

## Host Plant Records for Fruit Flies (Diptera: Tephritidae: Dacini) in the Pacific Islands

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**Abstract.** Host plants are listed for 76 species of *Bactrocera* and four species of *Dacus*, mainly based on field collection and incubation of over 20,000 samples in emergence boxes. Flies were bred from 241 host species, belonging to 139 genera in 63 families of Angiosperms. The majority of the samples were collected in eleven countries and territories under the umbrella of the Regional Fruit Fly Projects in the Pacific (RFFP): Cook Islands, Fiji Islands, French Polynesia, Federated States of Micronesia, Nauru, New Caledonia, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Vanuatu. Previously published dubious host records not confirmed under the RFFP are listed and discussed.

### Introduction

Fruit flies (Tephritidae: Dacinae) are recognized as a major group of insects of economic and quarantine importance due to the preference of numerous species for commercial and native fruit and vegetable crops. Host fruit surveys have played an important role in confirming the presence or absence of fruit flies in a country, and these records provide the baseline for pest risk analysis for quarantine trade protocols. A large volume of unpublished host information has been generated during extensive surveys carried out under the umbrella of the projects on management of tropical fruit flies conducted in the Pacific Island countries and territories (PICTs) since 1989.

The fruit fly project activities in the 22 countries and territories of the Pacific region (Figure 1) were coordinated through the Regional Fruit Fly Projects (RFFP, Allwood 2000b) funded by the Food and

Agricultural Organization (FAO), the Australian government through the Australian Agency for International Development (AusAID), the United Nations Development Programme (UNDP), New Zealand government Aid (NZAID), the Secretariat of the Pacific Community (SPC), national governments of Pacific Island countries and territories and fruit fly projects funded by Australian Centre for International Agricultural Research (ACIAR).

This paper presents the results of host fruit surveys carried out in the PICTs, with the majority of data from eleven PICTs: Cook Islands, Fiji Islands, French Polynesia, Federated States of Micronesia, Nauru, New Caledonia, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu. Also included are records from earlier and subsequent surveys published between 1936 and 2011. This compilation complements previously published comprehensive tephritid host lists

for South East Asia (Allwood et al. 1999) and Australia (Hancock et al. 2000).

In addition to the authors, numerous scientists and technicians from the national governments of the PICTs and from regional projects contributed significantly to the field collection of fruit samples, laboratory rearing and identification of flies (Table 1).

### Materials and Methods

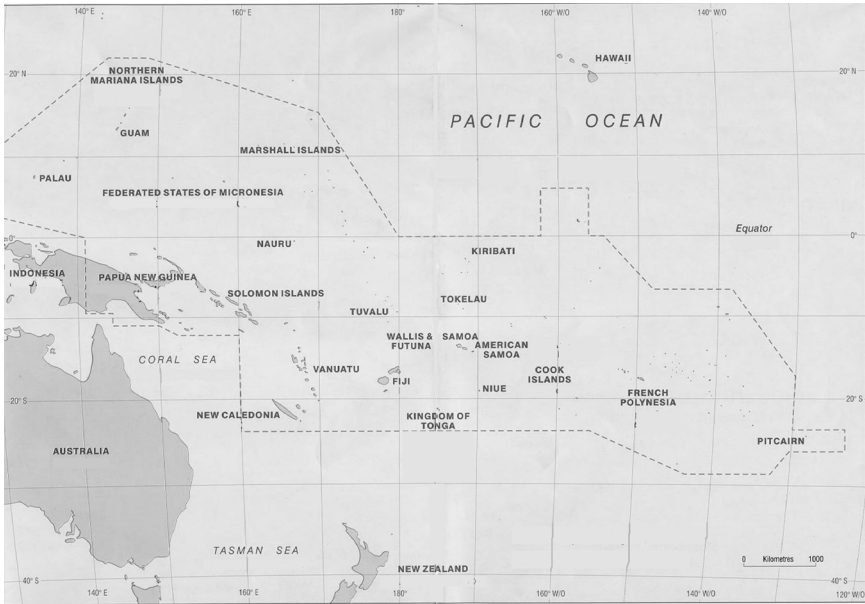
Samples of commercial/edible and wild fruits at different stages of maturity were collected in the field and carried securely in paper bags to the laboratory, where they were weighed, counted and incubated in containers until immature fruit fly stages completed their development. Fruits were placed on petri dishes over a layer of finely sieved sawdust (sterilized in an oven or frozen overnight to kill mites) in a plastic container covered with fine gauze fabric for ventilation. Larger fruits likely to release juice while decomposing were placed on fine gauze fabric on chicken wire mesh over a plastic container to catch the juice, with the container placed inside a large plastic or cardboard box with the bottom lined with sawdust. The samples were checked after 10–14 days of incubation by dissecting fruits to ensure no live larvae were remaining, and by sieving the sawdust to extract puparia. Puparia from each sample were counted and kept in moist sawdust in a petri dish, placed inside a small plastic container with the top covered with fine gauze fabric. Emerged flies were fed for five days with sugar and water and killed by freezing, allowing colours and markings, necessary for correct species identification, to fully develop.

### Results

A total of 20,209 fruit samples were collected, made up of over 1.4 million individual fruits, weighing 34 tonnes, belonging to 729 plant species, in 407 plant

genera and 115 families. The distribution of fruit samples between countries is given in Table 2. By definition, a sample is composed of all fruits of different stages of maturity collected from one host species (or variety within a species) at one location during one day.

The first part of the paper includes all fruit fly host associations generated through intensive surveys in all the countries, as well as other published credible records, listed by fruit fly species and separately by host plant. For each record from the RFFP, the number of samples with fly emergence, out of the total number of samples collected for the host plant in that country, is presented in brackets. For example, (14/34) means that fruit flies were recovered from 14 of the 34 fruit samples. Only numbers of samples with fly emergence are included for the Cook Islands records, because information on total numbers of samples collected was not available. The letter “(P)” following each host name identifies a Pacific Island record also published previous to the RFFP (mostly in Cochereau 1970, Drew 1989, Hammes et al. 1989, Hardy and Adachi 1956, Hinckley 1965, Litsinger et al. 1991, Simmonds 1936, Steiner et al. 1965, Waterhouse 1993, White and Elson–Harris 1992, and Wong et al. 1989). All other RFFP records were unknown in the Pacific region previous to the RFFP, though many of them have already been published prior to this compilation (mostly in Allwood 2000a; Amice and Sales 1997; Dori et al. 1993; Drew and Romig 2001; Hollingsworth et al. 2003; Kassi and Allwood 2001; Leblanc et al. 2001, 2004; Leblanc and Putoa 2000; Mille 2008; Novotny et al. 2005; Tenakanai 1997; Tora Vueti et al. 1997; Tora Vueti 2000; Tunupopo Laiti et al. 2002; Tupou et al. 2001; Vargas et al. 2007). The earliest reliable literature citation is included for other published records not replicated under



**Figure 1.** Map of the Pacific Island countries and territories, with area covered by this publication enclosed within the dotted line (courtesy from the Secretariat of the Pacific Community).

the RFFP. We included a few species (*B. alyxiae*, *B. chorista*), with no known hosts in the Pacific but common in Papua New Guinea and included on the photography plates (pages 46–51).

The second part lists published records that we consider erroneous or dubious, and were not confirmed in the surveys carried out during the period of the Pacific fruit fly projects. To ascertain the validity of these erroneous records, additional surveys need to be done targeting these dubious hosts, if they are judged candidates crops for export markets.

**Table 1.** Contributors who have collected and processed fruit samples and identified emerging flies, resulting in the dataset presented in this paper.

Country/Project	Contributors
American Samoa	Elisapeta T. Sualevai
Cook Islands	Patrick Arioka, Elizabeth Munro, Maja Poeschke
Commonwealth of Northern Mariana Islands	Jack Tenorio, Lee Eavy, Aubrey Moore
Federated States of Micronesia	Jonah William, John Wichep
Fiji Islands	Ema Tora Vueti, Laisa Ralulu, Losalini L. Toganivalu, Apenisa Balawakula, Pio Bosco Tikoisuva (Jr)
French Polynesia	Rudolph Putoa, Axelle Maitere, Berthe Neagle. [Programme fully funded by the Territory government]
Guam	Russell Campbell
Kiribati	Nakabuta Teuriaria
Marshall Islands	Frederick Muller
Nauru	Andrew Pitcher, Greogory Stephens, Warrick Harris
New Caledonia	Remy Amice, Fredrick Sales, Christian Mille, Sylvie Cazerès [Programme fully funded by the Territory government and by CIRAD]
Niue	Crispina F. Cornelius, Colin Etuata
Palau	Fernando Sengebau, Albert Arbedul, Hilda Etpison
Papua New Guinea	David Tenakanai, Fred Dori, Solomon Balagawai, Amanda Mararuai, David Putulan, Ana Kawi
Pitcairn Islands	Tuipulotu Langi
Samoa	Falalei T. Laiti, Billy Enosa
Solomon Islands	Francis Tsatsia, Maclean Vagalo, Philip Taisau, Geoffrey Oliouou
Tokelau	Katieli Peleti
Tonga	Tuipulotu Langi, Suitoni Tupou, Viliami Heimoana, Sione Foliaki
Tuvalu	Sam Panapa, Uatea Vave, Matio Lonalona, Iosia Siose, Elu Tataua, Evolini Sakaio
Vanuatu	David Tau, Linette Berukilukilu, Timothy Tumukon
Wallis & Futuna	Atoloto Malau, Aloisio Tauota

**Regional Fruit Fly Projects in all 22 PICTs**

*United Nations Volunteers:* Abdul Kassim (Cook Islands, Vanuatu), Arnaud Jarlan (Solomon Islands), Barney Stephenson (Vanuatu), Carol Quashie-Williams (Samoa), Graham Walker (Fiji Islands), Luc Leblanc (FSM, PNG), Pontiano Nemeye (Tonga), Richard Willey (Solomon Islands), Robert Hollingsworth (Solomon Islands)

*SPC Staff:* Richard Vernon (database specialist), Konrad Englberger, Sada Nand Lal, Nacanieli Waqa, Bal Narayan Swamy

*Projects funded by the Australian Centre for International Agricultural Research* (Cook Islands, Fiji Islands, Samoa, Solomon Islands, Tonga, Papua New Guinea, Vanuatu): Eddie Hamacek, Danny McGuire (PNG only), Marlene Elson-Harris, Meredith Romig.

**Table 2.** Summary of host fruit surveys carried out in the Pacific Island countries and territories, with the number of fruit samples collected, number from which flies were recorded and the period of collection for each PICT.

Country/Territory	Years	Number of	
		Samples collected	Positive samples
American Samoa	1999	16	1
Cook Islands	1990–1993	> 254	252
Fiji Islands	1990–1999	4262	450
French Polynesia	1998–2009	4306	2959
Federated States of Micronesia (FSM)	1994–2001	1341	701
Nauru	1998–2001	470	261
New Caledonia	1994–2000	1022	459
Palau	2000–2001	134	50
Papua New Guinea (PNG)	1997–2000	1264	540
Samoa	1991–1999	441	372
Solomon Islands	1994–1999	2026	298
Tonga	1991–1995	2721	173
Vanuatu	1994–1997	1878	195
Wallis and Futuna	2001	74	14

## FRUIT FLY SPECIES AND THEIR RECORDED HOSTS

*Bactrocera (Bactrocera) alyxiae* (May) (Fig. 2)

Distribution: Australia, Papua New Guinea (Mainland). Male lure: Cue-lure.

APOCYNACEAE      *Alyxia spicata* (P): Australia (Drew 1989).

*Bactrocera (Bactrocera) anomala* (Drew)

Distribution: Vanuatu. Male lure: Cue-lure.

SAPOTACEAE      *Pouteria guayana*: Vanuatu (3/7).

*Bactrocera (Bactrocera) atramentata* (Hering) (Fig. 3)

Distribution: Papua New Guinea (Mainland, Bismarck Archipelago). Male lure: Cue-lure.

SAPINDACEAE      *Pometia pinnata*: PNG (3/6).

*Bactrocera (Bactrocera) bancroftii* (Tryon) (Fig. 4)

Distribution: Australia, Papua New Guinea (Mainland), Solomon Islands. Male lure: Methyl eugenol.

EUPHORBIACEAE      *Pimelodendron amboinicum*: PNG (Novotny et al. 2005).

***Bactrocera (Bactrocera) barringtoniae* (Tryon)**

Distribution: Australia, Papua New Guinea (Mainland). Male lure: Not known.

LECYTHIDACEAE *Barringtonia calyptata* (P): PNG (3/7).

***Bactrocera (Bactrocera) bryoniae* (Tryon) (Fig. 5)**

Distribution: Australia, Papua New Guinea (mainland, Bismarck Archipelago). Male lure: Cue-lure.

MUSACEAE *Musa* sp (P): PNG (Drew 1989).

PASSIFLORACEAE *Passiflora foetida* (P): PNG (3/13).

SOLANACEAE *Capsicum annuum* (birdseye chilli) (P): PNG (12/34).

***Bactrocera (Bactrocera) caledoniensis* Drew**

Distribution: New Caledonia. Male lure: Cue-lure.

CONVOLVULACEAE *Merremia tuberosa*: New Caledonia (4/9).

GENTIANACEAE *Fagraea berteroana*: New Caledonia (1/6).

RHIZOPHORACEAE *Crossostylis multiflora*: New Caledonia (1/3).

***Bactrocera (Bactrocera) cheesmanae* (Perkins)**

Distribution: Australia (Torres St Islands), Papua New Guinea (Mainland). Male lure: Methyl eugenol.

CLUSIACEAE *Garcinia* cf. *hollrungii*: PNG (Novotny et al. 2005).

***Bactrocera (Bactrocera) contermina* Drew**

Distribution: Papua New Guinea (Mainland). Male lure: Methyl eugenol.

FLACOURTIACEAE *Pangium edule*: PNG (Drew et al. 2011).

***Bactrocera (Bactrocera) curvifera* (Walker) (Fig. 6)**

Distribution: Papua New Guinea (Mainland, Bismarck Archipelago). Male lure: Methyl eugenol.

MORACEAE *Artocarpus altilis*: PNG (3/25).

***Bactrocera (Bactrocera) curvipennis* (Froggatt) (Fig. 7)**

Distribution: New Caledonia. Male lure: Cue-lure.

ANACARDIACEAE *Anacardium occidentale*: New Caledonia (2/3). *Mangifera indica* (P): New Caledonia (9/68).

ANNONACEAE *Annona reticulata*: New Caledonia (1/8). *Annona squamosa* (P): New Caledonia (Cochereau 1970).

APOCYNACEAE *Cascabela thevetia*: New Caledonia (1/8). *Ochrosia elliptica*: New Caledonia (3/4).

CALOPHYLLACEAE *Calophyllum inophyllum* (P): New Caledonia (Cochereau 1970).

CARICACEAE *Carica papaya* (P): New Caledonia (Cochereau 1970).

COMBRETACEAE *Terminalia catappa*: New Caledonia (28/46).

- CONVOLVULACEAE *Merremia tuberosa*: New Caledonia (1/9).  
 EBENACEAE *Diospyros macrocarpa*: New Caledonia (4/7).  
 LONGANIACEAE *Couthovia novocaledonica*: New Caledonia (1/4).  
 MALPIGHIACEAE *Malpighia glabra*: New Caledonia (4/5).  
 MORACEAE *Ficus pancheriana*: New Caledonia (1/2). *Morus alba*:  
 New Caledonia (1/4).  
 MYRTACEAE *Eugenia uniflora*: New Caledonia (5/10). *Psidium*  
*acutangulum*: New Caledonia (1/3). *Psidium cattleianum*  
 (P): New Caledonia (12/33). *Psidium guajava* (P): New  
 Caledonia (48/145). *Syzygium jambos*: New Caledonia  
 (20/37). *Syzygium malaccense*: New Caledonia (Amice  
 and Sales 1997).  
 OLACACEAE *Ximenia americana*: New Caledonia (6/7).  
 OXALIDACEAE *Averrhoa carambola*: New Caledonia (2/20).  
 PASSIFLORACEAE *Passiflora foetida* (P): New Caledonia (Cochereau 1970).  
 RHAMNACEAE *Zizyphus mauritiana*: New Caledonia (2/3).  
 ROSACEAE *Eriobotrya japonica*: New Caledonia (1/8). *Fragaria vesca*:  
 New Caledonia (2/2). *Prunus domestica*: New Caledonia  
 (1/1). *Prunus persica* (P): New Caledonia (16/28). *Prunus*  
*simonii*: New Caledonia (4/5).  
 RUBIACEAE *Coffea arabica* (P): New Caledonia (Cochereau 1970).  
*Guettarda speciosa*: New Caledonia (3/3).  
 RUTACEAE *Casimiroa edulis*: New Caledonia (1/2). *Citrus japonica*:  
 New Caledonia (1/2). *Citrus latifolia*: New Caledonia (1/33).  
*Citrus maxima*: New Caledonia (1/28). *Citrus paradisi*:  
 New Caledonia (1/18). *Citrus reticulata* (P): New Caledonia  
 (2/18). *Citrus sinensis*: New Caledonia (1/35).  
 SOLANACEAE *Capsicum annuum* (sweet pepper): New Caledonia (3/9).  
*Lycopersicon esculentum* (P): New Caledonia (Cochereau  
 1970).

***Bactrocera (Bactrocera) dapsiles* Drew (Fig. 8)**

Distribution: Papua New Guinea (Mainland). Male lure: Methyl eugenol.

SOLANACEAE *Solanum mauritianum* (P): PNG (Drew 1989).***Bactrocera (Bactrocera) decumana* (Drew)**

Distribution: Papua New Guinea (Bougainville), Solomon Islands. Male lure: Cue-lure.

SAPOTACEAE *Burckella* sp: PNG (1/1). Solomon Islands (Drew and  
 Romig 2001).***Bactrocera (Bactrocera) diaphana* (Hering)**Distribution: Indonesia (West Papua), Papua New Guinea (Mainland). Male lure: Not  
 known.EUPHORBIACEAE *Pimelodendron amboinicum*: PNG (Novotny et al. 2005).

***Bactrocera (Bactrocera) distincta*** (Malloch)

Distribution: American Samoa, Fiji Islands, Futuna, Samoa, Tonga. Male lure: Cue-lure.

- MYRTACEAE *Eugenia brasiliensis*: Samoa (1/1).  
 RUTACEAE *Citrus maxima*: Fiji (1/79) (only one specimen).  
 SAPOTACEAE *Burckella richii* (P): Tonga (4/18). *Chrysophyllum cainito* (P): Fiji (Drew 1989). Samoa (1/1). Tonga (1/9). *Manilkara zapota*: Fiji (12/72). Samoa (1/1). Tonga (4/10). *Planchonella membranacea*: Tonga (12/25). *Planchonella costata*: Tonga (1/3). *Pouteria caimito*: Samoa (1/5).

***Bactrocera (Bactrocera) dorsalis*** (Hendel)

Distribution: Tropical Asia (widespread), French Polynesia, Guam (eradicated in 1965), Hawaii, Nauru (eradicated in 1999), Northern Marianas (eradicated in 1965). Male lure: Methyl eugenol.

- ANACARDIACEAE *Mangifera indica* (P): French Polynesia (408/633); CNMI (Hardy and Adachi 1956) (prior to eradication); Nauru (21/117) (prior to eradication). *Spondias dulcis*: French Polynesia (5/84).  
 ANNONACEAE *Annona muricata* (P): French Polynesia (30/77). CNMI (Hardy and Adachi 1956) (prior to eradication); Nauru (5/20) (prior to eradication). *Annona reticulata* (P): Guam (Hardy and Adachi 1956) (prior to eradication). *Cananga odorata*: French Polynesia (1/1). *Rollinia* sp: French Polynesia (1/1).  
 APOCYNACEAE *Ochrosia* sp (P): CNMI (Steiner et al. 1965) (prior to eradication).  
 BURSERACEAE *Canarium insulare*: French Polynesia (7/8).  
 CALOPHYLLACEAE *Calophyllum inophyllum*: French Polynesia (2/7).  
 CARICACEAE *Carica papaya* (P): French Polynesia (106/231); CNMI (Steiner et al. 1965) (prior to eradication); Guam (Hardy and Adachi 1956) (prior to eradication).  
 CLUSIACEAE *Garcinia x mangostana*: French Polynesia (1/5).  
 COMBRETACEAE *Terminalia catappa* (P): French Polynesia (278/479); CNMI (Hardy and Adachi 1956) (prior to eradication); Nauru (2/68) (prior to eradication).  
 LAURACEAE *Persea americana*: French Polynesia (17/77).  
 LECYTHIDACEAE *Barringtonia edulis*: French Polynesia (1/2).  
 LEGUMINOSAE *Inocarpus fagifer*: French Polynesia (505/994).  
 MORACEAE *Artocarpus altilis* (P): French Polynesia (12/42); CNMI (Hardy and Adachi 1956) (prior to eradication); Nauru (1/53) (prior to eradication).  
 MUSACEAE *Musa troglodytarum*: French Polynesia (1/2). *Musa x paradisiaca*: French Polynesia (70/107).  
 MYRTACEAE *Eugenia uniflora*: French Polynesia (3/3). *Psidium cattleianum*: French Polynesia (29/35). *Psidium guajava*: French Polynesia (516/704); Nauru (2/17) (prior to



	eradication). <i>Syzygium jambos</i> : French Polynesia (1/3). <i>Syzygium malaccense</i> : French Polynesia (3/8).
OXALIDACEAE	<i>Averrhoa carambola</i> : French Polynesia (17/134).
PASSIFLORACEAE	<i>Passiflora edulis</i> : French Polynesia (12/35). <i>Passiflora laurifolia</i> : French Polynesia (1/2). <i>Passiflora quadrangularis</i> : French Polynesia (1/5).
RUTACEAE	<i>Citrus aurantiifolia</i> : French Polynesia (1/17). <i>Citrus latifolia</i> : French Polynesia (3/16). <i>Citrus maxima</i> : French Polynesia (36/214). <i>Citrus reticulata</i> : French Polynesia (6/23). <i>Citrus sinensis</i> : French Polynesia (8/58). <i>Citrus trifoliata</i> : French Polynesia (1/1).
SAPINDACEAE	<i>Litchi sinensis</i> : French Polynesia (2/4). <i>Nephelium lappaceum</i> : French Polynesia (1/5). <i>Pometia pinnata</i> : French Polynesia (32/51).
SAPOTACEAE	<i>Chrysophyllum cainito</i> : French Polynesia (6/31). <i>Pouteria cainito</i> : French Polynesia (5/11).
SOLANACEAE	<i>Capsicum annuum</i> (chilli): French Polynesia (1/3). <i>Lycopersicon esculentum</i> : French Polynesia (11/42).

***Bactrocera (Bactrocera) enochra* (Drew) (Fig. 9)**

Distribution: Papua New Guinea (Mainland, East New Britain, Bougainville), Solomon Islands. Male lure: Cue-lure.

STEMONURACEAE *Medusanthera laxiflora*: PNG (Novotny et al. 2005).

***Bactrocera (Bactrocera) facialis* (Coquillett) (Fig. 10)**

Distribution: Tonga. Male lure: Cue-lure.

ANACARDIACEAE	<i>Anacardium occidentale</i> (P): Tonga (1/10). <i>Mangifera indica</i> (P): Tonga (22/85). <i>Pleiogynium solandri</i> : Tonga (3/31).
ANNONACEAE	<i>Annona muricata</i> : Tonga (5/40). <i>Artabotrys uncinatus</i> : Tonga (2/20). <i>Cananga odorata</i> : Tonga (1/14).
APOCYNACEAE	<i>Alyxia bracteolosa</i> : Tonga (3/13). <i>Alyxia stellata</i> : Tonga (2/14). <i>Cerbera manghas</i> : Tonga (29/50). <i>Melodinus vitiensis</i> : Tonga (5/19). <i>Ochrosia oppositifolia</i> (P): Tonga (45/90). <i>Tabernaemontana pandacaqui</i> : Tonga (3/12).
ASPARAGACEAE	<i>Cordyline fruticosa</i> : Tonga (2/36).
BORAGINACEAE	<i>Cordia subcordata</i> : Tonga (1/8).
CALOPHYLLACEAE	<i>Calophyllum inophyllum</i> : Tonga (9/44).
CARDIOPHYLLACEAE	<i>Citronella samoensis</i> : Tonga (8/10).
CARICACEAE	<i>Carica papaya</i> : Tonga (6/77).
COMBRETACEAE	<i>Terminalia catappa</i> (P): Tonga (47/72). <i>Terminalia littoralis</i> : Tonga (10/15).
EBENACEAE	<i>Diospyros samoensis</i> : Tonga (2/8).
HERNANDIACEAE	<i>Hernandia nymphaeifolia</i> : Tonga (6/34).
LAURACEAE	<i>Persea americana</i> (P): Tonga (15/33).
LECYTHIDACEAE	<i>Barringtonia asiatica</i> : Tonga (2/23).

LEGUMINOSAE	<i>Inocarpus fagifer</i> (P): Tonga (35/73).
MALVACEAE	<i>Grewia crenata</i> : Tonga (2/18).
MELIACEAE	<i>Aglaia saltatorum</i> : Tonga (3/12). <i>Vavaea amicornum</i> : Tonga (19/62).
MORACEAE	<i>Artocarpus altilis</i> (P): Tonga (3/34).
MUSACEAE	<i>Musa x paradisiaca</i> : Tonga (1/21).
MYRISTICACEAE	<i>Myristica hypargyrea</i> : Tonga (1/18).
MYRTACEAE	<i>Eugenia uniflora</i> (P): Tonga (2/9). <i>Psidium guajava</i> (P): Tonga (50/92). <i>Syzygium corynocarpum</i> : Tonga (1/8). <i>Syzygium jambos</i> (P): Tonga (18/22). <i>Syzygium malaccense</i> : Tonga (16/23). <i>Syzygium neurocalyx</i> (P): Tonga (Litsinger et al. 1991). <i>Syzygium richii</i> : Tonga (9/14).
PASSIFLORACEAE	<i>Passiflora edulis</i> : Tonga (1/21). <i>Passiflora foetida</i> : Tonga (2/18). <i>Passiflora ligularis</i> : Tonga (1/55). <i>Passiflora quadrangularis</i> (P): Tonga (1/11).
ROSACEAE	<i>Parinari glaberrima</i> : Tonga (1/7). <i>Prunus persica</i> (P): Tonga (Drew 1989).
RUBIACEAE	<i>Gardenia taitensis</i> (P): Tonga (Litsinger et al. 1991). <i>Guettarda speciosa</i> : Tonga (7/32).
RUTACEAE	<i>Citrus aurantium</i> : Tonga (3/21). <i>Citrus limon</i> (P): Tonga (Litsinger et al. 1991). <i>Citrus maxima</i> (P): Tonga (17/62). <i>Citrus paradisi</i> (P): Tonga (Litsinger et al. 1991). <i>Citrus reticulata</i> (P): Tonga (14/49). <i>Citrus sinensis</i> (P): Tonga (20/61). <i>Micromelum minutum</i> : Tonga (14/65).
SALICACEAE	<i>Xylosma orbiculata</i> : Tonga (1/10).
SANTALACEAE	<i>Santalum yasi</i> : Tonga (8/15).
SAPINDACEAE	<i>Elattostachys falcata</i> : Tonga (1/17). <i>Pometia pinnata</i> (P): Tonga (Litsinger et al. 1991).
SAPOTACEAE	<i>Chrysophyllum cainito</i> : Tonga (2/9). <i>Manilkara zapota</i> : Tonga (2/10). <i>Planchonella membranacea</i> : Tonga (4/25).
SOLANACEAE	<i>Capsicum annuum</i> (sweet pepper) (P): Tonga (17/39). <i>Capsicum annuum</i> (chilli) (P): Tonga (6/37). <i>Lycopersicon esculentum</i> (P): Tonga (3/33). <i>Solanum mauritianum</i> : Tonga (2/17). <i>Solanum melongena</i> : Tonga (2/13).
THYMELAEACEAE	<i>Phaleria disperma</i> (P): Tonga (18/38).

***Bactrocera (Bactrocera) frauenfeldi* (Schiner) (Fig. 11)**

Distribution: Australia, Federated States of Micronesia, Indonesia (West Papua), Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea (widespread), Solomon Islands. Male lure: Cue-lure.

ANACARDIACEAE	<i>Anacardium occidentale</i> : PNG (11/31). <i>Dracontomelon dao</i> : PNG (1/5). <i>Mangifera indica</i> (P): FSM (16/32); Nauru (55/117); PNG (28/52); Solomon Islands (27/51). <i>Mangifera minor</i> : Solomon Islands (3/8). <i>Spondias dulcis</i> : FSM (1/6); Solomon Islands (2/16).
ANNONACEAE	<i>Annona glabra</i> : FSM (4/9). <i>Annona muricata</i> : FSM (8/17);

- Nauru (5/20); PNG (4/16); Solomon Islands (11/37). *Annona reticulata*: PNG (4/10). *Annona squamosa*: FSM (1/8). *Cananga odorata*: FSM (1/9).
- APOCYNACEAE *Cerbera manghas*: FSM (2/3); Solomon Islands (2/15). *Ochrosia oppositifolia*: FSM (4/6); Palau (1/1).
- ARECACEAE *Areca catechu*: PNG (Dori et al. 1993).
- AURACARIACEAE *Agathis* sp: PNG (1/1).
- CALLOPHYLLACEAE *Calophyllum inophyllum*: FSM (8/21); Nauru (2/7). *Calophyllum peekelii*: Solomon Islands (1/3). *Mammea odorata*: FSM (2/3).
- CARICACEAE *Carica papaya* (P): FSM (2/11); PNG (22/106); Solomon Islands (23/80).
- CELASTRACEAE *Celastrus* sp: PNG (1/2).
- CLUSIACEAE *Garcinia x mangostana*: PNG (1/5). *Garcinia xanthochymus*: FSM (1/5); Nauru (1/12).
- COMBRETACEAE *Terminalia carolinensis*: FSM (15/18). *Terminalia catappa* (P): FSM (181/189); Nauru (54/68); Palau (7/8); PNG (15/21); Solomon Islands (4/32). *Terminalia kaernbachii*: PNG (1/9). *Terminalia samoensis*: FSM (2/3). *Terminalia whitmorei*: Solomon Islands (2/7).
- EBENACEAE *Diospyros ebenum*: Solomon Islands (Hollingsworth et al. 2003). *Diospyros nigra*: PNG (1/5). Solomon Islands (1/5).
- GOODENIACEAE *Scaevola taccada*: Solomon Islands (1/21).
- HERNANDIACEAE *Hernandia* sp: Nauru (1/1).
- LAURACEAE *Persea americana*: FSM (3/8); PNG (6/18); Solomon Islands (7/26).
- LECYTHIDACEAE *Barringtonia calyptrocalyx*: PNG (Novotny et al. 2005). *Barringtonia edulis*: PNG (Leblanc et al. 2001); Solomon Islands (Hollingsworth et al. 2003).
- LEGUMINOSAE *Inocarpus fagifer*: FSM (109/125); Palau (1/1); PNG (12/22); Solomon Islands (3/16).
- MALPIGHIACEAE *Malpighia glabra*: FSM (13/33).
- MALVACEAE *Heritiera* sp: PNG (1/1).
- MELASTOMATACEAE *Melastoma malabathricum*: FSM (1/8).
- MELIACEAE *Sandoricum koetjape*: PNG (1/2).
- MORACEAE *Artocarpus altilis* (P): FSM (32/48); Kiribati (Waterhouse 1993); Nauru (3/53); PNG (2/25); Solomon Islands (1/80). *Artocarpus heterophyllus*: Solomon Islands (1/10). *Artocarpus mariannensis*: FSM (1/2). *Broussonetia papyrifera*: Solomon Islands (Hollingsworth et al. 2003). *Ficus glandifera*: Nauru (1/3). *Ficus* sp: Solomon Islands (1/48).
- MUSACEAE *Musa x paradisiaca* (P): PNG (7/130).
- MYRTACEAE *Eugenia uniflora*: FSM (58/65). *Psidium cattleianum*: PNG (2/2). *Psidium guajava* (P): FSM (96/113); Kiribati (Waterhouse 1993); Nauru (14/17); Palau (7/9); PNG (115/163); Solomon Islands (42/85). *Syzygium aqueum*: FSM

- (38/39); Palau (3/4); PNG (7/13). *Syzygium jambos* (P): FSM (2/2). *Syzygium malaccense* (P): FSM (10/13); Nauru (4/7); Palau (6/8); PNG (9/10); Solomon Islands (22/37). *Syzygium* cf. *pachycladum*: PNG (Novotny et al. 2005). *Syzygium samarangense*: FSM (37/41); Palau (4/8).
- OXALIDACEAE *Averrhoa carambola*: FSM (13/36); Palau (1/17); PNG (36/113); Solomon Islands (7/60).
- PASSIFLORACEAE *Passiflora edulis*: PNG (1/18).
- PHYLLANTHACEAE *Baccaurea papuana*: PNG (5/8).
- RUBIACEAE *Guettarda speciosa*: FSM (2/5); Nauru (101/149). *Nauclea* sp.: Solomon Islands (1/2).
- RUTACEAE *Citrus aurantium*: FSM (2/18); Solomon Islands (1/16). *Citrus japonica*: Solomon Islands (1/5). *Citrus maxima*: PNG (4/28). Solomon Islands (1/30). *Citrus paradisi*: Solomon Islands (2/16). *Citrus reticulata*: FSM (18/34). *Citrus sinensis*: FSM (10/33). *Citrus x microcarpa*: FSM (4/15); Palau (1/5). *Clymenia polyandra*: PNG (4/4). *Pometia pinnata*: PNG (2/6).
- SAPINDACEAE *Burckella obovata*: PNG (1/3). *Chrysophyllum cainito*: FSM (1/5). *Manilkara zapota*: FSM (1/4); Solomon Islands (2/6); *Pouteria caimito*: PNG (1/5). *Pouteria campechiana*: PNG (4/8).
- SAPOTACEAE
- THYMELAEACEAE *Phaleria macrocarpa*: PNG (1/2).
- Bactrocera (Bactrocera) grandistylus* Drew & Hancock**  
Distribution: New Caledonia. Male lure: Not known.
- EBENACEAE *Diospyros fasciculosa*: New Caledonia (1/1).
- Bactrocera (Bactrocera) jarvisi* (Tryon)**  
Distribution: Australia, Indonesia (West Papua), Papua New Guinea (Mainland). Male lure: Cue-lure, zingerone.
- LECYTHIDACEAE *Planchonia papuana*: PNG (1/2).
- Bactrocera (Bactrocera) kirki* (Froggatt) (Fig. 12)**  
Distribution: American Samoa, French Polynesia (except Marquesas), Fiji Islands (Rotuma), Niue, Samoa, Tonga, Wallis and Futuna. Male lure: Cue-lure.
- ANACARDIACEAE *Anacardium occidentale*: Tonga (DSIR New Zealand collection label data). *Mangifera indica* (P): French Polynesia (27/633); Samoa (3/8); Tonga (6/85). *Pleiogynium solandri*: Tonga (1/31). *Spondias dulcis*: French Polynesia (2/84). Tonga (1/19). *Spondias mombin* (P): French Polynesia (Hammes et al. 1989).
- ANNONACEAE *Annona muricata*: French Polynesia (10/77); Samoa (1/7); Tonga (1/40). *Annona reticulata*: French Polynesia (1/3).
- APOCYNACEAE *Ochrosia oppositifolia* (P): Tonga (1/90).
- CALOPHYLLACEAE *Calophyllum inophyllum*: Samoa (6/10); Tonga (3/44).

- CARICACEAE *Carica papaya*: French Polynesia (4/231).
- COMBRETACEAE *Terminalia catappa* (P): French Polynesia (285/479); Samoa (111/114); Tonga (52/72). *Terminalia littoralis*: Tonga (11/15).
- ELAEOCARPACEAE *Elaeocarpus tonganus*: Tonga (1/1); Samoa (1/1).
- LAURACEAE *Persea americana*: French Polynesia (8/77); Samoa (1/12); Tonga (5/33).
- LEGUMINOSAE *Inocarpus fagifer* (P): French Polynesia (372/994); Samoa (13/16); Tonga (3/73).
- MELIACEAE *Cedrela odorata*: Tonga (1/1).
- MYRTACEAE *Eugenia brasiliensis*: Samoa (1/1). *Eugenia uniflora* (P): Tonga (4/9). *Psidium cattleianum* (P): French Polynesia (19/35). *Psidium guajava* (P): French Polynesia (303/704); Samoa (37/41); Tonga (74/92). *Syzygium aqueum*: Samoa (3/3). *Syzygium corynocarpum* (P): Samoa (3/4); Tonga (1/8). *Syzygium dealbatum* (P): Tonga (Litsinger et al. 1991). *Syzygium gracilipes*: Samoa (5/5). *Syzygium jambos* (P): French Polynesia (Leblanc and Putoa 2000); Samoa (5/5); Tonga (19/22). *Syzygium malaccense* (P): French Polynesia (3/8); Samoa (6/6); Tonga (19/23). *Syzygium neurocalyx* (P): Samoa (8/8); Tonga (Litsinger et al. 1991). *Syzygium richii* (P): Tonga (1/14).
- OXALIDACEAE *Averrhoa carambola* (P): French Polynesia (32/134); Tonga (Litsinger et al. 1991).
- PASSIFLORACEAE *Passiflora edulis* (P): Tonga (Litsinger et al. 1991). Samoa (1/11). *Passiflora quadrangularis*: French Polynesia (1/5).
- ROSACEAE *Eriobotrya japonica* (P): French Polynesia (2/2).
- RUBIACEAE *Morinda citrifolia*: French Polynesia (2/2); Samoa (2/2).
- RUTACEAE *Citrus maxima*: French Polynesia (27/214); Tonga (RFFP record). *Citrus reticulata* (P): French Polynesia (1/23); Tonga (2/49). *Citrus sinensis* (P): French Polynesia (3/58); Tonga (2/61). *Micromelum minutum*: Tonga (1/65).
- SAPINDACEAE *Pometia pinnata* (P): French Polynesia (3/51); Samoa (1/1); Tonga (1/22).
- SAPOTACEAE *Pouteria caimito*: Samoa (1/5).
- SOLANACEAE *Capsicum annuum* (sweet pepper) (P): Tonga (Litsinger et al. 1991). *Lycopersicon esculentum*: French Polynesia (3/42). *Solanum melongena*: French Polynesia (1/8).
- Bactrocera (Bactrocera) lineata* (Perkins) (Fig. 13)**  
Distribution: Indonesia (West Papua), Papua New Guinea (Mainland). Male lure: Cue-lure.
- APOCYNACEAE *Tabernaemontana aurantiaca*: PNG (1/1).
- MORACEAE *Ficus conocephalifolia*: PNG (Novotny et al. 2005).
- SAPINDACEAE *Pometia pinnata*: PNG (1/6).

***Bactrocera (Bactrocera) luteola* (Malloch)**

Distribution: French Polynesia. Male lure: Not known.

RUBIACEAE *Guettarda speciosa* (P): French Polynesia (Drew 1989).***Bactrocera (Bactrocera) melanotus* (Coquillett) (Fig. 14)**

Distribution: Cook Islands. Male lure: Cue-lure.

ANACARDIACEAE *Mangifera indica* (P): Cook Islands (6).  
 ANNONACEAE *Annona cherimola*: Cook Islands (2). *Annona squamosa*:  
 Cook Islands (1).  
 ARALIACEAE *Meryta pauciflora*: Cook Islands (1).  
 CALLOPHYLLACEAE *Calophyllum inophyllum*: Cook Islands (21).  
 CARICACEAE *Carica papaya* (P): Cook Islands (8).  
 COMBRETACEAE *Terminalia catappa*: Cook Islands (17).  
 GENTIANACEAE *Fagraea berteriana*: Cook Islands (1).  
 LAURACEAE *Persea americana* (P): Cook Islands (8).  
 LEGUMINOSAE *Inocarpus fagifer*: Cook Islands (39).  
 MELASTOMATACEAE *Melastoma* sp: Cook Islands (1).  
 MORACEAE *Artocarpus altilis*: Cook Islands (3). *Artocarpus*  
*heterophyllus*: Cook Islands (1).  
 MYRTACEAE *Eugenia uniflora*: Cook Islands (2). *Psidium cattleianum*:  
 Cook Islands (1). *Psidium guajava* (P): Cook Islands (41).  
*Syzygium cumini*: Cook Islands (2). *Syzygium jambos*:  
 Cook Islands (16/).  
 OXALIDACEAE *Averrhoa carambola*: Cook Islands (2).  
 ROSACEAE *Eriobotrya japonica*: Cook Islands (1).  
 RUBIACEAE *Coffea arabica*: Cook Islands (1). *Guettarda speciosa*:  
 Cook Islands (5). *Morinda citrifolia*: Cook Islands (5).  
 RUTACEAE *Citrus maxima*: Cook Islands (4). *Citrus paradisi*: Cook  
 Islands (4). *Citrus reticulata*: Cook Islands (1). *Citrus*  
*sinensis*: Cook Islands (8).  
 SAPOTACEAE *Manilkara zapota*: Cook Islands (1).  
 SOLANACEAE *Lycopersicon esculentum*: Cook Islands (4). *Solanum*  
*mauritanum*: Cook Islands (1). *Solanum melongena*:  
 Cook Islands (1).

***Bactrocera (Bactrocera) minuta* (Drew)**

Distribution: Solomon Islands, Vanuatu. Male lure: Cue-lure.

APOCYNACEAE *Cerbera manghas*: Vanuatu (8/14). *Cerbera odollam*:  
 Vanuatu (1/1).MORACEAE *Antiaris toxicaria*: Vanuatu (6/13).***Bactrocera (Bactrocera) moluccensis* Perkins (Fig. 15)**Distribution: Australia, Indonesia, Papua New Guinea (widespread), Solomon Islands.  
 Male lure: Cue-lure.LEGUMINOSAE *Inocarpus fagifer* (P): Solomon Islands (2/16); PNG (11/22).

***Bactrocera (Bactrocera) mucronis (Drew)***

Distribution: New Caledonia. Male lure: Cue-lure.

- ANNONACEAE            *Annona reticulata*: New Caledonia (Mille 2008).  
 APOCYNACEAE        *Cascabela thevetia*: New Caledonia (2/8). *Cerbera manghas*: New Caledonia (4/6).  
 COMBRETACEAE       *Terminalia catappa*: New Caledonia (1/46).  
 EUPHORBIACEAE      *Fontainea pancheri*: New Caledonia (2/4).  
 MYRTACEAE            *Psidium guajava*: New Caledonia (1/145).

***Bactrocera (Bactrocera) murrayi (Perkins)***

Distribution: Australia, Papua New Guinea (Mainland). Male lure: Not known.

- ANACARDIACEAE        *Semecarpus forstenii*: PNG (1/1).

***Bactrocera (Bactrocera) musae (Tryon)*** (Fig. 16)

Distribution: Australia, Papua New Guinea (Mainland, East New Britain), Solomon Islands (?). Male lure: Methyl eugenol.

- CARICACEAE            *Carica papaya* (P): PNG (2/106).  
 MUSACEAE              *Musa x paradisiaca* (P): PNG (29/130).

***Bactrocera (Bactrocera) naucleae Drew & Romig***

Distribution: Solomon Islands. Male lure: Methyl eugenol.

- RUBIACEAE              *Nauclea* sp: Solomon Islands (2/2).

***Bactrocera (Bactrocera) neocheesmanae Drew***

Distribution: Papua New Guinea (Mainland). Male lure: Methyl eugenol.

- CLUSIACEAE            *Garcinia* cf. *hollrungii*: PNG (Novotny et al. 2005).  
                               *Garcinia ledermannii*: PNG (Novotny et al. 2005).  
 RUBIACEAE              *Atractocarpus macarthurii*: PNG (Novotny et al. 2005).

***Bactrocera (Bactrocera) neohumeralis (Hardy)***

Distribution: Australia, Papua New Guinea (Mainland). Male lure: Cue-lure.

- MYRTACEAE            *Psidium guajava* (P): PNG (1/163).

***Bactrocera (Bactrocera) nigrovittata Drew***

Distribution: Indonesia (West Papua), Papua New Guinea (Mainland). Male lure: Not known.

- LAURACEAE            *Endiandra* sp (P): PNG (Drew 1989).  
 SOLANACEAE           *Solanum rudemannum* (P): PNG (Drew 1989).

***Bactrocera (Bactrocera) obliqua (Malloch)*** (Fig. 17)

Distribution: Papua New Guinea (Bismarck Archipelago, Bougainville). Male lure: Not known.

- CELASTRACEAE        *Celastrus* sp: PNG (1/2).



- MYRTACEAE *Psidium guajava*: PNG (32/163). *Syzygium aquaeum*: PNG (2/13). *Syzygium malaccense* (P): PNG (4/40).
- PHYLLANTHACEAE *Baccaurea papuana*: PNG (3/8).

***Bactrocera (Bactrocera) ochrosiae* (Malloch)**

Distribution: Guam, Northern Marianas, Hawaii (Molokai). Male lure: Cue-lure.

- APOCYNACEAE *Ochrosia mariannensis* (P): CNMI (Waterhouse 1993).  
*Ochrosia* sp (P): Guam (Hardy and Adachi 1956).
- MELIACEAE *Aglaia mariannensis* (P): CNMI (Hardy and Adachi 1956);  
 Guam (Hardy and Adachi 1956).
- MYRTACEAE *Eugenia uniflora* (P): CNMI (Waterhouse 1993).
- OLACACEAE *Ximenia americana* (P): Guam (Hardy and Adachi 1956).

***Bactrocera (Bactrocera) pallida* (Perkins & May)**

Distribution: Australia, Papua New Guinea (Mainland). Male lure: Methyl eugenol.

- RUBIACEAE *Nauclea orientalis* (P): PNG (2/11).

***Bactrocera (Bactrocera) papayae* Drew & Hancock** (Fig. 18)

Distribution: Tropical Asia, Papua New Guinea (Mainland), Palau. Male lure: Methyl eugenol.

- ANACARDIACEAE *Anacardium occidentale*: PNG (1/31). *Mangifera indica*:  
 PNG (1/52).
- CALLOPHYLLACEAE *Calophyllum inophyllum*: Palau (1/5).
- CARICACEAE *Carica papaya*: PNG (3/106); Palau (3/12).
- COMBRETACEAE *Terminalia catappa*: Palau (2/8).
- MUSACEAE *Musa* sp: Palau (1/2).
- MYRTACEAE *Psidium guajava*: PNG (2/163); Palau (6/9).
- OXALIDACEAE *Averrhoa carambola*: PNG (1/113); Palau (11/17).
- RUTACEAE *Citrus aurantium*: Palau (1/3). *Citrus maxima*: PNG (1/28).  
*Citrus x microcarpa*: Palau (2/5).
- SOLANACEAE *Capsicum annuum* (sweet pepper): Palau (1/2). *Capsicum*  
 sp: PNG (1/8).

***Bactrocera (Bactrocera) paramusae* Drew** (Fig. 19)

Distribution: Indonesia (West Papua), Papua New Guinea (Mainland). Male lure: Cue-lure.

- ANACARDIACEAE *Dracontomelon dao*: PNG (2/5). *Spondias dulcis*: PNG  
 (Novotny et al. 2005).

***Bactrocera (Bactrocera) passiflorae* (Froggatt)** (Fig. 20)

Distribution: Fiji Islands, Niue, Wallis and Futuna. Male lure: Cue-lure.

- ANACARDIACEAE *Anacardium occidentale* (P): Fiji (3/25). *Mangifera indica*  
 (P): Fiji (13/142).
- ANNONACEAE *Annona muricata*: Fiji (5/54). *Annona reticulata*: Fiji  
 (1/46). *Cananga odorata*: Fiji (1/12).



- APOCYNACEAE *Cascabela thevetia*: Fiji (1/15). *Cerbera manghas*: Fiji (2/16). *Ochrosia oppositifolia* (P): Fiji (15/56).
- BIGNONIACEAE *Pyrostegia venusta*: Fiji (4/5).
- CALLOPHYLLACEAE *Calophyllum inophyllum* (P): Fiji (Hinckley 1965); Wallis & Futuna (1/3).
- CARICACEAE *Carica papaya* (P): Fiji (Simmonds 1936, Hinckley 1965). These records may be based on sampling an overripe fruit. Waimanalo and Sunrise papaya are not hosts to *B. passiflorae* in Fiji, until at least half ripe (Heimoana et al. 1997).
- CLUSIACEAE *Garcinia x mangostana*: Fiji (1/42).
- COMBRETACEAE *Terminalia catappa*: Fiji (6/34); Wallis & Futuna (2/2). *Terminalia littoralis*: Fiji (3/4).
- ELAEOCARPACEAE *Elaeocarpus angustifolius*: Fiji (1/6).
- LAURACEAE *Persea americana* (P): Fiji (3/7).
- LECYTHIDACEAE *Barringtonia edulis* (P): Fiji (3/47).
- LEGUMINOSAE *Inocarpus fagifer* (P): Fiji (10/40); Wallis & Futuna (2/6).
- LONGANIACEAE *Neuburgia corynocarpa*: Fiji (2/7).
- LYTHRACEAE *Punica granatum*: Fiji (1/39).
- MALVACEAE *Theobroma cacao* (P): Fiji (Hinckley 1965).
- MELIACEAE *Aglaia basiphylla*: Fiji (1/2).
- MORACEAE *Artocarpus altilis* (P): Fiji (4/123); Wallis & Futuna (3/6). *Artocarpus heterophyllus* (P): Fiji (3/39).
- MYRTACEAE *Psidium cattleianum* (P): Fiji (7/21). *Psidium guajava* (P): Fiji (70/260); Wallis & Futuna (1/3). *Syzygium jambos* (P): Fiji (21/37). *Syzygium malaccense* (P): Fiji (24/42); Wallis & Futuna (1/2). *Syzygium megacarpum*: Fiji (1/3). *Averrhoa carambola*: Fiji (3/157).
- OXALIDACEAE *Passiflora edulis* (P): Fiji (1/52). *Passiflora quadrangularis* (P): Fiji (Simmonds 1936).
- ROSACEAE *Chrysobalanus icaco*: Fiji (3/11).
- RUBIACEAE *Coffea liberica* (P): Fiji (Simmonds 1936). *Guettarda speciosa*: Fiji (1/4); Wallis & Futuna (1/2).
- RUTACEAE *Citrus aurantium* (P): Fiji (Simmonds 1936). *Citrus japonica*: Fiji (40/146). *Citrus limon*: Fiji (9/219). *Citrus maxima*: Fiji (21/79). *Citrus paradisi* (P): Fiji (13/96). *Citrus reticulata* (P): Fiji (13/137). *Citrus sinensis* (P): Fiji (14/221).
- SANTALACEAE *Santalum yasi* (P): Fiji (Simmonds 1936).
- SAPINDACEAE *Pometia pinnata* (P): Fiji (4/10).
- SAPOTACEAE *Chrysophyllum cainito* (P): Fiji (3/32). *Manilkara zapota*: Fiji (11/72). *Planchonella chartacea*: Fiji (1/1).
- SIMABOURACEAE *Amaroria soulameoides*: Fiji (13/33).
- SOLANACEAE *Capsicum annuum* (chilli) (P): Fiji (Hinckley 1965). Note that several varieties of chilli are not hosts to *B. passiflorae* in Fiji (Heimoana et al. 1997).

***Bactrocera (Bactrocera) passiflorae* (sp.nr.)**

Distribution: Fiji Islands, Tokelau, Tonga (Niuas group), Tuvalu. Male lure: Cue-lure. Characterized by Drew and Hancock (1995) as the pale form of *B. passiflorae*, though not described, designated or named as new species.

ANACARDIACEAE	<i>Anacardium occidentale</i> (P): Tonga (Litsinger et al. 1991). <i>Mangifera indica</i> : Tonga (1/85).
ANNONACEAE	<i>Cananga odorata</i> : Tonga (1/14).
APOCYNACEAE	<i>Ochrosia oppositifolia</i> (P): Fiji (1/56). Tonga (6/90).
CALOPHYLLACEAE	<i>Calophyllum inophyllum</i> : Tonga (2/44).
CARICACEAE	<i>Carica papaya</i> (P): Tonga (Litsinger et al. 1991).
COMBRETACEAE	<i>Terminalia catappa</i> : Tonga (1/72). <i>Terminalia littoralis</i> : Tonga (1/15).
HERNANDIACEAE	<i>Hernandia nymphaeifolia</i> : Tonga (1/34).
LAURACEAE	<i>Persea americana</i> (P): Tonga (Litsinger et al. 1991).
LEGUMINOSAE	<i>Inocarpus fagifer</i> : Tonga (2/73).
MALVACEAE	<i>Theobroma cacao</i> (P): Tonga (Litsinger et al. 1991).
MYRTACEAE	<i>Psidium guajava</i> (P): Tonga (Litsinger et al. 1991).
PASSIFLORACEAE	<i>Passiflora quadrangularis</i> (P): Tonga (Litsinger et al. 1991).
RUBIACEAE	<i>Guettarda speciosa</i> : Tonga (7/32).
RUTACEAE	<i>Citrus reticulata</i> (P): Tonga (Litsinger et al. 1991). <i>Citrus sinensis</i> : Tonga (3/61).
SAPINDACEAE	<i>Pometia pinnata</i> : Tonga (1/22).
SOLANACEAE	<i>Solanum melongena</i> (P): Tonga (Litsinger et al. 1991).
THYMELAEACEAE	<i>Phaleria disperma</i> : Tonga (1/38).

***Bactrocera (Bactrocera) perfusca* (Aubertin)**

Distribution: French Polynesia (Marquesas Islands). Male lure: Cue-lure.

ANACARDIACEAE	<i>Anacardium occidentale</i> : French Polynesia (Leblanc and Putoa 2000).
COMBRETACEAE	<i>Terminalia catappa</i> : French Polynesia (Leblanc and Putoa 2000).
MYRTACEAE	<i>Syzygium jambos</i> : French Polynesia (Leblanc and Putoa 2000).
SANTALACEAE	<i>Santalum</i> sp: French Polynesia (Leblanc and Putoa 2000).

***Bactrocera (Bactrocera) phaea* (Drew)**

Distribution: Papua New Guinea (Mainland, Bismarck Archipelago), Solomon Islands. Male lure: Cue-lure.

ZINGIBERACEAE	<i>Alpinia purpurata</i> : Solomon Islands (Hollingsworth et al. 2003).
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***Bactrocera (Bactrocera) psidii* (Froggatt) (Fig. 21)**

Distribution: New Caledonia. Male lure: Cue-lure.

ANACARDIACEAE	<i>Anacardium occidentale</i> : New Caledonia (1/3). <i>Mangifera indica</i> (P): New Caledonia (9/68).
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- ANNONACEAE *Annona muricata*: New Caledonia (1/1). *Annona reticulata*: New Caledonia (1/8). *Annona squamosa* (P): New Caledonia (1/2).
- APOCYNACEAE *Cascabela thevetia*: New Caledonia (1/8). *Cerbera manghas*: New Caledonia (1/6).
- CARICACEAE *Carica papaya* (P): New Caledonia (Cochereau 1970).
- COMBRETACEAE *Terminalia catappa*: New Caledonia (17/46).
- EBENACEAE *Diospyros kaki*: New Caledonia (1/3). *Diospyros macrocarpa*: New Caledonia (3/7). *Diospyros mespiliformis*: New Caledonia (1/1).
- EUPHORBIACEAE *Aleurites moluccana*: New Caledonia (Amice and Sales 1997).
- LYTHRACEAE *Punica granatum*: New Caledonia (Mademba–Sy 2000).
- MALPIGHIACEAE *Malpighia glabra*: New Caledonia (2/5).
- MORACEAE *Ficus* sp: New Caledonia (1/45). *Morus alba*: New Caledonia (1/4).
- MYRTACEAE *Eugenia uniflora*: New Caledonia (3/10). *Psidium acutangulum*: New Caledonia (3/3). *Psidium cattleianum* (P): New Caledonia (10/33). *Psidium guajava* (P): New Caledonia (91/145). *Syzygium jambos*: New Caledonia (33/37). *Syzygium malaccense*: New Caledonia (5/7). *Averrhoa carambola*: New Caledonia (1/20).
- OXALIDACEAE *Passiflora quadrangularis* (P): New Caledonia (Drew 1989).
- PASSIFLORACEAE
- ROSACEAE *Fragaria vesca*: New Caledonia (1/2). *Prunus domestica* (P): New Caledonia (Cochereau 1970). *Prunus persica* (P): New Caledonia (18/28). *Prunus simonii*: New Caledonia (4/5).
- RUTACEAE *Citrus maxima*: New Caledonia (1/28).
- VITACEAE *Vitis vinifera* (P): New Caledonia (Cochereau 1970).

***Bactrocera (Bactrocera) quadrisetosa (Bezzi)***

Distribution: Solomon Islands, Vanuatu. Male lure: Not known.

- SAPINDACEAE *Pometia pinnata*: Solomon Islands (4/4). Vanuatu (8/17).

***Bactrocera (Bactrocera) redunca (Drew)***

Distribution: Papua New Guinea (Mainland, New Britain, Bougainville), Solomon Islands, Vanuatu. Male lure: Cue-lure.

- MENISPERMACEAE *Pycnarrhena ozantha*: Vanuatu (1/2).

***Bactrocera (Bactrocera) samoae Drew***

Distribution: Samoa. Male lure: Not known.

- ANNONACEAE *Cananga odorata*: Samoa (1/1).
- APOCYNACEAE *Cerbera odollam*: Samoa (5/5). *Ochrosia oppositifolia*: Samoa (2/3).
- ARALIACEAE *Polyscias* sp: Samoa (2/2).
- CALLOPHYLLACEAE *Calophyllum inophyllum*: Samoa (2/10).

COMBRETACEAE	<i>Terminalia catappa</i> : Samoa (2/114).
EBENACEAE	<i>Diospyros foliosa</i> : Samoa (8/9).
GENTIANACEAE	<i>Fagraea berteroaana</i> : Samoa (1/1).
RUBIACEAE	<i>Guettarda speciosa</i> : Samoa (2/2).
RUTACEAE	<i>Micromelum minutum</i> : Samoa (1/1). <i>Murraya paniculata</i> : Samoa (8/8).

***Bactrocera (Bactrocera) simulata* (Malloch)**

Distribution: Papua New Guinea (Bougainville), Solomon Islands, Vanuatu. Male lure: Cue-lure.

CUCURBITACEAE	<i>Coccinia grandis</i> : Solomon Islands (1/22).
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***Bactrocera (Bactrocera) terminaliae* Drew**

Distribution: Papua New Guinea (Mainland). Male lure: Not known.

COMBRETACEAE	<i>Terminalia complanata</i> (P): PNG (Drew 1989).
LAURACEAE	<i>Endiandra</i> sp (P): PNG (Drew 1989).

***Bactrocera (Bactrocera) tinomiscii* Drew (Fig. 22)**

Distribution: Papua New Guinea (Mainland). Male lure: Cue-lure.

MENISPERMACEAE	<i>Chlaenandra ovata</i> (P): PNG (Drew 1989). <i>Macrocooccus pomiferus</i> : PNG (Drew, unpublished). <i>Tinomiscium phytocrenoides</i> (P): PNG (Drew 1989).
POLYGALACEAE	<i>Xanthophyllum papuanum</i> (P): PNG (Drew 1989).
RUBIACEAE	<i>Ixora novoguineensis</i> : PNG (Novotny et al. 2005).

***Bactrocera (Bactrocera) trilineola* Drew (Fig. 23)**

Distribution: New Caledonia, Vanuatu. Male lure: Cue-lure.

ANACARDIACEAE	<i>Anacardium occidentale</i> : Vanuatu (1/1). <i>Mangifera indica</i> (P): Vanuatu (4/27). <i>Semecarpus vitiensis</i> : Vanuatu (1/6). <i>Spondias dulcis</i> : Vanuatu (1/42).
ANNONACEAE	<i>Annona muricata</i> : Vanuatu (7/52).
APOCYNACEAE	<i>Ochrosia oppositifolia</i> : Vanuatu (3/22).
CARICACEAE	<i>Carica papaya</i> (P): Vanuatu (3/114).
COMBRETACEAE	<i>Terminalia catappa</i> : Vanuatu (20/47). <i>Terminalia sepicana</i> : Vanuatu (1/1).
LAURACEAE	<i>Persea americana</i> (P): Vanuatu (3/13).
LEGUMINOSAE	<i>Inocarpus fagifer</i> : Vanuatu (15/39).
MELIACEAE	<i>Dysoxylum gaudichaudianum</i> : Vanuatu (2/20).
MORACEAE	<i>Artocarpus altilis</i> (P): Vanuatu (1/64). <i>Ficus aspera</i> : Vanuatu (1/37).
MUSACEAE	<i>Musa</i> sp: Vanuatu (1/37).
MYRTACEAE	<i>Eugenia uniflora</i> : Vanuatu (1/5). <i>Psidium guajava</i> (P): Vanuatu (28/56). <i>Syzygium elusiiifolium</i> : Vanuatu (1/1). <i>Syzygium jambos</i> : Vanuatu (Allwood 2000a). <i>Syzygium malaccense</i> (P): Vanuatu (14/18).

OXALIDACEAE	<i>Averrhoa carambola</i> : Vanuatu (1/2).
RUBIACEAE	<i>Guettarda speciosa</i> : Vanuatu (3/12).
RUTACEAE	<i>Citrus japonica</i> : Vanuatu (1/9). <i>Citrus limon</i> : Vanuatu (1/71). <i>Citrus maxima</i> (P): Vanuatu (1/109). <i>Citrus reticulata</i> : Vanuatu (1/46). <i>Citrus sinensis</i> (P): Vanuatu (1/30).
SANTALACEAE	<i>Santalum austrocaledonicum</i> : Vanuatu (1/2).
SAPINDACEAE	<i>Pometia pinnata</i> : Vanuatu (15/17).
SAPOTACEAE	<i>Burckella obovata</i> : Vanuatu (1/10). <i>Pouteria guayana</i> : Vanuatu (1/7).

***Bactrocera (Bactrocera) trivialis* (Drew) (Fig. 24)**

Distribution: Indonesia (West Papua), Papua New Guinea (Mainland, trapped once in East New Britain). Male lure: Cue-lure.

ANACARDIACEAE	<i>Mangifera indica</i> : PNG (Dori et al. 1993).
COMBRETACEAE	<i>Terminalia catappa</i> : PNG (3/21).
LECYTHIDACEAE	<i>Barringtonia calyptrocalyx</i> : PNG (Novotny et al. 2005). <i>Planchonia caryea</i> : PNG (1/1). <i>Planchonia papuana</i> : PNG (1/2).
MYRTACEAE	<i>Psidium guajava</i> (P): PNG (23/163). <i>Syzygium longipes</i> : PNG (Novotny et al. 2005). <i>Syzygium</i> cf. <i>pachycladum</i> : PNG (Novotny et al. 2005). <i>Syzygium</i> cf. <i>samarangense</i> : PNG (Novotny et al. 2005). <i>Syzygium</i> sp: PNG (8/45).
OXALIDACEAE	<i>Averrhoa carambola</i> : PNG (1/113).
PANDANACEAE	<i>Galearia celebica</i> : PNG (Novotny et al. 2005).
PHYLLANTHACEAE	<i>Baccaurea</i> sp: PNG (2/3).
ROSACEAE	<i>Prunus persica</i> (P): PNG (Drew 1989).
RUTACEAE	<i>Citrus paradisi</i> (P): PNG (Drew 1989). <i>Citrus sinensis</i> : PNG (1/13).
SOLANACEAE	<i>Capsicum annum</i> (chilli) (P): PNG (Drew 1989).

***Bactrocera (Bactrocera) tryoni* (Froggatt) (Fig. 25)**

Distribution: Australia, New Caledonia, French Polynesia, Pitcairn Island. Male lure: Cue-lure.

ANACARDIACEAE	<i>Anacardium occidentale</i> : New Caledonia (1/3). <i>Mangifera indica</i> (P): French Polynesia (156/633); New Caledonia (27/68). <i>Spondias dulcis</i> : French Polynesia (22/84); New Caledonia (4/15). <i>Spondias mombin</i> (P): French Polynesia (Hammes et al. 1989).
ANNONACEAE	<i>Annona muricata</i> : French Polynesia (34/77). <i>Annona reticulata</i> : French Polynesia (1/3); New Caledonia (3/8). <i>Annona squamosa</i> : New Caledonia (1/2). <i>Cananga odorata</i> : French Polynesia (1/1).
APOCYNACEAE	<i>Cascabela thevetia</i> : New Caledonia (3/8).
BURSERACEAE	<i>Canarium vulgare</i> : French Polynesia (3/8).
CALLOPHYLLACEAE	<i>Calophyllum inophyllum</i> : French Polynesia (2/7).
CARICACEAE	<i>Carica papaya</i> (P): French Polynesia (31/231).
COMBRETACEAE	<i>Terminalia catappa</i> (P): French Polynesia (402/479); New

	Caledonia (40/46).
CUCURBITACEAE	<i>Cucurbita pepo</i> (P): French Polynesia (1/5).
EBENACEAE	<i>Diospyros kaki</i> : New Caledonia (1/3). <i>Diospyros mespiliformis</i> : New Caledonia (1/1).
HERNANDIACEAE	<i>Hernandia cordigera</i> : New Caledonia (1/4).
LAURACEAE	<i>Persea americana</i> (P): French Polynesia (31/77); New Caledonia (4/4).
LECYTHIDACEAE	<i>Barringtonia asiatica</i> : French Polynesia (Hammes et al. 1989). <i>Barringtonia edulis</i> : French Polynesia (2/2).
LEGUMINOSAE	<i>Inocarpus fagifer</i> (P): French Polynesia (622/994).
LYTHRACEAE	<i>Punica granatum</i> : New Caledonia (1/4).
MALPIGHIACEAE	<i>Malpighia glabra</i> : New Caledonia (4/5).
MORACEAE	<i>Artocarpus attilis</i> : French Polynesia (3/42); New Caledonia (2/20). <i>Artocarpus heterophyllus</i> : New Caledonia (1/31). <i>Ficus pancheriana</i> : New Caledonia (2/2). <i>Ficus</i> sp: New Caledonia (Mille 2008). <i>Morus alba</i> : New Caledonia (3/4).
MUSACEAE	<i>Musa troglodytarum</i> : French Polynesia (1/2). <i>Musa x paradisiaca</i> : French Polynesia (13/107); New Caledonia (3/4).
MYRTACEAE	<i>Eugenia uniflora</i> : French Polynesia (3/3); New Caledonia (6/10). <i>Psidium acutangulum</i> : New Caledonia (2/3). <i>Psidium cattleianum</i> (P): New Caledonia (23/33). <i>Psidium guajava</i> (P): French Polynesia (451/704); New Caledonia (105/145). <i>Syzygium cumini</i> : French Polynesia (1/6). <i>Syzygium jambos</i> : French Polynesia (2/3); New Caledonia (24/37). <i>Syzygium malaccense</i> : French Polynesia (5/8); New Caledonia (3/7).
OLACACEAE	<i>Ximenia americana</i> : New Caledonia (1/7).
OXALIDACEAE	<i>Averrhoa carambola</i> : French Polynesia (70/134); New Caledonia (14/20).
PASSIFLORACEAE	<i>Passiflora edulis</i> (P): French Polynesia (Hammes et al. 1989); New Caledonia (1/15). <i>Passiflora laurifolia</i> : French Polynesia (1/2). <i>Passiflora quadrangularis</i> : French Polynesia (2/5); New Caledonia (1/1).
RHAMNACEAE	<i>Zizyphus mauritiana</i> : New Caledonia (3/3).
ROSACEAE	<i>Eriobotrya japonica</i> (P): French Polynesia (Hammes et al. 1989); New Caledonia (6/8). <i>Fragaria vesca</i> : New Caledonia (2/2). <i>Prunus domestica</i> : French Polynesia (1/1); New Caledonia (1/1). <i>Prunus persica</i> : New Caledonia (20/28). <i>Prunus simonii</i> : New Caledonia (4/5).
RUBIACEAE	<i>Coffea</i> sp: New Caledonia (Mademba–Sy 2000). <i>Morinda citrifolia</i> : French Polynesia (1/29); New Caledonia (1/3).
RUTACEAE	<i>Casimiroa edulis</i> : New Caledonia (2/2). <i>Citrus aurantiifolia</i> : French Polynesia (4/17). <i>Citrus japonica</i> : New Caledonia (1/2). <i>Citrus latifolia</i> : French Polynesia (3/16); New Caledonia (2/33). <i>Citrus maxima</i> : French Polynesia (71/214); New Caledonia (9/28). <i>Citrus paradisi</i> :

- New Caledonia (2/18). *Citrus reticulata*: French Polynesia (5/23); New Caledonia (2/18). *Citrus sinensis*: French Polynesia (8/58); New Caledonia (2/35).
- SAPINDACEAE *Litchi sinensis*: French Polynesia (1/4). *Nephelium lappaceum*: French Polynesia (1/5). *Pometia pinnata* (P): French Polynesia (16/51); New Caledonia (1/2).
- SAPOTACEAE *Chrysophyllum cainito*: French Polynesia (5/31); New Caledonia (1/1). *Planchonella sphaerocarpa*: French Polynesia (1/1); New Caledonia (1/1). *Pouteria cainito*: French Polynesia (1/11).
- SOLANACEAE *Capsicum annuum* (sweet pepper): New Caledonia (4/9). *Lycopersicon esculentum*: New Caledonia (3/9). *Solanum mauritianum*: New Caledonia (1/3). *Solanum melongena*: French Polynesia (1/8); New Caledonia (1/3).

***Bactrocera (Bactrocera) umbrosa* (Fabricius) (Fig. 26)**

Distribution: South East Asia, New Caledonia, Palau, Papua New Guinea (widespread), Solomon Islands, Vanuatu. Male lure: Methyl eugenol.

- MORACEAE *Artocarpus altilis* (P): New Caledonia (6/20); PNG (4/25); Solomon Islands (22/80); Vanuatu (19/64). *Artocarpus heterophyllus* (P): New Caledonia (7/31).

***Bactrocera (Bactrocera) uvariae* Drew**

Distribution: Papua New Guinea (Mainland). Male lure: Cue-lure.

- ANNONACEAE *Uvaria* sp: PNG (Drew et al. 2011).

***Bactrocera (Bulladacus) aenigmatica* (Malloch)**

Distribution: Samoa. Male lure: Not known.

- MELIACEAE *Aglaia samoensis*: Samoa (1/1).

***Bactrocera (Bulladacus) bullata* Drew**

Distribution: Papua New Guinea (Mainland). Male lure: Not known.

- CLUSIACEAE *Garcinia* sp (P): PNG (Drew 1989).
- GNETACEAE *Gnetum gnetum*: PNG (3/20).
- THYMELAEACEAE *Phaleria macrocarpa*: PNG (Novotny et al. 2005).

***Bactrocera (Bulladacus) eximia* Drew**

Distribution: Papua New Guinea (Mainland). Male lure: Not known.

- COMBRETACEAE *Terminalia brassii* (P): PNG (Drew 1989). *Terminalia catappa*: PNG (1/21).

***Bactrocera (Bulladacus) gnetum* Drew & Hancock**

Distribution: Fiji Islands. Male lure: Not known.

- GNETACEAE *Gnetum gnetum*: Fiji (5/29).

***Bactrocera (Bulladacus) pacifica* Drew & Romig**



Distribution: Solomon Islands. Male lure: Not known.

GNETACEAE *Gnetum gnemon*: Solomon Islands (3/3).

***Bactrocera (Bulladacus) penefurva* Drew (Fig. 27)**

Distribution: Papua New Guinea (Mainland), Solomon Islands. Male lure: Not known.

COMBRETACEAE *Terminalia catappa*: PNG (1/21); Solomon Islands (1/32).  
*Terminalia kaernbachii*: PNG (1/9).

GNETACEAE *Gnetum gnemon*: Solomon Islands (Hollingsworth et al. 2003).

***Bactrocera (Gymnodacus) calophylli* (Perkins & May)**

Distribution: Peninsular Malaysia, Singapore, Australia, Palau, Solomon Islands, Vanuatu. Male lure: Not known.

CALLOPHYLLACEAE *Calophyllum inophyllum* (P): Solomon Islands (8/45); Vanuatu (5/25). *Calophyllum peekelii*: Solomon Islands (Hollingsworth et al. 2003).

***Bactrocera (Gymnodacus) hastigerina* (Hardy)**

Distribution: Papua New Guinea (East New Britain), Solomon Islands. Male lure: Not known.

ANACARDIACEAE *Spondias dulcis*: PNG (Novotny et al. 2005); Solomon Islands (9/16).

***Bactrocera (Hemisurstylus) melanoscutata* Drew**

Distribution: Papua New Guinea (East New Britain). Male lure: Not known.

CLUSIACEAE *Garcinia xanthochymus* (P): PNG (Drew 1989).

***Bactrocera (Notodacus) neoxanthodes* Drew & Romig (Fig. 28)**

Distribution: Vanuatu. Male lure: Not known.

LECYTHIDACEAE *Barringtonia edulis* (P): Vanuatu (18/79).

PASSIFLORACEAE *Passiflora suberosa*: Vanuatu (2/15).

***Bactrocera (Notodacus) paraxanthodes* Drew & Hancock**

Distribution: New Caledonia. Male lure: Not known.

APOCYNACEAE *Tylophora biglandulosa*: New Caledonia (1/2).

ARALIACEAE *Meryta* sp.: New Caledonia (1/2). *Schefflera gabiellae*:  
New Caledonia (1/2).

***Bactrocera (Notodacus) xanthodes* (Broun) (Fig. 29)**

Distribution: American Samoa, Cook Islands (Southern group), Fiji Islands, French Polynesia (Austral Group), Nauru (eradicated in 1999), Niue, Samoa, Tonga, Wallis and Futuna. Male lure: Methyl eugenol.

ANACARDIACEAE *Mangifera indica* (P): Cook Islands (1); Nauru (1/117) (prior to eradication); Tonga (9/85).

ANNONACEAE *Annona cherimola*: Cook Islands (1). *Annona muricata*:



- Samoa (6/7); Tonga (1/40).
- APOCYNACEAE *Cerbera manghas*: Tonga (1/50). *Ochrosia oppositifolia* (P): Fiji (5/56); Tonga (10/90).
- CALOPHYLLACEAE *Calophyllum inophyllum*: Cook Islands (1).
- CARICACEAE *Carica papaya* (P): Cook Islands (4); Fiji (8/159); Samoa (74/86); Tonga (28/77). The Fiji records are likely based on sampling overripe fruit. Waimanalo and Sunrise papaya are not hosts to *B. xanthodes* in Fiji, until at least half ripe (Heimoana et al. 1997).
- COMBRETACEAE *Terminalia catappa*: Samoa (1/114); Tonga (1/72).  
*Terminalia samoensis*: Samoa (1/2).
- CONVOLVULACEAE *Stictocardia tiliifolia*: Tonga (1/3).
- CUCURBITACEAE *Citrullus lanatus* (P): Tonga (1/11). Watermelon can be infested by *B. xanthodes* when damaged at its blossom end, but non–host status testing has shown undamaged fruit not to be suitable hosts to *B. xanthodes* in Tonga (Heimoana et al. 1997).
- EBENACEAE *Diospyros vera*: Tonga (1/37).
- EUPHORBIACEAE *Excoecaria agallocha* (P): Tonga (Litsinger et al. 1991).
- LAURACEAE *Persea americana*: Cook Islands (2); Samoa (10/12); Tonga (7/33).
- LECYTHIDACEAE *Barringtonia edulis* (P): Fiji (22/47). *Barringtonia racemosa*: Fiji (1/30). *Barringtonia seaturae*: Fiji (2/2).
- LEGUMINOSAE *Inocarpus fagifer* (P): Cook Islands (2); Fiji (Hinckley 1965); Wallis & Futuna (1/6).
- MALVACEAE *Theobroma cacao*: Fiji (1/34).
- MORACEAE *Artocarpus altilis* (P): American Samoa (1/1); Cook Islands (46); Fiji (31/123); Nauru (7/53) (prior to eradication); Samoa (18/23); Tonga (14/34); Wallis & Futuna (4/6). *Artocarpus heterophyllum* (P): Cook Islands (3); Fiji (4/39); Samoa (5/6).
- PASSIFLORACEAE *Passiflora edulis*: Tonga (1/21). *Passiflora ligularis*: Tonga (12/55). *Passiflora quadrangularis* (P): Fiji (Simmonds 1936); Tonga (Litsinger et al. 1991); Samoa (1/1).
- RUTACEAE *Citrus japonica*: Fiji (1/146). *Citrus maxima* (P): Fiji (Simmonds 1936). *Citrus reticulata* (P): Fiji (2/137); Tonga (1/49). *Citrus sinensis*: Tonga (1/61).
- SANTALACEAE *Santalum yasi*: Tonga (1/15).
- SAPOTACEAE *Burckella richii* (P): Tonga (Litsinger et al. 1991).  
*Chrysophyllum cainito*: Tonga (1/9). *Pouteria cainito*: Samoa (2/5).
- SOLANACEAE *Lycopersicon esculentum* (P): Fiji (Hinckley 1965); Tonga (3/33). *Solanum mauritianum*: Cook Islands (2).

***Bactrocera (Notodacus)* near *xanthodes* (sp. n. no. 1) (Drew et al. 1997)**

Distribution: Samoa. Male lure: Not known.

- ARALIACEAE *Meryta* sp: Samoa (4/4).
- CALOPHYLLACEAE *Mammea glauca*: Samoa (1/1).

MORACEAE *Ficus* sp: Samoa (Drew et al. 1997).

***Bactrocera (Paradacus) decipiens (Drew)*** (Fig. 30)

Distribution: Papua New Guinea (East New Britain). Male lure: Not known.

CUCURBITACEAE *Cucurbita pepo* (P): PNG (14/64).

***Bactrocera (Paratridacus) atrisetosa*** (Perkins) (Fig. 31)

Distribution: Papua New Guinea (Mainland). Male lure: Not known.

CUCURBITACEAE *Citrullus lanatus* (P): PNG (1/21). *Cucumis melo*: PNG (2/9). *Cucumis sativus* (P): PNG (Drew 1989). *Cucurbita pepo* (P): PNG (9/64). *Luffa cylindrica*: PNG (3/7). *Momordica charantia*: PNG (2/49).

MELIACEAE *Aglaia sapindina* (P): PNG (Drew 1989).

SOLANACEAE *Lycopersicon esculentum* (P): PNG (Drew 1989).

***Bactrocera (Paratridachus) expandens (Walker)***

Distribution: Maluku (Aru Island), Australia, Papua New Guinea (Mainland). Male lure: Not known.

CLUSIACEAE *Garcinia* sp: PNG (1/3).

***Bactrocera (Sinodacus) strigifinis (Walker)*** (Fig. 32)

Distribution: Australia, Indonesia (West Papua), Papua New Guinea (Mainland). Male lure: Cue-lure. Remark: Infests host at the flowering stage.

CUCURBITACEAE *Cucurbita pepo*: PNG (Tenakanai 1997).

***Bactrocera (Sinodacus) triangularis (Drew)*** (Fig. 33)

Distribution: Papua New Guinea (Bismarck Archipelago, Bougainville). Male lure: Cue-lure. Remark: Infests host at the flowering stage.

CUCURBITACEAE *Cucurbita pepo*: PNG (1/1).

***Bactrocera (Zeugodacus) chorista (May)*** (Fig. 34)

Distribution: Australia, Papua New Guinea (Mainland, Bismarck Archipelago). Male lure: Cue-lure.

CUCURBITACEAE *Diplocyclos palmatus* (P): Australia (Drew 1989). A major host in Queensland and probable host in PNG.

***Bactrocera (Zeugodacus) cucurbitae*** (Coquillett) (Fig. 35)

Distribution: Tropical Asia (widespread), Guam, Hawaii, Nauru (eradicated in 1999), Northern Marianas, Papua New Guinea (widespread), Solomon Islands. Male lure: Cue-lure. Remark: Infests hosts at the flowering and fruiting stages.

CUCURBITACEAE *Citrullus lanatus* (P): CNMI (Wong et al. 1989); Guam (Waterhouse 1993); PNG (4/21); Solomon Islands (2/12). *Coccinia grandis*: Solomon Islands (9/22). *Cucumis melo* (P): CNMI (Wong et al. 1989); Guam (Hardy and Adachi

1956); PNG (7/9). *Cucumis sativus* (P): CNMI (Wong et al. 1989); Guam (Hardy and Adachi 1956); PNG (7/32). Solomon Islands (3/21). *Cucurbita pepo* (P): CNMI (Wong et al. 1989); Guam (Hardy and Adachi 1956); PNG (24/64). *Luffa acutangula* (P): Nauru (Waterhouse 1993) (prior to eradication). *Luffa cylindrica*: PNG (1/7). *Momordica charantia* (P): CNMI (Wong et al. 1989); Guam (Waterhouse 1993); PNG (29/49). *Trichosanthes cucumerina* (P): Solomon Islands (6/47).

MALVACEAE

*Abelmoschus esculentus* (P): CNMI (Wong et al. 1989). A very unusual record requiring further confirmation.

SOLANACEAE

*Lycopersicon esculentum* (P): CNMI (Wong et al. 1989).

***Bactrocera (Zeugodacus) fulvifacies* (Perkins)**

Distribution: New Caledonia. Male lure: Not known.

OLEACEAE

*Olea paniculata*: New Caledonia (2/2).

***Dacus (Callantra) axanus* (Hering) (Fig. 36)**

Distribution: Australia, Papua New Guinea (Mainland, Bismarck Archipelago). Male lure: Cue-lure.

CUCURBITACEAE

*Luffa cylindrica*: PNG (1/7).

***Dacus (Callantra) solomonensis* Malloch (Fig. 37)**

Distribution: Papua New Guinea (Bougainville), Solomon Islands. Male lure: Cue-lure.

CUCURBITACEAE

*Cucumis sativus* (P): Solomon Islands (1/21). *Cucurbita pepo* (P): Solomon Islands (1/11). *Luffa acutangula* (P): Solomon Islands (Drew 1989). *Luffa cylindrica*: Solomon Islands (3/4). *Trichosanthes cucumerina* (P): Solomon Islands (20/47).

***Dacus (Neodacus) anevittatus* Drew**

Distribution: New Caledonia. Male lure: Not known.

APOCYNACEAE

*Tylophora biglandulosa*: New Caledonia (1/2).

***Dacus (Neodacus) taui* Drew & Romig**

Distribution: Vanuatu. Male lure: Cue-lure.

APOCYNACEAE

*Tylophora*: Vanuatu (1/5).

## HOST PLANTS AND THEIR RECORDED FRUIT FLY SPECIES

ANACARDIACEAE

*Anacardium occidentale* L.: *B. curvipennis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. papayae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. perfusca*, *B. psidii*, *B. trilineola*, *B. tryoni*. ***Dracontomelon dao* (Blanco) Merr. & Rolfe**: *B. frauenfeldi*, *B. paramusae*. ***Mangifera indica* L.**: *B. curvipennis*, *B. dorsalis*, *B. fa-*

*cialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. papayae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. psidii*, *B. trilineola*, *B. trivialis*, *B. tryoni*, *B. xanthodes*. **Mangifera minor** Blume: *B. frauenfeldi*. **Pleiogynium solandri** (Benth.) Engl.: *B. facialis*, *B. kirki*. **Semecarpus forstenii** Blume: *B. murrayi*. **Semecarpus vitiensis** (A.Gray) Engl.: *B. trilineola*. **Spondias dulcis** Parkinson: *B. dorsalis*, *B. frauenfeldi*, *B. hastigerina*, *B. kirki*, *B. paramusae*, *B. trilineola*, *B. tryoni*. **Spondias mombin** L.: *B. kirki*, *B. tryoni*.

ANNONACEAE **Annona cherimola** Mill.: *B. melanotus*, *B. xanthodes*. **Annona glabra** L.: *B. frauenfeldi*. **Annona muricata** L.: *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. passiflorae*, *B. psidii*, *B. trilineola*, *B. tryoni*, *B. xanthodes*. **Annona reticulata** L.: *B. curvipennis*, *B. dorsalis*, *B. frauenfeldi*, *B. kirki*, *B. mucronis*, *B. passiflorae*, *B. psidii*, *B. tryoni*. **Annona squamosa** L.: *B. curvipennis*, *B. frauenfeldi*, *B. melanotus*, *B. psidii*, *B. tryoni*. **Artabotrys uncinatus** (Lam.) Merr.: *B. facialis*. **Cananga odorata** (Lam.) Hook.f. & Thomson: *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. passiflorae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. samoae*, *B. tryoni*. **Rollinia** sp: *B. dorsalis*. **Uvaria** sp: *B. uvariae*.

APOCYNACEAE **Alyxia bracteolosa** Rich. ex A.Gray: *B. facialis*. **Alyxia spicata** R.Br.: *B. alyxiae*. **Alyxia stellata** (J.R.Forst. & G.Forst.) Roem. & Schult.: *B. facialis*. **Cascabela thevetia** (L.) Lippold: *B. curvipennis*, *B. mucronis*, *B. passiflorae*, *B. psidii*, *B. tryoni*. **Cerbera manghas** L.: *B. facialis*, *B. frauenfeldi*, *B. minuta*, *B. mucronis*, *B. passiflorae*, *B. psidii*, *B. xanthodes*. **Cerbera odollam** Gaertn.: *B. minuta*, *B. samoae*. **Melodinus vitiensis** Rolfe: *B. facialis*. **Ochrosia elliptica** Labill.: *B. curvipennis*. **Ochrosia mariannensis** A.DC.: *B. ochrosiae*. **Ochrosia oppositifolia** (Lam.) K.Schum.: *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. samoae*, *B. trilineola*, *B. xanthodes*. **Ochrosia** sp: *B. dorsalis*, *B. ochrosiae*. **Tabernaemontana aurantiaca** Gaudich: *B. lineata*. **Tabernaemontana pandacaqui** Lam.: *B. facialis*. **Tylophora biglandulosa** F. Muell.: *D. aneuwittatus*, *B. paraxanthodes*. **Tylophora** sp: *D. taui*.

ARALIACEAE **Meryta pauciflora** Hemsl. ex Cheeseman: *B. melanotus*. **Meryta** sp: *B. paraxanthodes*, *B. near xanthodes* (sp. n. no. 1). **Polyscias** sp: *B. samoae*. **Schefflera gabriellae** Baill.: *B. paraxanthodes*.

ARECACEAE **Areca catechu** L.: *B. frauenfeldi*.

ASPARAGACEAE **Cordyline fruticosa** (L.) A. Chev.: *B. facialis*.

AURACARIACEAE **Agathis** sp: *B. frauenfeldi*.

BIGNONIACEAE **Pyrostegia venusta** (Ker Gawl.) Miers: *B. passiflorae*.

BORAGINACEAE **Cordia subcordata** Lam.: *B. facialis*.

BURSERACEAE **Canarium vulgare** Leenh.: *B. dorsalis*, *B. tryoni*.

CALLOPHYLLACEAE **Calophyllum inophyllum** L.: *B. calophylli*, *B. curvipennis*,

*B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. papayae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. samoae*, *B. tryoni*, *B. xanthodes*. ***Calophyllum peekelii*** Lauterb.: *B. calophylli*, *B. frauenfeldi*. ***Mammea glauca*** (Merr.) Kosterm.: *B.* near *xanthodes* (sp. n. no. 1). ***Mammea odorata*** (Raf.) Kosterm.: *B. frauenfeldi*.

CARDIOPTERIDACEAE ***Citronella samoensis*** (A.Gray) R.A.Howard: *B. facialis*.

CARICACEAE ***Carica papaya*** L.: *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. musae*, *B. papayae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. psidii*, *B. trilineola*, *B. tryoni*, *B. xanthodes*.

CELASTRACEAE ***Celastrus*** sp: *B. frauenfeldi*, *B. obliqua*.

CLUSIACEAE ***Garcinia*** cf. ***hollrungii*** Lauterb.: *B. cheesmanae*, *B. neocheesmanae*. ***Garcinia ledermannii*** Lauterb.: *B. neocheesmanae*. ***Garcinia x mangostana*** L.: *B. dorsalis*, *B. frauenfeldi*, *B. passiflorae*. ***Garcinia xanthochymus*** Hook. F. ex T. Anderson: *B. frauenfeldi*, *B. melanoscutata*. ***Garcinia*** sp: *B. bullata*, *B. expandens*.

COMBRETACEAE ***Terminalia brassii*** Exell: *B. eximia*. ***Terminalia carolinensis*** Kaneh.: *B. frauenfeldi*. ***Terminalia catappa*** L.: *B. curvipennis*, *B. dorsalis*, *B. eximia*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. mucronis*, *B. papayae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. penefurva*, *B. perfusca*, *B. psidii*, *B. samoae*, *B. trilineola*, *B. trivialis*, *B. tryoni*, *B. xanthodes*. ***Terminalia complanata*** K. Schum.: *B. terminaliae*. ***Terminalia kaernbachii*** Warb.: *B. frauenfeldi*, *B. penefurva*. ***Terminalia littoralis*** Seem.: *B. facialis*, *B. kirki*, *B. passiflorae*, *B. passiflorae* (sp. nr.). ***Terminalia samoensis*** Rech.: *B. frauenfeldi*, *B. xanthodes*. ***Terminalia sepicana*** Diels.: *B. trilineola*. ***Terminalia whitmorei*** Coode: *B. frauenfeldi*.

CONVOLVULACEAE ***Merremia tuberosa*** (L.) Rendle: *B. caledoniensis*, *B. curvipennis*. ***Stictocardia tiliifolia*** (Desr.) Hallier f.: *B. xanthodes*.

CUCURBITACEAE ***Citrullus lanatus*** (Thunb.) Matsum. & Nakai: *B. atrisetosa*, *B. cucurbitae*, *B. xanthodes*. ***Coccinia grandis*** (L.) Voigt: *B. cucurbitae*, *B. simulata*. ***Cucumis melo*** L.: *B. atrisetosa*, *B. cucurbitae*. ***Cucumis sativus*** L.: *B. atrisetosa*, *B. cucurbitae*, *D. solomonensis*. ***Cucurbita pepo*** L.: *B. atrisetosa*, *B. cucurbitae*, *B. decipiens*, *B. strigifinis*, *B. triangularis*, *B. tryoni*, *D. solomonensis*. ***Diplocyclos palmatus*** (L.) C. Jeffrey: *B. chorista*. ***Luffa acutangula*** (L.) Roxb.: *B. cucurbitae*, *D. solomonensis*. ***Luffa cylindrica*** (L.) M. Roem.: *B. atrisetosa*, *B. cucurbitae*, *D. axanus*, *D. solomonensis*. ***Momordica charantia*** L.: *B. atrisetosa*, *B. cucurbitae*. ***Trichosanthes cucumerina*** L.: *B. cucurbitae*, *D. solomonensis*.

EBENACEAE ***Diospyros ebenum*** J. König ex Retz.: *B. frauenfeldi*. ***Diospyros fasciculosa*** (F.Muell.) F.Muell.: *B. grandistylus*. ***Diospyros foliosa*** (Rich ex A.Gray) Bakh.: *B. samoae*. ***Diospyros kaki*** Thunb.: *B. psidii*, *B. tryoni*. ***Diospyros macrocarpa*** Hiern: *B. curvipennis*, *B. psidii*. ***Diospyros mespiliformis*** Hochst. ex A.DC.: *B. psidii*, *B. tryoni*. ***Diospyros nigra*** (J.F.Gmel.) Perrier: *B. frauenfeldi*. ***Diospyros samoensis*** A. Gray: *B. facialis*. ***Diospyros vera*** (Lour.) A.Chev.: *B. xan-*

*thodes.*

ELAEOCARPACEAE *Elaeocarpus angustifolius* Blume: *B. passiflorae*. *Elaeocarpus tonganus* Burkill: *B. kirki*.

EUPHORBIACEAE *Aleurites moluccana* (L.) Willd.: *B. psidii*. *Excoecaria agallocha* L.: *B. xanthodes*. *Fontainea pancheri* (Baill.) Heckel: *B. mucronis*. *Pimelodendron amboinicum* (Hassk.) Miq.: *B. bancrofti*, *B. diaphana*.

FLACOURTIACEAE *Pangium edule* Reinw.: *B. contermina*.

GENTIANACEAE *Fagraea berteriana* A. Gray ex Benth.: *B. caledoniensis*, *B. melanotus*, *B. samoae*.

GNETACEAE *Gnetum gnemon* L.: *B. bullata*, *B. gnetum*, *B. pacifica*, *B. penefurva*.

GOODENIACEAE *Scaevola taccada* (Gaertn.) Roxb.: *B. frauenfeldi*.

HERNANDIACEAE *Hernandia cordigera* Vieill.: *B. tryoni*. *Hernandia nymphaeifolia* (J. Presl) Kubitzki: *B. facialis*, *B. passiflorae* (sp. nr.). *Hernandia* sp: *B. frauenfeldi*.

LAURACEAE *Endiandra* sp: *B. nigrovittata*, *B. terminaliae*. *Persea americana* Mill.: *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. trilineola*, *B. tryoni*, *B. xanthodes*.

LECYTHIDACEAE *Barringtonia asiatica* (L.) Kurz: *B. facialis*, *B. tryoni*. *Barringtonia calyptrata* (Miers) R. Br. Ex Benth.: *B. barringtoniae*. *Barringtonia calyptrocalyx* K. Schum.: *B. frauenfeldi*, *B. trivialis*. *Barringtonia edulis* Seem.: *B. dorsalis*, *B. frauenfeldi*, *B. neoxanthodes*, *B. passiflorae*, *B. tryoni*, *B. xanthodes*. *Barringtonia racemosa* (L.) Spreng.: *B. xanthodes*. *Barringtonia seaturae* H.B. Guppy: *B. xanthodes*. *Planchonia caryea* (F. Muell.) R. Knuth.: *B. trivialis*. *Planchonia papuana* R. Knuuth.: *B. jarvisi*, *B. trivialis*.

LEGUMINOSAE *Inocarpus fagifer* (Parkinson) Fosberg: *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. moluccensis*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. trilineola*, *B. tryoni*, *B. xanthodes*.

LONGANIACEAE *Neuburgia corynocarpa* (A. Gray) Leenh.: *B. passiflorae*. *Couthovia novocaledonica* Gilg & Benedict: *B. curvipennis*.

LYTHRACEAE *Punica granatum* L.: *B. passiflorae*, *B. psidii*, *B. tryoni*.

MALPIGHIACEAE *Malpighia glabra* L.: *B. curvipennis*, *B. frauenfeldi*, *B. psidii*, *B. tryoni*.

**MALVACEAE** *Grewia crenata* (G.Forst.) Schinz & Guillaumin: *B. facialis*. *Heritiera* sp: *B. frauenfeldi*. *Abelmoschus esculentus* (L.) Moench: *B. cucurbitae*. *Theobroma cacao* L.: *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. xanthodes*.

**MELASTOMATACEAE** *Melastoma malabathricum* L.: *B. frauenfeldi*. *Melastoma* sp: *B. melanotus*.

**MELIACEAE** *Aglaia basiphylla* A. Gray: *B. passiflorae*. *Aglaia marianensis* Merr.: *B. ochrosiae*. *Aglaia saltatorum* A. C. Sm.: *B. facialis*. *Aglaia samoensis* A. Gray: *B. aenigmatica*. *Aglaia sapindina* (F. Muell.) Harms: *B. atrisetosa*. *Cedrela odorata* L.: *B. kirki*. *Dysoxylum gaudichaudianum* (A. Juss.) Miq.: *B. trilineola*. *Sandoricum koetjape* (Burm. F.) Merr.: *B. frauenfeldi*. *Vavaea amicorum* Benth.: *B. facialis*.

**MENISPERMACEAE** *Chlaenandra ovate* Miq.: *B. tinomiscii*. *Macrocooccus pomiferus* Becc.: *B. tinomiscii*. *Pycnarrhena ozantha* Diels: *B. redunca*. *Tinomiscium phytocrenoides* Kurz ex Teijsm. & Binn.: *B. tinomiscii*.

**MORACEAE** *Antiaris toxicaria* Lesch.: *B. minuta*. *Artocarpus altilis* (Parkinson ex F.A. Zorn) Fosberg: *B. curvifera*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. melanotus*, *B. passiflorae*, *B. trilineola*, *B. tryoni*, *B. umbrosa*, *B. xanthodes*. *Artocarpus heterophyllus* Lam.: *B. frauenfeldi*, *B. melanotus*, *B. passiflorae*, *B. tryoni*, *B. umbrosa*, *B. xanthodes*. *Artocarpus mariannensis* Trécul: *B. frauenfeldi*. *Broussonetia papyrifera* (L.) L'Hér. ex Vent.: *B. frauenfeldi*. *Ficus aspera* G. Forst.: *B. trilineola*. *Ficus conocephalifolia* Ridl.: *B. lineata*. *Ficus glandifera* Summerh.: *B. frauenfeldi*. *Ficus pancheriana* Bureau: *B. curvipennis*, *B. tryoni*. *Ficus* sp: *B. frauenfeldi*, *B. tryoni*, *B. psidii*, *B. near xanthodes* (sp. n. no. 1). *Morus alba* L.: *B. curvipennis*, *B. psidii*, *B. tryoni*.

**MUSACEAE** *Musa troglodytarum* L.: *B. dorsalis*, *B. tryoni*. *Musa x paradisiaca* L.: *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. musae*, *B. tryoni*. *Musa* sp: *B. bryoniae*, *B. papayae*, *B. trilineola*.

**MYRISTICACEAE** *Myristica hypargyrea* A. Gray: *B. facialis*.

**MYRTACEAE** *Eugenia brasiliensis* Lam.: *B. distincta*, *B. kirki*. *Eugenia uniflora* L.: *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. ochrosiae*, *B. psidii*, *B. trilineola*, *B. tryoni*. *Psidium acutangulum* Mart. Ex DC.: *B. curvipennis*, *B. psidii*, *B. tryoni*. *Psidium cattleianum* Afzel. Ex Sabine: *B. curvipennis*, *B. dorsalis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. passiflorae*, *B. perpusca*, *B. psidii*, *B. tryoni*. *Psidium guajava* L.: *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. mucronis*, *B. neohumeralis*, *B. obliqua*, *B. papayae*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. psidii*, *B. trilineola*, *B. trivialis*, *B. tryoni*. *Syzygium aqueum* (Burm. f.) Alston: *B. frauenfeldi*, *B. kirki*, *B. obliqua*. *Syzygium corynocarpum* (A.Gray) Müll.Stuttg.: *B. facialis*, *B. kirki*. *Syzygium cumini* (L.) Skeels: *B. melanotus*, *B. tryoni*. *Syzygium dealbatum* (Burkill) A.C. Sm.: *B. kirki*. *Syzygium clusiifolium* (A.Gray) Müll.Stuttg.: *B. trilineola*. *Syzygium gracilipes* (A.Gray) Merr. & L.M.Perry: *B. kirki*. *Syzygium jambos* (L.) Alston: *B. curvipennis*,



*B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. passiflorae*, *B. psidii*, *B. trilineola*, *B. tryoni*. **Syzygium longipes** Merr. & L.M. Perry: *B. trivialis*. **Syzygium malaccense** (L.) Merr. & L.M. Perry: *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. obliqua*, *B. passiflorae*, *B. psidii*, *B. trilineola*, *B. tryoni*. **Syzygium megacarpum** (Craib) Rathakr. & N.C.Nair: *B. passiflorae*. **Syzygium neurocalyx** (A. Gray) Christoph.: *B. facialis* *B. kirki*. **Syzygium** cf. **pachycladum** (K.Schum. & Lauterb.) Merr. & L.M.Perry: *B. frauenfeldi*, *B. trivialis*. **Syzygium richii** (A. Gray) Merr. & L.M.Perry: *B. facialis* *B. kirki*. **Syzygium samarangense** (Blume) Merr. & L.M.Perry: *B. frauenfeldi*. **Syzygium** cf. **samarangense**: *B. trivialis*. **Syzygium** sp: *B. trivialis*.

OLACACEAE *Ximenia americana* L.: *B. curvipennis*, *B. ochrosiae*, *B. tryoni*.

OLEACEAE *Olea paniculata* Roxb.: *B. fulvifacies*.

OXALIDACEAE *Averrhoa carambola* L.: *B. curvipennis*, *B. dorsalis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. papayae*, *B. passiflorae*, *B. psidii*, *B. trilineola*, *B. trivialis*, *B. tryoni*.

PANDANACEAE *Galearia celebica* Koord.: *B. trivialis*.

PASSIFLORACEAE *Passiflora edulis* Sims: *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. passiflorae*, *B. tryoni*, *B. xanthodes*. *Passiflora foetida* L.: *B. bryoniae*, *B. curvipennis*, *B. facialis*. *Passiflora laurifolia* L.: *B. dorsalis*, *B. tryoni*. *Passiflora ligularis* Juss.: *B. facialis*, *B. xanthodes*. *Passiflora quadrangularis* L.: *B. dorsalis*, *B. facialis*, *B. kirki*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. psidii*, *B. tryoni*, *B. xanthodes*. *Passiflora suberosa* L.: *B. neoxanthodes*.

PHYLLANTHACEAE *Baccaurea papuana* F.M. Bailey: *B. frauenfeldi*, *B. obliqua*. *Baccaurea* sp: *B. trivialis*.

POLYGALACEAE *Xanthophyllum papuanum* Whitmore ex Meijden: *B. tinomiscii*.

RHAMNACEAE *Zizyphus mauritiana* Lam.: *B. curvipennis*, *B. tryoni*.

RHIZOPHORACEAE *Crossostylis multiflora* Brongn. & Gris ex Pancher & Sebert: *B. caledoniensis*.

ROSACEAE *Chrysobalanus icaco* L.: *B. passiflorae*. *Eriobotrya japonica* (Thunb.) Lindl.: *B. curvipennis* *B. kirki*, *B. melanotus*, *B. tryoni*. *Fragaria vesca* L.: *B. curvipennis*, *B. psidii*, *B. tryoni*. *Parinari glaberrima* (Hassk.) Hassk.: *B. facialis*. *Prunus domestica* L.: *B. curvipennis*, *B. psidii*, *B. tryoni*. *Prunus persica* (L.) Stokes: *B. curvipennis*, *B. facialis*, *B. psidii*, *B. trivialis*, *B. tryoni*. *Prunus simonii* Carrière: *B. curvipennis*, *B. psidii*, *B. tryoni*.



**RUBIACEAE** *Attractocarpus macarthurii* (F. Muell.) Puttock: *B. neocheesmanae*. *Coffea arabica* L.: *B. curvipennis*, *B. melanotus*. *Coffea liberica* Hiern: *B. passiflorae*. *Coffea* sp: *B. tryoni*. *Gardenia taitensis* DC.: *B. facialis*. *Guettarda speciosa* L.: *B. curvipennis*, *B. facialis*, *B. frauenfeldi*, *B. luteola*, *B. melanotus*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. samoae*, *B. trilineola*. *Ixora novoguineensis* Mouly & B. Bremer: *B. tinomiscii*. *Morinda citrifolia* L.: *B. kirki*, *B. melanotus*, *B. tryoni*. *Nauclea orientalis* (L.) L.: *B. pallida*. *Nauclea* sp: *B. frauenfeldi*, *B. naucleae*.

**RUTACEAE** *Casimiroa edulis* La Llave: *B. curvipennis*, *B. tryoni*. *Citrus aurantiifolia* (Christm.) Swingle: *B. dorsalis*, *B. tryoni*. *Citrus aurantium* L.: *B. facialis*, *B. frauenfeldi*, *B. papayae*, *B. passiflorae*. *Citrus japonica* Thunb.: *B. curvipennis*, *B. frauenfeldi*, *B. passiflorae*, *B. trilineola*, *B. tryoni*, *B. xanthodes*. *Citrus latifolia* (Tanaka ex Yu. Tanaka) Tanaka: *B. curvipennis*, *B. dorsalis*, *B. tryoni*. *Citrus limon* (L.) Burm. F.: *B. facialis*, *B. passiflorae*, *B. trilineola*. *Citrus maxima* (Burm.) Osbeck: *B. curvipennis*, *B. distincta*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. papayae*, *B. passiflorae*, *B. psidii*, *B. trilineola*, *B. tryoni*, *B. xanthodes*. *Citrus x microcarpa* Bunge: *B. frauenfeldi*, *B. papayae*. *Citrus paradisi* Macfad.: *B. curvipennis*, *B. facialis*, *B. frauenfeldi*, *B. melanotus*, *B. passiflorae*, *B. trivialis*, *B. tryoni*. *Citrus reticulata* Blanco: *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. trilineola*, *B. tryoni*, *B. xanthodes*. *Citrus sinensis* (L.) Osbeck: *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. melanotus*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. trilineola*, *B. trivialis*, *B. tryoni*, *B. xanthodes*. *Citrus trifoliata* L.: *B. dorsalis*. *Clymenia polyandra* (Tanaka) Swingle: *B. frauenfeldi*. *Micromelum minutum* Wight & Arn.: *B. facialis*, *B. kirki*, *B. samoae*. *Murraya paniculata* (L.) Jack: *B. samoae*.

**SALICACEAE** *Xylosma orbiculata* (J.R. Forster & G. Forster) G. Forster: *B. facialis*.

**SANTALACEAE** *Santalum austrocaledonicum* Vieill.: *B. trilineola*. *Santalum yasi* Seem.: *B. facialis*, *B. passiflorae*, *B. xanthodes*. *Santalum* sp.: *B. perfusca*.

**SAPINDACEAE** *Elatostachys falcate* (A. Gray) Radlk.: *B. facialis*. *Litchi sinensis* Sonner: *B. dorsalis*, *B. tryoni*. *Nephelium lappaceum* L.: *B. dorsalis*, *B. tryoni*. *Pometia pinnata* J. R. Forst. & G. Forst.: *B. atramentata*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. kirki*, *B. lineata*, *B. passiflorae*, *B. passiflorae* (sp. nr.), *B. quadrisetosa*, *B. trilineola*, *B. tryoni*.

**SAPOTACEAE** *Burckella obovata* (G. Forst.) Pierre: *B. frauenfeldi*, *B. trilineola*. *Burckella richii* (A. Gray) H. J. Lam: *B. distincta*, *B. xanthodes*. *Burckella* sp: *B. decumana*. *Chrysophyllum cainito* L.: *B. distincta*, *B. dorsalis*, *B. facialis*, *B. frauenfeldi*, *B. passiflorae*, *B. tryoni*, *B. xanthodes*. *Manilkara zapota* (L.) P. Royen: *B. distincta*, *B. facialis*, *B. frauenfeldi*, *B. melanotus*, *B. passiflorae*. *Planchonella membranacea* H.J. lam: *B. distincta*, *B. facialis*. *Planchonella chartacea* (F. Muell. ex Benth.) H.J. Lam: *B. passiflorae*. *Planchonella costata* (Endl.) Pierre: *B. distincta*. *Planchonella sphaerocarpa* (Baill.) Dubard: *B. tryoni*. *Pouteria cainito* (Ruiz & Pav.) Radlk.: *B. distincta*, *B. dorsalis*, *B. frauenfeldi*, *B. kirki*, *B. tryoni*, *B. xanthodes*.

***Pouteria campechiana*** (Kunth) Baehni: *B. frauenfeldi*. ***Pouteria guayana***: *B. anomala*, *B. trilineola*.

SIMABOURACEAE     ***Amaroria soulameoides*** A. Gray: *B. passiflorae*.

SOLANACEAE     ***Capsicum annuum*** L. (chilli): *B. bryoniae*, *B. dorsalis*, *B. facialis*, *B. passiflorae*, *B. trivialis*. ***Capsicum annuum*** (sweet pepper): *B. curvipennis*, *B. facialis*, *B. kirki*, *B. papayae*, *B. tryoni*. ***Capsicum*** sp: *B. papayae*. ***Lycopersicon esculentum*** Mill.: *B. atrisetosa*, *B. cucurbitae*, *B. curvipennis*, *B. dorsalis*, *B. facialis*, *B. kirki*, *B. melanotus*, *B. tryoni*, *B. xanthodes*. ***Solanum mauritianum*** Scop.: *B. dapsiles*, *B. facialis*, *B. melanotus*, *B. tryoni*, *B. xanthodes*. ***Solanum melongena*** L.: *B. facialis*, *B. kirki*, *B. melanotus*, *B. passiflorae* (sp. nr.), *B. tryoni*. ***Solanum rudepanum*** Dunal: *B. nigrovittata*.

STEMONURACEAE     ***Medusanthera laxiflora*** (Miers) R.A. Howard: *B. enochra*.

THYMELAEACEAE     ***Phaleria disperma*** (G. Forst.) Baill.: *B. dorsalis*, *B. passiflorae* (sp. nr.). ***Phaleria macrocarpa*** (Scheff.) Boerl.: *B. bullata*, *B. frauenfeldi*.

VITACEAE     ***Vitis vinifera*** L.: *B. psidii*.

ZINGIBERACEAE     ***Alpinia purpurata*** (Vieill.) K. Schum.: *B. phaea*.

## DUBIOUS HOST RECORDS

The following published records are considered dubious and were not confirmed in the extensive host surveys under the RFFP and ACIAR fruit fly projects.

ANACARDIACEAE     ***Dracontomelon dao***: *B. passiflorae* in Fiji (Simmonds 1936). No fruit flies were ever bred from the 21 samples (785 fruits) of *Dracontomelon* spp sampled in Fiji.

ARALIACEAE     ***Polyscias*** sp: *B. umbrosa* in Solomon Islands (Hollingsworth et al. 2003). One specimen of *B. umbrosa* supposedly emerged from one of 14 samples (1804 fruits) collected in the Solomon Islands. If not erroneous, this is an anomalous record, since every known rearing records of *B. umbrosa* are from *Artocarpus* spp.

BROMELIACEAE     ***Ananas comosus*** (L.) Merr.: *B. kirki* and *B. xanthodes* in Tonga (Litsinger et al. 1991) and *B. xanthodes* in Fiji (Hinckley 1965). Highly dubious records. No fruit flies ever emerged from the 143 ripe pineapples sampled in the Pacific Islands during the RFFP surveys.

CUCURBITACEAE     ***Trichosanthes cucumerina***: *B. frauenfeldi* in Solomon Islands (Hollingsworth et al. 2003). Thirteen flies presumably emerged from one sample, out of 26 samples (174 fruits) collected in the Solomon Islands. This is a dubious record, since *B. frauenfeldi* has never been bred from species of Cucurbitaceae in any other country where it occurs. ***Cucurbita pepo***: Erroneously cited as host to *B.*

*kirki* in Leblanc and Putoa 2000), while *B. tryoni* was actually bred from the sample.

**MALVACEAE**                    *Hibiscus tiliaceus* L.: *B. distincta*, *B. facialis*, *B. kirki*, and *B. xanthodes* in Tonga (Litsinger et al. 1991). No fruit flies were recovered from 15 samples (3193 fruits) of *H. tiliaceus* collected in Tonga between 1991 and 1995 or from the 24 samples (1190 fruits) collected in other countries during the surveys.

**MORACEAE**                    *Artocarpus altilis*: *B. distincta* in Tonga (Litsinger et al. 1991). A very unlikely record, since *B. distincta* was never bred from the 185 samples (545 fruits) of *A. altilis* collected during the surveys in countries where it is known to occur.

**RUTACEAE**                    *Citrus aurantiifolia*: *B. kirki* and *B. sp. nr. passiflorae* in Tonga (Litsinger et al. 1991). Records not confirmed by the host fruit surveys in Tonga (6 samples, 117 fruits).

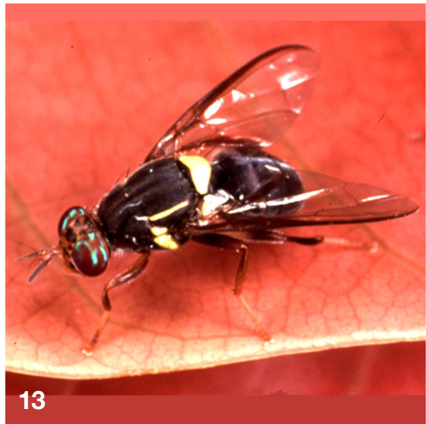
**SAPOTACEAE**                *Chrysophyllum cainito*: *B. kirki* in French Polynesia (Leblanc and Putoa 2000). This erroneously published record does not appear in the host survey raw data.

**SOLANACEAE**                *Capsicum annuum* (sweet pepper): *B. xanthodes* in Tonga (Litsinger et al. 1991). This dubious record was not confirmed during recent host surveys in Fiji and Tonga, where *B. xanthodes* occurs (49 samples, 3075 fruits).



**Figures 2 to 7.** *Bactrocera alyxiae* (2), *B. atramentata* (3), *B. bancrofti* (4), *B. bryoniae* (5), *B. curvifera* (6), *B. curvipennis* (7). All photos by Steve Wilson, Queensland Museum.

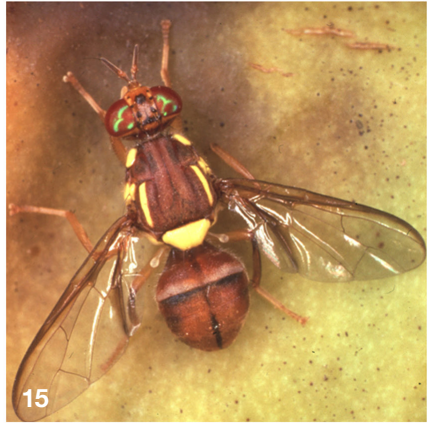




**Figures 8 to 13.** *B. dapsiles* (8), *B. enochra* (9), *B. facialis* (10), *B. frauenfeldi* (11), *B. kirki* (12), and *B. lineata* (13). All photos by Steve Wilson, Queensland Museum.



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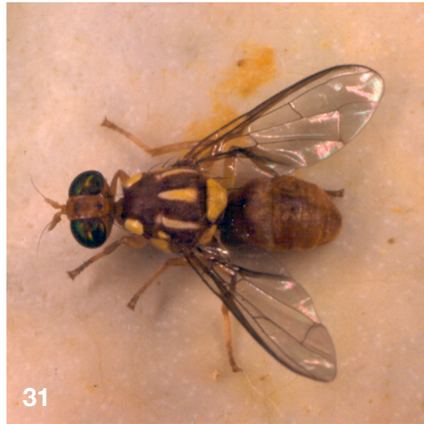
19

**Figures 14 to 19.** *Bactrocera melanotus* (14), *B. moluccensis* (15), *B. musae* (16), *B. obliqua* (17), *B. papayae* (18), *B. paramusae* (19). Photos by Steve Wilson, Queensland Museum, except for *B. melanotus* (Gerald McCormak).





**Figures 20 to 25.** *B. passiflorae* (20), *B. psidii* (21), *B. tinomiscii* (22), *B. trilineola* (23), *B. trivialis* (24), and *B. tryoni* (25). All photos by Steve Wilson, Queensland Museum.



**Figures 26 to 31.** *Bactrocera umbrosa* (26), *B. penefurva* (27), *B. neoxanthodes* (28), *B. xanthodes* (29), *B. decipiens* (30), *B. atrisetosa* (31). All photos by Steve Wilson, Queensland Museum.





**Figures 32 to 37.** *B. strigifinis* (32), *B. triangularis* (33), *B. chorista* (34), *B. cucurbitae* (35), *Dacus axanus* (36), *D. solomonensis* (37). All photos by Steve Wilson, Queensland Museum.

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