

NEW SPECIES OF DACINAE (DIPTERA:  
TRYPETIDAE) FROM THE SOUTH  
PACIFIC AREA

By R. A. I. DREW, B.Sc.

SUMMARY

Thirty-two new species of the genus *Dacus* are described and figured, viz. *Dacus* (*Afrodacus*) *minutus*, *D. (Asiadacus) abdopallescens*, *D. aneuittatus*, *D. confluens*, *D. indecorus*, *D. ochromarginis*, *D. perpusillus*, *D. (Hemizeugodacus) pallescentis*, *D. (Paratri-dacus) coracinus*, *D. (Strumeta) abdofuscatus*, *D. abdo longinquus*, *D. abdonigellus*, *D. amplus*, *D. anomalus*, *D. anthracinus*, *D. denigratus*, *D. dyscritus*, *D. ebeneus*, *D. lampabilis*, *D. mucronis*, *D. nigrescentis*, *D. nigrinus*, *D. phaeus*, *D. pseudodistinctus*, *D. reduncus*, *D. resimus*, *D. trifarius*, *D. triseriatus*, *D. trivialis*, *D. unistriatus*, *D. vulgaris*, *D. (Zeugodacus) reflexus*.

New species are described from the following islands: Territory of Papua and New Guinea (Papua, New Guinea, New Britain, New Ireland, Lihir Island, Bougainville Island); New Hebrides (Efate Island, Malekula Island); New Caledonia.

DACUS (AFRODACUS) Bezzi

*Dacus* (*Afrodacus*) *minutus* sp.n.

(Figure 1)

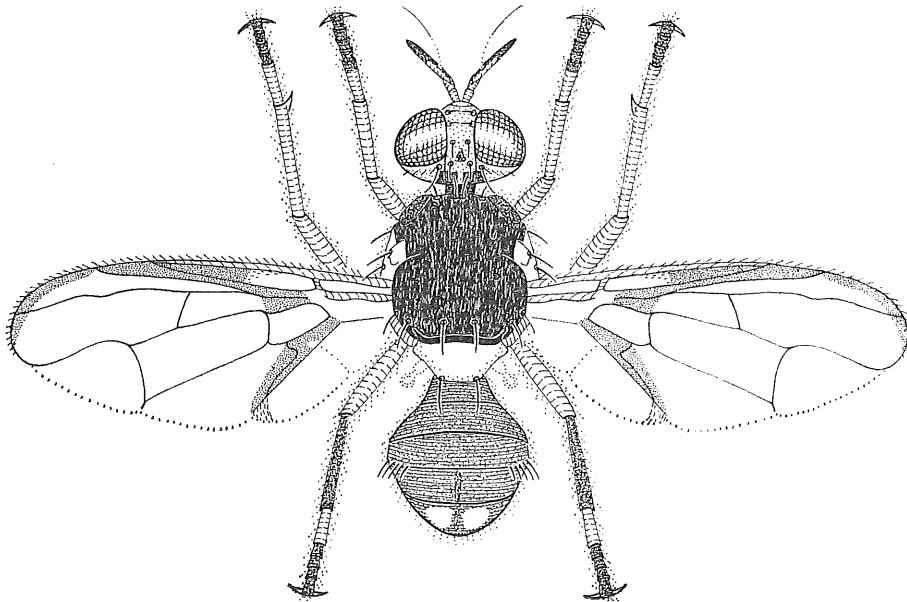


Fig. 1.—*Dacus* (*Afrodacus*) *minutus* sp.n. (x 11·9).

*Types*: NEW HEBRIDES: *Holotype* male, 12 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, January 1970, collected by E. Kanas at Vila, Efate Island. 22 male *paratypes* ex lure trap charged with cue lure, December 1969 to January 1970, collected by E. Kanas at Vila, Efate Island. 5 male *paratypes* ex lure trap charged with methyl eugenol, January 1970, collected by E. Kanas at Vila, Efate Island. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April-May 1970, collected by D. Malosu at Malekula Island. 2 male *paratypes* ex lure trap charged with cue lure, April-May 1970, collected by D. Malosu at Malekula Island. 2 male *paratypes* ex lure trap charged with methyl eugenol, April-May 1970, collected by D. Malosu at Malekula Island.

*Holotype* (Reg. No. T. 6927) and 1 *paratype* (Reg. No. T. 6928) in the Queensland Museum; 3 *paratypes* in the British Museum (Natural History); remaining 41 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A small species, facial spots absent, thorax glossy black, lateral post-sutural vittae absent, mesopleural stripe of medium width, humeral calli fuscous to black and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and anal streak, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen with all tergites rich shiny orange-brown except for a narrow fuscous medial longitudinal band generally on tergites four and five.

#### *Male*

Length: *Holotype* 4.0 mm, range for type series 3.5–5.1 mm, mean 4.5 mm.

Wing: *Holotype* 3.7 mm, range for type series 3.3–4.5 mm, mean 4.0 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.1 mm, range for type series 1.0–1.3 mm, mean 1.2 mm. *Frons* narrowing slightly posteriorly; length 1.75 times breadth; fulvous with no dark markings; antero-medial hump covered with a few short pale setae; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous, facial spots absent; length of face 0.4 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle fulvous. *Occiput* fulvous except fuscous dorsally; occipital row with 3–6 well developed fuscous bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of the third segment; a strong fulvous bristle on the dorsal surface of second segment; arista fulvous proximally (remainder fuscous); length of segments: 0.12 mm; 0.21 mm; 0.58 mm.

*Thorax*.—Glossy black except brown below humeral calli. Yellow markings as follows: notopleural calli; mesopleural stripe of medium width, extending to anterior *npl.* bristle above, continuing onto sternopleuron below as a small transverse brown spot, anterior margin convex; anterior  $\frac{1}{2}$  upper hypopleural callus (remainder black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black). Lateral post-sutural vittae absent. Humeral calli fuscous to black. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* absent, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fuscous. *Legs*: fulvous except apical four segments of all tarsi and apex of basal segment of fore tarsi and hind tibiae fuscous; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except fuscous stigma, narrow fuscous costal band confluent with vein  $R_{2+3}$  and crossing this vein at its apex to end midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a narrow fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development.

The second costal cell shorter than stigma in the following proportions: *holotype* 0·80:1, range for type series 0·70:1–0·88:1, mean 0·80:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1·46:1, range for type series 1·22:1–1·70:1, mean 1·46:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 1·62:1 in *holotype*, 1·62:1–2·09:1 range for type series, 1·86:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergites one to five rich shiny orange-brown except for a narrow fuscous medial longitudinal band over tergites four and five which ends before posterior margin of tergite five (this band may vary in length and cover tergites three to five or only tergite five). A pair of shining spots on tergite five.

#### Comments

This new species is similar to *Dacus (Strumeta) passiflorae* Froggatt in possessing the following characters: facial spots absent; thorax black; humeral calli fuscous to black; post-sutural vittae absent; scutellum yellow with narrow black basal band; wing colour pattern. *D. minutus* differs from *D. passiflorae* in having the abdominal tergites rich shiny orange-brown, legs not completely fulvous and *a.sa.* bristle absent.

### DACUS (ASIADACUS) Perkins

#### *Dacus (Asiadacus) abdopallascens* sp.n.

(Figure 2)

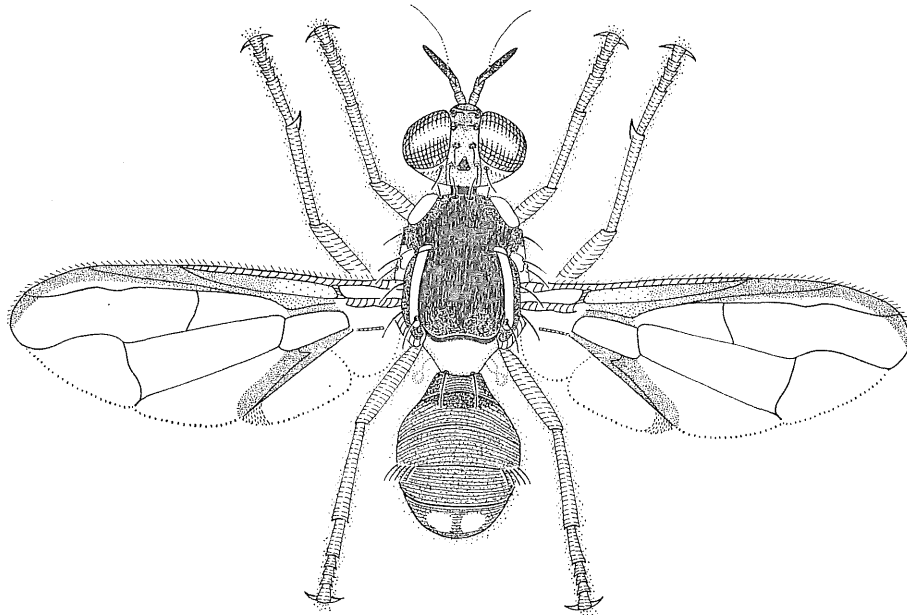


Fig. 2.—*Dacus (Asiadacus) abdopallascens* sp.n. (x 9·5).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 3 male *paratypes* ex lure trap, December 1967, collected by Sir Alan Mann at Lumi, Sepik District. 2 male *paratypes* ex lure trap charged with 1-(*p*-hydroxyphenyl)-butan-3-one, April 1965, collected by Dr. E. N. Marks at Lae, Morobe District.

*Holotype* (Reg. No. T. 6929) in the Queensland Museum; 1 *paratype* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 1 *paratype* in the British Museum (Natural History); remaining 3 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots small and elongate, mesonotum black, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and a broad fuscous anal streak, first costal cell colourless to extremely pale fulvous, second costal cell pale fulvous, microtrichia in outer portion of second costal cell only, abdomen predominantly orange-brown with no dark markings on tergites three to five.

#### Male

Length: *Holotype* 5.7 mm, range for type series 5.2–5.9 mm, mean 5.6 mm.

Wing: *Holotype* 5.2 mm, range for type series 4.8–5.2 mm, mean 5.1 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.4 mm, range for type series 1.2–1.5 mm, mean 1.4 mm. *Frons* of even width; length 1.5 times breadth; fulvous except pale fuscous around orbital bristles and tending pale fuscous on posterior part of antero-medial hump; latter covered with short pale setae; bristles very strong and black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* pale fuscous. *Face* dark fulvous with small elongate black facial spots not reaching epistoma; width of spot (0.08 mm) less than width of third antennal segment; length of face 0.49 mm. *Genae* fulvous; small, pale brown, sub-ocular spots present; bristle black. *Occiput* fulvous, yellow along eye margin; occipital row with a large number of small pale fulvous bristles each side. *Antennae* fulvous except fuscous on third segment distal to arista; a weak fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.12 mm; 0.21 mm; 0.73 mm.

*Thorax*.—Mesonotum black except brown markings as follows: on posterior margin (not so marked on two specimens), inside humeral calli, between humeral and notopleural calli above notopleural suture, below lateral post-sutural vittae (this patch connects with the brown along posterior margin); pleurae predominantly brown with black along anterior margin of mesopleural stripe, on sternopleuron, above hind coxae, anterior to hypopleural calli, beneath wing. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe, ending midway between notopleural callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin slightly convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, lateral post-sutural vittae beginning before suture and narrowing slightly posteriorly to end behind upper *p.sa.* bristle (the upper *p.sa.* bristle is situated on the inner side of the post-sutural vitta). *Postnotum* black. *Scutellum* yellow except for very narrow black basal band. *Bristles*: *sc.* 2, *pr.sc.* absent, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black (except for the two inner scapulars which may be weak and fulvous). *Legs*: fulvous with no dark markings; middle tibiae each with an apical black spur. *Wings*: first costal cell colourless to extremely pale fulvous, second costal cell pale fulvous, microtrichia in outer  $\frac{1}{3}$  of second costal cell only; remainder of wings colourless except dark fulvous stigma, narrow fuscous costal band extending over vein  $R_{2+3}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Super-numerary lobe of medium development. The second costal cell shorter than

stigma in the following proportions: *holotype* 0.76:1, range for type series 0.69:1–0.76:1, mean 0.73:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.44:1, range for type series 1.39:1–1.75:1, mean 1.51:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.58:1 in *holotype*, 2.50:1–2.75:1 range for type series, 2.59:1 mean.

*Abdomen*.—Rounded; tergites free; pecten present on third abdominal tergite. Tergite one orange-brown except fuscous on lateral margins; tergite two orange-brown except a transverse fuscous band along anterior margin; tergites three to five orange-brown with no dark markings. A pair of shining spots on tergite five.

#### Comments

This new species is similar to *D. minutus*, *Dacus (Asiadacus) emarginatus* (Perkins) and *Dacus (Strumeta) musae* (Tryon) in possessing a black mesonotum and abdominal tergites generally orange-brown. In addition, *D. emarginatus* is similar to *D. abdopallescens* in facial spots present, legs fulvous and thoracic chaetotaxy, while *D. musae* is similar to *D. abdopallescens* in the lateral post-sutural vittae ending at the upper *p.sa.* bristles. *D. minutus* differs from *D. abdopallescens* in the following characters: facial spots absent; thoracic chaetotaxy; humeral calli fuscous to black; post-sutural vittae absent; a narrow fuscous band generally on abdominal tergites four and five. *D. emarginatus* differs from *D. abdopallescens* in the following characters: lateral post-sutural vittae narrow and shorter; medial post-sutural vitta present; yellow vitta connecting humeral and notopleural calli; wing infuscation; fuscous coloration on abdominal tergites four and five. *D. musae* differs from *D. abdopallescens* in thoracic chaetotaxy, hind tibiae being fuscous and the abdomen may have a medial longitudinal fuscous band.

#### *Dacus (Asiadacus) aneuvittatus* sp.n.

(Figure 3)

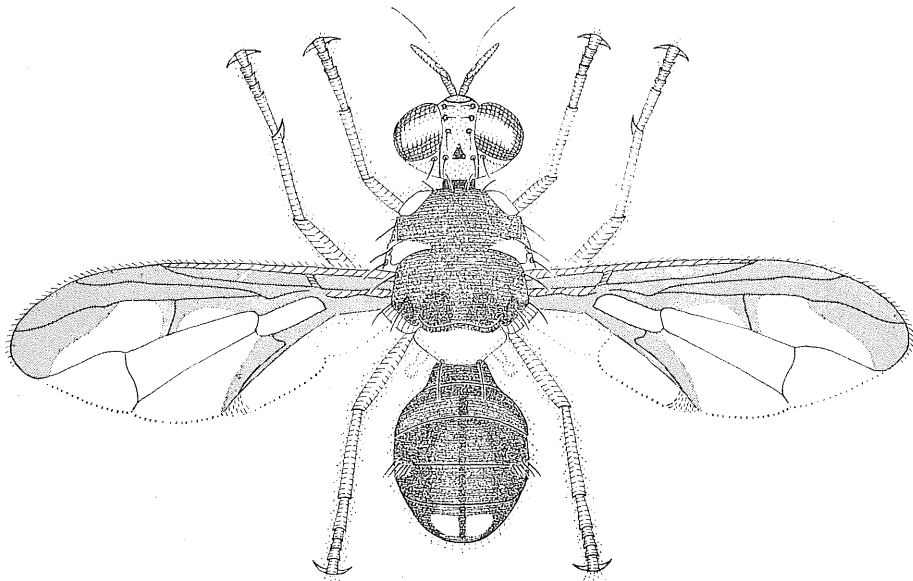


Fig. 3.—*Dacus (Asiadacus) aneuvittatus* sp.n. (x 9.6).

*Type*: NEW CALEDONIA: *Holotype* male ex malaise trap, December 1967, collected by P. Cochereau at Sarraméa.

*Holotype* (Reg. No. T. 6930) in the Queensland Museum.

A medium sized species, facial spots absent, thorax rich red-brown, lateral post-sutural vittae absent, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, yellow band along mesonotal suture, wing with a broad fuscous costal band and anal streak, r-m cross vein infuscated, costal cells fuscous with microtrichia covering both cells, abdomen with tergites three to five red-brown except broad fuscous lateral margins and a narrow medial abdominal fuscous band from centre of tergite two to posterior margin of tergite five.

*Male*

Length 6.3 mm; wing 5.7 mm.

*Head*.—Generally fulvous. Vertical length 1.5 mm. *Frons* narrowing slightly posteriorly; length 1.64 times breadth; fulvous except extremely pale fuscous around orbital bristles and on antero-medial hump; latter with only a few short pale setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous, facial spots absent; length of face 0.55 mm. *Genae* fulvous; sub-ocular spots absent; bristle fuscous. *Occiput* fulvous, yellow along eye margin; occipital row weak with a large number of small, pale bristles each side. *Antennae* fulvous, a strong, red-brown bristle on dorsal surface of second segment; arista fulvous proximally (remainder red-brown); length of segments: 0.17 mm; 0.32 mm; 0.81 mm.

*Thorax*.—Rich red-brown except fuscous markings on posterior margin of mesonotum and on pleurae posterior to mesopleural stripe and above middle and hind coxae. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe, as wide as the notopleural callus above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; a triangular shaped yellow marking anterior to mesonotal suture, with base against dorsal margin of notopleural callus and apex on inner margin of mesonotal suture; upper hypopleural callus (posterior apex fuscous); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder fuscous). Lateral post-sutural vittae absent. *Postnotum* black. *Scutellum* yellow except narrow red-brown basal band. *Bristles*: *sc.* 2, *prsc.* absent, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fuscous. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells fuscous, microtrichia covering all of both costal cells; remainder of wings colourless except dark fuscous stigma, broad dark fuscous costal band overlapping vein  $R_{4+5}$  except in a small region just beyond r-m cross vein and ending at extremity of vein  $M_{1+2}$ , a broad dark infuscation around r-m cross vein, a broad dark fuscous anal streak ending at wing margin and including area covered by dense aggregation of microtrichia. Supernumerary lobe very weak. The second costal cell shorter than stigma in the proportion 0.86:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 1.83:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 1.80:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous; tergite two red-brown, tending fuscous anteriorly; tergites three to five red-brown except broad fuscous lateral margins on tergites three and four, fuscous on antero-lateral margins of tergite five and a narrow fuscous medial abdominal stripe running from centre of tergite two to posterior margin of tergite five. A pair of shining spots on tergite five.

*Comments*

This new species is similar to *Dacus* (*Strumeta*) *curvipennis* Froggatt, *Dacus* (*Strumeta*) *incertus* Malloch and *Dacus* (*Strumeta*) *luteola* Malloch in having facial spots absent and legs fulvous. In addition, *D. aneuvittatus* is similar to *D. curvipennis* in wing colour pattern and similar to *D. incertus* in absence of post-sutural vittae. *D. curvipennis* differs from *D. aneuvittatus* in the following characters: mesonotum black; thoracic chaetotaxy; lateral post-sutural vittae present; microtrichia only in outer section of first costal cell; abdomen with tergites three to five orange-brown except fuscous on lateral margins of tergite three and antero-lateral margins of tergite four. *D. incertus* and *D. luteola* differ from *D. aneuvittatus* in the following characters: thorax generally orange-brown; thoracic chaetotaxy; fuscous costal band narrow; r-m and 1m cross veins narrowly infuscated; abdomen generally orange-brown. In addition, *D. incertus* differs in the mesopleural stripe reaching the humeral callus.

***Dacus* (*Asiadacus*) *confluens* sp.n.**

(Figure 4)

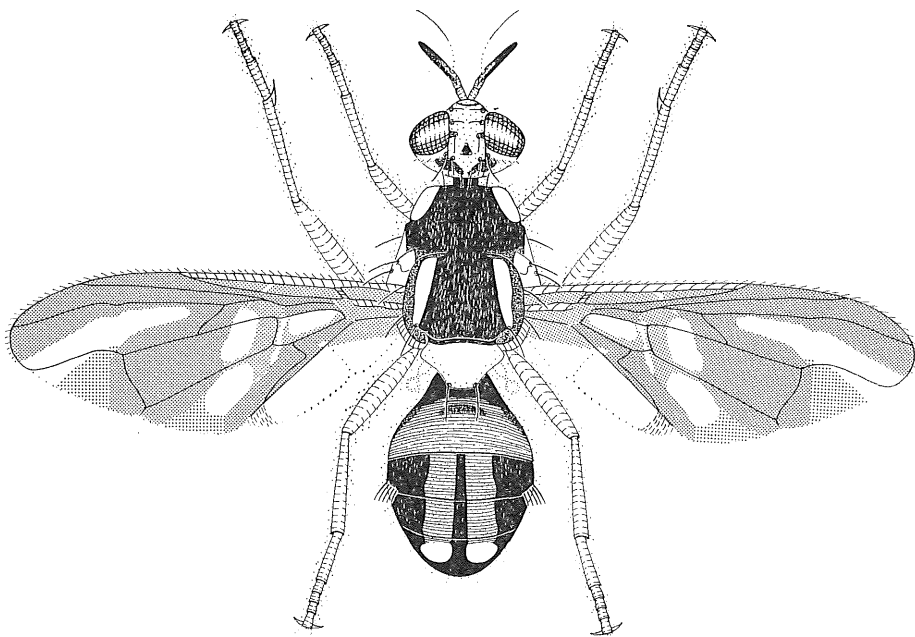


Fig. 4.—*Dacus* (*Asiadacus*) *confluens* sp.n. (x 6.1).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 3 male *paratypes* ex lure trap charged with methyl eugenol, May 1970, collected by R. M. Berena at Daru Village, Bougainville Island.

*Holotype* (Reg. No. T. 6931) in the Queensland Museum; 1 *paratype* in the British Museum (Natural History); remaining 2 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A large dark coloured species, facial spots large and irregularly circular, thorax dull black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fuscous costal band and anal streak, a broad transverse fuscous band across centre of wing, costal cells dark fulvous with microtrichia in all of second costal cell and outer half of first costal cell, abdomen with tergites three to five orange-brown except two broad lateral longitudinal black bands and a broad medial longitudinal black band from anterior margin of tergite three to posterior margin of tergite five.

#### Male

Length: *Holotype* 10.8 mm, range for type series 10.2–10.8 mm, mean 10.5 mm.

Wing: *Holotype* 9.0 mm, range for type series 8.6–9.0 mm, mean 8.7 mm.

*Head*.—Generally fulvous. Vertical length 2.1 mm. *Frons* narrowing slightly posteriorly; length 1.57 times breadth; fulvous except pale fuscous around orbital bristles and on antero-medial hump; latter prominent and covered with a large number of short dark setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with irregularly circular facial spots not reaching epistoma; width of spot (0.30 mm) greater than width of third antennal segment; length of face 0.60 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle fuscous. *Occiput* fulvous except small areas of fuscous colouration dorsally and yellow along eye margin; occipital row with 5–13 well developed fuscous bristles and a large number of small fulvous bristles each side. *Antennae* dark fulvous except fuscous on the apex and outer surface of third segment; a strong, dark fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.34 mm; 0.55 mm; 1.15 mm.

*Thorax*.—Dull black except brown below humeral calli, below and behind lateral post-sutural vittae, along mesonotal sutures. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe, extending to anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two broad, lateral post-sutural vittae narrowing posteriorly to end at upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *pr.sc.* absent (except one specimen with 2 bristles), *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fuscous. *Legs*: fore coxae fulvous, mid and hind coxae fuscous, remainder of legs fulvous; rows of long fulvous setae on dorsal surface of fore femora; middle tibiae each with an apical black spur. *Wings*: costal cells dark fulvous, microtrichia covering all of second costal cell and outer half of first costal cell; remainder of wings colourless except dark fulvous stigma, broad fuscous costal band overlapping vein  $R_{4+5}$  and ending between extremities of vein  $R_{4+5}$  and  $M_{1+2}$ , a broad transverse fuscous band across wing from costal band to hind margin and enveloping r-m and Im cross veins, a broad fuscous anal streak reaching wing margin and including area covered by dense aggregation of microtrichia, a pale fuscous colouration around wing margin connecting extremities of anal streak and transverse band, a dark fulvous colouration across base of discoidal cell from costal band to anal streak. Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype*



0·82:1, range for type series 0·82:1–0·86:1, mean 0·84:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1·03:1, range for type series 1·01:1–1·10:1, mean 1·05:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3·10:1 in *holotype*, 2·86:1–3·10:1 range for type series, 2·98:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black except narrow orange-brown band along posterior margin; tergite two orange-brown except antero-lateral margins fuscous and a short narrow transverse fuscous band towards anterior margin; tergites three to five orange-brown except two broad lateral longitudinal black bands running from anterior margin of tergite three to posterior margin of tergite five, connecting posteriorly with a broad medial longitudinal black band which runs from anterior margin of tergite three to posterior margin of tergite five and two large fuscous shining spots on tergite five.

#### Comments

This new species is similar to *Dacus* (*Asiadacus*) *seguyi* (Hering) and *Dacus* (*Asiadacus*) *curvifer* Walker in thoracic chaetotaxy, thorax dull black, lateral post-sutural vittae present and in addition, similar to *D. curvifer* in width of mesopleural stripe and similar to *D. seguyi* in colour of abdominal tergites. *D. confluens* differs from *D. seguyi* primarily in wing colour pattern and mesopleural stripe not reaching humeral callus. *D. confluens* differs from *D. curvifer* in wing colour pattern and in colour of abdominal tergites.

#### *Dacus* (*Asiadacus*) *indecorus* sp.n.

(Figure 5)

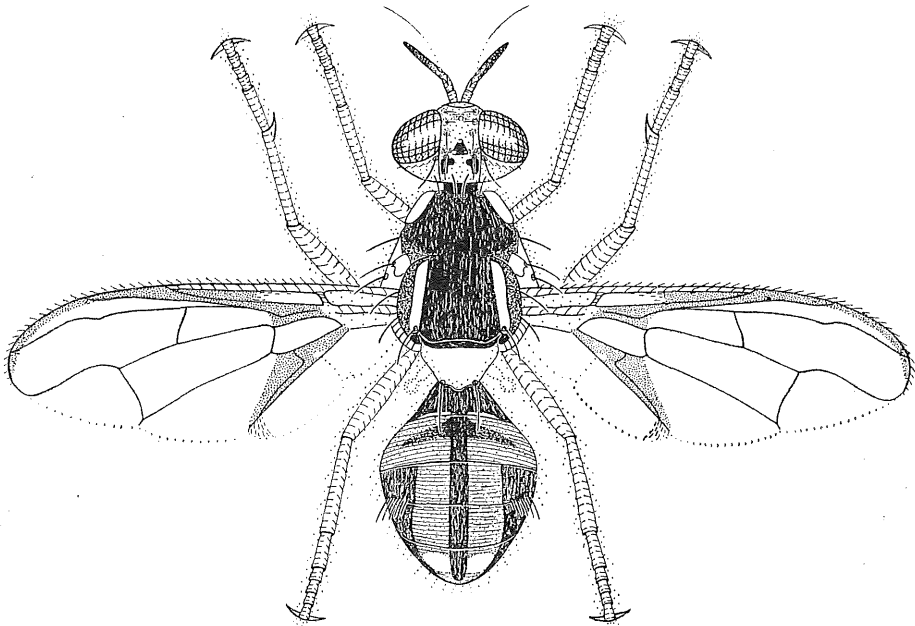


Fig. 5.—*Dacus* (*Asiadacus*) *indecorus* sp.n. (x 8·4).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 1 male *paratype* ex lure trap charged with cue lure, May 1970, collected by T. August at Samo Village, Lihir Island, New Ireland District. 1 male *paratype* ex Dak Pot in mature cacao, May 1967, collected by D. F. O'Sullivan at Keravat, New Britain.

*Holotype* (Reg. No. T. 6932) in the Queensland Museum; 2 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots irregularly circular, thorax dull black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and a broad fuscous anal streak, first costal cell pale fulvous, second costal cell colourless, microtrichia in outer portion of second costal cell only, abdomen with tergites two to five orange-brown except a broad medial longitudinal black band running from black on tergite one to end just before posterior margin of tergite five and two broad lateral longitudinal black bands running from anterior margin of tergite three to posterior margin of tergite five.

#### *Male*

Length: *Holotype* 7.3 mm, range for type series 7.3–8.2 mm, mean 7.7 mm.

Wing: *Holotype* 5.9 mm, range for type series 5.9–6.7 mm, mean 6.3 mm.

*Head.*—Generally fulvous. Vertical length: *Holotype* 1.6 mm, range for type series 1.6–1.9 mm, mean 1.7 mm. *Frons* narrowing slightly posteriorly; length 1.66 times breadth; fulvous except small areas of pale fuscous to fuscous colouration around orbital bristles and on antero-medial hump; latter covered with short dark coloured setae; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with irregularly circular facial spots not reaching epistoma; width of spot (0.20 mm) greater than width of third antennal segment; length of face 0.53 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle dark fulvous. *Occiput* fulvous except two large black spots dorso-centrally and yellow along eye margin; occipital row with 5–7 well developed dark fulvous bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of third segment; a well developed fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.19 mm; 0.34 mm; 0.87 mm.

*Thorax.*—Dull black except brown markings as follows: below humeral calli, below lateral post-sutural vittae, above notopleural callus, above notopleural suture between humeral and notopleural calli. Yellow markings as follows: humeral calli; notopleural calli; mesopleural stripe of medium width extending to anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin slightly convex; upper hypopleural callus (posterior apex black); anterior  $\frac{5}{7}$  lower hypopleural callus (remainder black); two broad, parallel sided, lateral post-sutural vittae ending just behind upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles:* *sc.* 2, *prsc.* absent,

*p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fuscous except *mpl.* fulvous. *Legs:* fulvous; rows of long fulvous setae on dorsal surface of fore femora; middle tibiae each with an apical fuscous spur. *Wings:* first costal cell pale fulvous, second costal cell colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, narrow fuscous costal band confluent with vein  $R_{2+3}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.77:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in proportion of 1.47:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.69:1.

*Abdomen.*—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black except a narrow orange-brown posterior margin on either side of medial longitudinal black band; remainder of abdomen orange-brown except a transverse fuscous band running across tergite two just anterior of centre, a broad medial longitudinal black band running from black area on tergite one to end just before posterior margin of tergite five, two broad lateral longitudinal bands running from anterior margin of tergite three to end at posterior margin of tergite five—these bands are black on tergites three and four and fuscous on tergite five. A pair of shining spots on tergite five.

#### Comments

This new species is similar to *Dacus (Asiadacus) nigrescens* (Drew) in thoracic colour patterns, thoracic chaetotaxy, general wing colour patterns and general abdominal colour patterns. *D. nigrescens* differs, however, in the following characters: lateral post-sutural vittae ending at upper *p.sa.* bristle; both costal cells colourless; hind tibiae fuscous; abdomen with medial longitudinal black band only on tergites three to five, fuscous to black colour pattern on lateral margins of tergites three to five not well defined.

*Dacus (Strumeta) abdonlonginquus* sp.n., *Dacus (Strumeta) dorsalis* Hendel, *Dacus (Strumeta) froggatti* (Bezzi), *D. musae*, *Dacus (Strumeta) trivialis* sp.n. and *Dacus (Strumeta) vulgaris* sp.n. are all similar to *D. indecorus* in thoracic colour patterns, general wing colour patterns, general abdominal colour patterns and leg colour patterns. *D. abdonlonginquus* differs from *D. indecorus* in the following characters: thoracic chaetotaxy; costal band on wing broader; both costal cells fulvous; abdomen very elongate; broad black basal band on anterior  $\frac{1}{2}$  of abdominal tergite two; medial longitudinal abdominal band much more narrow. *D. froggatti* differs in the following characters: thoracic chaetotaxy; lateral post-sutural vittae ending before upper *p.sa.* bristle; costal band on wing broader; both costal cells pale fulvous; medial longitudinal black band only on tergites three to five. *D. dorsalis*, *D. musae*, *D. trivialis* and *D. vulgaris* all differ from *D. indecorus* in thoracic chaetotaxy and abdominal colouration. In addition, *D. musae* and *D. trivialis* differ from *D. indecorus* in having hind tibiae fuscous and lateral post-sutural vittae ending at upper *p.sa.* bristle, and *D. dorsalis* differs from *D. indecorus* in having hind tibiae fuscous.

**Dacus (Asiadacus) ochromarginis** sp.n.

(Figure 6)

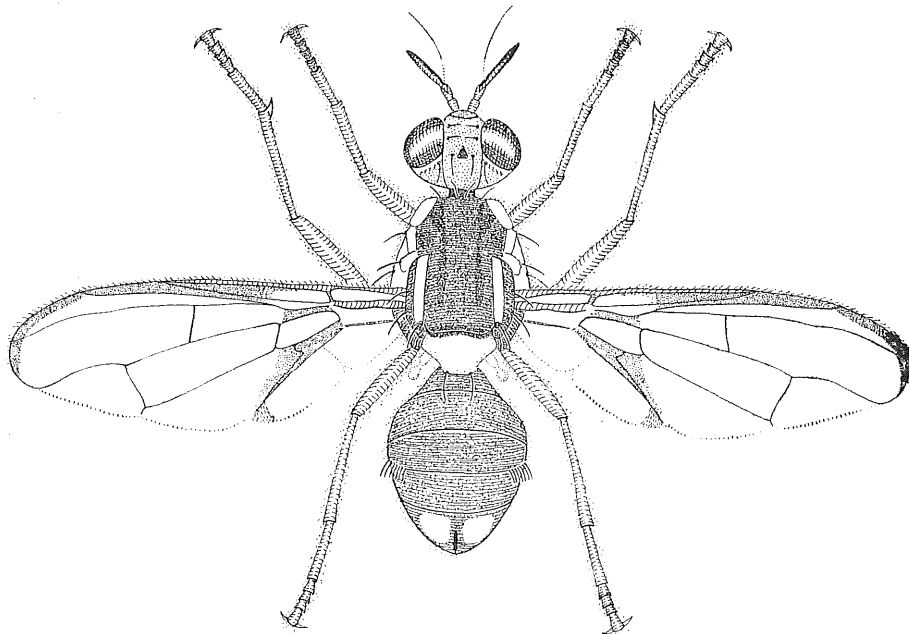


Fig. 6.—*Dacus (Asiadacus) ochromarginis* sp.n. (x 8.3).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with methyl eugenol, August 1969, collected by A. Luckie at Vudal near Keravat, New Britain. 1 male *paratype* ex lure trap charged with methyl eugenol, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 2 male *paratypes* ex lure trap charged with methyl eugenol, October 1969, collected by A. Luckie at Vudal near Keravat, New Britain. 1 male *paratype* ex lure trap charged with methyl eugenol, October 1969, collected by D. F. O'Sullivan at Upper Warangoi Valley, Gazelle Peninsula, New Britain. 2 male *paratypes* ex lure trap charged with methyl eugenol, November 1969 to January 1970, collected by R. Berena at Keravat, New Britain. 6 male *paratypes* ex lure trap charged with methyl eugenol, January 1970, collected by R. Berena at Vunapau, New Britain.

*Holotype* (Reg. No. T. 6933) in the Queensland Museum; 2 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in the British Museum (Natural History); remaining 8 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized pale coloured species, facial spots very large and oval, thorax generally red-brown, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow and connected by a yellow lateral band, scutellum yellow, wing with a narrow fuscous costal band and anal streak, costal cells colourless to extremely pale fulvous with microtrichia in outer portion of second costal cell only, abdomen completely orange-brown except for a short medial elongate black spot on tergite five.

*Male*

Length: *Holotype* 7.0 mm, range for type series 7.0–7.1 mm, mean 7.0 mm.

Wing: *Holotype* 5.9 mm, range for type series 5.8–6.0 mm, mean 5.9 mm.

*Head*.—Generally fulvous. Vertical length 1.5 mm. *Frons* narrowing slightly posteriorly; length 1.57 times breadth; fulvous with no dark markings; antero-medial hump covered with short pale setae; bristles fulvous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with very large oval, black facial spots ending just before epistoma; width of spot (0.25 mm) greater than width of third antennal segment; length of face 0.52 mm. *Genae* fulvous; small, very pale brown, sub-ocular spots present; bristle fulvous. *Occiput* fulvous, yellow along eye margin; occipital row with 2–4 weak fulvous bristles and a large number of small pale bristles each side. *Antennae* fulvous except fuscous on the apex of third segment; a weak fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.19 mm; 0.29 mm; 0.87 mm.

*Thorax*.—Red-brown except two irregularly shaped fuscous markings running down mesonotum from inside humeral calli to end well before line of upper *p.sa.* bristles (about level with lower *p.sa.* bristles), a circular fuscous marking each side of mesonotum between humeral calli and lateral post-sutural vittae. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe extending to humeral callus above, continuing onto sternopleuron below as a transverse spot, anterior margin convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, lateral post-sutural vittae ending at the upper *p.sa.* bristle; a lateral band connecting humeral calli and notopleural calli. *Postnotum* black except for a dark fulvous line centrally. *Scutellum* yellow except for narrow red-brown basal band. *Bristles*: *sc.* 2, *prsc.* absent, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and dark fulvous. *Legs*: fulvous except apical four segments of fore tarsi dark fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells colourless to extremely pale fulvous, microtrichia in outer portion of second costal cell only; remainder of wings colourless except fuscous stigma, narrow fuscous costal band confluent with vein  $R_{2+3}$  and widening after crossing vein  $R_{2+3}$  at its extremity to end between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a narrow fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe weak. The second costal cell shorter than stigma in the following proportions: *holotype* 0.71:1, range for type series 0.70:1–0.79:1, mean 0.75:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.35:1, range for type series 1.33:1–1.66:1, mean 1.45:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 1.30:1 in *holotype*, 1.30:1–1.48:1 range for type series, 1.43:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergites one to five orange-brown except for a medial elongate black spot on tergite five. A pair of shining spots on tergite five.

*Comments*

This new species shows similarities to *Dacus (Strumeta) diaphana* (Hering) in the thorax generally red-brown, humeral and notopleural calli joined by yellow band, legs generally fulvous, general colour patterns of wings and pale coloured abdomen. *D. diaphana* differs, however, from *D. ochromarginis* in the following characters: thorax with pale infuscation along posterior margin of mesonotum; posterior half of notopleural calli yellow, anterior half fuscous; mesopleural stripe

not reaching humeral callus; lateral post-sutural vittae beginning before mesonotal suture and ending behind upper *p.sa.* bristle; microtrichia covering all of second costal cell and outer portion of first costal cell; abdomen fulvous with narrow transverse fuscous bands laterally, on anterior margin of tergite three and narrow pale fuscous colouration on lateral margins of tergites four and five.

**Dacus (Asiadacus) perpusillus** sp.n.

(Figure 7)

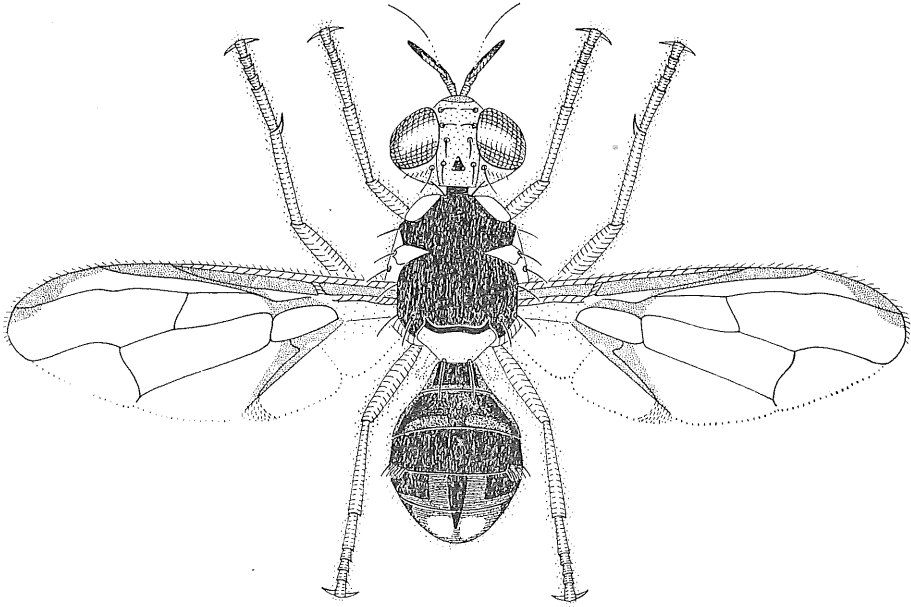


Fig. 7.—*Dacus (Asiadacus) perpusillus* sp.n. (x 11·9).

*Types*: NEW CALEDONIA: *Holotype* male, ex lure trap charged with 1-(*p*-acetoxyphenyl)-butan-3-one, December 1969, collected by P. Cochereau at Nouméa. 5 male *paratypes* ex lure trap charged with cue lure, 1966, collected by P. Cochereau at Nouméa. 1 male *paratype* ex lure trap charged with cue lure, 1967, collected by P. Cochereau at Nouméa. 1 male *paratype* ex lure trap charged with cue lure, November 1969, collected by P. Cochereau at Nouméa. 3 male *paratypes* ex lure trap charged with cue lure, June-July 1970, collected by P. Cochereau at Nouméa.

*Holotype* (Reg. No. T. 6934) and 1 *paratype* (Reg. No. T. 6935) in the Queensland Museum; 2 *paratypes* in the British Museum (Natural History); remaining 7 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A small dark coloured species, facial spots absent, thorax glossy black, lateral post-sutural vittae absent, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow, triangular shaped yellow band along mesonotal suture, wing with a narrow fuscous costal band and anal streak, costal cells fuscous with microtrichia covering both cells, abdomen with tergites

one to three generally black, tergites four and five orange-brown except anterior  $\frac{2}{3}$  of lateral margins of tergite four black, a medial abdominal black band on tergite four which ends on anterior of tergite five, antero-lateral corners of tergite five fuscous.

#### Male

Length 4.7 mm; wing 3.9 mm.

*Head*.—Generally fulvous. Vertical length 1.2 mm. *Frons* narrowing slightly posteriorly; length 1.44 times breadth; fulvous with no dark markings; antero-medial hump covered with short pale setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous, facial spots absent; length of face 0.46 mm. *Genae* fulvous; sub-ocular spots absent; bristle absent. *Occiput* fulvous, yellow along eye margin; occipital row with a large number of small dark bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of third segment; a fuscous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.10 mm; 0.24 mm; 0.59 mm.

*Thorax*.—Glossy black except brown below humeral calli and above middle coxae. Yellow markings as follows: humeral calli; notopleural calli; a triangular shaped marking anterior to mesonotal suture with base at notopleural callus and apex at internal end of mesonotal suture; mesopleural stripe of medium width extending to anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black). Lateral post-sutural vittae absent. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* absent, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 2 (inner pair absent); all bristles well developed and black. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells fuscous, microtrichia covering both costal cells; remainder of wings colourless except fuscous stigma, narrow fuscous costal band confluent with vein  $R_{2+3}$  but widening after crossing vein  $R_{2+3}$  at its extremity to end just beyond extremity of vein  $R_{4+5}$ , a narrow fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe weak. The second costal cell shorter than stigma in the proportion 0.85:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in proportion of 1.62:1. Proportion of anal cell extension  $Cu_1 + 1A$ , 2.09:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one glossy black except brown on lateral margins; tergite two fuscous centrally and tending black laterally except brown on extreme lateral margins, along posterior margin and intersegmental line between tergites one and two; tergite three black; tergite four orange-brown except anterior  $\frac{2}{3}$  of lateral margins black and a broad medial black band; tergite five orange-brown except antero-lateral corners fuscous and a narrow medial black band on anterior margin. A pair of shining spots on tergite five.

#### Comments

*Dacus (Strumeta) exspoliata* (Hering), *D. minutus*, *D. abdopallescens* and *Dacus (Strumeta) mucronis* sp.n. show similarities to *D. perpusillus* in mesonotum black and wing colour patterns. In addition, *D. minutus* is similar in lacking facial spots and post-sutural vittae, *D. exspoliata* is similar in lacking post-sutural vittae while *D. abdopallescens* and *D. mucronis* are similar in lacking facial spots and possessing fulvous legs. *D. exspoliata* differs from *D. perpusillus* in the following characters: facial spots present; thoracic chaetotaxy; legs generally

fuscous except fore tibiae and all tarsi fulvous; microtrichia in outer half of second costal cell only; abdominal tergites black. *D. minutus* differs from *D. perpusillus* in the following characters: humeral calli black; thoracic chaetotaxy; costal cells colourless; microtrichia in outer portion of second costal cell only; legs with hind tibiae fuscous; abdomen generally orange-brown. *D. abdopallescens* differs from *D. perpusillus* in the following characters: lateral post-sutural vittae present; abdomen generally orange-brown. *D. mucronis* differs from *D. perpusillus* in the following characters: thoracic chaetotaxy; lateral post-sutural vittae present; costal cells colourless; abdomen with tergites three to five orange-brown except for broad lateral longitudinal bands which are black on tergites three and four and fuscous on tergite five.

**DACUS (HEMIZEUGODACUS) Hardy**  
***Dacus (Hemizeugodacus) pallescentis* sp.n.**

(Figure 8)

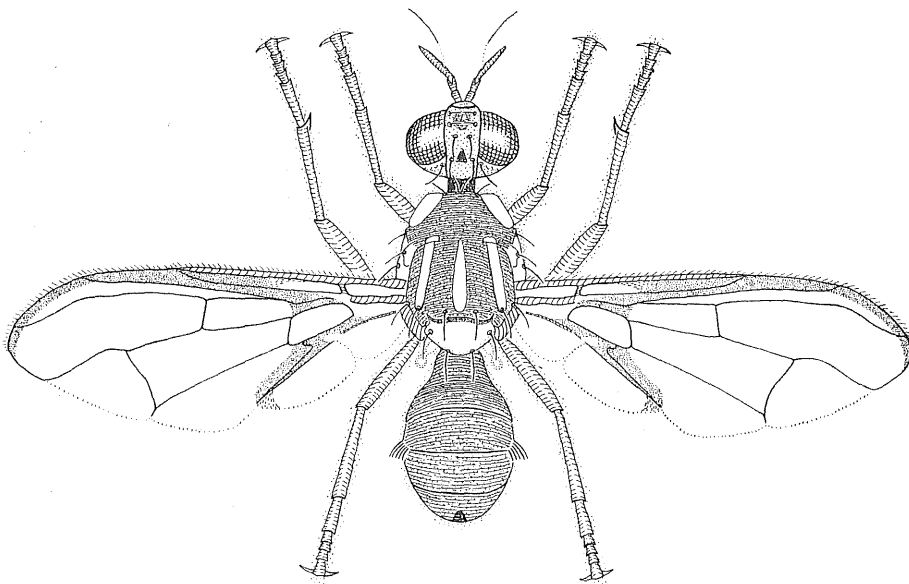


Fig. 8.—*Dacus (Hemizeugodacus) pallescentis* sp.n. (x 9.2).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex male lure trap, August 1966, collected by N. Kopman at Konedobu, Central District. 4 male *paratypes* ex male lure trap, December 1966, collected by N. Kopman at Konedobu, Central District.

*Holotype* (Reg. No. T.6936) in the Queensland Museum; 1 *paratype* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; remaining 3 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized pale coloured species, facial spots very small or absent, thorax pale red-brown, two lateral and one medial post-sutural vittae, mesopleural stripe of medium width, humeral calli and notopleural calli yellow, scutellum



yellow, wing with a narrow fuscous costal band and anal streak, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen pale orange-brown except for a small dark fuscous spot on medial posterior margin of tergite five.

#### Male

Length: *Holotype* 6.1 mm, range for type series 6.0–6.6 mm, mean 6.2 mm.

Wing: *Holotype* 5.5 mm, range for type series 5.5–6.0 mm, mean 5.8 mm.

*Head.*—Generally fulvous. Vertical length: *Holotype* 1.3 mm, range for type series 1.3–1.5 mm, mean 1.4 mm. *Frons* narrowing slightly posteriorly, length 1.5 times breadth; fulvous except tending fuscous on antero-medial hump; latter covered with short dark setae; bristles dark fulvous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous, facial spots very small and pale or absent; when present, width of spot (0.06 mm) less than width of third antennal segment; length of face 0.47 mm. *Genae* fulvous; sub-ocular spots absent; bristle fulvous. *Occiput* fulvous, yellow along eye margin; occipital row with 2–4 strong dark bristles and many smaller pale bristles each side. *Antennae* fulvous with no dark markings; a small, pale fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder dark fuscous); length of segments: 0.14 mm; 0.25 mm; 0.76 mm.

*Thorax.*—Pale red-brown with no dark markings. Yellow markings as follows: humeral calli; notopleural calli; medium sized mesopleural stripe extending to anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex red-brown); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder red-brown); two narrow, lateral post-sutural vittae beginning before mesonotal suture, narrowing slightly posteriorly and ending at upper *p.sa.* bristle; a medial post-sutural vitta beginning at a point just anterior to level of mesonotal suture and widening posteriorly to end just before *prsc.* bristles. *Postnotum* red-brown. *Scutellum* yellow except for narrow red-brown basal band. *Bristles*: *sc.* 4, *prsc.* 2, *p.sa.* 2, *a.sa.* absent, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles black except for the basal pair of *sc.* and the centre pair of *scp.* occasionally pale and reduced in size. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except fuscous stigma, narrow fuscous costal band confluent with vein  $R_{2+3}$  but widening slightly after crossing this vein at its extremity and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a narrow fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe very strong. The second costal cell shorter than stigma in the following proportions: *holotype* 0.70:1, range for type series 0.70:1–0.74:1, mean 0.72:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.29:1, range for type series 1.20:1–1.32:1, mean 1.28:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.89:1 in *holotype*, 3.00:1–4.00:1 range for type series, 3.52:1 mean.

*Abdomen.*—Rounded; tergites free; pecten present on third abdominal tergite. All tergites pale orange-brown except tending whitish along posterior margin of tergite two and a medial, oval dark fuscous spot on posterior margin of tergite five. Shining spots absent on tergite five.

### Comments

This species has been placed in the subgenus *Hemizeugodacus* as defined by Hardy (1951). The subgeneric characters of *D. pallescentis* are those of the abovenamed subgenus except that *D. pallescentis* has a very strong supernumerary lobe in wing in contrast to the subgenus *Hemizeugodacus* having the supernumerary lobe reduced. Variation in size of the supernumerary lobe occurs within subgenera and so it is not sound to use this character, on its own, to designate a new subgenus.

*Dacus* (*Paratridacus*) *atrisetosus* (Perkins) and *Dacus* (*Zeugodacus*) *trichotus* (May) are similar to *D. pallescentis* in the mesonotum red-brown, the presence of lateral and medial post-sutural vittae, legs fulvous and abdomen basically orange-brown. *D. atrisetosus* differs from *D. pallescentis* in the following characters: presence of irregular fuscous markings on mesonotum; thoracic chaetotaxy; costal cells pale fulvous; pecten of cilia absent on abdominal tergite three. *D. trichotus* differs from *D. pallescentis* in the following characters: presence of fuscous markings of mesonotum; thoracic chaetotaxy; first costal cell pale fulvous, second costal cell colourless; mesopleural stripe slightly broader; lateral post-sutural vittae ending behind upper *p.sa.* bristle; abdomen with indefinite black markings on lateral margins of tergites three to five.

### DACUS (PARATRIDACUS) Shiraki

#### *Dacus* (*Paratridacus*) *coracinus* sp.n.

(Figure 9)

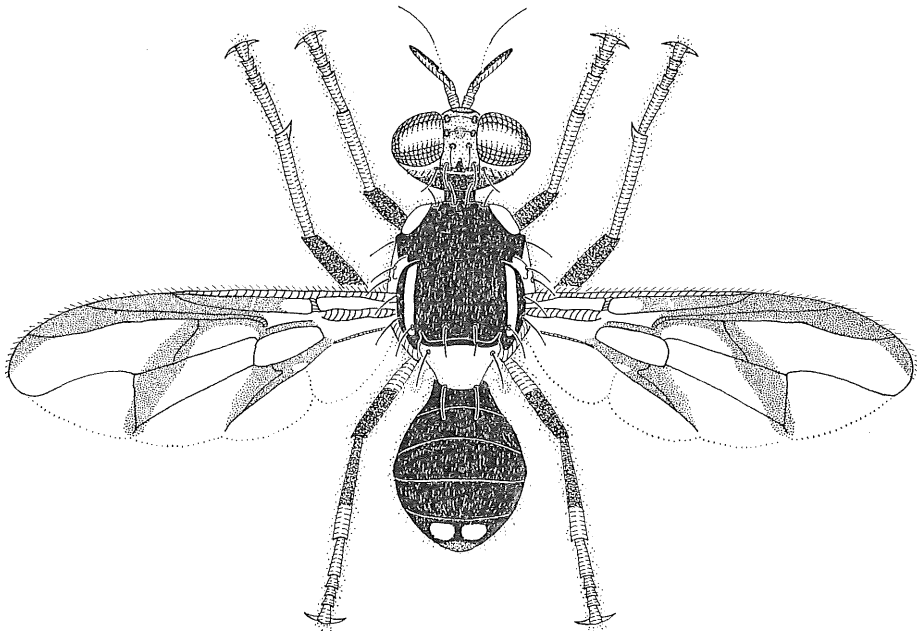


Fig. 9.—*Dacus* (*Paratridacus*) *coracinus* sp.n. (x 10·6).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 1 male *paratype*, December 1963, collected by D. K. McAlpine at Bainyik, Sepik District.

*Holotype* (Reg. No. T.6937) in Queensland Museum; 1 *paratype* in Dept. of Primary Industries, Brisbane, Queensland.

A small black species, facial spots small and elongate, thorax black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fuscous costal band and anal streak, a transverse fuscous band across centre from costal band to hind margin of wing, first costal cell colourless, second costal cell fuscous in outer half, microtrichia in outer  $\frac{1}{3}$  of second costal cell only, abdomen black, pecten on tergite three absent.

#### Male

Length 5.3 mm; wing 4.6 mm.

*Head.*—Generally fulvous. Vertical length 1.2 mm. *Frons* of even width; length 1.52 times breadth; dark fulvous except fuscous around orbital bristles and on posterior part of antero-medial hump; bristles large and black: 1 *s.or.*, 2 *i.or.*; lunule dark fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* dark fulvous with small pale elongate facial spots not reaching epistoma; width of spot (0.05 mm) less than width of third antennal segment; length of face 0.49 mm. *Genae* fulvous with a mass of small black bristles; medium-sized, brown, sub-ocular spots present. *Occiput* fuscous (darker centrally), yellow along eye margin; occipital row with a large number of small pale bristles each side. *Antennae* fulvous except fuscous on apex and outer surface of the third segment; arista fulvous proximally (remainder black); length of segments: 0.13 mm; 0.19 mm; 0.74 mm.

*Thorax.*—Black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe, reaching to humeral callus above, continuing onto sternopleuron below as a transverse spot, anterior margin concave; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, parallel sided, lateral post-sutural vittae ending well behind upper *p.sa.* bristle (ending nearly at posterior margin of mesonotum). *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles:* *sc.* 4, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black except scapulars small and inner scapulars fulvous. *Legs:* coxae fuscous; femora dark fuscous except basal half of hind femora fulvous; tibiae and tarsi fulvous except basal  $\frac{2}{3}$  of hind tibiae fuscous; middle tibiae without an apical spur. *Wings:* first costal cell colourless, outer half of second costal cell fuscous, microtrichia in outer  $\frac{1}{3}$  of second costal cell only; remainder of wings colourless except fuscous stigma, broad fuscous costal band confluent with vein  $R_{4+5}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad fuscous anal streak ending just before extremity of vein  $Cu_1 + 1A$ , a transverse fuscous band across the wing from costal band to envelope r-m cross vein and outer section of vein  $M_{1+2}$  above discoidal cell and lower  $\frac{2}{3}$  of Im cross vein to end at wing margin at vein  $M_{3+4}$ . Dense aggregation of microtrichia around vein  $Cu_1 + 1A$  absent. Supernumerary lobe weak. The second costal cell shorter than stigma in the proportion 0.84:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion 2.2:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 1.28:1.

*Abdomen.*—Rounded; tergites free; pecten on tergite three absent; all tergites black except brownish area along posterior margin of tergite five. A pair of shining spots on tergite five.

*Comments*

This new species is very distinct. It is similar to *Dacus* (*Strumeta*) *distinctus* Malloch, *Dacus* (*Strumeta*) *anomalus* sp.n. and *Dacus* (*Strumeta*) *pseudodistinctus* sp.n. in wing colour pattern. The above three species differ from *D. coracinus* in the following characters: mesopleural stripe not reaching humeral callus above; 2 *sc.* bristles present; abdominal tergites not completely black; pecten of cilia present on third abdominal tergite.

**DACUS (STRUMETA) Walker*****Dacus* (*Strumeta*) *abdofuscatus* sp.n.**

(Figure 10)

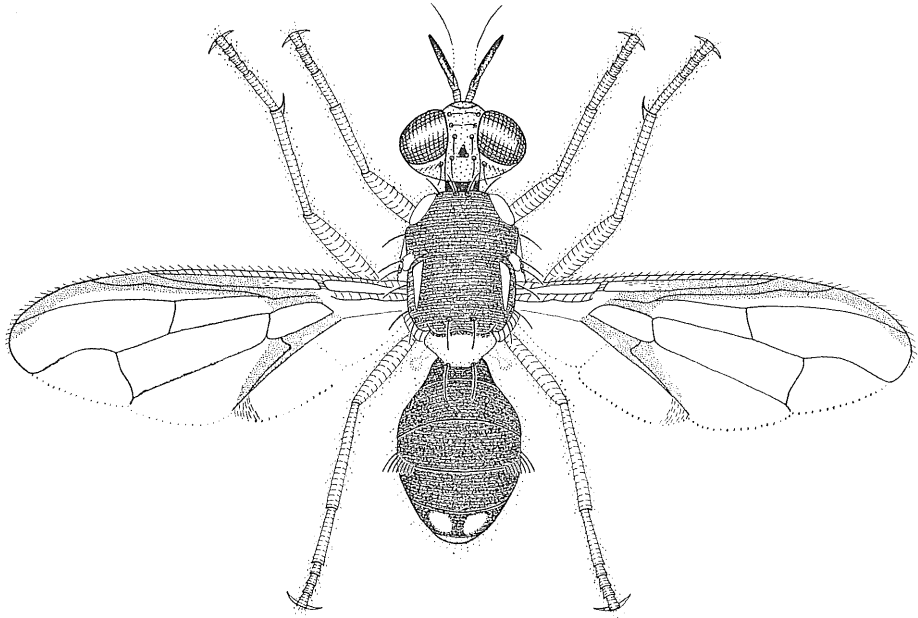


Fig. 10.—*Dacus* (*Strumeta*) *abdofuscatus* sp.n. (x 8.4).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 3 male *paratypes*, November 1963, collected by D. K. McAlpine at Aroa River, Central District.

*Holotype* (Reg. No. T.6938) in the Queensland Museum; 1 *paratype* in the British Museum (Natural History); 2 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots oval, thorax red-brown, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and anal streak, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen generally fuscous.

*Male*

Length: *Holotype* 6.3 mm, range for type series 6.3–7.0 mm, mean 6.6 mm.

Wing: *Holotype* 5.2 mm, range for type series 5.2–5.7 mm, mean 5.5 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.35 mm, range for type series 1.35–1.55 mm, mean 1.48 mm. *Frons* of even width; length 1.4 times breadth; fulvous with no dark markings; antero-medial hump covered with short pale setae; bristles fulvous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with medium-sized, oval, black spots not reaching epistoma; width of spot (0.14 mm) slightly less than width of third antennal segment; length of face 0.47 mm. *Genae* fulvous; sub-ocular spots absent; bristle fulvous. *Occiput* fulvous, yellow along eye margin; occipital row with 5–6 fuscous bristles each side. *Antennae* fulvous except fuscous on apex and outer surface of third segment; arista fulvous proximally (remainder black); length of segments: 0.25 mm; 0.34 mm; 0.81 mm.

*Thorax*.—Red-brown except irregular fuscous markings on mesonotum between suture and humeral calli and inside lateral post-sutural vittae. Yellow markings as follows: humeral calli; notopleural calli; mesopleural stripe ending midway between anterior margin of *npl.* callus and anterior *npl.* bristle above, continuing onto strenopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex red-brown); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder red-brown); two moderately broad, triangular lateral post-sutural vittae narrowing posteriorly to end before upper *p.sa.* bristle. *Postnotum* red-brown. *Scutellum* yellow except for narrow red-brown basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fulvous. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, narrow pale fuscous costal band barely extending below vein  $R_{2+3}$  and ending between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a narrow pale fuscous anal streak ending just beyond extremity of anal cell extension. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.65:1, range for type series 0.65:1–0.71:1, mean 0.67:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.77:1, range for type series 1.72:1–1.83:1, mean 1.77:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.13:1 in *holotype*, 2.13:1–2.31:1 range for type series, 2.2:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite; tergite one dark fuscous to black; remainder of abdomen fuscous, tending darker laterally; narrow fulvous band on posterior margin of tergite five. A pair of shining spots on tergite five.

*Comments*

*Dacus (Strumeta) moluccensis* (Perkins) and *Dacus (Strumeta) unipunctatus* Malloch are similar to *D. abdofuscatus* in being pale coloured species, facial spots present, thorax generally red-brown, wing colour patterns. In addition, *D. moluccensis* is similar in possessing fulvous legs and *D. unipunctatus* is similar in the lateral post-sutural vittae ending before upper *p.sa.* bristle. *D. moluccensis* differs from *D. abdofuscatus* in the following characters: lateral post-sutural vittae ending at or just behind upper *p.sa.* bristle; costal cells fulvous; abdomen fulvous with black along anterior margin of tergite three and a medial longitudinal black

band on tergites four and five. *D. unipunctatus* differs from *D. abdofuscatus* in possessing a fulvous abdomen with a black spot on anterior central margin of tergite five.

***Dacus (Strumeta) abdolonginquus* sp.n.**

(Figure 11)

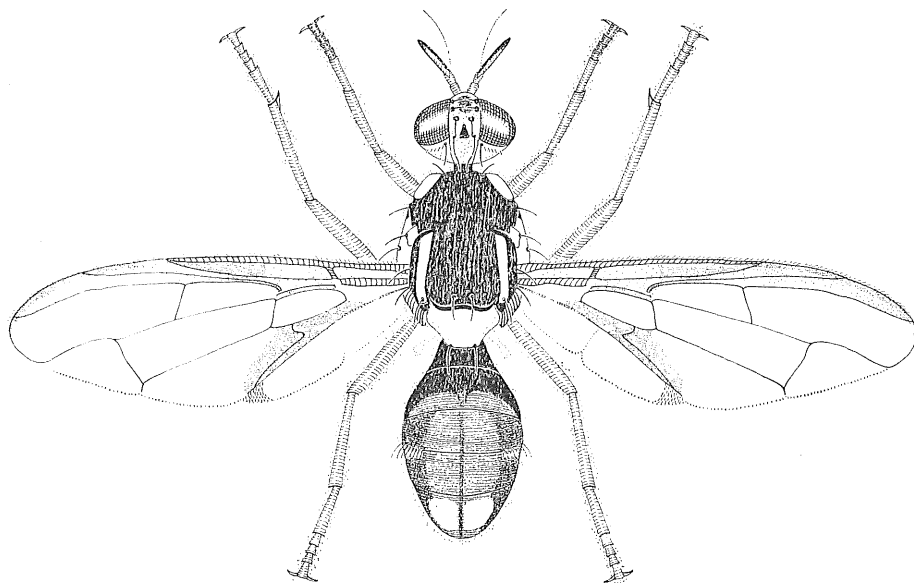


Fig. 11.—*Dacus (Strumeta) abdolonginquus* sp.n. (x 6·7).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 7 male *paratypes* ex lure trap charged with methyl eugenol and 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain.

*Holotype* (Reg. No. T.6939) in the Queensland Museum; 1 *paratype* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 1 *paratype* in the British Museum (Natural History); remaining 6 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A large, dark coloured species, facial spots oval, thorax black, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and anal streak, costal cells extremely pale fulvous with microtrichia in outer portion of second costal cell only, abdomen with transverse black band on basal half of tergite two, black laterally on tergite two, fuscous laterally on tergites three to five and a narrow medial fuscous band on tergites two to five.

*Male*

Length: *Holotype* 7·8 mm, range for type series 6·4–8·7 mm, mean 8·0 mm.

Wing: *Holotype* 6·6 mm, range for type series 5·3–7·2 mm, mean 6·6 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.7 mm, range for type series 1.3–1.8 mm, mean 1.67 mm. *Frons* narrowing slightly posteriorly; length 1.68 times breadth; fulvous except pale fuscous around orbital bristles and on antero-medial hump; latter covered with short, dark setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule dark fulvous. *Ocellar triangle* black. *Vertex* dark fulvous. *Face* fulvous with large oval, black spots not reaching epistoma; width of spot (0.19 mm) equal to width of third antennal segment; length 0.51 mm. *Genae* fulvous; medium sized, dark brown sub-ocular spot present; bristle black. *Occiput* fulvous, yellow along eye margin; occipital row with 5–8 well developed black bristles each side. *Antennae* fulvous except dark fuscous on the apex and outer surface of third segment; fulvous bristle on second segment; arista fulvous proximally (remainder black); length of segments: 0.25 mm; 0.34 mm; 0.98 mm.

*Thorax*.—Dull black with no brown markings. Yellow markings as follows: humeral calli (lower margin brown); notopleural calli; medium sized mesopleural stripe, ending midway between anterior margin of *npl.* callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a small yellow-brown spot, anterior margin convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, parallel sided, lateral post-sutural vittae ending behind upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except fore coxae pale fuscous, middle and hind coxae black, and apical four segments of fore tarsi pale fuscous; middle tibiae each with an apical black spur. *Wings*: costal cells extremely pale fulvous (especially around margins), microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, narrow pale fuscous costal band ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe weak. The second costal cell shorter than stigma in the following proportions: *holotype* 0.73:1, range for type series 0.72:1–0.83:1, mean 0.77:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.43:1, range for type series 1.43:1–1.72:1, mean 1.56:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.61:1 in *holotype*, 2.56:1–3.13:1 range for type series, 2.77:1 mean.

*Abdomen*.—Elongate oval; tergites free; pecten present on third abdominal tergite. Tergite one black; tergite two black along anterior half expanding laterally to cover lateral margins; remainder of tergite two and tergites three to five orange-brown except lateral margins of tergites three to five fuscous and a narrow, medial longitudinal fuscous band running from transverse basal band on tergite two to posterior margin of tergite five (the narrow, medial band darkens to black on tergite five); tergite five is very long ( $\frac{1}{3}$  length of abdomen). A pair of shining spots on tergite five.

#### Comments

Several species of *Strumeta* show similarities to this new species. *D. dorsalis*, *D. froggatti*, *D. musae*, *D. obscurus*, *D. trivialis* and *D. vulgaris* are similar to *D. abdolonginquus* in the following characters: mesonotum black; wing colour patterns; legs generally fulvous. *D. dorsalis* and *D. musae* differ from *D. abdolonginquus* primarily in having abdomen short and generally orange-brown with only narrow dark lateral margins and wings with costal cells colourless. *D. froggatti*

differs from *D. abdolonginquus* in the following characters: lateral post-sutural vittae ending before upper *p.sa.* bristle; abdomen short; medial longitudinal black band on abdominal tergites three to five; lateral margins of abdominal tergites three to five black. *D. obscurus* differs from *D. abdolonginquus* in lateral post-sutural vittae absent, scutellum yellow tending fuscous apically and abdomen with only black spots on lateral anterior margins of tergites three and four. *D. trivialis* and *D. vulgaris* differ from *D. abdolonginquus* in lateral post-sutural vittae ending at the upper *p.sa.* bristle and in abdominal colouration.

***Dacus (Strumeta) abdonigellus* sp.n.**

(Figure 12)

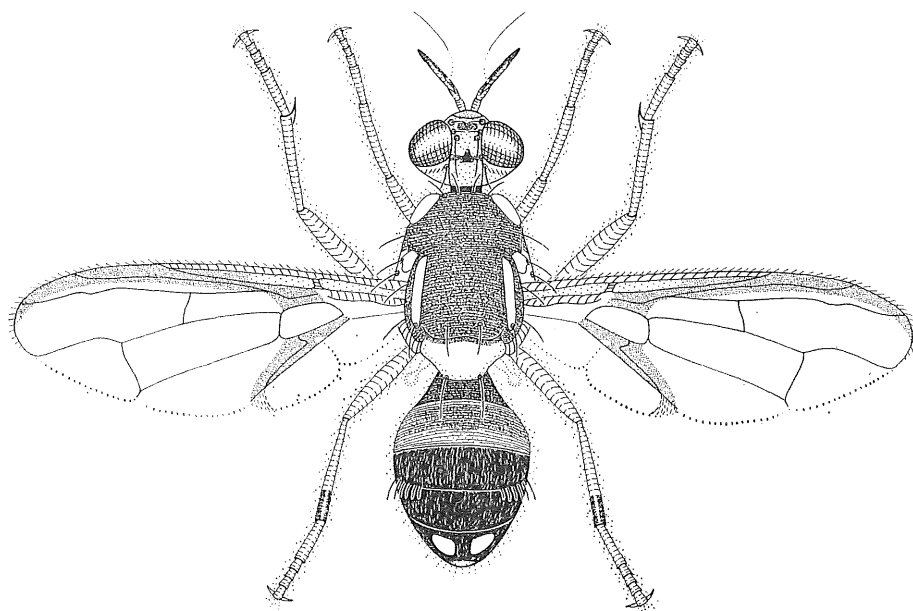


Fig. 12.—*Dacus (Strumeta) abdonigellus* sp.n. (x 6.9).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, December 1963, collected by D. K. McAlpine at Bubia, near Lae, Morobe District; *allotype* female and one male *paratype*, December 1963, collected by D. K. McAlpine at Bainyik, Sepik District; one male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, September 1966, collected by N. Kopman at Konedobu, Central District; 3 male *paratypes* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, December 1967, collected by T. L. Fenner at Daru, Daru Island, Western District; 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, December 1967, collected by T. L. Fenner at Sepi Village, Kiwai Island, Western District; 2 male *paratypes*, December 1967, collected by Sir Alan Mann at



Ambunti, Sepik District; 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, July 1968, collected by T. L. Fenner at Vanapa River, Central District; 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, January 1969, collected by T. L. Fenner at Bakoiudu (1800 ft), Central District.

*Holotype* (Reg. No. T.6940) and *allotype* (Reg. No. T.6941) in the Queensland Museum; 2 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in British Museum (Natural History); 6 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A large species, facial spots small, thorax red-brown, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and broad fuscous anal streak, costal cells fulvous with microtrichia in outer portion of second costal cell only, abdomen with tergites three to five black and with a black medial abdominal stripe.

#### Male

Length: *Holotype* 9.6 mm, range for type series 8.6–9.9 mm, mean 9.4 mm.

Wing: *Holotype* 7.3 mm, range for type series 6.8–7.6 mm, mean 7.2 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 2.0 mm, range for type series 1.88–2.08 mm, mean 1.97 mm. *Frons* widening slightly anteriorly; length 1.6 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; latter covered with small dark coloured setae; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with small, circular to triangular, black spots not reaching epistoma; width of spot (0.14 mm) less than width of third antennal segment; length of face 0.59 mm. *Genae* fulvous; large, irregular, brown sub-ocular spots present; bristle fuscous. *Occiput* fulvous except yellow along eye margin; occipital row with 7–8 strong, fuscous bristles each side. *Antennae* fulvous except fuscous on apex and outer surface of third segment; a strong fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.28 mm; 0.36 mm; 0.96 mm.

*Thorax*.—Red-brown except fuscous markings as follows: laterally on mesopleuron, sternopleuron and the anterior part of the pteropleuron; irregular fuscous markings along mesonotum. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe slightly wider than notopleural callus above, continuing onto sternopleuron below as a small transverse spot, anterior margin slightly convex; upper hypopleural callus (posterior apex red-brown); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder red-brown); two moderately broad, parallel sided, lateral post-sutural vittae ending behind upper *p.sa.* bristle. *Postnotum* red-brown. *Scutellum* yellow except for narrow red-brown basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous with fore and hind coxae and outer apical surface of hind tibiae fuscous; middle tibiae each with an apical black spur. *Wings*: costal cells

fulvous, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, a narrow fuscous costal band extending below  $R_{2+3}$  and ending between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad fuscous anal streak ending just before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.6:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.8:1, range for type series 1.58:1–1.8:1, mean 1.67:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.3:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous; tergite two fulvous with irregular fuscous marking centrally; tergites three, four and five black, with a narrow very dark fulvous patch medially on posterior margin of tergite five. A pair of shining spots on tergite five.

#### *Female*

Length (excluding ovipositor) 9.5 mm; wing 7.5 mm.

*Head*.—As for male.

*Thorax*.—As for male except as follows:

- (1) supernumerary lobe weak;
- (2) the second costal cell shorter than stigma in the proportion 0.78:1;
- (3) r-m dividing  $M_{1+2}$  above discoidal cell in the proportion 1.66:1;
- (4) proportion of anal cell extension to  $Cu_1 + 1A$ , 1.26:1.

*Abdomen*.—As for male except as follows:

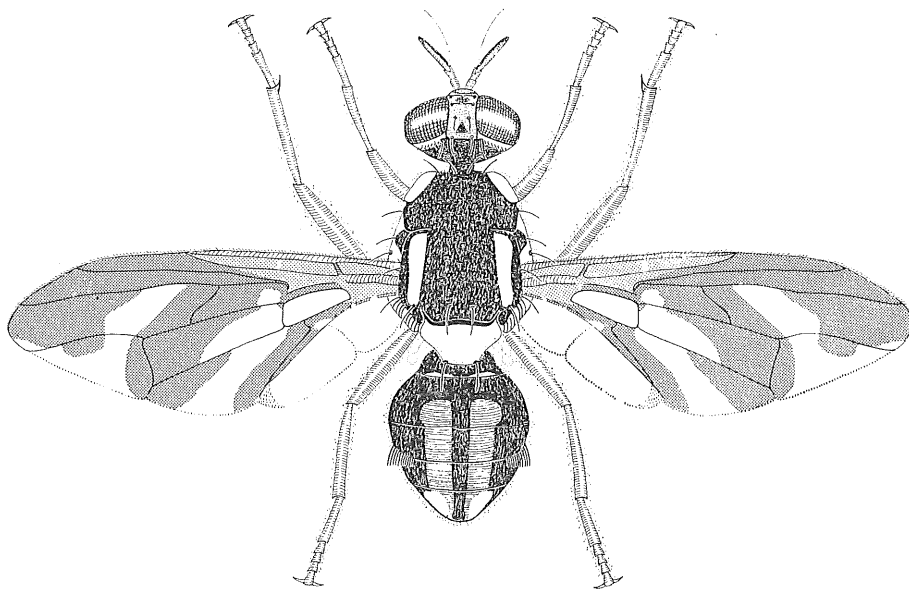
- (1) tergites three, four and five lack the dark fulvous markings which are present in male;
- (2) ovipositor strongly developed and with visible portion of oviscape red-brown, conical and dorso-ventrally compressed with lateral carinae; aculeus lobed at its tip;
- (3) length of visible portion of oviscape to length of tergite five, 1.36:1.

#### *Comments*

This new species shows similarities to *D. dorsalis*, *D. froggatti*, *D. musae*, *D. obscurus*, *D. abdoniginquus*, *D. trivialis* and *D. vulgaris* in the general yellow markings on thorax, thoracic chaetotaxy and general wing colouration of a narrow fuscous costal band and anal streak. *D. abdonigellus* can be distinguished, however, from the above species in having mesonotum red-brown and abdominal tergites three to five black. *D. moluccensis* and *D. unipunctatus* are similar to *D. abdonigellus* in mesonotum red-brown, general yellow markings on thorax and thoracic chaetotaxy; however, *D. abdonigellus* can be distinguished from the two former species in having abdominal tergites three to five black and lateral post-sutural vittae ending behind upper *p.sa.* bristle.

**Dacus (Strumeta) amplus** sp.n.

(Figure 13)

Fig. 13.—*Dacus (Strumeta) amplus* sp.n. (x 6·8).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, August 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex Dak Pot, August 1969, collected by A. Luckie at Vudal, near Keravat, New Britain.

*Holotype* (Reg. No. T. 6942) in the Queensland Museum; 2 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A large, dark coloured species, facial spots oval, thorax glossy black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral calli and scutellum yellow, notopleural calli dark fuscous to black, wing with a broad dark fuscous costal band expanding apically to cover apex of wing, a very broad dark fuscous band running across wing from costal band to hind margin, a broad dark fuscous anal streak on wing, costal cells dark fulvous with microtrichia in all of second cell and outer half of first cell, abdomen with a black band on basal half of second tergite and a broad medial and two broad lateral longitudinal black bands running from basal band on tergite two to apex of tergite five.

*Male*

Length 8·8 mm; wing 7·4 mm.

*Head*.—Generally fulvous. Vertical length 1·9 mm. Bristles black. *Frons* narrowing slightly posteriorly; length 1·75 times breadth; dark fulvous with no fuscous markings; antero-medial hump covered with short fuscous setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule dark fulvous. *Ocellar triangle* black. *Vertex* dark fulvous. *Face* fulvous with oval, black facial spots, not reaching epistoma; width

of spot (0.24 mm) greater than width of third antennal segment; length of face 0.57 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle black. *Occiput* dark fuscous to black, dorsally, fulvous ventrally, fulvous along eye margin; occipital row with 6–8 well developed black bristles each side. *Antennae* fulvous except distinct fuscous on apex, upper margin and outer surface of third segment; a strong fuscous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.26 mm; 0.40 mm; 1.14 mm.

*Thorax*.—Glossy black with no brown markings. Yellow markings as follows: humeral calli; medium sized mesopleural stripe, extending to anterior *npl.* bristle above and continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, parallel sided, lateral post-sutural vittae ending at the upper *p.sa.* bristle. Notopleural callus dark fuscous to black. *Postnotum* glossy black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *npl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except first coxae fuscous, second and third coxae black; rows of short, dark coloured setae on upper surface of fore femora; middle tibiae each with an apical black spur. *Wings*: costal cells dark fulvous, microtrichia in all of second costal cell and outer  $\frac{1}{2}$  of first costal cell; remainder of wings colourless except dark fulvous stigma, broad dark fuscous costal band expanding apically to cover the apical portion of wing, a very broad dark fuscous band running across wing from costal band to hind margin of wing and being slightly recurved along lower margin of vein  $M_{3+4}$ , the apical area of colouration may be connected to the broad medial band by a fine line of colouration each side of vein  $M_{1+2}$ , broad dark fuscous anal streak ending at wing margin and including area covered by dense aggregation of microtrichia. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.87:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in proportion of 1.94:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.63:1.

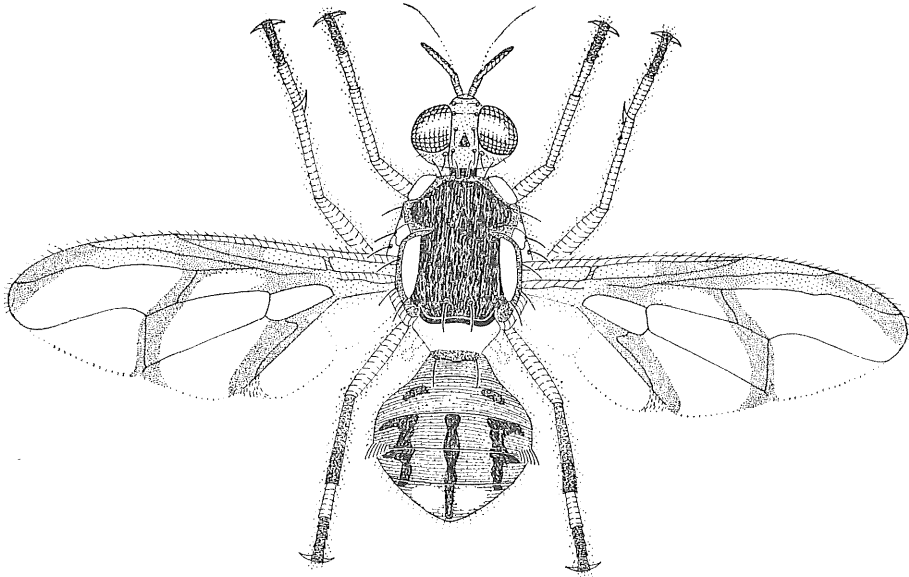
*Abdomen*.—Elongate oval; tergites free; pecten present on third abdominal tergite. First tergite black except a medial transverse orange-brown line apically, along intersegmental line between tergites one and two; tergites two to five orange-brown except a black band on basal half of tergite two, two broad lateral and one broad medial black bands running longitudinally from transverse basal band on tergite two to apex of abdomen; the medial longitudinal black band ends just before apex of tergite five. A pair of shining spots on tergite five.

#### Comments

This new species shows similarities to *Dacus* (*Strumeta*) *biarcuatus* Walker as follows: thorax black; thoracic chaetotaxy; wings with costal cells dark fulvous; broad dark infuscation across wing. *D. amplus* differs from *D. biarcuatus* in the following characters: notopleural callus black; lateral post-sutural vittae ending at upper *p.sa.* bristle; legs primarily fulvous; wing colour pattern; abdomen with tergites two to five fulvous except two broad lateral and one broad medial longitudinal black bands running from transverse black band on base of tergite two to posterior margin of tergite five. *D. amplus* is similar to *D. distinctus* in abdominal colouration and general colour pattern of thorax; however, *D. amplus* differs from the latter species in the possession of distinct facial spots and a much broader fuscous band across wing.

**Dacus (Strumeta) anomalus** sp.n.

(Figure 14)

Fig. 14.—*Dacus (Strumeta) anomalus* sp.n. (x 9.0).

*Types*: NEW HEBRIDES: *Holotype* male, 11 male *paratypes* ex lure traps charged with cue lure, January 1970, collected by E. Kanas at Vila, Efate Island. 1 male *paratype* ex lure trap charged with methyl eugenol, January 1970, collected by E. Kanas at Vila, Efate Island. 2 male *paratypes* ex lure trap charged with cue lure, April-May 1970, collected by D. Malosu at Malekula Island. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April-May 1970, collected by D. Malosu at Malekula Island. 2 male *paratypes* ex lure trap charged with methyl eugenol, April-May 1970, collected by D. Malosu at Malekula Island.

*Holotype* (Reg. No. T. 6943) and 1 *paratype* (Reg. No. T. 6944) in the Queensland Museum; 2 *paratypes* in the British Museum (Natural History); remaining 9 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots medium sized and circular, thorax dull black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fuscous costal band and anal streak, a transverse fuscous band across wing from costal band to hind margin and enveloping r-m and Im cross veins, costal cells fulvous with microtrichia in outer portion of second costal cell only, abdomen with tergites three to five fulvous except two irregular lateral longitudinal glossy black bands and a broad medial longitudinal glossy black band.

*Male*

Length: *Holotype* 6.8 mm, range for type series 5.7–7.1 mm, mean 6.6 mm.

Wing: *Holotype* 5.8 mm, range for type series 5.2–6.6 mm, mean 6.0 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.6 mm, range for type series 1.5–1.8 mm, mean 1.6 mm. *Frons* narrowing posteriorly; length

1.7 times breadth; fulvous with no dark markings; antero-medial hump covered with short pale setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule dark fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous medium sized, irregularly circular facial spots not reaching epistoma; width of spot (0.14 mm) less than width of third antennal segment; length of face 0.49 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle black. *Occiput* fulvous except yellow along eye margin; occipital row strong with 4–8 well developed black bristles each side. *Antennae* fulvous except fuscous on the apex and upper edge of the third segment; a strong fuscous bristle on the second segment; arista fulvous proximally (remainder fuscous); length of segments: 0.18 mm; 0.31 mm; 0.78 mm.

*Thorax*.—Dull black except brown markings as follows: below humeral calli; above middle coxae; below wings; below and behind lateral post-sutural vittae; along mesonotal suture; above notopleural calli; between humeral and notopleural calli dorsal to notopleural suture; around humeral calli along anterior margin of mesonotum. The brown patterns vary in size and shape in some specimens. Yellow markings as follows: humeral calli; notopleural calli; mesopleural stripe of medium width ending midway between anterior margin of notopleural callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two broad, lateral post-sutural vittae narrowing posteriorly to end before the upper *p.sa.* bristle. *Post-notum* black. *Scutellum* yellow except for fuscous on apex between bristles and a narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *npl.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except apical four segments of all tarsi fuscous and hind tibiae dark fulvous tending fuscous on apical  $\frac{1}{3}$ ; rows of long dark setae on dorsal surface of fore femora and one row of longer pale setae on ventral surface; middle tibiae each with an apical black spur. *Wings*: costal cells fulvous, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, broad fuscous costal band which is paler between extremities of veins  $R_1$  and  $R_{2+3}$  and is confluent with vein  $R_{4+5}$  and overlaps this vein at its apex to end midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a transverse fuscous band running across wing from costal band to hind margin and enveloping *r-m* and *Im* cross veins, broad fuscous anal streak ending at wing margin and including area covered by dense aggregation of microtrichia. Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.82:1, range for type series 0.82:1–0.96:1, mean 0.91:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 2.45:1, range for type series 2.28:1–3.00:1, mean 2.68:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.47:1 in *holotype*, 2.06:1–2.79:1 range for type series, 2.45:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. All tergites fulvous except two black transverse central spots lateral of medial line on tergite two, two irregularly shaped lateral longitudinal glossy black bands on tergites three to five, a broad medial longitudinal glossy black band beginning on anterior margin of tergite three and narrowing posteriorly to end just before posterior margin of tergite five. A pair of shining spots on tergite five.

#### Comments

Several species of *Strumeta* are similar to this new species. *D. distinctus*, *Dacus* (*Strumeta*) *unifasciatus* Malloch, *D. pseudodistinctus* and *Dacus* (*Strumeta*) *unistriatus* sp.n. are similar to *D. anomalus* in the following characters: mesonotum black; general colour patterns of thorax; wing colour patterns. In

addition, *D. distinctus* is similar in the scutellum being yellow with apex tinged with fuscous and in leg colour patterns, while *D. unifasciatus* is similar in lateral post-sutural vittae ending before the upper *p.sa.* bristle. *D. distinctus* differs from *D. anomalus* in the following characters: facial spots very small and faint; costal cells dark fuscous; costal band overlaps vein  $R_{4+5}$  along complete length of wing; lateral post-sutural vittae ending at upper *p.sa.* bristle; abdomen with base of tergite two black, two lateral longitudinal black bands running from basal band on tergite two to posterior margin of abdomen and a medial longitudinal black band running over tergites three to five. *D. unifasciatus* differs from *D. anomalus* in the following characters: costal cells pale fuscous; legs fulvous except hind tibiae dark fulvous; abdomen orange-brown except with two lateral and one medial longitudinal black bands running from anterior margin of tergite two to posterior margin of abdomen. *D. pseudodistinctus* differs from *D. anomalus* in the following characters: first costal cell fulvous, second costal cell fuscous; legs fulvous except hind tibiae dark fulvous; lateral post-sutural vittae ending at upper *p.sa.* bristle; abdomen with a broad medial longitudinal dark fuscous band running from a broad transverse fuscous band on base of tergite two to posterior margin of abdomen and two broad lateral longitudinal brown bands running over tergites three to five. *D. unistriatus* differs from *D. anomalus* in the following characters: costal cells pale fulvous; legs fulvous except apical  $\frac{1}{3}$  of fore femora pale fuscous, apical  $\frac{1}{3}$  of mid and hind femora dark fulvous, hind tibiae and apical four segments of fore tarsi pale fuscous; abdomen fulvous except with a narrow medial longitudinal fuscous stripe running from transverse fuscous band on base of tergite two to posterior margin of tergite five, two broad lateral fuscous bands running from tergite three to posterior margin of tergite five.

***Dacus (Strumeta) anthracinus* sp.n.**

(Figure 15)

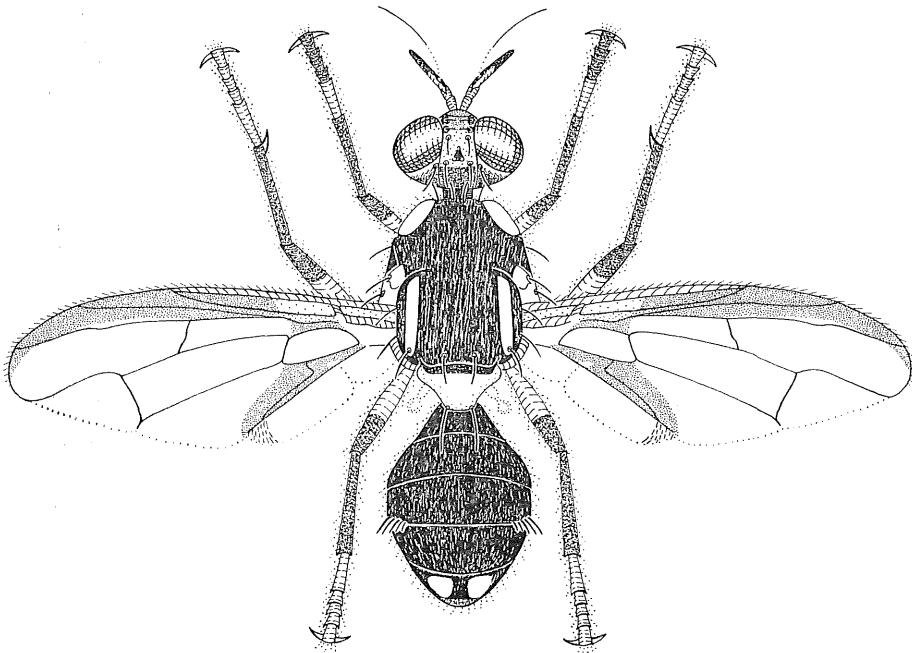


Fig. 15.—*Dacus (Strumeta) anthracinus* sp.n. (x 8.3).

*Type*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, October 1969, collected by D. F. O'Sullivan at Upper Warangoi Valley, New Britain.

*Holotype* (Reg. No. T. 6945) in the Queensland Museum.

A dark coloured, medium sized species, facial spots very large and trapezoidal, thorax black, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and a broad fuscous anal streak, costal cells fulvous with microtrichia in outer portion of second costal cell only, abdomen black.

#### *Male*

Length 7.8 mm; wing 6.8 mm.

*Head*.—Generally fulvous. Vertical length 1.7 mm. *Frons* narrowing slightly posteriorly; length 1.67 times breadth; fulvous except fuscous around lower pair of *i.or.* bristles and on antero-medial hump; latter covered with short dark coloured setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fuscous. *Ocellar triangle* black. *Vertex* dark fulvous. *Face* fulvous with very large trapezoidal facial spots; width of spot (0.23 mm) greater than width of third antennal segment; length of face 0.53 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle fuscous. *Occiput* fuscous except yellow along eye margin; occipital row with 7 well developed black bristles each side. *Antennae* fulvous except with fuscous on the apex and outer surface of the third segment; a well developed, red-brown bristle on the second segment; arista fulvous proximally (remainder black); length of segments: 0.23 mm; 0.36 mm; 0.92 mm.

*Thorax*.—Black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe, equal in width to notopleural callus above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{3}{4}$  lower hypopleural callus (remainder black); two moderately broad, parallel sided, lateral post-sutural vittae ending behind the upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for broad black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: coxae fuscous; apical  $\frac{1}{2}$  of fore femora, apical  $\frac{1}{4}$  of mid femora and apical  $\frac{3}{8}$  of hind femora fuscous, remainder fulvous; all tibiae fuscous; tarsi fulvous except apical four segments of fore tarsi fuscous; rows of strong dark coloured setae on dorsal surface of fore femora; middle tibiae each with an apical black spur. *Wings*: costal cells fulvous (second costal cell paler), microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, a narrow fuscous costal band extending almost to vein  $R_{4+5}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad fuscous anal streak ending at wing margin and continuing onto area covered by dense aggregation of microtrichia, an indefinite extremely pale fulvous marking across centre of wing. Super-numerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.72:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 1.85:1. Proportion of anal cell extension  $Cu_1 + 1A$ , 2.25:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. All tergites black except posterior margin of tergite five fuscous. A pair of shining spots on tergite five.

#### *Comments*

This new species is similar to several species of *Strumeta*, viz. *D. froggatti*, *D. obscurus*, *O. abdolonginquus*, *D. abdonigellus*, *D. trivialis* and *D. vulgaris* in



the following characters: mesonotum black; general thoracic colour patterns; wing colour patterns with narrow fuscous costal band and broad anal streak. *D. anthracinus* differs, however, from the abovenamed species in the following characters: thorax and abdomen predominantly black; legs with apical portions of femora, all tibiae and apical four segments of fore tarsi fuscous. In addition, *D. anthracinus* is similar to *Dacus (Strumeta) nigellus* (Drew) in the thorax and abdomen being predominantly black; however, *D. anthracinus* differs from the latter species in the following characters: facial spots large; costal cells fulvous; lateral post-sutural vittae ending behind upper *p.sa.* bristle; legs with apical portions of femora, all tibiae and apical four segments of fore tarsi fuscous; no pale colour patterns on abdominal tergites. *D. anthracinus* is similar to *Dacus (Strumeta) varipes* Malloch in thorax and abdomen being predominantly black, costal cells fulvous and general thoracic colour patterns; however, *D. anthracinus* differs from the latter species in the following characters: costal band not confluent with vein  $R_{4+5}$ ; lateral post-sutural vittae ending behind upper *p.sa.* bristle; leg colour patterns as described above; abdominal tergites with no pale coloured markings.

***Dacus (Strumeta) denigratus* sp.n.**

(Figure 16)

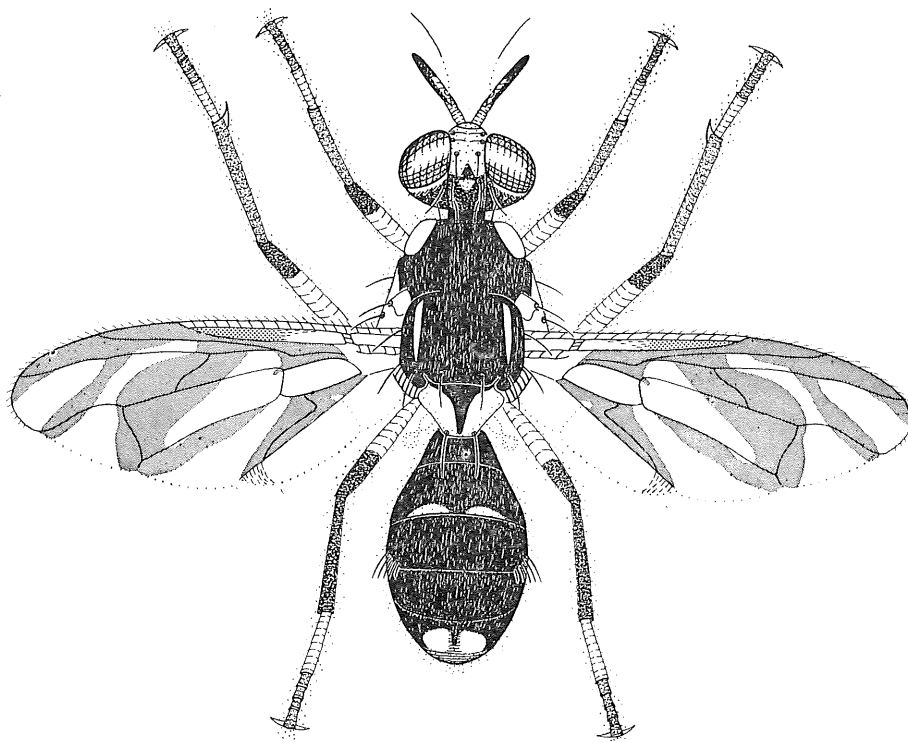


Fig. 16.—*Dacus (Strumeta) denigratus* sp.n. (x 9.4).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April 1970, collected by D. F. O'Sullivan at Namatanai, New Ireland; 1 male *paratype* ex lure

trap charged with cue lure, April 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island; 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, May 1970, collected by R. M. Berena at Kieta, Bougainville Island.

*Holotype* (Reg. No. T. 6946) in the Queensland Museum; 1 *paratype* in British Museum (Natural History); 1 *paratype* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized, dark coloured species, facial spots large and oval, thorax dull black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow except medial triangular back marking on dorsal surface, wing with a broad fuscous costal band and anal streak, an irregular broad fuscous band across wing which envelopes both cross veins and recurves back from hind wing margin along vein  $M_{1+2}$ , a narrow fuscous band across apex of wing, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen generally dull black except fulvous markings on posterior margin of tergite two and red-brown on posterior margin of tergite five.

#### Male

Length 7.1 mm; wing 5.5 mm.

*Head*.—Generally fulvous. Vertical length 1.5 mm. *Frons* narrowing slightly posteriorly; length 1.74 times breadth; fulvous with, at most, very pale fuscous markings around orbital bristles; antero-medial hump covered with short dark setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with large oval facial spots reaching epistoma; width of spot (0.26 mm) greater than width of third antennal segment; length of face 0.45 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle fuscous. *Occiput* fuscous except fulvous along eye margin and fulvous spot behind ocellar triangle; occipital row with 4–7 well developed black bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of the third segment; a well developed dark fulvous bristle on the second segment; arista fulvous proximally (remainder black); length of segments: 0.29 mm; 0.37 mm; 1.00 mm.

*Thorax*.—Dull black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; mesopleural stripe of medium width ending midway between anterior margin of notopleural callus and anterior *npl.* bristle above, not continuing onto sternopleuron below, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (except ventral margin and posterior  $\frac{2}{3}$  black); two narrow, lateral post-sutural vittae narrowing posteriorly to end before the upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except narrow black basal band and narrow medial longitudinal black band ending before apex of scutellum. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fuscous. *Legs*: all coxae fuscous; femora fulvous except apical  $\frac{1}{3}$  fore femora, apical  $\frac{2}{3}$  mid femora and apical  $\frac{1}{3}$  hind femora fuscous; fore and mid tibiae pale fuscous and hind tibiae fuscous; tarsi fulvous except apical four segments of all tarsi pale fuscous; rows of long dark setae on dorsal surface of fore femora; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, broad fuscous costal band confluent with vein  $R_{4+5}$  (except small area distal to r-m cross vein) and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , broad fuscous transverse band across wing from costal band to hind margin which envelopes both cross veins and recurves back along posterior surface of vein  $M_{3+4}$ , narrow

fuscous transverse band across apex of wing, broad fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion of 0.90:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 1.93:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.23:1.

*Abdomen*.—Elongate oval; tergites free; pecten present on third abdominal tergite. Tergite one dull black; tergite two dull black except two small fulvous areas on hind margin each side of medial fuscous band; tergites three and four dull black; tergite five dull black except fuscous oval spots and orange-brown posterior margin which may extend up between the oval spots. A pair of shining spots on tergite five.

#### Comments

This new species is similar to *Dacus (Strumeta) lampabilis* sp.n. and *Dacus (Strumeta) triseriatus* sp.n. in having infuscation on wing other than costal band and anal streak, thorax generally black, scutellum yellow except for a triangular black mark on dorsal surface. *D. denigratus* differs from the two abovenamed species in the following characters: size and shape of lateral post-sutural vittae; shape of black mark on dorsal surface of scutellum; legs with apical portions of femora and hind tibiae fuscous, fore and mid tibiae and apical four segments of all tarsi pale fuscous; an irregular, recurved fuscous band across centre of wing and a narrow fuscous band across apex of wing. *D. denigratus* is similar to *D. seguyi* and *D. amplus* in thorax generally black and the general shape of wing colour patterns; however, *D. denigratus* differs from the two latter species in the following characters: lateral post-sutural vittae narrow and short; triangular black mark on dorsal surface of scutellum; leg colour patterns as described above; costal cells colourless; abdomen generally black.

#### *Dacus (Strumeta) dyscritus* sp.n.

(Figure 17)

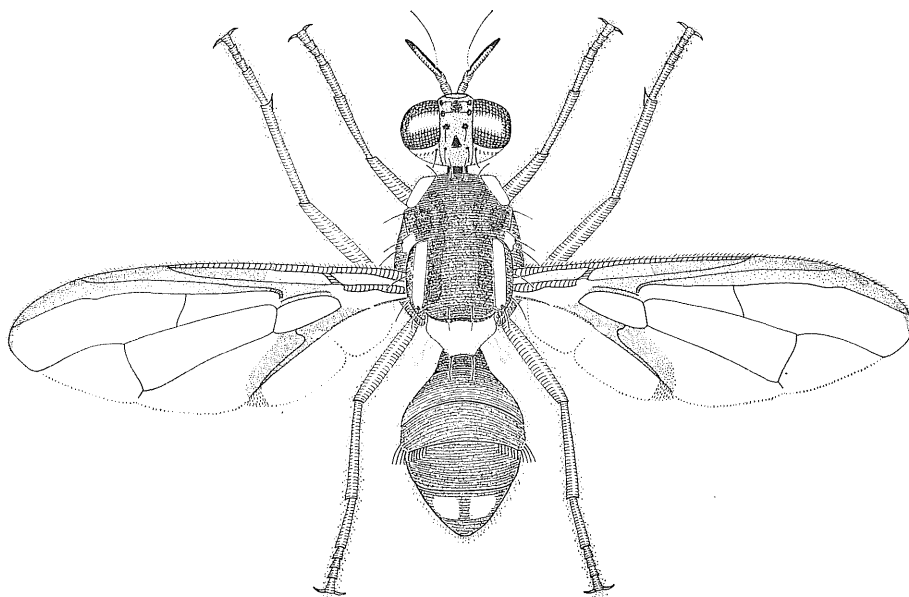


Fig. 17.—*Dacus (Strumeta) dyscritus* sp.n. (x 7.3).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 6 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 5 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, August 1969, collected by A. Luckie at Vudal, near Keravat, New Britain. 2 male *paratypes* ex lure trap charged with 1-(acetoxyphenyl)-butan-3-one, August 1969, collected by R. M. Berena at Salelubu, New Britain. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, October 1969, collected by A. Luckie at Vudal, near Keravat, New Britain. 3 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, October 1969, collected by D. F. O'Sullivan at Upper Warangoi Valley, New Britain.

*Holotype* (Reg. No. T. 6947) and 1 *paratype* (Reg. No. T. 6948) in the Queensland Museum; 2 *paratypes* in the British Museum (Natural History); 3 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; remaining 11 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A large, pale coloured species, facial spots trapezoidal, thorax completely red-brown, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a broad pale fuscous costal band and anal streak, costal cells pale fulvous with microtrichia in outer portion of second costal cell only, abdomen pale orange-brown.

#### Male

Length: *Holotype* 7.8 mm, range for type series 7.4–8.4 mm, mean 7.8 mm.

Wing: *Holotype* 6.7 mm, range for type series 6.0–6.7 mm, mean 6.5 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.7 mm, range for type series 1.6–1.8 mm, mean 1.7 mm. *Frons* narrowing slightly posteriorly; length 1.58 times breadth; fulvous except pale fuscous around orbital bristles; antero-medial hump very prominent, tending pale fuscous and covered with short fuscous setae; bristles dark red-brown: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with trapezoidal facial spots slightly drawn out to a point anteriorly, but not reaching epistoma; width of spot (0.21 mm) greater than width of third antennal segment; length of face 0.51 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle red-brown. *Occiput* fulvous except yellow along eye margin; occipital row with 3–6 strong, red-brown bristles and many weak pale bristles each side. *Antennae* fulvous with fuscous on the apex and outer surface of the third segment; a pale fulvous bristle on the second segment; arista fulvous proximally (remainder black); length of segments: 0.25 mm; 0.33 mm; 0.95 mm.

*Thorax*.—Rich red-brown with pale fuscous markings as follows: on sternopleuron, along anterior margin of mesopleural stripe, posterior to mesopleural stripe, on mesonotum between humeral calli and lateral post-sutural vittae, a band running down each side of mesonotum from just inside humeral calli along inside of lateral post-sutural vittae to end just before level of upper *p.sa.* bristle. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe, reaching midway between anterior margin of notopleural callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin slightly convex; upper hypopleural callus (posterior apex red-brown); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder red-brown); two moderately broad, parallel sided, lateral post-sutural vittae ending behind upper *p.sa.* bristle. *Postnotum* red-brown. *Scutellum* yellow except for narrow red-brown basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and red-brown. *Legs*: fulvous; middle tibiae each with an apical red-brown spur. *Wings*: costal cells pale fulvous, microtrichia in outer portion of

second costal cell only; remainder of wings extremely pale fulvous except for fulvous stigma, broad pale fuscous costal band confluent with vein  $R_{4+5}$  (except for a small pale fulvous area above this vein towards centre of wing) and ending between the extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , broad pale fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.78:1, range for type series 0.77:1–0.88:1, mean 0.81:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.63:1, range for type series 1.44:1–1.71:1, mean 1.60:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.23:1 in *holotype*, 2.81:1–3.31:1 range for type series, 3.16:1 mean.

*Abdomen*.—Elongate oval; tergites free; pecten present on third abdominal tergite. Tergite one orange-brown (may darken towards fuscous); tergites two to five pale orange-brown; posterior part of tergite two tending whitish. A pair of shining spots on tergite five.

#### Comments

This new species is similar to *D. moluccensis* and *D. unipunctatus* in the thorax being generally red-brown, shape of wing colour patterns, legs generally fulvous, abdomen pale coloured. *D. dyscritus* differs, however, from the above-named species in the following characters: costal band confluent with vein  $R_{4+5}$ ; abdomen orange-brown with no dark markings. *D. ochromarginis* and *D. abdo-fuscatus* are similar pale coloured species with wing colour patterns of narrow costal band and anal streak. *D. ochromarginis* differs from *D. dyscritus* in humeral and notopleural calli connected by broad yellow band and *prsc.* bristles absent. *D. abdo-fuscatus* differs in the thorax and abdomen being primarily fuscous.

#### *Dacus (Strumeta) ebeneus* sp.n.

(Figure 18)

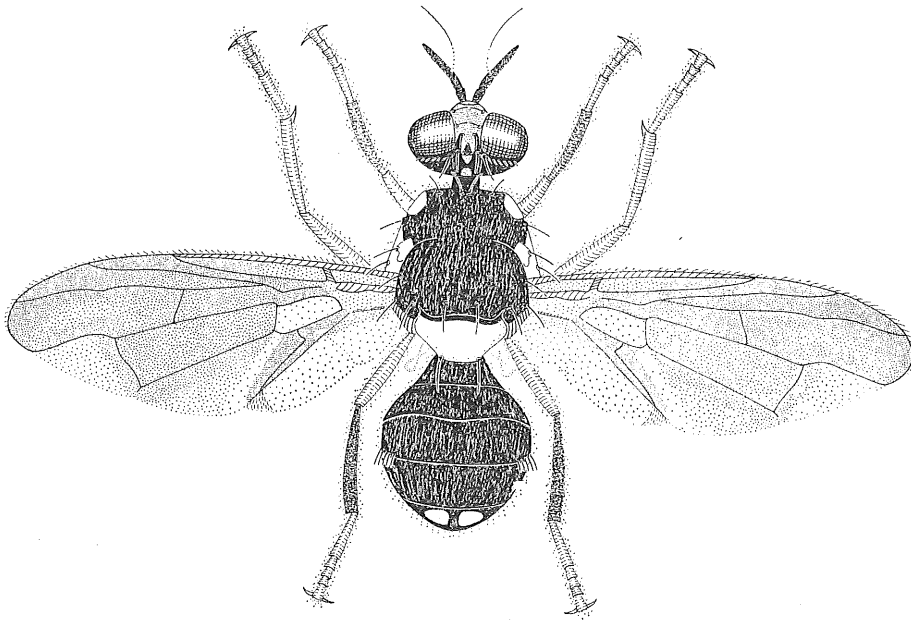


Fig. 18.—*Dacus (Strumeta) ebeneus* sp.n. (x 7.3).

*Types*: NEW CALEDONIA: *Holotype* male, 3 male *paratypes* ex lure trap charged with methyl eugenol, December 1966, collected by P. Cochereau at Nouméa. 1 male *paratype* ex lure trap charged with cue lure, November 1967, collected by P. Cochereau at Dumbea.

*Holotype* (Reg. No. T. 6949) in the Queensland Museum; 1 *paratype* in British Museum (Natural History); 3 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized, glossy black species, facial spots absent, thorax glossy black, lateral post-sutural vittae absent, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fuscous costal band and anal streak, a diffuse fuscous colouration across wing membrane, costal cells fuscous with microtrichia in outer third of second costal cell only, abdomen completely glossy black.

#### *Male*

Length: *Holotype* 7.7 mm, range for type series 7.2–8.0 mm, mean 7.6 mm.

Wing: *Holotype* 7.0 mm, range for type series 6.8–7.1 mm, mean 7.0 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.7 mm, range for type series 1.6–1.8 mm, mean 1.7 mm. *Frons* narrowing slightly posteriorly; length 1.54 times breadth; dark fulvous except a black line running from each side of the vertex to *s.or.* bristle; antero-medial hump covered with small pale coloured setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule dark fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous, facial spots absent, length of face 0.67 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle black. *Occiput* black except fulvous medially behind ocellar triangle; occipital row strong with 8–11 well developed black bristles each side. *Antennae* with all segments fuscous; a strong black bristle on the dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.19 mm; 0.38 mm; 1.00 mm.

*Thorax*.—Glossy black with no brown markings. Yellow markings as follows: humeral calli (except antero-dorsal angle fuscous); notopleural calli; broad mesopleural stripe, reaching humeral callus above, continuing onto sternopleuron below as a transverse spot, anterior margin greatly convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black). Lateral post-sutural vittae absent. *Postnotum* glossy black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except all coxae black, fore tibiae dark fulvous and hind tibiae fuscous; rows of dark coloured setae on dorsal surface and one row of long pale setae on ventral surface of fore femora; middle tibiae each with an apical black spur. *Wings*: costal cells pale fuscous, microtrichia in outer  $\frac{1}{3}$  of second costal cell only; remainder of wings with broad fuscous costal band confluent with vein  $R_{4+5}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , broad fuscous anal streak reaching wing margin and including area covered by dense aggregation of microtrichia, remainder of wing membrane covered with a diffuse pattern of pale fuscous colouration which is darkest towards the centre of the wing. Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.92:1, range for type series 0.80:1–0.94:1, mean 0.87:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.89:1, range for type series 1.55:1–1.89:1, mean 1.69:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.65:1 in *holotype*, 2.05:1–3.07:1 range for type series, 2.60:1 mean.

*Abdomen.*—Oval; tergites free; pecten present on third abdominal tergite. All tergites completely glossy black. A pair of shining spots on tergite five.

*Comments*

This new species is similar to *Dacus (Asiadacus) pepisalae* Froggatt and *Dacus (Daculus) pagdeni* Malloch in the wings being almost entirely infuscated, scutellum and thoracic calli yellow, and in addition, *D. ebeneus* is similar to *D. pepisalae* in the thorax and abdomen being black. *D. ebeneus* differs from *D. pepisalae* in the following characters: facial spots absent; thoracic chaetotaxy; lateral post-sutural vittae absent; abdominal tergites one and two without fulvous markings. *D. ebeneus* differs from *D. pagdeni* in the following characters: facial spots absent; post-sutural vittae absent; thoracic chaetotaxy; thorax and abdomen glossy black. *D. ebeneus* is similar to *D. exspoliata* and *Dacus (Strumeta) passiflorae* Froggatt in the thorax and abdomen being black, post-sutural vittae absent, thoracic chaetotaxy and general thoracic colour patterns. *D. ebeneus* differs, however, from the last two species mentioned in the wings being almost entirely infuscated, legs fulvous except fore tibiae dark fulvous and hind tibiae fuscous, and in addition, from *D. exspoliata* in lacking facial spots and from *D. passiflorae* in humeral calli yellow.

***Dacus (Strumeta) lampabilis* sp.n.**

(Figure 19)

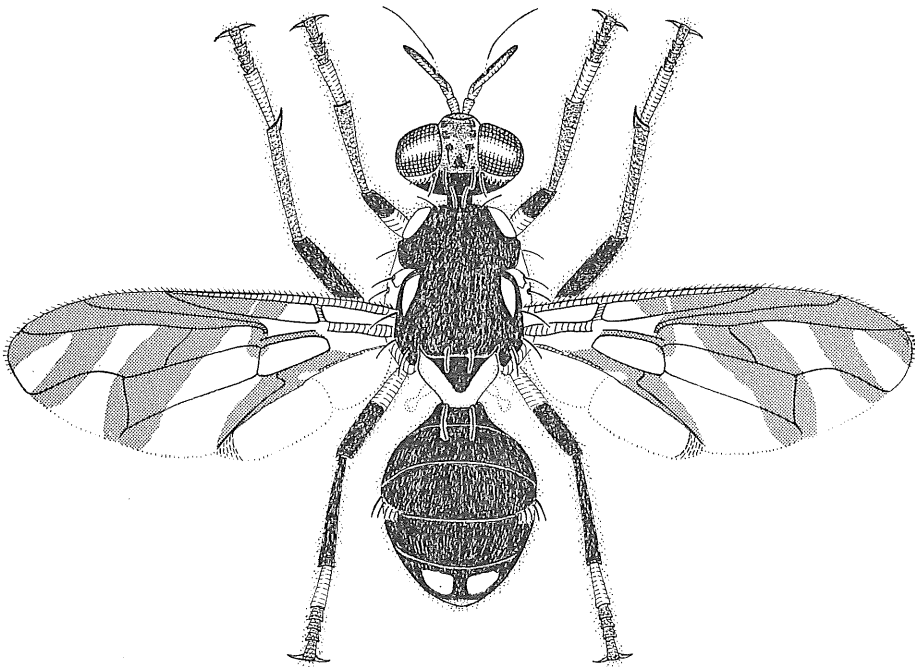


Fig. 19.—*Dacus (Strumeta) lampabilis* sp.n. (x 12·1).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with methyl eugenol, August 1969, collected by R. M. Berena at Salelubu, New Britain. 2 male *paratypes* ex lure trap charged with methyl eugenol, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex lure trap charged with methyl eugenol, October 1969, collected by D. F. O'Sullivan, at Upper Warangoi Valley, New Britain. 3 male *paratypes* ex lure trap charged with methyl eugenol, November 1969 to January 1970, collected by R. M. Berena at Keravat, New Britain. 3 male *paratypes* ex lure trap charged with methyl eugenol, December 1969, collected by R. M. Berena at Napapar, New Britain. 4 male *paratypes* ex lure trap charged with methyl eugenol, January 1970, collected by R. M. Berena at Vanapau, New Britain. 2 male *paratypes* ex lure trap charged with methyl eugenol, January-February 1970, collected by R. M. Berena at Keravat, New Britain. 1 male *paratype* ex lure trap charged with methyl eugenol, July 1970, collected by R. M. Berena at Lakakot Plantation, Lihir Island.

*Holotype* (Reg. No. T. 6950) in the Queensland Museum; 2 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in the British Museum (Natural History); remaining 12 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A glossy black, medium sized species, facial spots oval, thorax glossy black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow except for a glossy black triangle on dorsal surface, wing with a broad fuscous costal band and anal streak, two broad fuscous transverse bands running across wing from costal band to hind margin, costal cells colourless except outer third of second cell fuscous, abdomen completely glossy black except for a small dark fulvous colouration across posterior margin of tergite five.

#### *Male*

Length: *Holotype* 5.9 mm, range for type series 5.3–6.5 mm, mean 5.8 mm.

Wing: *Holotype* 4.8 mm, range for type series 4.1–5.3 mm, mean 4.7 mm.

*Head*.—Generally fulvous. Vertical length 1.35 mm. *Frons* of even width; length 1.6 times breadth; dark fulvous except pale fuscous around orbital bristles and on antero-medial hump; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with large oval, black facial spots nearly reaching epistoma; width of spot (0.19 mm) greater than width of third antennal segment; length of face 0.45 mm. *Genae* fulvous, medium sized, brown, sub-ocular spots present; bristle black. *Occiput* black except yellow along eye margin; occipital row with 5–8 well developed black bristles each side. *Antennae* fulvous except dark fuscous on the apex and outer surface of third segment; a well developed black bristle on the dorsal surface of second segment; arisal fulvous proximally (remainder black); length of segments: 0.21 mm; 0.27 mm; 0.84 mm.



*Thorax*.—Glossy black with no brown markings. Yellow markings as follows: humeral calli (except black along upper margin); notopleural calli; broad mesopleural stripe reaching humeral callus above, continuing onto sternopleuron below as a transverse spot, anterior margin concave; upper hypopleural callus (posterior apex black); anterior  $\frac{3}{4}$  lower hypopleural callus (remainder black); two narrow, short, lateral post-sutural vittae ending just behind level of *a.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for a triangular shaped glossy black area on upper surface with base of triangle along base of scutellum and apex of triangle  $\frac{2}{3}$  distance from apex of scutellum. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles black but sometimes reduced in size. *Legs*: coxae black, fore and hind femora with basal halves fulvous (remainder black), mid femora black, fore and mid tibiae dark fulvous, hind tibiae black, all tarsi with basal segments fulvous and remaining segments dark fulvous; rows of dark setae on upper surface of fore femora; middle tibiae each with an apical black spur. *Wings*: first costal cell colourless, second costal cell with outer  $\frac{1}{3}$  fuscous, microtrichia on infuscated area of second costal cell only; remainder of wings colourless except fuscous stigma, broad fuscous costal band confluent with vein  $R_{4+5}$  and overlapping this vein at its extremity to end between the extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , two broad fuscous bands running across wing from costal band to hind margin, the inner band being twice as wide as the outer band and enclosing both the r-m and Im cross veins, broad fuscous anal streak ending before wing margin and including area covered by dense aggregation of microtrichia. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.86:1, range for type series 0.83:1–0.87:1, mean 0.85:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 2.09:1, range for type series 1.86:1–2.28:1, mean 2.08:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.36:1 in *holotype*, 2.36:1–2.77:1 range for type series, 2.59:1 mean.

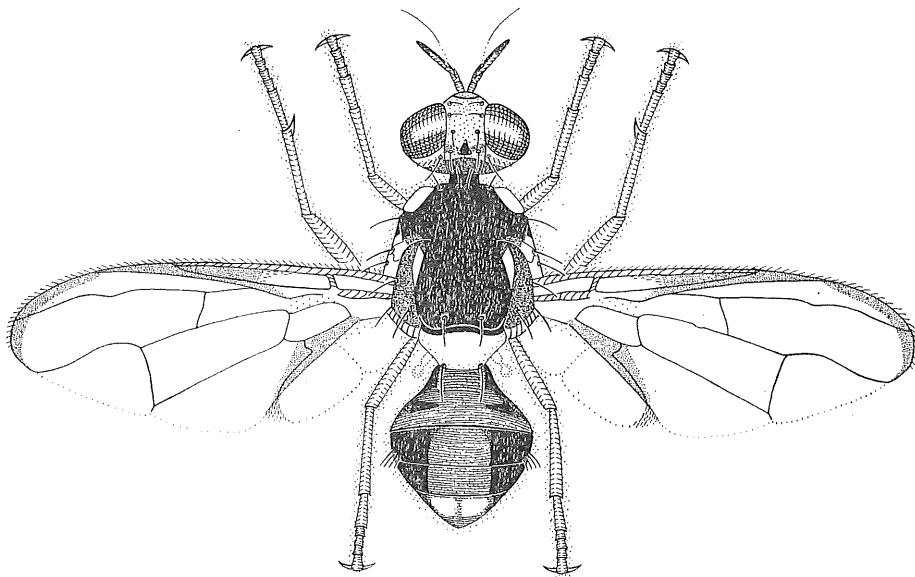
*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergites one to five glossy black except small dark fulvous area across posterior margin of tergite five. A pair of shining spots on tergite five.

#### Comments

This new series is similar to *Dacus* (*Strumeta*) *frauenfeldi* Schiner, *D. denigratus* and *Dacus* (*Strumeta*) *triseriatus* sp.n. in the following characters: wings with a pattern of infuscation other than costal band and anal streak; thoracic chaetotaxy; scutellum yellow with a triangular black marking on dorsal surface. *D. lampabilis* differs from *D. frauenfeldi* and *D. triseriatus* in wing colour pattern of two broad transverse bands across wing from costal band to hind margin, costal cells colourless, humeral calli yellow, mesopleural stripe broad, abdomen primarily black. *D. lampabilis* differs from *D. denigratus* in mesopleural stripe broad, lateral post-sutural vittae very short and broad, two broad transverse bands across wing from costal band to hind margin, legs with apical halves of fore and hind femora and all mid femora black.

**Dacus (Strumeta) mucronis** sp.n.

(Figure 20)

Fig. 20.—*Dacus (Strumeta) mucronis* sp.n. (x 12·1).

*Types*: NEW CALEDONIA: *Holotype* male, ex light trap, March 1966, collected by P. Cochereau at Nouméa. 2 male *paratypes* ex lure trap charged with cue lure, 1966, collected by P. Cochereau at Nouméa. 2 male *paratypes* ex lure trap charged with cue lure, 1967, collected by P. Cochereau at Nouméa. 1 male *paratype* ex lure trap charged with cue lure, November 1969, collected by P. Cochereau at Nouméa. 1 male *paratype*, ex lure trap charged with cue lure, December 1969, collected by P. Cochereau at Nouméa. 1 male *paratype* ex lure trap charged with methyl eugenol, January 1970, collected by P. Cochereau at Sarraméa.

*Holotype* (Reg. No. T. 6951) in the Queensland Museum; 2 *paratypes* in the British Museum (Natural History); remaining 5 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A small species, facial spots absent, thorax glossy black, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and anal streak, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen rich orange-brown except tergites three and four with broad glossy black margins and tergite five with antero-lateral margins fuscous.

*Male*

Length: *Holotype* 4·0 mm, range for type series 4·0–5·0 mm, mean 4·6 mm.

Wing: *Holotype* 4·0 mm, range for type series 4·0–4·6 mm, mean 4·4 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1·1 mm, range for type series 1·1–1·4 mm, mean 1·2 mm. *Frons* of even width; length 1·6 times breadth; fulvous with no dark markings; antero-medial hump covered with a small number

of short pale setae; bristles fulvous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* tending pale fuscous. *Face* fulvous, facial spots absent; length of face 0.40 mm. *Genae* fulvous; sub-ocular spots absent; bristle fulvous. *Occiput* fulvous ventrally tending fuscous dorsally and yellow along eye margin; occipital row with 3–7 well developed dark fulvous bristles each side. *Antennae* fulvous with no dark markings; a very weak, pale fulvous bristle on the dorsal surface of second segment; arista completely fulvous; length of segments: 0.12 mm; 0.22 mm; 0.52 mm.

*Thorax*.—Glossy black except brown markings as follows: below humeral calli, above second coxae, along pleural sutures, a wide band running from notopleural callus along mesonotal suture, below and behind lateral post-sutural vittae (one specimen has black below and behind lateral post-sutural vittae). Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe ending midway between anterior margin of *npl.* callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a brown transverse spot, anterior margin convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two narrow, short, lateral post-sutural vittae tapering posteriorly to end just behind level of *a.sa.* bristle. *Postnotum* black. *Scutellum* yellow except narrow black basal band. *Bristles*: *sc.* 2, *pr.sc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fulvous. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in extreme outer portion of second costal cell only; remainder of wings colourless except fuscous stigma, narrow pale fuscous costal band confluent with vein  $R_{2+3}$ , widening after crossing vein  $R_{2+3}$  at its apex and ending just before extremity of vein  $M_{1+2}$ , narrow pale fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.77:1, range for type series 0.75:1–0.81:1, mean 0.78:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.58:1, range for type series 1.48:1–1.58:1, mean 1.52:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 1.92:1 in *holotype*, 1.92:1–2.45:1 range for type series, 2.15:1 mean.

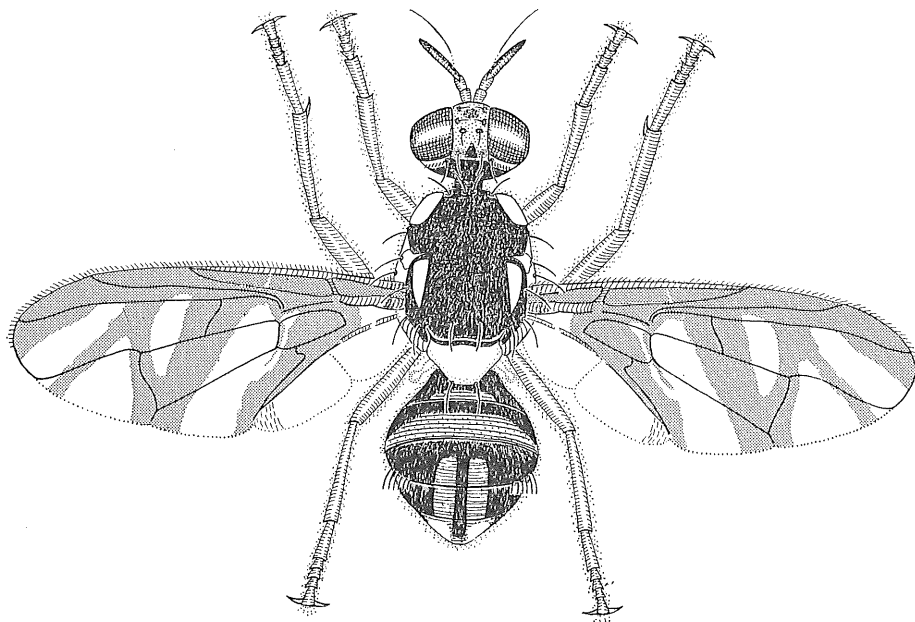
*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one orange-brown centrally with lateral margins glossy black; tergite two orange-brown except a dark transverse band on lateral margins which is fuscous on extreme lateral margin and becoming glossy black internally; tergites three to five orange-brown except broad, lateral, longitudinal bands which are black on tergites three and four and fuscous on antero-lateral margins of tergite five. A pair of shining spots on tergite five.

### Comments

This new species is similar to *D. minutus*, *D. abdopallescens* and *D. perpupillus* in the following characters: facial spots absent; mesonotum black; scutellum yellow; general wing colour pattern; legs generally fulvous. *D. mucronis* differs from *D. minutus* in humeral calli yellow, presence of small lateral post-sutural vittae, legs fulvous, thoracic chaetotaxy, abdomen with broad glossy black margins on tergites three to five. *D. mucronis* differs from *D. abdopallescens* in lateral post-sutural vittae being very short, both costal cells colourless, thoracic chaetotaxy, abdomen with broad glossy black margins on tergites three to five. *D. mucronis* differs from *D. perpupillus* in presence of small lateral post-sutural vittae, no yellow triangular markings above notopleural calli, costal cells colourless, thoracic chaetotaxy, abdomen with broad glossy black margins on tergites three to five.

**Dacus (Strumeta) nigrescentis** sp.n.

(Figure 21)

Fig. 21.—*Dacus (Strumeta) nigrescentis* sp.n. (x 10.6).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 6 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 5 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, July 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 10 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, August 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, August 1969, collected by A. Luckie at Vudal, near Keravat, New Britain. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, February 1970, collected by R. Berena at Keravat, New Britain. 4 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island. 20 male *paratypes* ex lure trap charged with cue lure, April 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island. 14 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, May 1970, collected by R. Berena at Daru Village, Bougainville Island. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Nabaku Village, near Piano, Bougainville Island. 2 male *paratypes* ex lure trap charged with cue lure, June 1970, collected by

R. Berena at Nabaku Village, near Piano, Bougainville Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Piano, Bougainville Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Buin, Bougainville Island. 5 male *paratypes* ex lure trap charged with cue lure, June 1970, collected by R. Berena at Yura Village, Buin, Bougainville Island.

*Holotype* (Reg. No. T. 6952) and 2 *paratypes* (Reg. Nos. T. 6953 and T. 6954) in the Queensland Museum; 10 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in the British Museum (Natural History); remaining 58 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A small dark coloured species, facial spots rounded, thorax glossy black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with a broad dark fuscous costal band and anal streak, a dark fuscous Z-shaped marking across wing, costal cells pale fuscous with microtrichia in all of second costal cell and outer third of first costal cell, abdomen with two broad lateral glossy black bands and a distinct medial glossy black band running longitudinally from glossy black transverse band on base of tergite three to posterior margin of abdomen.

#### *Male*

Length: *Holotype* 5.0 mm, range for type series 5.0–6.5 mm, mean 5.7 mm.

Wing: *Holotype* 4.3 mm, range for type series 4.1–5.4 mm, mean 4.7 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.1 mm, range for type series 1.1–1.6 mm, mean 1.34 mm. *Frons* narrowing slightly posteriorly; length 1.68 times breadth; fulvous tending yellow along anterior lateral corners and fuscous around orbital bristles and on antero-medial hump; latter covered with short, dark coloured setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with distinct black facial spots tending circular in shape; width of spot (0.12 mm) less than width of third antennal segment; length of face 0.42 mm. *Genae* fulvous; large, brown, sub-ocular spots present; bristle black. *Occiput* black except yellow along eye margin; occipital row with 5–7 well developed black bristles each side. *Antennae* fulvous except fuscous on apex and outer surface of the third segment; arista fulvous proximally (remainder black); short bristles on first and second segments are generally well developed and black; length of segments: 0.15 mm; 0.24 mm; 0.71 mm.

*Thorax*.—Glossy black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe, reaching humeral callus above, continuing onto sternopleuron below as a small transverse spot, anterior margin slightly concave; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two broad, triangular, lateral post-sutural vittae ending in a point well before upper *p.sa*.

bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except middle and hind coxae fuscous; middle tibiae each with an apical black spur; fore femora with rows of long black setae on upper surface. *Wings*: costal cells fuscous (tending paler than other fuscous markings), microtrichia covering all of second costal cell and outer  $\frac{1}{3}$  of first costal cell; remainder of wings colourless except pale fuscous stigma, broad fuscous costal band overlapping vein  $R_{4+5}$  except at centre of wing, broad Z-shaped dark fuscous marking running from costal band at region of r-m cross vein (surrounding r-m cross vein) to hind margin of wing, then curving back to surround  $1m$  cross vein and meeting costal band above  $1m$  cross vein and then turning back to run across outer part of vein  $M_{1+2}$  and ending at wing margin just below vein  $M_{1+2}$ , a very broad fuscous anal streak running from costal band across cell  $M$  and anal cell to end at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportion: *holotype* 0.87:1, range for type series 0.80:1–0.94:1, mean 0.88:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.23:1, range for type series 1.09:1–1.42:1, mean 1.24:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3:1 in *holotype*, 2.7:1–3.4:1 range for type series, 3.11:1 mean.

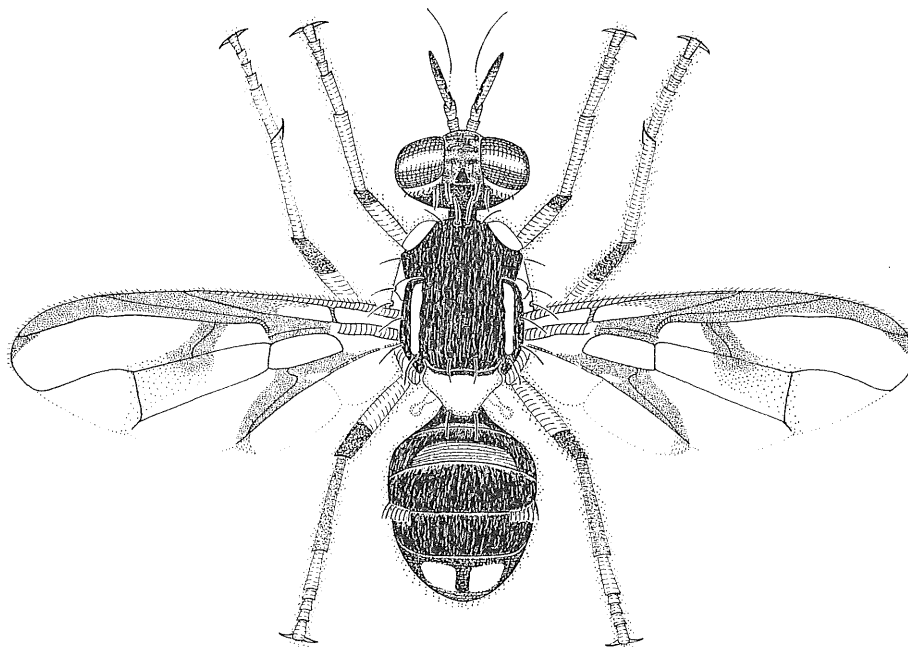
*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black except for a transverse medial fulvous area along intersegmental line between tergites one and two; tergite two fulvous except for a narrow black basal band widening laterally; tergites three to five orange-brown except basal  $\frac{1}{3}$  of tergite three glossy black and merging into broad glossy black longitudinal bands laterally and a broad medial glossy black longitudinal band running from basal band on tergite three to end just before posterior margin of tergite five. A pair of shining spots on tergite five.

#### Comments

This new species is similar to *Dacus (Strumeta) recurrens* (Hering), *Dacus (Strumeta) reduncus* sp.n. and *Dacus (Zeugodacus) reflexus* sp.n. in wing colour pattern, general thoracic colour pattern, mesopleural stripe broad, legs fulvous, general abdominal colour pattern. *D. nigrescentis* differs from *D. recurrens* in the following characters: thorax glossy black; lateral post-sutural vittae short; abdomen with two broad lateral glossy black bands and a medial glossy black band on tergites three to five, running from broad transverse glossy black band on base of tergite three. *D. nigrescentis* differs from *D. reduncus* in the following characters: lateral post-sutural vittae short; costal cells pale fuscous; microtrichia in all of second costal cell and outer  $\frac{1}{3}$  of first costal cell; wing colour patterns darker; abdomen with two broad lateral and one medial longitudinal glossy black bands on tergites two to three, running from a broad transverse glossy black band on base of tergite three. *D. nigrescentis* differs from *D. reflexus* in the following characters: face not black; lateral post-sutural vittae short; medial post-sutural vitta absent; notopleural callus yellow; thoracic chaetotaxy; supernumerary lobe of medium development.

**Dacus (Strumeta) nigrinus** sp.n.

(Figure 22)

Fig. 22.—*Dacus (Strumeta) nigrinus* sp.n. (x 10.9).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with methyl eugenol, August 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex lure trap charged with methyl eugenol, June 1969, collected by A. Luckie at Vudal, near Keravat, New Britain. 2 male *paratypes* ex lure trap charged with methyl eugenol, November 1969 to January 1970, collected by R. Berena at Keravat, New Britain. 6 male *paratypes* ex lure trap charged with methyl eugenol, January-February 1970, collected by R. Berena at Keravat, New Britain. 2 male *paratypes* ex lure trap charged with methyl eugenol, February 1970, collected by R. Berena at Napapar, New Britain. 13 male *paratypes* ex lure trap charged with methyl eugenol, April 1970, collected by D. F. O'Sullivan at Namatanai, New Ireland. 3 male *paratypes* ex lure trap charged with methyl eugenol, June 1970, collected by R. Berena at Buin, Bougainville Island. 1 male *paratype* ex lure trap charged with methyl eugenol, June 1970, collected by R. Berena at Mouwake Village, Buin, Bougainville Island.

*Holotype* (Reg. No. T. 6955) in the Queensland Museum; 5 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in the British Museum (Natural History); remaining 21 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A small, dark coloured species, facial spots large and oval, thorax black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fulvous costal

band and anal streak, r-m cross vein infuscated, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen with tergites three and four black and tergite five fuscous except dark fulvous along posterior margin.

### Male

Length 6.2 mm; wing 5.0 mm.

*Head*.—Generally fulvous. Vertical length 1.4 mm. *Frons* narrowing slightly posteriorly; length 1.7 times breadth; fulvous except dark fuscous around orbital bristles and on antero-medial hump; latter covered with short dark coloured setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with large oval black facial spots nearly reaching epistoma; width of spot (0.21 mm) greater than width of third antennal segment; length of face 0.44 mm. *Genae* fulvous; small, pale brown, sub-ocular spots present; bristle black. *Occiput* fuscous except yellow along eye margin; occipital row with 6–8 well developed black bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of the third segment; a well developed fuscous bristle on the second segment; arista fulvous proximally (remainder black); length of segments: 0.22 mm; 0.28 mm; 0.85 mm.

*Thorax*.—Black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; medium sized mesopleural stripe reaching anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, lateral post-sutural vittae, narrowing slightly posteriorly and ending at the upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fore coxae fuscous, middle and hind coxae black; apical  $\frac{2}{3}$  of fore femora, apical  $\frac{1}{2}$  of mid femora and apical  $\frac{1}{3}$  of hind femora fuscous (remainder fulvous); fore and mid tibiae fulvous, hind tibiae pale fuscous; all tarsi fulvous; fore femora with rows of well developed black setae on upper surface; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, fulvous costal band (tending pale fuscous at apex of wing) confluent with vein  $R_{4+5}$  except for a small colourless area above this vein in centre of wing and continuing over vein  $R_{4+5}$  at its extremity to end between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , infuscation along r-m cross vein continuing as an extremely pale fuscous pattern across discoidal cell, broad pale fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.93:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 1.3:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.96:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black except fulvous along posterior margin medially; tergite two fulvous except black along anterior half which expands laterally to cover lateral margins; tergites three and four black; tergite five fuscous on anterior lateral margins and medial stripe extending over half the tergites (remainder dark fulvous). A pair of shining spots on tergite five.

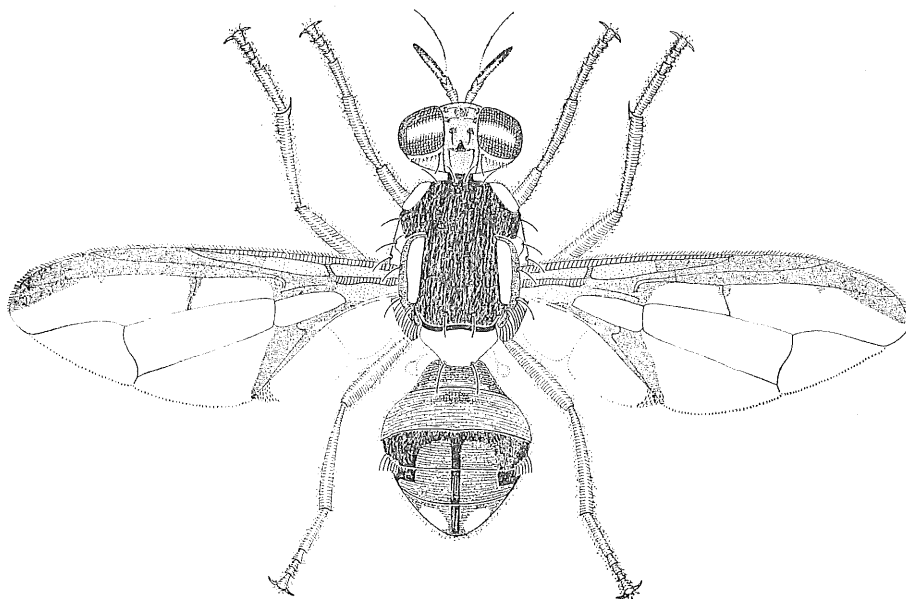


*Comments*

This new species is similar to *Dacus (Strumeta) fulvicauda* (Perkins), *Dacus (Strumeta) obliquus* Malloch, *Dacus (Strumeta) simulatus* Malloch and *D. unistriatus* in the following characters: thorax primarily black; general yellow colour patterns of thorax; general wing colour pattern; thoracic chaetotaxy; and in addition, *D. nigritus* is similar to *D. fulvicauda*, *D. obliquus* and *D. simulatus* in the abdomen being primarily black. *D. nigritus* differs from *D. fulvicauda* in the mesopleural stripe not broad, microtrichia in outer portion of second costal cell only, r-m cross vein infuscated but no distinct band across wing, legs with hind tibiae and apices of femora fuscous. *D. nigritus* differs from *D. obliquus* in face not black, costal band extending over vein  $R_{2+3}$  and r-m cross vein not longer than  $1m$  cross vein, scutellum completely yellow, post-sutural vittae extending to upper *p.sa.* bristle, fore and mid tibiae fulvous. *D. nigritus* differs from *D. simulatus* in costal band not overlapping vein  $R_{4+5}$ , distinct pattern of infuscation around r-m cross vein, microtrichia in outer portion of second costal cell only, legs fulvous except hind tibiae and apices of femora fuscous. *D. nigritus* differs from *D. unistriatus* in costal cells colourless, wing without a distinct transverse fuscous band, abdomen generally black.

***Dacus (Strumeta) phaeus* sp.n.**

(Figure 23)

Fig. 23.—*Dacus (Strumeta) phaeus* sp.n. (x 7.7).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one, plus 1-(p-acetoxyphenyl)-butan-3-one, May 1967, collected by D. F. O'Sullivan

at Keravat, New Britain, 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, October 1969, collected by A. Luckie at Vudal, near Keravat, New Britain. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, December 1969, collected by R. Berena at Napapar, New Britain. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, January-February 1970, collected by R. Berena at Keravat, New Britain. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island.

*Holotype* (Reg. No. T. 6956) in the Queensland Museum; 1 *paratype* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 1 *paratype* in the British Museum (Natural History); remaining 5 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots round, thorax generally dull black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with broad fuscous band and anal streak, r-m cross vein infuscated, costal cells fulvous, abdomen with tergites three to five orange-brown except for a black transverse band along anterior margin of tergite three and a distinct medial black band on tergites three to five.

#### Male

Length 7.6 mm; wing 6.4 mm.

*Head*.—Generally fulvous. Vertical length 1.7 mm. *Frons* narrowing slightly posteriorly; length 1.62 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; latter covered with short dark coloured setae; bristles fuscous to black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with circular, facial spots, not reaching epistoma; width of spot (0.21 mm) equal to width of third antennal segment; length of face 0.53 mm. *Genae* fulvous; small, pale brown, sub-ocular spots present; bristle pale fuscous. *Occiput* fulvous except yellow along eye margin; occipital row strong with 7 dark fuscous bristles each side. *Antennae* fulvous except pale fuscous on the apex and outer surface of the third segment; arista fulvous proximally (remainder black); length of segments: 0.21 mm; 0.36 mm; 0.86 mm.

*Thorax*.—Dull black with brown below humeral calli, above second coxae, lateral to post-sutural vittae; mesonotum covered in a fine golden pubescence. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe, reaching humeral callus above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two broad, lateral post-sutural vittae narrowing posteriorly to end bluntly before upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells fulvous, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, broad fuscous costal band confluent with vein  $R_{4+5}$  and overlapping this vein at its extremity to end midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , infuscation around r-m cross vein, broad fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.91:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 1.42:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.65:1.

*Abdomen.*—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous except fulvous area along posterior margin medially; tergite two fulvous except a small transverse anterior fuscous mark; tergites three to five orange-brown except black along anterior margin of tergite three expanding laterally to cover outer  $\frac{1}{2}$  of tergite three and anterior lateral corner of tergite four and a broad medial black band running from the transverse black basal band on tergite three to end just before posterior margin of tergite five. A pair of shining spots on tergite five.

*Comments*

This new species is similar to *Dacus (Strumeta) bryoniae* (Tryon), *D. curvipennis*, *D. simulatus* and *D. nigrinus* in the following characters: mesonotum black; general thoracic colour patterns; thoracic chaetotaxy; general colour pattern of wings. *D. phaeus* is most closely related to *D. bryoniae*; however, it can be separated from the latter species in mesopleural stripe broad (reaching humeral callus above), r-m cross vein infuscated, lateral post-sutural vittae ending before upper *p.sa.* bristle, abdomen basically orange-brown with anterior margin of tergite three and broad medial band on tergites three to five black and lateral margin of tergite three and antero-lateral margin of tergite four black. *D. phaeus* differs from *D. curvipennis* in facial spots present, mesopleural stripe broad, legs fulvous, abdomen with a broad medial longitudinal band on tergites three to five. *D. phaeus* differs from *D. simulatus* in mesopleural stripe broad, costal band not overlapping vein  $R_{4+5}$ , r-m cross vein distinctly infuscated, legs fulvous, abdomen not completely black. *D. phaeus* differs from *D. nigrinus* in mesopleural stripe broad, costal band confluent with vein  $R_{4+5}$ , costal cells fulvous, legs fulvous, abdomen not completely black.

***Dacus (Strumeta) pseudodistinctus* sp.n.**

(Figure 24)

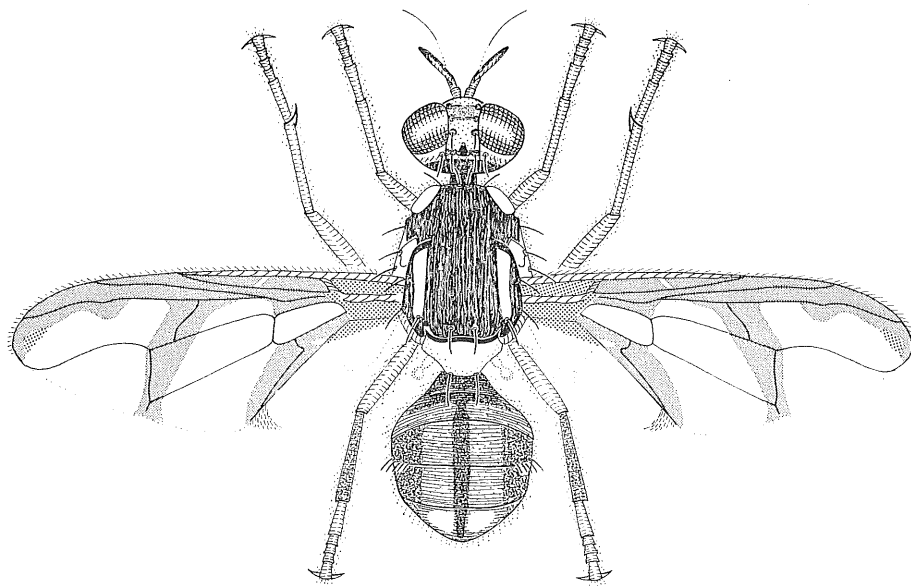


Fig. 24.—*Dacus (Strumeta) pseudodistinctus* sp.n. (x 8.9).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex Dak Pot, July 1968, collected by D. F. O'Sullivan at Keravat, New Britain; 9 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April 1970, collected by D. F. O'Sullivan at Namatanai, New Ireland. 1 male *paratype* ex lure trap charged with cue lure, April 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, July 1970, collected by R. Berena at Lakakot Plantation, Lihir Island. 1 male *paratype* ex lure trap charged with cue lure, July 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island.

*Holotype* (Reg. No. T. 6957) in the Queensland Museum; 2 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 1 *paratype* in the British Museum (Natural History); remaining 10 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots small and circular, thorax black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fuscous costal band and anal streak, broad transverse fuscous band across centre of wing, first costal cell fulvous, second costal cell fuscous, microtrichia in outer half of second costal cell only, abdomen with a broad dark fuscous transverse band across anterior margin of tergite two and a broad medial longitudinal dark fuscous band running from transverse band on tergite two to end just before posterior margin of tergite five.

#### *Male*

Length 6.9 mm; wing 5.9 mm.

*Head*.—Generally fulvous. Vertical length 1.6 mm. *Frons* narrowing slightly posteriorly; length 1.61 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; latter covered with short dark setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with small, circular, black facial spots not reaching epistoma; width of spot (0.20 mm) just less than width of third antennal segment; length of face 0.46 mm. *Genae* fulvous; medium sized, pale brown, sub-ocular spot present; bristle black. *Occiput* fuscous dorsally, fulvous ventrally, yellow along eye margin; occipital row with 5–9 well developed black bristles each side. *Antennae* fulvous except fuscous on apex and outer surface of third segment; a well developed fuscous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.21 mm; 0.31 mm; 0.83 mm.

*Thorax*.—Dull black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; mesopleural stripe of medium width, reaching anterior *npl.* bristle above, continuing onto sternopleuron below as a large transverse spot, anterior margin slightly convex; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, lateral post-sutural vittae, narrowing slightly posteriorly to end at the upper *p.sa.* bristle. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fore coxae fulvous, mid and hind coxae fuscous; remainder of legs fulvous except hind tibiae dark fulvous; fore femora with rows of long dark coloured setae

on dorsal surface and one row of similar setae on ventral surface; middle tibiae each with an apical black spur. *Wings*: first costal cell fulvous, second costal cell fuscous, microtrichia in outer half of second costal cell only; remainder of wings colourless except fuscous stigma, broad fuscous costal band overlapping vein  $R_{4+5}$  beyond a point midway between the r-m cross vein and apex of wing and ending between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , broad transverse fuscous band running across wing from costal band to hind margin of wing and enveloping both r-m and  $Im$  cross veins, broad fuscous anal streak ending at wing margin and including area covered by dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.91:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 3.05:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.29:1.

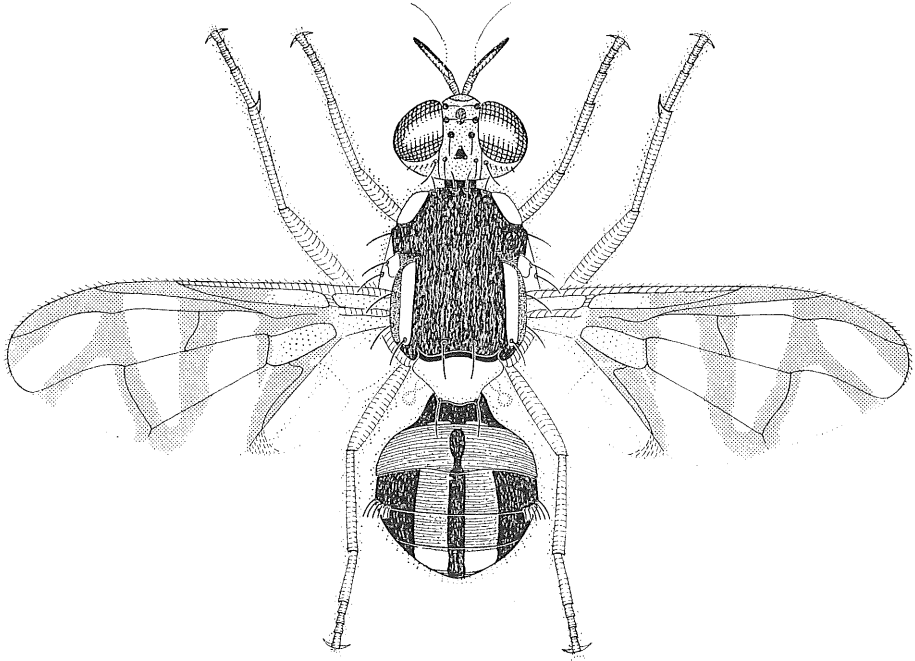
*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one dark fuscous except narrow fulvous posterior margin. Remainder of abdomen fulvous except a broad transverse dark fuscous band across anterior  $\frac{2}{3}$  of tergite two and ending before lateral margins; broad medial dark fuscous band running from transverse band along anterior margin of tergite two (constricted centrally in posterior fulvous area of this tergite) to end just before posterior margin of tergite five; two broad, lateral, longitudinal brown bands running from anterior margin of tergite three, inner margin straight and narrowing posteriorly to end at outer margins of the paired shining spots on tergite five.

#### Comments

This new species is similar to *D. distinctus*, *D. unifasciatus*, *D. anomalus* and *D. unistriatus* in the following characters: mesonotum black; general colour patterns of thorax; wing colour patterns. *D. distinctus* differs from *D. pseudodistinctus* in the following characters: both costal cells dark fuscous; legs fulvous except hind tibiae with, at most, a tinge of fuscous on outer apical margin and apical four segments of all tarsi fuscous; scutellum with a fuscous tinge on apex; abdomen with lateral longitudinal black bands running from basal band on tergite two to posterior margin of abdomen; *D. unifasciatus* differs from *D. pseudodistinctus* in the following characters: humeral and notopleural calli connected by a yellow band; both costal cells pale fuscous; abdomen with medial longitudinal black stripe only on tergites three to five and lateral longitudinal bands black. *D. anomalus* differs from *D. pseudodistinctus* in the following characters: lateral post-sutural vittae ending before upper *p.sa.* bristle; costal cells fulvous; legs fulvous with apical four segments of all tarsi fuscous and hind tibiae dark fulvous tending fuscous on apical  $\frac{1}{3}$ ; abdomen with small, irregularly shaped lateral longitudinal glossy black bands on tergites two to five and a broad medial longitudinal glossy black band on tergites three to five. *D. unistriatus* differs from *D. pseudodistinctus* in the following characters: costal cells pale fulvous; fuscous band across wing widening in discoidal cell and becoming paler at wing margin; legs fulvous except apical  $\frac{1}{3}$  of fore femora pale fuscous, apical  $\frac{1}{3}$  of mid and hind femora dark fulvous, hind tibiae and apical four segments of fore tarsi pale fuscous; abdomen with medial longitudinal fuscous stripe narrower and lateral longitudinal fuscous bands broader and so meeting along anterior margin of tergite three.

**Dacus (Strumeta) reduncus** sp.n.

(Figure 25)

Fig. 25.—*Dacus (Strumeta) reduncus* sp.n. (x 8.0).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA, NEW HEBRIDES: *Holotype* male, ex lure trap charged with methyl eugenol, January 1970, collected by E. Kanas at Vila, Efate Island. 4 male *paratypes* ex lure trap charged with cue lure, January 1970, collected by E. Kanas at Vila, Efate Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, January 1970, collected by E. Kanas at Vila, Efate Island. 1 male *paratype* ex lure trap charged with methyl eugenol, January 1970, collected by E. Kanas at Vila, Efate Island. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April-May 1970, collected by D. Malosu at Malekula Island. 3 male *paratypes* ex lure trap charged with cue lure, April-May 1970, collected by D. Malosu at Malekula Island. 1 male *paratype* ex lure trap charged with methyl eugenol, April-May 1970, collected by D. Malosu at Malekula Island. 4 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, May 1970, collected by R. Berena at Daru Village, Bougainville Island. 13 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, May 1970, collected by R. Berena at Kieta, Bougainville Island. 3 male *paratypes* ex lure trap charged with cue lure, collected by R. Berena at Kieta, Bougainville Island. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Buin, Bougainville Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Nabaku Village, near Piano, Bougainville Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected

by R. Berena at Piano, Bougainville Island. 1 male *paratype* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Wabirong Village, Kieta, Bougainville Island. 3 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1970, collected by R. Berena at Tubiana, Kieta, Bougainville Island. 2 male *paratypes* ex lure trap charged with cue lure, June 1970, collected by R. Berena at Wabirong Village, Kieta, Bougainville Island. 6 male *paratypes* ex lure trap charged with cue lure, June 1970, collected by R. Berena at Yura Village, Buin, Bougainville Island. 1 male *paratype* ex lure trap charged with cue lure, June 1970, collected by R. Berena at Mouwake Village, Buin, Bougainville Island.

*Holotype* (Reg. No. T. 6958) and 2 *paratypes* (Reg. Nos. T. 6959 and T. 6960) in the Queensland Museum; 5 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in British Museum (Natural History); remaining 40 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots large and circular, thorax black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with a broad pale fuscous costal band and anal streak, a recurved S-shaped fuscous band across wing, costal cells fulvous with microtrichia in outer portion of second costal cell only, abdomen fulvous except a very broad medial longitudinal glossy black band over tergites two to five and two broad lateral longitudinal glossy black bands over tergites three to five.

#### *Male*

Length: *Holotype* 7.4 mm, range for type series 7.4–8.2 mm, mean 7.8 mm.

Wing: *Holotype* 6.4 mm, range for type series 6.3–6.7 mm, mean 6.4 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.8 mm, range for type series 1.8–1.9 mm, mean 1.86 mm. *Frons* narrowing slightly posteriorly; length 1.6 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; latter covered with short dark coloured setae; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with large, circular facial spots not reaching epistoma; width of spot (0.24 mm) greater than width of third antennal segment; length of face 0.52 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle fuscous. *Occiput* fulvous except yellow along eye margin; occipital row strong with 5–7 well developed fuscous bristles each side. *Antennae* fulvous except fuscous on apex and outer surface of the third segment; a well developed fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder fuscous); length of segments: 0.23 mm; 0.37 mm; 0.95 mm.

*Thorax*.—Black with brown markings as follows: below humeral calli, above middle coxae, below lateral post-sutural vittae, above notopleural calli. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe, reaching humeral callus above, continuing onto sternopleuron below as a large transverse spot, anterior margin convex; upper hypopleural callus (posterior apex

black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two broad, parallel sided, lateral post-sutural vittae ending behind the upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and fuscous. *Legs*: fulvous; middle tibiae each with an apical black spur; fore femora with rows of long fulvous setae on dorsal surface and one row of longer fulvous setae on ventral surface. *Wings*: costal cells dark fulvous (second costal cell paler); microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, broad pale fuscous costal band confluent with vein  $R_{4+5}$  except at centre of wing and overlapping vein  $R_{4+5}$  at its extremity to end between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , an S-shaped pale fuscous band across wing running from costal band at r-m cross vein to hind margin of wing then recurving back across wing along Im cross vein to meet costal band above Im cross vein and then recurving back across vein  $M_{1+2}$  distal to discoidal cell to meet wing margin just below extremity of vein  $M_{1+2}$ , broad pale fuscous anal streak ending at wing margin and including area covered by dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe weak. The second costal cell shorter than stigma in the following proportions: *holotype* 0.91:1, range for type series 0.91:1–0.95:1, mean 0.93:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.33:1, range for type series 1.08:1–1.35:1, mean 1.27:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.00:1 in *holotype*, 2.86:1–3.31:1 range for type series, 3.02:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one glossy black except a narrow fulvous band along posterior margin (in two specimens there are narrow fulvous bands along each side of a broad medial longitudinal glossy black band); remainder of abdomen fulvous except a very broad, medial longitudinal glossy black band which begins slightly posterior of the anterior margin of tergite two, narrowly constricted at posterior margin of tergite two and ends at posterior margin of tergite five, two broad lateral longitudinal glossy black bands beginning at anterior margin of tergite three and narrowing posteriorly to end at posterior margin of tergite five. A pair of shining spots on tergite five.

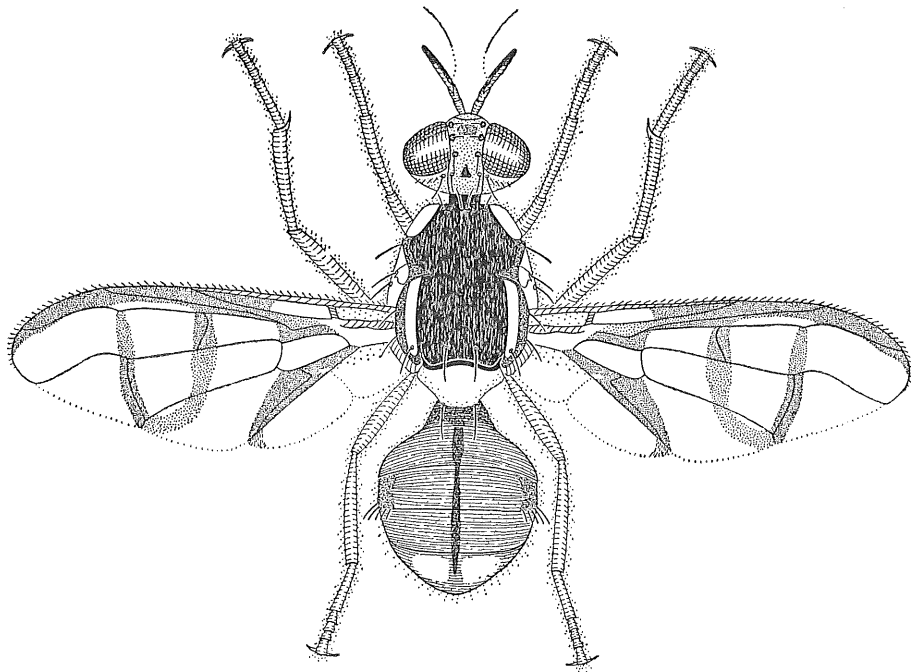
#### *Comments*

This new species is similar to *D. recurrens* in wing colour patterns, mesopleural stripe broad, general thoracic yellow colour patterns and thoracic chaetotaxy; however, *D. reduncus* differs from the latter species in mesonotum black, legs fulvous and abdomen with the medial longitudinal black band on tergites two to five. *D. reduncus* is similar to *D. nigrescentis* and *D. reflexus* in thorax generally black, humeral calli yellow, legs fulvous, wing colour patterns. *D. reduncus* differs from *D. nigrescentis* in lateral post-sutural vittae ending behind upper *p.sa.* bristle, costal cells fulvous with microtrichia in outer portion of second costal cell only, wing colour patterns fuscous, abdomen with the medial longitudinal black band on tergites two to five. *D. reduncus* differs from *D. reflexus* in face not black, thoracic chaetotaxy, medial post-sutural vitta absent, notopleural callus yellow, supernumerary lobe not strong, medial longitudinal black band on tergites two to five.



**Dacus (Strumeta) resimus** sp.n.

(Figure 26)

Fig. 26.— *Dacus (Strumeta) resimus* sp.n. (x 8.2).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype*, 4 male *paratypes*, ex male lure trap, December 1967, collected by Sir Alan Mann at Ambunti, Sepik District.

*Holotype* (Reg. No. T. 6961) in the Queensland Museum; remaining 4 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots medium sized and oval, thorax black, lateral post-sutural vittae present, mesopleural stripe broad, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow pale fuscous costal band, a U-shaped fuscous band across wing, broad pale fuscous anal streak, first costal cell pale fulvous, second costal cell colourless, microtrichia in outer portion of second costal cell only, abdomen generally fulvous with a narrow medial fuscous band running from tergite one to centre of tergite five.

*Male*

Length: *Holotype* 7.6 mm, range for type series 7.5–8.2 mm, mean 7.8 mm.

Wing: *Holotype* 6.4 mm, range for type series 6.4–6.7 mm, mean 6.5 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.8 mm, range for type series 1.8–1.9 mm, mean 1.8 mm. *Frons* narrowing slightly posteriorly; length 1.54 times breadth; fulvous except pale fuscous around orbital bristles and tending fuscous on antero-medial hump; latter covered with short pale coloured setae;

bristles red-brown: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with medium sized, oval facial spots not reaching epistoma; width of spot (0.15 mm) less than width of third antennal segment; length of face 0.55 mm. *Genae* fulvous; large, brown, sub-ocular spots present; bristle red-brown. *Occiput* fulvous except yellow along eye margin; occipital row with 5–7 well developed red-brown bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of third segment; a small pale bristle on the dorsal surface of second segment; arista fulvous proximally (remainder fuscous); length of segments: 0.22 mm; 0.38 mm; 0.95 mm.

*Thorax*.—Dull black, covered with a coarse golden pubescence and a fine silvery pubescence, with brown markings as follows: below humeral calli, above mid coxae, along pleural sutures, below wings, below and behind lateral post-sutural vittae, along mesonotal suture, around notopleural calli, above notopleural suture between humeral and notopleural calli. Yellow markings as follows: humeral calli; notopleural calli; broad mesopleural stripe reaching humeral callus above, continuing onto sternopleuron below as a large transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two broad, parallel sided, lateral post-sutural vittae ending behind upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and red-brown. *Legs*: fulvous; middle tibiae each with an apical black spur. *Wings*: first costal cell pale fulvous, second costal cell colourless except pale fulvous around margins, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, pale fuscous costal band confluent with vein  $R_{4+5}$  except for colourless area above this vein distal to r-m cross vein and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , an indefinite U-shaped pale fuscous patterning running across wing from costal band at region of r-m cross vein to hind margin of wing and then recurving back along  $1m$  cross vein to meet vein  $R_{4+5}$ , an extremely pale area of fulvous colouration around vein  $M_{1+2}$  distally, a broad pale fuscous anal streak ending at wing margin and including area covered by dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.91:1, range for type series 0.82:1–0.98:1, mean 0.90:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.14:1, range for type series 1.11:1–1.20:1, mean 1.16:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.63:1 in *holotype*, 2.29:1–2.87:1 range for type series, 2.62:1 mean.

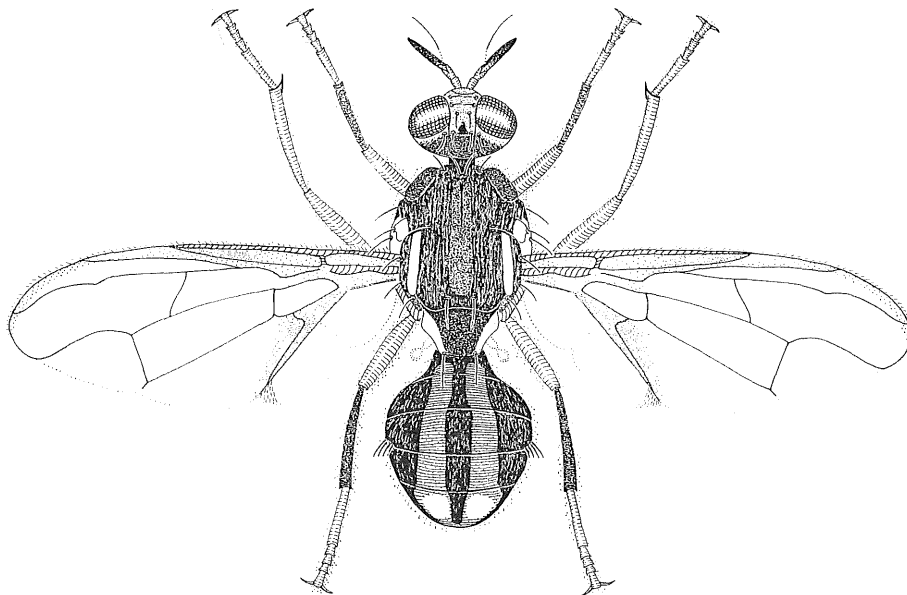
*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous except tending darker medially and fulvous along posterior margin; remainder of abdomen fulvous except brown on lateral margins of tergite three and a narrow, medial, longitudinal, fuscous to black band running from tergite one to end midway along tergite five. A pair of shining spots on tergite five.

#### Comments

This new species is similar to *D. nigrescentis* and *D. reduncus* in mesonotum black, mesopleural stripe broad (reaching humeral callus above), legs fulvous, wing with infuscation other than costal band and anal streak. *D. resimus* differs from *D. nigrescentis* in lateral post-sutural vittae ending behind upper *p.sa.* bristle, a U-shaped fuscous band across wing, abdomen fulvous with a narrow medial fuscous band running from tergite one to tergite five. *D. resimus* differs from *D. reduncus* in first costal cell pale fulvous, second costal cell colourless, a U-shaped fuscous band across wing, abdomen with a narrow medial fuscous band running from tergite one to tergite five.

**Dacus (Strumeta) trifarius sp.n.**

(Figure 27a)

Fig. 27a.—*Dacus (Strumeta) trifarius* sp.n. (x 7·8).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, July 1969, collected by D. F. O'Sullivan at Keravat, New Britain. *Allotype* female, collected by T. L. Fenner on cacao at Gela Gela Plantation, New Britain, December 1965. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, June 1969, collected by A. Luckie at Vudal, near Keravat, New Britain.

*Holotype* (Reg. No. T. 6962) and *allotype* (Reg. No. T. 6963) in the Queensland Museum; 2 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized dark coloured species, facial spots large and oval, thorax fuscous to black, lateral post-sutural vittae present, mesopleural stripe narrow, a broad medial brown stripe on mesonotum, wing with a narrow pale fuscous costal band and a broad pale fuscous anal streak, costal cells pale fulvous, abdomen with a broad medial black band and two broad lateral black bands running from the basal black band on tergite one to posterior margin of abdomen.

*Male*

Length: *Holotype* 6·2 mm, range for type series 6·2–7·0 mm, mean 6·5 mm.

Wing: *Holotype* 5·4 mm, range for type series 5·4–6·2 mm, mean 5·7 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1·4 mm, range for type series 1·4–1·7 mm, mean 1·6 mm. *Frons* of even width; length 1·8 times breadth; fulvous except sometimes slightly fuscous on antero-medial hump and

yellow on anterior lateral margins; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with two large oval black spots not reaching epistoma; width of spot (0.17 mm) equal to width of third antennal segment; length of face 0.47 mm. *Genae* fulvous; large, fuscous, subocular spots present; bristle black. *Occiput* fuscous dorsally, fulvous ventrally, yellow along eye margin; occipital row with a large number of small paler bristles and 5–7 strong black bristles each side. *Antennae* fulvous except fuscous on apex, outer surface and most of inner surface (except basally) of third segment; arista with proximal  $\frac{1}{4}$  fulvous (remainder black); length of segments: 0.17 mm; 0.29 mm; 0.77 mm.

*Thorax*.—Generally black with a broad brown band along centre of mesonotum running from just behind scapular bristles to the prescutellar bristles. The mesonotum is black and the pleural walls and sternopleuron fuscous to black; the humeral callus is fuscous to black. Yellow markings as follows: notopleural calli; narrow mesopleural stripe, ending midway between notopleural callus and anterior *npl.* bristle above, running onto sternopleuron below as a small fulvous spot, anterior margin slightly convex; upper hypopleural callus (posterior apex fuscous to black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder fuscous to black); two narrow lateral post-sutural vittae of even width ending before upper *p.sa.* bristle. *Postnotum* fuscous to black. *Scutellum* yellow with a broad medial dorsal fuscous to black band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: coxae fuscous to black, femora fulvous with rows of short fuscous bristles on upper margin of fore femora, fore tibiae fuscous, middle tibiae fulvous and hind tibiae black (or very dull fuscous); tarsi fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells pale fulvous, microtrichia in outer portion of second costal cell only; remainder of wing colourless except fulvous stigma, narrow pale fuscous costal band confluent with vein  $R_{2+3}$  and widening after crossing vein  $R_{2+3}$  to end between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a broad pale fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around extremity of vein  $Cu_1 + 1A$ . Supernumerary lobe weak. The second costal cell shorter than stigma in the following proportions: *holotype* 0.86:1, range for type series 0.78:1–0.88:1, mean 0.84:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 2.48:1, range for type series 2.18:1–2.63:1, mean 2.37:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.64:1 in *holotype*, 2.50:1–2.69:1 range for type series, 2.61:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black, except a fulvous spot each side of the broad medial line; remainder of abdomen with two broad lateral black bands and a broad medial black band running from the black area of tergite one to the posterior margin of tergite five and a longitudinal fulvous area each side of the black medial line. A pair of shining spots on tergite five.

#### Female

Length (excluding ovipositor) 6.4 mm; wing 5.9 mm.

*Head*.—As for male except as follows:

- (1) facial spots pale.

*Thorax*.—As for male except as follows:

- (1) thorax generally dark fuscous, with brown markings as in male;
- (2) humeral calli fuscous;
- (3) broad medial band on scutellum fuscous;

- (4) thoracic bristles fuscous;
- (5) legs fulvous except coxae and hind tibiae fuscous;
- (6) wings: (a) aggregation of microtrichia around vein  $Cu_1 + 1A$  absent,  
 (b) proportion of anal cell extension to  $Cu_1 + 1A$ , 1.71:1.

*Abdomen.*—As for male except as follows:

- (1) pecten on third abdominal tergite absent;
- (2) lateral longitudinal bands dark fuscous, tending fuscous on anterior margin of tergite two;
- (3) visible portion of ov scape red-brown, elliptical in transverse cross-section and tapering posteriorly in dorsal view. Length of visible portion of ov scape to length of tergite five, 0.84:1. Apical segment of ovipositor (aculeus) strongly chitinized, red-brown with two pairs of lobes at its tip (Fig. 27b).

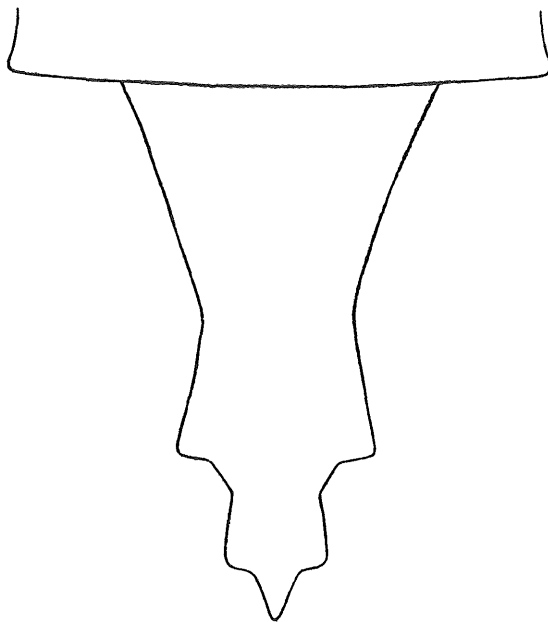


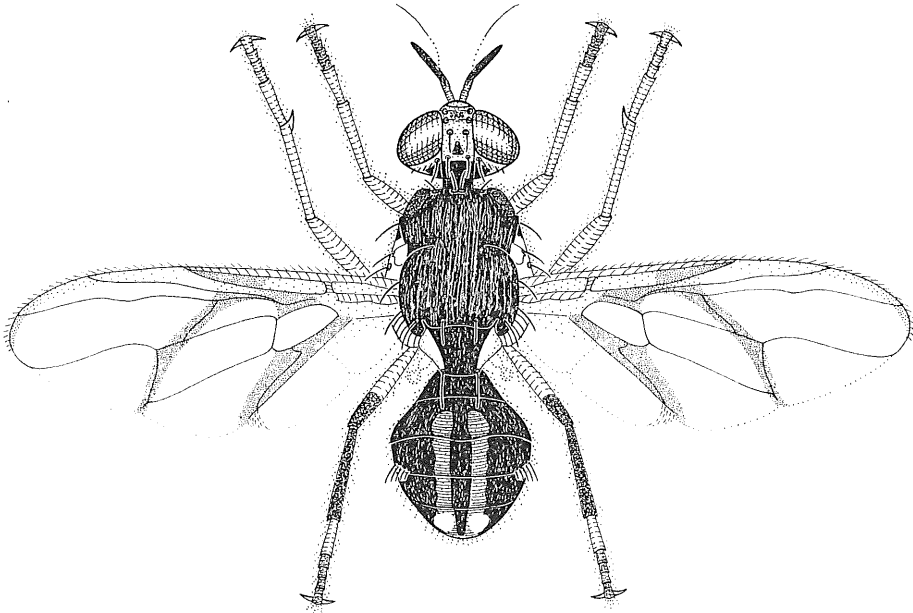
Fig. 27b.—Tip of aculeus (x 304) of *Dacus (Strumeta) trifarius* sp.n.

#### Comments

This new species is similar to *Dacus (Strumeta) atramentata* (Hering) and *Dacus (Strumeta) kirki* Froggatt in general wing colour pattern, thoracic chaetotaxy, scutellum yellow with black marking on dorsal surface. *D. trifarius* differs from *D. atramentata* in the following characters: mesonotum with a broad medial longitudinal brown band; dorsal marking on scutellum broader; costal cells pale fulvous; legs with fore tibiae fuscous and hind tibiae black; abdomen not completely black. *D. trifarius* differs from *D. kirki* in the following characters: humeral calli completely fuscous to black; lateral post-sutural vittae present; wings without slight infuscation around cross veins; legs with fore tibiae fuscous and hind tibiae black; abdomen with broad longitudinal black bands running from tergite one to posterior margin of abdomen.

**Dacus (Strumeta) triseriatus sp.n.**

(Figure 28)

Fig. 28.—*Dacus (Strumeta) triseriatus* sp.n. (x 9.4).

*Types*: NEW HEBRIDES: *Holotype* male, 9 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, December 1969 to January 1970, collected by E. Kanas at Vila, Efate Island. *Allotype* female, 18 male *paratypes* ex lure trap charged with cue lure, December 1969 to January 1970, collected by E. Kanas at Vila, Efate Island. 5 male *paratypes* ex lure trap charged with methyl eugenol, December 1969 to January 1970, collected by E. Kanas at Vila, Efate Island. 2 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, April-May 1970, collected by D. Malosu at Malekula Island. 2 male *paratypes* ex lure trap charged with cue lure, April-May 1970, collected by D. Malosu at Malekula Island. 2 male *paratypes* ex lure trap charged with methyl eugenol, April-May 1970, collected by D. Malosu at Malekula Island.

*Holotype* (Reg. No. T. 6964), *allotype* (Reg. No. T. 6965) and two *paratypes* (Reg. Nos. T. 6966 and T. 6967) in the Queensland Museum; 2 *paratypes* in the British Museum (Natural History); remaining 34 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A dark coloured medium sized species, face glossy black, thorax glossy black, lateral post-sutural vittae absent, mesopleural stripe of medium width, humeral calli fuscous to black, notopleural calli yellow, scutellum glossy black with lateral margins yellow, wing with a narrow fuscous costal band and a broad fuscous anal streak, a narrow fuscous band across wing from costal band to hind margin and including both cross veins, costal cells pale fuscous with microtrichia in outer

half of second costal cell only, abdomen generally glossy black except two broad longitudinal fulvous bands on tergites two to five each side of a broad medial longitudinal black band.

*Male*

Length: *Holotype* 6.4 mm, range for type series 4.2–6.7 mm, mean 5.6 mm.

Wing: *Holotype* 5.6 mm, range for type series 3.8–5.6 mm, mean 4.9 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.6 mm, range for type series 1.0–1.7 mm, mean 1.4 mm. *Frons* narrowing slightly posteriorly; length 1.94 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; latter covered with short pale setae; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* glossy black except fulvous around lateral margins; length 0.4 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle black. *Occiput* black dorsally, fulvous ventrally, yellow along eye margin; occipital row with 4–8 well developed black bristles each side. *Antennae* fulvous except third segment predominantly fuscous; a strong fuscous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.16 mm; 0.31 mm; 0.77 mm.

*Thorax*.—Glossy black, with no brown markings. Yellow markings as follows: notopleural calli; medium sized mesopleural stripe extending midway between anterior margin of notopleural callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black). Lateral post-sutural vittae absent. Humeral calli fuscous to black. *Postnotum* black. *Scutellum* glossy black except lateral margins yellow. Bristles: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except middle and hind coxae, apical  $\frac{1}{3}$  of hind femora and hind tibiae fuscous, apical four segments of fore and hind tarsi dark fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells extremely pale fuscous, microtrichia in outer half of second costal cell only; remainder of wings colourless except pale fuscous stigma, a narrow extremely pale fuscous costal band confluent with vein  $R_{2+3}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a narrow fuscous band across wing from costal band to hind margin and including both cross veins, a broad fuscous anal streak ending at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.88:1, range for type series 0.77:1–0.97:1, mean 0.88:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 3.38:1, range for type series 2.38:1–3.60:1, mean 3.15:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.17:1 in *holotype*, 2.27:1–3.17:1 range for type series, 2.68:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black; remainder of abdomen fulvous except glossy black band on basal  $\frac{1}{3}$  of tergite two, two broad lateral longitudinal glossy black bands running

from basal band on tergite two to end on tergite five lateral to shining spots, a broad medial longitudinal glossy black band running from basal band on tergite two which is slightly constricted on tergite two and narrowing slightly posteriorly to end at posterior margin of tergite five. A pair of shining spots on tergite five. In some specimens the basal band on tergite two ends before the medial black band.

### *Female*

Length (excluding ovipositor) 6.2 mm; wing 5.3 mm.

*Head.*—As for male except as follows:

- (1) frons generally dark fulvous;
- (2) lunule dark fulvous;
- (3) vertex dark fulvous;
- (4) face with a dark fulvous medial line dividing the black area into two very large facial spots.

*Thorax.*—As for male except as follows:

- (1) small dark fulvous pattern in centre of humeral calli and behind mesonotal suture;
- (2) legs with hind femora completely fuscous;
- (3) wings: (a) aggregation of microtrichia around vein  $Cu_1 + 1A$  absent,  
(b) supernumerary lobe weak,  
(c) proportion of anal cell extension to  $Cu_1 + 1A$ , 1.74:1.

*Abdomen.*—As for male except as follows:

- (1) pecten on third abdominal tergite absent;
- (2) visible portion of oviscape black, dorso-ventrally flattened and narrowing posteriorly in dorsal view. Length of visible portion of oviscape to length of tergite five, 0.96:1. Apical segment of ovipositor (aculeus) strongly chitinized, dark red-brown, not lobed at tip.

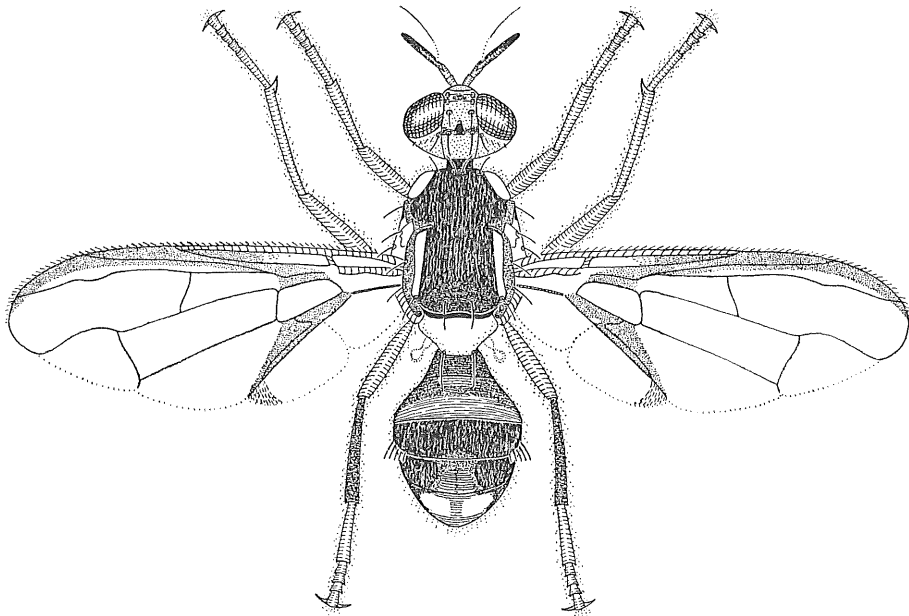
### *Comments*

This new species is similar to *D. frauenfeldi*, *D. denigratus* and *D. lampabilis* in thoracic chaetotaxy, wings with infuscation other than costal band and anal streak, scutellum with black pattern on dorsal surface. *D. triseriatus* differs from *D. frauenfeldi* in face glossy black, lateral post-sutural vittae absent, legs with mid femora not fuscous. *D. triseriatus* differs from *D. denigratus* and *D. lampabilis* in face glossy black, humeral calli fuscous to black, lateral post-sutural vittae absent, wings with a narrow fuscous transverse band from costal band to hind margin and costal band very pale beyond apex of vein  $R_1$ , costal cells pale fuscous, legs generally fulvous except hind tibiae and apical  $\frac{1}{2}$  hind femora fuscous and apical four segments of fore and hind tarsi dark fulvous, abdominal tergites not completely black.



**Dacus (Strumeta) trivialis** sp.n.

(Figure 29)

Fig. 29.—*Dacus (Strumeta) trivialis* sp.n. (x 8·1).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 24 male *paratypes* ex lure traps charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, December 1967, collected by T. Fenner at Kiwai Island, Western District. 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one, January 1964, collected by J. Barrett at Kainantu, Eastern Highlands District. 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one, April 1965, collected by Dr. E. N. Marks at Lae, Morobe District. 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, September 1966, collected by N. Kopman at Konedobu, Central District. 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, December 1967, collected by T. Fenner at Kini Village near Balimo, Western District. 2 male *paratypes* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, December 1967, collected by T. Fenner at Daru, Western District. 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one plus 1-(p-acetoxyphenyl)-butan-3-one, January 1969, collected by T. Fenner at Beipa'a, Central District.

*Holotype* (Reg. No. T. 6968) in the Queensland Museum; 5 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in the British Museum (Natural History); remaining 24 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A dark coloured, medium sized species, facial spots medium sized and pear shaped, thorax generally black with irregular brownish markings, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and anal streak, costal cells colourless with microtrichia in outer portion of second costal cell only, abdomen generally black on tergites three to five except fulvous centrally on tergites four and five and generally brown centrally on posterior margin of tergite three and anterior margin of tergite four.

#### *Male*

Length: *Holotype* 6.8 mm, range for type series 5.9–7.6 mm, mean 6.8 mm.

Wing: *Holotype* 5.8 mm, range for type series 5.2–6.3 mm, mean 5.8 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.5 mm, range for type series 1.3–1.7 mm, mean 1.5 mm. *Frons* narrowing slightly posteriorly; length 1.54 times breadth; fulvous except fuscous around orbital bristles and on anteromedial hump; latter covered with short fuscous setae; bristles fuscous: 1 *s.or.*, 2 *i.or.*; lunule fulvous centrally, fuscous lateral to antennae. *Ocellar triangle* black. *Vertex* fuscous. *Face* fulvous with pear shaped facial spots pointed anteriorly but not reaching epistoma; width of spot (0.13 mm) less than width of third antennal segment; length of face 0.48 mm. *Genae* fulvous; large, brown, sub-ocular spots present; bristle red-brown to fuscous. *Occiput* fulvous except yellow along eye margin; occipital row strong with 4–8 well developed fuscous bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of the third segment; a well developed fulvous bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.21 mm; 0.31 mm; 0.87 mm.

*Thorax*.—Pleurae brown with dark markings as follows: fuscous anterior to mesopleural stripe to a line level with anterior notopleural bristle, sternopleuron black, dark red-brown to fuscous along posterior margins of mesopleural stripe and above hind coxae; mesonotum dull black, approaching fuscous posteriorly to a line just anterior of prescutellar bristles and with brown markings as follows: below and behind lateral post-sutural vittae, around notopleural calli and above notopleural suture between notopleural and humeral calli. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe ending midway between anterior margin of notopleural callus and anterior notopleural bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder fuscous); two moderately broad, lateral post-sutural vittae narrowing slightly posteriorly to end at the upper *p.sa.* bristle.

*Postnotum* black except red-brown centrally. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and red-brown. *Legs*: fore coxae fulvous, mid and hind coxae fuscous; remainder of legs fulvous except for hind tibiae fuscous; rows of long fulvous setae along dorsal surface of fore femora; middle tibiae each with an apical black spur. *Wings*: costal cells colourless, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, narrow fuscous costal band extending over vein  $R_{2+3}$  into cell  $R_{2+3}$  and crossing vein  $R_{4+5}$  at its tip to end between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , narrow fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.79:1, range for type series 0.71:1–0.85:1, mean 0.78–1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.51:1, range for type series 1.32:1–1.68:1, mean 1.54:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 2.47:1 in *holotype*, 2.17:1–2.64:1 range for type series, 2.42:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous; tergite two fuscous along anterior half which extends backwards on lateral margins to posterior margin except fulvous centrally along anterior margin and remainder of tergite whitish; tergite three black, tending brown centrally along posterior margin; tergite four black except brown centrally along anterior margin, fulvous on central posterior portion and a suggestion of a narrow medial fuscous band on the latter fulvous area; tergite five fulvous except fuscous on antero-lateral margin. A pair of brown shining spots on tergite five.

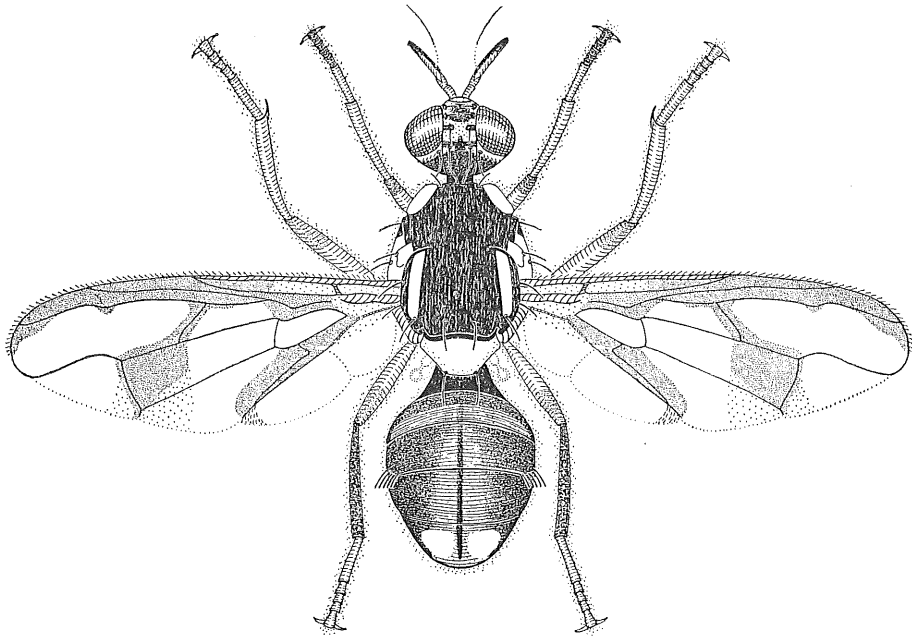
Within the series of type specimens, there is a large variation in the abdominal colour patterns. This variation is as follows: tergite one varies from fuscous to black; the width of fuscous area on tergite two varies; the brown coloured area on the central posterior region of tergite three varies in size and shape, and in some specimens this area is fulvous; on tergite four the brown coloured central anterior region is fulvous in some specimens and when this occurs the narrow medial fuscous band may extend over the posterior part of tergite three and most of tergite four, in some specimens the medial fuscous band is absent, and the black area tends towards fuscous along the posterior margin of this tergite; the antero-lateral fuscous coloured area of tergite five is black along the anterior margin in some specimens; in some specimens, tergites three and four tend to be completely black.

#### *Comments*

This new species is similar to *D. froggatti*, *D. abdonlonginquus*, *D. abdonigellus* and *D. vulgaris* in thoracic chaetotaxy, mesonotum black, general yellow thoracic colour patterns, and general wing colour pattern. *D. trivialis* can be separated, however, from the abovenamed species in both costal cells colourless, legs fulvous with hind tibiae fuscous, abdomen with tergites three to five generally black except fulvous to brown on central areas of these tergites.

**Dacus (Strumeta) unistriatus** sp.n.

(Figure 30)

Fig. 30.—*Dacus (Strumeta) unistriatus* sp.n. (x 7.7).

*Types:* TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 4 male *paratypes* ex lure trap charged with methyl eugenol, September 1969, collected by D. F. O'Sullivan at Keravat, New Britain. *Allotype* female, ex lure trap charged with methyl eugenol, January 1970, collected by R. Berena at Vunapau, New Britain. 4 male *paratypes* ex lure trap charged with methyl eugenol, August 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 5 male *paratypes* ex lure trap charged with methyl eugenol, August 1969, collected by R. Berena at Salelubu, New Britain. 5 male *paratypes* ex lure trap charged with methyl eugenol, October 1969, collected by D. F. O'Sullivan at Keravat, New Britain. 1 male *paratype* ex lure trap charged with methyl eugenol, October 1969, collected by D. F. O'Sullivan at Upper Warangoi Valley, New Britain. 6 male *paratypes* ex lure trap charged with methyl eugenol, October 1969, collected by D. F. O'Sullivan at Upper Warangoi Valley, New Britain. 12 male *paratypes* ex lure trap charged with methyl eugenol, April 1970, collected by D. F. O'Sullivan at Namatanai, New Ireland. 4 male *paratypes* ex lure trap charged with methyl eugenol, September 1970, collected by P. Kawig and P. S. Bapi at Belik Plantation, New Ireland. 1 male *paratype* ex lure trap charged with methyl eugenol, July 1970, collected by D. F. O'Sullivan at Lakakot Plantation, Lihir Island. 2 male *paratypes* ex lure trap charged with methyl eugenol, July 1970, collected by R. Berena at Lakakot Plantation, Lihir Island.

*Holotype* (Reg. No. T. 6969), *allotype* (Reg. No. T. 6970) and 2 *paratypes* (Reg. Nos. T. 6971 and T. 6972) in the Queensland Museum; 8 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 2 *paratypes* in the British Museum (Natural History); remaining 32 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A large, dark coloured species, facial spots large and oval, thorax black, lateral post-sutural vittae present, mesopleural stripe narrow, humeral and notopleural calli yellow, scutellum yellow, wing with a broad fuscous costal band and anal streak, broad central transverse fuscous band running from costal band to posterior margin of wing, costal cells pale fulvous, abdomen with a narrow medial fuscous stripe running from transverse fuscous band on anterior margin of tergite two to posterior margin of tergite five, two broad lateral fuscous bands running from tergite three to posterior margin of tergite five.

#### Male

Length: *Holotype* 7.8 mm, range for type series 7.3–9.1 mm, mean 8.2 mm.

Wing: *Holotype* 6.5 mm, range for type series 5.9–7.1 mm, mean 6.5 mm.

*Head*.—Generally fulvous. Vertical length: *Holotype* 1.6 mm, range for type series 1.4–1.7 mm, mean 1.6 mm. *Frons* narrowing slightly posteriorly; length 1.61 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; latter covered with short dark coloured setae; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* slightly fuscous. *Face* fulvous with very large, oval black facial spots not reaching epistoma; width of spot (0.23 mm) greater than width of third antennal segment; length of face 0.55 mm. *Genae* fulvous; large, brown, subocular spots present; bristle black; large number of well developed dark fuscous bristles present. *Occiput* fuscous except fulvous along eye margin; occipital row with 5–8 well developed black bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of third segment; a strong black bristle on dorsal surface of second segment; arista fulvous proximally (remainder black); length of segments: 0.24 mm; 0.38 mm; 1.00 mm.

*Thorax*.—Dull black with no brown markings. Yellow markings as follows: humeral calli; notopleural calli; narrow mesopleural stripe ending midway between anterior margin of *npl.* callus and anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, parallel sided, lateral post-sutural vittae ending at upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *npl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: fulvous except all coxae dark fuscous tending black, apical  $\frac{1}{3}$  of fore femora darkening towards pale fuscous, apical  $\frac{1}{3}$  of mid and hind femora dark fulvous, hind tibiae and apical four segments of fore tarsi pale fuscous; fore femora with rows of well developed black setae along dorsal surface; middle tibiae each with an apical black spur. *Wings*: costal cells pale fulvous, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, a broad fuscous costal band reaching vein  $R_{4+5}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , central transverse fuscous band running from costal band at r-m cross vein, widening to include posterior half

of discoidal cell and fading as it ends at posterior margin of wing, broad fuscous anal streak ending just before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the following proportions: *holotype* 0.81:1, range for type series 0.76:1–0.90:1, mean 0.82:1. r-m dividing  $M_{1+2}$  above discoidal cell in the following proportions: *holotype* 1.72:1, range for type series 1.43:1–2.16:1, mean 1.70:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.13:1 in *holotype*, 2.53:1–3.33:1 range for type series, 2.92:1 mean.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one black; tergite two fulvous except dark fuscous on anterior half which widens laterally to cover all of tergite; remainder of abdomen fulvous except for the following markings: a narrow fuscous medial longitudinal abdominal stripe running from transverse fuscous band on anterior half of tergite two, darkening posteriorly and ending just before posterior margin of tergite five; two broad, lateral, longitudinal dark fuscous bands meeting at the medial longitudinal band on the anterior margin of tergite three and narrowing posteriorly to end at apex of tergite five. A pair of shining spots on tergite five.

In some specimens, the anterior transverse band on tergite two and the two broad, lateral, longitudinal bands on tergites three to five are black.

#### Female

Length (excluding ovipositor) 7.7 mm; wing 6.2 mm.

*Head*.—As for male except lunule dark fulvous.

*Thorax*.—As for male except as follows:

- (1) legs without distinct dark markings on apices of femora;
- (2) wings with proportion of anal cell extension to  $Cu_1 + 1A$ , 3.36:1.

*Abdomen*.—As for male except as follows:

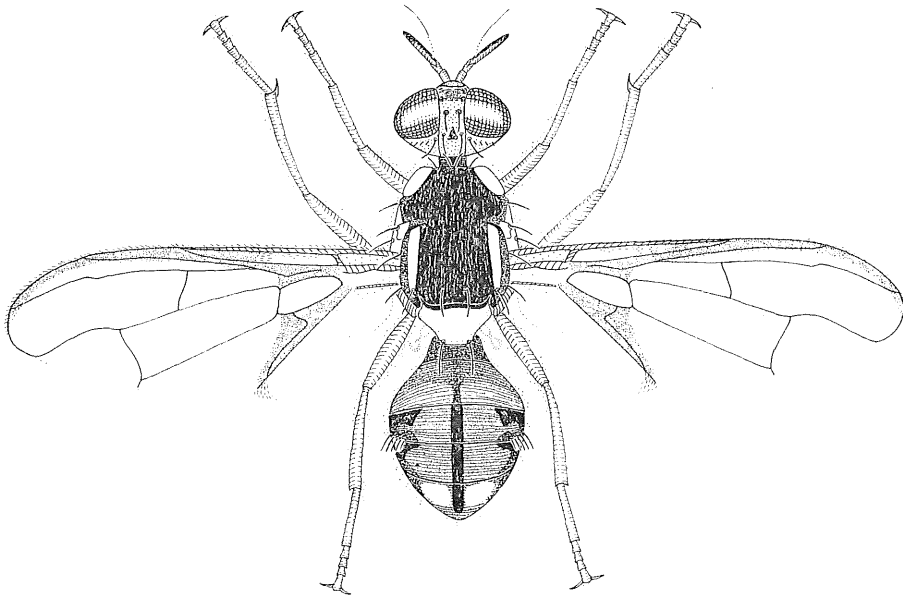
- (1) pecten on third abdominal tergite absent;
- (2) visible portion of oviscape orange-brown, dorsal-ventrally flattened and tapering posteriorly in dorsal view. Length of visible portion of oviscape to length of tergite five, 1.18:1. Apical segment of ovipositor (aculeus) strongly chitinized, red-brown and without lobes at its tip.

#### Comments

*D. unistriatus* is similar to *D. distinctus*, *D. unifasciatus*, *D. anomalus* and *D. pseudodistinctus* in the following characters: mesonotum black; general colour patterns of thorax; wing with a single fuscous transverse band. *D. unistriatus* differs from the abovenamed species, however, in the following characters: transverse fuscous band across wing widens markedly across discoidal cell and becomes paler at wing margin; costal cells pale fulvous; legs fulvous except apical  $\frac{1}{3}$  of fore femora pale fuscous, apical  $\frac{1}{3}$  of mid and hind femora dark fulvous, hind tibiae and apical four segments of fore tarsi pale fuscous; abdomen with medial longitudinal fuscous stripe narrow and running from transverse fuscous band on base of tergite two to posterior margin of tergite five, two broad lateral fuscous bands running from tergite three to posterior margin of tergite five and meeting along anterior margin of tergite three.

**Dacus (Strumeta) vulgaris** sp.n.

(Figure 31)

Fig. 31.—*Dacus (Strumeta) vulgaris* sp.n. (x 7·8).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one, January 1964, collected by J. Barrett at Kainantu, Eastern Highlands District. 1 male *paratype* ex lure trap charged with 1-(p-hydroxyphenyl)-butan-3-one, December 1963, collected by J. Barrett at Kainantu, Eastern Highlands District.

*Holotype* (Reg. No. T. 6973) in the Queensland Museum; 2 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, facial spots medium sized and oval, thorax black, lateral post-sutural vittae present, mesopleural stripe of medium width, humeral and notopleural calli yellow, scutellum yellow, wing with a narrow fuscous costal band and anal streak, first costal cell pale fulvous, second costal cell colourless, microtrichia in outer portion of second costal cell only, abdomen with a broad medial abdominal band running from anterior margin of tergite two to end just before posterior margin of tergite five and lateral margins of tergites three to five brown.

*Male*

Length 7·3 mm; wing 6·4 mm.

*Head*.—Generally fulvous. Vertical length 1.6 mm. *Frons* narrowing slightly posteriorly; length 1.59 times breadth; fulvous except pale fuscous around orbital bristles and on antero-medial hump; latter covered with short pale coloured setae; bristles dark fulvous: 1 *s.or.*, 2 *i.or.*; lunule fulvous. *Ocellar triangle* black. *Vertex* fulvous. *Face* fulvous with medium sized, oval facial spots not reaching epistoma; width of spot (0.16 mm) less than width of third antennal segment; length of face 0.5 mm. *Genae* fulvous; medium sized, brown, sub-ocular spots present; bristle fulvous. *Occiput* fulvous except yellow along eye margin; occipital row with 4–5 well developed dark fulvous bristles each side. *Antennae* fulvous except fuscous on the apex and outer surface of third segment; a small, pale fulvous bristle on the second segment; arista fulvous proximally (remainder fuscous); length of segments: 0.22 mm; 0.28 mm; 0.87 mm.

*Thorax*.—Dull black with brown markings as follows: below humeral calli, lateral to post-sutural vittae, along mesonotal suture, between humeral and notopleural calli. Yellow markings as follows: humeral calli; notopleural calli; of medium width, reaching anterior *npl.* bristle above, continuing onto sternopleuron below as a transverse spot, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{2}{3}$  lower hypopleural callus (remainder black); two moderately broad, lateral post-sutural vittae narrowing posteriorly to end at the upper *p.sa.* bristle. *Postnotum* black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 2, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and dark fulvous. *Legs*: fulvous; middle tibiae each with an apical dark fulvous spur. *Wings*: first costal cell pale fulvous, second costal cell colourless tending pale fulvous around margins, microtrichia in outer portion of second costal cell only; remainder of wings colourless except dark fulvous stigma, narrow fuscous costal band slightly overlapping vein  $R_{2+3}$  and ending midway between extremities of veins  $R_{4+5}$  and  $M_{1+2}$ , a narrow fuscous anal streak ending before wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe of medium development. The second costal cell shorter than stigma in the proportion 0.78:1. *r-m* dividing  $M_{1+2}$  above discoidal cell in proportion of 1.53:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.27:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous; tergite two with anterior half pale red-brown, posterior half fulvous and tending whitish along posterior margin except for a medium sized fuscous medial stripe running across tergite; remainder of abdomen orange-brown except for the following markings: a broad medial black band connecting on the anterior margin of tergite three with the fuscous stripe on tergite two and ending just before posterior margin of tergite five; lateral margins of tergites three and four black anteriorly tending fuscous posteriorly and lateral margins of tergite five brown. A pair of shining spots on tergite five.

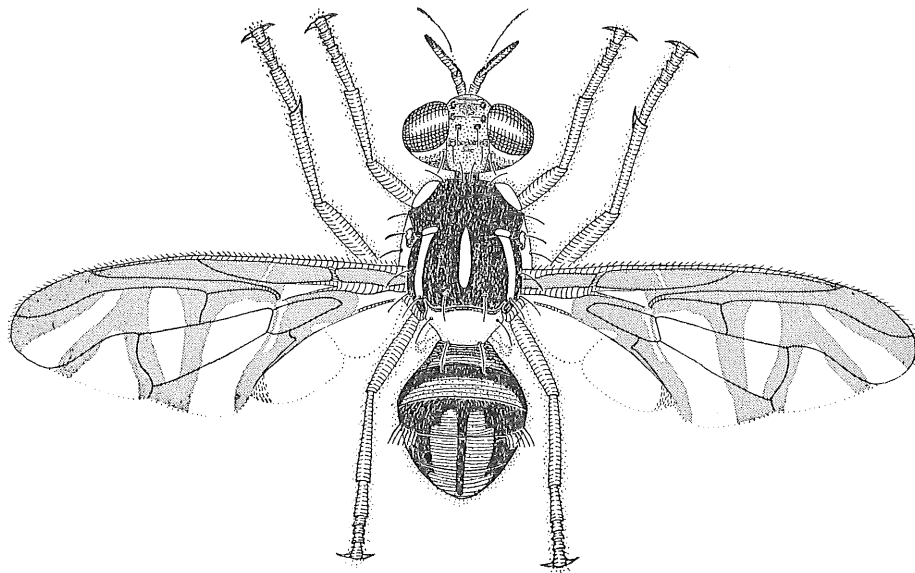
#### Comments

This new species is similar to *D. froggatti*, *D. abdonlonginquus*, *D. abdonigellus* and *D. trivialis* in thoracic chaetotaxy, mesonotum black, general yellow colour pattern of thorax, general wing colour pattern. *D. vulgaris* differs, however, from the abovenamed species in the following characters: first costal cell pale fulvous, second costal cell colourless; abdomen with a broad medial fuscous to black abdominal band running from anterior margin of tergite two to posterior margin of abdomen and very narrow fuscous to black lateral margins on tergites three to five.



**DACUS (ZEUGODACUS) Hendel****Dacus (Zeugodacus) reflexus sp.n.**

(Figure 32)

Fig. 32.—*Dacus (Zeugodacus) reflexus* sp.n. (x 9.0).

*Types*: TERRITORY OF PAPUA AND NEW GUINEA: *Holotype* male, 1 male *paratype* ex Dak Pot lure trap, May 1967, collected by D. F. O'Sullivan at Keravat, New Britain. 13 male *paratypes* ex lure trap charged with 1-(p-acetoxyphenyl)-butan-3-one, November 1969 to January 1970, collected by R. Berena at Keravat, New Britain.

*Holotype* (Reg. No. T. 6974) in the Queensland Museum; 2 *paratypes* in Dept. of Agriculture, Stock and Fisheries, Konedobu, Papua; 1 *paratype* in the British Museum (Natural History); remaining 11 *paratypes* in Dept. of Primary Industries, Brisbane, Queensland.

A medium sized species, face glossy black, thorax glossy black, lateral post-sutural vittae present, medial post-sutural vittae present, mesopleural stripe broad, humeral calli yellow, notopleural calli black, scutellum yellow, wing with a broad dark fuscous costal band and anal streak, a Z-shaped dark fuscous marking across wing, costal cells dark fuscous, microtrichia in all of second costal cell, abdomen with two lateral and one medial glossy black bands running from glossy black transverse band on basal half of tergite three to posterior of abdomen.

*Male*

Length 6.0 mm; wing 5.8 mm.

*Head*.—Generally fulvous. Vertical length 1.5 mm. *Frons* of even width; length 1.33 times breadth; fulvous except fuscous around orbital bristles and on antero-medial hump; bristles black: 1 *s.or.*, 2 *i.or.*; lunule fuscous (a fuscous line

leads from lunule down each side of face, along the ptilinal suture outside the fulvous band). *Ocellar triangle* black. *Vertex* fuscous (this pattern surrounds the black ocellar triangle). *Face* glossy black, outlined by fulvous; length of face 0.53 mm. *Genae* fulvous; medium sized fuscous sub-ocular spot present; bristle black. *Occiput* fuscous except fulvous pattern centrally and yellow along eye margin; occipital row weak with a large number of small black bristles each side. *Antennae* fulvous with fuscous along upper halves of the inner and outer surfaces of the third segment; arista fulvous proximally (remainder black); length of segments: 0.13 mm; 0.26 mm; 0.74 mm.

*Thorax*.—Glossy black with no brown markings. Yellow markings as follows: humeral calli (lower margin fuscous); broad mesopleural stripe, reaching humeral callus above, not extending onto sternopleural below, anterior margin straight; upper hypopleural callus (posterior apex black); anterior  $\frac{3}{4}$  lower hypopleural callus (remainder black); two moderately broad lateral post-sutural vittae forming a broad spot anterior to the mesonotal suture and narrowing slightly posteriorly to end just behind upper *p.sa.* bristle; a narrow medial longitudinal vittae beginning just before level of mesonotal suture and ending just before level of *prsc.* bristles. Notopleural callus black with area on apex around bristle yellow. *Postnotum* glossy black. *Scutellum* yellow except for narrow black basal band. *Bristles*: *sc.* 4, *prsc.* 2, *p.sa.* 2, *a.sa.* 1, *mpl.* 1, *npl.* 2, *scp.* 4; all bristles well developed and black. *Legs*: first coxae fulvous, second and third coxae fuscous; remainder of legs fulvous; middle tibiae each with an apical black spur. *Wings*: costal cells dark fuscous, microtrichia in all of second costal cell only; remainder of wings colourless except for the following markings: broad dark fuscous costal band overlapping vein  $R_{4+5}$  except at centre of wing; broad Z-shaped dark fuscous markings, running from costal band at region of r-m cross vein (surrounding r-m cross vein) to hind margin of wing, then turning back to surround  $Im$  cross vein and meeting costal band above  $Im$  cross vein and then turning back to run across outer part of vein  $M_{1+2}$  and ending at wing margin just below extremity of vein  $M_{1+2}$ ; a very broad dark fuscous anal streak running from costal band, across cell  $M$  and anal cell to end at wing margin. A dense aggregation of microtrichia around vein  $Cu_1 + 1A$ . Supernumerary lobe very strong. The second costal cell shorter than stigma in the proportion 0.83:1. r-m dividing  $M_{1+2}$  above discoidal cell in proportion of 1.18:1. Proportion of anal cell extension to  $Cu_1 + 1A$ , 3.79:1.

*Abdomen*.—Oval; tergites free; pecten present on third abdominal tergite. Tergite one fuscous (tending black laterally) except for a transverse medial fulvous area along intersegmental line between tergites one and two; tergite two fulvous except a narrow black basal band widening laterally; tergites three to five fulvous except basal  $\frac{1}{3}$  of tergite three glossy black and merging into broad glossy black longitudinal bands laterally, and a broad medial longitudinal glossy black band running from basal band on tergite three and narrowing posteriorly to end just before posterior margin of tergite five. Pair of shining spots on tergite five absent.

#### Comments

This new species shows no close relationships to other species of *Zeugodacus*. *D. reflexus* is similar to *D. recurrens* in wing colour pattern, legs fulvous, humeral calli and scutellum yellow, mesopleural stripe broad (reaching humeral callus above). *D. reflexus* differs from the latter species in face black, medial

post-sutural vitta present, notopleural callus black with yellow apex, thoracic chaetotaxy, supernumerary lobe very strong. *D. reflexus* is similar to *D. nigrescentis* and *D. reduncus* in mesonotum black, mesopleural stripe broad, humeral calli and scutellum yellow, wing colour pattern, legs fulvous; however, *D. reflexus* differs from the last two species named in face black, medial post-sutural vitta present, notopleural callus black with yellow apex, thoracic chaetotaxy, supernumerary lobe very strong.

#### ACKNOWLEDGEMENT

Miss Meredith Chalk, Dept. of Primary Industries, Queensland, prepared the illustrations.

#### REFERENCE

HARDY, D. E. (1951).—The Krauss collection of Australian fruit flies (Tephritidae-Diptera). *Pacif. Sci.* 5(2):131.

(Received for publication December 23, 1970)

The author is an officer of Entomology Branch, Queensland Department of Primary Industries, and is stationed at Indooroopilly.