

ADDITIONS TO THE SPECIES OF DACINAE (TRYPETIDAE: DIPTERA) FROM QUEENSLAND AND NEW GUINEA

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SUMMARY

Four new species are described, viz. *Strumeta amplexiseta*, *S. silvicola*, *Zeugodacus choristus* and *Z. trichotus*.

The female of *Callantra petioliforma* May and the male of *Strumeta hispidula* May have now been taken and are described.

A subspecies of *Neodacus strigifinis* (Walker) is recognised and described from New Guinea.

Melanodacus rubidus May and *Zeugodacus papuaensis* Malloch are shown to be synonyms of *Melanodacus atrisetosus* (Perkins).

CALLANTRA Walker

Callantra petioliforma May

This species was described (May 1955) from the male. Further specimens have been taken in traps and the characters of the female, insofar as these differ from those of the male, are presented below:—

Female—Length, excluding ovipositor, 10·3 mm; wing 8·6 mm.

Head.—Lacking inferior orbital bristles.

Thorax.—Humeral calli and lower half of lower hypopleural calli red-brown. *Scutellum* red-brown except lateral margins yellowish-brown. *Postnotum* red-brown except centrally black. *Bristles*: as for male except upper *p.sa.* very weak. *Wings*: anal streak lacking or so pale as to blend with pale fulvous colour of wings. Length of anal cell extension in proportion to $cu_1 + 1a$ is 3·2:1.

Abdomen.—Tergites fused. Medial vitta dark brown and visible only on fourth and fifth tergites. *Ovipositor*: brown, strongly developed, cylindrical, first segment largely concealed beneath abdomen, visible portion much shorter than length of fifth tergite.

Allotype ♀, ex lure trap in citrus, Lawes, Queensland, May, 1955.

Type in Queensland Museum, Reg. No. T. 5883.

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MELANODACUS Perkins**Melanodacus atrisetosus** (Perkins) 1939

= *Melanodacus rubidus* May 1957. Qd J. Agric. Sci. 14: 293–306.
Zeugodacus papuaensis Malloch 1939. Proc. Linn. Soc. N.S.W. 44: 409–65.

The above synonymy was established when a large series of field and bred specimens of this species received for identification from the Department of Agriculture, Stock and Fisheries, Territory of Papua and New Guinea, was examined and compared with a paratype of *M. atrisetosus*.

Teneral specimens agreed with the description of *atrisetosus*, and also revealed the correct generic status of Perkins' species. *M. rubidus* was described from field specimens which are chiefly black on the mesonotum and fulvous tending orange-brown on the abdomen. Teneral specimens are much paler and usually are devoid of black on the mesonotum.

Malloch also obviously described his species from teneral material. Though he recorded the absence of a pecten of cilia on the third tergite of the male, he placed the species under *Zeugodacus*.

Characters of the wing not given with the earlier descriptions of this species are as follows:—

Length of anal cell extension in proportion to cu_1+1a is 1.2:1 in male and 0.9:1 in female. The supernumerary lobe was weakly developed in the majority of males examined.

NEODACUS Perkins**Neodacus strigifinis** (Walker) 1861*

= *Neodacus lanceolatus* Perkins 1939. Univ. Qd Dep. Biol. 1(10): 1–35.
Dacus (*Chaetodacus*) *albolateralis* Malloch 1939. Proc. Linn. Soc. N.S.W. 44: 409–65.

Perkins (1939) described this species from a series of specimens comprising 25 males and 26 females. The thorax is stated to be "Reddish brown, . . . ; with narrow longitudinal black streaks bordering the median, and the inner margin of the lateral, post-sutural yellow stripes, . . .". Malloch (1939) when describing *albolateralis* wrote as follows:— "Brownish-yellow species, much like *papuaensis* [= *Melanodacus atrisetosus*] in general colour and markings, the mesonotum with three ivory-white post-sutural vittae; along the inner edge of the sublateral pair there is a blackish line".

*Hardy (1959) after comparing the types states that *N. lanceolatus* is a synonym of *N. strigifinis* (Walker).

Queensland specimens of this species are paler than New Guinea material. Field specimens from coastal North Queensland, including long series taken on the wing, exhibit a fulvous thorax either with or without blackish lines bordering the inner edges of the post-sutural vittae (see May 1957, Figure 5).

A series of field specimens of this species taken at various centres in New Guinea was received for identification recently from the Department of Agriculture, Stock and Fisheries, Territory of Papua and New Guinea. These conform to Perkins' description of the species with the exception of two specimens taken at Aiyura, Eastern Highlands. These are slightly larger than typical specimens of this species, are much darker and are considered a subspecies of *strigifinis*.

***Neodacus strigifinis atritus* n. subsp.**

(Figure 1)

Male—Length 6.3 mm; wing 6.1 mm.

Female—Length, excluding ovipositor, 6.3 mm; wing 6.2 mm.

Head.—As for *strigifinis strigifinis* (Walker).

Thorax.—Mesonotum black except red-brown as follows:—Three equal-sized areas on the anterior margin between humeral calli formed by a pair of broad black bands extending backwards from anterior margin and merging with the general black colour of the remainder of the mesonotum; beneath post-sutural

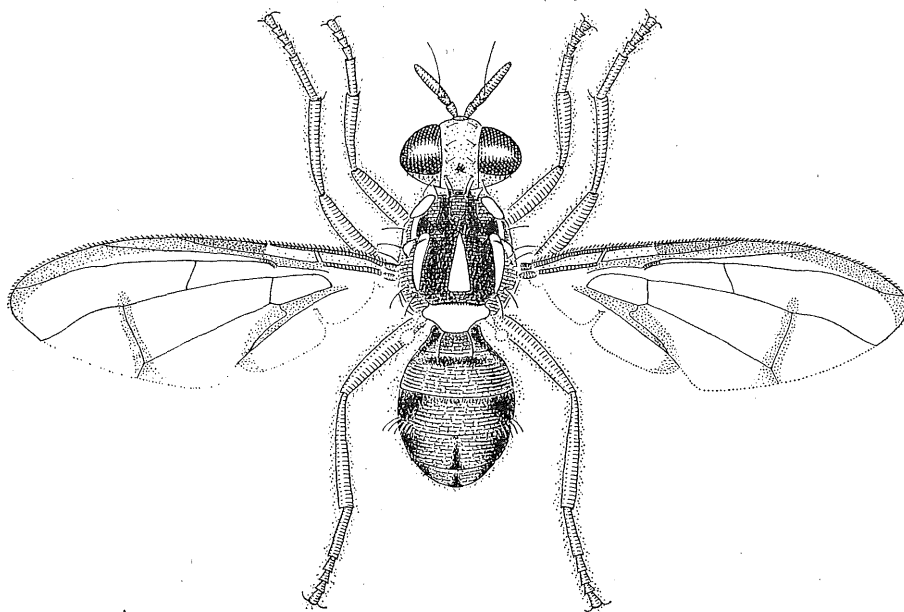


Fig. 1.—*Neodacus strigifinis atritus* ($\times 8$).

lateral vittae; at inner end of suture. Pleura black except red-brown beneath humeri; on basal margin of sternopleura and immediately beneath wings. Yellow markings and bristles as for *s. strigifinis* except medial post-sutural vitta is narrower. Postnotum black, medially red-brown. *Wings*: costal cells pale yellowish. The proportion of the anal cell extension to cu_1+1a is 3·1:1 in male and 0·8:1 in female. The infuscation on the *r-m* cross vein is much broader than in *s. strigifinis* and also extends anteriorly into cell R_5 . Other characters and measurements agree with those given in Perkins' description.

Abdomen.—Generally darker than *s. strigifinis* and fuscous on the lateral margins of third, fourth and fifth tergites (much broader on female). There is no black band on the anterior margin of the third tergite of the male, while it is indefinite in the female. General colour orange-brown. A broad black medial stripe on the fourth and fifth tergites instead of a black spot on the fifth tergite as for *s. strigifinis*.

Holotype ♂, allotype ♀, taken resting on maize leaves, Aiyura, Eastern Highlands, Territory of Papua and New Guinea, March, 1958. (J. H. Barrett).

Types in Queensland Museum; holotype Reg. No. T. 5880, allotype Reg. No. T. 5881.

This subspecies is separated from *s. strigifinis* by the characters listed above, and from all other species of *Neodacus* by the yellow band connecting the humeral and notopleural calli.

STRUMETA Walker

Strumeta amplexiseta n. sp.

(Figure 2)

A large species, honey-brown in general colour, with a broad costal band, apical third of wing infuscated, small facial spots, a very broad, elongated and parallel sided post-sutural stripe completely encircling the upper *p.sa.* bristle, and brown costal cells.

Male—Length 7·7 mm; wing 6·9 mm.

Head.—Vertical length 1·8 mm; fulvous. *Frons* flattened, length 1·3 times width; bristles: 1 *s.or.*, 2 *i.or.* *Antennae* fulvous; length of segments: 0·25 mm, 0·35 mm, 0·85 mm; third segment darker on outer surface; arista brown. *Face* pale fulvous, dull, length 0·6 mm; small circular spot in lower half of antennal groove. Very faint reddish subocular spot. *Occiput* fulvous; occipital row five each side. All bristles brown.

Thorax.—Honey-brown with the following darker brown markings:— A roughly circular area in front of inner end of suture but posterior to humeri; an indefinite elongate area along inner margins of lateral post-sutural vittae; beneath paired hoary bands, on central portion of mesonotum, extending from anterior

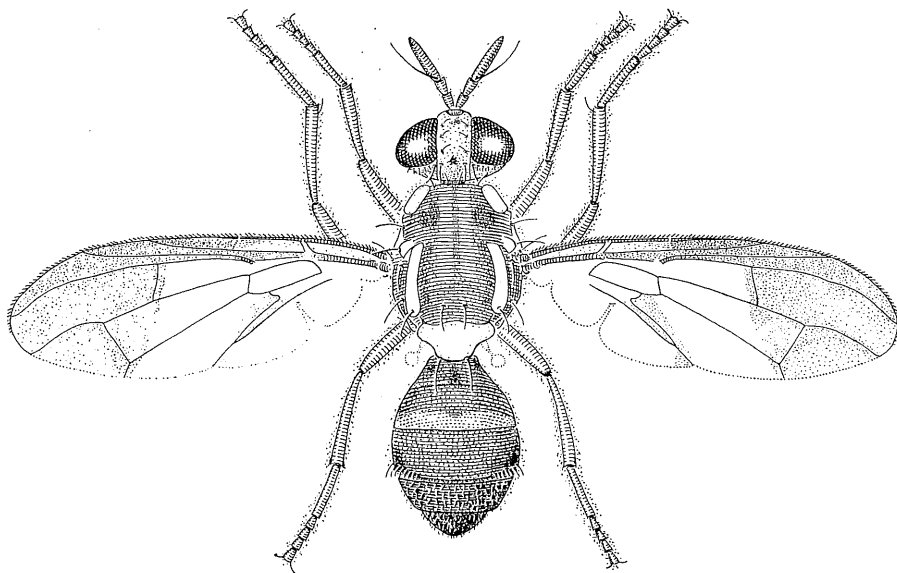


Fig. 2.—*Strumeta amplexiseta* ($\times 7.5$).

margin to end half way between suture and posterior margin. With the following yellow markings:— Humeral and notopleural calli; broad parallel-sided lateral post-sutural stripe, widening and rounded at posterior extremity and ending beyond upper *p.sa.* bristle; a broad mesopleural stripe, one and one-half times the width of notopleural callus at upper margin but narrowing to half this width at junction with sternopleuron and curved along anterior margin; a broad spot on upper edge of sternopleuron; $\frac{5}{8}$ of upper and $\frac{2}{3}$ of lower hypopleural calli (remainder fuscous). *Scutellum* yellow. *Bristles*: *scp.* 4, *npl.* 2, *mpl.* 1, *a.sa.* 1, *p.sa.* 2, *sc.* 2, *prsc.* 2, *pt.* 1, all brown. *Legs* brown. *Coxae* brown. *Wings*: hyaline except for fuscous costal band, anal streak and fuscous over apical third of wing beyond *r-m* cross vein. This latter darkened area becomes paler towards wing margins between extremities of veins r_4+r_5 , m_1+m_2 and m_3+m_4 . Costal cells fulvous; microtrichia in upper outer half of second cell. *Stigma* brown. Proportion of second costal cell to stigma, 0.75:1. Costal band broad and confluent along its posterior margin with r_4+r_5 until it merges with the fuscous mark just basal to the *r-m* cross vein. *r-m* dividing m_1+m_2 in the proportion of 2.1:1 (the relative position of the *r-m* cross vein is more distal than for most Queensland species of *Strumeta*). Anal streak narrow but attaining margin of wing. A weak supernumerary lobe and a dense aggregation of microtrichia at the extremity of cu_1+1a . Anal cell extension not restricted basally, its length in proportion to cu_1+1a being 2.4:1.

Abdomen.—Elongate oval in shape; honey-brown in colour except posterior half of second tergite whitish and fuscous over all of fourth and fifth tergites. Pecten of cilia on third tergite.

Holotype ♂, 1 ♂ paratype, ex lure traps charged with methyl eugenol in citrus, Atherton, Queensland, August and November respectively, 1961.

Type in Queensland Museum, Reg. No. T.5860.

The markings of the wing, shape of the lateral post-sutural stripes and generic characters separate this species readily from all other species of *Dacinae*.

***Strumeta hispidula* May**

This species was described from one female (May 1957). Further specimens (two males) have been taken in traps at Atherton. Characters of the male, especially where these differ from those given for the female, are presented below.

Male.—Length 5.4 mm; wing 4.7 mm.

Head.—As in female.

Thorax.—As in female except:—No fuscous spot on central portion of anterior margin of mesonotum; fuscous on lower half of notopleural callus; tending fuscous between *a.sa.* and lower *p.sa.* bristles. *Legs*: as for female except:—Only basal extremity of middle femora and only basal quarter of hind femora fulvous; basal extremities of fore and middle tibiae tending fuscous (not black). *Wings*: generally as for female. Proportion of anal cell extension to $cu_1 + 1a$ is 1.2:1. A definite but not strongly developed supernumerary lobe.

Abdomen.—General colour as for female. A pecten of cilia on the third tergite.

Allotype ♂, 1 ♂ paratype, ex lure traps in citrus, Atherton, September, 1961 and April, 1959, respectively.

Type in Queensland Museum, Reg. No. T. 5884.

***Strumeta silvicola* n. sp.**

(Figures 3 and 4)

A medium sized species with an oval facial spot, narrow mesopleural stripe, moderately broad lateral post-sutural vittae which narrow posteriorly, clear wings and a pronounced medial black stripe on the abdomen.

Three forms are recognized among the large series collected:—A smaller melanic form (15 specimens); the more usual form (46 specimens); and a larger, paler form (17 specimens). The holotype was selected from among specimens of the more usual form. Characters of the smaller and larger forms, insofar as these differ from the common form, are included below.

Male.—Melanic form: length 4.3 mm; wing 4.1 mm.

Usual form: length 5.5 mm; wing 5.0 mm.

Paler form: length 6.5 mm; wing 5.8 mm.

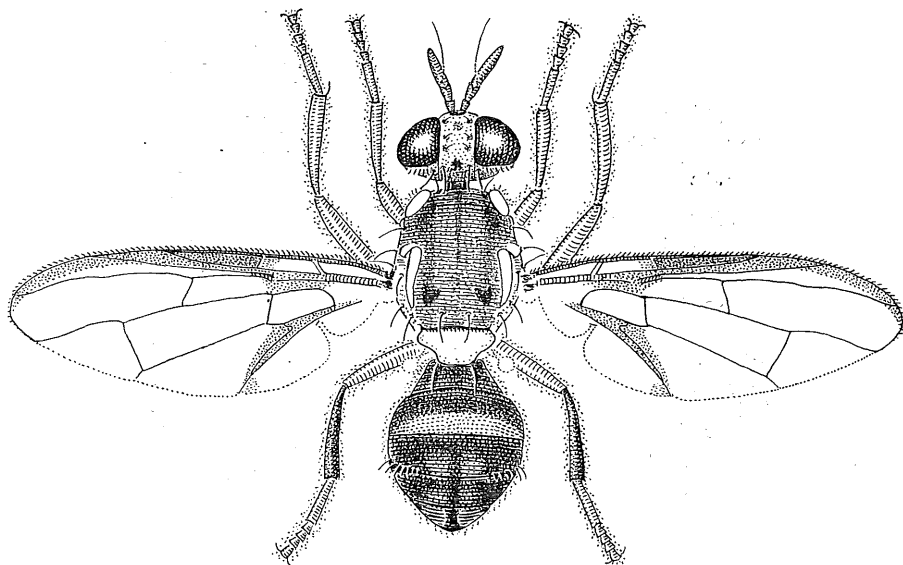


Fig. 3.—*Strumeta silvicola* ($\times 10$): usual form.

Head.—Vertical length 1.4 mm. *Frons* fulvous, except fuscous around orbital bristles and on central raised hump; latter covered with short black setae; bristles: 1 *s.or.*, 2 *i.or.*; length 1.3 times width. *Lunule* darkened. *Face* fulvous, shiny; length 0.4 mm; spot oval, centrally placed in antennal groove and not reaching hypostome. *Genae* fulvous with pair of small subocular spots and cluster of short black hairs on lower margin; bristle black. *Occiput* fulvous; occipital row strong, 4–5 each side. *Antennae* fulvous except tending fuscous on outer surface of third segment and whole covered with hoariness; length of segments: 0.15 mm, 0.3 mm, 0.68 mm.

Thorax.—Generally red-brown except for the following fuscous markings:—Blotches between each humeral callus and suture; a pair of V-shaped marks with apices pointing backwards and level with the posterior ends of the lateral post-sutural vittae; a band immediately anterior to and posterior to the mesopleural stripe; and over the greater part of the sternopleuron. A central hoary band on the mesonotum as wide as the distance between the outer scapular bristles, extending to the posterior margin and divided longitudinally by a dark line. (For the larger form, the mesonotum is red-brown with the faintest suggestion of a fuscous blotch at the inner posterior edge of the post-sutural stripe. The pleura are devoid of fuscous markings except immediately behind the mesopleural stripe. For the melanic form, the mesonotum is covered with a pattern of fuscous markings (see Figure 4) or may be black except for red-brown medially on the posterior half. The pleura are chiefly black. In a long series of specimens, gradations in the intensity of black pattern on the thorax occur between these extremes.) With the following yellow markings:—Humeral and notopleural calli; moderately broad lateral post-sutural vittae

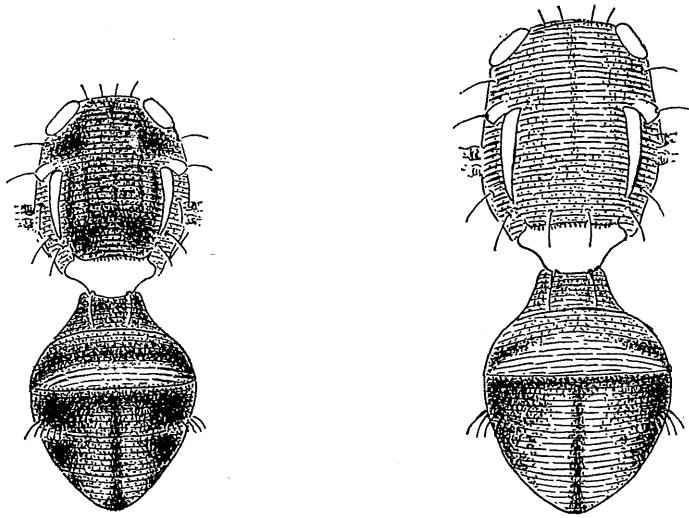


Fig. 4.

Strumeta silvicola ($\times 12$): at left—melanic form; at right—paler form.

narrowing posteriorly and not quite attaining upper *p.sa.* bristles (this stripe narrows gradually to a point in most specimens; in some, however, it is almost parallel-sided for the greater part of its length but narrows suddenly at its posterior extremity); an almost parallel-sided mesopleural stripe, convex on its anterior margin, slightly wider than the notopleural callus, which ends in a spot on the sternopleuron; $\frac{3}{4}$ of upper and $\frac{2}{3}$ of lower hypopleural calli (remainder fuscous). *Scutellum* yellow except for narrow fuscous basal band. *Postnotum* red-brown with fuscous blotches anteriorly and laterally. *Bristles*: *scp.* 4, *npl.* 2, *mpl.* 1, *a.sa.* 1, *p.sa.* 2, *sc.* 2, *pt.* 1, *prsc.* 2, all dark brown. *Legs* fulvous except hind tibiae dark brown; apical spur on middle tibiae. (In the melanic form, the fore and mid tibiae tend towards dark fulvous.) *Coxae* brown. *Wings*: hyaline, except:—Distinct fuscous costal band of uniform width (approximate width of stigma) extending from the stigma to a point midway between extremities of veins $r_4 + 5$ and $m_1 + 2$; a distinct yet narrow fuscous anal streak as wide as anal cell but narrowing towards wing margin. A dense aggregation of microtrichia at the inner extremity of $cu_1 + 1a$, above basal cell and in outer third of second costal cell. Costal cells pale fulvous (colourless in some specimens). Supernumerary lobe weakly developed, merely an undulation in the wing margin. Proportion of second costal cell to stigma, 0.6:1. *r-m* dividing $m_1 + 2$ in the proportion of 1.5:1. Proportion of anal cell extension to $cu_1 + 1a$ is 2.5:1. (Note: a mean determined from measurements taken from 25 paratypes was 2.7:1, with values ranging from 2.5:1 to 3.1:1.)

Abdomen.—Oval. First tergite fuscous. Second tergite fulvous on anterior half and whitish on posterior half; these areas separated by narrow fuscous band reaching to and broadening on each lateral margin. Third, fourth and

fifth tergites basically yellow-brown except for a very broad black medial band, and black on the anterior half of the third tergite and lateral portions of each tergite. Shiny spots on fifth tergite yellow-brown. Pecten of hairs on third tergite. (For the larger, paler form, the transverse fuscous band found on the second tergite of smaller specimens is lacking and is replaced by black areas extending only a short distance in from each lateral margin. The anterior central portion of this tergite is fulvous. Also, there may be only narrow blackened areas on the lateral margins of the fourth and fifth tergites while the black band on the anterior portion of the third tergite is much narrower.)

Holotype ♂, and 72 ♂♂ paratypes taken in lure traps, charged with the male attractants 1-p-hydroxyphenyl butan-3-one and anisyl acetone placed in rain forest at Ringrose National Park and R. 191 Wongabel, Atherton Tableland, Queensland, October and December, 1960 and February, March and April, 1961.

Type and 17 paratypes in Queensland Museum; holotype Reg. No. T. 5861, paratypes Reg. Nos. T. 5850-T. 5855 and T. 5862-T. 5872.

This species is superficially similar to *S. bilineata* Perkins and May but differs in the shape of the lateral post-sutural vittae, the colour of the thorax and abdomen and wing measurements. *S. cacuminata* Hering and *S. pallidus* Perkins and May, two species also with clear wings and a broad medial stripe on the abdomen, are readily separated on colour patterns of the thorax, shape of the costal band, shape of the post-sutural stripe and the extent of black colouration on the tergites. *S. breviaculeus* Hardy, which was taken in the traps with *S. silvicola*, has distinctly different thoracic and abdominal markings. The melanic form of *S. silvicola* differs from *S. endiandrae* Perkins and May in the extent of black or fuscous markings on the mesonotum, pleuron and abdomen and the width of the costal band.

ZEUGODACUS Hendel

The species described below as new was confused by Tryon (1927) when a Dacinae bred in Queensland from *Bryonopsis laciniosa* (L.) Naud. was described under *Bactrocera caudatus* (Fabricius) [= *Zeugodacus caudatus*], although differences were noted between *caudatus* and the Queensland species. Perkins (1937) considered the characters of the species agree more closely with those of *Z. synnephes* (Hendel) from Formosa and this name was subsequently adopted generally in Queensland.

Shiraki's (1933) detailed description of *Z. synnephes* suggests a close affinity with *Z. emittens* (Walker) and these two species may be synonymous. In both, the apical spot on the wing is large and crosses the fourth longitudinal vein; the infuscation on the outer median cross vein is broad, extends forward into cell R₅ where it may coalesce with the apical spot and extends below along the wing margin towards the anal vein; also the apex of each femur is dark brown. None of these characters are common to the Queensland species.

Zeugodacus choristus n. sp.

(Figure 5)

A large, brownish-yellow species with three post-sutural vittae, oval facial spots, unspotted scutellum, and a medium-sized apical spot and infuscation on the outer median cross vein on the wing.

Male—Length 7·1 mm; wing 6·6 mm.

Female—Length, excluding ovipositor, 8·3 mm; wing 7·5 mm.

Head.—Vertical length 1·7 mm. *Frons* rich yellow-brown, transverse fuscous spot between upper pair of infra-orbital bristles; length 1·3 times width; bristles: 1 *s.or.*, 3 *i.or.* (sometimes 2 *i.or.*). *Antennae* fulvous, darker on third segment; length of segments: 0·18 mm, 0·23 mm, 0·75 mm. *Face* yellow, hoary along eye margins, length 0·58 mm; oval facial spots, length 0·2 mm. *Genae* with well defined sub-ocular spot. *Occiput* bright yellow-brown. Cephalic bristles black, post-verticals present, very weak.

Thorax.—Red-brown with the following black markings:—A triangular patch between humeri and suture; an elongate broad band lying along the inner margin of each post-sutural stripe, commencing at the suture and terminating level with pre-scutellar bristles; at times, a short narrow band on each side of the medial yellow vitta; bordering anterior margin of mesopleural stripe; on sternopleuron; and above hind coxae. Yellow markings as follows:—Humeral (except

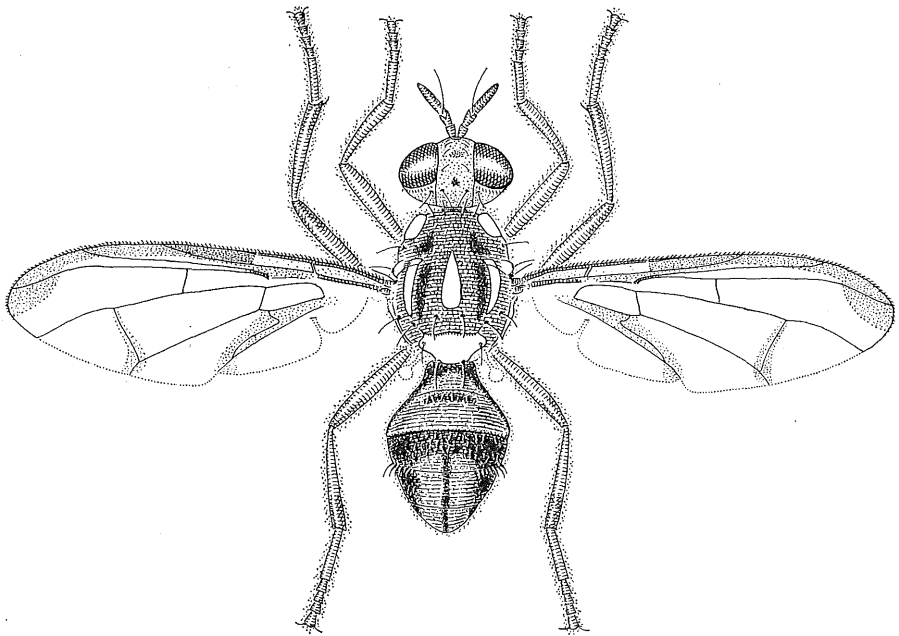


Fig. 5.—*Zeugodacus choristus* ($\times 7\cdot5$).

fore-margin black) and notopleural calli; a broad mesopleural stripe almost attaining anterior notopleural bristle above and narrowing to width of notopleural callus below, with anterior margin convex; a broad semi-circular spot on upper portion of sternopleuron; $\frac{7}{8}$ of upper and $\frac{2}{3}$ of lower hypopleural calli (remainder fuscous); pair of broad, triangular post-sutural lateral stripes commencing before suture and ending well before upper *p.sa.* bristle; a median vitta on mesonotum pointed anteriorly and rounded posteriorly, commencing before suture and terminating before posterior ends of lateral post-sutural vittae. *Scutellum* yellow with narrow dark brown basal band. *Postnotum* red-brown, margins dark brown. *Bristles*: *scp.* 4, *npl.* 2, *mpl.* 1, *p.sa.* 2, *a.sa.* 1, *prsc.* 2, *sc.* 4, *pt.* 1, all dark brown to black. *Legs* brownish, except paler on basal two-thirds of middle and hind femora and darker on hind tibiae; black spur on middle tibiae; brown spurs on fore and hind tibiae; middle and hind coxae brown. *Wings* pale yellowish, except:—Costal cells pale fulvous (first darker than second); a fuscous costal band occupying stigma, cell R_1 and continuing at same width for one-third distance between extremities of r_{2+3} and r_{4+5} and then broadening to form an apical spot which terminates midway between extremities of r_{4+5} and m_{1+2} ; a narrow infuscation enclosing the outer median cross vein entirely which extends along vein m_{3+4} to the wing margin; and a broad fuscous anal streak. Second costal cell shorter than stigma, the proportion being 0.67:1. Very long setae on vein r_{4+5} . *r-m* dividing m_{1+2} in proportion of 1.3:1. Proportion of anal cell extension to $cu_1 + 1a$ is 2.9:1 in male and 1.4:1 in female. Supernumerary lobe strongly developed in male. An aggregation of microtrichia at the end of $cu_1 + 1a$ and shaggy hairs covering the extension of the anal cell.

Abdomen.—Rich yellow-brown; with the following dark brown to black markings:—A narrow band on anterior third of first tergite which extends backwards along extreme lateral margins of first and second tergites; a short transverse band on fore margin of second tergite; a transverse band on anterior half of third tergite; on lateral margins of third, fourth and fifth tergites (as in figure); a medial stripe on third, fourth and fifth tergites which thickens slightly as it crosses each suture. Pecten of hairs on third tergite of male. Ovipositor strongly developed.

Holotype ♂, and five ♂♂ paratypes, ex lure traps, Atherton, Queensland, May, June and December, 1960 and March, 1961.

Allotype ♀, and five ♀♀ paratypes, ex lure traps, Atherton and Ayr, Queensland, January, April, August, September and December, 1955, 1956 and 1957.

Types in Queensland Museum; holotype Reg. No. T. 5874, allotype Reg. No. T. 5875, paratypes Reg. Nos. T. 5876-9.

This species can be separated from somewhat similarly coloured species of *Zeugodacus* as follows:—From *emittens* and *synnephes* as outlined above; from *caudatus* by the larger apical spot, the extent of infuscation on the outer median

cross vein, the stronger supernumerary lobe and the shape of the post-sutural stripes; from *Z. maculatus* Perkins by the wholly yellow scutellum and the differently coloured face; from *Z. depressus* Shiraki by the more extensive infuscation on the outer median cross vein, the stronger supernumerary lobe and differently coloured thorax; from *Z. hageni* de Meijere by the smaller apical spot and infuscation on the outer median cross vein; from *Z. gavisus* Munro by the presence of an apical spot and infuscation on the outer median cross vein; and from *Z. mundus* (Bezzi) because of the presence of facial spots, the definite apical spot on the wing and the differently coloured mesonotum.

***Zeugodacus trichotus* n. sp.**

(Figure 6)

A large species covered with long yellowish or whitish hairs on head, thorax and abdomen, with long wings, broad mesopleural stripe, three post-sutural vittae, narrow costal band, small weak facial spot and a parallel-sided broad lateral post-sutural vitta.

Male—Length 7.4 mm; wing 7.3 mm.

Female—Length, excluding ovipositor, 8.5 mm; wing 8.5 mm.

Head.—Vertical length 1.9 mm in allotype. *Frons* sunken, central fuscous blotch not elevated; fulvous except darker around base of orbital bristles; length 1.2 times width; bristles: 1 *s.or.*, 2 *i.or.* (3 *i.or.* in female). *Face* fulvous, hoary along eye margins; length 0.6 mm; small elongate fuscous mark on anterior lower edge of antennal groove, not attaining hypostome. *Antennae* (missing in male specimens) pale fulvous; length of segments: 0.26 mm, 0.32 mm,

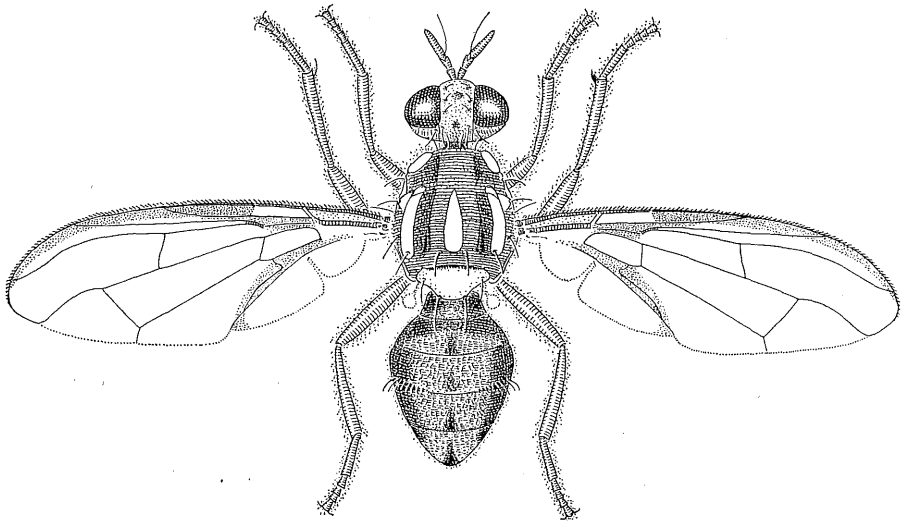


Fig. 6.—*Zeugodacus trichotus* ($\times 6.5$).

0.95 mm. *Genae* pale with pale subocular spot; bristle strong, black. *Gular* bristle strong, black, may be paired. *Palps* pale fulvous, hairy. *Occiput* fulvous; occipital row very numerous. *Vertex* fulvous; bristles strong, black. *Post-vertical* bristles present, weak.

Thorax.—Yellowish brown and covered with long yellowish hairs; with fuscous markings as follows:—Area between humeral callus and suture; along inner margin of post-sutural stripe; bordering medial vitta; beneath humeral callus; along anterior and posterior margins of mesopleural stripe; on central portion of sternopleuron; beneath wing attachment and above hind coxae. A dark, brownish, shining, thin band extending from inner anterior margin of each humeral callus to posterior margin of mesonotum but interrupted for short distance at inner end of suture. Yellow markings as follows:—Humeral and notopleural calli; broad lateral post-sutural stripe parallel-sided for its entire length commencing just before suture and ending slightly beyond the upper *p.sa.* bristle; a medial vitta, commencing in a point level with the suture but broadening to almost the width between the *prsc.* bristles and ending just before these bristles; a broad triangular mesopleural stripe almost attaining humeral callus above and narrowing below to almost half of its basal length, then widening to form a much wider spot on upper part of sternopleuron; $\frac{5}{8}$ of upper and $\frac{3}{4}$ of lower hypopleural calli (remainder fuscous). *Scutellum* yellow except for thin dark basal band. *Postnotum* fulvous except fuscous laterally. *Bristles*: *scp.* 4, *npl.* 2, *mpl.* 1, *a.sa.* 1, *p.sa.* 2, *sc.* 4, *prsc.* 2, all strong, black; *pt.* 1, weak, pale yellow. *Legs* fulvous, hairy; a row of long black setae on the outer lower surface and a dense concentration of long black setae on the dorsal surface of the front femora; rest of legs very hairy. *Coxae* fulvous. *Wings*: long, hyaline except for pale narrow costal band ending just beyond extremity of $r_4 + 5$ and pale fulvous anal streak not attaining wing margin. First costal cell pale fulvous, second cell colourless. Second costal cell shorter than stigma, the proportion being 0.7:1. *r-m* dividing $m_1 + 2$ in proportion of 1.8:1. Anal cell extension slightly restricted basally, its length in proportion to $cu_1 + 1a$ being 2.4:1 in male and 1.2:1 in female. Supernumerary lobe very strongly developed in male. Pronounced curves in veins $r_4 + 5$ and $m_1 + 2$ beyond *r-m* and outer median cross vein respectively.

Abdomen.—These are teneral specimens and the abdomens are shrivelled. Generally pale fulvous and covered with yellowish hairs. With the following indefinite black markings:—Anterior half of first and second tergites, laterally on third, fourth and fifth tergites; a medial stripe on fourth and fifth tergites; broadening posteriorly. Posterior margin of second tergite whitish. A pecten of cilia on third tergite of male. Ovipositor fulvous, shiny, visible portion of oviscape 1.4 times length of fifth tergite.

Holotype ♂, allotype ♀, 1 ♂ and ♀ paratypes bred from native cucurbit, Kerowaghi, Eastern Highlands District, Territory of New Guinea, August, 1960. (K. Cole.)

Types in Queensland Museum; holotype Reg. No. T. 5857, allotype Reg. No. T. 5856.

This species was bred with a larger series of *Melanodacus atrisetosus* from a native cucurbit.

General specimens of *M. atrisetosus* are similar to *Z. trichotus* in general appearance but the latter exhibits the following differences:—Smaller facial spots; a coloured first costal cell; a pecten on the third tergite of the abdomen and a strong supernumerary lobe in the wing of the male; a broader mesopleural stripe; a broader parallel-sided lateral post-sutural stripe; a longer oviscape; wider ratios for the proportionate lengths—anal cell extension: $cu_1 + 1a$; and greater hairiness. Aged specimens of *M. atrisetosus* are chiefly black on the thorax and fulvous tending orange on the abdomen. Though resembling *Z. diaphoropsis* (Hering) and *Z. hageni* in general colouration, the latter has an apical spot on the wing while the former is differently coloured on the mesonotum and legs.

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