A NEW AUSTRALIAN SPECIES OF *AUSTROTEPHRITIS* HANCOCK & DREW (DIPTERA: TEPHRITIDAE: TEPHRITINAE)

DAVID L. HANCOCK

8/3 McPherson Close, Edge Hill, Cairns, Qld 4870

Abstract

Austrotephritis drewi sp. n. is described from Eidsvold in SE Queensland. Keys to the 29 species known from Australia, New Zealand and Papua New Guinea included in *Austrotephritis* Hancock & Drew and the related genera *Paraactinoptera* Hardy & Drew and *Parahyalopeza* Hardy & Drew are included.

Introduction

The tephritine genus *Austrotephritis* Hancock & Drew was described to include 22 species formerly included in *Campiglossa* Rondani, *Tephritis* Latreille or *Paroxyna* Hendel (Hancock and Drew 2003). Most species occur in Australia, with four known from New Zealand and one from Papua New Guinea (Hardy and Drew 1996, Harrison 1959, Hardy 1988). An additional new species, previously listed as '*Austrotephritis* sp. nr *phaeostigma*' (Hancock 2012, 2013), is described here from Eidsvold, SE Queensland. A key to the 23 *Austrotephritis* species now known is provided below, together with keys to the known species (three each) in the related genera *Paraactinoptera* Hardy & Drew and *Parahyalopeza* Hardy & Drew.

Known host plants are the flowerheads of Asteraceae genera such as *Calotis, Cassinia, Celmisia, Chrysocephalum, Helichrysum, Helipterum, Hypochaeris, Olearia, Podolepis, Podotheca, Senecio* and *Vittadinia* (Hardy and Drew 1996, Hancock *et al.* 2000).

Austrotephritis drewi sp. n.

(Figs 1-2)

Austrotephritis sp. nr *phaeostigma*: Hancock 2013: 234.

Material examined. Holotype ♂, QUEENSLAND: Eidsvold, 19.viii.[19]23, Bancroft. *Paratype*: 1 ♂, same data as holotype. Both mounted on same card, the holotype placed closest to the pin and illustrated in Fig. 1 (in Queensland Museum, Brisbane: Reg. Nos T196274 (HT) and T196275 (PT)).

Description. Male (Fig. 1). Length of body 3.0 mm, of wing 3.2 mm. Head almost quadrate, mostly yellow. Frons sloping, with sparse white marginal setulae; lunule short; face barely projecting at epistome. Antennae situated in middle of head; first and second segments with dark setulae; third segment yellow, apically rounded, about half length of face; arista very short pubescent; mouthparts capitate. Setae: 2 pairs of brown frontals; 2 pairs of orbitals, the anterior brown, the posterior short and white; ocellars distinct and brown; medial vertical long and brown; postocellar, paravertical, short lateral vertical and some postocular setae thickened and white, other postocular setae thin and yellow or brown; genal seta yellow.

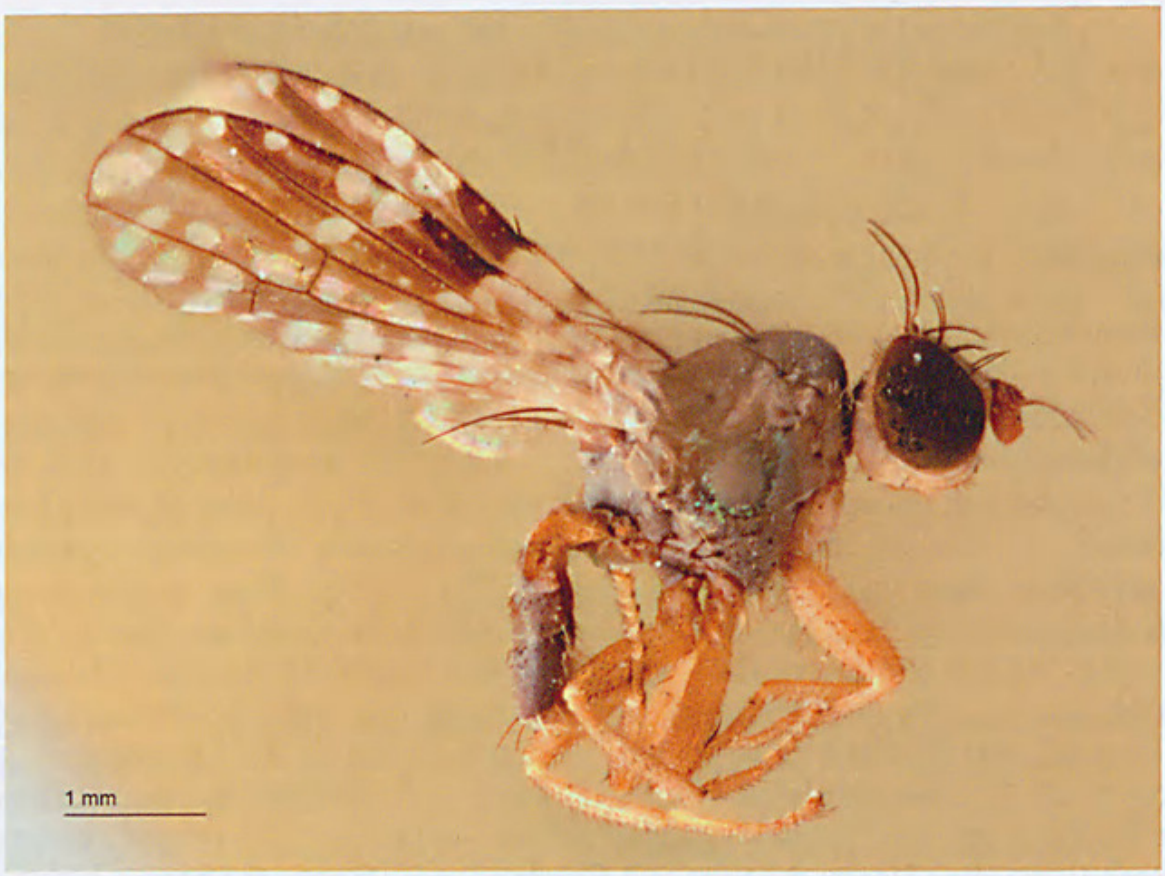

Fig. 1. *Austrotephritis drewi* **sp. n.**: habitus of holotype male. Photo by Federica Turco, Queensland Museum.

Thorax greyish brown with coarse white scale-like recumbent setulae and 3 short and indistinct brown vittae, 1 medial to just behind suture and 2 dorsolateral from *dc* setae to near level of *prsc* setae. Postpronotal lobes and notopleural calli yellow. Setae brown and distinct: 1 postpronotal, 2 notopleural, 1 presutural, 1 supra-alar, 1 postalar, 1 intra-alar, anepisternal and anepimerals abraded or damaged by pin, 1 katepisternal, 1 pair dorsocentral placed just behind suture, 1 pair prescutellar acrostichal placed midway between *sa* and *ia*. Scutellum greyish brown on disc, yellow marginally; 2 pairs scutellar setae, the apicals about half length of basals.

Legs yellow; fore femur with ventral rows of yellow setae; mid tibia with an apical black spine.

Wing (Fig. 2) largely brown with hyaline spots and indentations. Costa with a pair of divergent black spines above apex of vein Sc; a broad gap in the setae on dorsal side of vein R_1 opposite apex of vein Sc; vein R_{4+5} with a few sparse setulae on basal third; R-M crossvein situated beyond apex of cell sc and about its own length from apex of cell dm; pterostigma (costal part of cell sc) about half length of cell c and dark brown with or without a small yellowish subapical spot; cell bcu with a short, broad apical extension.

Pattern as in Figs 1-2. Cell c hyaline with narrow basal and medial brown bands; cell r_1 with a hyaline basal spot below apex of vein Sc, 2 large round

spots near pterostigma and a smaller spot near apex; cell r_{2+3} with single large round spots basally and medially, a small subbasal spot and 2 subapical spots, the medial spot placed between the 2 large spots in cell r_1 and obliquely above R-M crossvein, forming a triangle of spots; cell br with 2 large spots posteriorly not crossing cell; cell r_{4+5} with a small isolated anterobasal spot, 3 rounded posterior spots along vein M above DM-Cu crossvein and the outer pair of spots in cell m, and an oblique apical spot joined anteriorly with the posterior subapical spot in cell r_{2+3} and leaving a brown marginal band reaching midway between veins R_{4+5} and M; cell dm with 5 posterior spots, the medial spot almost crossing cell, the others short and united with diffuse marginal indentations in cell cu_1; cell m with 3 elongate indentations crossing or almost crossing cell.

Abdomen with tergites I-II yellow, III-V brown; sternites I-IV brown with yellow lateral and posterior margins, V brown. Terminalia not examined.

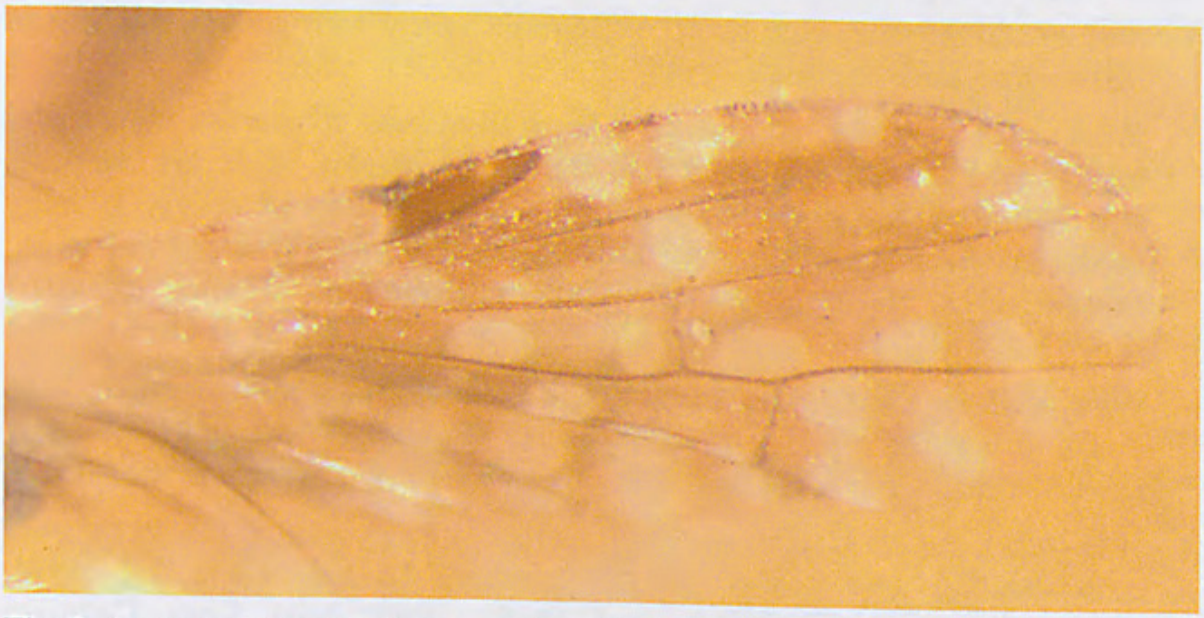

Fig. 2. *Austrotephritis drewi* **sp. n.**: wing of holotype male.

Distribution. Known only from the type locality in southeastern Queensland.

Etymology. This species is named after Dr R.A.I. Drew, in recognition of his major contributions to the study of Tephritidae, including co-description of most of the Australian species of *Austrotephritis* and related genera.

Comments. Although insufficient material is available to enable study of the male terminalia, this species is described here since its wing pattern enables a better understanding of the relationship between the stellate and non-stellate patterns seen within the genus and reinforces the view that they are congeneric. It keys to *A. phaeostigma* (Hardy & Drew) in Hardy and Drew (1996) but differs from it, *A. distigmata* (Hardy & Drew) and the similarly patterned *A. tasmaniae* (Hardy & Drew) in characters noted in the key, in particular the triangular arrangement of the 3 large hyaline spots in cells r_1 and r_{2+3} and the number of spots in cell r_{4+5} along vein M.

Key to known species of *Austrotephritis*

Included species key to either *Campiglossa* or *Tephritis* in Hardy and Drew (1996) [Australian species], to *Tephritis* in Harrison (1959) [New Zealand species] and to *Paroxyna* in Hardy (1988) [Papua New Guinea species]. For current placement of other species previously included in those genera [*e.g.* the New Zealand *Sphenella fascigera* (Malloch, 1931)] see Hancock and Drew (2003) and Hancock (2013). The stellate wing pattern of species in couplets 2 and 3 appears to be derived from that of species in couplet 22 by reduction of the basal dark area.

1 Wing pattern stellate, with a rounded subapical dark patch from costa to cell r_{4+5} and 4 or 5 radiating rays to posterior wing margin and a narrow apical band along margin of cell r_{2+3} but no apical fork; cell r_{2+3} with a single large hyaline spot above or near R-M crossvein [if apical fork present see *Tephritis furcata* Hardy & Drew, 1996] 2

– Not as above; wing pattern not stellate [if apical fork present see key to *Paraactinoptera* Hardy & Drew] 4

2 Wing with a narrow, oblique dark band from base of pterostigma [costal section of cell sc] to stellate patch; cell c with narrow, faint dark subbasal and medial bands; hyaline spot in cell r_{2+3} below apex of vein R_1 broadly separated from hyaline apical area by a dark ray [Western Australia; illustrated by Hardy and Drew 1996; collected on *Olearia axillaris*] ..... *A. hesperia* (Hardy & Drew, 1996)

– Wing without a dark band from base of pterostigma to stellate patch; cells c and sc entirely hyaline to subhyaline; hyaline spot in cell r_{2+3} below apex of vein R_1 not separated from remainder of hyaline apical area 3

3 Wing with the basal dark ray from stellate area extending distinctly over crossvein R-M and most of cell dm [southern Australia (WA, SA, NSW, sQld); illustrated by Hardy and Drew 1996; bred from *Celmisia longifolia, Olearia pimelioides* and *Podolepis longipedata* and collected on *Podotheca gnaphaloides*] ..... *A. trupanea* (Hardy & Drew, 1996)

– Wing with the basal dark ray from stellate area extending weakly over crossvein R-M and not into cell dm [southern Australia (WA, SA, Vic, NSW, ACT, sQld); illustrated by Hardy and Drew 1996; bred from *Calotis lappulacea, Cassinia compacta, Helichrysum diosmifolium, Helipterum albicans, Hypochaeris radicata, Olearia lepidophylla, Podolepis longipedata* and *Senecio amygdalifolius*] ..... *A. pumila* (Hardy & Drew, 1996)

4 Wing cells bc and c either entirely dark or subhyaline with darker bands; wing apex broadly dark with numerous small, isolated hyaline spots; transverse band of large hyaline spots from costa to posterior margin of cell m, when present, originating near apex of cell r_1 5

– Wing with cell c at least partly hyaline and apex not broadly dark with numerous small isolated spots; transverse band of large hyaline spots from costa to posterior margin of cell m, when present, originating at apex of pterostigma and often oblique [if pterostigma with hyaline basal band and subapical spot, cell r_{4+5} with 2-3 rows of small hyaline spots and cell bcu apically blunt, see key to *Parahyalopeza* Hardy & Drew] 6

5 Wing cell c entirely dark; large hyaline spots on disc of wing isolated and bordered by a narrow ring darker than the surrounding area; transverse preapical band of broad hyaline spots from costa near apex of cell r_1 to posterior margin in cell m broadly interrupted in cell r_{2+3} [New Zealand; illustrated by Harrison 1959] ..... *A. marginata* (Malloch, 1931)

– Wing cell c subhyaline with broad basal and medial and narrow apical dark bands; large hyaline spots on disc of wing not isolated and bordered by a darker ring; transverse preapical band of broad hyaline spots from costa near apex of cell r_1 to posterior margin in cell m complete or nearly so [New Zealand; illustrated by Harrison 1959; collected on *Cassinia leptophylla*] ..... *A. cassiniae* (Malloch, 1931)

6 Wing apex dark (or margin weakly hyaline in cell r_{4+5}) with a broad, often incomplete, transverse hyaline preapical band from apex of vein R_{2+3} in cell r_{2+3} to posterior margin in apical half of cell m and a broad, irregular and oblique transverse band of large hyaline spots from costa near apex of cell sc to posterior margin in basal half of cell m; cell r_1 with 2 basal spots quadrate and broadly separated by about their own width 7

– Wing apex with distinct hyaline apical spots in cells r_{2+3} and r_{4+5}, often connected leaving a small brown spot at apex of vein R_{4+5}; transverse band of large hyaline spots from costa near apex of cell sc to posterior margin transverse, oblique or broadly interrupted; cell r_1 with 2 basal spots vestigial or separated by much less than their own width 9

7 Wing cell bc largely dark and cell c with a broad basal dark area normally interrupted by a narrow hyaline or subhyaline band; cell r_{4+5} with large subbasal hyaline spot transverse, directed towards apex of cell dm basad of DM-Cu crossvein [SE Australia (Vic, NSW, ACT, ?Tas); illustrated by Hardy and Drew 1996; bred from *Helichrysum* sp.] .... *A. transversa* (Hardy & Drew, 1996)

– Wing cell bc largely hyaline and cell c largely hyaline with basal, medial and apical dark bands, the basal band forming a quadrate spot across humeral vein; cell r_{4+5} with large subbasal hyaline spot oblique, directed towards base of cell m at or just beyond DM-Cu crossvein 8

8 Wing with apex of cell r_{4+5} entirely dark [New Zealand; illustrated by Harrison 1959] ..... *A. thoracica* (Malloch, 1931)

– Wing with apex of cell r_{4+5} with a narrow hyaline rim or spot [Tasmania; illustrated by Hardy and Drew 1996] ..... *A. whitei* (Hardy & Drew, 1996)

9 Wing cell c with subapical hyaline spot not completely crossing cell, surrounded by a U-shaped dark band; cells r_{2+3} and r_{4+5} each with a single hyaline apical spot, the latter not filling apex of cell; cells br and r_{4+5} largely dark with only small, round hyaline discal spots posteriorly, the hyaline crossbands absent or broadly interrupted 10

– Wing cell c with subapical hyaline band crossing cell; cell r_{2+3} with 1 or 2 hyaline apical spots; cell r_{4+5} with hyaline apical spot often almost entirely filling apex of cell; cells br and r_{4+5} with large discal spots crossing or almost crossing cells, the crossbands at most weakly interrupted 11

10 Wing cell r_1 with an isolated hyaline subapical spot and 2 large quadrate spots near apex of pterostigma that cross cell and connect with 2 large medial spots in cell r_{2+3}; cells r_{2+3} and r_{4+5} with apical hyaline spots broadly separated; cell m with 3 hyaline marginal spots separated from a rounded anterobasal spot; oral margin strongly protruding [eastern Australia (Qld, NSW); illustrated by Hardy and Drew 1996; bred from *Helichrysum bracteatum* and *H. rupicola*] .... *A. protrusa* (Hardy & Drew, 1996)

– Wing cell r_1 with 3 small, isolated hyaline spots; cell r_{2+3} without hyaline medial spots, almost entirely dark except for apical spot; cells r_{2+3} and r_{4+5} with apical hyaline spots narrowly connected, leaving a large brown spot at apex of vein R_{4+5}; cell m with the basal and medial hyaline spots forming elongate bands that cross the cell; oral margin not strongly protruding [SE Australia (SA, NSW); illustrated by Hardy and Drew 1996] .... *A. quasiprolixa* (Hardy & Drew, 1996)

11 Wing largely hyaline with irregular streaks or bands of brown leaving broadly hyaline transverse bands between them; apex of cell r_{2+3} with a large, round hyaline spot crossing cell and connected to a large ovate spot at apex of cell r_{4+5}, these spots continuing as a broad band across cell r_{4+5} and base of cell m to posterior margin [Australia (all States); illustrated by Hardy and Drew 1996; bred from *Chrysocephalum apiculatum* and collected on *Podolepis canescens*] ..... *A. pelia* (Schiner, 1868)

– Not as above; if dark wing markings conspicuously reduced then apical spot or spots in cell r_{2+3} not extending broadly across cells r_{4+5} and base of m to posterior margin 12

12 Wing cells br, r_{4+5} and dm (except posteroapical portion) largely hyaline, forming a broad longitudinal band interrupted by a triangular brown band across cell r_{4+5} above DM-Cu crossvein; cell r_{2+3} with 2 hyaline apical spots, the latter narrowly connected to hyaline band near apex of cell r_{4+5}; cell m with marginal spots small and isolated [Victoria; illustrated by Hardy and Drew 1996] ..... *Austrotephritis* sp. 'A'

– Not as above; wing without a longitudinal hyaline band; cell m with hyaline spots often broadly coalesced or elongate and forming transverse

bands across cell, if with only isolated spots then wing pattern with numerous small hyaline spots in addition to the larger ones 13

13 Wing cell c with a broad basal dark area separated from a narrower apical band by a broad hyaline spot that crosses cell; cell r_1 with the 2 large and narrowly separated quadrate spots near apex of pterostigma continuing as a single, oblique transverse band of broad hyaline spots to posterior margin in cell m; wing apex hyaline with an isolated brown spot at apex of vein R_{4+5} [Western Australia; *Campiglossa turneri* Hardy & Drew, 1996 is a synonym (Hancock 2006); originally described in error from 'India' as a species of *Mesoclanis* Munro; illustrated by Hardy and Drew 1996 and Hering 1944] ..... *A. campiglossina* (Hering, 1944)

– Not as above; wing cell c largely hyaline in basal half or with dark area interrupted by a hyaline or subhyaline posterobasal spot and subbasal band 14

14 Wing cell m with 4 or more isolated, rounded hyaline spots forming part of an often incomplete oblique transverse band of large spots from costa to posterior margin; pattern with numerous small spots in addition to the larger ones; pterostigma with 2 hyaline costal spots; scutum with 3 or 5 longitudinal brown vittae 15

– Wing cell m with hyaline spots in basal half either largely coalesced or forming 2 elongate, transverse hyaline spots that cross cell but do not form part of an oblique transverse band from costa; pattern normally without numerous small spots in addition to the larger ones; pterostigma with 0-2 hyaline spots; scutum often without longitudinal vittae 16

15 Wing cell m with all 3 marginal hyaline spots reaching wing margin; scutum with brown vittae distinct [eastern Australia (Qld, NSW, ACT, Vic, Tas); illustrated by Hardy and Drew 1996; bred from *Helichrysum* spp., *Senecio lautus* and *Vittadinia triloba*; an earlier record from *Atalaya hemiglauca* (Sapindaceae) is an error] ..... *A. fuscata* (Macquart, 1851)

– Wing cell m with the middle of the 3 marginal hyaline spots not reaching wing margin; scutum with brown vittae weak, incomplete and indistinct [Papua New Guinea; illustrated by Hardy 1988; possibly synonymous with *A. fuscata* (Macquart)] ..... *A. brunneimaculata* (Hardy, 1988)

16 Wing cell m with hyaline spots broadly coalesced in basal half, forming part of a broad or disjunct oblique transverse band of large hyaline spots from costa at apex of pterostigma 17

– Wing cell m with the 2 hyaline spots in basal half elongate and crossing cell, not forming part of a broad oblique transverse band 18

17 Wing with oblique transverse band of hyaline spots from costa to cell m irregular, the part in cell m disjunct and with a small brown marginal spot; hyaline spots in cell r_{4+5} above basal patch in cell m small and not

crossing cell; female oviscape rufous with black apex [Australia (all States); illustrated by Hardy and Drew 1996; this is the type species of *Austrotephritis*; bred from *Chrysocephalum apiculatum* and *Helichrysum scorpioides* and bred or collected from 6 additional genera, including *Helipterum, Podolepis* and *Podotheca*] ..... *A. poenia* (Walker, 1849)

– Wing with oblique transverse band of hyaline spots from costa to cell m broad and not disjunct and without a small brown marginal spot in cell m; hyaline spot in cell r_{4+5} above basal patch in cell m large and crossing cell; female oviscape black [New Zealand; illustrated by Harrison 1959] ..... *A. plebeia* (Malloch, 1931)

18 Wing with 2 transverse hyaline bands on either side of R-M crossvein from costa at apex of pterostigma to posterior margin in cell cu_1, sometimes incomplete but with 2 large medial spots in cell r_{2+3}; cell r_{4+5} with 3 posterior hyaline spots along vein M above those in cell m in addition to the basal band; pterostigma with 0-2 hyaline spots 19

– Wing without 2 transverse hyaline bands on either side of R-M crossvein from costa at apex of pterostigma to posterior margin in cell cu_1, being reduced in cell r_{2+3} to a single large medial spot; cell r_{4+5} with 1 or 2 posterior hyaline spots along vein M above cell m in addition to the basal spot, lacking at least the spot above the basal band in cell m; pterostigma brown or with a small, indistinct subhyaline subapical spot 22

19 Wing with 2 hyaline spots in pterostigma; cell r_{2+3} with 2 small hyaline apical spots, the upper isolated at apex of vein R_{2+3}, the lower narrow and connected with a small isolated subapical spot in cell r_{4+5}; cell dm with subapical hyaline spots small and isolated, the outer of the 2 hyaline transverse bands distinctly interrupted and incomplete 20

– Wing with none or only a small subapical hyaline spot in pterostigma; cell r_{2+3} with the hyaline spot at apex of vein R_{2+3} often partly connected with the large, rounded lower spot and the lower spot broadly connected with the subapical and apical spots in cell r_{4+5}; cell dm with a broad subapical hyaline band across cell, the outer of the 2 transverse bands not distinctly interrupted and normally complete 21

20 Base of abdomen black and sternites marked with brown to black; female oviscape mostly black and about as long as tergites V+VI; wing cell r_1 with 2nd hyaline indentation not distinctly broader than 1st [SE Australia (ACT, Vic, Tas); illustrated by Hardy and Drew 1996; bred from *Senecio lautus* and *Vittadinia triloba*] ..... *A. brunnea* (Hardy & Drew, 1996)

– Base of abdomen and sternites mostly yellow; female oviscape broadly yellow over median portion and about as long as tergites IV-VI; wing cell r_1 with 2nd hyaline indentation distinctly broader than 1st [SE Australia (NSW, ACT, Vic, Tas); illustrated by Hardy and Drew 1996; bred from *Celmisia longifolia*] ..... *A. bushi* (Hardy & Drew, 1996)

21 Wing cell r_1 with subapical hyaline spot small and not crossing cell; female oviscape slightly longer than tergites V+VI [Western Australia; illustrated by Hardy and Drew 1996; collected on *Podotheca gnaphaloides*] ..... *A. distigmata* (Hardy & Drew, 1996)

– Wing cell r_1 with subapical hyaline spot large and crossing cell; female oviscape about as long as tergites III-VI [southern Australia; (WA, SA, Vic); illustrated by Hardy and Drew 1996; bred from *Olearia axillaris* and *O. pimelioides*] ..... *A. phaeostigma* (Hardy & Drew, 1996)

22 Wing cell r_{2+3} with large medial hyaline spot placed between the 2 basal spots in cell r_1 and angled a little beyond R-M crossvein, the 3 spots forming a triangle; cell r_{4+5} with 3 posterior spots along vein M, including one above the medial spot in cell m; cell dm with apical spot small and confined to posterior half of cell; pterostigma about 1/2 length of cell c; abdominal tergites I-II yellow [SE Queensland] ..... *A. drewi* **sp. n.**

– Wing cell r_{2+3} with large medial hyaline spot placed beneath the basal spot in cell r_1 and above R-M crossvein; cell r_{4+5} with 2 posterior spots along vein M, lacking one above the medial spot in cell m; cell dm with apical spot large and crossing almost all of cell; pterostigma about 1/3 length of cell c; abdominal tergites I-II largely brown to black with tergite I paler brown on basal half [Tasmania; illustrated by Hardy and Drew 1996] ..... *A. tasmaniae* (Hardy & Drew, 1996)

Key to known species of *Paraactinoptera*

1 Wing pattern largely orange-yellow with blackish brown apices to cells r_1 and r_{2+3}, the latter bordered by hyaline apical spots; cell r_{2+3} medially with an isolated hyaline spot separated from hyaline indentation in cell r_1 near apex of pterostigma; apical scutellar setae absent [SW Queensland; illustrated by Hancock and Drew 2003; collected on *Pluchea baccharoides*] ..... *P. danielsi* Hancock & Drew, 2003

– Wing pattern dark brown; cell r_{2+3} medially with hyaline spot absent or united with the hyaline indentation in cell r_1 near apex of pterostigma; apical scutellar setae present or absent 2

2 Apical scutellar setae absent; all scutal setae yellow [Western Australia; illustrated by Hardy and Drew 1996] ..... *P. collessi* Hardy & Drew, 1996

– Apical scutellar setae present, about 1/3 length of basals; scutal setae black except posterior notopleurals (and most pleurals) [SW Australia (WA, SA, sNT); illustrated by Hardy and Drew 1996; bred from *Helichrysum apiculatum*] ..... *P. prolixa* (Hardy & Drew, 1996)

Key to known species of *Parahyalopeza*

1 Wing with numerous small hyaline spots of more or less equal size over apical 1/2 to 2/3, pale basally; cell m with 3 distinct rows of spots; pterostigma not distinctly darker than rest of wing pattern; apical scutellar

setae about 1/3 length of basals [Lord Howe Island; illustrated by Hancock and Drew 2003] ..... *P. multipunctata* Hancock & Drew, 2003

– Wing with numerous hyaline spots ranging in size from small to large; cell m with 2 distinct rows of spots; pterostigma distinctly darker than rest of wing pattern; apical scutellar setae 1/3 to 1/2 length of basals 2

2 Wing with hyaline to subhyaline spots in cells r_{2+3}, br, r_{4+5} and anterior half of dm distinctly smaller than those in cells r_1, m and posterior half of dm; cell cu_1 mostly hyaline posteriorly; apical scutellar setae about 1/2 length of basals [Victoria; illustrated by Hardy and Drew 1996; bred from *Helichrysum dendroideum*] ..... *P. bushi* Hardy & Drew, 1996

– Wing with only the hyaline spots in apical half of cells r_{2+3}, and r_{4+5} distinctly smaller than those in cells r_1, br, m and dm; cell cu_1 spotted posteriorly; apical scutellar setae about 1/3 length of basals [eastern Australia (sQld, NSW, ACT, Vic, Tas); illustrated by Hardy and Drew 1996; bred from *Calotis lappulacea* and *Helichrysum diosmifolium*] ..... *P. pantosticta* (Hardy & Drew, 1996)

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References

HANCOCK, D.L. 2006. The taxonomic placement of *Campiglossa vaga* Hardy & Drew and *Mesoclanis campiglossina* Hering (Diptera: Tephritidae: Tephritinae). *Australian Entomologist* **33**(3): 142.

HANCOCK, D.L. 2012. One historical and two new records of *Austrotephritis* Hancock & Drew species (Diptera: Tephritidae: Tephritinae) from Tasmania. *Australian Entomologist* **39**: 87-88.

HANCOCK, D.L. 2013. A revised checklist of Australian fruit flies (Diptera: Tephritidae). *Australian Entomologist* **40**(4): 219-236.

HANCOCK, D.L. and DREW, R.A.I. 2003. A new genus and new species, combinations and records of Tephritinae (Diptera: Tephritidae) from Australia, New Zealand and the South Pacific. *Australian Entomologist* **30**(4): 141-158.

HANCOCK, D.L., HAMACEK, E.L., LLOYD, A.C. and ELSON-HARRIS, M.M. 2000. *The distribution and host plants of fruit flies (Diptera: Tephritidae) in Australia*. Information Series Q199067. Department of Primary Industries, Brisbane; 75 pp.

HARDY, D.E. 1988. The Tephritinae of Indonesia, New Guinea, the Bismarck and Solomon Islands (Diptera: Tephritidae). *Bishop Museum Bulletin in Entomology* **1**: 1-92.

HARDY, D.E. and DREW, R.A.I. 1996. Revision of the Australian Tephritini (Diptera: Tephritidae). *Invertebrate Taxonomy* **10**: 213-405.

HARRISON, R.A. 1959. Acalypterate Diptera of New Zealand. Family Trypetidae. *New Zealand Department of Scientific and Industrial Research Bulletin* **128**: 179-198.

HERING, E.M. 1944. Neue Gattungen und Arten von Fruchtfliegen der Erde. *Siruna Seva* **5**: 1-17.