

## A NEW SPECIES OF *CERATITELLA* MALLOCH (DIPTERA: TEPHRITIDAE: CERATITIDINAE) FROM THE SOLOMON ISLANDS

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### Abstract

*Ceratitella solomonensis* sp. n. is described and illustrated from Guadalcanal, Solomon Islands.

### Introduction

The fruit fly genus *Ceratitella* Malloch contains nine previously described species, distributed from the Ryukyu Islands, China and Pakistan to Australia (Permkam and Hancock 1995, Hancock and McGuire 2002), plus an unnamed species from the island of New Guinea (Hardy 1987). Recent fieldwork in the South Pacific has yielded a further new species, from the Solomon Islands.

### *Ceratitella solomonensis* sp. n.

(Figs 1-2)

*Types.* *Holotype* ♀, SOLOMON ISLANDS: NE Guadalcanal, Lonely Village, 8.viii.1994, R. Wylie *et al.*, SI 0078 (in Queensland Museum, Brisbane; Reg. No. T 99077). *Paratypes*: 1 ♂, 2 ♀♀, same data as holotype (in Queensland Department of Primary Industries, Brisbane).

*Description.* Female (Fig. 1). Length of body (excluding ovipositor) 4.6 mm; of wing 4.8 mm. Head higher than long. Face broad, entirely white. Antennae yellow, shorter than face, situated near middle of head; third segment apically rounded; arista with short pubescence. Frons fulvous. Lunule short, yellow. Occiput fulvous. Setae black: 2 pairs of frontals; 2 pairs of orbitals; ocellars, postocellars and verticals well developed; postoculars thin; genal well developed.

Thorax. Scutum polished black with a large, grey-dusted, white-microtrichose area covering most of dorsal surface from just anterior to suture to prescutellar area, leaving shining black areas anteriorly, laterally and as broad dorsolateral indentations anterior to dorsocentral setae; the greyish band along anterior margin of suture connected to the posterior area by a broad medial band; posterior greyish area darker along medial and dorsocentral lines. Postpronotal lobes yellow dorsally, brown on ventral half. Setae black: 4 scapulars, 1 postpronotal, 1 anterior notopleural, 1 presutural, 1 posterior notopleural, 1 supra-alar, 1 postalar, 1 intra-alar, 1 pair of dorsocentrals placed on line of supra-alars, 1 pair prescutellar acrostichals. Pleura brown, paler along dorsal margin of anepisternum and with a narrow white band along posterior margin of anepisternum; with the following setae: 1 anepisternal, 1 anepimeral, 1 katepisternal. Scutellum shining black and



swollen, with 4 scutellar setae and fine sparse pale setulae. Subscutellum black. Mediotergite black, overlaid with greyish-white microtrichia. Legs fulvous except brown on mid and hind femora, apical half to two-thirds of fore femora and basal half to two-thirds of hind tibiae; middle tibia with an apicoventral black spine.

Wing hyaline with dark markings as follows: basally and with numerous spots and streaks from cell c to cell bcu; three bands radiating from pterostigma: a broad costal band extending almost to vein M apically, with narrow hyaline streaks or indentations along costa in cells  $r_1$  and  $r_{2+3}$  and as subcostal streaks in cell  $r_1$  covered in dark microtrichia; a broad discal band reaching wing margin below vein  $A_1+Cu_2$ ; a subapical band enclosing R-M and DM-Cu crossveins. A fourth, posterior apical band, extends from costal band to wing margin in cell M. Cell  $r_1$  with two darker transverse bands submedially, between the hyaline streaks. Alula and basal part of anal lobe hyaline. Veins  $R_1$  and  $R_{4+5}$  setose; vein  $R_{2+3}$  undulate; R-M crossvein slightly beyond middle of cell dm, aligned just beyond apex of cell sc; cell bcu extension well developed and with vein  $Cu_2$  sinuous.

Abdomen black with greyish-white microtrichose bands on posterior parts of terga I+II, III and IV. Tergite VI very narrow, not visible from above. Oviscape black, subquadrate, length 0.5 mm, as long as tergite V. Aculeus (Fig. 2) relatively broad, distinctly tapered apically, length 0.48 mm.

Male. As for female except genital characters, which are typical of the genus (Hardy 1987).

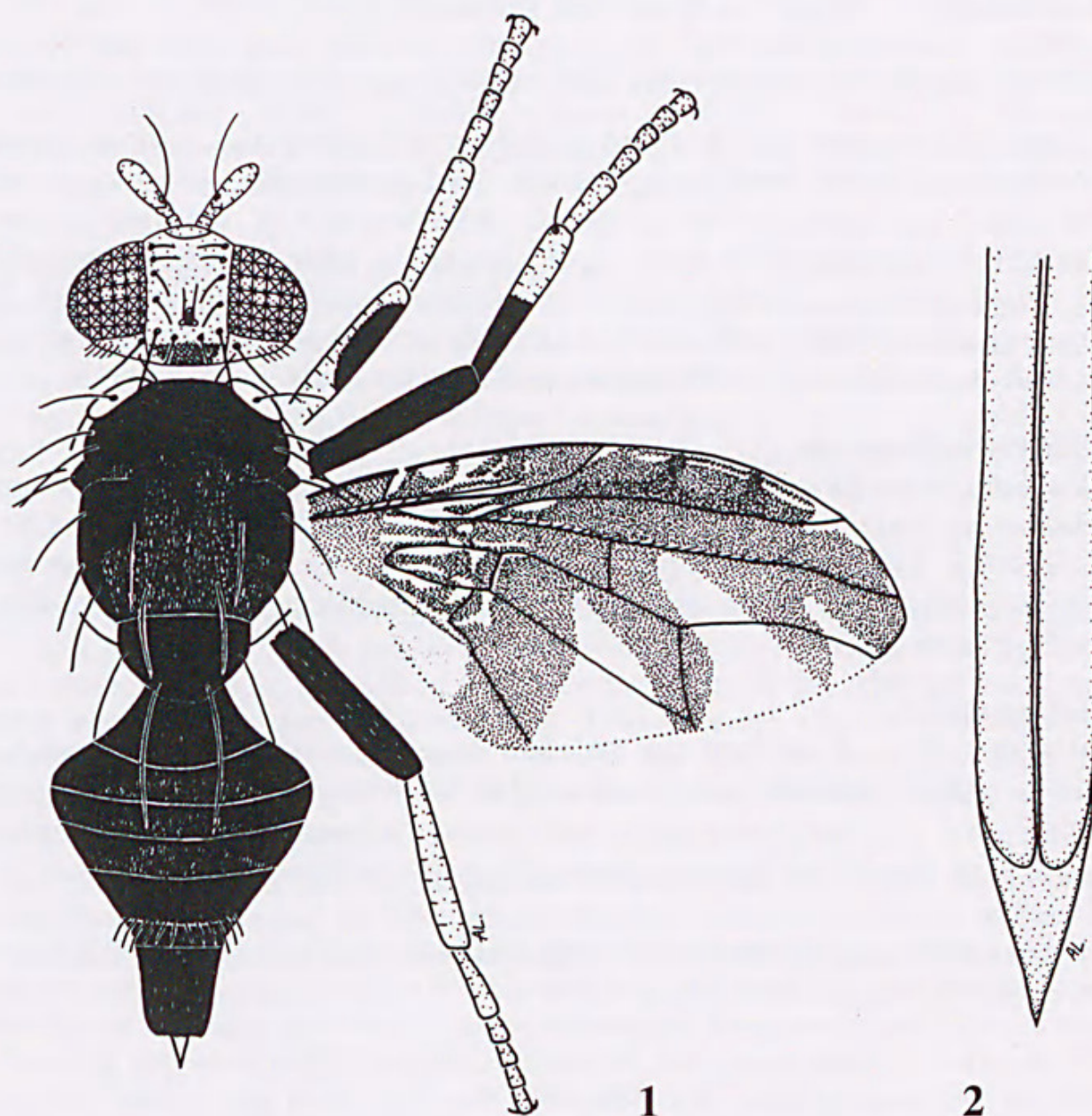
*Host plant.* Unknown. The type series was bred from an unidentified fruit.

*Distribution.* Known only from Guadalcanal, Solomon Islands.

*Comments.* This species is placed in the *bifasciata* complex (Permkam and Hancock 1995), having a similar wing pattern with a complete posterior apical dark band. It differs from all other species in the complex by the more extensive greyish-white scutal pattern, the anterior and posterior portions being broadly connected medially (separated by a shining black transverse band in the other species). The aculeus resembles that of the unnamed New Guinea species (Hardy 1987), lacking the apical notches of *C. bifasciata* Hardy and being broader and more sharply tapered apically than in *C. recondita* Permkam & Hancock. The latter two species both occur in Australia. All recorded host plants for the genus are species of mistletoe (Loranthaceae).

*Ceratitella solomonensis* is the third species of subfamily Ceratitidinae recorded from the Solomon Islands. The others, *Carpophthorella nigrifascia* (Walker) (= *C. setifrons* Malloch) and *Paraceratitella connexa* Hardy, are presumed to breed in bamboo shoots and flower buds of Capparaceae respectively (Permkam and Hancock 1995).





Figs 1-2. *Ceratitella solomonensis* sp. n. (1) female; (2) aculeus.

### Discussion

*Ceratitella* belongs to a small group of Indo-Australian genera with similar wing markings and extensive pale microtrichose patterns on the scutum. The other genera are *Neoceratitis* Hendel from central Asia and Africa (host plants Solanaceae) and *Paratrithrum* Shiraki from Taiwan (host plants unknown). This group in turn appears to be related to the primarily African genera *Ceratitis* MacLeay (host plants very diverse) and *Capparimyia* Bezzi (host plants Capparaceae). In all the above genera the wing has an extensive series of basal spots and streaks and cell  $r_1$  tends to have a pair of submedial darker spots or transverse streaks within the dark pattern. *Paraceratitella* Hardy from Australia, Papua New Guinea and Solomon Islands (host plants



Capparaceae), appears to be a more primitive genus related to both these groups. This genus lacks the extensive series of basal wing spots and streaks and the darker spots in cell  $r_1$  are differently arranged (basal and/or central).

*Ceratitella* appears to be more distantly related to the African genus *Perilampus* Bezzi, which also breeds in Loranthaceae, suggesting that utilisation of mistletoe has occurred independently in the two groups. *Perilampus* appears to be more closely related to other African genera such as *Nippia* Munro, *Carpophthoromyia* Austen and *Trirhithrum* Bezzi. In these genera the wing lacks the extensive series of spots and streaks and cell  $r_1$  tends to be uniformly brown without the darker spots.

### Acknowledgements

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