

# NEW HOSTPLANT AND LOCALITY RECORDS FOR CERATITIDINAE AND TRYPETINAE IN NORTHERN QUEENSLAND (DIPTERA: TEPHRITIDAE)

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## Summary

Hostplant and locality records are provided for two species of Ceratitidinae and 18 species of Trypetinae from northern Queensland. First Australian host records are provided for *Ceratitella unifasciata* Hardy, *Rabaulia nigrotibia* Hering, *Trypanocentra nigrithorax* Malloch and *Philophylla fossata* (Fabricius). Australian records of *Rabaulia fascifacies* Malloch are shown to be misidentifications of *R. nigrotibia*.

## INTRODUCTION

Since October 1995 an extensive trapping and host fruit survey has been underway in North Queensland as part of the Papaya Fruit Fly Eradication Program. More than 65,500 fruit samples were collected between October 1995 and December 1997, of which 12,500 were collected from rainforests. Rainforest fruit collecting virtually ceased after the end of June 1997, when the program began to focus more intensively on known hosts of the target species, *Bactrocera papayae* Drew and Hancock. As a consequence of this survey, much information has been gathered on other, non-dacine fruit flies that are associated with fruit, particularly the polyphagous *Dirioxa pornia* (Walker) and the fig-infesting genera *Clusiosoma* Malloch, *Rabaulia* Malloch and *Trypanocentra* Hendel. The following records provide information additional to the recent reviews by Permkam and Hancock (1994, 1995). Hostplants marked with an asterisk are new records. Many of the plants are discussed and illustrated in Cooper and Cooper (1994).

## METHODS

Fruit samples collected in the field were held under laboratory conditions in Cairns, initially under fluctuating temperature but from the end of 1996 under constant temperature. Samples were held until larval emergence and pupariation, which took place in sawdust beneath the samples. After two weeks fruit was examined for signs of larval activity and discarded if none were found. Pupae were transferred to separate containers until emergence. Adults were kept alive, on a diet of sugar and water, for several days to enable development of colour patterns and wing markings. Dates recorded below are those of collection in the field; emergence dates are normally two to three weeks later. All species of Ceratitidinae and Trypetinae recorded as a result of the Papaya Fruit Fly Eradication Program to date are recorded below; records of Dacinae will be reported elsewhere.

## RECORDS

### Ceratitidinae

#### *Ceratitella unifasciata* Hardy

*Dendrophthoe* sp. (Loranthaceae)\*

1 MALE, Cedar Bay, 16.x.1996.

**Remarks.** This is the only species of *Ceratitella* Malloch recorded from the Cairns area, although *C. recondita* Permkam and Hancock may occur also. All known hosts of the genus are species of Loranthaceae.

#### *Paraceratitella eurycephala* Hardy

1 FEMALE, Ellis Beach, nr Cairns, 8.x.1997, G. Hardy and A. Hay, in McPhail trap.

**Remarks.** This species breeds in the buds of *Capparis* spp. (Capparaceae). The above is the first record of this widespread northern species from the Cairns area.

### Trypetinae

#### Acanthonevrini

#### *Austronevra australina* (Hendel)

1 FEMALE, Cedar Bay, 28.iv.1996, S. and B. Phillips; 2 FEMALE, Cape Kimberley, 9.i.1997 and 17.iv.1997, in bait trap.

**Remarks.** The distribution of this species is extended north from Daintree to Cedar Bay, north of the Bloomfield River. It breeds beneath the bark of newly fallen *Dysoxylum gaudichaudianum* trees (Meliaceae).

#### *Clusiosoma semifuscum* Malloch

*Ficus congesta* (Moraceae)\*

51 MALE, FEMALE, Cape Kimberley, 16–24.x.1996, 6–27.xi.1996 and 14.i.1997; 13 MALE, FEMALE, Mt Lewis, 6.i.1997; 7 MALE, FEMALE, Mossman, 6.i.1997; 170 MALE, FEMALE, Lake Morris, Cairns, 21–29.x.1996.

*Ficus copiosa* (Moraceae)\*

1 MALE, Cedar Bay, 19.xi.1996; 5 MALE, FEMALE, Cape Kimberley, 23.iv.1996, 8.x.1996 and 6.xi.1996.

*Ficus hispida* (Moraceae)

77 MALE, FEMALE, Bloomfield River, 30.x.1996, 13–27.xi.1996, 3–17.xii.1996 and 7.i.1997; 16 MALE, FEMALE, Rex Range, nr Mossman, 28.v.1996; 12 MALE, FEMALE, Kuranda, 17.ii.1997; 96 MALE, FEMALE, Mt Whitfield, Cairns, 17.iii.1997; 242 MALE, FEMALE, Lake Morris, Cairns, 15.i.1996, 25.xi.1996, 19.xii.1996, 2.i.1997 and 25.ii.1997; 26 MALE, FEMALE, Mulgrave River, 10.ii.1997; 4 MALE, FEMALE, Goldsborough Valley, 11.vi.1996.

*Ficus opposita* (Moraceae)\*

1 FEMALE, Mt Whitfield, Cairns, 17.iii.1997.

*Ficus septica* (Moraceae)\*

20 MALE, FEMALE, Cedar Bay, 28.v.1996, 24.ix.1996 and 17.xii.1996; 7 MALE, FEMALE, Luana Ck, nr Bloomfield R., 26.i.1997; 29 MALE, FEMALE, Cape Tribulation, 16.iv.1996 and 19.xii.1996; 214 MALE, FEMALE, Cooper's Ck, Cape Tribulation, 17–31.x.1996 and 7.xi.1996; 92 MALE, FEMALE, Cape Kimberley, 23.iv.1996, 8–24.x.1996, 6–20.xi.1996 and 7.i.1997; 11 MALE, FEMALE, Snapper Is, 9.v.1996, S. and B. Phillips; 126 MALE, FEMALE, Lake Morris, Cairns, 21–29.x.1996, 5–21.xi.1996, 19.xii.1996 and 18.iii.1997.

*Ficus variegata* (Moraceae)\*

1 MALE, Lake Morris, Cairns, 14.x.1996.

**Remarks.** Major hosts are *Ficus congesta*, *F. hispida* and *F. septica*, with occasional records from *F. copiosa*, *F. opposita* and *F. variegata*. Permkam and Hancock (1995) also recorded *F. microcarpa* as a host but this requires confirmation.

*Dirioxa pornia* (Walker)*Acmena graveolens* (Myrtaceae)\*

1 MALE, Cooktown, 17.xii.1996; 1 FEMALE, Cape Tribulation, 10.x.1996.

*Aleurites moluccana* (Euphorbiaceae)\*

1 MALE, Cape Kimberley, 2.x.1996.

*Annona glabra* (Annonaceae)\*

1 MALE, Cow Bay, 3.iii.1997.

*Annona muricata* (Annonaceae)\*

2 MALE, Helenvale, nr Cooktown, 8.xii.1997.

*Annona reticulata* (Annonaceae)\*

1 FEMALE, Little Mulgrave, Gordonvale, 25.xi.1997.

*Averrhoa carambola*–carambola (Oxalidaceae)\*

2 MALE, FEMALE, Atherton, 18.iii.1997; 1 MALE, Earlvile, Cairns, 7.vii.1997; 1 MALE, Gordonvale, 13.i.1997.

*Barringtonia calyptata* (Lecythidaceae)\*

1 MALE, Cape Tribulation, 2.i.1997; 1 FEMALE, Bloomfield, 31.xii.1996.

*Beilschmiedia tooram* (Lauraceae)\*

10 MALE, FEMALE, Woopen Creek, 20 km S of Babinda, 13.ix.1996.

*Capsicum annuum*–chillies (Solanaceae)\*

24 MALE, FEMALE, Atherton, 4.i.1997 and 20.ii.1997; 2 MALE, FEMALE, Malanda, 18.i.1997.

*Capsicum annuum*–capsicum (Solanaceae)\*

8 MALE, FEMALE, Tinaroo, 18.ii.1997.

*Carica papaya*–pawpaw (Caricaceae)\*

6 MALE, FEMALE, Atherton, 20.i.1997; 4 MALE, FEMALE, Mareeba, 7.ii.1997 and 17.xi.1997; 1 MALE, Cairns, 15.xi.1995.

*Casimiroa edulis*–white sapote (Rutaceae)

5 MALE, FEMALE, Mossman, 21.x.1997; 2 FEMALE, Yungaburra, 24.xi.1997; 6 MALE, FEMALE, Kairi, 8.xii.1997.

*Castanospermum australe*–black bean (Fabaceae)

2 MALE, FEMALE, Cooktown, 16.xii.1996; 2 MALE, FEMALE, Bloomfield River, 27.xi.1996.

*Castanospora alphanthii* (Sapindaceae)\*

2 MALE, FEMALE, Tinaroo Dam, 9.xii.1996.

*Chionanthus ramiflorus* (Oleaceae)\*

2 MALE, FEMALE, Ellis Beach, nr Cairns, 4.viii.1997, G. Hardy; 1 FEMALE, Goldsborough Valley, nr Gordonvale, 16.ix.1997.

*Chrysophyllum cainito*–star apple (Sapotaceae)

3 MALE, FEMALE, Cooktown, 15.x.1997 and 15.xii.1997; 2 MALE, Ayton, 25.xi.1997; 8 MALE, FEMALE, Daintree, 7–21.x.1997 and 24.xi.1997; 3 FEMALE, Miallo, 26.xi.1997; 2 MALE, FEMALE, Mossman, 6.x.1997 and 3.xi.1997; 6 MALE, FEMALE, Julatten, 15.x.1997; 12 MALE, FEMALE, Speewah, 2.xii.1997; 4 MALE, FEMALE, Kuranda, 3.xii.1997; 1 MALE, Lake Placid, Cairns, 13.xii.1996; 5 MALE, FEMALE, Aeroglen, Cairns, 15.x.1997; 5 MALE, FEMALE, Edmonton, 9.xii.1996; 1 FEMALE, East Palmerston, 22.x.1997.

*Citrus aurantifolia*–West Indian lime (Rutaceae)\*

1 FEMALE, McIvor Rd, Cooktown, 19.ii.1997; 13 MALE, FEMALE, Rossville, nr Cooktown, 5.i.1997, 26.i.1997, 12.ii.1997 and 26.ii.1997; 1 FEMALE, Ayton, nr Cooktown, 4.ii.1997; 1 MALE, Daintree, 5.xi.1996; 1 MALE, Mareeba, 16.xi.1996;

1 FEMALE, Tinaroo Falls, 12.ii.1997; 9 MALE, FEMALE, Fishery Falls, 10.iii.1997; 2 FEMALE, Deeral, 13.ii.1997.

*Citrus aurantium*–Seville orange (Rutaceae)\*

4 MALE, FEMALE, Rossville, nr Cooktown, 5.viii and 3.ix.1997.

*Citrus jambhiri*–bush lemon (Rutaceae)\*

2 MALE, Mowbray Valley, 7.i.1997; 85 MALE, FEMALE, Tolga, 11.iii.1997; 2 MALE, FEMALE, Gordonvale, 31.xii.1996; 5 MALE, FEMALE, Goldsborough Valley, 21.ii.1997.

*Citrus latifolia* (Rutaceae)\*

12 MALE, FEMALE, Cooktown, 19.i.1998; 13 MALE, FEMALE, Kewarra Beach, 4.iii.1998.

*Citrus limetta*–sweet lemon (Rutaceae)\*

11 MALE, FEMALE, Aloomba, 12.vi.1997; 1 FEMALE, Cairns, 23.ix.1997.

*Citrus limon*–lemon (Rutaceae)

1 MALE, McIvor Rd, Cooktown, 3.ii.1997; 22 MALE, FEMALE, Cape Kimberley, 15.iv.1996; 1 MALE, Whyanbeel, nr Miallo, 26.ii.1997; 1 MALE, Mossman, 20.ii.1997; 18 MALE, FEMALE, Julatten, 15.i.1997; 34 MALE, FEMALE, Atherton, 5.xi.1996, 5.i.1997 and 20–25.ii.1997; 61 MALE, FEMALE, Mareeba, 25.xi.1996, 8–25.i.1997, 3–19.ii.1997 and 4.iii.1997; 67 MALE, FEMALE, Malanda, 16–20.i.1997; 10 MALE, FEMALE, Walkamin, 4.ii.1997; 26 MALE, FEMALE, Tinaroo, 17–19.ii.1997; 35 MALE, FEMALE, Tolga, 17.ii.1997 and 12.iii.1997; 5 MALE, FEMALE, Myola, 18.vi.1996 and 8.viii.1996; 19 MALE, FEMALE, Cairns, 20.iii.1996, 18.ii.1997 and 3.iii.1997; 20 MALE, FEMALE, Gordonvale, 9–23.i.1997, 5–17.ii.1997 and 5.iii.1997; 3 MALE, FEMALE, Murray Falls, nr Tully, 4.ii.1997.

*Citrus maxima*–pomelo (Rutaceae)

4 MALE, FEMALE, Cooktown, 30.xii.1996 and 5.ii.1997; 55 MALE, FEMALE, Ayton, nr Cooktown, 4.ii.1997; 7 MALE, FEMALE, Goldsborough Valley, 31.xii.1996.

*Citrus maxima* x *paradisi* (Rutaceae)\*

2 MALE, Emerald Creek, nr Mareeba, 12.ii.1998.

*Citrus maxima* x *reticulata*–tangelo (Rutaceae)\*

1 FEMALE, Atherton, 7.x.1997; 5 MALE, FEMALE, Cairns, 2.iv.1997; 2 MALE, FEMALE, Gordonvale, 21.v.1997.

*Citrus paradisi*–grapefruit (Rutaceae)

1 FEMALE, Daintree, 9.i.1997; 2 MALE, FEMALE, Cooya Beach, 19.iv.1996; 26 MALE, FEMALE, Mareeba, 15–23.i.1997 and 20.ii.1997; 30 MALE,

FEMALE, Tolga, 11.ii.1997; 11 MALE, FEMALE, Myola, 14.vi.1996; 51 MALE, FEMALE, Kuranda, 19.vi.1996; 9 MALE, FEMALE, Cairns, 29.i.1997 and 10.ii.1997; 28 MALE, FEMALE, Gordonvale, 6.ii.1997; 1 MALE, Little Mulgrave, 6.iii.1997; 1 MALE, Goldsborough Valley, 31.xii.1996; 36 MALE, FEMALE, Lower Murray, nr Tully, 29.i.1997; 13 MALE, FEMALE, Cardwell, 15.i.1997 and 13.ii.1997.

*Citrus reticulata*–mandarin (Rutaceae)

5 MALE, FEMALE, Cooktown, 30.xii.1996 and 11.ii.1997; 4 MALE, FEMALE, Mossman, 20.i.1997; 11 MALE, FEMALE, Mt Lewis, 8.vii.1996; 4 MALE, FEMALE, Tinaroo, 1.xi.1995; 41 MALE, FEMALE, Atherton, 26–27.iv.1996 and 24.ii.1997; 3 MALE, FEMALE, Tolga, 11.iii.1997; 19 MALE, FEMALE, Mareeba, 5–10.ii.1997; 18 MALE, FEMALE, Kuranda, 7–19.vi.1996; 1 FEMALE, Machan's Beach, Cairns, 18.xi.1996; 16 MALE, FEMALE, Cairns, 9.i.1997; 30 MALE, FEMALE, Aloomba, 20.xii.1996, 10.i.1997 and 6.ii.1997.

*Citrus reticulata* x *jambhiri* (Rutaceae)\*

5 MALE, FEMALE, Cairns, 21.xi.1997.

*Citrus sinensis*–orange (Rutaceae)

2 MALE, FEMALE, Cooktown, 3.ii.1997; 3 MALE, FEMALE, Rossville, 10.ii.1997; 44 MALE, FEMALE, Wijal, Bloomfield R., 21.i.1997; 19 MALE, FEMALE, Julatten, 12.ii.1997; 4 MALE, Malanda, 21.i.1997; 10 MALE, FEMALE, Atherton, 24.ii.1997; 19 MALE, FEMALE, Tolga, 17.vi.1996 and 11–17.ii.1997; 22 MALE, FEMALE, Walkamin, 4.ii.1997; 36 MALE, FEMALE, Mareeba, 16.xii.1996, 5–27.ii.1997 and 3.iii.1997; 1 FEMALE, Machan's Beach, Cairns, 20.xi.1996; 8 MALE, FEMALE, Cairns, 15–22.i.1997; 1 FEMALE, Edmonton, 29.i.1997; 16 MALE, FEMALE, Gordonvale, 9–23.i.1997 and 6.ii.1997; 2 MALE, Goldsborough Valley, 31.xii.1996; 12 MALE, FEMALE, Tully, 23.i.1997; 3 MALE, FEMALE, Cardwell, 21.i.1997 and 27.ii.1997.

*Citrus sinensis* x *maxima* (Rutaceae)\*

2 FEMALE, Goldsborough Valley, nr Gordonvale, 18.ii.1998.

*Cucumis sativus*–cucumber (Cucurbitaceae)\*

1 MALE, Lake Eacham, 1.ii.1997; 5 MALE, FEMALE, Tinaroo, 13.i.1998.

*Cyphomandra betacea*–tamarillo (Solanaceae)\*

12 MALE, FEMALE, Malanda, 21.i.1997; 1 FEMALE, Ravenshoe, 23.i.1997.

*Diospyros digyna*—black sapote (Ebenaceae)\*

1 FEMALE, Kairi, 12.i.1998; 59 MALE, FEMALE, Clohesy, nr Mareeba, 12.ii.1998; 50 MALE, FEMALE, Kamerunga, nr Cairns, 11 and 26.ii.1998.

*Diospyros kaki*—persimmon (Ebenaceae)\*

4 MALE, FEMALE, Clohesy, nr Mareeba, 12.iii.1998.

*Diploglottis bracteata* (Sapindaceae)\*

1 MALE, Tinaroo Dam, 2.i.1997.

*Endiandra dielsiana* (Lauraceae)\*

24 MALE, FEMALE, Mulgrave River, Gordonvale, 31.xii.1996.

*Endiandra microneura* (Lauraceae)\*

1 MALE, Cooktown, 19.xi.1996; 13 MALE, FEMALE, Cape Kimberley, 20–29.xi.1996.

*Eugenia uniflora*—Brazilian cherry (Myrtaceae)

1 FEMALE, Julatten, 21.x.1996; 2 FEMALE, Tolga, 7.i.1998.

*Feijoa sellowiana* (Myrtaceae)

7 MALE, FEMALE, Atherton, 17.iii.1997.

*Ficuss carica*—edible fig (Moraceae)\*

3 MALE, FEMALE, Tolga, 9.ii.1998.

*Ficus copiosa* (Moraceae)\*

7 MALE, FEMALE, Ellis Beach, nr Cairns, 26.ii.1997.

*Fortunella japonica*—kumquat (Rutaceae)\*

7 MALE, FEMALE, Cooktown, 30.xii.1996; 4 MALE, FEMALE, Rossville, 29.i.1997; 2 MALE, FEMALE, Ayton, nr Cooktown, 4–24.ii.1997; 1 FEMALE, Yungaburra, 25.i.1997; 28 MALE, FEMALE, Mareeba, 22–23.i.1997 and 17–26.ii.1997; 7 MALE, FEMALE, Walkamin, 4.ii.1997; 4 MALE, FEMALE, Julatten, 19.ii.1997; 3 MALE, FEMALE, Tumoulin, nr Ravenshoe, 4.ii.1997; 17 MALE, FEMALE, Atherton, 24.ii.1997; 6 MALE, FEMALE, Biboohra, 26.ii.1997; 14 MALE, FEMALE, Kuranda, 2.i.1997; 1 MALE, Gordonvale, 9.i.1997.

*Garcinia warrenii* (Clusiaceae)\*

2 MALE, FEMALE, Bloomfield River, 4.xii.1996.

*Inga edulis*—ice cream bean (Fabaceae)\*

99 MALE, FEMALE, Koah, 12.ii.1997.

*Lycopersicon esculentum*—cherry tomato

(Solanaceae)\*

3 MALE, FEMALE, Julatten, 15.i.1997; 1 MALE, Mareeba, 16.xi.1996; 3 MALE, FEMALE, Tolga, 6.x.1997; 1 FEMALE, Cardwell, 13.x.1997.

*Malus silvestris*—apple (Rosaceae)

4 MALE, FEMALE, Mareeba, 13.i.1998.

*Mangifera indica*—mango (Anacardiaceae)

2 MALE, Cooktown, 9.xii.1996; 12 MALE, FEMALE, Helenvale, nr Cooktown, 8.xii.1997; 1 FEMALE, Mowbray Valley, nr Mossman, 27.xi.1996; 5 MALE, FEMALE, Mareeba, 26.xi.1996, 23.xii.1996 and 7–14.i.1997; 22 MALE, FEMALE, Walkamin, 8–15.xii.1997; 9 MALE, FEMALE, Biboohra, 17.xii.1997; 1 FEMALE, Ellis Beach, 1.vii.1997; 36 MALE, FEMALE, Cairns, 25.xi.1997; 2 FEMALE, Alooomba, 9.i.1997.

*Manilkara zapota*—sapodilla (Sapotaceae)\*

3 MALE, FEMALE, Tolga, 9.xii.1997.

*Musa x paradisiaca*—sugar banana (Musaceae)

1 MALE, Ayton, nr Cooktown, 20.vi.1997; 3 MALE, Atherton, 26.iv.1997.

*Nauclea orientalis* (Rubiaceae)\*

2 FEMALE, W of Euramo, nr Tully, 4.ii.1997.

*Passiflora edulis*—passionfruit (Passifloraceae)\*

1 MALE, Cape Kimberley, 10.iii.1997; 15 MALE, FEMALE, Whyanbeel, nr Miallo, 6.i.1997; 2 MALE, FEMALE, Shannonvale, nr Mossman, 9.xii.1996; 14 MALE, FEMALE, Julatten, 12.ii.1997; 6 MALE, FEMALE, Mareeba, 17.ii.1997; 26 MALE, FEMALE, Tolga, 11–22.ii.1997; 23 MALE, FEMALE, Walkamin, 6.iii.1997; 13 MALE, FEMALE, Koah, 6.iii.1997; 20 MALE, FEMALE, Goldsborough Valley, 13.ii.1997.

*Passiflora suberosa* (Passifloraceae)\*

1 FEMALE, Cooktown, 30.ix.1997.

*Persea americana*—avocado (Lauraceae)

2 MALE, FEMALE, Cooktown, 6.i.1997; 6 MALE, FEMALE, Auruvale, nr Cooktown, 26.i.1997; 6 MALE, FEMALE, Ayton, nr Cooktown, 14.i.1997; 21 MALE, FEMALE, Tolga, 11.x.1995, 13.xi.1995, 14.xii.1995 and 17.ii.1997; 8 MALE, FEMALE, Tinaroo Dam, 16.xii.1996; 80 MALE, FEMALE, Atherton, 24.ii.1997; 1 MALE, Malanda, 21.i.1997; 24 MALE, FEMALE, Goldsborough Valley, 31.xii.1996.

*Planchonella macrocarpa* (Sapotaceae)\*

13 MALE, FEMALE, Mount Lewis, 30.ix.1996, 7–28.x.1996 and 18.xi.1996.

*Polyalthia michaelii* (Annonaceae)\*

1 MALE, Millaa Millaa, 3.iv.1997.

*Pouteria caimito*—abiu (Sapotaceae)\*

5 MALE, Auruvale, nr Cooktown, 26.i.1997 and 25.ii.1997; 3 FEMALE, Cape Tribulation, 7.viii.1996 and 8.i.1997.

*Prunus persica*—peach (Rosaceae)

12 MALE, FEMALE, Mareeba, 31.xii.1996 and 13.x.1997.

*Prunus persica* var. *nucipersica*-nectarine  
(Rosaceae)\*

2 FEMALE, Atherton, 13.xi.1996.

*Psidium cattleianum* var. *lucidum*-cherry guava  
(Myrtaceae)\*

1 MALE, Kairi, 17.ii.1997.

*Psidium guajava*-guava (Myrtaceae)

1 FEMALE, Daintree, 7.iii.1997; 6 MALE, FEMALE, Whyanbeel, nr Miallo, 25.ii.1997; 1 FEMALE, Mossman, 20.ii.1997; 13 MALE, FEMALE, Tinaroo, 19.iii.1997; 2 MALE, Tolga, 12.iii.1997; 6 MALE, FEMALE, Mareeba, 8-29.i.1997 and 13.ii.1997; 31 MALE, FEMALE, Atherton, 20.ii.1997 and 8.iv.1997; 5 MALE, FEMALE, Cairns, 9.vii.1996 and 17.ii.1997; 1 MALE, Gordonvale, 5.ii.1997; 1 FEMALE, Euramo, nr Tully, 17.iii.1997.

*Pyrus communis*-pear (Rosaceae)

3 FEMALE, Ravenshoe, 4.ii.1997; 1 FEMALE, Millaa Millaa, 28.i.1998.

*Solanum melongena*-eggplant (Solanaceae)\*

24 MALE, FEMALE, Atherton, 4.iii.1998.

*Syzygium aqueum*-water apple (Myrtaceae)\*

1 FEMALE, Speewah, nr Kuranda, 11.ii.1998.

*Syzygium suborbiculare* (Myrtaceae)\*

2 MALE, Helenvale, nr Cooktown, 10.xii.1996.

*Terminalia arenicola* (Combretaceae)\*

1 FEMALE, Cairns, 20.iii.1997.

*Terminalia catappa* (Combretaceae)\*

1 FEMALE, Julatten, 31.iii.1998; 1 FEMALE, Giangurra, 19.ii.1998; 1 FEMALE, Rocky Point, 3.iii.1998; 1 FEMALE, Cairns, 20.ii.1998.

*Xanthophyllum fragrans* (Xanthophyllaceae)\*

1 MALE, Cape Tribulation, 31.xii.1996.

**Remarks.** This is an extremely polyphagous species, likely to infest virtually any type of fleshy fruit. Almost all the above records are from fallen, overripe, ripe or damaged fruit, the few immature fruit recorded all believed to have been damaged.

*Pseudacanthoneura sexguttata* (de Meijere)

1 FEMALE, Mowbray Valley, nr Mossman, 11.ix.1996, in protein trap.

**Remarks.** The host of this species is unknown but larvae probably develop beneath the bark of trees. The above is a new locality record within the previously known distribution.

*Rabaulia nigrotibia* Hering

*Ficus benjamina* (Moraceae)\*

4 MALE, FEMALE, Mossman Gorge, 13.v.1996.

*Ficus copiosa* (Moraceae)\*

51 MALE, FEMALE, Cape Kimberley, 26.iii.1996, 23.iv.1996, 8.x.1996 and 6.xi.1996; 1 FEMALE, Mt Lewis, 16.xii.1996; 14 MALE, FEMALE, Ellis Beach, nr Cairns, 26.ii.1997.

*Ficus fraseri* (Moraceae)\*

141 MALE, FEMALE, Lake Morris, Cairns, 19.xii.1996, 16.i.1997 and 3.ii.1997; 70 MALE, FEMALE, Mulgrave River, 30.xii.1996.

*Ficus hispida* (Moraceae)\*

3 FEMALE, Cape Tribulation, x.1996.

*Ficus leptoclada* (Moraceae)\*

670 MALE, FEMALE, Mt Lewis, 16.xii.1996 and 6-29.i.1997; 110 MALE, FEMALE, Gillies Highway Lookout, 18.ii.1997.

*Ficus opposita* (Moraceae)\*

126 MALE, FEMALE, Mt Whitfield, Cairns, 17.ii.1997 and 17.iii.1997; 50 MALE, FEMALE, Aeroglen, Cairns, 3.ii.1997.

*Ficus variegata* (Moraceae)\*

7 MALE, FEMALE, East Palmerston, 4.v.1997.

*Ficus virgata* (Moraceae)\*

10 MALE, FEMALE, Cedar Bay, 16.x.1996; 53 MALE, FEMALE, Cape Tribulation, 15-29.viii.1996 and 7.i.1997; 10 MALE, FEMALE, Cape Kimberley, 10.xii.1996.

**Remarks.** This species breeds in several species of *Ficus*, particularly *F. copiosa*, *F. fraseri*, *F. leptoclada*, *F. opposita* and *F. virgata*. Australian specimens formerly placed in *Rabaulia fascifacies* Malloch (Permkam and Hancock, 1995) belong in *R. nigrotibia*, which shows some variability in scutal markings. *R. fascifacies* is known only from the Solomon Islands and also breeds in *Ficus* spp.

*Termitorioxo termitoxena* (Bezzi)

1 FEMALE, Rookwood Station, via Chillagoe, 26.v.1997, R. Ferguson, in methyl eugenol trap; 1 FEMALE, Ellis Beach, Cairns, 23.ix.1997, G. Hardy and A. Hay, in McPhail trap.

**Remarks.** This species is widespread across northern Australia. The above are new locality records within the previously known distribution.

*Trypanocentra nigrithorax* Malloch

*Ficus copiosa* (Moraceae)\*

12 MALE, FEMALE, Cape Kimberley, 23.iv.1996, 8-16.x.1996 and 6.xi.1996; 11 MALE, FEMALE, Lake Morris, Cairns, 7.v.1996; 12 MALE, FEMALE, Babinda Boulders, 22.iv.1996.

*Ficus hispida* (Moraceae)\*

11 MALE, FEMALE, Cape Tribulation, x.1996.

*Ficus variegata* (Moraceae)\*

5 MALE, FEMALE, South Johnstone, 27.v.1996.

**Remarks.** This species is not as common as the other fig-infesting trypetines in the Cairns region. The above host records are the first for the genus.

**Adramini***Adrama biseta* Malloch*Barringtonia asiatica* (Lecythidaceae)\*

3 MALE, FEMALE, Cape Kimberley, 11.ii.1997.

*Barringtonia calyptata* (Lecythidaceae)\*

1 MALE, Cape Kimberley, 28.i.1997.

*Barringtonia racemosa* (Lecythidaceae)\*

2 MALE, Innisfail, 23.iv.1997.

**Remarks.** This species also breeds in the fruit of *Barringtonia acutangula* (Permkam and Hancock, 1995).

*Adrama selecta* Walker*Harpullia arborea* (Sapindaceae)\*

1 FEMALE, Snapper Is., 9.v.1996, S. and B. Phillips.

*Planchonella obovoidea* (Sapotaceae)\*

1 FEMALE, Cape Tribulation, 4.ix.1996.

*Ryparosa javanica* (Flacourtiaceae)\*

37 MALE, FEMALE, Cape Tribulation, 18–25.ix.1996 and 17–24.x.1996; 1 MALE, Oliver Creek, nr Cape Tribulation, 3.x.1996, P. Gleeson, on *Ryparosa javanica*.

**Remarks.** *Ryparosa javanica* appears to be the major host of this species. There is also a single record from *Camellia sinensis* (Permkam and Hancock, 1995). A record from the Northern Territory ex *Barringtonia acutangula* (Permkam and Hancock, 1995) requires confirmation of the fly's identity.

**Euphrantini***Euphranta linocierae* Hardy*Chionanthus ramiflorus* (Oleaceae)

50 MALE, FEMALE, Bloomfield River, 6–28.viii.1996, R. and A. Lockyer; 3 MALE, FEMALE, Cow Bay, 2.x.1996; 5 MALE, FEMALE, Fitzroy Is., 11.xi.1995, R. Drew *et al.*; 4 MALE, FEMALE, Redlynch Valley, Cairns, 9.xi.1995, E. Hamacek and E. Pike; 2 MALE, FEMALE, Lake Morris, Cairns, 15.i.1996, E. Hamacek *et al.*; 48 MALE, FEMALE, Ellis Beach, Cairns, 24–30.vi.1997, 11.vii.1997, G. Hardy.

**Remarks.** *C. ramiflorus* is the only confirmed host of this species; reports of others appear to be based on misidentifications.

*Euphranta marina* Permkam and Hancock

1 FEMALE, Aeroglen, Cairns, 20.ii.1997, bred from unidentified host.

**Remarks.** This species breeds in the fruit of the mangrove *Avicennia marina* (Verbenaceae) (Permkam and Hancock, 1995). The above is a new locality record within the previously known distribution.

*Euphranta variabilis* (Kertész)

1 MALE, Goldsborough Valley, nr Gordonvale, 8.v.1996, in methyl eugenol trap.

**Remarks.** The above is the third record of this species from Australia and extends its distribution a little south from Cairns. Its host is unknown.

*Hardyadrama alyta* Permkam and Hancock

1 MALE, Rocky Point, Wonga Beach, nr Mossman, 29.x.1997, V. Goodyear, in methyl eugenol trap.

**Remarks.** The distribution of this species is extended south from the Bloomfield River.

*Hardyadrama excoecariae* Lee

1 FEMALE, Houghton, between Townsville and Ayr, 22.x.1996, G. Cairns, in methyl eugenol trap.

**Remarks.** This species breeds in the fruit of the mangrove *Excoecaria agallocha* (Euphorbiaceae) in Singapore but has not yet been bred in Australia (Permkam and Hancock, 1995). The above is a new locality record within the previously known distribution.

**Rivelliomimini***Ornithoschema queenslandense* Permkam and Hancock

1 FEMALE, Cooktown, 20.viii.1996, in methyl eugenol trap; 2 FEMALE, Bloomfield River, 11.iv.1997, D. Wood, in methyl eugenol traps; 1 MALE, Daintree, 10.iv.1997, V. Goodyear, in protein trap; 1 FEMALE, Meringa, nr Gordonvale, 6.v.1997, on grapefruit.

**Remarks.** The above are new locality records within the previously known distribution. Its host is unknown.

**Trypetini***Fusciludia unicuneata* (Hardy)

1 MALE, Craiglea, Cairns, 9.ix.1996, R. Osborne, in protein trap; 1 MALE, Bungalow, Cairns, 11.ix.1997, D. McGuire, in protein trap.

**Remarks.** Until recently it was thought that this species may be a leaf miner. The Pacific Islands species *F. mesopleuralis* (Malloch) has been reared from an unidentified berry in Tonga, suggesting that all members of the genus are fruit infesters.

*Philophylla australina* (Hardy)

*Premna serratifolia* (= *obtusifolia*) (Verbenaceae)  
30 MALE, FEMALE, S of Oak Beach, nr Cairns,  
31.i.1996, E. Hamacek *et al.*

**Remarks.** This species also has been bred from *Premna nauseosa* (Permkam and Hancock, 1995). The above is a new locality record within the previously known distribution.

*Philophylla fossata* (Fabricius)

*Clerodendrum floribundum* var. *ovatum*  
(Verbenaceae)\*  
1 FEMALE, Goldsborough Valley, 11.vi.1996.

*Clerodendrum longiflorum* var. *glabrum*  
(Verbenaceae)\*  
2 FEMALE, Kuranda, 28.v.1996, G. Webb and S. Brown.

*Clerodendrum traceyanum* (Verbenaceae)\*  
2 MALE, FEMALE, Cedar Bay, 28.iv.1996, S. and B. Phillips; 23 MALE, FEMALE, Lake Morris, Cairns, 9–21.v.1996, G. Webb and S. Brown.

*Clerodendrum* sp. (Verbenaceae)\*  
8 MALE, FEMALE, Rex Range, nr Mossman,  
14.v.1996, G. Hardy and L. Cockett.

**Remarks.** This species has been bred from several species of *Clerodendrum* and *Callicarpa* in Southeast Asia (Permkam and Hancock, 1995), the above being the first Australian host records.

## DISCUSSION

First host records are reported here for *Ceratitella unifasciata*, *Rabaulia nigrotibia* and *Trypanocentra nigrithorax*, whilst the first Australian host records are reported for *Philophylla fossata*. The plant families Caricaceae, Clusiaceae, Combretaceae, Cucurbitaceae, Ebenaceae, Flacourtiaceae, Oxalidaceae, Rubiaceae, Sapindaceae, Solanaceae and Xanthophyllaceae are newly recorded as hosts of Australian Trypetinae. Many new records are provided for the polyphagous *Dirioxa pornia*, a species sometimes regarded as economically important but which normally attacks only damaged or overripe fruit. It frequently occurred in association with various species of *Bactrocera* Macquart.

Several new host records are provided for *Clusiosoma*, *Rabaulia* and *Trypanocentra*, three genera of Trypetinae that, together with the more southerly *Clusiosomina* Malloch, appear to be restricted to figs (Moraceae). A few records from other families recorded during the survey all appear to be a result of plant misidentification, mixed or contaminated samples. Records for *Trypanocentra*

represent the first for the genus. Species of these genera seldom occurred together in a host sample; the exceptions are *C. semifuscum* together with *R. nigrotibia* in *Ficus opposita* at Mt Whitfield, *R. nigrotibia* together with *T. nigrithorax* in *Ficus hispida* at Cape Tribulation and all three species together in *Ficus copiosa* at Cape Kimberley. Variation within the long series of *R. nigrotibia* bred from hosts has shown previous records of *R. fascifacies* from Australia (see Permkam and Hancock, 1995) to be misidentifications of the former species, resulting in removal of *R. fascifacies* from the list of Australian species. This has been confirmed by examination of a series of true *R. fascifacies* from the Solomon Islands.

*Euphranta linocierae* and *Bactrocera (Melanodacus) nigra* (Tryon) frequently occurred together in *Chionanthus ramiflorus* (Oleaceae). Records of these two species from *Endiandra* and *Cryptocarya* (both Lauraceae) appear to be based on misidentifications of the plant; fruit of all three genera are very similar in appearance and several of the field collections contained both *Chionanthus* and *Endiandra* or *Cryptocarya*.

Many trypetine species, especially in the tribes Acanthonevrini and Phytalmiini, are known or suspected of breeding under bark of trees but this was not sampled during the present survey. Others, particularly Trypetini, breed in berries whilst several Euphrantini breed in mangroves. These also were not extensively sampled. *Cananga odorata* (Annonaceae), a suspected host for *Euphranta meringae* Permkam and Hancock, was sampled on a number of occasions with nil result.

The distributions of two species are extended significantly, *Austronevra australina* north from Daintree to Cedar Bay and *Hardyadrama alyta* south from the Bloomfield River to just north of Mossman.

## ACKNOWLEDGMENTS

We thank Wendy Cooper for identifying rainforest plants and the many fruit collectors, laboratory and identification staff involved with the papaya fruit fly monitoring program for their contributions to this study.

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