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SURVEY OF OPIINE PARASITOIDS OF FRUIT FLIES (DIPTERA: TEPHRITIDAE) IN THAILAND AND MALAYSIA

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ABSTRACT. - A survey of fruit flies (Diptera: Tephritidae) from wild and cultivated host plants was conducted in Thailand and Malaysia between 1986 and 1994. In addition to fruit flies, host samples also yielded parasites of those flies, predominantly opiine wasps (Hymenoptera: Braconidae: Opiinae). Although used extensively in classical biological control programmes, very little is known about the host relationships of these parasites in their native environment. From the survey work, host records are given for 13 described species (viz. *Diachasmimorpha albobalteata* [Cameron], *D. dacusii* [Cameron], *D. longicaudata* [Ashmead], *Fopius arisanus* [Sonan], *F. deeralensis* [Fullaway], *F. persulcatus* [Silvestri], *F. skinneri* [Fullaway], *F. vandenboschi* [Fullaway], *Opius bellus* Gahan, *Psytallia fletcheri* [Silvestri], *P. incisi* [Silvestri], *P. makii* [Sonan] and *Utetes bianchii* [Fullaway]) and three undescribed opiines. The parasitoid species are listed in relation to the fruit fly species within fruit samples, and the plant species from which the flies and wasps were reared.

KEY WORDS. - Braconidae; Biological Control; Diachasmimorpha; Fopius; Opius; Psytallia; Utetes.

INTRODUCTION

Tephritid fruit flies are much better understood taxonomically and ecologically than are the wasps that parasitise them, despite the extensive use of parasitoids in fruit fly biological control programs (see Clausen 1978; Waterhouse 1993). A complication in understanding tephritid ecology and parasitoids was the recognition that *Bactrocera dorsalis* (Hendel), thought to be the most notorious of tropical fruit fly pests, actually comprised a complex of species (Drew and Hancock 1994). Each species within the complex has a much more specific host range and distribution than the large host range and area attributed originally to *B. dorsalis*. This means that parasitoid records given in publications

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such as Clausen et al. (1965), for example, which were published well before the recognition of the *B. dorsalis* complex, must be used with caution.

Under the auspices of the Australian Centre for International Agricultural Research (ACIAR), parasitoids were reared with tephritids during extensive host fruit surveys in Malaysia and Thailand (Allwood et al., 1999). The parasitoids were identified to establish more precisely their association with tephritid species and host fruit species in their area of endemicity.

The survey data are presented in three tables. Table 1, the largest, deals alphabetically with each parasitoid species. For each parasitoid species is presented the fruit fly species with which it was associated in collections, the host plant from which flies and wasps were reared, and the country from which the samples derived. Table 2 provides an alphabetical list of tephritid species and the parasitoid species associated with each, while Table 3 lists the parasitoid species associated with each host plant species sampled.

MATERIALS AND METHODS

The collection details are given by Allwood et al. (in press). Parasitoids were identified by A.R. Clarke and G.H. Walter, using primarily Wharton & Gilstrap's (1983) key. Robert A. Wharton (Texas A&M University) kindly confirmed identifications. Generic and species placement of parasitoids follows the classification of Wharton (1997). Material has been deposited in the Queensland Department of Primary Industries Insect Collection, Indooroopilly.

RESULTS

Thirteen previously described opiine braconids were reared in association with 34 described and one undescribed tephritid species. Four parasitoid species, *Diachasmimorpha longicaudata* (Ashmead), *Fopius arisanus* (Sonan), *F. vandenboschi* (Fullaway) and *Psytallia makii* (Sonan) dominated collections, with other species being relatively uncommon (Table 1).

Table 1: Opiine braconid host records for Malaysia and Thailand.

(The number of samples for each record refers to two types of rearing records. The first number [not in brackets] is the number of samples which yielded only the named fruit fly species. The second number [in brackets] is the number of samples where two or more fly species were reared. This second set of records should be used with caution as a positive association between the parasitoid and the named fruit fly species is ambiguous in cases where multiple fly species are reared from the same sample. T = Thailand, M = Malaysia)

***Diachasmimorpha albobalteata* (Cameron)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) dorsalis	Ebenaceae	*Diospyros castanea*	T	1 (0)
Bactrocera (Z) tau	Cucurbitaceae	*Cucumis sativus*	T	1 (0)
Bactrocera sp n	Symplocaceae	*Symplocos cochinchinensis*	T	2 (0)

***Diachasmimorpha dacusii* (Cameron)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (Z) cucurbitae	Cucurbitaceae	*Momordica charantia*	T	1 (0)

***Diachasmimorpha longicaudata* (Ashmead)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Acroceratitis ceratitina	Poaceae	*Dendrocalamus membranaceus*	T	1 (0)
Bactrocera (B) albistrigata	Anacardiaceae	*Mangifera indica*	T	0 (2)
	Combretaceae	*Terminalia catappa*	MT	0 (11)
	Myrtaceae	*Syzygium samarangense*	T	0 (7)
Bactrocera (B) arecae	Arecaceae	*Areca triandra*	T	1 (0)
Bactrocera (B) carambolae	Burseraceae	*Canarium odontophyllum*	M	0 (1)
	Combretaceae	*Terminalia catappa*	M	0 (1)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
	Myrtaceae	*Psidium cattleianum*	M	0 (1)
		Psidium guajava	MT	0 (9)
		Syzygium aqueum	M	1 (0)
		Syzygium samarangense	T	1 (11)
	Oxalidaceae	*Averrhoa carambola*	MT	5 (53)

	Rhizophoraceae	*Rhizophora* sp.	T	0 (1)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
Bactrocera (B) correcta	Combretaceae	*Terminalia catappa*	T	0 (9)
	Elaeocarpaceae	*Elaeocarpus madopetalus*	T	0 (1)
		Muntingia calabura	T	0 (1)
	Flacourtiaceae	*Flacourtia indica*	T	1 (0)
	Moraceae	*Artocarpus integer*	T	0 (1)
	Myrtaceae	*Careya sphaerica*	T	0 (2)
		Eugenia paniala	T	0 (1)
		Psidium guajava	T	1 (10)
		Syzygium jambos	T	0 (2)
		Syzygium samarangense	T	3 (9)
	Olacaceae	*Olax scandens*	T	1 (0)
	Oxalidaceae	*Averrhoa carambola*	T	1 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	4 (41)
		Ziziphus mauritiana	T	0 (1)
		Ziziphus oenoplia	T	0 (3)
		Ziziphus rotundifolia	T	2 (5)
		Ziziphus sp.	T	0 (1)
	Rosaceae	*Prunus cerasus*	T	1 (1)
	Sapotaceae	*Manilkara zapota*	T	0 (8)
	Simaroubaceae	*Irvingia malayana*	T	0 (2)
Bactrocera (B) dorsalis	Anacardiaceae	*Mangifera indica*	T	1 (0)
	Burseraceae	*Garuga floribunda*	T	1 (0)
	Combretaceae	*Terminalia catappa*	T	3 (9)
	Elaeocarpaceae	*Elaeocarpus madopetalus*	T	0 (1)
		Muntingia calabura	T	0 (1)
	Euphorbiaceae	*Aporusa villosa*	T	1 (0)
		Sapium baccatum	T	1 (0)
	Fabaceae	*Afzelia xylocarpa*	T	0 (1)
		Parkia speciosa	T	1 (0)
	Moraceae	*Artocarpus lanceolatus*	T	1 (0)
	Myrtaceae	*Eugenia paniala*	T	0 (1)
		Psidium guajava	T	2 (10)
		Syzygium jambos	T	0 (2)
		Syzygium samarangense	T	1 (8)
	Oxalidaceae	*Averrhoa carambola*	T	0 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	2 (30)
		Ziziphus oenoplia	T	0 (3)
		Ziziphus rotundifolia	T	0 (1)
		Ziziphus sp.	T	1 (1)
	Rosaceae	*Prunus persica*	T	0 (1)
		Prunus persica var.*nucipersica*	T	0 (1)
	Rubiaceae	*Coffea arabica*	T	1 (0)
	Sapotaceae	*Manilkara zapota*	T	0 (6)
	Simaroubaceae	*Irvingia malayana*	T	1 (2)
Bactrocera (B) irvingiae	Simaroubaceae	*Irvingia malayana*	T	3 (0)
Bactrocera (B) kanchanaburi	Annonaceae	*Artabotrys siamensis*	T	1 (0)
Bactrocera (B) lata	Burseraceae	*Canarium odontophyllum*	M	0 (1)
Bactrocera (B) latifrons	Solanaceae	*Capsicum annuum*	T	4 (1)
		Solanum aculeatissimum	T	3 (0)
		Solanum incanum	T	5 (0)
		Solanum melongena	T	12 (4)
		Solanum nigrum	T	1 (1)
		Solanum sanitwongsei	T	5 (1)

		Solanum torvum	T	4 (1)
		Solanum trilobatum	T	2 (0)
Bactrocera (B) osbeckiae	Melastomataceae	*Melastoma polyanthum*	T	4 (0)
		Memecylon plebejun	T	1 (0)
Bactrocera (B) papayae	Anacardiaceae	*Anacardium occidentale*	T	1 (0)
		Bouea macrophylla	T	1 (0)
		Mangifera indica	MT	10 (2)
		Spondias cytherea	T	2 (0)
	Annonaceae	*Annona montana*	T	2 (0)
		Annona squamosa	T	1 (0)
		Artabotrys siamensis	T	14 (1)
	Clusiaceae	*Garcinia dulcis*	T	0 (1)
		Mammea siamensis	T	1 (0)
	Combretaceae	*Terminalia catappa*	MT	12 (11)
	Meliaceae	*Aglaia domestica*	T	1 (0)
		Sandoricum koetjape	T	2 (0)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
		Artocarpus integer	MT	1 (1)
		Artocarpus lakoocha	T	1 (0)
	Musaceae	*Musa paradisiaca*	M	2 (0)
	Myristicaceae	*Knema globularia*	T	2 (0)
	Myrtaceae	*Psidium cattleianum*	M	0 (1)
		Psidium guajava	MT	44 (10)
		Syzygium samarangense	T	3 (11)
	Oxalidaceae	*Averrhoa carambola*	MT	55 (56)
	Rhamnaceae	*Ziziphus jujuba*	T	1 (0)
		Ziziphus mauritiana	T	19 (8)
	Rhizophoraceae	*Rhizophora* sp.	T	0 (1)
	Rubiaceae	*Anthocephalus chinensis*	T	2 (0)
		Ochreinauclea maingayi	T	1 (0)
	Rutaceae	*Murraya exotica*	T	1 (0)
		X Citrofortunella mitis	T	3 (0)
	Sapotaceae	*Manilkara zapota*	T	4 (3)
	Solanaceae	*Capsicum annuum*	T	0 (1)
		Solanum melongena	T	0 (2)
Bactrocera (B) propinqua	Clusiaceae	*Garcinia cowa*	T	1 (0)
Bactrocera (B) pyrifoliae	Rosaceae	*Prunus persica*	T	1 (1)
		Prunus persica var. *nucipersica*	T	0 (1)
Bactrocera (B) tuberculata	Lecythidaceae	*Careya arborea*	T	1 (0)
		Careya sphaerica	T	0 (2)
	Rosaceae	*Prunus persica*	T	0 (1)
		Prunus persica var. *nucipersica*	T	0 (1)
	Sapotaceae	*Manilkara zapota*	T	0 (2)
Bactrocera (B) umbrosa	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
		Artocarpus integer	T	0 (1)
Bactrocera (B) verbascifoliae	Solanaceae	*Solanum erianthum*	T	36 (0)
Bactrocera (B) zonata	Fabaceae	*Afzelia xylocarpa*	T	0 (1)
Bactrocera (P) garciniae	Clusiaceae	*Garcinia dulcis*	T	0 (1)
Bactrocera (Z) cucurbitae	Capparaceae	*Maerua siamensis*	T	0 (1)
Bactrocera (Z) isolata	Capparaceae	*Capparis grandis*	T	4 (1)
		Capparis thorelli	T	2 (0)
		Maerua siamensis	T	0 (1)
Bactrocera (Z) pendleburyi	Symplocaceae	*Symplocos racemosa*	T	1 (0)
Bactrocera sp n	Symplocaceae	*Symplocos cochinchinensis*	T	11 (0)
Carpomya vesuviana	Rhamnaceae	*Ziziphus jujuba*	T	2 (23)

		Ziziphus mauritiana	T	0 (7)
		Ziziphus rotundifolia	T	0 (4)
Philophylla kraussi	Verbenaceae	*Gmelina elliptica*	T	9 (0)
		Gmelina philippensis	T	73 (0)
		Gmelina sp.	T	1 (0)
[Parasites only, no flies]	Melastomataceae	*Melastoma normale*	T	1 -
		Melastoma polyanthum	T	2 -
	Meliaceae	*Sandoricum koetjape*	T	1 -
	Myrtaceae	*Syzygium malaccense*	T	1 -
	Piperaceae	*Piper nigrum*	T	1 -
	Rhamnaceae	*Ziziphus jujuba*	T	2 -
		Ziziphus rotundifolia	T	1 -
	Sapotaceae	*Mimusops elengi*	T	1 -
	Solanaceae	*Solanum stramoniifolium*	T	1 -
	Sterculiaceae	*Helicteres angustifolia*	T	1 -

***Fopius arisanus* (Sonan)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) albistrigata	Combretaceae	*Terminalia catappa*	MT	0 (6)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
	Myrtaceae	*Syzygium samarangense*	T	0 (6)
Bactrocera (B) arecae	Arecaceae	*Areca catechu*	T	1 (0)
Bactrocera (B) carambolae	Anacardiaceae	*Mangifera indica*	M	0 (1)
	Annonaceae	*Annona montana*	T	0 (1)
	Combretaceae	*Terminalia catappa*	MT	0 (4)
	Loganiaceae	*Fagraea ceilanica*	T	1 (0)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
	Myrtaceae	*Eugenia* sp.	M	1 (0)
		Psidium guajava	MT	0 (12)
		Syzygium aqueum	M	1 (0)
		Syzygium malaccense	T	0 (2)
	Oxalidaceae	*Averrhoa carambola*	MT	6 (41)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
Bactrocera (B) correcta	Dipterocarpaceae	*Dipterocarpus obtusifolius*	T	1 (0)
	Myrtaceae	*Psidium guajava*	T	0 (4)
		Syzygium samarangense	T	1 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (10)
		Ziziphus mauritiana	T	0 (1)
		Ziziphus oenoplia	T	0 (2)
		Ziziphus rotundifolia	T	0 (1)
		Ziziphus sp.	T	0 (1)
	Rutaceae	*Citrus reticulata*	T	0 (2)
	Sapotaceae	*Manilkara zapota*	T	0 (2)
	Simaroubaceae	*Irvingia malayana*	T	0 (1)
Bactrocera (B) dorsalis	Annonaceae	*Annona squamosa*	T	2 (0)
	Capparaceae	*Capparis* sp.	T	1 (0)
	Caprifoliaceae	*Sambucus javanica*	T	1 (0)
	Caricaceae	*Carica papaya*	T	1 (0)
	Clusiaceae	*Garcinia speciosa*	T	3 (0)
	Combretaceae	*Terminalia catappa*	T	7 (1)
	Elaeocarpaceae	*Muntingia calabura*	T	1 (0)
	Euphorbiaceae	*Sapium baccatum*	T	1 (2)
	Fabaceae	*Parkia speciosa*	T	1 (0)
	Musaceae	*Musa acuminata*	T	1 (0)
	Myrtaceae	*Eugenia paniala*	T	1 (0)

		Psidium guajava	T	3 (4)
		Syzygium samarangense	T	0 (1)
	Oxalidaceae	*Averrhoa carambola*	T	1 (0)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (9)
		Ziziphus oenoplia	T	0 (2)
		Ziziphus rotundifolia	T	0 (1)
		Ziziphus sp.	T	1 (1)
	Rosaceae	*Malus pumila*	T	1 (0)
		Prunus persica	T	0 (1)
		Pyrus pyrifolia	T	1 (0)
	Rutaceae	*Citrus reticulata*	T	1 (2)
	Sapotaceae	*Manilkara zapota*	T	0 (2)
	Simaroubaceae	*Irvingia malayana*	T	5 (1)
Bactrocera (B) irvingiae	Simaroubaceae	*Irvingia malayana*	T	2 (0)
Bactrocera (B) kanchanaburi	Annonaceae	*Artabotrys siamensis*	T	1 (0)
Bactrocera (B) latifrons	Solanaceae	*Solanum aculeatissimum*	T	1 (0)
Bactrocera (B) papayae	Anacardiaceae	*Mangifera foetida*	T	1 (0)
		Mangifera indica	MT	4 (1)
		Spondias cytherea	T	1 (0)
	Annonaceae	*Annona montana*	T	1 (1)
		Annona squamosa	T	1 (0)
		Artabotrys siamensis	T	5 (0)
	Arecaceae	*Veitchia merrillii*	T	1 (0)
	Caricaceae	*Carica papaya*	MT	8 (0)
	Clusiaceae	*Garcinia hombroniana*	T	2 (0)
	Combretaceae	*Terminalia catappa*	MT	13 (9)
	Cucurbitaceae	*Coccinia grandis*	T	1 (0)
	Meliaceae	*Sandoricum koetjape*	T	4 (0)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
		Artocarpus integer	M	1 (0)
		Artocarpus sericicarpus	M	1 (0)
	Musaceae	*Musa paradisiaca*	M	0 (9)
	Myrtaceae	*Psidium guajava*	MT	43 (13)
		Syzygium malaccense	T	0 (2)
		Syzygium samarangense	T	0 (6)
	Oxalidaceae	*Averrhoa carambola*	MT	41 (42)
	Rhamnaceae	*Ziziphus mauritiana*	T	10 (3)
	Rosaceae	*Eriobotrya japonica*	M	0 (1)
	Rubiaceae	*Anthocephalus chinensis*	T	2 (0)
		Nauclea orientalis	T	3 (0)
	Rutaceae	*X Citrofortunella mitis*	T	3 (0)
	Sapotaceae	*Manilkara zapota*	T	10 (1)
	Ulmaceae	*Celtis tetranda*	T	1 (0)
Bactrocera (B) pyrifoliae	Rosaceae	*Prunus persica*	T	2 (2)
Bactrocera (B) thailandica	Elaeocarpaceae	*Elaeocarpus grandiflorus*	T	0 (1)
Bactrocera (B) tuberculata	Lecythidaceae	*Careya sphaerica*	T	2 (0)
	Rosaceae	*Prunus persica*	T	0 (1)
Bactrocera (B) umbrosa	Moraceae	*Artocarpus heterophyllus*	T	0 (2)
Bactrocera (B) verbascifoliae	Solanaceae	*Solanum erianthum*	T	8 (0)
Bactrocera (Z) cucurbitae	Capparaceae	*Maerua siamensis*	T	0 (1)
	Cucurbitaceae	*Cucumis sativus*	T	1 (1)
	Rosaceae	*Eriobotrya japonica*	M	0 (1)
Bactrocera (Z) isolata	Capparaceae	*Capparis* sp.	T	1 (0)
		Maerua siamensis	T	0 (1)
Bactrocera (Z) tau	Cucurbitaceae	*Cucumis sativus*	T	0 (1)

Bactrocera sp n	Symplocaceae	*Symplocos cochinchinensis*	T	2 (0)
Carpomya vesuviana	Rhamnaceae	*Ziziphus jujuba*	T	0 (1)
		Ziziphus mauritiana	T	0 (2)
Euphranta turpiniae	Staphyleaceae	*Turpinia pomifera*	T	3 (0)
Philophylla kraussi	Verbenaceae	*Gmelina philippensis*	T	2 (0)
[Parasites only, no flies]	Arecaceae	*Areca catechu*	T	2 -
	Euphorbiaceae	*Sapium baccatum*	T	1 -
	Meliaceae	*Sandoricum koetjape*	T	1 -
	Oxalidaceae	*Averrhoa carambola*	T	1 -
	Sapotaceae	*Planchonella punctata*	T	1 -
	Simaroubaceae	*Irvingia malayana*	T	1 -
	Solanaceae	*Solanum erianthum*	T	1 -
	Staphyleaceae	*Turpinia pomifera*	T	1 -
	Theaceae	*Adinandra integerrima*	T	1 -

***Fopius deeralensis* (Fullaway)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) latifrons	Solanaceae	*Solanum trilobatum*	T	1 (0)
Acroeratitis distincta	Poaceae	*Bambusa tulda*	T	1 (0)

***Fopius persulcatus* (Silvestri)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) correcta	Myrtaceae	*Psidium guajava*	T	0 (1)
Bactrocera (B) dorsalis	Myrtaceae	*Psidium guajava*	T	0 (1)
Bactrocera (B) osbeckiae	Melastomataceae	*Melastoma polyanthum*	T	1 (0)

***Fopius skinneri* (Fullaway)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Philophylla kraussi	Verbenaceae	*Gmelina philippensis*	T	1 (0)

***Fopius vandenboschi* (Fullaway)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) albistrigata	Combretaceae	*Terminalia catappa*	MT	0 (4)
	Myrtaceae	*Syzygium samarangense*	T	0 (6)
Bactrocera (B) carambolae	Annonaceae	*Uvaria grandiflora*	T	0 (1)
	Combretaceae	*Terminalia catappa*	MT	1 (5)
	Myrtaceae	*Eugenia* sp.	M	1 (0)
		Psidium guajava	MT	0 (17)
		Syzygium samarangense	T	0 (8)
	Oxalidaceae	*Averrhoa carambola*	MT	6 (78)
	Rhamnaceae	*Zizyphus jujuba*	M	0 (1)
	Rutaceae	*Fortunella polyandra*	M	1 (0)
Bactrocera (B) correcta	Anacardiaceae	*Anacardium occidentale*	T	0 (1)
	Combretaceae	*Terminalia catappa*	T	0 (1)
	Malpighiaceae	*Malpighia glabra*	T	0 (1)
	Myrtaceae	*Psidium guajava*	T	0 (4)
		Syzygium aqueum	T	0 (1)
		Syzygium samarangense	T	1 (6)
	Olacaceae	*Schoepfia fragrans*	T	0 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (9)
		Ziziphus oenoplia	T	0 (2)
		Ziziphus rotundifolia	T	1 (3)
		Ziziphus sp.	T	0 (2)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
Bactrocera (B) dorsalis	Anacardiaceae	*Anacardium occidentale*	T	0 (1)

		Spondias pinnata	T	1 (0)
	Combretaceae	*Terminalia catappa*	T	2 (1)
	Ebenaceae	*Diospyros castanea*	T	1 (0)
	Euphorbiaceae	*Sapium baccatum*	T	0 (2)
	Fabaceae	*Afzelia xylocarpa*	T	0 (1)
	Malpighiaceae	*Malpighia glabra*	T	0 (1)
	Moraceae	*Ficus fistulosa*	T	1 (0)
	Myrtaceae	*Eugenia paniala*	T	1 (0)
		Psidium guajava	T	3 (4)
		Syzygium aqueum	T	0 (1)
		Syzygium samarangense	T	3 (6)
	Olacaceae	*Schoepfia fragrans*	T	1 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	1 (10)
		Ziziphus oenoplia	T	0 (2)
		Ziziphus rotundifolia	T	1 (1)
		Ziziphus sp.	T	1 (2)
	Rubiaceae	*Coffea arabica*	T	1 (0)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
	Simaroubaceae	*Irvingia malayana*	T	1 (0)
	Solanaceae	*Solanum trilobatum*	T	1 (0)
Bactrocera (B) latifrons	Solanaceae	*Solanum aculeatissimum*	T	0 (1)
		Solanum erianthum	T	1 (0)
		Solanum incanum	T	1 (0)
		Solanum torvum	T	1 (1)
		Solanum trilobatum	T	1 (0)
Bactrocera (B) osbeckiae	Melastomataceae	*Melastoma normale*	T	1 (0)
		Melastoma polyanthum	T	5 (0)
		Melastoma villosum	T	1 (0)
		Memecylon plebejum	T	1 (0)
Bactrocera (B) papayae	Anacardiaceae	*Anacardium occidentale*	T	1 (0)
		Bouea oppositifolia	T	1 (0)
		Holingarna kurzii	T	1 (0)
		Mangifera caesia	M	1 (0)
		Mangifera indica	M	4 (0)
	Annonaceae	*Annona squamosa*	T	1 (0)
		Artabotrys siamensis	T	5 (7)
		Uvaria grandiflora	T	0 (1)
	Caricaceae	*Carica papaya*	MT	3 (2)
	Combretaceae	*Terminalia catappa*	MT	16 (0)
	Dilleniaceae	*Dillenia obovata*	T	1 (0)
	Euphorbiaceae	*Antidesma glaesembilia*	T	1 (0)
		Baccuarea mottleyana	M	1 (0)
	Meliaceae	*Sandoricum koetjape*	T	2 (0)
	Moraceae	*Artocarpus altilis*	T	0 (1)
		Artocarpus heterophyllus	T	1 (0)
		Artocarpus integer	MT	0 (2)
		Morus alba	T	1 (0)
	Musaceae	*Musa paradisiaca*	M	11 (0)
	Myristicaceae	*Knema globularia*	T	1 (0)
	Myrtaceae	*Eugenia* sp.	T	1 (22)
		Psidium guajava	MT	1 (83)
		Syzygium samarangense	T	2 (11)
	Oxalidaceae	*Averrhoa carambola*	MT	66 (59)
	Rhamnaceae	*Ziziphus mauritiana*	T	1 (27)
		Zizyphus jujuba	M	0 (1)

	Rubiaceae	*Anthocephalus cadamba*	M	1 (0)
	Sapotaceae	*Manilkara zapota*	T	2 (0)
	Solanaceae	*Capsicum annuum*	M	1 (0)
		Solanum torvum	T	0 (1)
	Verbenaceae	*Gmelina philippensis*	T	0 (1)
Bactrocera (B) raiensis	Asclepiadaceae	*Calotropis gigantea*	*T*	1 (0)
Bactrocera (B) umbrosa	Moraceae	*Artocarpus integer*	MT	0 (2)
Bactrocera (B) verbascifoliae	Solanaceae	*Solanum erianthum*	T	45(0)
Bactrocera (B) zonata	Fabaceae	*Afzelia xylocarpa*	T	0 (1)
	Malpighiaceae	*Malpighia glabra*	T	0 (1)
Bactrocera (P) garciniae	Clusiaceae	*Garcinia xanthochymus*	T	0 (3)
Bactrocera (Z) cucurbitae	Cucurbitaceae	*Coccinia grandis*	T	2 (1)
		Cucumis melo	T	1 (0)
		Melothria wallichii	T	1 (0)
		Trichosanthes cucumerina	T	0 (1)
Bactrocera (Z) tau	Cucurbitaceae	*Coccinia grandis*	T	0 (1)
		Trichosanthes cucumerina	T	0 (1)
Bactrocera sp n	Symplocaceae	*Symplocos cochinchinensis*	T	25(0)
Callistomyia pavonina	Rutaceae	*Glycosmis pentaphylla*	T	10(0)
Carpomya vesuviana	Rhamnaceae	*Ziziphus jujuba*	T	0 (2)
		Ziziphus mauritiana	T	0 (4)
Philophylla conjuncta	Verbenaceae	*Premna cordifolia*	M	1 (0)
Philophylla kraussi	Verbenaceae	*Gmelina elliptica*	T	15(0)
		Gmelina philippensis	T	59(1)
[Parasites only no flies]	Fabaceae	*Archidendron jiringa*	T	1 -
	Melastomataceae	*Melastoma malabathricum*	T	2 -
		Melastoma polyanthum	T	2 -
	Poaceae	*Gigantochloa upus*	T	1 -
	Rosaceae	*Prunus cerasoides*	T	1 -
	Rutaceae	*Citrus reticulata*	T	1 -
	Sapindaceae	*Dimocarpus longan*	T	1 -
	Sapotaceae	*Planchonella punctata*	T	1 -
	Symplocaceae	*Symplocos cochinchinensis*	T	1 -

***Opius bellus* Gahan**

Fruit-fly species	Host plant family	Host plant species	Country	No.
[Parasites only no flies]	Myrtaceae	*Eugenia* sp.	T	1 -

***Psyttalia fletcheri* (Silvestri)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) correcta	Sapotaceae	*Manilkara zapota*	T	0 (1)
Bactrocera (B) dorsalis	Combretaceae	*Terminalia catappa*	T	1 (0)
	Cucurbitaceae	*Coccinia grandis*	T	0 (1)
	Myrtaceae	*Psidium guajava*	T	1 (0)
	Olacaceae	*Olax scandens*	T	1 (0)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
Bactrocera (B) latifrons	Solanaceae	*Capsicum annuum*	T	1 (0)
Bactrocera (B) pyrifoliae	Euphorbiaceae	*Baccaurea ramiflora*	T	1 (0)
Bactrocera (H) diversa	Cucurbitaceae	*Coccinia grandis*	T	1 (0)
		Cucurbita moschata	T	0 (2)
Bactrocera (Z) cucurbitae	Cucurbitaceae	*Benincasa hispida*	T	1 (1)
		Coccinia grandis	T	28(9)
		Cucurbita moschata	T	0 (1)
		Luffa acutangula	T	2 (1)
		Luffa cylindrica	T	0 (1)

		Melothria wallichii	T	1 (2)
		Trichosanthes ovigera	T	0 (1)
	Fabaceae	*Vigna sinensis*	T	1 (0)
Bactrocera (Z) scutellaris	Cucurbitaceae	*Cucurbita moschata*	T	1 (0)
Bactrocera (Z) scutellata	Cucurbitaceae	*Cucurbita moschata*	T	0 (2)
Bactrocera (Z) tau	Cucurbitaceae	*Benincasa hispida*	T	0 (1)
		Coccinia grandis	T	1 (9)
		Cucumis sativus	T	1 (0)
		Cucurbita moschata	T	1 (0)
		Luffa acutangula	T	0 (1)
		Luffa cylindrica	T	0 (1)
		Melothria wallichii	T	0 (1)
		Momordica charantia	T	0 (10)
		Trichosanthes ovigera	T	0 (1)
	Myrtaceae	*Psidium guajava*	T	1 (0)
Dacus (C) longicornis	Cucurbitaceae	*Melothria wallichii*	T	0 (2)
[Parasites only no flies]	Myrtaceae	*Eugenia paniala*	T	1 -

***Psyttalia incisi* (Silvestri)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) carambolae	Myrtaceae	*Psidium guajava*	MT	0 (4)
	Oxalidaceae	*Averrhoa bilimbi*	T	0 (1)
		Averrhoa carambola	MT	2 (17)
Bactrocera (B) correcta	Myrtaceae	*Psidium guajava*	T	0 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (2)
		Ziziphus oenoplia	T	0 (1)
		Ziziphus sp.	T	0 (1)
	Simaroubaceae	*Irvingia malayana*	T	0 (1)
Bactrocera (B) dorsalis	Combretaceae	*Terminalia catappa*	T	1 (0)
	Fabaceae	*Parkia speciosa*	T	1 (0)
	Myrtaceae	*Psidium guajava*	T	0 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (2)
		Ziziphus oenoplia	T	0 (1)
		Ziziphus sp.	T	1 (1)
	Simaroubaceae	*Irvingia malayana*	T	1 (1)
Bactrocera (B) latifrons	Solanaceae	*Solanum* sp.	T	1 (0)
Bactrocera (B) papayae	Anacardiaceae	*Mangifera indica*	T	1 (0)
	Annonaceae	*Artabotrys siamensis*	T	1 (0)
		Uvaria grandiflora	T	1 (0)
	Arecaceae	*Areca catechu*	T	1 (0)
	Combretaceae	*Terminalia catappa*	T	1 (0)
	Myrtaceae	*Psidium guajava*	MT	4 (4)
		Syzygium samarangense	T	0 (1)
	Oxalidaceae	*Averrhoa bilimbi*	T	0 (1)
		Averrhoa carambola	MT	7 (17)
	Rhamnaceae	*Ziziphus mauritiana*	T	1 (0)
	Solanaceae	*Solanum erianthum*	T	1 (0)
Bactrocera (B) tuberculata	Myrtaceae	*Syzygium samarangense*	T	0 (1)
Bactrocera sp	Symplocaceae	*Symplocos cochinchinensis*	T	3 (0)
[Parasites only no flies]	Fabaceae	*Archidendron jiringa*	T	1 -
	Piperaceae	*Piper nigrum*	T	1 -

***Psyttalia makii* (Sonan)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) albistrigata	Combretaceae	*Terminalia catappa*	T	0 (1)

	Myrtaceae	*Syzygium samarangense*	T	0 (5)
Bactrocera (B) arecae	Arecaceae	*Areca triandra*	T	1 (0)
Bactrocera (B) carambolae	Combretaceae	*Terminalia catappa*	M	1 (1)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
	Myrtaceae	*Psidium guajava*	MT	0 (4)
		Syzygium samarangense	T	0 (7)
	Oxalidaceae	*Averrhoa carambola*	MT	3 (45)
Bactrocera (B) correcta	Capparaceae	*Capparis sepiaria*	T	0 (1)
	Combretaceae	*Terminalia catappa*	T	0 (1)
	Elaeocarpaceae	*Muntingia calabura*	T	1 (2)
	Flacourtiaceae	*Flacourtia indica*	T	1 (1)
	Lecythidaceae	*Careya arborea*	T	0 (1)
	Myrtaceae	*Psidium guajava*	T	0 (4)
		Syzygium jambos	T	0 (1)
		Syzygium samarangense	T	0 (8)
	Olacaceae	*Olax scandens*	T	2 (0)
		Schoepfia fragrans	T	0 (1)
	Oxalidaceae	*Averrhoa carambola*	T	0 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (18)
		Ziziphus oenoplia	T	0 (2)
		Ziziphus rotundifolia	T	0 (1)
		Ziziphus sp.	T	0 (1)
	Rutaceae	*Citrus reticulata*	T	0 (1)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
Bactrocera (B) dorsalis	Anacardiaceae	*Anacardium occidentale*	T	1 (0)
	Capparaceae	*Capparis* sp.	T	1 (0)
	Combretaceae	*Terminalia catappa*	T	4 (1)
	Ebenaceae	*Diospyros castanea*	T	1 (0)
	Elaeocarpaceae	*Muntingia calabura*	T	1 (2)
	Euphorbiaceae	*Sapium baccatum*	T	1 (2)
	Fabaceae	*Parkia speciosa*	T	1 (0)
	Flacourtiaceae	*Flacourtia indica*	T	0 (1)
	Myrtaceae	*Psidium guajava*	T	2 (4)
		Syzygium jambos	T	0 (1)
		Syzygium samarangense	T	1 (7)
	Olacaceae	*Schoepfia fragrans*	T	0 (1)
	Oxalidaceae	*Averrhoa carambola*	T	2 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	1 (17)
		Ziziphus oenoplia	T	1 (2)
		Ziziphus rotundifolia	T	0 (1)
		Ziziphus sp.	T	1 (1)
	Rutaceae	*Citrus reticulata*	T	0 (1)
	Sapotaceae	*Manilkara zapota*	T	0 (1)
	Valerianaceae	*Mitrephora maingayi*	T	1 (0)
Bactrocera (B) kanchanaburi	Annonaceae	*Goniothalamus giganteus*	T	1 (0)
Bactrocera (B) latifrons	Solanaceae	*Capsicum annuum*	T	1 (0)
		Solanum aculeatissimum	T	1 (0)
		Solanum nigrum	T	1 (0)
Bactrocera (B) papayae	Anacardiaceae	*Holingarna kurzii*	T	1 (0)
	Annonaceae	*Annona muricata*	T	1 (0)
	Arecaceae	*Veitchia merrillii*	T	1 (0)
	Caricaceae	*Carica papaya*	M	2 (1)
	Combretaceae	*Terminalia catappa*	MT	0 (2)
	Euphorbiaceae	*Sauropus androgynus*	T	1 (0)
	Moraceae	*Artocarpus heterophyllus*	T	0 (1)

	Musaceae	*Musa paradisiaca*	M	2 (0)
	Myristicaceae	*Knema globularia*	T	2 (0)
	Myrtaceae	*Psidium guajava*	MT	9 (4)
		Syzygium samarangense	T	1 (6)
	Oxalidaceae	*Averrhoa carambola*	MT	34 (46)
	Rhamnaceae	*Ziziphus mauritiana*	T	7 (6)
Bactrocera (B) tuberculata	Lecythidaceae	*Careya arborea*	T	0 (1)
Bactrocera (B) umbrosa	Moraceae	*Artocarpus heterophyllus*	T	0 (1)
Bactrocera (B) verbascifoliae	Solanaceae	*Solanum erianthum*	T	2 (0)
Bactrocera (B) zonata	Lecythidaceae	*Careya arborea*	T	0 (1)
Bactrocera (H) diversa	Cucurbitaceae	*Benincasa hispida*	T	0 (1)
		Coccinia grandis	T	1 (0)
		Cucurbita moschata	T	0 (1)
Bactrocera (Z) cucurbitae	Cucurbitaceae	*Benincasa hispida*	T	0 (1)
		Coccinia grandis	T	0 (1)
Bactrocera (Z) isolata	Capparaceae	*Capparis grandis*	T	4 (0)
		Capparis sepiaria	T	0 (1)
Bactrocera (Z) scutellaris	Cucurbitaceae	*Cucurbita moschata*	T	0 (1)
Bactrocera (Z) tau	Cucurbitaceae	*Coccinia grandis*	T	0 (1)
Bactrocera sp	Symplocaceae	*Symplocos cochinchinensis*	T	4 (0)
Carpomya vesuviana	Rhamnaceae	*Ziziphus jujuba*	T	0 (5)
		Ziziphus mauritiana	T	0 (5)
[Parasites only no flies]	Theaceae	*Adinandra integerrima*	T	1 -

Psyttalia sp. 1

Fruit-fly species	Host plant family	Host plant species	Country	No.
Philophylla kraussi	Verbenaceae	*Gmelina asiatica*	T	1 (0)
		Gmelina elliptica	T	6 (0)
		Gmelina philippensis	T	56 (0)

Psyttalia sp. nr _fletcheri_

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) arecae	Arecaceae	*Areca catechu*	T	1 (0)
Bactrocera (B) carambolae	Myrtaceae	*Psidium guajava*	MT	0 (2)
		Syzygium samarangense	T	0 (1)
	Oxalidaceae	*Averrhoa carambola*	MT	0 (13)
Bactrocera (B) correcta	Myrtaceae	*Psidium guajava*	T	0 (1)
		Syzygium jambos	T	0 (1)
		Syzygium samarangense	T	0 (1)
	Oxalidaceae	*Averrhoa carambola*	T	0 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (4)
		Ziziphus oenoplia	T	0 (1)
		Ziziphus rotundifolia	T	1 (0)
Bactrocera (B) dorsalis	Fabaceae	*Afzelia xylocarpa*	T	0 (1)
		Parkia speciosa	T	1 (0)
	Myrtaceae	*Psidium guajava*	T	0 (1)
		Syzygium jambos	T	0 (1)
		Syzygium samarangense	T	2 (1)
	Oxalidaceae	*Averrhoa carambola*	T	1 (1)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (4)
		Ziziphus oenoplia	T	0 (1)
	Rubiaceae	*Coffea arabica*	T	1 (0)
Bactrocera (B) latifrons	Solanaceae	*Capsicum annuum*	MT	5 (1)
		Solanum aculeatissimum	T	3 (0)
		Solanum incanum	T	12 (0)

		Solanum melongena	T	0 (1)
		Solanum torvum	T	1 (0)
Bactrocera (B) papayae	Anacardiaceae	*Mangifera indica*	M	1 (0)
	Caricaceae	*Carica papaya*	T	1 (0)
	Musaceae	*Musa paradisiaca*	M	10 (0)
	Myrtaceae	*Psidium guajava*	MT	5 (2)
		Syzygium samarangense	T	0 (1)
	Oxalidaceae	*Averrhoa carambola*	MT	8 (14)
	Rhamnaceae	*Ziziphus mauritiana*	T	8 (0)
	Solanaceae	*Capsicum annuum*	T	0 (1)
		Solanum melongena	T	0 (1)
Bactrocera (B) verbascifoliae	Solanaceae	*Solanum erianthum*	T	5 (0)
Bactrocera (B) zonata	Fabaceae	*Afzelia xylocarpa*	T	0 (1)

Psyttalia* sp nr *makii

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) carambolae	Myrtaceae	*Psidium guajava*	MT	0 (2)
	Oxalidaceae	*Averrhoa carambola*	MT	0 (11)
Bactrocera (B) correcta	Combretaceae	*Terminalia catappa*	T	0 (1)
Bactrocera (B) dorsalis	Combretaceae	*Terminalia catappa*	T	1 (1)
	Oxalidaceae	*Averrhoa carambola*	T	1 (0)
Bactrocera (B) latifrons	Solanaceae	*Capsicum annuum*	T	2 (0)
		Solanum incanum	T	2 (0)
		Solanum sp.	T	1 (0)
Bactrocera (B) papayae	Myrtaceae	*Psidium guajava*	MT	0 (2)
	Oxalidaceae	*Averrhoa carambola*	MT	1 (11)
	Rhamnaceae	*Ziziphus mauritiana*	T	2 (1)
Carpomya vesuviana	Rhamnaceae	*Ziziphus mauritiana*	T	0 (1)
[Parasites only no flies]	Solanaceae	*Capsicum annuum*	T	1 -

***Utetes bianchii* (Fullaway)**

Fruit-fly species	Host plant family	Host plant species	Country	No.
Bactrocera (B) correcta	Myrtaceae	*Psidium guajava*	T	0 (2)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (1)
Bactrocera (B) dorsalis	Euphorbiaceae	*Sapium baccatum*	T	2 (0)
	Myrtaceae	*Psidium guajava*	T	0 (2)
	Olacaceae	*Schoepfia fragrans*	T	1 (0)
	Rhamnaceae	*Ziziphus jujuba*	T	0 (1)
Bactrocera (B) latifrons	Solanaceae	*Capsicum annuum*	T	1 (0)
		Solanum nigrum	T	1 (0)
		Solanum sanitwongsei	T	1 (0)
		Solanum trilobatum	T	1 (0)
Bactrocera (B) pyrifoliae	Rosaceae	*Prunus persica*	T	1 (0)
Bactrocera (H) diversa	Cucurbitaceae	*Coccinia grandis*	T	4 (0)
Bactrocera (Z) cucurbitae	Cucurbitaceae	*Luffa cylindrica*	T	0 (1)
Bactrocera (Z) tau	Cucurbitaceae	*Luffa cylindrica*	T	0 (1)
Bactrocera sp n	Symplocaceae	*Symplocos cochinchinensis*	T	3 (0)
Carpomya vesuviana	Rhamnaceae	*Ziziphus jujuba*	T	0 (1)
Vidalia thailandica	Araliaceae	*Schefflera clarkeana*	T	1 (0)

Several unrecognised parasitoid species were reared from samples, normally in very low numbers. Representative specimens of these species are with Dr R. Wharton (Texas A&M University) and it is anticipated that at least some of them will be formally described as new species. With only three exceptions, records for these "new" species are not included here so as to avoid confusion between this paper and subsequent taxonomic works. The three exceptions are two parasitoid species that are morphologically "near" *P. makii* and *P. fletcheri* (Silvestri) respectively, and a third species, *Psytallia* sp. 1. *Psytallia* sp nr *makii* and *P.* sp. nr *fletcheri* are included here as they were collected relatively commonly and their morphological similarity to *P. makii* and *P. fletcheri* means that they can be labelled with little ambiguity for subsequent workers. *Psytallia* sp. 1 is included as it was collected only in association with *Philophylla krausii* (Hardy) and again should offer an unambiguous data set for future workers. It is interesting to note that collection details (other than accession number) were not available to Clarke and Walter until well after identifications were made. Thus the 56 sample identifications linking *Psytallia* sp 1 with *P. krausii*, and no other fruit fly species, were made without any prior or developing knowledge of that relationship.

Most parasitoids were reared from *Bactrocera* species, particularly *B.* (*Bactrocera*) species and *B.* (*Zeugodacus*) species (Table 2). This probably reflects the bias of the orginal ACIAR project, which focused on the sampling of soft fleshy fruits that are normally *Bactrocera* hosts. However, it is worth noting that hosts other than fleshy fruits were included in the original surveys. Allwood et al. (1999) listed 64 samples from Poaceae (predominantly bamboos) which yielded fruit flies of genera other than *Bactrocera*. However, with respect to parasitoids, only three samples from Poaceae yielded specimens (Table 3).

Table 2. Opiine braconids associated with Trypetine fruit flies in Thailand and Malaysia.

(Each parasitoid species is followed in the same row by two numbers. The first number [not in brackets] is the number of samples which yielded only the named fruit fly species. The second number [in brackets] is the number of samples where two or more fly species were reared. This second set of records should be used with caution as a positive association between the parasitoid and the named fruit fly species is ambiguous in cases where multiple fly species are reared from the same sample. Higher classification of the fruit flies follows Norrbom et al., 1998).

SUB-FAMILY TRYPETINAE

TRIBE ADRAMINI

***Euphranta turpiniae* Hancock & Drew**

Fopius arisanus	3	(0)			

TRIBE CARPOMYINI, SUB-TRIBE CARPOMYINA

***Carpomya vesuviana* A. Costa**

Diachasmimorpha longicaudata	2	(34)	*Psyttalia makii*	0	(10)
Fopius arisanus	0	(3)	*Psyttalia* sp. nr *makii*	0	(1)
Fopius vandenboschi	0	(6)	*Utetes bianchii*	0	(1)

TRIBE DACINI, SUB-TRIBE DACINA

***Bactroceraa (Bactrocera) albistrigata* (de Meijere)**

Diachasmimorpha longicaudata	0	(21)			
Fopius arisanus	0	(13)	*Fopius vandenboschi*	0	(10)

***Bactroceraa (Bactrocera) arecae* (Hardy & Adachi)**

Diachasmimorpha longicaudata	1	(0)	*Psyttalia makii*	1	(0)
Fopius arisanus	1	(0)	*Psyttalia* sp nr *fletcheri*	1	(0)

***Bactrocera (Bactrocera) carambolae* Drew & Hancock**

Diachasmimorpha longicaudata	8	(81)	*Psyttalia makii*	0	(62)
Fopius arisanus	9	(64)	*Psyttalia* sp. nr *fletcheri*	0	(16)

Fopius vandenboschi	12	(103)	*Psyttalia* sp. nr *makii*	0	(14)
Psyttalia incisi	6	(18)			

***Bactrocera (Bactrocera) correcta* (Bezzi)**

Diachasmimorpha longicaudata	14	(98)	*Psyttalia incisi*	0	(6)
Fopius arisanus	2	(25)	*Psyttalia makii*	4	(45)
Fopius persulcatus	0	(1)	*Psyttalia* sp. nr *fletcheri*	1	(10)
Fopius vandenboschi	2	(32)	*Psyttalia* sp. nr *makii*	0	(1)
Psyttalia fletcheri	0	(1)	*Utetes bianchii*	0	(3)

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

Diachasmimorpha albobalteata	1	(0)	*Psyttalia incisi*	4	(6)
Diachasmimorpha longicaudata	23	(79)	*Psyttalia makii*	22	(44)
Fopius arisanus	36	(26)	*Psyttalia* sp. nr *fletcheri*	5	(10)
Fopius persulcatus	1	(0)	*Psyttalia* sp. nr *makii*	2	(1)
Fopius vandenboschi	19	(36)	*Utetes bianchii*	3	(3)
Psyttalia fletcheri	3	(2)			

***Bactrocera (Bactrocera) irvingiae* Drew & Hancock**

Diachasmimorpha longicaudata	3	(0)	*Fopius arisanus*	2	(0)

***Bactrocera (Bactrocera) kanchanaburi* Drew & Hancock**

Diachasmimorpha longicaudata	1	(0)	*Psyttalia makii*	1	(0)
Fopius arisanus	1	(0)			

***Bactrocera (Bactrocera) lata* (Perkins)**

Diachasmimorpha longicaudata	0	(1)

***Bactrocera (Bactrocera) latifrons* (Hendel)**

Diachasmimorpha longicaudata	36	(7)	*Psyttalia incisi*	1	(0)
Fopius arisanus	1	(0)	*Psyttalia makii*	3	(0)
Fopius deeralensis	1	(0)	*Psyttalia* sp. nr *makii*	5	(0)
Fopius vandenboschi	4	(2)	*Psyttalia* sp. nr *fletcheri*	21	(2)
Psyttalia fletcheri	1	(0)	*Utetes bianchii*	2	(0)

***Bactrocera (Bactrocera) osbeckiae* Drew & Hancock**

Diachasmimorpha longicaudata	5	(0)	*Fopius vandenboschi*	8	(0)
Fopius persulcatus	1	(0)			

***Bactrocera (Bactrocera) papayae* Drew & Hancock**

Diachasmimorpha longicaudata	189	(112)	*Psyttalia makii*	61	(66)
Fopius arisanus	169	(80)	*Psyttalia* sp. nr *fletcheri*	32	(20)
Fopius vandenboschi	201	(120)	*Psyttalia* sp. nr *makii*	3	(15)
Psyttalia incisi	18	(23)			

***Bactrocera (Bactrocera) propinqua* (Hardy & Adachi)**

Diachasmimorpha longicaudata	1	(0)

***Bactrocera (Bactrocera) pyrifoliae* Drew & Hancock**

Diachasmimorpha longicaudata	1	(2)	*Psyttalia fletcheri*	1	(0)
Fopius arisanus	2	(2)	*Utetes bianchii*	1	(0)

***Bactrocera (Bactrocera) raiensis* Drew & Hancock**

Fopius vandenboschi	1	(0)

***Bactrocera (Bactrocera) thailandica* Drew & Hancock**

Fopius arisanus	0	(1)			

***Bactrocera (Bactrocera) tuberculata* (Bezzi)**

Diachasmimorpha longicaudata	0	(7)	*Psyttalia incisi*	0	(1)
Fopius arisanus	0	(3)	*Psyttalia makii*	0	(1)

***Bactrocera (Bactrocera) umbrosa* (Fabricius)**

Diachasmimorpha longicaudata	0	(2)	*Fopius vandenboschi*	0	(2)
Fopius arisanus	0	(2)	*Psyttalia makii*	0	(1)

***Bactrocera (Bactrocera) verbascifoliae* Drew & Hancock**

Diachasmimorpha longicaudata	36	(0)	*Psyttalia makii*	2	(0)
Fopius arisanus	8	(0)	*Psyttalia* sp. nr *fletcheri*	5	(0)
Fopius vandenboschi	45	(0)			

***Bactrocera (Bactrocera) zonata* (Saunders)**

Diachasmimorpha longicaudata	0	(1)	*Psyttalia makii*	0	(1)
Fopius vandenboschi	0	(2)	*Psyttalia* sp. nr *fletcheri*	0	(1)

***Bactrocera (Hemigymnodacus) diversa* (Coquillett)**

Psyttalia fletcheri	1	(2)	*Utetes bianchii*	4	(0)
Psyttalia makii	1	(2)			

***Bactrocera (Paratridacus) garciniae* Bezzi**

Diachasmimorpha longicaudata	0	(1)	*Fopius vandenboschi*	3	(0)

***Bactrocera (Zeugodacus) cucurbitae* (Coquillet)**

Diachasmimorpha dacusii	1	(0)	*Fopius vandenboschi*	4	(2)
Diachasmimorpha longicaudata	0	(1)	*Psyttalia fletcheri*	50	(27)
Fopius arisanus	1	(3)	*Utetes bianchii*	0	(1)

***Bactrocera (Zeugodacus) isolata* (Hardy)**

Diachasmimorpha longicaudata	7	(1)	*Psyttalia makii*	4	(1)
Fopius arisanus	1	(1)			

***Bactrocera (Zeugodacus) pendleburyi* (Perkins)**

Diachasmimorpha longicaudata	1	(0)

***Bactrocera (Zeugodacus) scutellaris* Bezzi**

Psyttalia fletcheri	1	(0)	*Psyttalia makii*	0	(1)

***Bactrocera (Zeugodacus) scutellata* (Hendel)**

Psyttalia fletcheri	0	(2)

***Bactrocera (Zeugodacus) tau* (Walker)**

Diachasmimorpha albobalteata	1	(0)	*Psyttalia fletcheri*	4	(24)
Fopius arisanus	0	(1)	*Psyttalia makii*	0	(1)
Fopius vandenboschi	0	(2)	*Utetes bianchii*	0	(1)

***Bactrocera* sp**

Diachasmimorpha albobalteata	2	(0)	*Psyttalia incisi*	3	(0)
Diachasmimorpha longicaudata	11	(0)	*Psyttalia makii*	4	(0)
Fopius arisanus	2	(0)	*Utetes bianchii*	3	(0)
Fopius vandenboschi	25	(0)			

***Dacus (Callantra) longicornis* Weidemann**

Psyttalia fletcheri	0	(2)

TRIBE DACINI, SUB-TRIBE GASTROZONINA

***Acroceratitis ceratitina* (Bezzi)**

Diachasmimorpha longicaudata	1	(0)

***Acroceratitis distincta* (Zia)**

Fopius deeralensis	1	(0)

TRIBE TRYPETINI, SUB-TRIBE TRYPETINA

***Philophylla conjuncta* (de Meijere)**

Fopius vandenboschi	1	(0)

***Philophylla kraussi* (Hardy)**

Diachasmimorpha longicaudata	81	(0)	*Fopius vandenboschi*	74	(1)
Fopius arisanus	2	(0)	*Psyttalia* sp 1	63	(0)
Fopius skinneri	1	(0)			

***Vidalia thailandica* Hancock & Drew**

Utetes bianchii	1	(0)

UNPLACED

***Callistomyia pavonina* Bezzi**

Fopius vandenboschi	10	(0)

Table 3. Fruitfly host plants associated with Opiine braconids in Thailand and Malaysia. The number of times a particular plant-parasite association was made was once only, unless otherwise marked.

ANACARDIACEAE

***Anacardium occidentale* L.**

Diachasmimorpha longicaudata		*Psyttalia makii*	
Fopius vandenboschi	3		

***Bouea macrophylla* Griff.**

Diachasmimorpha longicaudata

***Bouea oppositifolia* Roxb. Meisn.**

Fopius vandenboschi

***Holingarna kurzii* King**

Fopius vandenboschi		*Psyttalia makii*	

***Mangifera caesia* Jack ex Wallich**

Fopius vandenboschi

***Mangifera foetida* Lour.**

Fopius arisanus

***Mangifera indica* L.**

Diachasmimorpha longicaudata	15	*Psyttalia incisi*	
Fopius arisanus	6	*Psyttalia* sp. nr *fletcheri*	
Fopius vandenboschi	4		

***Spondias cytherea* Sonn.**

Diachasmimorpha longicaudata	2	*Fopius arisanus*	

***Spondias pinnata* L. f. Kurz**

Fopius vandenboschi

ANNONACEAE

***Annona montana* Macfad.**

Diachasmimorpha longicaudata	2	*Fopius arisanus*	3

***Annona muricata* L.**

Psyttalia makii

***Annona squamosa* L.**

Diachasmimorpha longicaudata		*Fopius vandenboschi*	
Fopius arisanus	3		

***Artabotrys siamensis* Miq.**

Diachasmimorpha longicaudata	16	*Fopius vandenboschi*	5
Fopius arisanus	6	*Psyttalia incisi*	

***Goniothalamus giganteus* Merr.**

Psyttalia makii

***Uvaria grandiflora* Roxb.**

Fopius vandenboschi	2	*Psyttalia incisi*	

ARALIACEAE

Schefflera clarkeana

Utetes bianchii

ARECACEAE

***Areca catechu* L.**

Fopius arisanus	3	*Psyttalia* sp nr *fletcheri*	
Psyttalia incisi			

***Areca triandra* Roxb. Ex Buch. - Ham**

Diachasmimorpha longicaudata		*Psyttalia makii*	

***Veitchia merrillii* Becc. H.E. Moore**

Fopius arisanus		*Psyttalia makii*	

ASCLEPIADACEAE

***Calotropis gigantea* L. W.T. Aiton**

Fopius vandenboschi

BURSERACEAE

***Canarium odontophyllum* Miq.**

Diachasmimorpha longicaudata	2		

***Garuga floribunda* Decne**

Diachasmimorpha longicaudata

CAPPARACEAE

***Capparis grandis* L. f.**

Diachasmimorpha longicaudata	5	*Psyttalia makii*	4

***Capparis sepiaria* L.**

Psyttalia makii	2		

***Capparis* sp.**

Fopius arisanus	2	*Psyttalia makii*	

Capparis thorelli

Diachasmimorpha longicaudata	2		

Maerua siamensis

Diachasmimorpha longicaudata	2	*Fopius arisanus*	2

CAPRIFOLIACEAE

Sambucus javanica Reinw. Ex Blume

Fopius arisanus

CARICACEAE

Carica papaya L.

Fopius arisanus	9	*Psyttalia makii*	3
Fopius vandenboschi	5	*Psyttalia* sp nr *fletcheri*	

CLUSIACEAE

Garcinia cowa Roxb.

Diachasmimorpha longicaudata

Garcinia dulcis Kurz.

Diachasmimorpha longicaudata 2

Garcinia hombroniana Pierre

Fopius arisanus 2

Garcinia speciosa Wall.

Fopius arisanus 3

Garcinia xanthochymus Hook. F. ex T. Anderson in Hook. f.

Fopius vandenboschi 3

Mammea siamensis Kostum

Diachasmimorpha longicaudata

COMBRETACEAE

Terminalia catappa L.

Diachasmimorpha longicaudata	56	*Psyttalia incisi*	2
Fopius arisanus	39	*Psyttalia makii*	11
Fopius vandenboschi	30	*Psyttalia* sp nr *makii*	3
Psyttalia fletcheri			

CUCURBITACEAE

Benincasa hispida Thunb. Cogn. In A. DC.

Psyttalia fletcheri	3	*Psyttalia makii*	2

Coccinia grandis L. Voigt

Fopius arisanus		*Psyttalia makii*	3
Fopius vandenboschi	4	*Utetes bianchii*	4
Psyttalia fletcheri	49		

Cucumis melo L.

Fopius vandenboschi

***Uvaria grandiflora* Roxb.**

Fopius vandenboschi	2	*Psyttalia incisi*	

ARALIACEAE

Schefflera clarkeana

Utetes bianchii

ARECACEAE

***Areca catechu* L.**

Fopius arisanus	3	*Psyttalia* sp nr *fletcheri*	
Psyttalia incisi			

***Areca triandra* Roxb. Ex Buch. - Ham**

Diachasmimorpha longicaudata		*Psyttalia makii*	

***Veitchia merrillii* Becc. H.E. Moore**

Fopius arisanus		*Psyttalia makii*	

ASCLEPIADACEAE

***Calotropis gigantea* L. W.T. Aiton**

Fopius vandenboschi

BURSERACEAE

***Canarium odontophyllum* Miq.**

Diachasmimorpha longicaudata	2		

***Garuga floribunda* Decne**

Diachasmimorpha longicaudata

CAPPARACEAE

***Capparis grandis* L. f.**

Diachasmimorpha longicaudata	5	*Psyttalia makii*	4

***Capparis sepiaria* L.**

Psyttalia makii	2		

***Capparis* sp.**

Fopius arisanus	2	*Psyttalia makii*	

Capparis thorelli

Diachasmimorpha longicaudata	2		

Maerua siamensis

Diachasmimorpha longicaudata	2	*Fopius arisanus*	2

Fopius vandenboschi

ELAEOCARPACEAE

***Elaeocarpus grandiflorus* Sm.**

Fopius arisanus

Elaeocarpus madopetalus

Diachasmimorpha longicaudata	2		

***Muntingia calabura* L.**

Diachasmimorpha longicaudata	2	*Psyttalia makii*	6
Fopius arisanus			

EUPHORBIACEAE

***Aporusa villosa* Lindl. Baill.**

Diachasmimorpha longicaudata

***Antidesma ghaesembilla* Gaertn.**

Fopius vandenboschi

***Baccuarea mottleyana* Müll. Arg. Müll. Arg. In A. DC.**

Fopius vandenboschi

***Baccaurea ramiflora* Lour.**

Psyttalia fletcheri

***Sapium baccatum* Roxb.**

Diachasmimorpha longicaudata		*Psyttalia makii*	4
Fopius arisanus	5	*Utetes bianchii*	5
Fopius vandenboschi	3		

***Sauropus androgynus* L. Merr.**

Psyttalia makii

FABACEAE

***Afzelia xylocarpa* Kurz Craib**

Diachasmimorpha longicaudata	2	*Psyttalia* sp nr *fletcheri*	2
Fopius vandenboschi	2		

***Archidendron jiringa* (Jack) I.C. Nielsen**

Fopius vandenboschi	*Psyttalia incisi*

***Parkia speciosa* Hassk.**

Diachasmimorpha longicaudata	*Psyttalia makii*
Fopius arisanus	*Psyttalia* sp nr *fletcheri*
Psyttalia incisi	

***Vigna sinensis* L. Savi ex Hassk.**

Psyttalia fletcheri

FLACOURTIACEAE

***Flacourtia indica* Burman f. Merr.**

Diachasmimorpha longicaudata — *Psyttalia makii* 3

Xylosma brachystachys

Fopius arisanus — *Utetes bianchii*
Psyttalia incisi

LECYTHIDACEAE

Careya arborea Roxb.

Diachasmimorpha longicaudata — *Psyttalia makii* 3
Fopius sp. 3

***Careya sphaerica* Roxb.**

Diachasmimorpha longicaudata 2 — *Fopius arisanus* 2

LOGANIACEAE

***Fagraea ceilanica* Thunb.**

Fopius arisanus

MALPIGHIACEAE

***Malpighia glabra* L.**

Fopius vandenboschi 3

MELASTOMATACEAE

***Melastoma malabathrica* L.**

Fopius vandenboschi 2

***Melastoma normale* D. Don**

Diachasmimorpha longicaudata — *Fopius vandenboschi*

***Melastoma polyanthum* Blume**

Diachasmimorpha longicaudata 6 — *Fopius vandenboschi* 7
Fopius persulcatus

***Melastoma villosa* Aubl.**

Fopius vandenboschi

Memecylon plebejum

Diachasmimorpha longicaudata — *Fopius vandenboschi*

MELIACEAE

***Aglaia domestica* Pelleg**

Diachasmimorpha longicaudata

***Sandoricum koetjape* Burm. F. Merr.**

Diachasmimorpha longicaudata	3	*Fopius vandenboschi*	2
Fopius arisanus	5		

***Walsura intermedia* Craib.**

Diachasmimorpha longicaudata

MORACEAE

***Artocarpus altilis* Parkinson Fosberg**

Fopius vandenboschi

***Artocarpus heterophyllus* Lam.**

Diachasmimorpha longicaudata	3	*Fopius vandenboschi*	
Fopius arisanus	5	*Psyttalia makii*	3

***Artocarpus integer* Thunb. Merr.**

Diachasmimorpha longicaudata	4	*Fopius vandenboschi*	4
Fopius arisanus			

***Artocarpus lakoocha* Roxb.**

Diachasmimorpha longicaudata

***Artocarpus lanceolatus* Merr.**

Diachasmimorpha longicaudata

***Artocarpus sericicarpus* Jarrett**

Fopius arisanus

***Ficus fistulosa* Reinw. ex Blume**

Fopius vandenboschi

***Morus alba* L.**

Fopius vandenboschi

MUSACEAE

***Musa acuminata* Colla**

Fopius arisanus

***Musa paradisiaca* L.**

Diachasmimorpha longicaudata	2	*Psyttalia makii*	2
Fopius arisanus	9	*Psyttalia* sp. nr *fletcheri*	10
Fopius vandenboschi	11		

MYRISTICACEAE

***Knema globularia* Lam. Warb.**

Diachasmimorpha longicaudata	2	*Psyttalia makii*	2
Fopius vandenboschi			

MYRTACEAE

Careya sphaerica **Roxb.**

Diachasmimorpha longicaudata	2

Eugenia paniala **Roxburgh**

Diachasmimorpha longicaudata	2	*Fopius vandenboschi*	
Fopius arisanus		*Psyttalia fletcheri*	

Eugenia **sp.**

Fopius arisanus	2	*Opius bellus*	
Fopius vandenboschi	2		

Psidium cattleianum **Sabine**

Diachasmimorpha longicaudata	2

Psidium guajava **L.**

Diachasmimorpha longicaudata	86	*Psyttalia incisi*	14
Fopius arisanus	79	*Psyttalia makii*	27
Fopius persulcatus	2	*Psyttalia* sp nr *fletcheri*	11
Fopius vandenboschi	112	*Psyttalia* sp nr *makii*	4
Psyttalia fletcheri	2	*Utetes bianchii*	4

Syzygium aqueum **Burman f. Alston**

Diachasmimorpha longicaudata		*Fopius vandenboschi*	4
Fopius arisanus			

Syzygium jambos **L. Alston**

Diachasmimorpha longicaudata	4	*Psyttalia* sp nr *fletcheri*	2
Psyttalia makii	2		

Syzygium malaccense **L. Merr. & L.M. Perry**

Diachasmimorpha longicaudata	
Fopius arisanus	4

Syzygium samarangense **Blume Merr. & L.M. Perry**

Diachasmimorpha longicaudata	54	*Psyttalia incisi*	2
Fopius arisanus	15	*Psyttalia makii*	35
Fopius vandenboschi	44	*Psyttalia* sp nr *fletcheri*	6

OLACACEAE

Olax scandens **Roxb.**

Diachasmimorpha longicaudata		*Psyttalia makii*	2
Psyttalia fletcheri			

Schoepfia fragrans **Wall. in Roxb.**

Fopius vandenboschi	3	*Utetes bianchii*	
Psyttalia makii	2		

OXALIDACEAE

Averrhoa bilimbi L.

Psyttalia incisi	2		

Averrhoa carambola L.

Diachasmimorpha longicaudata	173	*Psyttalia makii*	132
Fopius arisanus	132	*Psyttalia* sp nr *fletcheri*	38
Fopius vandenboschi	199	*Psyttalia* sp nr *makii*	24
Psyttalia incisi	43		

PIPERACEAE

Piper nigrum L.

Diachasmimorpha longicaudata	*Psyttalia incisi*

POACEAE

Bambusa tulda Roxb.

Fopius deeralensis

Dendrocalamus membranaceus Munro

Diachasmimorpha longicaudata

Gigantochloa upus Schult. Kurz.

Fopius vandenboschi

RHAMNACEAE

Ziziphus jujuba Mill.

Diachasmimorpha longicaudata	105	*Psyttalia makii*	41
Fopius arisanus	20	*Psyttalia* sp nr *fletcheri*	8
Fopius vandenboschi	24	*Utetes bianchii*	3
Psyttalia incisi	4		

Ziziphus mauritiana Lam.

Diachasmimorpha longicaudata	35	*Psyttalia makii*	18
Fopius arisanus	16	*Psyttalia* sp nr *fletcheri*	8
Fopius vandenboschi	32	*Psyttalia* sp nr *makii*	4
Psyttalia incisi			

Ziziphus oenoplia Mill.

Diachasmimorpha longicaudata	6	*Psyttalia incisi*	2
Fopius arisanus	4	*Psyttalia makii*	5
Fopius vandenboschi	4	*Psyttalia* sp nr *fletcheri*	2

Ziziphus rotundifolia Lamk. cv. jhar ber

Diachasmimorpha longicaudata	13	*Psyttalia makii*	2
Fopius arisanus	2	*Psyttalia* sp nr *fletcheri*	2
Fopius vandenboschi	8		

***Ziziphus* sp.**

Diachasmimorpha longicaudata	3	*Psyttalia incisi*	3
Fopius arisanus	3	*Psyttalia makii*	3
Fopius vandenboschi	5		

RHIZOPHORACEAE

***Rhizophora* sp.**

Diachasmimorpha longicaudata	2

ROSACEAE

***Eriobotrya japonica* Thunb. Lindl.**

Fopius arisanus	2

***Malus pumila* L. Mill.**

Fopius arisanus

***Prunus cerasoides* D. Don**

Fopius vandenboschi

***Prunus cerasus* L.**

Diachasmimorpha longicaudata

***Prunus persica* L. Batsch**

Diachasmimorpha longicaudata	4	*Utetes bianchii*	
Fopius arisanus	6		

***Prunus persica var. nucipersica* C.K. Schneid.**

Diachasmimorpha longicaudata	3

***Pyrus pyrifolia* Burm. f. Nakai**

Fopius arisanus

RUBIACEAE

***Anthocephalus cadamba* (Roxb.) Miq.**

Fopius vandenboschi

***Anthocephalus chinensis* Lam. Rich. ex Walp.**

Diachasmimorpha longicaudata	2	*Fopius arisanus*	2

***Coffea arabica* L.**

Diachasmimorpha longicaudata	*Psyttalia* sp nr *fletcheri*
Fopius vandenboschi	

***Nauclea orientalis* L. L.**

Fopius arisanus	3

***Ochreinauclea maingayi* Hook. f. Ridsd.**

Diachasmimorpha longicaudata

RUTACEAE

Citrus reticulata Blanco

Fopius arisanus	5	*Psyttalia makii*	2
Fopius vandenboschi			

Fortunella polyandra Tanaka

Fopius vandenboschi

Glycosmis pentaphylla Retz. A.P. DC.

Fopius vandenboschi	10		

Murraya exotica L.

Diachasmimorpha longicaudata

X Citrofortunella mitis Blanco J. Ingram & H. Moore

Diachasmimorpha longicaudata	3	*Fopius arisanus*	3

SAPINDACEAE

Dimocarpus longan Lour.

Fopius vandenboschi

SAPOTACEAE

Manilkara zapota L. P. Royen

Diachasmimorpha longicaudata	24	*Psyttalia fletcheri*	2
Fopius arisanus	16	*Psyttalia makii*	2
Fopius vandenboschi	4		

Mimusops elengi L.

Diachasmimorpha longicaudata

Planchonella punctata

Fopius arisanus		*Fopius vandenboschi*	2

SIMAROUBACEAE

Irvingia malayana Olivier ex Bennett

Diachasmimorpha longicaudata	8	*Fopius vandenboschi*	
Fopius arisanus	10	*Psyttalia incisi*	3

SOLANACEAE

Capsicum annuum L.

Diachasmimorpha longicaudata	6	*Psyttalia* sp nr *fletcheri*	7
Fopius vandenboschi		*Psyttalia* sp nr *makii*	3
Psyttalia fletcheri		*Utetes bianchii*	
Psyttalia makii			

***Solanum aculeatissimum* Jacq.**

Diachasmimorpha longicaudata	3	*Psyttalia makii*	
Fopius arisanus		*Psyttalia* sp nr *fletcheri*	3
Fopius vandenboschi			

***Solanum erianthum* D. Don**

Diachasmimorpha longicaudata	36	*Psyttalia incisi*	
Fopius arisanus	9	*Psyttalia makii*	2
Fopius vandenboschi	46	*Psyttalia* sp nr *fletcheri*	5

***Solanum incanum* L.**

Diachasmimorpha longicaudata	5	*Psyttalia* sp nr *fletcheri*	12
Fopius vandenboschi		*Psyttalia* sp nr *makii*	2

***Solanum melongena* L.**

Diachasmimorpha longicaudata	18	*Psyttalia* sp nr *fletcheri*	2

***Solanum nigrum* L.**

Diachasmimorpha longicaudata		*Utetes bianchii*	
Psyttalia makii			

***Solanum sanitwongsei* Craib**

Diachasmimorpha longicaudata	6	*Utetes bianchii*	

***Solanum* sp.**

Psyttalia incisi		*Psyttalia* sp nr *makii*	

***Solanum stramoniifolium* Lam.**

Diachasmimorpha longicaudata			

***Solanum torvum* Sw.**

Diachasmimorpha longicaudata	5	*Psyttalia* sp nr *fletcheri*	
Fopius vandenboschi	3		

***Solanum trilobatum* L.**

Diachasmimorpha longicaudata	2	*Fopius vandenboschi*	2
Fopius deeralensis		*Utetes bianchii*	

STAPHYLEACEAE

***Turpinia pomifera* Roxb. DC.**

Fopius arisanus	4	*Fopius* sp nr *vandenboschi*	

STERCULIACEAE

***Helicteres angustifolia* L.**

Diachasmimorpha longicaudata			

SYMPLOCACEAE

***Symplocos cochinchinensis* Lour. S. Moore**

Diachasmimorpha albobalteata	2	*Psyttalia incisi*	4

Diachasmimorpha longicaudata	11	*Psyttalia makii*	5
Fopius arisanus	2	*Utetes bianchii*	4
Fopius vandenboschi	26		

***Symplocos racemosa* Roxb.**

Diachasmimorpha longicaudata

THEACEAE

***Adinandra integerrima* T. Anderson**

Fopius arisanus *Psyttalia makii*

ULMACEAE

***Celtis tetranda* Roxb.**

Fopius arisanus

VALERIANACEAE

***Mitrephora maingayi* Hook. f. & Thomson**

Psyttalia makii

VERBENACEAE

***Gmelina asiatica* L.**

Psyttalia sp 1 TH

***Gmelina elliptica* Sm.**

Diachasmimorpha longicaudata	9	*Psyttalia* sp 1 TH	6
Fopius vandenboschi	15		

***Gmelina philippensis* Cham.**

Diachasmimorpha longicaudata	73	*Fopius vandenboschi*	61
Fopius arisanus	2	*Psyttalia* sp 1 TH	59
Fopius skinneri			

***Gmelina* sp.**

Diachasmimorpha longicaudata

***Premna cordifolia* Wight**

Fopius vandenboschi

Many fruit samples yielded more than one fly species per sample. Where such samples also yielded one or more parasite species, it is not possible to unambiguously assign a parasite to a certain fly. This is because the parasite may have attacked only one of the two or more fly species. To clearly define such ambiguous records, each table distinguishes between the number of samples where only one fly species was reared as against those where two or more flies were reared.

DISCUSSION

Fruit fly parasitoids have been widely used in classical biological control programmes, yet it is generally considered that at best these programmes have only been partially successful (Waterhouse 1993). One of the requirements to sound biological control is understanding the ecology and host utilisation of the biological control agents in their native environment. This has rarely been achieved with fruit fly parasitoids, where opportunistic collecting is more the historic precedent (Clausen et al. 1965). This paper, which represents the first in a series analysing parasitoid data from extensive fruit fly rearing work in Thailand and Malaysia, will help address some of these issues for important dacine parasitoid species.

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