENT 299261		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif || 6-x-1978 || Ex. Tetraleurodes || mori || Det: R. Gill 1978 || On: Morus spec. || (mulberry) || Coll. L. Vet || LV 5
Signiphora coquilletti	UCRC ENT 299262		UCR	33.975787	-117.331846	UCR Campus || Riverside, Calif. || 3-x-1978 || Ex. Trialeurodes || vaporariorum || Det: R. Gill 1978 || On: Nicotiana || glauca || Coll. L. Vet || LV 7
Signiphora coquilletti	UCRC ENT 299263		UCR	33.975787	-117.331846	CA. Riverside || UCR Campus || ix-29-1978 || Ex. Trialeurodes || vaporariorum || Det: L Vet 1978 || On: Nicotinia || glauca || Coll. L. Vet || Remount || LV 15
Signiphora coquilletti	UCRC ENT 299264		UCR	33.975787	-117.331846	Calif. Riverside || U.C. Riv. Campus Co. || ix-29-1979 || Ex. Trialeurodes || vaporariorum || Det: L. Vet 1978 || On: Nicotinia || glauca || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299265		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif. || 6-x-1978 || Ex. Aleuroplatus || coronatus or gelatinosus || Det. R. Gill 1978 || On: Quercus || agrifolia || Coll. L. Vet || LV 3
Signiphora coquilletti	UCRC ENT 299266		UCR	33.975787	-117.331846	CA. Riverside Co. || Riverside U.C.R. || x-24-1978 || Ex. Trialeurodes || vaporariorum || Det: J.B. Woolley 1978 || On: Nicotinia || glauca || Coll. J.B. Woolley
Signiphora coquilletti	UCRC ENT 299267		UCR	34.171192	-118.16999	Arroyo Seco || Pasadena Calif || iv-1977 || Ex. aleyrodid || On: Quercus || Coll. J. LaSallle
Signiphora coquilletti	UCRC ENT 299268		UCR	33.975787	-117.331846	CA. Riverside Co. || U.C.R. Campus || x-11-1978 || Ex. Trialeurodes || vaporariorum || On: Nicotinia || glauca || Coll. J.B. Woolley || No. 78/044
Signiphora coquilletti	UCRC ENT 299270		UCR	34.233696	-117.480075	2 mi. W Lytle Creed Rd. Junction || Lytle Creek || S. Bernardino Co. Calif || x-2-1976 || On: ? Prunus sp. || Coll. I. Carmean
Signiphora coquilletti	UCRC ENT 299271		UCR	34.233696	-117.480075	3 mi. W Lytle Creed Rd. Junction || Lytle Creek || S. Bernardino Co. Calif || x-2-1976 || Ex. Aleyrodid || On: ? Prunus sp. || Coll. I. Carmean
Signiphora coquilletti	UCRC ENT 299272		UCR	33.975787	-117.331846	Calif || U.C. Riverside || x-6-1978 || Ex. Tetraleurodes || mori || Det. L. Vet 1978 || On: Mulberry || morus sp. || Coll. L. Vet
Signiphora coquilletti	UCRC ENT 299273		UCR	33.975787	-117.331846	Calif || U.C. Riverside || x-6-1978 || Ex. Tetraleurodes || mori || Det. L. Vet 1978 || On: Mulberry || morus sp. || Coll. L. Vet
Signiphora coquilletti	UCRC ENT 299274		UCR	33.975787	-117.331846	Calif || U.C. Riverside || Ex. Tetraleurodes || mori || Coll. L. Vet || LV 8
Signiphora coquilletti	UCRC ENT 299275		UCR	33.975787	-117.331846	California || U.C. Riverside || x-6-1978 || Ex. Tetraleurodes || mori || Det. L. Vet 1978 || On: Mulberry || (morus sp.) || Coll. L. Vet
Signiphora coquilletti	UCRC ENT 299276		UCR	33.975787	-117.331846	UCR Campus || Riverside Calif. || 6-x-1978 || Ex. Tetraleurodes || mori || Det. R. Gill 1978 || On: Morus spec || (mulberry) || Coll. L. Vet || LV 4
Signiphora coquilletti	UCRC ENT 299277		UCR	33.975787	-117.331846	UCR Campus || Riverside, CA. || 29-x-1978 || Ex. Trialeurodes || Vaporariorum || On: Nicotinia || glauca || Coll. L. Vet
Signiphora coquilletti	UCRC ENT 299278		UCR	33.647	-117.6837	El Toro Calif. || x-25-1966 || Ex. Aleyrodes || spiraeoides Q. || Det: L. Russell 1969 || On: strawberry || Coll. E. Oatman || LV 2
Signiphora coquilletti	UCRC ENT 299279		UCR	33.926171	-117.444493	Stotts St. || CA Riverside Co. || Riverside || vii-22-1980 || Ex. Tetraleurodes || mori || Det. JBW 1980 || On: Morus sp. || (unwebbed host) || Coll. JB Woolley
Signiphora coquilletti	UCRC ENT 299280		UCR	33.926171	-117.444493	Stotts St. || CA Riverside Co. || Riverside || vii-22-1980 || Ex. Tetraleurodes || mori || Det. JBW 1980 || On: Morus sp. || (unwebbed host) || Coll. JB Woolley
Signiphora coquilletti	UCRC ENT 299281		UCR	33.926171	-117.444493	Stotts St. || CA Riverside Co. || Riverside || vii-22-1980 || Ex. Tetraleurodes || mori || Det. JBW 1980 || On: Morus sp. || (unwebbed host) || Coll. JB Woolley
Signiphora coquilletti	UCRC ENT 299282		UCR	33.926171	-117.444493	Stotts St. || CA Riverside Co. || Riverside || vii-22-1980 || Ex. Tetraleurodes || mori || Det. JBW 1980 || On: Morus sp. || (unwebbed host) || Coll. JB Woolley

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora coquilletti	UCRC ENT 299283		UCR	34.233696	-117.480075	1 mi. W. Applegate || Picnic Area || CA. San Bern Co. || Lytle Creek Rd. || vi-2-1978 || Ex. whitefly || On: Yerba santa || Coll. J. B. Woolley
Signiphora coquilletti	UCRC ENT 299284		UCR	34.283106	-117.390389	Webbed host || CA San Bern Co. || 5 mi. W Silverwood Lake || ix-10-1980 || On: Eriodictyon || Elev ~ 5000' || Cleghorn Rd. || Coll. Woolley || No. 80/064
Signiphora coquilletti	UCRC ENT 299285		UCR	34.283106	-117.390389	CA San Benito || Mormon Rocks || v-7-1980 || Ex. whitefly || On: Eriodictyon || Coll. J.B. Woolley || 80/017B
Signiphora coquilletti	UCRC ENT 299286		UCR	34.338298	-117.270133	Webbed host || CA San Bern Co. || Summit Valley || ix-10-1980 || Ex. whitefly || On: Arctostaphylus sp. || Coll. Woolley
Signiphora coquilletti	UCRC ENT 299287		UCR	33.975787	-117.331846	Riverside Co. || CA Riverside || U.C.R. Campus || 13-xii-3-I 1981-82 || In pan trap || Coll. J. T. Huber
Signiphora coquilletti	UCRC ENT 299288		UCR	33.975787	-117.331846	Riverside Co. || CA Riverside || U.C.R. Campus || 13-xii-3-I 1981-82 || In pan trap || Coll. J. T. Huber
Signiphora coquilletti	UCRC ENT 299289		UCR	33.975787	-117.331846	Riverside Co. || CA Riverside || U.C.R. Campus || 13-xii-3-I 1981-82 || In pan trap || Coll. J. T. Huber
Signiphora coquilletti	UCRC ENT 299290		UCR	33.975787	-117.331846	UCR Campus || NR. Insectary Greenhoues || 20/iii/1974 || Ex. Trialeurodes || vaporariorum || Det: White 1974 || Coll. W. White
Signiphora coquilletti	UCRC ENT 299291		UCR	33.975787	-117.331846	UCR Campus || NR. Insectary Greenhoues || 20/iii/1974 || Ex. Trialeurodes || vaporariorum || Det: White 1974 || Coll. W. White
Signiphora coquilletti	UCRC ENT 299292		UCR	33.975787	-117.331846	UCR Campus || NR. Insectary Greenhoues || 20/iii/1974 || Ex. Trialeurodes || vaporariorum || Det: White 1974 || Coll. W. White
Signiphora coquilletti	UCRC ENT 299293		UCR	34.579306	-119.948058	Calif. Santa || Barbara Co. || Lake Cachuma || 2 mi. west || Paradise Store || 10-viii-1982 || Coll. J.T. Huber
Signiphora coquilletti	UCRC ENT 299294		UCR	37.8558	-122.2494	Thysanus || Ex. Aleyrodes on || oak || Claremont, Calif. || May, 1936 || S. E. Flanders, Coll.
Signiphora coquilletti	UCRC ENT 299295		UCR	34.23	-115.7203	CA San Bern Co. || Sheephole Summit || v-22-1980 || On: Beating || Larrera Tridentata || Coll. J. B. Woolley || 80/028A
Signiphora coquilletti	UCRC ENT 299296		UCR	33.8753	-117.5664	Corona, Calif. || Riverside Co. || iii-25-1978 || On: Oak || Coll. W. H. Swart || No. H-35
Signiphora coquilletti	UCRC ENT 299311		UCR	26.1276	-80.2331	Plantation || Broward Co., FL || v-16-1980 || Ex. Tetraleurodes || acaciae || On: powder puff || Coll. R. V. Dowell
Signiphora coquilletti	UCRC ENT 299314		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299315		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299316		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299317		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299318		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299319		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299320		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299321		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299322		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299323		UCR	26.0112	-80.1495	Florida || Hollywood || viii-31-1981 || Ex. Aleurothrixus || floccosus || On : Citrus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299324		UCR	26.0112	-80.1495	Florida || Hollywood || Ex. Aleurothrixus || floccosus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	UCRC ENT 299325		UCR	26.0112	-80.1495	Florida || Hollywood || Ex. Aleurothrixus || floccosus || Coll. WM Gregory || No. R81-45; orig mat.
Signiphora coquilletti	USNM ENT 763014		USNM	39.5138	-121.5564	Uo 3 || Signiphora || Ex: Aleyrodes || Coronatus || on live oak || Oroville || 11-1905 CAL
Signiphora coquilletti	USNM ENT 763015		USNM	28.5383	-81.3792	Morrill No. 508 || and No. 511 || 1 spec of 508 || 3 spec's 511 || Signiphora || coquilletti Ashm. || 3 <F> AAG ++ Prospaltella || ?aurantii (Hw.) || [in pencil] citrella?
Signiphora coquilletti	USNM ENT 763016		USNM	28.5383	-81.3792	Morrill No. 511 || Signiphora || coquilletti Ashm. || 5 <F> AAG ++ Signiphora || coquilletti Ashm. || Homotype AAG
Signiphora coquilletti	USNM ENT 763019		USNM	39.6837	-75.7497	Newark, Del. || Oct 13, 1925 || H. L. Dozier ++ Signiphora aleyrodis, Ashm. || Reared from whitefly || pupae on Benzoin || benxoin
Signiphora coquilletti	USNM ENT 763020		USNM	34.0522	-118.2437	2 5/15 18 || Bred from || Aleyrodes || gelatinosus || On: Oak || Los Angeles, Cal || Apr 1908
Signiphora coquilletti	USNM ENT 763021		USNM	39.6837	-75.7497	Newark, Del. || Oct 13, 1925 || H. L. Dozier ++ Signiphora aleyrodis, Ashm. || Reared from whitefly || pupae on Benzoin || benxoin
Signiphora coquilletti	TAMU-ENTO X0460292		TAMU	34.0522	-118.2437	Los Angeles Co. CA || Monterey Park || 26-xii-85 || Coll. C. W. Melton

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora coquilletti	TAMU-ENTO X0460293		TAMU	34.0522	-118.2437	Los Angeles Co. CA || Monterey Park || 26-xii-85 || Coll. C. W. Melton
Signiphora coquilletti	TAMU-ENTO X0460294		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460295		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460296		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460297		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460298		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460299		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460300		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460301		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	TAMU-ENTO X0460302		TAMU	29.572823	-99.735739	TX: Uvalde Co. || Garner St. Pk-cmgrd. || vii.21.1986 || Ex. whitefly || On: Mahonia || trifoliato || Coll. J. Heraty ++ No. H86010
Signiphora coquilletti	INHS 72.514		INHS	34.1478	-118.1445	Bred from Aleyrodes|| Pasadena, Cal || May 1908 || S.1526 ++ Homotype || Plesiotype ++ 45,095. || Homotypes.
Signiphora coquilletti	UCRC ENT 299269		UCR			Ex. Aleyrodidae || On: Quercus || Coll. B. Flanders
Signiphora curepensis	BMNH (E) 990273	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 158 || ii2ii5
Signiphora curepensis	BMNH (E) 990274	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 157 || ii2ii4
Signiphora curepensis	BMNH (E) 990275	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 151 || ii2ii11
Signiphora curepensis	BMNH (E) 990276	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ II ++ H
Signiphora curepensis	BMNH (E) 990277	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 156 || ii2ii6
Signiphora curepensis	BMNH (E) 990278	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 150 || ii2ii12
Signiphora curepensis	BMNH (E) 990279	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 155 || ii2ii8
Signiphora curepensis	BMNH (E) 990280	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 152 || ii2ii9
Signiphora curepensis	BMNH (E) 990281	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 21.xi.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora curepensis	BMNH (E) 990282	holotype	BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 152 || ii2ii10
Signiphora curepensis	BMNH (E) 990283	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 21.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 10
Signiphora curepensis	BMNH (E) 990284	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 21.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 7
Signiphora curepensis	BMNH (E) 990285	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ 154 || ii2ii7
Signiphora curepensis	BMNH (E) 990286	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 21.xi.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora curepensis	BMNH (E) 1038877	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 23.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038878	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 23.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038879	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038880	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 25.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038881	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 17.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038882	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038883	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038884	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038885	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 23.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038886	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038887	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 23.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038888	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 23.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora curepensis	BMNH (E) 1038889	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038890	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 20.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038891	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	BMNH (E) 1038892	paratype		-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 30.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora curepensis	CNC HYMEN 122365		CNC	10.653934	-61.402128	Trinidad || Curepe St. Morgan Cir. Rd. || 12-25.v.1974 || yellow pan trap || Coll. F.D. Bennett
Signiphora curepensis	CNC HYMEN 122366		CNC	10.653934	-61.402128	Trinidad || Curepe St. Morgan Cir. Rd. || 12-25.v.1974 || yellow pan trap || Coll. F.D. Bennett
Signiphora curepensis	CNC HYMEN 122367		CNC	10.653934	-61.402128	Trinidad || Curepe St. Morgan Cir. Rd. || 12-25.v.1974 || yellow pan trap || Coll. F.D. Bennett
Signiphora curepensis	CNC HYMEN 122368		CNC	10.653934	-61.402128	Trinidad || Curepe St. Morgan Cir. Rd. || 12-25.v.1974 || yellow pan trap || Coll. F.D. Bennett
Signiphora curepensis	CNC HYMEN 122369		CNC	10.653934	-61.402128	Trinidad || Curepe St. Morgan Cir. Rd. || 10-24.iii.1974 || yellow pan trap || Coll. F.D. Bennett
Signiphora curepensis	CNC HYMEN 122370		CNC	10.653934	-61.402128	Trinidad || W.I. Curepe || Sta. Margarita || Circular Rd. || 24.v-8.vi.74 || Coll. F.D. Bennett ++ 77.06.08.03
Signiphora curepensis	CNC HYMEN 122371		CNC	10.653934	-61.402128	Trinidad || W.I. Curepe || Sta. Margarita || Circular Rd. || 24.v-8.vi.74 || Coll. F.D. Bennett ++ 77.06.07.03
Signiphora curepensis	CNC HYMEN 122372		CNC	10.6333	-61.4	Trinidad || W.I. Curepe || CIBC grounds || 24-28.v.74 || Coll. F.D. Bennett ++ 77.06.15.02
Signiphora curepensis	CNC HYMEN 122373		CNC	10.6333	-61.4	Trinidad || W.I. Curepe || Sta. Margarita || Circular Rd. || 9-23.vi.74 || Coll. F.D. Bennett ++ 77.07.04.01
Signiphora curepensis	CNC HYMEN 122374		CNC	10.653934	-61.402128	Trinidad || W.I. Curepe || Sta. Margarita || Circular Rd. || 24.v-8.vi.74 || Coll. F.D. Bennett ++ 77.06.13.03
Signiphora curepensis	CNC HYMEN 122375		CNC	10.653934	-61.402128	Trinidad || W.I. Curepe || Sta. Margarita || Circular Rd. || 24.v-8.vi.74 || Coll. F.D. Bennett ++ 77.06.07.04
Signiphora curepensis	CNC HYMEN 122376		CNC	10.653934	-61.402128	Trinidad || W.I. Curepe || Sta. Margarita || Circular Rd. || 24.v-8.vi.74 || Coll. F.D. Bennett ++ 77.06.08.02
Signiphora curepensis	CNC HYMEN 122377		CNC	10.6333	-61.4	Trinidad || W.I. Curepe || CIBC lab grounds || 14-28.v.74 || Coll. F.D. Bennett ++ 77.06.23.02
Signiphora curepensis	CNC HYMEN 122378		CNC	10.6333	-61.4	Trinidad || W.I. Curepe || CIBC lab grounds || 9-23.vi.1974 || Coll. F.D. Bennett
Signiphora curepensis	BMNH (E) 990320		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 1.vii.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora dozieri	UCRC ENT 299599		UCR	-22.811472	-43.628687	Thysanus – internal in || diaspine scale on || oleander (Nerium oleander) || probably hyperparasite || Rural University, kilom. 47 || [june?] 10, 1962 || DeBach || see vial #36 data
Signiphora dozieri	UCRC ENT 299600		UCR	-22.811472	-43.628687	Rural University || Rio de J. State, Brazil || June 11, 1962 || On: Nerium oleander || Coll. DeBach ++ Lot No. 36
Signiphora dozieri	TAMU-ENTO X0852769		FSCA	19.2667	-81.3	Grand Cayman || Savannah || 17 X 1987 || Ex. aleyrodid || diaspine || On: citrus || Coll. F Bennett Y1105 ++ Hoyers
Signiphora dozieri	USNM ENT 763148		USNM	18.5392	-72.335	Port-au-Prince || Haiti || Dec 10, 1929 || Reared from || Citrus material || infested with || Aleurocanthus woglumi || L. becki || Coll. H.L. Dozier
Signiphora dozieri	USNM ENT 763149	holotype	USNM	18.6	-72.28333	Damien, Haiti || March 13, 1931 || Reared from How- || ardia biclavis || material on orna- || mental shrub || Coll. H.L. Dozier ++ Holotype nsp16
Signiphora dozieri	UCRC ENT 299602	paratype		18	-77.28333	Clarendon || Jamaica, W.I. || Coll. L.W. van Whervin || No heads ++ No 1
Signiphora dozieri	UCRC ENT 299603	paratype		18	-77.28333	Joalni, Clarendon || Jamaica || 28-II-1968 || Ex. purple, green || (soft) scale || Coll. L.W. van Whervin ++ No 2
Signiphora dozieri	UCRC ENT 299620		UCR	16.361189	-93.896141	Mex: Chiapas || 19 km N. Arraga || 3-vii-1981 || Sweeping || Prob at edge || rainforest/pine || forest || Coll. J. LaSalle ++ No 81-7-3-3
Signiphora dozieri	UCRC ENT 299621		UCR	16.361189	-93.896141	Mex: Chiapas || 19 km N. Arraga || 3-vii-1981 || Sweeping || Prob at edge || rainforest/pine || forest || Coll. J. LaSalle ++ No 81-7-3-3
Signiphora dozieri	TAMU-ENTO X0424833		TAMU	23.3167	-99.0167	Mexico: Tamps || Munic. Llera || Garza Prop || 22-x-1989 || Ex. snow scale || On Mexican lime || Coll. Tomas Reyes ++ 1
Signiphora dozieri	USNM ENT 763147	paratype		18.201521	-67.145097	Mayaquez, P.R. || 6-5-1937 || Ex. Aspidiotus || cocotiphagus Merl. || On: cassia nodoso || Coll. H.K. Plank ++ P.R. #2020
Signiphora dozieri	TAMU-ENTO X0852827		FSCA	18.201521	-67.145097	Puerto Rico || Mayaquez || xi.88 || Ex. Parlatoria || ziziphi || On: citrus || Coll. F.D. Bennett ++ Hoyers || B16
Signiphora dozieri	TAMU-ENTO X0852825		FSCA	18.201521	-67.145097	Puerto Rico || Mayaquez || xi.88 || Ex. Parlatoria || ziziphi || On: citrus || Coll. F.D. Bennett ++ Hoyers || B15
Signiphora dozieri	TAMU-ENTO X0852826		FSCA	18.201521	-67.145097	Puerto Rico || Mayaquez || xi.88 || Ex. Parlatoria || ziziphi || On: citrus || Coll. F.D. Bennett ++ Hoyers || B16
Signiphora dozieri	UCRC ENT 299601		UCR	10.65	-61.5167	Port-of-Spain, Trinidad || Jan 1969 || Ex. 2nd st. F || S. articulatus || On: limona || Coll. E.J. Rankin ++ discal bristle || 25
Signiphora dozieri	BMNH(E) 990287		BMNH	10.6739	-61.2293	Trinidad: St. George || Aripo Valley || Rainforest || 4.vii.1976 || Coll. J.S. Noyes || 1976-462 ++
Signiphora dozieri	TAMU-ENTO X0828046	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami ||xi.25.1985 || Ex. Parlatoria || ziziphi || On: citrus || Coll. F.D. Bennett ++ sarv 1, site 9 || head in box
Signiphora dozieri	TAMU-ENTO X0828047	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || xi.1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ surv. 1: roll 16
Signiphora dozieri	TAMU-ENTO X0828048	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || 12.5.1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ Survey 2-Bulk
Signiphora dozieri	TAMU-ENTO X0828049	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || xi (17-18).1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ Survey 1 site 12

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora dozieri	TAMU-ENTO X0828050	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || xi.25.1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ Survey 1 site 12 || Par. Dead Liemer (?) box
Signiphora dozieri	TAMU-ENTO X0828051	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || 30-31.xi.1983? || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ Survey 1-site 4 || 3 emerged 11.21.85
Signiphora dozieri	TAMU-ENTO X0828052	paratype		25.7743	-80.1937	N. Miami, Dade Co. || Florida || x&xi 1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ diss. From P. ziziphi || FDB xii-6-85
Signiphora dozieri	TAMU-ENTO X0828053	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || ii.9-10.1985 || Ex. Parlatoria || ziziphi || On: citrus || Coll. F.D. Bennett ++ Survey 1 site 8
Signiphora dozieri	TAMU-ENTO X0828054	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || xi.8.1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ Survey 1, coll 5
Signiphora dozieri	TAMU-ENTO X0828055	paratype		25.7743	-80.1937	FLA: Dade Co. || N. Miami || xi.8.1985 || Ex. Parlatoria || ziziphi || On: orange || Coll. F.D. Bennett ++ survey 1 coll 5
Signiphora dozieri	TAMU-ENTO X0828056	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-15-16-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Survey 1, site 5 ++ Gelcap 2
Signiphora dozieri	TAMU-ENTO X0828057	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-15-16-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Survey 1, site 5 ++ Gelcap 2
Signiphora dozieri	TAMU-ENTO X0828058	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-15-16-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Survey 1, site 5 ++ Gelcap 2
Signiphora dozieri	TAMU-ENTO X0828059	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-30-31-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Col.#1, Survey 1 ++ Gelcap 1 bru/yellow
Signiphora dozieri	TAMU-ENTO X0828060	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-30-31-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Col.#1, Survey 1 ++ Gelcap 1
Signiphora dozieri	TAMU-ENTO X0828061	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-25-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Survey 1, Site 6 ++ Gelcap #3
Signiphora dozieri	TAMU-ENTO X0828062	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-30-31-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Coll 1. Survey 1 ++ Gelcap 1
Signiphora dozieri	TAMU-ENTO X0828063	paratype		25.7743	-80.1937	Florida: Dade Co. || N. Miami || xi-30-31-1985 || Ex. Parlatoria || ziziphi || On: Orange || Coll. F.D. Bennett ++ Coll 1. Survey 1 ++ Gelcap 1
Signiphora dozieri	TAMU-ENTO X0852817		FSCA	24.919601	-80.633912	FL: Monroe Co. || Up. Matacoumbe || 25 vii 1990 || On: Cereus pentagona || Coll. F.D. Bennett 789 ++
Signiphora dozieri	TAMU-ENTO X0852818		FSCA	24.919601	-80.633912	FL: Monroe Co. || Upper || Matacoumbe Key || 25 vii 1990 || Ex. diaspine scale || On: Cereus pentagona || Coll. F.D. Bennett 789 ++
Signiphora dozieri	TAMU-ENTO X0852819		FSCA	24.919601	-80.633912	FL: Monroe Co. || Upper || Matacoumbe Key || 25 vii 1990 || Ex. diaspine scale || On: Cereus pentagona || Coll. F.D. Bennett 789 ++
Signiphora dozieri	TAMU-ENTO X0852820		FSCA	24.919601	-80.633912	FL: Monroe Co. || Upper || Matacoumbe Key || 25 vii 1990 || Ex. diaspine scale || On: Cereus pentagona || Coll. F.D. Bennett 789 ++ Hoyers
Signiphora dozieri	TAMU-ENTO X0852823		FSCA	29.7516	-82.4248	Florida || Gainesville || Alachua Co. || 17 iii 1989 || Ex. Pseudaulacaspis || pentagona || Coll. W.A.A. Klerks W2 ++ Hoyer
Signiphora dozieri	TAMU-ENTO X0852824		FSCA	29.7516	-82.4248	Florida || Gainesville || Alachua Co. || 17 iii 1989 || Ex. Pseudaulacaspis || pentagona || Coll. W.A.A. Klerks W2 ++ Hoyer
Signiphora dozieri	TAMU-ENTO X0852821		FSCA	25.7743	-80.1937	Miami, Fla || Jan 86 || Ex. Parlatoria ziziphi || On: citrus || Coll. Bennett, Frank, R. Nguyen ++
Signiphora dozieri	TAMU-ENTO X0852822		FSCA	25.7743	-80.1937	N. Miami, Fla || USA || Jan 1986 || Ex. scales || On: citrus || Coll. F.D. Bennett, J.H. Frank, R. Nguyen ++ Hoyers
Signiphora ehleri	BMNH(E) #990319		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora ehleri	UC BME S0092782	paratype		30.628	-96.3344	College Stn, Tex || Jun-1983 || Ex. pecan twigs || infested with || Melanaspis obscura || (in quarantine) || Coll. LEE ++ UCD 83-3
Signiphora ehleri	UC BME S0092783	paratype		30.628	-96.3344	College Stn, Tex || Jun-1983 || Ex. pecan twigs || infested with || Melanaspis obscura || (in quarantine) || Coll. LEE ++ UCD 83-3
Signiphora ehleri	UC BME S0092784	paratype		30.628	-96.3344	College Stn, Tex || Jun-1983 || Ex. pecan twigs || infested with || Melanaspis obscura || (in quarantine) || Coll. LEE ++ UCD 83-3
Signiphora ehleri	UC BME S0092785	paratype		30.628	-96.3344	College Stn, Tex || Jun-1983 || Ex. pecan twigs || infested with || Melanaspis obscura || (in quarantine) || Coll. LEE ++ UCD 83-3
Signiphora ehleri	TAMU-ENTO X0828068	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora ehleri	TAMU-ENTO X0828069	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora ehleri	TAMU-ENTO X0828070	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora ehleri	TAMU-ENTO X0828071	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora ehleri	TAMU-ENTO X0828072	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora ehleri	TAMU-ENTO X0828073	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler
Signiphora ehleri	TAMU-ENTO X0828074	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler
Signiphora ehleri	TAMU-ENTO X0828075	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler
Signiphora ehleri	TAMU-ENTO X0828076	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler
Signiphora ehleri	TAMU-ENTO X0828077	holotype	TAMU	30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler
Signiphora ehleri	TAMU-ENTO X0828078	paratype		30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twigs || infested with || Melanaspis obscura || Coll. L.E. Ehler
Signiphora ehleri	UC BME S0092781	paratype		30.628	-96.3344	College Stn, Tex || 12 July 84 || Ex. pecan twigs || infested with || Melanaspis obscura || (in quarantine) || Coll. L.E.Ehler ++ UCD 84-1
Signiphora ehleri	TAMU-ENTO X0852833		FSCA	30.7744	-85.2269	FL: Mariana || 18.viii.1990 F || Bennett Y1100 || Caenohomolopoda shikokuensis || In: Frogattiella penicillata || On: Bambusa multiplex
Signiphora ensifera	BMNH(E) #990243	holotype	BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 18.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora ensifera	BMNH(E) #990245	paratype	TAMU	-27.05	-52.4	Brazil || Nova Teutonia || 19.v.1943 || Coll. F. Plaumann || B.M. 1957-341 || long ovip., i10
Signiphora ensifera	BMNH(E) #990244	paratype	BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 19.xii.1943 || Coll. F. Plaumann || B.M. 1957-341 || BW_019
Signiphora falcata	TBA (MLPA)		MLPA	-34.613209	-58.674563	Lab. Zoologia Agricola || ex Aulacaspis || [?]peulaena || Prov. Bs. As. || leg xi. 1919 ++ cotypes || Signiphora || endophragmata || Blanchd.
Signiphora falcata	UCRC ENT 300234		UCR			Ex coccid killing tang. oil || Sibbalds – La Conception [sic], || Misiones, Chile || Apr 9, 1935 || H. C. || ex aurantii || Killing Tung Oil || Sibbalds, LA || Conception
Signiphora falcata	IFML SHYM0001		IFML	-26.85	-65.1167	Argentina || Tuc. Cauil. Pozo. || 18.vii.84 || endop. S/ Aonidiella || auranti. || Muestra 13 || From Teran-19OCT84
Signiphora falcata	IFML SHYM0002		IFML	-26.85	-65.3167	Argentina || Tuc. LaRinconada (Fca || Lopez Toro) || 27-ii-84 || Alvarez, coll || Endop. Insulaspis || gloverii || Muestra 214 || From Teran 19Oct84
Signiphora falcata	UCRC ENT 300235	paratype		-21.0333	-48.2167	Brazil || Sao Paulo || Pitanqueiras || 15-v-62 || Dissected as || internal || Ex. Pseudaonidia || trilobitiformis || On: lemon || Presumed secondary || Coll. P. DeBach
Signiphora falcata	USNM ENT 763143		USNM	13.4833	-88.1833	San Miguel, El || Salv. || May 30, 1957 || Ex. scale || Coll. P.A. Berry
Signiphora falcata	TAMU-ENTO X0828022	paratype		21.076652	-101.183081	Mex: GTO || 3.6 mi NE Guanajuato || 5.vii.1985 || Ex. armored scale || On: ? Arctostaphylus || wood || Coll. J. Woolley ++ No 85/029
Signiphora falcata	TAMU-ENTO X0828023	paratype		21.076652	-101.183081	Mex: GTO || 3.6 mi NE Guanajuato || 5.vii.1985 || Ex. armored scale || On: ? Arctostaphylus || wood || Coll. J. Woolley
Signiphora falcata	CNC HYMEN 122474	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9-vii-1985 J. Woolley || G. Zolnerowich 85/046 ++ A. scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0828024	paratype		20.547937	-97.42424	MEX: Michocan || 28.5 mi S Neuva Italia || vi.9.1985 || Ex. armored scale || On: pressed plant || Coll. Schaffner ++ No 85/048 3/3
Signiphora falcata	TAMU-ENTO X0828026	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828027	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828028	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828029	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828030	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828031	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828032	paratype	UANL	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828033	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828034	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828035	paratype		20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0828036	paratype	UANL	20.547937	-97.42424	Mexico: Michoacan || 28.5 mi S Nueva Italia || 9.vii.1985 || Coll. J. Woolley & G. Zolnerowich
Signiphora falcata	TAMU-ENTO X0855784	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0855785	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0855786	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0855787	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0855788	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0855789	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant
Signiphora falcata	TAMU-ENTO X0855790	paratype		20.547937	-97.42424	MEXICO: Michoacan || 28.5mi S Nueva Italia || 9-vii-1985, J.Woolley || G. Zolnerowich 85/046 ++ A.scale on || pressed plant

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora falcata	UCRC ENT 299584	paratype		24.8578	-99.5678	Linares, N.L., Mexico || 4/7/54 || Ex. Mycetaspis || personata || On: avocado || Coll. DeBach
Signiphora falcata	UCRC ENT 299585	paratype		25.6667	-100.3167	Mexico || Nuevo Leon || Monterrey || 9/4/54 || Ex. Mycetaspis || personatus || On: avocado || Coll. DeBach
Signiphora falcata	UCRC ENT 299586	paratype		25.6667	-100.3167	Mexico || Nuevo Leon || Monterrey || 9/4/54 || Ex. Mycetaspis || personatus || On: avocado || Coll. DeBach
Signiphora falcata	UCRC ENT 299587	paratype		25.6667	-100.3167	Mexico || Nuevo Leon || Monterrey || 9/4/54 || Ex. Mycetaspis || personatus || On: avocado || Coll. DeBach
Signiphora falcata	UCRC ENT 299588	paratype		25.6667	-100.3167	Mexico || Nuevo Leon || Monterrey || 9/4/54 || Ex. Mycetaspis || personatus || On: avocado || Coll. DeBach
Signiphora falcata	TAMU-ENTO X0852816		FSCA	29.6486	-81.6376	Florida || Palatka, Putnam Co. || 26 IV 1989 || Ex. Pseudaulacaspis || cockerelli || Coll. W.A.A. Klerks || Hoyer
Signiphora falcata	CNC HYMEN 122360		CNC	35.259427	-75.526385	North Carolina || Hatteras Island || Buxton Forest || 30-viii-1982 || Coll. L. Masner || Illustr. Woolley 88 ++ Forewing
Signiphora falcata	USNM ENT 763144		USNM	26.153367	-97.958775	Weslaco, TX || In Lab || Apr 1, 1968 || Ex. aphids || Coll. W.G. Hart
Signiphora falcata	TAMU-ENTO X0828020	holotype	TAMU	26.1595	-97.9908	Texas, Hidalgo Co. || Weslaco || xi-xii-1981 || Found Beneath || Elytron of boll || weevil caught in || pheremone trap || Coll. P. Krauter ++ H
Signiphora falcata	TAMU-ENTO X0828021	paratype		26.1595	-97.9908	Texas, Hidalgo Co. || Weslaco || 24-xi-1981 || Found Beneath || Elytron of boll || weevil caught in || pheremone trap || Coll. P. Krauter
Signiphora falcata	TAMU-ENTO X0828025	paratype		30.595827	-96.333729	Texas: Brazos Co. || College Station || Holleman Drive at || Wellborn Road || 16-iii-1984 || Ex. diss. Black diaspidid || On: hackberry || Coll. P. Wilkinson & J.B. Woolley ++ H 17 Mar
Signiphora fax	USNM Type No. 14205	lectotype and paralectotypes	USNM	13.159863	-59.557077	Chrysomphalus || personatus Comst. || on nutmeg || Grenada Barbados St. I. || D. Morris. || July 25, 1899
Signiphora insularis (=fax)	USNM Type No. 44818	holotype	USNM			Reared in associ-|| ation with Ahytis (sic)|| limonus || from Manioc || scale, Lepidosaphes || alba. || Damien, Haiti. || Jan. 27-1930 || H. L. Dozier
Signiphora insularis (=fax)	USNM 763033	paratype	USNM			Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora flavopalliata desantisi (=fa	TBA (MLPA)	holotype	MLPA			Bs. Aires, La Plata, coll. Esquivel, V-1946
Signiphora flavopalliata desantisi (=fa	TBA (MLPA)	paratype	MLPA			Argentina, La Plata, coll. L. De Santis, IX-1936, ex Protargionia larreae
Signiphora fax	TBA (MLPA)		MLPA	-34.607780	-58.372822	Sobre Chrysomphalus || paulistus Hemp. || s. olivo || Bs. As. 27.ix.1916
Signiphora fax	TBA (MLPA)		MLPA	-34.607780	-58.372822	Sobre Chrysomphalus || paulistus Hemp. || s. olivo || Bs. As. 27.ix.1916 ++ Signiphora pedicellata Blanchard || cotipo
Signiphora fax	IFML SHYM0003		IFML	-34.607780	-58.372822	Sobre Chrysomphalus || paulistus Hemp. || s. olivo || Bs. As. 27.ix.1916 ++ Signiphora pedicellata Blanchard || cotipo
Signiphora fax	UCRC ENT 299343		UCR	-26.549223	-60.942993	B. Vista || Corrientes, Brazil || ? || [crossed out] Ex. Aonipiella aurautii? [no] || On: Mandarine || Coll. ? ++ No. 68-5 BV || [in pencil] 21-8
Signiphora fax	UCRC ENT 299329		UCR	-28.650000	-68.116700	La Rioja, Pozuela || R. Argentina || xi-30-1968 || Ex. (illegible) || On: larrea || cuneifolia || Coll. Teran || No 4
Signiphora fax	TBA (MLPA)		MLPA	-33.150000	-68.483300	Junin || (Prov. De Mendoza) || xi-1968 || s/ Melanaspis || paulistus || Coll. Garcia ++ S010
Signiphora flavopalliata	BMNH #990184		MLPA(?)	-33.15	-68.4833	Junin || (Prov. De Mendoza) || xi-1968 || s/ Melanspis paulists || Coll. Garcia
Signiphora flavopalliata	TBA (MLPA)		MLPA			Insectario (Mza.) || 10/2/1952 || ex. Aspidiella || latastei || Coll. DeSantis
Signiphora fax	UCRC ENT 299328		UCR	-26.700000	-65.450000	Tucuman || El Siambon, R. Argentina || vi-6-1969 || Ex. A. aurantii || On: oranges || Coll. Guyot || No 11
Signiphora fax	USNM ENT 763030		USNM	-26.816700	-65.216700	Tucuman, Arg. || Sept 8, 1956 || Ex. A. auranti || On: citrus || Coll. Teran
Signiphora fax	IFML SHYM0004		IFML	-26.600000	-65.300000	Argentina, Tucuman Tapiavipos || iii-iv-1974 || Ex. melanaspis pau- || listes sobre Aspidios- || perma quebracho banco || Coll. P. Fidalgo
Signiphora fax	IFML SHYM0005		IFML	-26.600000	-65.300000	Argentina, Tucuman Tapiavipos || iii-iv-1974 || Ex. melanaspis pau- || listes sobre Aspidios- || perma quebracho banco || Coll. P. Fidalgo
Signiphora fax	TAMU-ENTO X0460303		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460304		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460305		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460306		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460307		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460308		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460309		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora fax	TAMU-ENTO X0460310		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460311		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460312		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	TAMU-ENTO X0460313		TAMU	-26.516700	-65.250000	Argentina || Tucuman, Ticucho || 6-iv-1985 || Ex. ? Encarsia sp. || in Diaspididae || On: Aspidosperma || quebracho blanco || Coll. A. Teran ++ Corr. Teran 6 May 85
Signiphora fax	UCRC ENT 299341		UCR	-12.316700	-38.800000	Primary - external on || Chrysomphalus aonidum || On: orange Apr 14, 1962 || Sao Francisco Belem || Bahia, Brazil || DeBach Coll. || same colln, as vial # 16
Signiphora fax	UCRC ENT 299335		UCR	-8.757778	-38.963889	Sao Francisco Belem || Pernambuco, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On: orange || Coll. DeBach ++ Lot No. 16
Signiphora fax	UCRC ENT 299336		UCR	-8.757778	-38.963889	Sao Francisco Belem || Pernambuco, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On: orange || Coll. DeBach ++ Lot No. 16
Signiphora fax	UCRC ENT 299338		UCR	-8.757778	-38.963889	Sao Francisco Belem || Pernambuco, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On: orange || Coll. DeBach ++ Lot No. 16
Signiphora fax	UCRC ENT 299339		UCR	-8.757778	-38.963889	Sao Francisco Belem || Pernambuco, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On: orange || Coll. DeBach ++ Lot No. 16
Signiphora fax	UCRC ENT 299340		UCR	-8.757778	-38.963889	Sao Francisco Belem || Pernambuco, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On: orange || Coll. DeBach ++ Lot No. 16
Signiphora fax	UCRC ENT 299326		UCR	-22.763378	-43.688173	Rural University || Rio de J. State, Brazil || July 13, 1962 || On: Coconut Palm || Coll. DeBach || Lot. No. 44
Signiphora fax	UCRC ENT 299334		UCR	-22.811472	-43.628687	Rural University || Rio de J. State, Brazil || Mar 12, 1962 || Ex. Chrysomphalus || aonidum || On: orange || Coll. DeBach || BR5
Signiphora fax	UCRC ENT 299337		UCR	-22.709700	-43.574700	Quiernados || Rio de J. State, Brazil || Mar 16, 1962 || Ex. Chrysomphalus aonidum || On: citrus || Coll. DeBach
Signiphora fax	UCRC ENT 300240		UCR	-22.433300	-42.983300	Ex. diaspint scale || On: ornamental || Teresopolis, State || of Rio de janeiro, Brazil || April 4, 1962 || DeBach || coll.
Signiphora fax	UCRC ENT 299489		UCR	-22.874831	-43.245474	Thysanus || ex diaspine scale on || Ficus hedge || Oswald [sic] Cruz Institute || Rio de Janeiro, Brazil || Mach 28, 1962 || DeBach coll.
Signiphora fax	BMNH(E) #990101		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990102		BMNH	-27.050000	-52.400000	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990103		BMNH	-27.050000	-52.400000	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990104		BMNH	-27.050000	-52.400000	Brazil || Nova Teutonia || 18.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990105		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990106		BMNH	-27.050000	-52.400000	Brazil || Nova Teutonia || 24.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990107		BMNH	-27.050000	-52.400000	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990108		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 29.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990109		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 8.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990110		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 27.i.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990111		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 8.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990112		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 27.i.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990113		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 8.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990114		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990115		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 20.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990116		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 10.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990117		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 31.vii.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990118		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990119		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 24.v.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990120		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 27.i.1944|| Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990121		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 15.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990122		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 27.i.1944 || Coll. F. Plaumann || B.M. 1957-341

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora fax	BMNH(E) #990123		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 12.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #990124		BMNH	-27.050000	-52.400000	Brazil: Sta. Catarina || Nova Teutonia || 8.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora fax	BMNH(E) #1038919		BMNH	-27.050000	-52.400000	BRAZIL: || Nova Teutonia || 18.v.1943 || F. Plaumann || B.M.1957-341
Signiphora fax	BMNH(E) #1038920		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 17.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038921		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 24.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038922		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 25.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038923		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 25.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038924		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 29.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038925		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 29.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038926		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia || 9.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	BMNH(E) #1038927		BMNH	-27.050000	-52.400000	BRAZIL: Sta. Catarina, || Nova Teutonia ||30.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora fax	UCRC ENT 299342		UCR	-21.033300	-48.216700	Pitanqueiras [sic] || Sao Paula [sic] State || Brazil || May 15, 1962 || Ex. Calif. Red Scale || On: lemon || ser. R62-45-5 || Coll. P. DeBach || orig. ++ Hoyer's || Raymond '62
Signiphora fax	USNM ENT 763025		USNM	-22.900833	-47.057222	Ex. Chrysomphalum aonidum || Campinas, Brazil || Febr. 1940 ||Toledo coll. #407
Signiphora fax	USNM ENT 763029		USNM	-22.900833	-47.057222	Ex. Chrysomp. || aonidum || Campinas, Braz. || Febr. 1940 || K.R. Toledo coll. || #406
Signiphora fax	TBA (MLPA)		MLPA	-18.483300	-70.333300	Tarapaca || Arica, Chile || viii-1976 || Ex. Aonidomitilus || espinosai || Coll. Matta
Signiphora fax	TBA (MLPA)		MLPA	-18.483300	-70.333300	Tarapaca || Arica, Chile || viii-1976 || Ex. Aonidomitilus || espinosai || Coll. Matta
Signiphora fax	UCRC ENT 299327		UCR	6.800000	-58.166667	Guyana || (see letter) vi.22.79 xi-16-77|| Ex. Aspidiotus || destructor sign. || Coll. H. Gulmahamad
Signiphora fax	USNM ENT 763033	paratype of Signiphora insularis (Dozier)	USNM	18.600000	-72.283330	Reared from || manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier ++ [red label] Thysanus || insularis || Dozier || paratype
Signiphora fax	USNM ENT 763034		USNM	18.578900	-72.308600	Reared from Lignum vitae infested || with A. floccosus || Sarthe, Haiti || March 7, 1931 || H. L. Dozier
Signiphora fax	USNM ENT 763035		USNM	18.578900	-72.308600	Reared from Lignum vitae infested || with A. floccosus || Sarthe, Haiti || March 7, 1931 || H. L. Dozier
Signiphora fax	USNM ENT 763036		USNM	18.578900	-72.308600	Reared from Lignum vitae infested || with A. floccosus || Sarthe, Haiti || March 5, 1931 || H. L. Dozier
Signiphora fax	USNM ENT 763037		USNM	18.578900	-72.308600	Reared from Lignum vitae infested || with A. floccosus || Sarthe, Haiti || March 6, 1931 || H.L. Dozier
Signiphora fax	USNM ENT 763038		USNM	18.578900	-72.308600	Reared from Lignum vitae infested || with A. floccosus || Sarthe, Haiti || March 6, 1931 || H.L. Dozier
Signiphora fax	USNM ENT 763039		USNM	18.578900	-72.308600	Reared from Guayacum officinale || infested with || A. floccosus, A. stellata etc. || Sarthe, Haiti || Jan 8, 1931 || H.L. Dozier ++ [red label] Thysanus || guayaci || Dozier || <F>
Signiphora fax	USNM ENT 763040		USNM	18.578900	-72.308600	Reared from Lignum vitae infested with A. floccosus || Sarthe, Haiti || Jan 12, 1931 || H.L. Dozier ++ [red label] Thysanus || guajaci || Dozier || <F> || paratype
Signiphora fax	USNM ENT 763041		USNM	18.578900	-72.308600	<F> reared from Lignum vitae, Guajacum officinale infested with A. floccosus || Sarthe, Haiti || Mar 13, 1931 || H.L. Dozier ++ [red label] Thysanus guajaci || Dozier || <F>
Signiphora fax	USNM ENT 763042		USNM	18.578900	-72.308600	Reared from Lignum vitae infested with A. floccosus || Sarthe, Haiti || Mar 4, 1931 || H.L. Dozier ++ [red label] Thysanus || guayaci || Dozier || paratype
Signiphora fax	USNM ENT 763028		USNM	19.116700	-98.766700	1629 || Aspidiotus sp. || Quercus engelmanni || Amecameca, Mex. || 25.5.97 || Koebele || [det. Written over slide: S. townsendi <M>]
Signiphora fax	UCRC ENT 299330		UCR	-13.916700	-75.966700	Villacuri (Ica) || Peru || xi-1968 || Ex. Hemiberlesia lantianae || Det. Beingolea 1968 || On: olive || Ltr. Pstmkd 3/xii/73 || Coll. O. Beingolea || No 6 || tree treated with lime & sulfur & shell triona (0.2% & 0.2 & 0.5)
Signiphora fax	UCRC ENT 299331		UCR	-13.916700	-75.966700	Villacuri (Ica) || Peru || iii-1964 || Ex. Aspidiotus cyanophili || Det. Beingolea 1964 || On: olive || Ltr. Pstmkd 3/xii/73 || Coll. O. Beingolea || No 10
Signiphora fax	UCRC ENT 299332		UCR	-13.466592	-76.137342	Chincha Valley || (Ica) Peru || x-1967 || Ex. Aphytis lepidosaphes || Det. Beingolea 1967 || On: Lepidosaphes beckii || Ltr. Pstmkd 3/xii/73 || Coll. O. Beingolea || No 16
Signiphora fax	USNM ENT 763031		USNM	-12.050000	-77.050000	21903c || nov-jan 3d || (1 smp.) sp. 1 || 21903d || nov. jen. 2D-sp2 || (2 spms.) || Dec. 31. 09. T. ++ C. H. T. || Lima, Peru || Signiphora townsendi Ashm || 2 <F>> [Girault's handwriting]
Signiphora fax	UCRC ENT 299333		UCR	-16.398822	-71.536883	Arequipa, Peru || 6/6/1960 || Ex. Aspidiotus || On: olive || Coll. O. Beingolea ++ Mount: Hoyers || By: Capen 1962
Signiphora fax	USNM ENT 763027		USNM	18.397586	-66.049855	483-1913 || Reared from || Chrysomphalus || personatus (Comst.) || Rio Piedras, P.R. || 14 Apr. 1913 || T.H. Jones || 483-1913
Signiphora fax	USNM ENT 763024		USNM	18.466300	-66.105700	459.0 || on Asp. Pers[???] || on " Mango || San Juan, Puerto Rico || A. Busck || Jan 99

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora fax	INHS 72507	paralectotypes	INHS	18.466300	-66.105700	4590 || 45091 || Par: of Asp. personatus || on "Guanabana" || San Juan, Porto Rico [sic] || A Busck ++ Signiphora fax Girault 3 <F> || cotypes || 45091 ++ PARATYPES || Signiphora fax Girault 3 <F> ++ Paratypes ++ Cotypes || 45.091
Signiphora fax	CNC HYMEN 122347		CNC	10.633300	-61.400000	Trinidad, W.I., Curepe || CIBC lab. Grounds || 13.vii.-31.viii 1974 || Coll. M.N. BEG
Signiphora fax	CNC HYMEN 122348		CNC	10.633300	-61.400000	Trinidad, W.I., Curepe || CIBC lab. Grounds || 13.vii.-31.viii 1974 || Coll. M.N. BEG
Signiphora fax	TAMU-ENTO X0852778		TAMU	28.545000	-81.381000	Florida: || Orlando, | Orange Co. || 4 v 1989 || W.A.A. Klerks || Ex. Coll. Pseudaulacaspis || cockerelli || Hoyer || W3 || sp 2
Signiphora fax	TAMU-ENTO X0852779		TAMU	29.634400	-83.125100	Florida: || Cross City || Dixie Co. || 18 vi 1989 || W.A.A. Klerks || Ex. Coll. Pseudaulacaspis || cockerelli || Hoyer || W15 || sp. 6
Signiphora fax	USNM ENT 763032		USNM	32.083500	-81.099800	7572-08 || on || Chionaspis! || on Magnolia || Savannah, GA || [?] June 15 ' 97 ++ Signiphora || flavopalliata || Ashm. || <F>? || AAG
Signiphora fax	TAMU-ENTO X0852780		TAMU	21.324678	-158.083055	Barber's Point || Oahu || Aug 1954 || JW Beardsely || reared ex. || diaspidid scale
Signiphora fax	USNM ENT 763022		USNM	26.159500	-97.990800	Weslaco, TX || May 25, 1971 || scale on squash || H. A. Dean
Signiphora fax	USNM ENT 763023		USNM	-34.858100	-56.170800	Par. Scale on laurel || or bay || Montevideo, Uruguay || H. L. Parker || SA Par Lab #532-1 || I.D. Lot #41-20636
Signiphora flavella	USNM Type No. 14196	lectotype and paralectotypes	USNM	26.776745	-80.197472	Aspidiotus lataniae || Sapodilla || Ochras sapota || Miami, Fla. || E. A. Bessey || bred July 8, 1908
Signiphora basilica (=flavella)	USNM Type No. 14197	holotype	USNM	26.776745	-80.197472	Aspidiotus lataniae || Sapodilla || Ochras sapota || Miami, Fla. || E. A. Bessey || bred July 8, 1908
Signiphora euclidi (=flavella)	QM Holotype T.8826	holotype	QM	-27.499158	152.952064	Feb 3, 1935 || Indooroopilly [GH]
Signiphora flava (=flavella)	USNM Type No. 14195	holotype	USNM	-12.05	-77.05	C. H. T. || Lima Peru ++ 192º3a || Nov. Gen. 2d || sp.1 || sec 31-09 T.
Signiphora thoreauini (=flavella)	USNM Type No. 19209	holotype	USNM	34.4208	-119.6982	Ex Aspidiotus hederae || on ivy || Santa Barbara Cal. || 14594C. Nov. 14, 1916 || P. H. Timberlake
Signiphora louisianae (=flavella)	USNM Type No. 44819	holotype	USNM	29.9546	-90.0751	Reared from Olean-|| der infested with || C. dictyospermi || and Aspidiotus || lataniae || New Orleans La. || Jun. 12-1932 || H. L. Dozier
Signiphora caridei (=flavella)	N/A	syntype	MACN			S17 (sic)
Signiphora flavella	MHNG ENTO 00009849		MHNG	36.7631	3.0506	Algerie || Alger, 24.xii.1947 || Ex. Chrysomphalus || aonidum
Signiphora flavella	UCRC ENT 299611		UCR	-34.6	-58.5333	Saenz, Pena || Buenos Aires, Argentina || iv-20-1976 || On: ivy || Coll. M. Rose
Signiphora flavella	UCRC ENT 299612		UCR	-34.6	-58.5333	Saenz, Pena || Buenos Aires, Argentina || iv-20-1976 || On: ivy || Coll. M. Rose
Signiphora flavella	IFML SHYM0006		IFML	-28.55	-66.8167	La Rioja || Aimogasta, R. Argentina || xi-30-1968 || Ex. Chrysomphalus || On: olive || Coll. Teran ++ No. 5
Signiphora flavella	UCRC ENT 299613		UCR	-28.55	-66.8167	Argentina || La Rioja || Aimgasta (Plaza) || 30-xi-1968 || On: olivo || Coll. Teran
Signiphora flavella	IFML SHYM0007		IFML	-28.6667	-66.5667	La Rioja Mazan || 17.xi.78 || Ex. Melanaspis || paulistus || On: olivo || Coll. A. Teran
Signiphora flavella	IFML SHYM0008		IFML	-28.6667	-66.5667	La Rioja Mazan || 17.xi.78 || Ex. Melanaspis || paulistus || On: olivo || Coll. A. Teran
Signiphora flavella	USNM ENT 763158		USNM	-24.7833	-65.4167	Salta, Argentina || 1941 || Ex. red scale || Coll. H.L. Parker ++ S.A. Par. Lab # 263
Signiphora flavella	UCRC ENT 299614		UCR	-26.5167	-65.25	Tucuman || Ticucho, R. Argentina || iii-31-1969 || On: Aspidiosperma || Coll. Guyot ++ No. 9
Signiphora flavella	IFML SHYM0009		IFML	-26.5167	-65.25	R. Argentina || Tucuman || Ticucho || 31-iii-1969 || Ex. sobra hojas de Aspidos-|| perma quebracho blan-|| co || Coll. Teran
Signiphora flavella	BMNH(E) #991087		BMNH	-26.6333	152.8667	Latania scale || on avocado || Australia || Mableton Qld. || 20.vi.85 || No. N 4707 || G.K. Waite || 15333 ++ AP det/prep || CIE A19019/1533B
Signiphora flavella	UCRC ENT 299351		UCR	-8.757778	-38.963889	San Francisco Belem || Pernambuco, Brazil || Apr 13, 1962 || Ex. Pseudaonidia green || trilobitiformis || On: cashew tree leaves || Coll. DeBach || Braz 17
Signiphora flavella	UCRC ENT 299083		UCR	-22.4333	-42.9833	Terezopolis || Rio De J. State, Brazil || Apr 4, 1962 || On: iris (yard)? || Coll. DeBach || No. BR 8
Signiphora flavella	UCRC ENT 299087		UCR	-22.9	-43.2333	Rio, Brazil || June 29, 1962 || On: ornamental tree || Coll. DeBach || 4 setae mes || Lot No. 41
Signiphora flavella	BMNH(E) #990139		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia ||14.xii.1949 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990140		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 18.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990142		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 2.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990144		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 18.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #1038934		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 14.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038935		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 15.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038936		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 18.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038937		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 21.x.1949 ++ F. Plaumann Coll. || B.M.1957-341

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	BMNH(E) #1038938		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 25.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038939		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 30.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038940		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 30.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038941		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 31.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038942		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 5.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #1038943		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 9.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora flavella	BMNH(E) #990125		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 18.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990126		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 18.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990127		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 18.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990128		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 18.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990129		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 19.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990130		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 21.v.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990131		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 17.x.1949 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990132		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 15.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990133		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 15.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990134		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990135		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 17.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990136		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 19.vii.1943 || F. Plaumann || B.M. 1957-341 || t/x/ descler || vertex retic,6
Signiphora flavella	BMNH(E) #990137		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 22.vii.1943 || F. Plaumann || B.M. 1957-341 || t/x/ descler || vertex retic,7
Signiphora flavella	BMNH(E) #990138		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 23.vii.1943 || F. Plaumann || B.M. 1957-341 || t/x/ descler || vertex retic,16
Signiphora flavella	BMNH(E) #990141		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 22.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990143		BMNH	-27.05	-52.4	Brazil: || Nova Teutonia || 23.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990145		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 18.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990146		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 2.vii. 1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990147		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 19.xii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990148		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990149		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990150		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 18.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990151		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 26.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990152		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 21.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990154		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 20.xii. 1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990155		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 14.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990156		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 21.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990157		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990158		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990159		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 20.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990160		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990161		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 18.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990162		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 14.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990163		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 21.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 4
Signiphora flavella	BMNH(E) #990164		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 24.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 14
Signiphora flavella	BMNH(E) #990165		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 27.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 13
Signiphora flavella	BMNH(E) #990166		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++10

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	BMNH(E) #990167		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 13.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990168		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 5
Signiphora flavella	BMNH(E) #990169		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 24.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 9
Signiphora flavella	BMNH(E) #990170		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990171		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 19.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 19
Signiphora flavella	BMNH(E) #990172		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 17
Signiphora flavella	BMNH(E) #990173		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990174		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 18
Signiphora flavella	BMNH(E) #990175		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 2.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 11
Signiphora flavella	BMNH(E) #990176		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 2
Signiphora flavella	BMNH(E) #990177		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 18.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990178		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 19.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 ++ 19
Signiphora flavella	BMNH(E) #990179		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 19.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990180		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 21.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990181		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BMNH(E) #990182		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora flavella	BNMH(E) #991088		BMNH			Brazil: || Nova Teutonia || 2.vii.1943 || F. Plaumann || B.M. 1957-341
Signiphora flavella	UCRC ENT 299088		UCR	-22.883333	-43.103611	Brazil || 9/30/34 || Coll. Compere || Acc. no. A42
Signiphora flavella	UCRC ENT 299084		UCR	-33.45	-70.6667	Santiago || Chile || iii-7-1970 || Ex. Aonidiella || ensifera McKenzie || Det. P. Gonzales 1970 || On: English || ivy || Coll. P. DeBach
Signiphora flavella	UCRC ENT 299077		UCR	-32.85	-71.2	Pocochay, Chile || xii-10-1969 || Ex. Aspidiotus || hederae || Coll. ? || No 43
Signiphora flavella	UCRC ENT 299078		UCR	-32.85	-71.2	Pocochay, Chile || xii-10-1969 || Ex. Aspidiotus || hederae || Coll. ? || No 44
Signiphora flavella	UCRC ENT 299079		UCR	-32.85	-71.2	Pocochay, Chile || viii-22-1969 || Ex. Aspidiotus || hederae || Coll. E. Zuniga || No 29 ++ RMNT
Signiphora flavella	UCRC ENT 299080		UCR	-32.85	-71.2	Pocochay, Chile || viii-22-1969 || Ex. Aspidiotus || hederae || Coll. E. Zuniga || No 27
Signiphora flavella	UCRC ENT 299081		UCR	-32.85	-71.2	Pocochay, Chile || xii-10-1969 || Ex. Aspidiotus || hederae || Coll. ? || No 42
Signiphora flavella	UCRC ENT 299106		UCR	35.51133	24.025971	Crete (Hania) || Apr 4, 1963 || Ex. H. Lataniae || On: Ficus sp. || Coll. DeBach || SER no. 63-23 || Original Material, Reared Riverside
Signiphora flavella	UCRC ENT 299107		UCR	35.51133	24.025971	Hania, Crete, Greece || Botanical Gardens || Nov. 3, 1962 || Ex. Hemiberlesia ? Rapax || Pn: Ampelopsis sp. || Coll. DeBach || Mount: Hoyers 1963
Signiphora flavella	UCRC ENT 299108		UCR	35.51133	24.025971	Alirianos, Hania, Crete, Greece || April 3, 1963 || Ex. Hemiberlesia lataniae || On: Pyracantha sp. || Crategus Pyrocantha || Coll. DeBach
Signiphora flavella	UCRC ENT 299109		UCR	35.51133	24.025971	Hania || Crete, Greece || Botanical Gardens || Nov 3, 1962 || Ex. Hemiberlesia rapax ? || On: Ampelopsis sp. || Coll. DeBach
Signiphora flavella	UCRC ENT 299110		UCR	35.51133	24.025971	Hania, Crete, Greece || Botanical Gardens || Nov. 3, 1962 || Ex. Hemiberlesia ? Rapax || On: Ampelopsis sp. || Coll. DeBach
Signiphora flavella	UCRC ENT 299111		UCR	35.51133	24.025971	Botanical Garden || Hania, Crete || 3 Nov 1962 || Ex. Hemiberlesia || lataniae || Det. L. Argy 1962 || On: Ficus sp. || Coll. P. DeBach || No. G-35
Signiphora flavella	UCRC ENT 299112		UCR	35.51133	24.025971	Botanical Garden || Hania, Crete || 3 Nov 1962 || Ex. Hemiberlesia || lataniae || Det. L. Argy 1962 || On: Ficus sp. || Coll. P. DeBach || No. G-38
Signiphora flavella	UCRC ENT 299113		UCR	35.51133	24.025971	Hania, Crete || 1963 || Ex. Hemiberlesia || latania || Det. DEB 1963 || On: Ficus || Coll. DeBach || Reared in insectary Riverside || On Original material || Ser No. 63-23 ++ slide 1
Signiphora flavella	UCRC ENT 299114		UCR	35.51133	24.025971	Hania, Crete || 1963 || Ex. Hemiberlesia || latania || Det. DEB 1963 || On: Ficus || Coll. DeBach || Reared in insectary Riverside || On Original material || Ser No. 63-23 ++ slide 2
Signiphora flavella	UCRC ENT 299115		UCR	35.51133	24.025971	Hania, Crete, Greece || Botanical Gardens || Nov. 3, 1962 || Ex. Hemiberlesia lataniae|| On: Ficus (ornamental tree) || Coll. DeBach || G-38
Signiphora flavella	UCRC ENT 299116		UCR	35.51133	24.025971	Botanical Gardens, Hania, Crete || 3 Nov 1962 || Ex. Hemiberlesia || lataniae ? || On: Lauris || nobilis || Coll. P. DeBach || No. G-40
Signiphora flavella	USNM ENT 763049		USNM	15.4	-87.8	Progresso, Hond. || Apr. 28, 1965 || Hemiberlesia palmae || On: Banana || Coll. R.D. Cave
Signiphora flavella	UCRC ENT 299344		UCR	25.5756	91.8731	Shillong, India || Dec 1976 || Ex. Fiorinia sp. Mat'l || On: citrus || Coll. S. Nagarkatti

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	TAUZM 165462		TAUI	31.897964	34.808122	Date 13.2 1970|| Host Hemiberlesia|| lataniae|| det Pezsea++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165462		TAUI	33.249	35.652	Tel Dan|| 16.2.1977|| on Myztus communis++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165463		TAUI	31.897964	34.808122	Date 27.2.1970|| Host Hemiberlesia|| lataniae|| Det. Mangiliza|| on indica++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165464		TAUI	31.897964	34.808122	Date 15.1.1970|| Host Hemiberlesia|| lataniae|| Det. Pezsea++Faculty of Agriculture|| Rehovoth, Isreal
72494	TAUZM 165465		TAUI	31.897964	34.808122	Date 30.12 1969|| Host Hemiberlesia|| lataniae++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165466		TAUI	31.897964	34.808122	Host Hemiberlesia|| lataniae++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165467		TAUI	31.897964	34.808122	Host Hemiberlesia|| lataniae++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165468		TAUI	31.897964	34.808122	Date 15.10 1969|| Host Hemiberlesia|| lataniae++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165469		TAUI	31.897964	34.808122	Date 15.10 1969|| Host Hemiberlesia|| lataniae++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165470		TAUI	31.897964	34.808122	Date 14.9 1971|| Host P. longispinus++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165471		TAUI	31.897964	34.808122	Date 13.11 1974|| Host Aleurolobus|| miloticus|| on zizyphas spina-|| christi++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165472		TAUI	31.897964	34.808122	Date 17.11 1969|| Host Abgrallaspis|| cyanophylli++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165473		TAUI	31.897964	34.808122	Date 17.11 1969|| Host Abgrallaspis|| cyanophylli++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165474		TAUI	31.897964	34.808122	Date 24.4 1969|| Host Abgrallaspis|| cyanophylli++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165475		TAUI	31.897964	34.808122	Date 12.7 1971|| Host Pseudococcus|| longspinus++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165479		TAUI	31.897964	34.808122	Date 2.x.1974|| Host Hemiberlesia|| lataniae|| Quadzaspidiotus?|| on Ficus carica++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165480		TAUI	31.897964	34.808122	Date 2.x.1974|| Host Hemiberlesia|| lataniae|| Quadzaspidiotus?|| on Ficus carica++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165481		TAUI	31.897964	34.808122	Date 2.x.1974|| Host Hemiberlesia|| lataniae|| Quadzaspidiotus?|| on Ficus carica++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165482		TAUI	31.897964	34.808122	Date 21.10.1974|| Host Hemiberlesia|| lataniae|| Quadzaspidiotus?|| on Ficus carica++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165483		TAUI	32.723889	35.127222	Tivon|| Date 21.x.1974|| Host Hemiberlesia|| lataniae|| Quadzaspidiotus?|| on Ficus carica++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165484		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedeza helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165485		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedera helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165486		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedeza helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165487		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedeza helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165492		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedera helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165493		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedera helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165494		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedera helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165495		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedera helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165496		TAUI	32.704478	35.129036	Bet Shearim|| 21.10.1974|| Hemiberlesia|| lataniae|| on Hedera helix++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165498		TAUI	33.249	35.652	Israel|| Tel Dan|| 22.2.1979|| on styrax|| Coll. Rivnay T.|| Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165499		TAUI	31.897964	34.808122	Israel|| Rehovoth|| 23.2.1977++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165500		TAUI	31.897964	34.808122	Israel|| Rehovoth|| 23.2.1977++Faculty of Agriculture|| Rehovoth, Isreal
Signiphora flavella	TAUZM 165497		TAUI	31.7433	34.7688	Ahwa Atira|| 10.10.1974|| Lepidosaphes|| ulmi|| on spartium++Faculty of Agriculture|| Rehovoth, Israel
Signiphora flavella	USNM ENT 763118		USNM	19.127778	-98.762778	Amecameca || Mescico, Mesc. || June 7, 1897 || Ex. Aspidiotus sp. || On: celtis || Coll. Koebele
Signiphora flavella	UCRC ENT 299082		UCR	19.4167	-102.0667	Mexico, Michoacan || Uruapan || 15-vii-1982 || Coll. M. Rose || D-Vac Sample || On avocado
Signiphora flavella	INHS 72508		INHS	18.7475	-99.070278	1722 || Aspidiotus || on Ciruela cuautla || Morelos, Mex. || July 1, 97 || Koebele || S1510 || [Girault's handwriting] 45092 ++ PARATYPE || Signiphora flavella F Girault || Homotype & plesiotype ++ Signiphora mexicana Ashm. M, 7F flavella, 1 F homotypes || Perimpterus mexicana How
Signiphora flavella	USNM ENT 763044		USNM	18.85	-97.1	Orizaba Veracruz || Mexico || July 15, 1897 || Ex. Aspidiotus sp. || On: myrtus sp. || Coll. A. Koebele
Signiphora flavella	INHS 72494		INHS			Asp. Camelliae || on Acacia sp. || Mexico from [?] || A.L. Herrera Dec 15, 1905 || [Girault's handwriting] 45096 ++ Plesiotype & Homotype ++ Signiphora flava Gir. Remounted Woolley 1981
Signiphora flavella	MHNG ENTO 00009853		MHNG	34.02	-6.83	Maroc || Rabat xii.1927 || J. de Lepiney || Ex. Hemiberlesia cameliae sur || Morus alba || B48

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	BMNH(E) #990153		BMNH	-36.809934	174.728036	New Zealand, AK || Birkenhead || Nov 1980 ++ J.F. Longworth || Malaise trap in || second growth || bush ++ N. Z. Arthropod Collection, NZAC || Entomology Div. || DSIR, Auckland || New Zealand
Signiphora flavella	BMNH(E) #1038945		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038946		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038947		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038948		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038949		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038950		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038951		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	BMNH(E) #1038952		BMNH	-12.0667	-77.15	PERU: Callao-CICU || 17.viii.1975 || O.Beingolea ++ ex Hemiberlesia || lataniae on || Olea europea ++ C.I.E. COLL || A.10783 II
Signiphora flavella	USNM ENT 763067		USNM	-5.3	-80.7667	1o3c || Bred from || Hemichionaspis minor || Chaquira (near Catacaos), Peru || C. H. T. Townsend || Letter 12 Aug 1910
Signiphora flavella	USNM ENT 763068		USNM	-5.3	-80.7667	1o3c || Bred from || Hemichionaspis minor || Chaquira, Peru || C. H. T. Townsend || Letter 12 Aug 1910
Signiphora flavella	USNM ENT 763069		USNM	-5.3	-80.7667	Bred from Hemichionaspis minor || Chaquira (near Catacaos) || Peru || C. H. T. Townsend || Letter 12 Aug. 1910. || 1o3c
Signiphora flavella	USNM ENT 763070		USNM	-4.8017	-80.7428	1o3c || Bred from || Hemichionaspis minor || Saman, Peru || C.H. T. Townsend || letter 12 Aug 1910
Signiphora flavella	USNM ENT 763071		USNM	-4.8017	-80.7428	1o3c || Bred from || Hemichionaspis minor || Saman, Peru || C.H. T. Townsend || letter 12 Aug 1910
Signiphora flavella	USNM ENT 763072		USNM	-4.8017	-80.7428	1o3c || Bred from || Hemichionaspis minor || Saman, Peru || C.H. T. Townsend || letter 12 Aug 1910 || 1o3c || Saman, [??] 26
Signiphora flavella	UCRC ENT 763043		USNM	-12.05	-77.05	145303a || C. H. T. || Lima, Peru || [??] || n. sp. sp. no. 5 || Jan 16, 10 T.
Signiphora flavella	INHS 72509		INHS	-4.28333	-80.76666	103c || [?] 2 sp.3 || Saman, [?] || May 25 T. || [Girault's handrwriting] 45,094 ++ Homotype and plesiotype
Signiphora flavella	USNM ENT 763046		USNM	17.9536	-66.2229	Central Aguirre, P.R. || July 6-1925 || Reared from Aleuro- || thrixus howardi || material on Lignum- || vitae || Coll. H.L. Dozier
Signiphora flavella	TAMU-ENTO x0616168		SANC	-33.955872	25.601571	SOUTH AFRICA: || Port Elizabeth||CP. xii.1963||J.F. de Cilliers||with||Ceroplastes sp.||on Dovyalis||caffra
Signiphora flavella	TAMU-ENTO x0616172		SANC	-29.851	31.027	SOUTH AFRICA: || Durban, Natal || iii.1964 || C.J. Cilliers || Ex soft scale on Grewia sp.
Signiphora flavella	TAMU-ENTO x0616176		SANC	-29.851	31.027	SOUTH AFRICA: || Durban, Natal || iii.1964 || C.J. Cilliers || Ex soft scale on Grewia sp.
Signiphora flavella	UCRC ENT 299089		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || July 1, 1925 || Ex. Coccophagus ? || Coll. Rust
Signiphora flavella	UCRC ENT 299090		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || June 10, 1925 || Ex. Coccophagus || ochraceus ? || in Saissetia persimile || Coll. Rust
Signiphora flavella	UCRC ENT 299091		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || June 20, 1925 || Ex. Coccophagus ? || Coll. Rust
Signiphora flavella	UCRC ENT 299092		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || July 6, 1925 || Ex. some parasite || of Saissetia persimile || Coll. Rust
Signiphora flavella	UCRC ENT 299093		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || June 26, 1925 || Ex. Coccophagus? || Coll. Rust
Signiphora flavella	UCRC ENT 299094		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || June 9, 1925 || Ex. Coccophagus sp. || in Saissetia persimile || Coll. Rust
Signiphora flavella	UCRC ENT 299095		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || July 15, 1925 || Ex. Coccophagus sp. || in Saissetia persimile || Coll. Rust
Signiphora flavella	UCRC ENT 299096		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || June 10, 1925 || Ex. Coccophagus || ochraceus ? || in Saissetia persimile || Coll. Rust
Signiphora flavella	UCRC ENT 299097		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || July 2, 1925 || Ex. Coccophagus sp. || Coll. Rust
Signiphora flavella	UCRC ENT 299098		UCR	-33.95	18.3833	Camp's Bay C.P. || Sp. Africa || June 12, 1925 || Ex. Coccophagus || ochraceus? || in Saissetia persimile || Coll. Rust
Signiphora flavella	UCRC ENT 299099		UCR	-33.95	18.3833	Camp's Bay C.P. || So. Africa || July 1, 1925 || Ex. Coccophagus sp. || Coll. Rust
Signiphora flavella	USNM ENT 763051		USNM			Bred from Diaspis pentagona || or hemiberlesia camelliae || South Africa || Lounsbury collector || let fr. A. Berlese || Nov 22 1909 || Aspidioliphagus citrinus
Signiphora flavella	UCRC ENT 299345		UCR	39.5167	-0.4167	Spain || Valencia, Burjasot || June 8, 1979 || sticky traps || On: grapefruit || Coll. J.H. Carrero
Signiphora flavella	UCRC ENT 299346		UCR	39.5167	-0.4167	Spain || Valencia, Burjasot || June 8, 1979 || sticky traps || On: grapefruit || Coll. J.H. Carrero
Signiphora flavella	CNC HYMEN 122361		CNC	10.653934	-61.402128	Trinidad || Curepe St. Marg. Circ. Rd. || yellow pan trap || 10-24.iii.1974 || Coll. F.D. Bennett
Signiphora flavella	UCRC ENT 299085		UCR	10.65	-61.4	St. Augustine || Trinidad, B.W.I. || 24 April '36 || Ex. C. ficus || Coll. A.R. Melville || H. No. 5

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	UCRC ENT 299086		UCR	10.65	-61.4	St. Augustine || Trinidad, B.W.I. || 24 April '36 || Ex. C. ficus || Coll. A.R. Melville || H. No. 6
Signiphora flavella	BMNH(E) #1038944		BMNH	34.206399	-119.158157	Muelhardt Rh. || Ventura Co. || vii-28-1978 || Ex. Aondiella || aurantii || On orange || Coll. M. Rose ++ found w/: Prospaltella || perniciosu & A. melinum ++ REMNT
Signiphora flavella	UCRC ENT 299061		UCR	34.445426	-119.750803	3895 Sunset Dr. || Santa Barbara || Jul 27, 1965 || Ex. California || red scale || On : lemon || valencia orange || Coll. Hall || STB 65-7-27C
Signiphora flavella	UCRC ENT 299062		UCR	34.448427	-119.830491	630 Fairview Ave. || Goleta || Jul 27, 1965 || Ex. California || red scale || On : valencia || orange || Coll. Hall || STB-66-7-27-I
Signiphora flavella	UCRC ENT 299063		UCR	34.394972	-119.517314	5305 8th St. || Carpenteria, Calif. || 27 Jul, 1965 || Ex. California || red scale || On: lemon || Coll. Hall || STB-65-7-27-A
Signiphora flavella	UCRC ENT 299064		UCR	33.688407	-117.722307	CA Orange Co. || S.C.F.S., El Toro || i-15-1980 || Ex. ? Aspidiotus || nerii || On: ivy || Coll. M. Rose || 80/074
Signiphora flavella	UCRC ENT 299065		UCR	33.680354	-117.754955	CA Orange Co. || Irvine Ranch || xi-18-1980 || Ex. L. beckii & ? || On: valencias || Coll. Rose || Vial A ++ Min. treat bulk. 133
Signiphora flavella	UCRC ENT 299066		UCR	33.80223	-117.856121	340 W. Collens || Orange || July 7, 1965 || Ex. California Red scale || On: valencia orange || Coll. Warner || 0-65-7-7A
Signiphora flavella	UCRC ENT 299067		UCR	33.680354	-117.754955	CA Orange Co. || Irvine Ranch || xi-18-1980 || Ex. L. beckii & ? || On: valencias || Coll. Rose || Vial A ++ Min. treat bulk. 133
Signiphora flavella	UCRC ENT 299068		UCR	33.680354	-117.754955	CA Orange Co. || Irvine Ranch || xi-18-1980 || Ex. L. beckii & ? || On: valencias || Coll. Rose || Vial B ++ Min. treat block 133
Signiphora flavella	UCRC ENT 299069		UCR	32.7153	-117.1573	San Diego || 9/27/51 || Ex. Parlatoria pittospori || On: Metateuca (?) scoperius || Coll. E.M. Matiachero (?) || Aphytis || diaspidis || Amytilaspidis
Signiphora flavella	UCRC ENT 299072		UCR	33.7456	-117.8678	Santa Barbara || Jan 29, 1958 | Ex. Hemiberlesia || rapax || On: locust tree || Coll. DeBach
Signiphora flavella	UCRC ENT 299073		UCR	34.3542	-119.0593	1/2 mi. W || Santa Paula || 9 Jun 1966 || Ex. Greedy scale || On: valencia orange || Coll. S. Warner || No. v-66-7-56
Signiphora flavella	UCRC ENT 299074		UCR	34.3542	-119.0593	1/2 mi. W || Santa Paula || 9 Jun 1966 || Ex. Greedy scale || On: valencia orange || Coll. S. Warner|| No. v-66-7-57
Signiphora flavella	UCRC ENT 299075		UCR	33.1192	-117.0864	Escondido || Calif. || 11/1/80 || Ex. chaff || scale || Coll. W.A. Gregory
Signiphora flavella	UCRC ENT 299076		UCR	33.0681	-117.3034	Levcadia (?), Calif. || 2-12-1962 || Ex. latania scale || On: avocado || Coll. DeBach
Signiphora flavella	UCRC ENT 299100		UCR	32.7153	-117.1573	San Diego || 3-19-12 || From Chrysomphales aurantii || Coll. Stahl
Signiphora flavella	UCRC ENT 299101		UCR	32.7153	-117.1573	San Diego || 3-19-12 || From Chrysomphales aurantii || Coll. Stahl
Signiphora flavella	UCRC ENT 299102		UCR	32.7153	-117.1573	San Diego || 3-19-12 || From Chrysomphales aurantii || Coll. Stahl
Signiphora flavella	UCRC ENT 299103		UCR	32.7153	-117.1573	San Diego || 3-19-12 || From Chrysomphales aurantii || Coll. Stahl
Signiphora flavella	UCRC ENT 299104		UCR	32.7153	-117.1573	San Diego || 4-3-12 || From Chrysomphales aurantii || Coll. Stahl
Signiphora flavella	UCRC ENT 299347		UCR	34.332674	-119.122123	Limoneira Ranch || Santa Paula, Calif || 8/12/1953 || Ex. Greedy scale || On: valencia || Coll. DeBach
Signiphora flavella	UCRC ENT 299348		UCR	34.4208	-119.6982	Antennae and wing || Ex. Aspidiotus camelliae || or hederae || on ivy || Santa Barbara, Calif. || 14594 C Nov 6,8,16, 1911 || P.H. Timberlake
Signiphora flavella	UCRC ENT 299349		UCR	34.4208	-119.6982	Antennae and wings || Ex. Aspidiotus hederae or camelliae || both together on ivy || Santa Barbara, Calif. || 14594 C Nov 8, 1911 || P.H. Timberlake
Signiphora flavella	UCRC ENT 299352		UCR	34.206399	-119.158157	Calif. Ventura Co. Oxnard || Meuchardt Ranch || x-17-1980 || Ex. Hemiberlesia || rapay || Det. Ewart 1982 || On: lemon fruits || Coll. M. Rose || No. 80/083
Signiphora flavella	UCRC ENT 299353		UCR	34.206399	-119.158157	Calif. Ventura Co. Oxnard || Meuchardt Ranch || x-16-1980 || On: orange fruits || Coll. M. Rose & Woolley || No. 80/083
Signiphora flavella	UCRC ENT 299354		UCR	33.792057	-117.862107	324 Batavia || Orange || July 7, 1965 || Ex. Greedy scale || On: orange || No. 0-65-77-N
Signiphora flavella	UCRC ENT 299355		UCR	34.206399	-119.158157	Calif. Ventura Co. Oxnard || Meuchardt Ranch || x-17-1980 || Ex. Hemiberlesia || rapay || Det. Ewart 1982 || On: lemon fruits || Coll. M. Rose || No. 80/083
Signiphora flavella	UCRC ENT 299356		UCR	33.9792	-118.0328	Cloth-house, Whittier, CA LA Co. || Feb 20, 1923 || Coll. H. Compere
Signiphora flavella	UCRC ENT 299357		UCR	33.9792	-118.0328	Cloth-house, Whittier, CA LA Co. || Feb 20, 1923 || Coll. H. Compere
Signiphora flavella	UCRC ENT 299358		UCR	33.2889	-117.2256	Calif. San Diego Co. || Bonsall || Richard's Grove || W. Lilac Rd. || 7-xi-1982 || On: avocado leaf || Coll. H. Johnson
Signiphora flavella	UCRC ENT 299359		UCR	33.5017	-117.6626	Standard Oil Yard, San Juan || Capistrono, CA || Dec 12, 1952 || On: grapefruit || Coll. P. DeBach
Signiphora flavella	UCRC ENT 299360		UCR	33.7456	-117.8678	Santa Ana, Calif. || 9/18/54 || Ex. Hemiberlesia rapax || On: Valencia orange || Primary- no other || parasites reared || Coll. DeBach
Signiphora flavella	UCRC ENT 299362		UCR	33.647	-117.6837	El Toro, Calif. || Nov 1952 || Ex. red scale material- Walker || grove || Coll. DeBach
Signiphora flavella	UCRC ENT 299364		UCR	34.1397	-118.0353	Arcadia, Cal. || Oct 23, 1922 || On window || brush from || Coll. H.C.
Signiphora flavella	UCRC ENT 299365		UCR	33.688407	-117.722307	So. Coast Field Sta. || Irvine, Calif. || xi.19.1976 || Ex. Hemiberlesia || lataniae || On: English ivy || Coll. M. Rose
Signiphora flavella	UCRC ENT 299366		UCR	34.1617	-118.0528	Sumach, Sierra || Madera, Canyon || Calif. || 4/1/22 || Ex. Aspidiotus || On: sumac || Coll. H.C. || secondary || primary 8/13/58

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	UCRC ENT 299367		UCR	34.332674	-119.122123	CA, Ventura Co. || Limontera Ranch || ii-20-1956 || Ex. As primary on || aspidiotus || On: Valencia orange || Remounted i-31-78 JB Woolley || Coll. J. Landi
Signiphora flavella	UCRC ENT 299368		UCR	34.1397	-118.0353	Arcadia, Cal. || Oct 1922 || Coll. H.C.
Signiphora flavella	UCRC ENT 299369		UCR	34.206399	-119.158157	CA, Ventura Co. || Oxnard, Mueldhart Ranch || x-16-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: orange fruits || Coll. J.B. Woolley || No 80/083
Signiphora flavella	UCRC ENT 299370		UCR	34.206399	-119.158157	CA, Ventura Co. || Oxnard, Mueldhart Ranch || x-17-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: lemon fruits || Coll. M. Rose || No 80/083
Signiphora flavella	UCRC ENT 299371		UCR	33.7456	-117.8678	Santa Ana || 10/21/58 || Ex. Latania scale || On: avocado || Coll. DeBach
Signiphora flavella	UCRC ENT 299372		UCR	33.1581	-117.3506	Carlsbad, Calif. || Jan 27, 1958 || Ex. latania scale || On: avocado || Coll. DeBach
Signiphora flavella	UCRC ENT 299373		UCR	33.1581	-117.3506	Carlsbad, Calif. || Jan 27, 1958 || Ex. latania scale || On: avocado || Coll. DeBach
Signiphora flavella	UCRC ENT 299374		UCR	34.206399	-119.158157	CA, Ventura Co. || Oxnard, Mueldhart Ranch || x-17-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: lemonfruits || Coll. M. Rose || 80/083
Signiphora flavella	UCRC ENT 299375		UCR	33.680354	-117.754955	CA Orange Co. || Irvine Ranch || ix-1980 || On: navel oranges || min. treat. Blk. 133 || Coll. Rose, Woolley || 80/082
Signiphora flavella	UCRC ENT 299376		UCR	33.680354	-117.754955	CA Orange Co. || Irvine Ranch || ix-1980 || On: navel oranges || min. treat. Blk. 133 || Coll. Rose, Woolley || 80/082
Signiphora flavella	UCRC ENT 299377		UCR	33.1959	-117.3795	CA. San Diego Co. || Ex. In assoc with || Hemiberlesia latania || On: avocado || Coll. H. Johnson
Signiphora flavella	UCRC ENT 299381		UCR	33.688407	-117.722307	Calif. Orange Co. || El toro, S. Coast Field Station || ii-28-1979 || Ex. Hemiberlesia || lataniae (sign) || Det. H. Johnson 1979 || On: avocado || Coll. H. Johnson
Signiphora flavella	UCRC ENT 299382		UCR	33.1959	-117.3795	CA. San Diego Co. || Oceanside || v-13-1981 || Ex. In assoc with || Hemiberlesia latania || Det. H. Johnson 1981 || On: avocado || Coll. H. Johnson
Signiphora flavella	UCRC ENT 299384		UCR	33.688407	-117.722307	SO Coast Field Station || CA Orange Co. || Santa Ana || iii-2-1979 || Ex. scale || On: English ivy || Coll. M. Rose
Signiphora flavella	USNM ENT 763047		UCR	32.6859	-117.1831	Coronado, Calif. || viii-29-49 || Ex. Aspid. Spinosus || #49H855 || Id. Lat. 49-18989 || Coll. H.H. Keifer
Signiphora flavella	UCRC ENT 299350		UCR	34.425833	-119.714167	Ex. Aspidiotus hederae or camelliae || [illegible] || On ivy (Hedera helix) || Santa Barbara, Calif. || 14594 a. Sept 4,11,1911 || P.H. Timberlake
Signiphora flavella	UCRC ENT 299363		UCR	33.3764	-117.2511	Fallbrook || 11/12/52 || On: Latania scale || Coll. DeBach
Signiphora flavella	TAMU-ENTO X0852781		TAMU	28.101948	-81.788977	FL., Polk Co. || 903 Hillgr. Ln., Aub. || 09-I-92 || H.W. Browning || On: Epiderndrum || Ex. Diaspis || boisduvalii || 92-005-12
Signiphora flavella	TAMU-ENTO X0852782		TAMU	30.4383	-84.2807	Florida: Tallahassee || Leon Co. || 17 V 1989 || Ex. coll. Pesudaulacapsis || cockerelli || W.A.A. Klerks || Hoyer || W12
Signiphora flavella	TAMU-ENTO x0853048		TAMU	30.7744	-85.2269	Florida: Marrianna, Jackson Co. || 17 V 1989 || W.A.A. Klerks || ex. coll. Pseudaulacaspis cockrelli || Hoyer
Signiphora flavella	USNM ENT 763045		USNM	29.9546	-90.0751	New Orleans, LA || July 24, 1923 || Coll. H.K. Plank || Quaintance No. 24449
Signiphora flavella	USNM ENT 763050		USNM	29.9546	-90.0751	Reared from Diaspine || parlatoria pergandei || scale on Spanish || bayonet plants || New Orleans, LA || Feb 10-1926 || H.L. Dozier
Signiphora flavella	USNM ENT 763052		USNM	29.9546	-90.0751	Reared from || Aspidiotus || on oleander || New Orleans || Sept 24 1932 || H. L. Dozier
Signiphora flavella	USNM ENT 763053		USNM	29.9546	-90.0751	Reared from Oleander || infested with Aspidiotus || lataniae || New Orleans La. || Jan. 14, 1932 || H. L. Dozier ++ [red label] Thysanus louisianae Dozier <M> paratype
Signiphora flavella	USNM ENT 763048		USNM	29.4241	-98.4936	San Antonio, TX || Apr 29, 1954 || St. Augustine grass || scale mat. || M.F. Schuster
Signiphora flavella	UCRC ENT 299361		UCR			S. Calif. || No 25, 1931 || Ex. Aspidiotus || lataniae
Signiphora flavella	UCRC ENT 299379		UCR	34.275	-119.227778	Largo Marsino Grove || Calif, Ventura Co. || xi-28-1980 || Ex. Assoc with || latania scale whitefly || On: avocado || Coll. H. Johnson
Signiphora flavella	UCRC ENT 299070		UCR	33.647	-117.6837	Walker Grove || El Toro, Orange Co. || 2/15/50 || Primary on greedy scale || On: valencic orange || Coll. DeBach
Signiphora flavella	UCRC ENT 299071		UCR	33.647	-117.6837	Walker Grove || El Toro, Orange Co. || 2/15/50 || Primary on greedy scale || On: valencic orange || Coll. DeBach
Signiphora flavella	UCRC ENT 299378		UCR	34.275	-119.227778	Largo Marsino Grove || Calif, Ventura Co. || ii-1980 || Ex. Assoc with || hemiberlesia latania || On: avocado || Coll. H. Johnson
Signiphora flavella	UCRC ENT 299380		UCR	33.241261	-117.241349	Vista, CA || 320 Hidden Lake La.|| xii-4-1973 || Ex. San Jose Sc. + || Quadras pidiotus || On: walnut || Coll. W. White || No. 30-73-12-14C
Signiphora flavella	UCRC ENT 299383		UCR	34.275	-119.227778	Largo Marsino Grove || i-23-1980 || Ex. Assoc with || Hermiberlesia lataniae || On: avocado || Coll. H. Johnson
Signiphora flavella	CNC HYMEN 122464		CNC	9.0883	-71.0194	VENEZUELA || MERIDA || Santa Rosa || 2000m. || 5-13-v-1981 || L.Masner || Pan trap
Signiphora flavella	CNC HYMEN 122465		CNC	9.0883	-71.0194	VENEZUELA || MERIDA || Santa Rosa || 2000m. || 5-13-v-1981 || L.Masner || Pan trap
Signiphora flavella	CNC HYMEN 122466		CNC	9.0883	-71.0194	VENEZUELA || MERIDA || Santa Rosa || 2000m. || 5-13-v-1981 || L.Masner || Pan trap
Signiphora flavella	CNC HYMEN 122467		CNC	9.0883	-71.0194	VENEZUELA || MERIDA || Santa Rosa || 2000m. || 5-13-v-1981 || L.Masner || Pan trap

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavella	UCRC ENT 299105		UCR			"2 aspidiotiphagus"
Signiphora flavopalliata	USNM Type No. 2801	holotype	USNM	30.365	-81.683	Entomological || Collection || of || Wm. H. Ashmead || Jacksonville || Florida
Signiphora occidentalis (=flavopalliata	USNM Type No. 1473	lectotype and paralectotypes		34.097	-118.106	From San Gabriel || Red scale. || June 1, 1887.
Signiphora flavopalliata	USNM ENT 763167		USNM	32.3	-64.783333	On cedar foliage || With: carucaspis visci || Bermuda || ix-20-50 || Coll. F.D. Bennett. B-7 || collect. #50-14525
Signiphora flavopalliata	UCRC ENT 299121		UCR	30.718273	-115.992667	Rancho Hamilton || Colonia Guererro || vii-27-1972 || Ex. A. Aurantii || On: citrus || Coll. W. White || 2 females + 1 unknown || No. Mex-72-7A
Signiphora flavopalliata	UCRC ENT 299122		UCR	30.718273	-115.992667	Rancho Hamilton || Colonia Guererro || vii-27-1972 || Ex. Lepidosophes || beckii || On: mixed citrus || Coll. W. White || No. Mex -72-7d
Signiphora flavopalliata	UCRC ENT 299123		UCR	30.718273	-115.992667	Rancho Hamilton || Colonia Guererro || vii-27-1972 || Ex. ? || On: orange || Coll. W. White || No. Mex—72-7D
Signiphora flavopalliata	UCRC ENT 299124		UCR	30.718273	-115.992667	Rancho Hamilton || Baja Calif. || Colonia Guererro || vii-8-1977 || On: mixed citrus || Coll. DeBach/Warner || No. Mex-77-7-8
Signiphora flavopalliata	UCRC ENT 299125		UCR	30.718273	-115.992667	Rancho Hamilton|| Baja Cal. Norte|| x-31-1978|| ?Lepidosaphes|| beckii*|| on Citrus|| *A. aurantii also in sample
Signiphora flavopalliata	UCRC ENT 299126		UCR	30.718273	-115.992667	Rancho Hamilton || Baja Calif. Norte, Mexico || x-25-1974 || Ex. ?Aphytis lepidosaphes ? || On Lepidosaphes beckii || Det. DeBach || On: citrus || Coll. P. DeBach, M. Rose
Signiphora flavopalliata	UCRC ENT 299127		UCR	30.718273	-115.992667	Rancho Hamilton || Baja Calif. Norte, Mexico || x-25-1974 || Ex. ?Lepidosaphes beckii || Det. DeBach || On: citrus || Coll. P. DeBach, M. Rose
Signiphora flavopalliata	UCRC ENT 299128		UCR	30.718273	-115.992667	Rancho Hamilton || Baja Calif. Norte, Mexico || x-25-1974 || Ex. ?Lepidosaphes beckii || Det. DeBach || On: citrus || Coll. P. DeBach, M. Rose
Signiphora flavopalliata	UCRC ENT 299139		UCR	23.594389	-109.596953	La Ribera|| Baja Cal. Sur.|| x-13-1979|| Paplatoria|| pergandii|| on Citrus
Signiphora flavopalliata	UCRC ENT 299140		UCR	23.05	-109.6833	Santiago (hotel) || Baja Cal. Sur || ii-25-74 || Ex. Pinnaspis || sp. M,M || On: mixed citrus || * No immatures found in residue
Signiphora flavopalliata	UCRC ENT 299141		UCR	23.05	-109.6833	San Jose del || Cabo, Baja Calif. || vii-26-1970 || On: citrus || Coll. DeBach
Signiphora flavopalliata	UCRC ENT 299142		UCR	23.05	-109.6833	San Jose del || Cabo, Baja Calif. || ii-26-1974 || Ex. Pinnaspis || sp. (M,M scale) || On: citrus || Coll. DeBach & Rose
Signiphora flavopalliata	UCRC ENT 299143		UCR	23.05	-109.6833	Santiago (hotel) || Baja Cal. Sur || ii-25-1974 || Ex. Parlatoria || pergondii || On: citrus-sprayed 1 || year ago with malathion || Coll. DeBach & Rose
Signiphora flavopalliata	UCRC ENT 299590		UCR	23.466868	-109.716647	Santiago || Baja Calif. Sur || xi-22,23,1978 || Ex. Aleurothrixus || floccosus || On: citrus (Ant run) || Coll. DeBach || So11 C007 ++ B 22
Signiphora flavopalliata	UCRC ENT 300233		UCR	26.203541	-112.03944	Eido Erendira || San Isidro || iv-10-1969 || Host: Chionaspis? || On: Bishop Pine ++ Coll. DeBach & Warner || No. DB20
Signiphora flavopalliata	USNM ENT 763100		USNM	18.812222	-99.955833	1768|| aspidiotus|| sp.|| on Hibiscus|| Cuautla, Morelos|| Mex. May-29-97|| Koebele
Signiphora flavopalliata	UCRC ENT 299138		UCR	24.8578	-99.5678	Linares N.L. || Mexico || Oct 1961 || Ex. ? Mixed scales || On: citrus || Coll. H. Suarez || via H. Maltby || (bright yellow & || black in life) || Mount: Hoyers || By: DEB 1961
Signiphora flavopalliata	UCRC ENT 299129		UCR	23.2167	-106.4167	Mazatlan || Sinaloa, Mex. || 26.v.1967 || Ex. Lepidosaphes gloverii || Det. DeBach 67 || On: lime || Coll. DeBach
Signiphora flavopalliata	UCRC ENT 299130		UCR	23.2167	-106.4167	Mazatlan || Sinaloa, Mex. || 26.v.1967 || Ex. Lepidosaphes gloverii || Det. DeBach 67 || On: lime || Coll. DeBach
Signiphora flavopalliata	UCRC ENT 299137		UCR	23.2167	-106.4167	Mazatlan || Sinaloa, Mex. || 26.vi.1967 || Ex. Lepidosaphes gloverii || Det. DeBach || Coll. DeBach
Signiphora flavopalliata	TAMU-ENTO X0424830		TAMU	23.3167	-99.0167	Mexico: Tamps || Munic. Llera || Garza Prop || 13-xi-1989 || Ex. snow scale || On Italian Lemon || Coll. Tomas Reyes ++ 4
Signiphora flavopalliata	TAMU-ENTO X0424831		TAMU	23.3167	-99.0167	Mexico: Tamps || Munic. Llera || Garza Prop || 13-xi-1989 || Ex. snow scale || On Italian Lemon || Coll. Tomas Reyes ++ 4
Signiphora flavopalliata	TAMU-ENTO X0424832		TAMU	23.3167	-99.0167	Mexico: Tamps || Munic. Llera || Garza Prop || 13-xi-1989 || Ex. snow scale || On Italian Lemon || Coll. Tomas Reyes ++ 4
Signiphora flavopalliata	TAMU-ENTO X0460229		TAMU	16.94	-96.41	Mexico: Oaxaca || 6. mi NE Mitla || 20-vii-1985 || Coll. Woolley & Zolnerowich ++ No. 85/077 ++ 5-brown yellow stripes
Signiphora flavopalliata	TAMU-ENTO X0460230		TAMU	16.94	-96.41	Mexico: Oaxaca || 6. mi NE Mitla || 20-vii-1985 || Coll. Woolley & Zolnerowich ++ No. 85/077 ++ 3-brown yellow stripes
Signiphora flavopalliata	USNM ENT 763055		USNM			Mexico || xii-15-1905 || Ex. Asp. Camelliae || On: acacia || Coll. A.L. Herrera
Signiphora flavopalliata	UCRC ENT 299119		UCR	33.2	-117.2425	Vista, Calif. || xii-14-1973 || Ex. Quadraspidiotus || & San Jose scale || On: walnut || Coll. W. White || No SD-73-12-14C
Signiphora flavopalliata	UCRC ENT 299120		UCR	36.7491	-119.6993	Reared from Chrysomphalus || aurantis a [?] || Sunnyside || San Diego Co., Cal. || 14527D Sept 21, 1911 || P. H. Timberlake || 14527D
Signiphora flavopalliata	UCRC ENT 299131		UCR	32.829233	-116.726937	Viejas Creek || San Diego County || Dec 23, 1961 || Ex. Chionaspis || sassceri Ckll. & Robb salix || Coll.DeBach 1962 || Mount: Hoyers
Signiphora flavopalliata	UCRC ENT 299132		UCR	33.647	-117.6837	J.H. Witt grove || Valley Center, S.D.C. || 11/12/52 || Coll. P. DeBach || Ex. Comperiella bifasciata || Ex red scale on lemon
Signiphora flavopalliata	UCRC ENT 299133		UCR	33.647	-117.6837	From Witt Grove || Valley Center, Coll. || Nov 12, 52 || Reproduced || on Comperiella in || red scale Proven || hyper by DeBach || Apr. 7, 1953 || (in pencil) no 4753 ++ Reproduced || on Comperiella in || red scale. Proven || hyper by DeBach || Apr 7, 1953 || No 4753 ++ RMNT

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavopalliata	UCRC ENT 299134		UCR	33.1192	-117.0864	Ex. Calif. Red scale || material || on: orange || Escondido || 10/16/58 || DeBach
Signiphora flavopalliata	USNM ENT 763065		USNM	32.8528	-116.6159	Descanso, San Di- || ego Co. Calif. || Nov 30, 1955 || Ex. Melanspis lilacina || Coll. P.H. Arnard
Signiphora flavopalliata	USNM ENT 763162		USNM	32.817864	-115.565987	Parasites of Parlatoria blanchardi || On: Phoenix canariensis || Imperial Valley || Calif.
Signiphora flavopalliata	USNM ENT 763163		USNM	32.817864	-115.565987	Parasites of Parlatoria blanchardi || On: Phoenix canariensis || Imperial Valley || Calif. || coll. prior to May 1924
Signiphora flavopalliata	USNM ENT 763164		USNM	33.60547	-116.110611	Parasites of Parlatoria blanchardi || On: date palm || Coachella Valley, Calif. || Coll. Prior to May 1924
Signiphora flavopalliata	USNM ENT 763165		USNM	33.60547	-116.110611	Parasites of Parlatoria blanchardi || On: date palm || Coachella Valley, Calif. || Coll. Prior to May 1924
Signiphora flavopalliata	USNM ENT 763166		USNM	33.60547	-116.110611	Parasites of Parlatoria blanchardi || On: date palm || Coachella Valley, Calif. || Coll. Prior to May 1924
Signiphora flavopalliata	BMNH(E) #990183		BMNH	29.7516	-82.4248	Florida || Gainesville || Ex. P. Pentagona || on Melia
Signiphora flavopalliata	BMNH(E) #990187		BMNH	25.7743	-80.1937	Florida : Miami || 30.iv.87 Coll. FD Bennett || AP prep/det iv.88 ++ Ex. soft scales & diaspidids || On: Schefflara || CIE A19404/86a/3
Signiphora flavopalliata	BMNH(E) #990188		BMNH	29.7516	-82.4248	USA: Florida || Gainesville || 1986/87 || Ex. P. pentagona || On: Melia || AP det. & prep
Signiphora flavopalliata	TAMU-ENTO x0616126		FSCA	29.5307	-81.529	Florida: Archer, Alachua Co. || 13 I 1989 || W.A.A. Klerks || ex. coll. || Pseudaulacaspis cockelli || Hoyer ++ Bi2.3 flav
Signiphora flavopalliata	TAMU-ENTO x0616127		FSCA	25.472	-80.478	Florida: Dade || Homestead tree || 22 V 1987 || H. Glenn || Ex: Lepido saphes gloverii || (on lime) Hoyer
Signiphora flavopalliata	TAMU-ENTO X0852805		TAMU	29.7516	-82.4248	Florida, Alachua || Gainseville Co. || 25-xi-1973 || Ex. Pseudaulacaspis || pentagona (targioni) || On: Morus rubra || Coll. F. Collins
Signiphora flavopalliata	TAMU-ENTO X0852806		TAMU	29.7516	-82.4248	Florida, Alachua || Gainseville Co. || 25-xi-1973 || Ex. Pseudaulacaspis || pentagona (targioni) || On: Morus rubra || Coll. F. Collins
Signiphora flavopalliata	TAMU-ENTO X0852807		TAMU	29.7516	-82.4248	Florida, Alachua || Gainseville Co. || 25-xi-1973 || Ex. Pseudaulacaspis || pentagona (targioni) || On: Morus rubra || Coll. F. Collins
Signiphora flavopalliata	TAMU-ENTO X0852808		TAMU	29.7516	-82.4248	Florida, Alachua || Gainseville Co. || 25-xi-1973 || Ex. Pseudaulacaspis || pentagona (targioni) || On: Morus rubra || Coll. F. Collins
Signiphora flavopalliata	TAMU-ENTO X0852809		TAMU	29.7516	-82.4248	Florida, Alachua || Gainseville Co. || 25-xi-1973 || Ex. Pseudaulacaspis || pentagona (targioni) || On: Morus rubra || Coll. F. Collins
Signiphora flavopalliata	TAMU-ENTO X852810		TAMU	27.274161	-81.353273	FL, Highland Co. || Lake Placid, off US 27 || 27-iii-90 || Snow scale on citrus || Coll. H.W. Browning ++ Ex. Unaspis citri || 90-18
Signiphora flavopalliata	UCRC ENT 299117		UCR	28.092426	-81.723139	Lake Alfred, Florida || 9/22/58 || S&R 1883 || Ex. Lepidosaphes || beckii material || On: citrus || Coll. D.W. Clancy
Signiphora flavopalliata	UCRC ENT 299118		UCR	28.0653	-81.7887	Auburndhie, Fla. || 2/5-9/71 || On: citrus || Coll. R.F. Brooks
Signiphora flavopalliata	USNM ENT 763054		USNM	29.4303	-81.5106	164 Hubbard || Parasite of long scale || Crescent City, Fla. 1884
Signiphora flavopalliata	USNM ENT 763058		USNM	29.9546	-90.0751	New Orleans, L.A. || Aug 1-1923 || Ex. Chrysomphalus aonidum || Coll. H.K. Plank || Quaintance no. 24078 or 24079? ++ Aphelinus chrysomphali Mercet. || Aspidiotiphagus citrinus Cshaw (?)
Signiphora flavopalliata	USNM ENT 763059		USNM	29.9546	-90.0751	New Orleans, L.A. || July 11-1923 || Ex. Chrysomphalus dictyespermi Morg. || Coll. H.K. Plank || Quaintance no. 24027
Signiphora flavopalliata	USNM ENT 763060		USNM	29.9546	-90.0751	New Orleans, L.A. || Sept 1923 || Ex. Chrysomphalus aonidum || #24067
Signiphora flavopalliata	USNM ENT 763061		USNM	29.9546	-90.0751	New Orleans, L.A. || July 25, 1923 || Ex. Chrysomphalus aonidum || Coll. Morris Warnake || Quaintance No. 42145
Signiphora flavopalliata	USNM ENT 763062		USNM	29.9546	-90.0751	New Orleans, L.A. || Jan 6-1926 || Reared from long || scale (Lepidosaphes || gloveri) on Euonymus || Coll. H.L. Dozier
Signiphora flavopalliata	USNM ENT 763063		USNM	29.9546	-90.0751	New Orleans, L.A. || Jan 6-1926 || Reared from long || scale (Lepidosaphes || gloveri) on Euonymus || Coll. H.L. Dozier
Signiphora flavopalliata	USNM ENT 763064		USNM	29.9546	-90.0751	New Orleans, L.A. || Jan 6-1926 || Reared from long || scale (Lepidosaphes || gloveri) on Euonymus || Coll. H.L. Dozier
Signiphora flavopalliata	BMNH(E) #990185		BMNH	30.267148	-97.772963	Texas: Travis Co. || Austin, Zilker Pk. || 13-x-1979 || Ex. Pseudaulacaspis || pentagona || Det. H. Burke || On: Chinaberry || Coll. P.W. Kovarik || & T.J. Kring
Signiphora flavopalliata	BMNH(E) #990186		BMNH	30.267148	-97.772963	Texas: Travis Co. || Austin, Zilker Pk. || 13-x-1979 || Ex. Pseudaulacaspis || pentagona || Det. H. Burke || On: Chinaberry || Coll. P.W. Kovarik || & T.J. Kring
Signiphora flavopalliata	TAMU_ENTO X0424883		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424900		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424901		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424902		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424903		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora flavopalliata	TAMU-ENTO X0424904		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424905		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424906		TAMU	30.274931	-98.409287	TX: Johnson City || LBJNP Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2 || Signiphorid hyper. || on aphytis (pupal)
Signiphora flavopalliata	TAMU-ENTO X0424907		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0424909		TAMU	30.274931	-98.409287	TX: Johnson City || LBJNP Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2 ++ Signiphorid mummy
Signiphora flavopalliata	TAMU-ENTO X0424910		TAMU	30.274931	-98.409287	TX: Johnson City || LBJNP Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2 ++ mixed mummies
Signiphora flavopalliata	TAMU-ENTO X0460221		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460222		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460223		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460224		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460225		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460226		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? Pseudaulacaspis || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460227		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 8-x-1983 || Ex. ? || On: Chinaberry || Coll. J.B. Woolley ++ 83/004 || H12MAR
Signiphora flavopalliata	TAMU-ENTO X0460228		TAMU	30.628	-96.3344	Texas: Brazos Co. || College Station || 29-vi-1985 || Ex. Quadraspidiotus || perniciosus || Det Rose 1985 || Coll. M. Rose
Signiphora flavopalliata	TAMU-ENTO X0460314		TAMU	30.267148	-97.772963	Texas: Travis Co. || Austin, Zikler Park || 13-x-1979 || Ex. Pseudaulacaspis || Pentagona || Det. H. Burke || On: Chinaberry || Coll. P.W. Kovarik & T.J. Kring
Signiphora flavopalliata	TAMU-ENTO X0852804		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	TAMU-ENTO X0855842		TAMU	30.274931	-98.409287	TX: Johnson City || LBJ Birthplace || x.15.1995 || Ex. Quadraspidiotus || perniciosus || On: Photinia || Coll. M. Rose || LBJ-2
Signiphora flavopalliata	USNM ENT 763056		USNM	30.628	-96.3344	Ex. Obscure scale || College Station, Tex. || S.W. Bilsing || 6-30-56
Signiphora flavopalliata	USNM ENT 763057		USNM	26.1595173	-97.9908333	Ex. Chrysomphalus citrinus || Weslaco, Tdx. || Sept. 1938 || S.W.Clark coll.
Signiphora jojobae	UCIS 297367	paratype		33.294521	-111.217031	Ariz: Pinal Co. || 7 mi. W. Superior || 2500 ft. || 4 OCT 1980 || On: Simmondsia (f) || #297367
Signiphora jojobae	UCIS 291336	holotype	UCR	33.294521	-111.217031	Ariz: Pinal Co. || 7 mi. W. Superior || 2500 ft. || 4 OCT 1980 || Simmondsia (F) ++
Signiphora jojobae	UCIS 290310	paratype		33.294378	-111.251879	Ariz: Pinal Co. || 9 mi. W. Superior || 2350 ft. || 9 May80 || On: Simmondsia (F)
Signiphora jojobae	UCRC ENT 299578		UCR	26.00835	-111.399579	Arroyo de las || Parras, Loreto, Baja Cal Sur || iv-27-1975 || Ex. Clavaspis ? subsimilis || Det. DR Miller 1976 || On: Picante de Cimaron || orig. mat. || Coll. P. DeBach
Signiphora jojobae	UCRC ENT 299579		UCR	26.00835	-111.399579	Arroyo de las || Parras, Loreto, Baja Cal Sur || iv-27-1975 || Ex. Clavaspis ? subsimilis || Det. DR Miller 1976 || On: Picante de Cimaron || orig. mat. || Coll. P. DeBach
Signiphora jojobae	UCRC ENT 299580		UCR	26.00835	-111.399579	Arroyo de las || Parras, Loreto, Baja Cal Sur || iv-27-1975 || Ex. Clavaspis ? subsimilis || Det. DR Miller 1976 || On: Picante de Cimaron || orig. mat. || Coll. P. DeBach
Signiphora jojobae	UCRC ENT 299581		UCR	26.00835	-111.399579	Arroyo de las || Parras, Loreto, Baja Cal Sur || iv-27-1975 || Ex. Clavaspis ? subsimilis || Det. DR Miller 1976 || On: Picante de Cimaron || orig. mat. || Coll. P. DeBach
Signiphora jojobae	UCRC ENT 299582		UCR	25.960205	-111.503534	Mexico : Baja California Cur || 10 mi. W. Loreto || Arroyo de las Parras || 7-iv-1975 || Ex. Clavaspis ? subsimilis || Det. DR Miller 1976 || On: 'picante de cimaron' || Coll. P. DeBach || No. 39
Signiphora jojobae	UCIS 290715	paratype		33.294378	-111.251879	University Calif. || Insect Survey || Ariz: Pinal Co. || 9 mi W. Superior || 2350 Ft. || 9 May '80 || On: Simmondsia (F)
Signiphora jojobae	UCIS 290714	paratype		33.294378	-111.251879	University Calif. || Insect Survey || Ariz: Pinal Co. || 9 mi W. Superior || 2350 Ft. || 9 May '80 || On: Simmondsia (F)
Signiphora longitibia	UCRC ENT 299589	holotype and paratypes	UCR	19.120813	-104.352314	Manzanillo || Colima, Mexico || i-21-1975 || Ex. ? Aleurothrixus || floccosus || On: citrus || orig. mat. || Coll. DeB & Rose
Signiphora longitibia	UCRC ENT 299595		UCR	19.120813	-104.352314	Manzanillo || Colima, Mexico || i-21-1975 || Ex. Aleurothrixus || floccosus || On: citrus || orig. mat. || Coll. DeB & Rose ++ hyper
Signiphora longitibia	UCRC ENT 299596		UCR	19.120813	-104.352314	Manzanillo || Colima, Mexico || i-21-1975 || Ex. Aleurothrixus || floccosus || On: citrus || orig. mat. || Coll. DeB & Rose
Signiphora longitibia	UCRC ENT 299597		UCR	19.120813	-104.352314	Manzanillo || Colima, Mexico || i-21-1975 || Ex. Aleurothrixus || floccosus || On: citrus || orig. mat. || Coll. DeB & Rose
Signiphora longitibia	UCRC ENT 299598		UCR	19.120813	-104.352314	Manzanillo || Colima, Mexico || i-21-1975 || Ex. Aleurothrixus || floccosus || On: citrus || orig. mat. || Coll. DeB & Rose ++ hyper

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora longitibia	USNM ENT 763145		USNM			Guatemala || Ex. aleyrodid || On: gardenia leaf || Coll. Brownsville #56838 || ID Lot. No. 44-10636
Signiphora longitibia	USNM ENT 763146		USNM			Mexico || ii-14-44 || On leaves of Gardenia || with aleurodids || Coll. Allen || Brownsville #58437 || Id. Lot No. 44-6651
Signiphora longitibia	BMNH(E) 990267		BMNH	-9.924382	-76.23107	Peru: Huanuco || 16.x.1975 || Ex. white fly || On: Yuga feullei || Coll. O. Beingolea ++ CIE Coll. A10783
Signiphora longitibia	BMNH(E) 990268		BMNH	-9.924382	-76.23107	Peru: Huanuco || 16.x.1975 || Ex. white fly || On: Yuga feullei || Coll. O. Beingolea ++ CIE coll. A 10785
Signiphora longitibia	BMNH(E) 990269		BMNH	-9.924382	-76.23107	Peru: Huanuco || 16.x.1975 || Ex. white fly || On: Yuga feullei || Coll. O. Beingolea ++ CIE Coll. A10783
Signiphora longitibia	BMNH(E) 990270		BMNH	-9.924382	-76.23107	Peru: Huanuco || 16.x.1975 || Ex. white fly || On: Yuga feullei || Coll. O. Beingolea ++ CIE Coll. A10783
Signiphora longitibia	BMNH(E) 990271		BMNH	-9.924382	-76.23107	Peru: Huanuco || 16.x.1975 || Ex. white fly || On: Yuga feullei || Coll. O. Beingolea ++ CIE Coll. A10783
Signiphora longitibia	BMNH(E) 990272		BMNH	-9.924382	-76.23107	Peru: Huanuco || 16.x.1975 || Ex. white fly || On: Yuga feullei || Coll. O. Beingolea ++ CIE Coll. A10783
Signiphora longitibia	TAMU-ENTO X0828037	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828038	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828039	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828040	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828041	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828042	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828043	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828044	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	TAMU-ENTO X0828045	paratype		25.394436	-80.583186	Dade Co. Florida || Everglades National || Park Visitor Center || 12-xii-85 || Ex. whitefly || On: cocoa plum || Coll. C.W. Melton & H.W. Browning
Signiphora longitibia	NHMUK 1038875		BMNH	-9.924382	-76.23107	PERU: Huanuco || 16.x.1975 || O.Beingolea ++ ex white fly on || Yuga feullei ++ C.I.E. COLL. || A.10783 ++ Signiphora || flavopalliata Ashm. || det. B.R.Subba Rao,197
Signiphora longitibia	NHMUK 1038876		BMNH	-9.924382	-76.23107	PERU: Huanuco || 16.x.1975 || O.Beingolea ++ ex white fly on || Yuga feullei ++ C.I.E. COLL. || A.10783 ++ Signiphora || flavopalliata Ashm. || det. B.R.Subba Rao,1978 ++ 8 II
Signiphora lutea	USNM Type No. 19064	lectotype and paralectotypes	USNM			A.164o3a. || ex. Pseudaonidia || articulata || Samán, Perú || 12-22-12 - Rust
Signiphora lutea	USNM 763066		USNM	-5.2	-80.63333	3481o3A || Piura || Dec 18/91 || -R.
Signiphora maculata	USNM 763073		USNM	18.6	-72.28333	Reared in associ- || ation with Ahytis [sic] || from manioc scale || Damien, Haiti || Jan 27-1930 || H. L. Dozier
Signiphora maculata	USNM 763074		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763075		USNM	22.978229	-82.37782	Santiago de las Vegas || Cuba || June 2, 1911 || Coll. P. Cardin ++ 3Fs || Homotypes ++ 1231 Mayo 1911
Signiphora maculata	USNM 763076		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763077		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763078		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763079		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763080		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763081		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763082		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763083		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	USNM 763084		USNM	18.6	-72.28333	Reared from manioc scale || Damien, Haiti || Jan 29-1930 || H. L. Dozier
Signiphora maculata	INHS 72495	paratype	INHS	22.978229	-82.37782	Santiago de las Vegas || Cuba || June 1, 1911 || Coll. P. Cardin ++ Paratype || Signiphora maculata 4F Girault ++ 4Fs 45,084 || Cotype || S.1517
Signiphora maculata	USNM Type 14203	lectotype and paralectotypes	USNM	22.978229	-82.37782	Santiago de las Vegas || Cuba || June 1, 1911 || Coll. P. Cardin ++ Paratype || Signiphora maculata 4F Girault ++ 4Fs 45,084 || Cotype || S.1517
Signiphora merceti	MHNG ENTO 00009850		MHNG	36.7631	3.0506	Alger || 20.xii.1926 || Ex. Hemiberlesia cammetiae || Coll. Balach --- ? ++ No 7

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora merceti	BMNH(E) #990190		BMNH	6.35	2.4333	P.R. Benin || Cotonou || 11.xi.1980 || Ex. Diaspidid || On: cassava || CIE A2137 || 29 Nov 90
Signiphora merceti	USNM ENT 763091		USNM	-32.828056	-71.176111	La Cruz, Chile || Jan 5, 1966 || Ex. Aspidiotus sp. || Coll. S. Rojas
Signiphora merceti	MHNG ENTO 00009852		MHNG	43.5808	7.1239	France || Antibes || Bénassy ++ Hôte: Hemiberlesia || rapax || Sur fruits d'Arbustus unedo || ANTIBES, Janv. 1956
Signiphora merceti	BMNH(E) #990191		BMNH	33.1	35.5167	Israel || Malkiyya || 20.xi.1987 || Yael Argov ++ Ex. Hemiberlesia || rapax || On: kiwi fruit || CIE A19474/1/2
Signiphora merceti	BMNH(E) #990195		BMNH	33.1	35.5167	Israel || Malkiyya || 20.xi.1987 || Yael Argov ++ Ex. Hemiberlesia || rapax on || kiwi fruit || CIE A19474/1/1
Signiphora merceti	BMNH(E) #990192		BMNH	-0.0667	34.8167	Kenya: Kibos || Cotton Res. 8th || iv.88 || Ex. Aonidomytilur albus (cockerell) || On: cassava || Coll. A.M. Mambiri ++ CIE A1983217 ++ AP prep/det x.88
Signiphora merceti	MHNG ENTO 00009851		MHNG	34.02	-6.83	Maroc || Rabat || xii.1927 || Ex. Hemiberlesia || cameliae || Sur.| Morus alba || Coll. J. de LePiney ++ B48
Signiphora merceti	BMNH(E) #990193		BMNH	-35.2167	173.9667	New Zealand ND || Kerikeri || Smiths Nursery || 21 Jan 1988 || G. Hill/U. Gerson ++ reared ex. Hermiberlesia || lataniae ++ N.Z. Arthropod || Collection, NZAC || Entomology Div. || DSIR, Auckland || New Zealand ++ AP prep/det ii.88
Signiphora merceti	BMNH(E) #990194		BMNH	-41.2833	173.2833	Nelson DSIR NN || 20.iv.72 || E.W. Valentine ++ Hemiberlesia || rapax: Carmichaelia || williamsi ++ N.Z. Arthropod || Collection, NZAC || Entomology Div. || DSIR, Auckland || New Zealand ++ AP prep/det ii.88
Signiphora merceti	NZAC_04048993		NZAC	-41.2833	173.2833	New Zealand || Nelson || iv-21-1972 || Ex. Hemiberlesia || rapax || On: Carmichaela || williamsi || Coll. E.W. Valentine || Sample 1848
Signiphora merceti	NZAC_04048815		NZAC	-41.2833	173.2833	New Zealand, || Nelson || iv-21-1972 || Ex. Hemiberlesia rapax || On: Carmichalea || williamsia || Coll. E.W. Valentine || Sample 1848
Signiphora merceti	USNM ENT 763095		USNM			Portugal (Boston || POE) || Dec 11, 1951 || Par. Of young scales || Coll. Hodson-Lantz || 52-1103
Signiphora merceti	UCRC ENT 299391		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || iv-15-1920 || Ex. Diaspine parasites || On: Red berries of an unknown tree || Coll. Rust ++ Hyper
Signiphora merceti	UCRC ENT 299392		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || iv-15-1920 || Ex. Diaspine parasites || On: Red berries of an unknown tree || Coll. Rust ++ Hyper
Signiphora merceti	UCRC ENT 299393		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || iv-15-1920 || Ex. Diaspine parasites || On: Red berries of an unknown tree || Coll. Rust
Signiphora merceti	UCRC ENT 299394		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || Apr 5, 1925 || Ex. Coccophagus || Coll. Rust
Signiphora merceti	UCRC ENT 299395		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || Mch 25, 1925 || Ex. Coccophagus || Coll. Rust
Signiphora merceti	UCRC ENT 299402		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || Mch 31, 1925 || Ex. Coccophagus || Coll. Rust
Signiphora merceti	UCRC ENT 299403		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || Dec. 21,22' || Ex. parasites of || black scale || Coll. Rust
Signiphora merceti	UCRC ENT 299404		UCR	-33.95	18.3833	Rosebank, C.P. || So. Africa || Mch 25, 1925 || Ex. Coccophagus || Coll. Rust
Signiphora merceti	UCRC ENT 299389		UCR	-33.95	18.3833	Ex. Coccophagus sp. || in Saissetia perseae || Comp's Bay C.P. || So. Africa || July 19, 1925 Rust
Signiphora merceti	UCRC ENT 299390		UCR	-33.95	18.3833	Ex. Coccophagus || Rosebank, C.P. || So. Africa || Apr 7, 1925 || Rust
Signiphora merceti	UCRC ENT 299396		UCR	-33.95	18.3833	Comp's Bay C.P. || So. Africa || July 2, 1925 || Ex. Coccophagus sp. || in Saissetia perseae || Coll. Rust
Signiphora merceti	UCRC ENT 299405		UCR	-33.9167	18.4167	Cape Town || So. Africa || March 12, 1925 || Coll. Rust
Signiphora merceti	UCRC ENT 299398		UCR			724A XII (SIC) [= reared from black scales coll. in South Africa, Calif. State Insectary]
Signiphora merceti	UCRC ENT 299399		UCR			724A XII (SIC) [= reared from black scales coll. in South Africa, Calif. State Insectary]
Signiphora merceti	UCRC ENT 299400		UCR			724A XII (SIC) [= reared from black scales coll. in South Africa, Calif. State Insectary]
Signiphora merceti	UCRC ENT 299401		UCR			South Africa || (South Africa) || Blk Scale || Material [XII || Calif. State Insectary No. 724A]
Signiphora merceti	UCRC ENT 299935		UCR			State Insectary || Calif. 662A ++ Ex. Lot of black || scales, S. Africa
Signiphora merceti	UCRC ENT 299936		UCR			State Insectary || Calif. 724
Signiphora merceti	UCRC ENT 299937		UCR			State Insectary || Calif. 728
Signiphora merceti	UCRC ENT 299938		UCR			State Insectary || Calif. 724
Signiphora merceti	UCRC ENT 299939		UCR			State Insectary || Calif. 724
Signiphora merceti	USNM ENT 763094		USNM	36.9163957	-2.4403012	[Est. de P. Vegetal / Almeria] Fr. Chrysompha- || lus dictyospermi || in Ceratonia siliqua ++ Pechina 7-1926
Signiphora merceti	MNCN_Ent No.71293	holotype	MNCN	43.441389	-3.4575	Santoña || 8-916
Signiphora merceti	UCRC ENT 299146		UCR	33.972905	-119.737258	Canada del || Puerto, Santa Cruz Is. || Sept 15, 1964 || Ex. Hemiberlesia rapax || Det. Argyriou || On: Willow (salix) || Coll. P. DeBach || SB-64-9-169
Signiphora merceti	UCRC ENT 299148		UCR	33.542468	-117.784774	Laguna Cyn || July 10, 1965 || Ex. Chionaspis || On: Willow || Coll. P. DeBach
Signiphora merceti	UCRC ENT 299385		UCR	33.680354	-117.754955	CA. Orange Co. || Irvine Ranch || xi-18-1980 || Ex. L. Beckii & ? || On: Valencias || Coll. Rose || Min. treat blk 133

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora merceti	UCRC ENT 299386		UCR	34.206399	-119.158157	CA Ventura Co. | | Oxnard, Muelhardt Ranch | | x-17-1980 | | Ex. Hemiberlesia | | rapax | | Det. Ewart 1982 | | On: Lemon fruits | | Coll. Rose
Signiphora merceti	UCRC ENT 299387		UCR	34.206399	-119.158157	CA Ventura Co. | | Oxnard, Muelhardt Ranch | | x-17-1980 | | Ex. Hemiberlesia | | rapax | | Det. Ewart 1982 | | On: Lemon fruits | | Coll. Rose
Signiphora merceti	UCRC ENT 299388		UCR	34.206399	-119.158157	CA Ventura Co. | | Oxnard, Muelhardt Ranch | | x-16-1980 | | Ex. Hemiberlesia | | rapax | | Det. Ewart 1982 | | On: Orange fruits | | Coll. Rose
Signiphora merceti	UCRC ENT 299406		UCR	34.4208	-119.6982	Santa Barbara | | Nov. 26, 1957 | | Ex. Hemiberlesia | | rapax | | On: lemon | | Coll. DeBach
Signiphora merceti	UCRC ENT 299407		UCR	34.3542	-119.0593	Santa Paula | | 8/10/51 | | Ex. Greedy scale (Limoniera) | | On: Valencia | | Coll. DeBach
Signiphora merceti	UCRC ENT 299408		UCR	33.7456	-117.8678	613 Lucy | | Santa Ana | | July 9, 1913 | | On: Orange | | Coll. Bascom | | Lot No. 100
Signiphora merceti	UCRC ENT 299409		UCR	34.236215	-119.166879	317 Stroube | | El Rio | | June 4, 1963 | | Ex. California | | Red scale | | On: Valencia orange | | Coll. Bascom | | Lot No. 324
Signiphora merceti	UCRC ENT 299410		UCR	33.752836	-117.857071	902 N. Logan | | Santa Ana | | Oct 3, 1963 | | On: Valencia orange | | Coll. Bascom | | Lot No. 56
Signiphora merceti	UCRC ENT 299411		UCR	33.900944	-118.402298	3528 Maple | | Manhatten Beach | | Dec 17, 1963 | | On: Valencia orange | | Coll. Bascom | | Lot No. 194
Signiphora merceti	UCRC ENT 299412		UCR	33.5017	-117.6626	Ruth Sewart | | San Juan Capistrano | | May 14, 1963 | | Ex. California | | Red scale | | On: Valencia orange | | Coll. Bascom | | Unsure Mid-tibia | | Lot No. 90
Signiphora merceti	UCRC ENT 299413		UCR	35.2828	-120.6596	San Luis Obispo | | 3/12/51 | | Ex. Frosted scale | | (some walnut scale present) | | Coll. Ortega
Signiphora merceti	UCRC ENT 299414		UCR	32.683561	-117.174708	1504 Glorietta | | Coronado Is. | | San Diego, Calif. | | vii-19-1975 | | On: ornamental | | Coll. Rose
Signiphora merceti	UCRC ENT 299415		UCR	32.683561	-117.174708	1504 Glorietta | | Coronado Is. | | San Diego, Calif. | | vii-19-1975 | | On: ornamental | | Coll. Rose
Signiphora merceti	UCRC ENT 299416		UCR	33.5006	-117.7431	South Laguna | | Calif. | | 12-xi-1966 | | Ex. Greedy scale | | On: ornamentals | | Coll. DeBach | | 0-66-12-116
Signiphora merceti	UCRC ENT 299417		UCR	33.5006	-117.7431	South Laguna | | Calif. | | 12-xi-1966 | | Ex. Greedy scale | | On: ornamentals | | Coll. DeBach | | 0-66-12-11a
Signiphora merceti	UCRC ENT 299418		UCR	34.332674	-119.122123	Santa Paula | | Limoneira Ranch | | 8/10/57 | | Ex. Greedy scale | | On: Valencia | | Coll. DeBach
Signiphora merceti	UCRC ENT 299419		UCR	33.5017	-117.6626	San Juan Capistrano | | 4/9/53 | | Ex. Greedy scale | | On: Mallow | | Coll. DeBach
Signiphora merceti	UCRC ENT 299420		UCR	34.332674	-119.122123	Santa Paula | | Limoneira Ranch | | 8/10/51 | | Ex. Greedy scale | | On: Valencia | | Coll. DeBach
Signiphora merceti	UCRC ENT 299421		UCR	34.4208	-119.6982	Santa Barbara | | Jan 29, 1958 | Ex. Hemiberlesia | | rapax | | On: locust tree | | Coll. DeBach
Signiphora merceti	UCRC ENT 299422		UCR	34.4358	-119.8276	Sextone (?) | | Straw Canyon RD | | Goleta, Santa Barb. Co | | 8-2-1960 | | Ex. Calif Red scale? | | On: citrus (lemon) | | Coll. Land ++ Ex. Greedy scale?
Signiphora merceti	UCRC ENT 299423		UCR	34.2783	-119.2932	Ventura | | Calif. | | Dec 12, 1961 | | Ex. Latania scale | | On: avocado | | Coll. McMurthy | | Mount: Hoyers | | By DeBach 1961
Signiphora merceti	UCRC ENT 299424		UCR			S. Calif. | | Ex. Latania scale | | On: avocado | | Mount: Hoyers | | By Raymond 1962
Signiphora merceti	UCRC ENT 299425		UCR	34.4208	-119.6982	Santa Barbara | | Nov. 10, 1959 | | Ex. Hemiberlesia | | rapax | | On: Calif. Pepper tree | | Coll. DeBach
Signiphora merceti	UCRC ENT 299426		UCR	34.448427	-119.830491	630 Fairview Ave. | | Goleta | | Jul 27, 1965 | | Ex. California | | red scale | | On : valencia | | orange | | Coll. Hall ++ STB 65-7-27-I
Signiphora merceti	UCRC ENT 299427		UCR	32.620726	-117.07214	S.W. Corner | | 3rd & L. Sts. | | Chula Vista Calif. | | Aug 18, 1965 | | Ex. California | | Red scale | | On: Lemon | | Coll. Hall ++ SD 65-8-18-H
Signiphora merceti	UCRC ENT 299428		UCR	32.76622	-116.958938	10914 Rockwood Dr. | | El Cajon | | June 29, 1965 | | Ex. California | | red scale | | On: Valencia orange | | Coll. J. Hall ++ SD 65-6-29-B
Signiphora merceti	UCRC ENT 299429		UCR	33.423392	-117.618429	312 Del Mar | | San Clemente | | June 29, 1965 | | Ex. California | | red scale | | On: Lemon | | Coll. Bascom & Warner ++ 0-65-6-30-D
Signiphora merceti	UCRC ENT 299430		UCR	33.792057	-117.862107	324 Batavia | | Orange | | July 7, 1965 | | Ex. Greedy scale | | On: orange | | Coll. Warner ++ 0-65-7-7-N
Signiphora merceti	UCRC ENT 299431		UCR	33.80223	-117.856121	340 W Collens | | Orange | | July 1, 1965 | | Ex. California | | red scale | | On: Valencia Orange | | Coll. Warner ++ 0-65-7-7-P
Signiphora merceti	UCRC ENT 299432		UCR	33.598365	-117.867853	617 Marigold | | Corona del Mar | | July 7, 1965 | | Ex. California | | red scale | | On: lemon | | Coll. SC Warner ++ 0-65-7-7-O
Signiphora merceti	UCRC ENT 299433		UCR	33.5006	-117.7431	South Laguna | | Calif. | | 12-xi-1966 | | Ex. Greedy scale | | On: ornamentals | | Coll. DeBach ++ 0-66-12-11b
Signiphora merceti	UCRC ENT 299434		UCR	33.5006	-117.7431	South Laguna | | Calif. | | 12-xi-1966 | | Ex. Greedy scale | | On: ornamentals | | Coll. DeBach ++ 0-66-12-11a
Signiphora merceti	UCRC ENT 299435		UCR	34.3542	-119.0593	1/2 mi. W | | Santa Paula | | 9 Jun 1966 | | Ex. Greedy scale | | On: valencia orange | | Coll. S. Warner | | V-66-7-56
Signiphora merceti	UCRC ENT 299436		UCR	33.416469	-117.014194	5 mi. NE. Pala | | Calif. | | San Diego Co. | | Nov 1, 1961 | | Ex. Hemiberlesia rapax | | On: Rhus ovate | | Coll. R Van Den Bosch | | Mount Hoyers | | By Capen 1962
Signiphora merceti	UCRC ENT 299437		UCR	33.933347	-117.954133	209 Willow | | La Habra | | July 21, 1965 | | Ex. California | | Red Scale | | On: Valencia orange | | Coll. Bascom | | 0-65-7-21-G
Signiphora merceti	UCRC ENT 299438		UCR	34.231816	-119.161429	SW Corner Stroube & | | Alvarado | | El Rio, Calif. | | 27 Jul 1965 | | Ex. California | | Red scale | | On: Lemon | | Coll. Hall | | V 65-7-27-F

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora merceti	UCRC ENT 299439		UCR	33.208738	-117.244679	639 N. Santa Fe || Vista || June 16, 1965 || Ex. California || red scale || On: Valencia orange || Coll. Bascom || SD-65-6-17-M
Signiphora merceti	UCRC ENT 299440		UCR	33.835542	-117.894804	1601 Santa Ana St. || Anaheim, Calif. || 21 Jul 1965 || Ex. California || red scale || On: Valencia || orange || Coll. Bascom || 0-65-7-21-H
Signiphora merceti	UCRC ENT 299441		UCR	33.499123	-117.739418	31907 Lupin Place || SO. Laguna || June 29, 1965 || Ex. California || Red Scale || On: Lemon (2 oranges) || Coll. Bascom & Warner
Signiphora merceti	UCRC ENT 299442		UCR	34.393206	-119.511521	Eugenia Motel || Carpenteria Ave. || Carpenteria || July 27, 1965 || Ex. California || Red scale || On: Valencia || orange || Coll. Hall || STB 65-7-27-E
Signiphora merceti	UCRC ENT 299443		UCR	33.498636	-117.673161	32001 Del Obispo || San Juan Capistrano || 19 Aug 1965 || Ex. California || red scale || On: Valencia || orange || Coll. Bascom || 0-65-8-256
Signiphora merceti	UCRC ENT 299444		UCR	34.07328	-118.442538	Penee, U.C.L.A. || Dec 1949 || Ex. Aspidiotus lataniae
Signiphora merceti	UCRC ENT 299445		UCR	34.2831	-119.1498	Saticoy, Calif. || 1.28.25 || Ex. Aspidiotus || juglans-regiae
Signiphora merceti	UCRC ENT 299446		UCR	33.9792	-118.0328	Cloth-house, Whittier, CA LA Co. || Coll. H. Compere
Signiphora merceti	UCRC ENT 299447		UCR	34.0953	-118.127	Alhambra || 10/27/21 || Coll. H. Compere
Signiphora merceti	UCRC ENT 299448		UCR	34.1617	-118.0528	Sierra Madiera || Canyon, Calif. || March 19, 1923 || Associating with || a diaspinae scale || Coll. H. Compere
Signiphora merceti	UCRC ENT 299449		UCR			S. Calif. || Nov 25, 1931
Signiphora merceti	UCRC ENT 299450		UCR	34.0522	-118.2437	Los Angeles, Co. || July 5, 1924 || Ex. Aspidiotus || rapax || sent in by H.M. Armitage
Signiphora merceti	UCRC ENT 299451		UCR	33.8353	-117.9145	Orange Co., Dept Agr. || March 8, 1955 || Ex. Latania scale || On: avocado || Coll. K. Arakawa
Signiphora merceti	UCRC ENT 299452		UCR	32.805609	-117.250258	1203 Wilbur St. || Pacific Beach || July 2, 1963 || Ex. California || red scale || On: lemon/orange || Coll. Warner || Lot No. 59
Signiphora merceti	UCRC ENT 299453		UCR	33.649708	-117.766585	6452 Laguna Rd. || Irvin || July 9, 1963 || Ex. California || red scale || On: Valencia orange || Coll. Bascom || Lot No. 99
Signiphora merceti	UCRC ENT 299454		UCR	34.395021	-119.517336	5305 8th St. || Carpenteria || Nov 14, 1963 || Ex. Red || scale || On: Lemon || Coll. Bascom || Lot No. 335
Signiphora merceti	UCRC ENT 299455		UCR	34.2164	-119.0376	Camarillo || Ventura Co., Calif. || Feb 2, 1965 || Ex. Greedy || scale || On: Valencia orange || Coll. E.S. Dietrich || V-2-2-65
Signiphora merceti	UCRC ENT 299456		UCR	33.968374	-118.357856	256 Beach Ave || Englewood || July 8, 1968 || On: Grapefruit || Coll. Bascom || THY 4-14 ++ Lot No. 293
Signiphora merceti	UCRC ENT 299457		UCR	33.546608	-117.789275	372 Jasmine St. || Laguna || July 9, 1963 || Ex. California || red scale || On: Valencia orange || Coll. Bascom || Lot No. 96
Signiphora merceti	UCRC ENT 299458		UCR	33.4625	-117.6717	Capistrano Beach || Calif. || ix-18-1976 || Ex. Hemiberlesia || rapax || On: Jerusalem cherry || Coll. DeBach
Signiphora merceti	UCRC ENT 299459		UCR	34.1397	-118.0353	Arcadia, Cal. || Oct 23, 1922 || On window || brush from || Coll. H.C.
Signiphora merceti	UCRC ENT 299460		UCR	33.5006	-117.7431	So. Laguna, Calif. || xii-31-1976 || Ex. Hemiberlesia || rapax? || Det. DeBach 1977 || On: Sumac-Rhus sp? || Coll. P. DeBach
Signiphora merceti	UCRC ENT 299461		UCR	33.5006	-117.7431	So. Laguna, Calif. || xii-31-1976 || Ex. Hemiberlesia || rapax || Det. DeBach 1977 || On: Sumac-Rhus || Coll. P. DeBach
Signiphora merceti	UCRC ENT 299462		UCR	32.9595	-117.2653	Del Mar || Calif. || 17-i-1974 || Ex. Hemiberlesia || rapax || On: Lemon || Coll. M. Rose
Signiphora merceti	UCRC ENT 299463		UCR	33.5006	-117.7431	South Laguna || Calif. || 12-xi-1966 || Ex. Greedy scale || On: ornamentals || Coll. DeBach ++ 0-66-12-11a
Signiphora merceti	UCRC ENT 299464		UCR	33.1192	-117.0864	Escondido || Aug 5, 1964 || Ex. Greedy || scale || On: citrus || Coll. J. Hall ++ C007 C011 812
Signiphora merceti	UCRC ENT 299465		UCR	33.4625	-117.6717	Capistrano Beach
Signiphora merceti	USNM ENT 763086		USNM	38.09566	-122.272475	51-2034-Calif. 51B37 || Mare Isl., Solano Co. || Calif. || Ex. A camelliae
Signiphora merceti	USNM ENT 763087		USNM	38.09566	-122.272475	51-2034-Calif. 51B37 || Mare Isl., Solano Co. || Calif. || Ex. A camelliae
Signiphora merceti	USNM ENT 763092		USNM	37.8869	-122.2977	Ex. Greedy scale || Albany, Calif. || Dec 1950 || C.E. Kennett
Signiphora merceti	USNM ENT 763093		USNM	37.8869	-122.2977	Ex. Greedy scale || Albany, Calif. || Dec 1950 || C.E. Kennett
Signiphora merceti	BMNH(E) #990189		BMNH	34.206399	-119.158157	CAL: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det. W. Ewart 1982 || On: Orange fruits || Coll. M. Rose || No 80/083
Signiphora merceti	BMNH(E) #990196		BMNH	34.206399	-119.158157	CAL: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det. W. Ewart 1982 || On: Orange fruits || Coll. M. Rose || No 80/083
Signiphora merceti	BMNH(E) #990197		BMNH	34.206399	-119.158157	CAL: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det. W. Ewart 1982 || On: Orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0460315		TAMU	34.206399	-119.158157	CA Ventura Co. || Oxnard, Muelhardt Ranch || x-16-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: Orange fruits || Coll. Rose || 80/083
Signiphora merceti	TAMU-ENTO X0460316		TAMU	34.206399	-119.158157	CA Ventura Co. || Oxnard, Muelhardt Ranch || x-16-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: Orange fruits || Coll. Rose || 80/083

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora merceti	TAMU-ENTO X0460317		TAMU	34.206399	-119.158157	CA Ventura Co. || Oxnard, Muelhardt Ranch || x-16-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: Orange fruits || Coll. Rose || 80/083
Signiphora merceti	TAMU-ENTO X0460318		TAMU	34.206399	-119.158157	CA Ventura Co. || Oxnard, Muelhardt Ranch || x-17-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: Lemon fruits || Coll. Rose || 80/083
Signiphora merceti	TAMU-ENTO X0460319		TAMU	34.206399	-119.158157	CA Ventura Co. || Oxnard, Muelhardt Ranch || x-16-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: Orange fruits || Coll. Rose || 80/083
Signiphora merceti	TAMU-ENTO X0827962		TAMU	34.206399	-119.158157	CA Ventura Co. || Oxnard, Muelhardt Ranch || x-17-1980 || Ex. Hemiberlesia || rapax || Det. Ewart 1982 || On: Lemon fruits || Coll. Rose || 80/083
Signiphora merceti	TAMU-ENTO X0827963		TAMU	34.206399	-119.158157	CAL: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det. W. Ewart 1982 || On: Orange fruits || Coll. M. Rose ++ No. 80/083
Signiphora merceti	TAMU-ENTO X0827964		TAMU	34.206399	-119.158157	CAL: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det. W. Ewart 1982 || On: Orange fruits || Coll. M. Rose ++ No. 80/083
Signiphora merceti	TAMU-ENTO X0827965		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827966		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827967		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827968		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827969		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827970		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827971		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827972		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827973		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827974		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827975		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827976		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827977		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827978		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827979		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827980		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827981		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827982		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827983		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827984		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose ++ 80/083
Signiphora merceti	TAMU-ENTO X0827985		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827986		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827987		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora merceti	TAMU-ENTO X0827988		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827989		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827990		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827991		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827992		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827993		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827994		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || 16.x.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827995		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827996		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827997		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827998		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0827999		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0828000		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0828001		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || xii.3.1980 || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0828002		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0828003		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	TAMU-ENTO X0828004		TAMU	34.206399	-119.158157	Calif: Ventura Co. || Oxnard, Meulhardt Ranch || Ex. Hemiberlesia || rapax || Det W. Ewart 1982 || On: orange fruits || Coll. M. Rose
Signiphora merceti	USNM 763505		USNM	38.09566	-122.272475	Mare Isl., Calif. || Feb.7,1951 || ex. A. camelliae ++ Calif. 51837 ++ Thysanus || merceti (Mel.) || Burks '51
Signiphora merceti	CASENT 2212700		CAS	37.921676	-122.299756	El Cerrito, Contra Costa County, Cal. 5 Nov. 1976, James B. Johnson, adult emerged 7 Dec 1976, ex Aspidiotus hederae on ivy
Signiphora merceti	CASENT 2212701		CAS	37.921676	-122.299756	El Cerrito, Contra Costa County, Cal. 5 Nov. 1976, James B. Johnson, adult emerged 7 Dec 1976, ex Aspidiotus hederae on ivy
Signiphora merceti	UCRC ENT 299456		UCR	26.928996	-82.362776	256 Beach Ave || Englewood || July 8, 1968 || On: Grapefruit || Coll. Bascom || THY 4-14 ++ Lot No. 293
Signiphora merceti	USNM ENT 763085		USNM	29.9546	-90.0751	New Orleans, LA || July 13, 1923 || Ex. Chrysomphalus || aonidum Linn || Coll. H.K. Plank || Quaintance No. 24042
Signiphora merceti	USNM ENT 763088		USNM	29.9546	-90.0751	New Orleans, LA || July 11, 1923 || Ex. Chrysomphalus || dietyespermi Morg. || Coll. H.K. Plank || Quaintance No. 24027
Signiphora merceti	USNM ENT 763089		USNM	-34.8581	-56.1708	Montevideo, Uruguay || SA Par Lab #572 || I.D. Lot #42-7933 || 1942 || Ex. wax scale || Coll. H.L. Parker
Signiphora merceti	USNM ENT 763090		USNM	-34.8853	-56.0606	Carrasco, Uruguay || Apr 5, 1943 || I.D. Lot # 43-20011 || Ex. scale Baccharis sp. || Coll. H.L. Parker #800-2
Signiphora merceti	USNM 763506		USNM	-34.8853	-56.0606	Carrasco || Uruguay || H.L.Parker || #800-2
Signiphora merceti	USNM ENT 763507		USNM	-34.8581	-56.1708	No 1170.29 Montevideo || So Amer. Paras. Lab || Date 4.9-45 Host || Berry
Signiphora merceti	USNM ENT 763508		USNM	-34.8581	-56.1708	No 1170.29 Montevideo || So Amer. Paras. Lab || Date 4.9-45 Host || Berry
Signiphora merceti	UCRC ENT 299397		UCR			Ex. South African || material || Nov. 29, 1924 || EW Rust, coll.
Signiphora merceti	UCRC ENT 299147		UCR	34.003611	-119.726389	Ridge Rd. 2 mile || Laguna Turnoff, Santa Cruz Is. || Sept 14, 1964 || Ex. Aspidiotus hederae || Hemiberlesia rapax || Det. Argyriou 1965 || On: Manzanita || Coll. P. DeBach || SB-64-9-16C
Signiphora perpauca	QMB Type HY/2967	holotype	QM	-18.636043	146.169085	Australia, Queensland, Seymour (Ingham), forest, 20-II.
Signiphora perpauca	USNM ENT 763106		USNM	-31.433	-62.0833	Argentina || San Francisco #25913 || May 3, 1969 || Ex. Scale Chrysomphalus || On: orange || ID Lot 49-6381
Signiphora perpauca	TBA (MLPA)		MLPA	-27.75	-57.616667	G. Paz || (Corrientes) || s/ Chrysomphalus aonicum [sic] Linn. || leg. Esquivel || ii/1947

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora perpauca	UCRC ENT 299506		UCR	-26.8167	-65.2167	Tucuman || Argentina || iv-16-1970 || Ex. Chrysomphalus || ficus || On: sour orange || Coll. P. DeBach
Signiphora perpauca	UCRC ENT 299507		UCR	-26.8167	-65.2167	Horca Molle || Tucuman, Argentina || 28 Mar 1966 || Ex. Aonidiella || aurantii || Coll. A. Teran || No. 2
Signiphora perpauca	BMNH(E) #990220		BMNH	-26.6333	152.8667	Latania scale || in avocado || AUSTRALIA || Mableton, Qld. || 16.vi.1986 N4754 || G.K. Waite || 15336 ++ AP prep/det viii.87 || CIE A19109/15336
Signiphora perpauca	UCRC ENT 299499		UCR	-7.083	-40.0833	primary ectoparasite of || Chrysomphalus aonidum || On: citrus || Belo Horizonte Minas || Gerais, Brazil || April 30, 1962 || Coll. DeBach
Signiphora perpauca	UCRC ENT 299500		UCR	-7.083	-40.0833	primary ectoparasite of || Chrysomphalus aonidum || On: citrus || Belo Horizonte Minas || Gerais, Brazil || April 30, 1962 || Coll. DeBach
Signiphora perpauca	UCRC ENT 299487		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Brazil || July 9, 1962 || On: Lime || Coll. DeBach || Lot. BR 38
Signiphora perpauca	UCRC ENT 299488		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Brazil || July 9, 1962 || On: Lime || Coll. DeBach || Lot. BR 38
Signiphora perpauca	UCRC ENT 299490		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Pernambuco || June 20, 1962 || Ex. Hemiberlesia (?) || On: olive || Coll. P. DeBach || Mount: Hoyers || By Raymond 1962 ++ R-62-46 orig.
Signiphora perpauca	UCRC ENT 299491		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Pernambuco || June 20, 1962 || Ex. Hemiberlesia (?) || On: olive || Coll. P. DeBach || Mount: Hoyers || By Raymond 1962 ++ R-62-46 orig.
Signiphora perpauca	UCRC ENT 299498		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Brazil || Apr 14, 1962 || Ex. Hemiberlesia || lataniae (Signoret) || Det. L. Argyriou || On: olive || Coll. DeBach || Lot No. 18
Signiphora perpauca	UCRC ENT 299501		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On:orange || Coll. P. DeBach || Lot No. 16
Signiphora perpauca	UCRC ENT 299502		UCR	-8.757778	-38.963889	Sao Francisco || Belem, Brazil || Apr 14, 1962 || Ex. Chrysomphalus || aonidum || On:orange || Coll. P. DeBach || BR 16
Signiphora perpauca	UCRC ENT 299470		UCR	-22.874831	-43.245474	Brazil || Rio de Janeiro || Oswaldo Cruz || Institute || 28-iii-1962 || Ex. Diaspidid || scale on || ficus hedge || Coll. P. DeBach
Signiphora perpauca	UCRC ENT 299471		UCR	-8.902583	-36.494186	Brazil || Rio de Janeiro || Univ. Rural || 21-v-1962 || Ex. Aonidum || On: orange || Coll. P. DeBach
Signiphora perpauca	UCRC ENT 299472		UCR	-22.811472	-43.628687	Thysanus sx || mixed scales on || citrus maxima. Rural || University, Kilometer 47, || Rio de Janeiro, Brazil || March 25, 1962, DeBach coll. || Chaff scale + Greedy scale (?) present || same as vial #21
Signiphora perpauca	UCRC ENT 299483		UCR	-22.811472	-43.628687	Rural University, Kilometer 47 || Rio de janeiro, Brazil || Apr 25,1962 || Ex. Hemiberlesia || Lataniae (Signorey) || On: Ornamental Palm || Coll. DeBach
Signiphora perpauca	UCRC ENT 299484		UCR	-22.811472	-43.628687	Rural University || Rio de J State, Brazil || July 13, 1962 || On: Coconut Palm || Coll. DeBach || Lot No. 44
Signiphora perpauca	UCRC ENT 299485		UCR	-22.811472	-43.628687	Rural University || Rio de J State, Brazil || June 19, 1962 || Ex. Aonidiella || aurantii || On: Morus alba || Coll. Charles Robbs || BR37
Signiphora perpauca	UCRC ENT 299486		UCR	-22.811472	-43.628687	Rural University || Rio de J State, Brazil || Mar 12, 1962 || Ex. Chrysomphalus || aonidum || On: Orange || Coll. DeBach || No. BR 5
Signiphora perpauca	UCRC ENT 299497		UCR	-22.7097	-43.5747	Queirnados, || Rio de J. state, Brazil || Mar 16 1962 || Host: Chrysomphalus aonidum || on citrus || coll. DeBach ++ Lot No. BR1
Signiphora perpauca	BMNH(E) #990205		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 16.vi.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990206		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 2.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990207		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vi.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990208		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 8.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990209		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 24.xi.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990210		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 16.vi.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990211		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 12.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990212		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 31.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990213		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 30.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990214		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 23.vi.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990215		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990216		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 8.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990217		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 23.xi.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990218		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 30.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	BMNH(E) #990219		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 30.x.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora perpauca	NHMUK 010370265		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 18.xi.1949 ++ F. Plaumann Coll. || B.M.1957-341

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora perpauca	NHMUK (TBD)		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 30.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora perpauca	NHMUK 010370264		BMNH	-27.05	-52.4	BRAZIL: Sta. Catarina, || Nova Teutonia || 9.x.1949 ++ F. Plaumann Coll. || B.M.1957-341
Signiphora perpauca	UCRC ENT 299494		UCR	-22.7167	-47.6333	Piricicaba [sic] || Sao Paulo State, Brazil || May 13, 1962 || Ex. Chrysomphalus || Aonidum || On: citrus || Coll. DeBach ++ Lot No. 28
Signiphora perpauca	UCRC ENT 299495		UCR	-22.7167	-47.6333	Piricicaba [sic] || Sao Paulo State, Brazil || May 13, 1962 || Ex. Chrysomphalus || Aonidum || On: citrus || Coll. DeBach || Same as vial #27
Signiphora perpauca	UCRC ENT 299496		UCR	-21.0333	-48.2167	Pitangueiras || Sao Paulo State, Brazil || May 15 1962 || Host: Acutaspis || scutiformis || on lemon || coll. DeBach ++ Lot No 29
Signiphora perpauca	UCRC ENT 299503		UCR	-21.0333	-48.2167	Pitanqueiras [sic] || Sao Paula [sic] State Brazil || May 15, 1962 || Ex. Calif. Red scale || On: lemon || R 62-45-5 || Coll. DeBach orig. || Mount: Hoyers || By: Raymond 1962
Signiphora perpauca	UCRC ENT 299504		UCR	-21.0333	-48.2167	Pitanqueiras [sic] || Brazil || June 15, 1962 || Ex. Aon. Aurantii || On: lemon || R 62-45-5 || Coll. P DeBach || Mount Hoyers || By: Raymond 1962 || Insectary Host unknown
Signiphora perpauca	UCRC ENT 300237		UCR	-21.0333	-48.2167	Thysanus meconia || on Aonidiella aurantii || May 15, 1962 on lemon || Pitangueiras, Sao Paulo || Brazil – DeBach || primary parasite
Signiphora perpauca	UCRC ENT 300238		UCR	-21.0333	-48.2167	Thysanus evidence || as primary on Aonid-||iella aurantii on lemon || Pitangueiras, Sao Paulo || Brazil May 17, 1962 || DeBach
Signiphora perpauca	UCRC ENT 300239		UCR	-21.0333	-48.2167	Thysanus || dissected as a primary || unemerged ectoparasite || of Aonidiella aurantii || on lemon: Pitangueiras || Sao Paulo, Brazil || May 15, 1962 || coll DeBach
Signiphora perpauca	UCRC ENT 299481		UCR	-22.564722	-47.401667	Brazil || Limeira || 8-iii-1958 || Presumed collected by beating || Prep. 100-439
Signiphora perpauca	UCRC ENT 299482		UCR	-22.564722	-47.401667	Brazil || Limeira || 8-iii-1958 || Presumed collected by beating || Coll. S.E. Flanders || Prep. 100-438 ++ S&R 1802 (ii&iii)
Signiphora perpauca	UCRC ENT 299505		UCR			SoR 1804-II-I || Brazil || Flanders
Signiphora perpauca	UCRC ENT 299467		UCR	-33	-71.2	Olume, Chile || xi-12-1969 || Ex. Aspidiotus || hederae || No 52
Signiphora perpauca	UCRC ENT 299468		UCR	-33	-71.2	Olume, Chile || xii-23-1969 || Ex. Aspidiotus || hederae || Coll. E. Zuniga ++ No. 47
Signiphora perpauca	UCRC ENT 299473		UCR			Sun Tsuen || Hong Kong || 12/29/1956 || Ex. A citrina || On: wampei || Coll. Cheng ++ S&R 1672
Signiphora perpauca	USNM ENT 763103		USNM	22.8633	-82.6736	E.E.A. Ent No. 108932 || de aleyrodido en || marabu || Capaerila, Habana || 1-3-37 || L.C. Scavenia (?) Iza, coll. || Chalcidoidea
Signiphora perpauca	USNM ENT 763104		USNM	22.8633	-82.6736	Cuba (NY Port || of Entry) || Aug 6, 1937 || Ex. scale || On: avocado
Signiphora perpauca	TAMU-ENTO X0852771		TAMU	30.361047	31.192863	Qualyaba G. Egypt || Tukh Stop #1 || 27.v.1990 || Ex. Parabemesla || myricae || On: citrus || Coll. H.W. Browning ++ J13 200
Signiphora perpauca	UCRC ENT 299480		UCR	-16.44	-151.75	Tahiti || Bora Bora || 21-vii-1982 || Sweeping grasses || Coll. H. Andersen
Signiphora perpauca	USNM ENT 763107		USNM	18.6	-72.28333	Damien, Haiti || June 18, 1931 || Ex. Asterolecanium pustulans || On: oleander || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763108		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 13, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763109		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 13, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763110		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 8, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763111		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 15, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763112		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 15, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763113		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 17, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763114		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 15, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763115		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 11, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763116		USNM	18.4506	-72.2869	Kenskoff || Haiti || Dec 15, 1930 || Ex. Pulvinaria pyriformis || On: avocado || Coll. H.L. Dozier
Signiphora perpauca	USNM ENT 763026		USNM	26.75	94.2167	Jorhat, India || Nov 1974 || Ex. Fiorinia || theae || On: tea v 4 || Coll. T. Sankaran
Signiphora perpauca	TAMU-ENTO X0828006		TAMU	19.286517	-102.05349	Mex: Michoacan || 10 mi. S Urapam || 7.vii.1985 || Host: ? Chionaspis || On: pine ++ Coll. J. Woolley || No 85/039
Signiphora perpauca	UCRC ENT 299593		UCR	23.2167	-106.4167	Mazatlan || Mexico || viii-10-1969 || Ex. Wooly || Whitefly || On: citrus || Coll. P. DeBach ++ No R69-64
Signiphora perpauca	UCRC ENT 299594		UCR	23.2167	-106.4167	Mazatlan || Mexico || viii-10-1969 || Ex. Wooly || Whitefly || On: citrus || Coll. P. DeBach ++ No. R69-64
Signiphora perpauca	BMNH(E) #990306		BMNH			New Guinea
Signiphora perpauca	UCRC ENT 299469		UCR	9.4333	-82.5167	Chanquinoia || Panama || July 12, 1965 || Ex. Hiberlesia || palmae (CK11) || Det G.W. Deble (?) || On: Banana || Panama parasites 1 || Coll. CS Stephens ++ hyperparasitic on tetrastichus? || Stephen letter 7/12/1965
Signiphora perpauca	UCRC ENT 299492		UCR	-13.9167	-75.9667	Villacuri || (Ica), Peru || 23/v/1968 || Ex. ? Aphytis on || Hemiberlesia lataniae || Det Beingolea 1968 || On: olive || Coll. O. Beingolea ++ Letter postmarked 3/xii/73 ++ No 1

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora perpauca	UCRC ENT 299493		UCR	-13.9167	-75.9667	Villacuri || (Ica), Peru || xi-1968 || Ex. Hemiberlesia lataniae || Det Beingolea 1968 || On: olive || Coll. O. Beingolea || Ltr. Pstmkd 3/xii/73 ++ No 6 || Tree treated with sulfur + lime + shell Triona (0.2&0.2&0.5 per cent)
Signiphora perpauca	TBA (MLPA)		MLPA	-14.0653	-75.7308	ICA (Peru) || ii-1971 || Ex. Hemiberlesia sp. || Coll. Valencia || 005-A
Signiphora perpauca	TAMU-ENTO X0616173		SANC	-29.857	31.019	South Africa, KwaZulu-Natal, Durban, iii.1964, C.J. Cilliers, ex: soft scale, on: Grewia sp.
Signiphora perpauca	TAMU-ENTO X0616174		SANC	-29.857	31.019	South Africa, KwaZulu-Natal, Durban, iii.1964, C.J. Cilliers, ex: soft scale, on: Grewia sp.
Signiphora perpauca	TAMU-ENTO X0616175		SANC	-29.857	31.019	South Africa, KwaZulu-Natal, Durban, iii.1964, C.J. Cilliers, ex: soft scale, on: Grewia sp.
Signiphora perpauca	UCRC ENT 299479		UCR	51.56	-0.699	Formosa || Oct 19, 52 || Coll. Maa
Signiphora perpauca	TAMU-ENTO X0852811		TAMU	14.014984	99.980539	Thailand || Kampaeng || Saen Univ. || ii.1997 || Ex. Aleurolobus || barodensis || Coll. Kosal
Signiphora perpauca	CNC HYMEN 122468		CNC	10.653934	-61.402128	TRINIDAD,W.I.,Curepe || Sta.Margarita,Circ.Rd. || 25.iii-13.iv.1974 || F.D.Bennett
Signiphora perpauca	USNM ENT 763105		USNM	38.904722	-77.016389	Ag. Gr.house, Wash D.C. || Feb 1, 1909 || Ex. Asp cyanophylli || Asp dictyospermi || On: Maranta || Coll. J.G. Sanders
Signiphora perpauca	TAMU-ENTO X0852766		TAMU	25.0865	-80.4473	FL: Munroe Co. || Key Largo || 14 VI 1992 || Ex. coccid/diaspine || Pithecoleobium || guadalupensis || Coll. FD Bennett 1390 ++ Hoyers
Signiphora perpauca	TAMU-ENTO X0852812		TAMU	29.4791	-81.6715	FL: Welacka || 24 X 1990 || Hamon/Ru/|| Rosen || ?Velutaspis on || Persea barbonia || hoyers
Signiphora perpauca	TAMU-ENTO X0852813		TAMU	25.7743	-80.1937	FL: Dade || Miami || 6 Jun 2002 || Dan Delange || Ex. Hemiberlesia || diffinis on || Swietnenia mahogani ++ det. GA Evans || 2002-4852-301
Signiphora perpauca	TAMU-ENTO X0852814		TAMU	29.4791	-81.6715	FL: Welacka || 24 X 1990 || Hamon/Nguyen/|| Rosen || Ex. Velutaspis sp. || Persea barbonia || hoyers
Signiphora perpauca	TAMU-ENTO X0852815		TAMU	29.4791	-81.6715	FL: Welacka || 24 X 1990 || Hamon/Ru/|| Rosen || ?Velutaspis on || Persea barbonia || hoyers
Signiphora perpauca	UCRC ENT 299474		UCR	21.2828	-157.8017	Kaimuki || June 3, 1913 || Ex. ? Parlatoria scale || On: avocado || Coll. O.H. Swezey
Signiphora perpauca	UCRC ENT 299475		UCR	21.2828	-157.8017	Kaimuki, Oahu || June 3, 1913 || Ex. scale || On: avocado || Coll. Swezey
Signiphora perpauca	UCRC ENT 299476		UCR	21.2828	-157.8017	Kaimuki, Oahu || June 3, 1913 || Ex. scale || On: avocado || Coll. Swezey
Signiphora perpauca	UCRC ENT 299477		UCR	21.3069	-157.8583	Honolulu || May 22, 1916 || Ex. (??) lingulus (?) material || Coll. P.H. Timberlake
Signiphora perpauca	UCRC ENT 299478		UCR	21.3069	-157.8583	Honolulu, Oahu || May 16, 1916 || Reared from velvet || bean material || Coll. P.H. Timberlake || 14726D
Signiphora perpauca	TAMU-ENTO X0856695		CTAM	21.307222	-158.070278	Barber's Point|| Oahu, T.H.|| Aug. 1954|| JW Beardsley|| reared ex|| diaspidid++Thysanus|| thoreauini|| (Girault)|| Dt. JW Beardsely
Signiphora perpauca	USNM ENT 763102		USNM	39.8221	-75.8274	Westgrove, PA || Feb 8, 1908 || Ex. Asp. ficus & A. dictyospermi || On: Kentia || Col.. A.F. Satterthwait
Signiphora perpauca	TAMU-ENTO X0828064		TAMU	30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twings || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora perpauca	TAMU-ENTO X0828065		TAMU	30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twings || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora perpauca	TAMU-ENTO X0828066		TAMU	30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twings || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora perpauca	TAMU-ENTO X0828067		TAMU	30.2672	-97.7431	TX: Travis Co. || Austin || 31.v.1987 || Ex. pecan twings || infested with || Melanaspis obscura || Coll. L.E. Ehler ++ UCD/87-4
Signiphora perpauca	USNM ENT 763101		USNM	38.0293	-78.4767	Charlottesville, VA || July 5, 1946 || Ex. No 1113 material || Coll. D.W. Clancy #2163 ++ ID Lot #46-16457
Signiphora plaumanni	BMNH(E) 990291	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ Hoyers
Signiphora plaumanni	BMNH(E) 990292	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990293	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990294	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990296	holotype	BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ ii-5
Signiphora plaumanni	BMNH(E) 990297	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990298	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990300	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990301	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990302	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341 ++ t/x trans || tii shallow
Signiphora plaumanni	BMNH(E) 990303	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990304	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 25.xi.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora plaumanni	BMNH(E) 990305	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora plaumanni	TAMU-ENTO X0609369		TAMU	-0.95508	-90.966225	Ecuador: Galapagos || St. Cruz || Academy Bay ECCD || 10.v-14.vii.1985 || 30m arid zone || thorn scrup || Malaise/FIT trap || S&J Peck || 85-155
Signiphora plaumanni	TAMU-ENTO X0609371		TAMU	-0.95508	-90.966225	Ecuador: Galapagos || St. Cruz || Academy Bay ECCD || 10.v-14.vii.1985 || 30m arid zone || thorn scrup || Malaise/FIT trap || S&J Peck || 85-155
Signiphora renuncula	CNC HYMEN 122363	paratype		-2.512317	-66.091805	Brazil, Amazonas || Fonte Boa || ix.75 || Coll. F.M. Olivera ++ vertex retic. || mid<hind tib
Signiphora renuncula	CNC HYMEN 122364	paratype		-2.509573	-66.091118	Brazil, Amazonas || Fonte Boa || ix.75 || Coll. F.M. Olivera
Signiphora renuncula	CNC HYMEN 122379	paratype		-2.512317	-66.091805	Fonte Boas || Amazonas || ix-1975 || F.M. Oliveira
Signiphora renuncula	CNC HYMEN 122380	holotype	CNC	-2.512317	-66.091805	Fonte Boas || Amazonas || ix-1975 || Coll. F.M. Oliveira
Signiphora renuncula	CNC HYMEN 122381	paratype		-2.512317	-66.091805	Fonte Boas || Amazonas || ix-1975 || Coll. F.M. Oliveira
Signiphora renuncula	CNC HYMEN 122382	paratype		-23.816443	-46.626692	Brazil || Repressa [sic] Rio || Grande || M. Alvarenga || vii-1972 || Sweep net
Signiphora renuncula	BMNH(E) 990288	paratype		-27.05	-52.4	Brazil || Nova Teutonia || 28.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora renuncula	BMNH(E) 990289	paratype		-27.05	-52.4	Brazil || Nova Teutonia || 23.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora renuncula	BMNH(E) 990290	paratype		-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 10.2.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora renuncula	BMNH(E) 990295	paratype		-27.05	-52.4	Brazil || Nova Teutonia || 7-xii-1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990227		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 19.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990228		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 25.i.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990229		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 25.i.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990231		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990232		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 25.i.1944 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990233		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 25.i.1944 || Coll. F. Plaumann || B.M. 1957-341 || ii2i7
Signiphora tridentata	BMNH(E) 990234		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 20.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990235		BMNH	-27.05	-52.4	Brazil: Sta. Catarina || Nova Teutonia || 14.xii.1949 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990237		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 25.i.1944 || Coll. F. Plaumann || B.M. 1957-341 || ii2iII
Signiphora tridentata	BMNH(E) 990239		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 19.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990240		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 22.vii.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	BMNH(E) 990241		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 26.vii.1943 || Coll. F. Plaumann || B.M. 1957-341 || 31ii12
Signiphora tridentata	BMNH(E) 990242		BMNH	-27.05	-52.4	Brazil || Nova Teutonia || 18.v.1943 || Coll. F. Plaumann || B.M. 1957-341
Signiphora tridentata	INHS 72506		INHS	17.989167	-65.886389	From eggs of || Horiola arquata [sic] || Tuna punta || F. Urich || Feb 1911 || s. 1528 [Girault's handwriting] 45,089] ++ Homotype & Plesiotype
Signiphora tridentata	UCRC ENT 299576	paratype	TAMU	10.015003	-84.727106	Prov. Puntarenas || Costa Rica || 8 km. S. Miramar || 7-xi-1980 || Screen sweeping || Coll. J.B. Woolley || No 80/097/3
Signiphora tridentata	UCRC ENT 299577	holotype	UCR	10.111852	-84.114132	Prov. Heredia || Costa Rica || 6 km N. San Jose de Montana || 5-xi-1980 || Screen sweeping || Elev 5700 ft || Coll. J.B. Woolley || No 80/088/3
Signiphora tridentata	USNM ENT 763125		USNM	9.1636	-79.8378	Barro Colorado Id. || Apr.-May, 1945 || On: ripe fruit of || Desmopsis panamensis || Coll. J. Zetek #5197 || Lot. 45-17178
Signiphora tridentata	USNM ENT 763126		USNM	9.1636	-79.8378	Barro Colorado Id. || Apr.-May, 1945 || On: ripe fruit of || Desmopsis panamensis || Coll. J. Zetek #5198
Signiphora tridentata	USNM ENT 763127		USNM	10.6333	-61.4	Curepe, Trinidad Iv.I || Oct 1966 || w. eggs clastoptera || Coll. F.D. Bennett
Signiphora tridentata	USNM ENT 763128		USNM	10.65	-61.4	Said to have para- || sitized eggs of || Tylopalta montrosa || St. Augustine, Trinidad || E.M. Calllan || Aug '43 || Lot No 43-12951 || Host is Erechtia sp. teste Beamer ++ BW_016 ++ RMNT?
Signiphora xanthographa	INTA Cotypus 688	lectotype and paralectotypes	INTA	-31.733333	-60.533333	Paraná, Entre Ríos, V-1936, ex. Aleurothrixus howardi (Quaint.), Báez.
Signiphora xanthographa	UCRC ENT 299563		UCR	-34.60778	-58.372822	Buenos Aires || Argentina || iv. 28-29.1976 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. M. Rose R76.19
Signiphora xanthographa	UCRC ENT 299564		UCR	-34.60778	-58.372822	Buenos Aires || Argentina || iv. 28-29.1976 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. M. Rose R76.19
Signiphora xanthographa	UCRC ENT 299572		UCR	-34.6	-58.5333	Solenz-Pena || Buenos Aires || Argentina || iv.26-27.1976 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. M. Rose || || R76-18 orig. mat.
Signiphora xanthographa	BMNH #990222		MLPA(?)	-32.9511	-60.6664	Rosario (S.F.) || s/ Aleirodoide en: 'coral rojo' || leg. Hack v.1947
Signiphora xanthographa	UCRC ENT 299560		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.2.1976 || Ex. Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose R76.26
Signiphora xanthographa	UCRC ENT 299561		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.2.1976 || Ex. Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose R76.26

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora xanthographa	UCRC ENT 299562		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.3.1976 || Ex. Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose R76.27
Signiphora xanthographa	UCRC ENT 299565		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.4.1976 || Ex. Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose R76.29 orig. mat.
Signiphora xanthographa	UCRC ENT 299566		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.2.1976 || Ex. Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose || R76.26
Signiphora xanthographa	UCRC ENT 299567		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.4.1976 || Ex. Aleurothrixus || floccosus || On: Citrus || Coll. M. Rose || R76.29 orig. mat.
Signiphora xanthographa	UCRC ENT 299568		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.7.1976 || Ex. Aleurothrixus || floccosus || On: Citrus-street trees || Coll. M. Rose || R76-32
Signiphora xanthographa	UCRC ENT 299569		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.7.1976 || Ex. Aleurothrixus || floccosus || On: Citrus-street trees || Coll. M. Rose || R76-32 orig. mat.
Signiphora xanthographa	UCRC ENT 299570		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.7.1976 || Ex. Aleurothrixus || floccosus || On: Citrus-street trees || Coll. M. Rose || R76-32 orig. mat.
Signiphora xanthographa	UCRC ENT 299571		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.7.1976 || Ex. Aleurothrixus || floccosus || On: Citrus-street trees || Coll. M. Rose || R76-32 orig. mat.
Signiphora xanthographa	UCRC ENT 299573		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.1976 || On: citrus || Coll. M. Rose || orig. mat.
Signiphora xanthographa	UCRC ENT 299574		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.4-8.1976 || Ex. Aleurothrixus || floccosus || On: Citrus-street trees || Coll. M. Rose || slide 3 of series 1 ++ Reared on Amitus || spinifeus R 76-33
Signiphora xanthographa	UCRC ENT 299575		UCR	-26.8167	-65.2167	Tucuman || Argentina || v.4-8.1976 || Ex. Aleurothrixus || floccosus || On: Citrus-street trees || Coll. M. Rose || orig. mat. Slide 1 of 1 ++ dev. On Amitus pupae with color || R 76-33
Signiphora xanthographa	USNM ENT 763119		USNM	-12.9833	-38.5167	Par. Aleurotrachelus || atratus || Bahia, Brazil || Gregorio Bondar coll. || no.580
Signiphora xanthographa	USNM ENT 763120		USNM	-12.9833	-38.5167	Par. Aleurotrachelus || atratus || Bahia, Brazil || Gregorio Bondar coll. || no.580
Signiphora xanthographa	USNM ENT 763121		USNM	-12.9833	-38.5167	Par. Aleurotrachelus || atratus || Bahia, Brazil || Gregorio Bondar coll. || no.580
Signiphora xanthographa	USNM ENT 763122		USNM	-20.44278	-54.64639	parasite of Aleurodid on || citrus || Campo Grande, Brazil || Coll. Parker, Berry || So. Am. Par. Lab No. 1003-45 || 45-13018
Signiphora xanthographa	USNM ENT 763123		USNM	-20.44278	-54.64639	parasite of Aleurodid on || citrus || Campo Grande, Brazil || Coll. Parker, Berry || So. Am. Par. Lab No. 1003-45 || 45-13018
Signiphora xanthographa	UCRC ENT 299533		UCR	-7.55	-34.9833	Goiana || Pernambuco, Brazil || Apr 10, 1962 || Ex. Aleurothrixus || floccosus (Maskell) || On: citrus || Coll. DeBach || Lot No. 15
Signiphora xanthographa	UCRC ENT 299534		UCR	-7.55	-34.9833	Goiana || Pernambuco, Brazil || Apr 10, 1962 || Ex. Aleurothrixus || floccosus (Maskell) || On: citrus || Coll. DeBach || Lot No. 15
Signiphora xanthographa	UCRC ENT 299535		UCR	-7.55	-34.9833	Goiana || Pernambuco, Brazil || Apr 10, 1962 || Ex. Aleurothrixus || floccosus (Maskell) || On: citrus || Coll. DeBach || Lot No. 15
Signiphora xanthographa	UCRC ENT 299536		UCR	-7.55	-34.9833	Goiana || Pernambuco, Brazil || Apr 10, 1962 || Ex. Aleurothrixus || floccosus (Maskell) || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299527		UCR	-22.9	-43.2333	Rio de Janerio (sic) || Brazil || 20/i/1973 || Ex. Aleurothrixus || Det Rose 1973 || On: citrus (original material) || Coll. M. Rose || R73-17 (3/3)
Signiphora xanthographa	UCRC ENT 299528		UCR	-22.9	-43.2333	Rio de Janiero (sic) || Brazil || iv-13-1971 || Ex. Aleurothrixus || floccosus || Coll. DeBach || R71-8/9
Signiphora xanthographa	UCRC ENT 299529		UCR	-22.9	-43.2333	Rio de Janiero (sic) || Brazil || iv-13-1971 || Ex. Aleurothrixus || floccosus || Coll. DeBach || R71-8/9
Signiphora xanthographa	UCRC ENT 299530		UCR	-22.9	-43.2333	Rio de Janiero (sic) || Brazil || iv-13-1971 || Ex. Aleurothrixus || floccosus || Coll. DeBach || R71-8/9
Signiphora xanthographa	UCRC ENT 299531		UCR	-22.9	-43.2333	Rio de Janiero (sic) || Brazil || iv-13-1971 || Ex. Aleurothrixus || floccosus || Coll. DeBach || R71-8/9
Signiphora xanthographa	UCRC ENT 299532		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-5-1971 || Ex. Aleurothrixus || floccosus || Coll. DeBach || R 71-8
Signiphora xanthographa	UCRC ENT 299539		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 15/iv/1971 || Ex. Aleurothrixus [sic] flocossus || Det. DeBach 1971 || On: citrus || Coll. DeBach || R71-8
Signiphora xanthographa	UCRC ENT 299540		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-5-1971 || Ex. Aleurothrixus || floccosus || Coll. DeBach || R-71-8
Signiphora xanthographa	UCRC ENT 299541		UCR	-22.9	-43.2333	Rio, Brazil || July 9, 1962 || Ex. Aleurothrixus || [sic] flocasus || On: Lime || Coll. DeBach ++ Lot No. 40
Signiphora xanthographa	UCRC ENT 299542		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299543		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299544		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299545		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299546		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299547		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299548		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || 3-22-1970 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach
Signiphora xanthographa	UCRC ENT 299549		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-8-1971 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach || R71-9

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora xanthographa	UCRC ENT 299550		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-8-1971 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach || R71-9
Signiphora xanthographa	UCRC ENT 299551		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-8-1971 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach || R71-9
Signiphora xanthographa	UCRC ENT 299552		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-8-1971 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. DeBach || R71-9
Signiphora xanthographa	UCRC ENT 299553		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || v-9-1971 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. T. Fiqueiredo R-71-14
Signiphora xanthographa	UCRC ENT 299554		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || iv-5-1971 || Ex. Aleurothrixus || floccosus || Coll. T. Flquelredo (sic) || R71-14
Signiphora xanthographa	UCRC ENT 299555		UCR	-22.9	-43.2333	Rio de Janeiro || Brazil || v-9-1971 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. T. Flquelredo (sic) R-71-14
Signiphora xanthographa	UCRC ENT 300236		UCR	-22.8833	-42.3333	Ex. Chrysomphalus aonidum || On: citrus || Fazenda Montebello || Araruana || Rio de Janeiro, Brazil || March 22, 1962 || DeBach
Signiphora xanthographa	UCRC ENT 299537		UCR	-22.892089	-47.06468	Ex. Aleyrodes No. || 112134 on lemon || Instituto Agronomico || Campenas (sic), Brazil || Nov 16, 1934 || H. Compere
Signiphora xanthographa	UCRC ENT 299538		UCR	-22.892089	-47.06468	Ex. No. 112134 || Aleurothrixus floccosus || on eureka lemon || Instituto Agronomico || Campenas (sic), Brazil || Nov 16, 1934 || H. Compere
Signiphora xanthographa	UCRC ENT 299556		UCR	-23.5333	-46.6167	Sao Paulo || Brazil || v.10-13.1976 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. M. Rose R-76-33 orig. mat.
Signiphora xanthographa	UCRC ENT 299557		UCR	-22.9	-47.0833	Campinas || Research Station near || Sao Paulo, Brazil || v-12-1976 || Ex. Aleurothrixus || floccosus || On: citrus-a small || research grove on station || Coll. M. Rose
Signiphora xanthographa	UCRC ENT 299558		UCR	-22.9	-47.0833	Campina [sic] || Sao Paulo, Brazil || v-12-1976 || Ex. Aleurothrixus || floccosus || On: citrus || Coll. M. Rose R 76.34 orig. mat.
Signiphora xanthographa	UCRC ENT 299559		UCR	-22.892089	-47.06468	Ex. Aleurothrixus || floccosus? || On: Eureka lemon || Campinas, Brazil || Nov. 16, 1934 || H. Compere || Compere No. 112134
Signiphora xanthographa	BMNH #991089		BMNH	-33.1667	-70.8833	Chile: Polpaico || 25-x.80 || Ex. Ripibruchus picturatus || On: Prosopis chilensis || with Tricho (see) || Coll. S. Rojas P 134 ++ AP prep/det vi.89
Signiphora xanthographa	BMNH #991090		BMNH	-33.1667	-70.8833	Chile: Polpaico || 25-x.80 || Ex. Ripibruchus picturatus || On: Prosopis chilensis || with Tricho (see) || Coll. S. Rojas P 134 ++ AP prep/det vi.89
Signiphora xanthographa	TAMU-ENTO X0616373		TAMU	-20.481778	-69.32075	Chile, Region de || Tarapacá, Oasis de Pica || ex: Cales noacki || on: Citrus limon || 20°28'54.4"S || 69°19'14.7" W || Osman Peralta Collao || 13.v.2010, 2010/006
Signiphora xanthographa	TAMU-ENTO X0616374		TAMU	-20.481778	-69.32075	Chile, Region de || Tarapacá, Oasis de Pica || ex: Cales noacki || on: Citrus limon || 20°28'54.4"S || 69°19'14.7" W || Osman Peralta Collao || 13.v.2010, 2010/006
Signiphora xanthographa	TAMU-ENTO X0616375		TAMU	-20.481778	-69.32075	Chile, Region de || Tarapacá, Oasis de Pica || ex: Cales noacki || on: Citrus limon || 20°28'54.4"S || 69°19'14.7" W || Osman Peralta Collao || 13.v.2010, 2010/006
Signiphora xanthographa	TAMU-ENTO X0616376		TAMU	-20.481778	-69.32075	Chile, Region de || Tarapacá, Oasis de Pica || ex: Cales noacki || on: Citrus limon || 20°28'54.4"S || 69°19'14.7" W || Osman Peralta Collao || 13.v.2010, 2010/006
Signiphora xanthographa	TAMU-ENTO X0616377		TAMU	-20.481778	-69.32075	Chile, Region de || Tarapacá, Oasis de Pica || ex: *Cales noacki* || on: *Citrus limon* || 20°28'54.4"S || 69°19'14.7" W || Osman Peralta Collao || 13.v.2010, 2010/006
Signiphora xanthographa	TAMU-ENTO x0855988		TAMU	-20.481778	-69.32075	Chile, Region de || Tarapacá, Oasis de Pica || ex: Cales noacki || on: Citrus limon || 20°28'54.4"S || 69°19'14.7" W || Osman Peralta Collao || 13.v.2010, 2010/006
Signiphora xanthographa	UCRC ENT 299508		UCR	22.432673	114.105504	Bible Institute || New Terrorities, Hong Kong || vii-18-1971 || host Aonidiella || aurantii || On: Cycas || fevoluta || Coll. Cheng || R71-55C
Signiphora xanthographa	TAMU-ENTO X0616124		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0616129		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 vii 89 || FD Bennett 26 || X Bemisia || tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0616130		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0616131		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0616132		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0616135		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0616136		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	TAMU-ENTO X0460246		FSCA	3.5394	-76.3036	COLOMBIA || Palmira || 14 VII 89 || FD Bennett 26 || X Bemisia tabaci || on Glycine max || Hoyers
Signiphora xanthographa	UCRC ENT 299509		UCR	-6.1	-73.3833	? Peru Ayacucho || ii-18-1960 || Ex. Aleurothrixus || floccosus || Coll. Salazar No. 32
Signiphora xanthographa	UCRC ENT 299510		UCR	-6.1	-73.3833	? Peru Ayacucho || ii-18-1960 || Ex. Aleurothrixus || floccosus || Coll. Salazar No. 32
Signiphora xanthographa	UCRC ENT 299511		UCR	-6.1	-73.3833	? Peru Ayacucho || ii-18-1960 || Ex. Aleurothrixus || floccosus || Coll. Salazar No. 32
Signiphora xanthographa	UCRC ENT 299512		UCR	-6.1	-73.3833	? Peru Ayacucho || ii-18-1960 || Ex. Aleurothrixus || floccosus || Coll. Salazar No. 32
Signiphora xanthographa	UCRC ENT 299513		UCR	-6.1	-73.3833	? Peru Ayacucho || ii-18-1960 || Ex. Aleurothrixus || floccosus || Coll. Salazar No. 32
Signiphora xanthographa	UCRC ENT 299514		UCR	-6.1	-73.3833	Ex Aleurothrixus || floccosus - Ayacucho || Salazar - 18.ii.1960

Species	Identifier	Type Status	Repository	Latitude	Longitude	Verbatim Label
Signiphora xanthographa	UCRC ENT 299515		UCR	-6.1	-73.3833	? Peru Ayacucho || ii-18-1960 || Ex. Aleurothrixus || floccosus || Coll. Salazar No. 32
Signiphora xanthographa	TAMU-ENTO X0852767		FSCA	15.921395	100.976505	Thailand || Ex. whitefly || Coll. H.W. Browning ++ 94-523-18
Signiphora xanthographa	BMNH #990221		BMNH	10.65	-61.45	Trinidad: San Juan || 3.vii.96 || Ex. Aleurothrixus || floccosus || On: guava || Coll. C.V. Gannes
Signiphora xanthographa	USNM ENT 763509		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763510		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763511		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763512		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763513		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763514		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763515		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763516		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry
Signiphora xanthographa	USNM ENT 763517		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry
Signiphora xanthographa	USNM ENT 763518		USNM	-34.8581	-56.1708	On citrus || Montevideo || Ur.8-25-46 || SAParLab || 1414.3 PABerry
Signiphora xanthographa	USNM ENT 763519		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416 ++ LotNo || 46-16462 ++ Thysanus || fax (Gir.) || det Gahan
Signiphora xanthographa	USNM ENT 763520		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416
Signiphora xanthographa	USNM ENT 763521		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416
Signiphora xanthographa	USNM ENT 763522		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416
Signiphora xanthographa	USNM ENT 763523		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416 ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763524		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416 ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763525		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416
Signiphora xanthographa	USNM ENT 763526		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416 ++ LotNo || 46-16462
Signiphora xanthographa	USNM ENT 763527		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416
Signiphora xanthographa	USNM ENT 763528		USNM	-34.8581	-56.1708	Morning-glory || MontevideoUrug || 3 27-46 || PABerry 1416
Signiphora xanthographa	UCRC ENT 299516		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299517		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299518		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299519		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299520		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299521		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299522		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299523		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299524		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299525		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose
Signiphora xanthographa	UCRC ENT 299526		UCR	-31.3833	-57.9667	Uruguay || Salto || iv-15-1982 || Ex. A. floccosus || or L. ? Gloveri || On: citrus || Coll. Robert Bernal via Rose

Supplementary Material: Distribution maps.

The following 4 plates display species record localities according to the material examined list in each description. They are provided as static reference for interactive maps from source files (KML) available at Data Dryad and from the authors. The source files can be read in an application such as Google Maps or Google Earth and allow the interactive display of the geographic coordinates and labels as provided on table SM2.

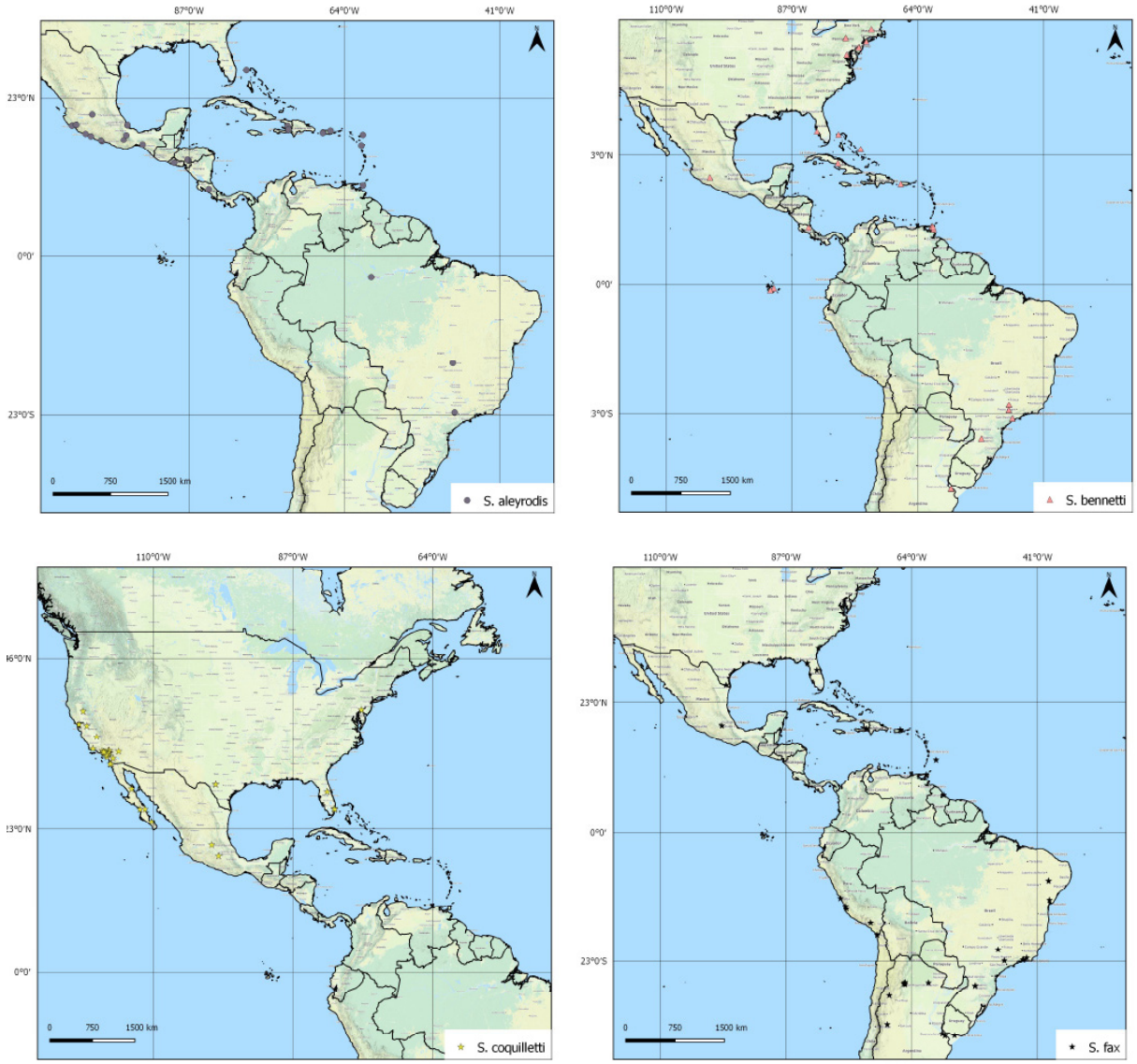

Plate SM3.1. Distribution maps for *Signiphora aleyrodis*, *Signiphora bennetti*, *Signiphora coquilletti* and *Signiphora fax*.

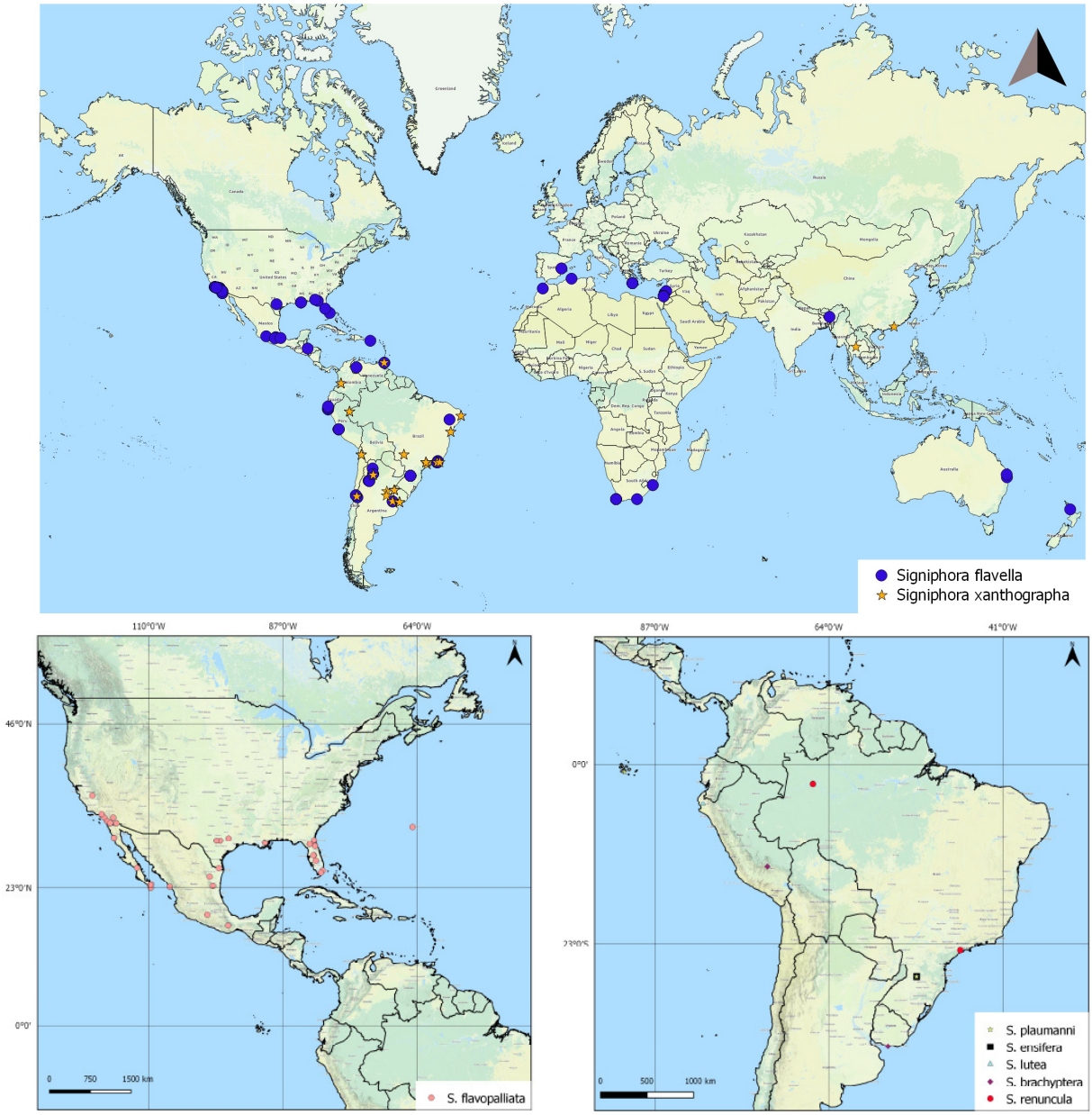

Plate SM3.2. Distribution maps for *Signiphora flavella, S. xanthographa, S. flavopalliata, S. plaumanni, S. ensifera, S. lutea, S. brachyptera* and *S. renuncula.*

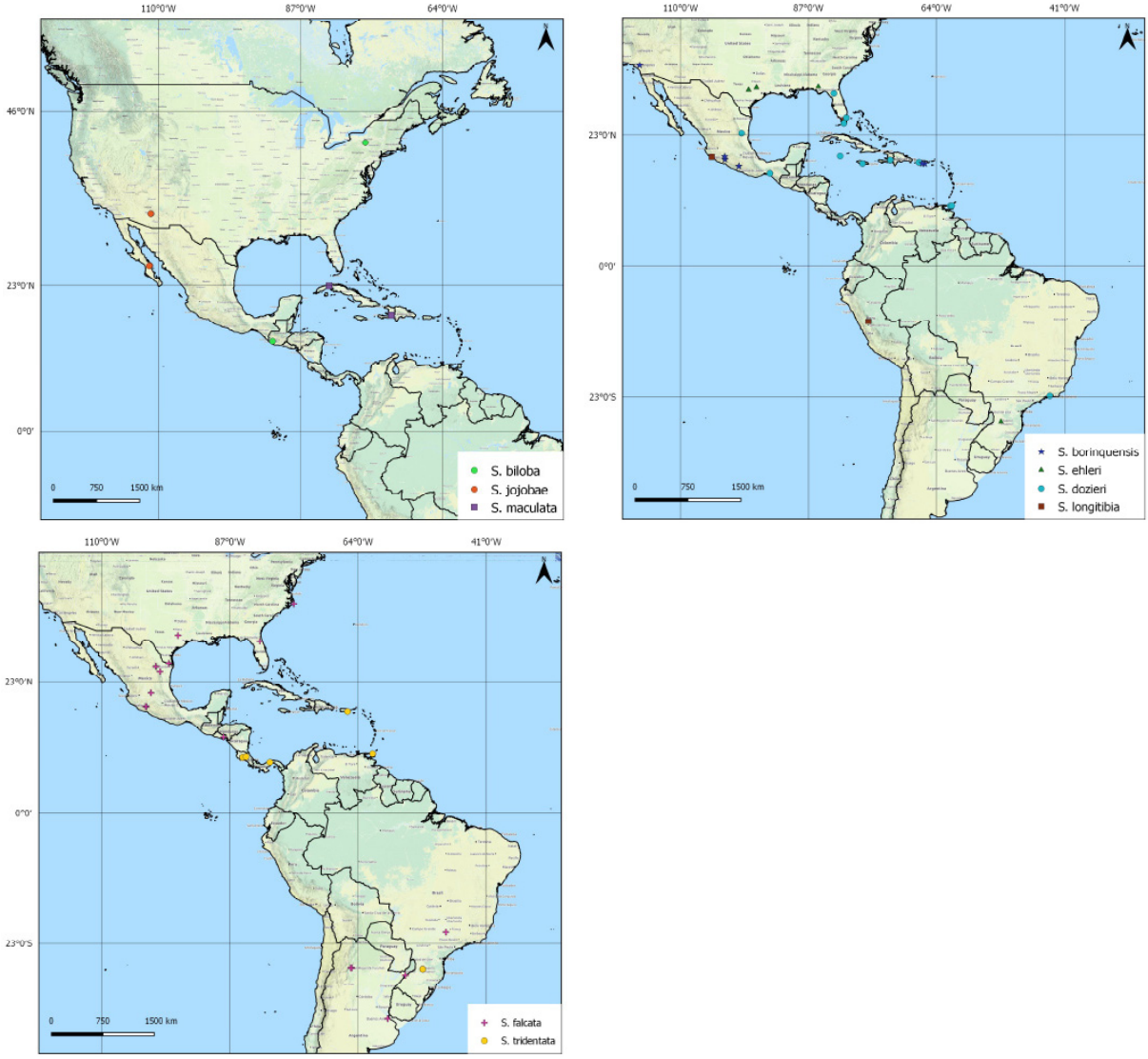

Plate SM3.3. Distribution maps for *Signiphora biloba, S. jojobae, S. maculata, S. borinquensis, S. ehleri, S. dozieri, S. longitibia, S. falcata* and *S. tridentata*.

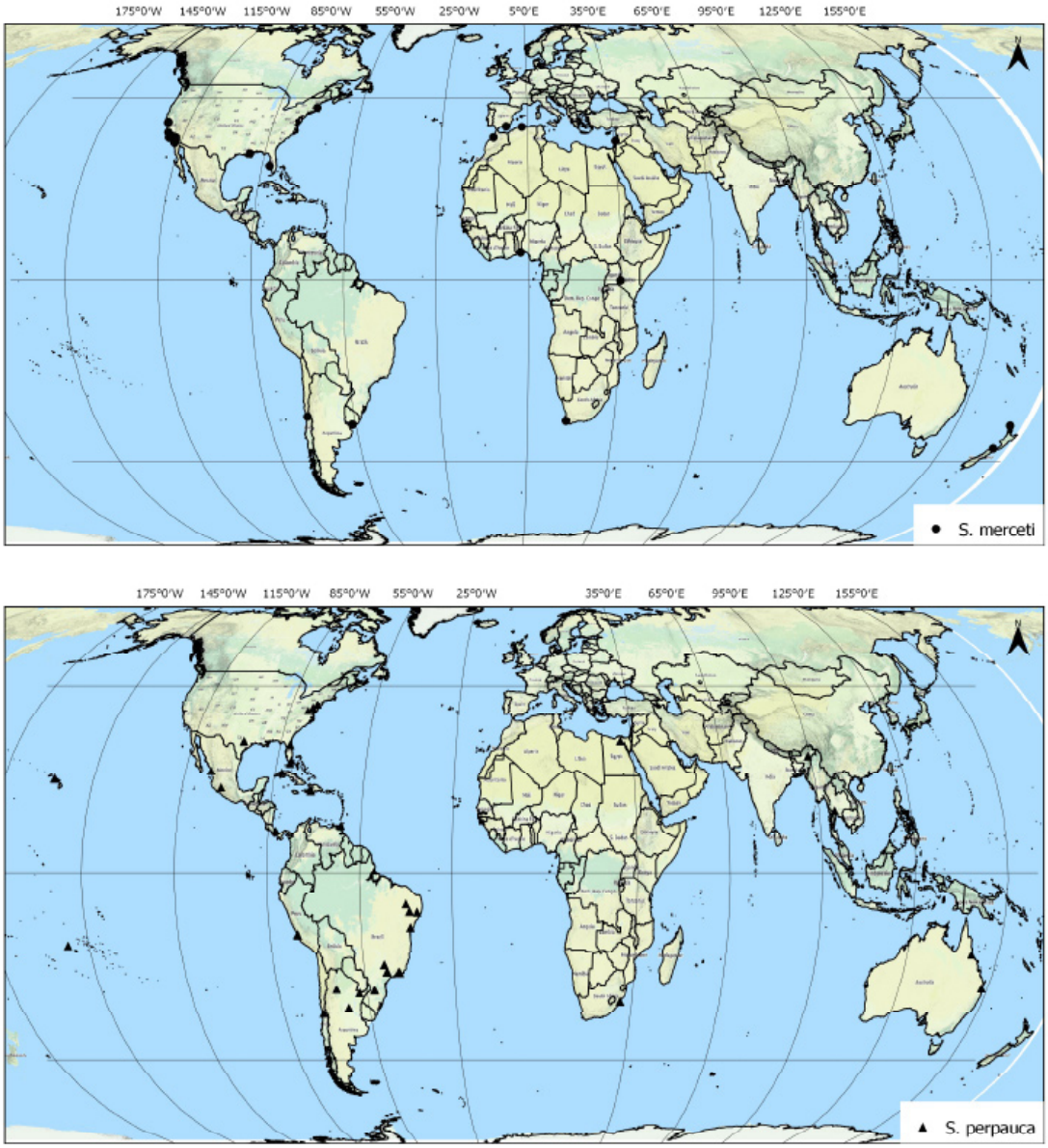

Plate SM3.4. Distribution maps for records of *Signiphora merceti* and *Signiphora perpauca.*