

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, Estación Biol. LaSelva, 23/VII/94, 50-100 m. (INBio). Paratypes, 8 ♀, same except 19-23/VII/03; 2 ♀, Guanacaste, Estación Pitilla, 9 km SE of Santa Cecilia, 10-14/VII/94, 700 m. (INBio, BBM, USNM, LACM, LWQ).

Etymology: 'artus' L, narrow; 'caulis' L, st; referring to narrow stem of the ♀ subgenital plate.

83. *Psychoda stenostypis* Quate, n.sp.

Fig. 27 d

Grey species distinguished by Y-shaped subgenital plate with apical lobes at apex of long, slender stem; similar to *artacula* but without lateral expansion of base extending apically.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, separated from preceding; flagellomeres 12, 13 partially fused, separated from 11; ascoids Y-shaped; antenna about 4.0X palpus. Eyes separated by 1 facet diameter. Hair patch of frons extends to facet row 1 and merges with patch on vertex. Palpal formula = 7:6:6:7. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 little longer than R_{2+3} .

Subgenital plate Y-shaped, with apical lobes at apex of long, slender stem without lateral expansion; genital digit very long, as long as stem and lobes.

Measurements: Antenna 1.00-1.20 mm. Wing length 1.74-1.86 mm., width 0.75-0.80 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, Estación Biol. LaSelva, 23/VII/94, 50-100 m. (INBio). Paratypes, 2 ♀, same except 23-25/VII/03 (USNM, LWQ).

Etymology: 'stenos' G, narrow; 'stypos' G, stem; referring to narrow stem of the ♀ subgenital plate.

84. *Psychoda cordiforma* Quate, n.sp.

Fig. 27 f

Grey species distinguished by simple, heart-shaped subgenital plate with little ornamentation on inner face.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, separated from preceding; flagellomeres 12, 13 partially fused, separated from 11; ascoids Y-shaped; antenna about 3.5X palpus. Eyes separated by 1 facet diameter. Hair patch of frons extends to facet row 1 but does not merge with patch on vertex. Palpal formula = 7:8:7:8. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 and R_{2+3} about equal in length.

Subgenital plate heart-shaped, with little ornamentation on inner face.

Measurements: Antenna 0.95-1.16 mm. Wing length 1.54-1.86 mm., width 0.65-0.80 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Guanacaste, La Pacifica, 40 km SE of Liberia, 17/VII/93, 100 m (INBio). Paratypes, 2 ♀, same; 1 ♀, Guanacaste, Estación Pitilla, 9 km S of Santa Cecilia, 10-14/VII/93, 700 m. (USNM, LWQ).

Etymology: 'cordis' L, heart; 'forma' L, shape; referring to the heart-shaped ♀ subgenital plate.

85. *Psychoda bicordata* Quate, n.sp.

Fig. 27 f

Grey species distinguished by double heart-shaped appearance of face of female subgenital plate.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, all flagellomeres separated; ascoids Y-shaped; antenna about 4.0X palpus (3.9-4.2). Eyes separated by 1 facet diameter. Hair patch of frons extends to center of facet row 1, separated from patch on vertex. Palpal formula = 8:7:7:7. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 and R_{2+3} about equal in length.

Subgenital plate with sides of apical lobes divergent, heart-shaped without pointed base; inner face with similar, heart-shaped structure.

Measurements: Antenna 0.93-1.13 mm. Wing length 1.51-1.86 mm., width 0.60-0.84 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Guanacaste, Estación Pitilla, 9 km S of Santa Cecilia, 10-14/VII/94, 700 m. (INBio). Paratypes, 2 ♀,

same, 4 ♀, Guanacaste, Volcán Cacao, E of Santa Rosa, 14-17/VII/94, 1000 m. (USNM, LACM, MNH, BBM, LWQ).

Etymology: 'bi', L, two; 'cordis', L, heart; referring to double heart-shaped appearance of the ♀ subgenital plate.

86. *Psychoda savaiiensis* Edwards

Psychoda savaiiensis Edwards, 1928:74; Quate, 1962:63.

Psychoda rarotongensis Satchell, 1953:183; Quate, 1953:208; Quate, 1959:474 (illus.).

Psychoda lucia Quate, 1954:349 (illus.).

Distribution: Tropicopolitan.

New records: COSTA RICA, Guanacaste, La Pacifica, 40 km SE of Liberia, 17/VII/93, 100 m.; Parque Nac. Santa Rosa, 9/II/93, sea level; Estación Pitilla, 9 km S of Santa Cecilia, 10-14/VII/93, 700 m.; Heredia, Estación Biol. La Selva, 22-25/VII/93, 50-100 m.; Limon, Puerto Viejo de Talamanca, 20-22/VII/93, sea level.

This widespread Tropicopolitan species is commonly found in light trap collections in all tropical areas. It is readily recognized by the 14-segmented antenna, female genitalia with the hemispherical subgenital plate having a shallow apical concavity and pair of striated lobes on inner face of the plate, and the short, swollen gonocoxites and very short, sharp lateral paramere of the male genitalia.

87. *Psychoda buxoides* Quate, n.sp.

Fig. 28 a-e

Grey species distinguished by quadrate shape of concavity between apical lobes of subgenital plate; ♂ with double oval patch of black, spatulate hairs on tergite 6, differentiated from *psilotes* by presence of 6-8 prominent setae on basal half of gonocoxite.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres equal in size and clearly separated; ascoids Y-shaped; palpus long, extends to flagellomere 6 or 7; antenna about 2.5X palpus. Eyes separated by 1.5 facet diameters. Hair patch of frons extends to facet row 3, clearly below margin of eye bridge, separated from patch on vertex. Palpal formula =

8:9:9:12. Labellum with 1 short and 3 long teeth. Wing with radial and medial forks complete; R_{2+3} little longer than R_2 .

Subgenital plate with sides of apical lobes convergent, apical concavity between lobes quadrate-shaped with sides nearly at right angle to base.

Measurements: Antenna 0.89-1.01 mm. Wing length 1.33-1.78 mm., width 0.51-0.70 mm.

Male. Abdomen with pair of oval patches of dense, black spatulate hairs on tergite 6. Gonocoxite with 6-8 setae on elongate protuberance on basal half; paramere extends beyond tip of aedeagus; surstylus stocky, shorter than gonopod.

Measurements: Antenna 1.04-1.09 mm. Wing length 1.35-1.61 mm., width 0.58-0.65 mm.

Holotype ♀, allotype ♂, COSTA RICA, Guanacaste, La Pacifica, 40 km SE of Liberia, 17/VII/93, 100 m. (INBio). Paratypes, 23 ♀, 8 ♂, same; 1 ♂, Parque Nac. Santa Rosa, 9/VII/93, sea level (INBio, USNM, LACM, MNH, CAS, BBM, LWQ).

Etymology: 'buxus', L, box, referring to box-like or quadrate shape of apical concavity.

88. *Psychoda incompta* Quate, n.sp.

Fig. 28 f-g

Grey species distinguished by lack of hemispherical lobes in ♀ spermatheca.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres unequal in size, 14 smallest, 11 & 12 fused, but 12 & 13 separated; ascoids Y-shaped; antenna about 3.0X palpus. Eyes separated by about 1 facet diameters. Hair patch of frons extends in narrow band to facet row 1, separated from patch on vertex. Palpal formula = 9:10:10:12. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_{2+3} and R_2 subequal in length

Subgenital plate hemispherical, without definite apical lobes, apical concavity shallow; spermatheca lacking hemispherical lobes.

Measurements: Antenna 0.97-1.23 mm. Wing length 1.83-2.43 mm., width 0.80-0.96 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, Vara Blanca, 26/VII/93, 1800 m. (INBio). Paratypes

4 ♀, same; 3 ♀, Heredia, San Rafael de Vara Blanca, 18,26/VII/93, 1700 m.; 1 ♀, San José, 2 km w of Empalme, I/95, 2300 m., P. Hanson; 2 ♀ Cartago, 44 km S. of Cartago, 19-24/VI/95, 2350 m.; 2 ♀, 52 km S of Cartago, 19-24/VI/95, 2680 m.; 3 ♀, 30 km N of San Isidro, 21-24/VI/95, 2640 m.; 13 ♀, Guanacaste, Volcán Cacao, E of Santa Rosa, 14-17/VII/93, 1000 m.;

2 ♀, Guanacaste, Monteverde, 13/II/92, 1500 m.; 1 ♀, Puntarenas, Estación Pittier, 22 km N of San Vito, 11-16/VI, 1670 m. (USNM, LACM, MNH, CAS, BBM, LWQ).

Etymology: 'incomptus', L, unadorned, referring to the amorphic shape of the spermatheca without lobes.

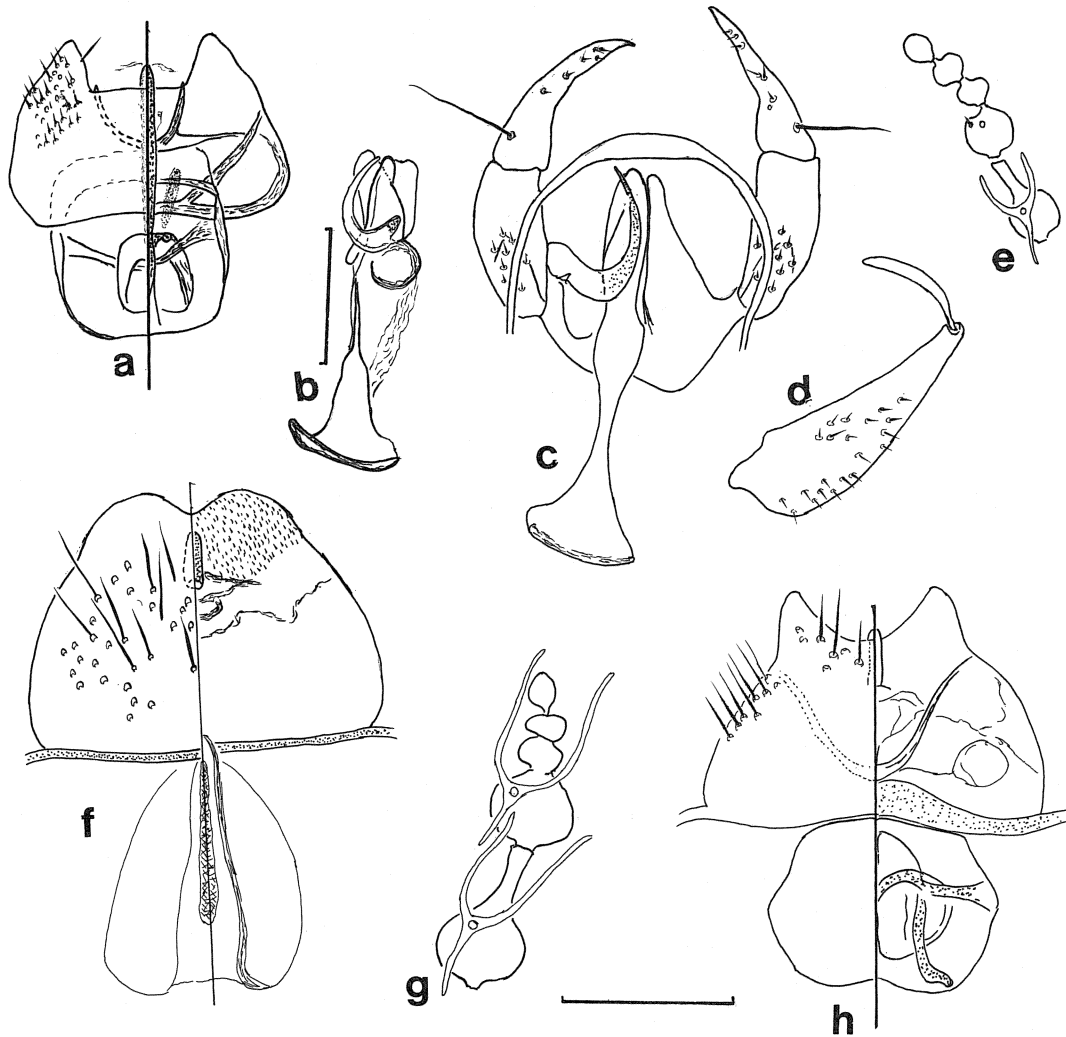


Fig. 28. a-e. *Psychoda buxoides*. a. ♀ genitalia; b. ♂ aedeagus, lateral; c. ♂ gonopods and aedeagus, dorsal; d. ♂ surstylus, lateral; e. flagellomeres 10-14. f-g. *P. incompta*. f. ♀ genitalia; g. flagellomeres 10-14. h. *P. mimica*, ♀ genitalia. Scale line = 0.1 mm.

Psychoda mimica Quate, n.sp.

Fig. 28 h

Small grey species with U-shaped ridge on inner face of ♀ subgenital plate; antenna with 14 flagellomeres, terminal 3 unequal in size.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres unequal in size, 14 smallest, 12 & 13 partly fused; ascoids Y-shaped; palpus extends to flagellomere 4; antenna about 3.2X palpus. Eye bridge with 4 row of facets; eyes separated by about 1 facet diameter posteriorly and widening anteriorly. Hair patch of frons extends to upper eye margin, narrowly separated from patch on vertex. Palpal formula = 8:8:8:8. Labellum with 4 teeth.

Wing with radial and medial forks complete; R_{2+3} and R_2 about equal in length.

Subgenital plate with weakly differentiated apical lobes; V-shaped ridge on inner face plain, without setae; basal band of plate expanded in center.

Measurements: Antenna 1.0-1.11 mm. Wing length 1.59-1.98 mm., width 0.67-0.8 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Limon, Puerto Viejo de Talamanca, sea level, 20-22/VII/93 (INBio). Paratypes, 8 ♀, same (USNM, LACM, BBM, LWQ).

Etymology: 'mimicus' L. imitative; refers to similarity to *entolopha* in that both have a distinctive V-shaped ridge on inner face of subgenital plate.

90. *Psychoda laticeps* Quate, n.sp.

Fig. 29 a-d

Grey species distinguished by unusually broad head; head and thorax darker than abdomen; ♀ genitalia with dark, central extension of base of subgenital plate and shallow apical concavity.

Female. Head broader than related species. Antenna with 14 flagellomeres, terminal 3 flagellomeres equal in size and clearly separated; ascoids Y-shaped; antenna about 4X palpus. Eyes separated by 1-2 facet diameters. Hair patch of frons extends to facet row 3, clearly below margin of eye bridge, separated from patch on vertex. Palpal formula = 7:8:8:9. Labellum with

1 short and 3 long teeth.

Wing with radial and medial forks complete; R_{2+3} little longer than R_2 .

Subgenital plate with sides of small apical lobes convergent, apical concavity shallow; base with dark, central extension to base of digit.

Measurements: Antenna 1.02-1.41 mm. Wing length 1.59-2.40 mm., width 0.63-0.96 mm.

Male. Paramere sickle-shaped, extending to apex of aedeagus; gonocoxal apodeme short, triangular, setose; surstylus stocky, about same length as gonopod.

Measurements: Antenna 1.41 mm. Wing length 1.85-1.95 mm., width 0.82-.84 mm.

Holotype ♀, allotype ♂, COSTA RICA, Heredia, Estación Biol. La Selva, 23/VII/93, 50-100 m. (INBio). Paratypes 5 ♀, same; 5 ♀, Guanacaste, Volcán Cacao, E of Santa Rosa, 14-17/VII/93, 1000 m., Estación Pitilla, 9 km S of Santa Cecilia, 10-14/17/93, 700 m.; 2 ♀, 1 ♂, Limon, Puerto Viejo de Talamanca, 20-23/VII/93, sea level (INBio, USNM, LACM, MNH, BBM, LWQ).

Etymology: 'latus', L, broad, 'caput', L, head.

91. *Psychoda psilotes* Quate, n.sp.

Fig. 29 e-h

Grey species with head and thorax darker than abdomen, eyes widely separated, ♀ genitalia with median, dark rod in dorsad of plate; ♂ with double oval patch of black, spatulate hairs on tergite 7 (not 6),

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres equal in size and clearly separated; ascoids Y-shaped; antenna about 3X palpus. Eyes separated by 2 facet diameters. Hair patch of frons extends to facet row 3, clearly below margin of eye bridge, separated from patch on vertex. Palpal formula = 7:9:9:10. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_{2+3} and R_2 of same length.

Subgenital plate with apical concavity semicircular; pair of setose lobes flanking digit; median, dark band in spermathecal membrane dorsad of plate.

Measurements: Antenna 0.89-1.03 mm. Wing length 1.49-1.81 mm., width 0.55-0.67 mm.

Male. Frons hair patch with nearly straight upper margin, without median extension, spatulate hairs dense. Abdomen with pair of oval patches of dense, black spatulate hairs on tergite 7 (not 6 as in *buxoides*).

Gonocoxite with 3 small setae on small protuberance on venter; surstylus stocky, about as long as gonopod.

Measurements: Antenna 1.05-1.08 mm. Wing length 1.25-1.47 mm., width 0.57-.63 mm.

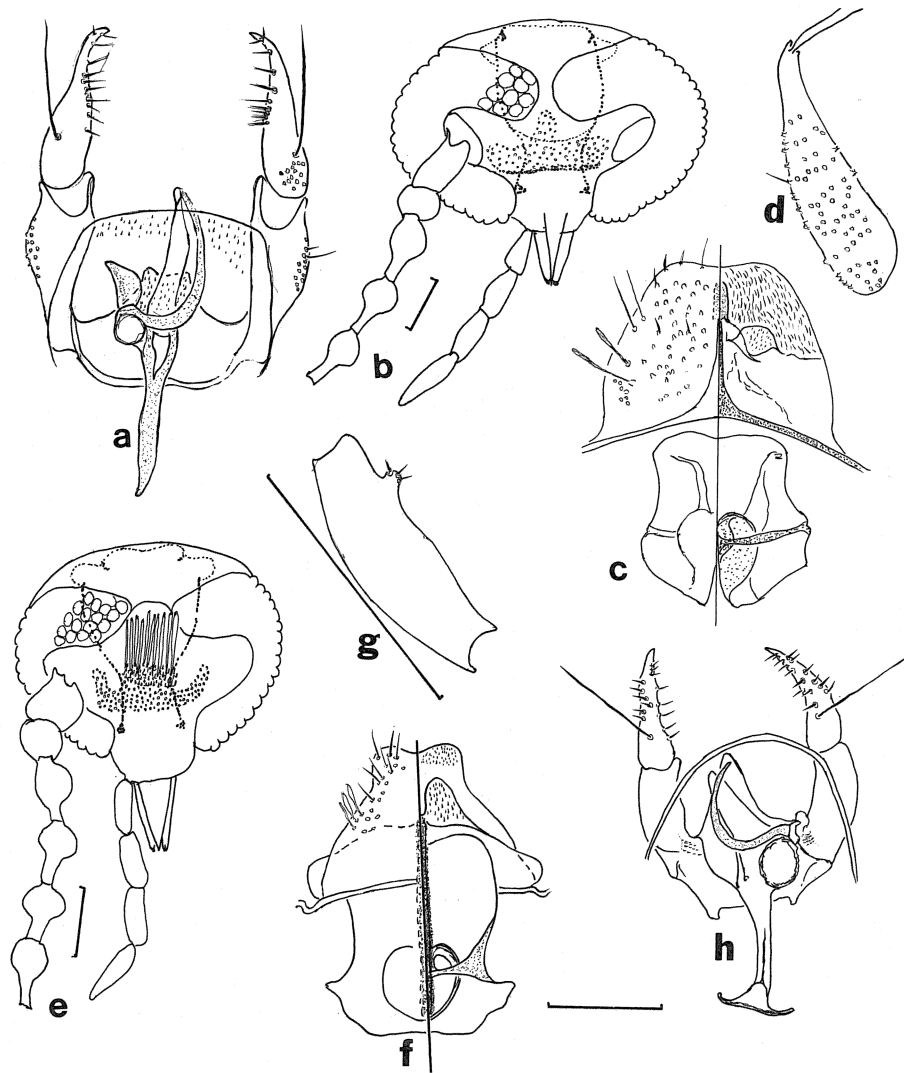


Figure 29. a-d. *Psychoda laticeps*. a. ♂ gonopods and aedeagus, dorsal; b. head; c. ♀ genitalia; d. ♂ surstylus. e-h. *P. psilotes*. e. head; f. ♀ genitalia; g. ♂ gonocoxite; h. ♂ gonopods and aedeagus, dorsal. Scale lines = 0.1 mm.

Holotype ♀, allotype ♂, COSTA RICA, Heredia, Estación Biol. La Selva, 20-23/VII/93,

50-100 m. (INBio). Paratypes 11 ♀, 7 ♂, same; 2 ♀, Limon, Puerto Viejo de Talamanca, 20-

22/VII/93, sea level (INBio, USNM, LACM, MNH, BBM, LWQ).

Etymology: 'psilotes', Gr, baldness, referring to bare patch on ♂ frons about hair patch.

92. *Psychoda rhis* Quate, n.sp.

Fig. 30 a

Moderately grey species distinguished by

unusual shape of ♂ gonostylus; antenna with 14 flagellomeres, terminal 3 flagellomeres, terminal 3 separated. Wing forks complete.

Male. Antenna with 14 flagellomeres, terminal 3 flagellomeres equal in size, clearly separated; ascoids Y-shaped; palpus long, extends to flagellomere 5; antenna about 3X palpus. Eye bridge with 4 rows of facets; eyes separated by less than about 1 facet diameter posteriorly

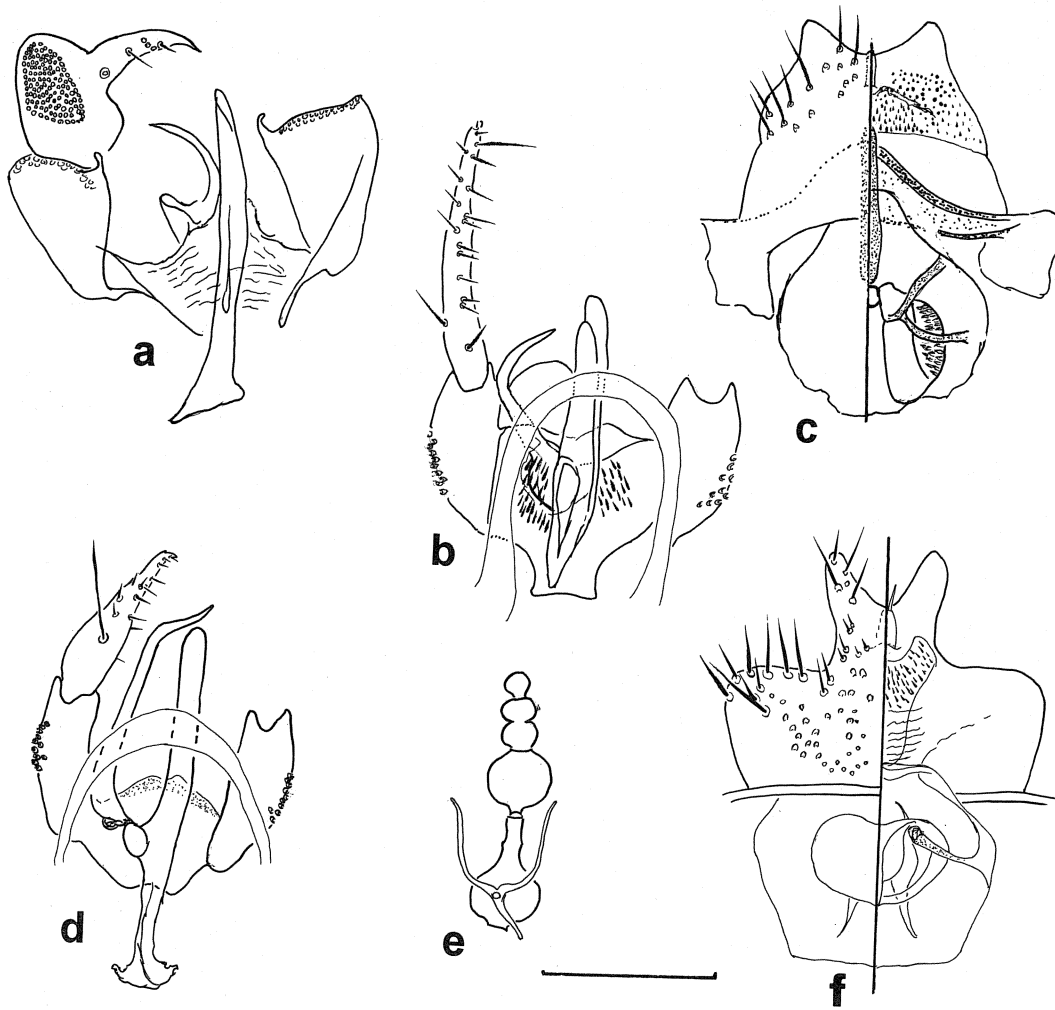


Figure 30 a. *Psychoda rhis*, ♂ gonopods and aedeagus, dorsal, right gonostylus not shown. b-c. *P. phratra*. b. ♂ gonopods and aedeagus, dorsal, right gonostylus not shown; c. ♀ genitalia. d-f. *P. pitilla*. d. ♂ gonopods and aedeagus, dorsal, right gonostylus not shown; e. flagellomeres 10-14; f. ♀ genitalia. Scale line = 0.1 mm.

and widening anteriorly. Hair patch of frons extends to anterior margin of bridge. Palpal formula = 12:12:13:15. Labellum with 4 teeth.

Wing with radial and medial forks complete; R_{2+3} and R_2 about equal in length.

Gonostylus of unusual shape, acute, basal projection from bulbous base gives appearance of bird head, with large patch of pits on bulbous part; paramere sickle-shaped, ending at apex of aedeagus; surstylus stocky, little longer than gonopod.

Measurements: Antenna 1.4-1.51 mm. Wing length 2.12-2.36 mm., width 0.84-0.87 mm.

Female. Unknown.

Holotype ♂, COSTA RICA, San José, 2 km W of Empalme, 2000 m., I/95, P. Hanson (INBio). Paratypes, 6 ♂, same; 1 ♂, Cartago, 52 km S of Cartago, 19-24/VI/95 (USNM, LACM, MNH, BBM, LWQ).

Etymology: 'rhis' Gr, nose; referring to unusual projection of male gonostylus.

93. *Psychoda phratra* Quate, n.sp.

Fig. 30 b-c

Grey species distinguished by features of the genitalia of both sexes.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres unequal in size, 14 smallest, 11, 12 & 13 partly fused; ascoids Y-shaped; palpus extends to flagellomere 4; antenna about 3.7X palpus. Eye bridge with 4 rows of facets; eyes separated by about 1 facet diameter. Hair patch of frons extends to upper eye margin, narrowly separated from patch on vertex. Palpal formula = 8:8:8:10. Labellum with 4 teeth.

Wing with radial and medial forks complete; R_{2+3} and R_2 about equal in length.

Subgenital plate with weakly differentiated apical lobes; basal band with posterior, dome-like projection on midline; median band on membrane of spermatheca, but not on plate.

Measurements: Antenna 0.96-1.17 mm. Wing length 1.59-2.0 mm., width 0.67-0.8 mm.

Male. Similar to female. Aedeagus simple; paramere sickle-shaped, extends nearly to apex of aedeagus; gonocoxal apodeme a small setose lobe under center of aedeagus; surstylus slender, longer than gonopod.

Measurements: Antenna 1.18 mm. Wing length 1.78 mm., width 0.82 mm.

Holotype ♀, COSTA RICA, Guanacaste, Estación Pitilla, 9 km S of Santa Cecilia, 10-14/VI/94, 700 m.; allotype ♂, Volcán Cacao, E of Santa Rosa, 14-17/VI/94, 1000 m. (INBio). Paratypes: 3 ♀, same data as holotype; 1 ♀, 1 ♂, same data as allotype (USNM, LACM, LWQ).

Etymology: 'phratra' Gr. clan; referring to similarity to several other species having 16-segmented antennae with some of terminal flagellomeres fused and typical female subgenital plate.

94. *Psychoda pitilla* Quate, n.sp.

Fig. 30 d-f

Pale species distinguished by simple subgenital plate with lobes arising from wide, quadrate base; faint, shield-like ornamentation on inner face.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, separated from preceding; flagellomeres 12, 13 partially fused, separated from 11; ascoids Y-shaped; antenna about 4.0X palpus. Eyes separated by 1 facet diameter. Hair patch of frons extends to facet row 1 but does not merge with patch on vertex. Palpal formula = 6:7:6:7. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 and R_{2+3} about equal in length.

Subgenital plate with lobes arising from wide, quadrate base; faint, shield-like ornamentation on inner face.

Measurements: Antenna 0.80-1.14 mm. Wing length 1.35-2.02 mm., width 0.55-0.82 mm.

Male. Genitalia with paramere long and sinuous, curved medially at apex; gonocoxal apodeme small, triangular; surstylus slender, 1.5X length of gonopod.

Holotype ♀, allotype ♂, COSTA RICA, Guanacaste, Estación Pitilla, 9 km S of Santa Cecilia, 10-14/VII/93, 700 m. (INBio). Paratypes, 11 ♀, 6 ♂, same; 42 ♀, Heredia, Estación Biol. LaSelva, 23/VII/93, 50-100 m. (INBio, USNM, LACM, MNH, CAS, BBM, LWQ).

Etymology: Name based on type locality.

95. *Psychoda talamanca* Quate, n.sp.

Fig. 31 a

♀ subgenital plate with well defined, V-shaped apical lobes; antenna with 14 flagellomeres, terminal 3 unequal in size.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres unequal in size, 14 smallest, 11, 12 & 13 fused; ascoids Y-shaped; palpus extends to flagellomere 4; antenna about 4X palpus. Eye bridge with 4 rows of facets; eyes separated by less than 1 facet diameter posteriorly and widening anteriorly. Hair patch of frons extends to facet row 2, clearly separated from patch on vertex. Palpal formula = 8:6:6:8. Labellum with 4 teeth.

Wing with radial and medial forks complete; R_{2+3} little longer than R_2 .

Subgenital plate with strongly differentiated, V-shaped apical lobes; single setose lobe at base of genital digit.

Measurements: Antenna 0.73-1.09 mm. Wing length 1.25-1.98 mm., width 0.53-0.84 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Limon, Puerto Viejo de Talamanca, sea level, 20-22/VII/93 (INBio). Paratypes, 10 ♀, same (USNM, LACM, MNH, BBM, LWQ).

Etymology: Name based on type locality.

96. *Psychoda varablanca* Quate, n.sp.

Fig. 31 b-c

Large, grey species distinguished by narrowly separated eyes and large ♀ subgenital plate with small apical lobes.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres unequal in size, 14 smallest, 12, 13 fused; ascoids Y-shaped; antenna about 3.5X palpus. Eyes separated by about 1/2 facet diameters. Hair patch of frons extends in narrow band to facet row 3, well separated from patch on vertex. Palpal formula = 11:10:10:10. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_{2+3} little shorter than R_2 .

Subgenital plate large, with small apical lobes, sides of lobes slightly divergent, apical

concavity semicircular; spermatheca lacking hemispherical lobes.

Measurements: Antenna 1.32-1.55 mm. Wing length 2.60-3.13 mm., width 1.08-1.25 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, Vara Blanca, 26/VII/93, 1800 m. (INBio). Paratypes 11 ♀, same; 1 ♀, San Rafael de Vara Blanca, 26/VII/93, 1700 m.; 1 ♀, San José, 2 km W of Empalme, I/95, 2300 m., P. Hanson (INBio, USNM, LACM, MNH, BBM, LWQ).

Etymology: Name based on the type locality.

97. *Psychoda bisacula* Quate, n.sp.

Fig. 31 d

Pale species distinguished by pair of striated lobes on inner face of ♀ subgenital plate.

Female. Antenna with 14 flagellomeres, terminal 3 flagellomeres unequal in size, 14 smallest, 12, 13 partially fused; ascoids Y-shaped; antenna about 4X palpus. Eyes separated by 1 facet diameters. Hair patch of frons extends to top of facet row 4, but separated from patch on vertex. Palpal formula = 8:8:8:8. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_{2+3} 2X length of R_2 .

Subgenital plate with sides of small apical lobes parallel, apical concavity semicircular; pair of striated lobes on inner face before genital digit.

Measurements: Antenna 1.22-1.41 mm. Wing length 1.98-2.17 mm., width 0.80-0.82 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, Vara Blanca, 26/VII/93, 1800 m. (INBio). Paratypes, 2 ♀, same; (USNM, LWQ).

Etymology: 'bi', L, two, 'sacculus', L, sack, referring to pair of lobes which resemble sacks.

98. *Psychoda entolopha* Quate, n.sp.

Fig. 31 g

Grey species distinguished by U-shaped, horse collar-like ridge on inner face of female subgenital plate.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, separated from preceding; flagellomeres 12, 13 partially fused,

separated from 11; ascoids Y-shaped; antenna about 4.0X palpus (3.8 - 4.3). Eyes separated by

1 facet diameter. Hair patch of frons extends to facet row 1, separated from patch on vertex.

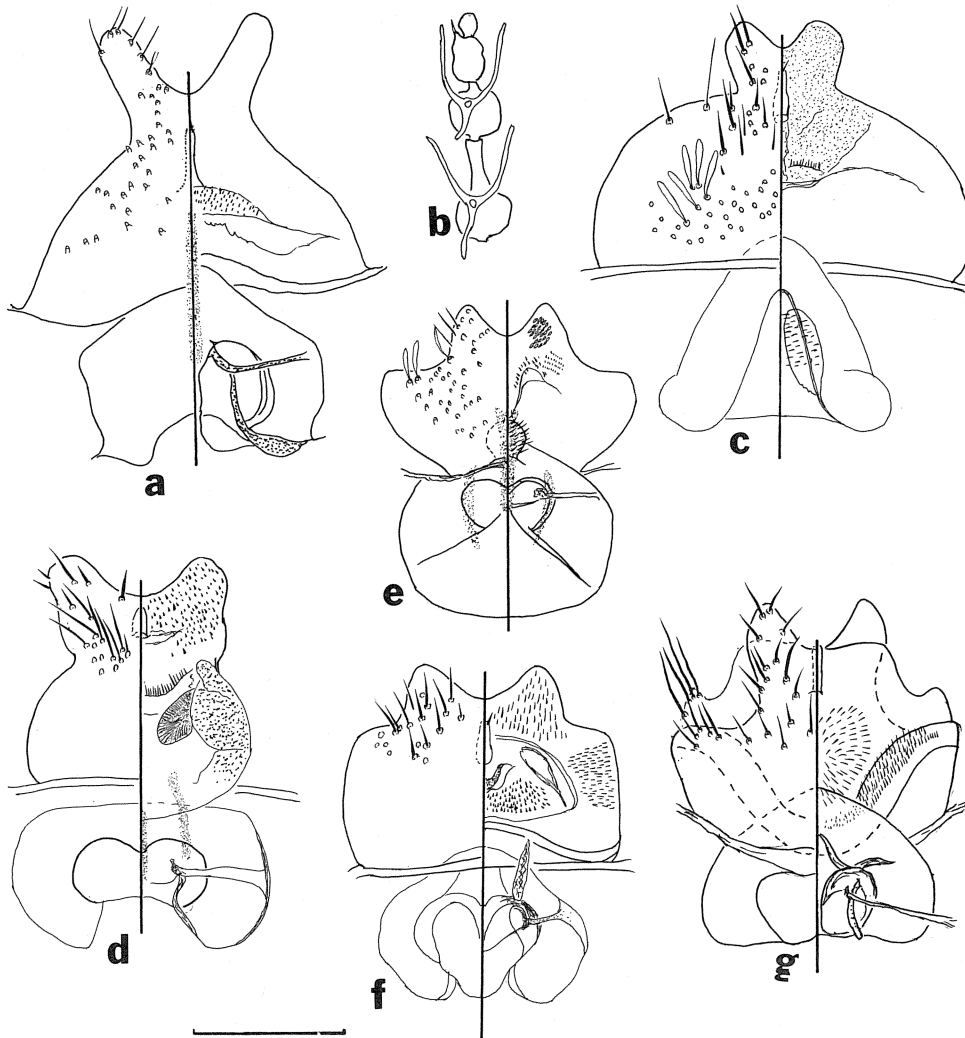


Fig 31 a. *Psychoda talamanca*, ♀ genitalia. b-c. *P. varablanca*. b. flagellomeres 10-14; c. ♀ genitalia. d. *P. bisacula*, ♀ genitalia. e. *P. aculeata*, ♀ genitalia. f. *P. flagellata*, ♀ genitalia. g. *P. entolopha*, ♀ genitalia. Scale line = 0.1 mm.

Palpal formula = 7:7:7:7. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 and R_{2+3} about equal in length.

Subgenital plate with sides of apical lobes concave; inner face with prominent, V-shaped

ridge or crest arising from base, setose band on posterior margin; basal band of plate not expanded.

Measurements: Antenna 1.00-1.30 mm. Wing length 1.78-2.39 mm., width 0.65-0.92 mm.

Male. Unknown.

expanded.

Measurements: Antenna 1.00-1.30 mm. Wing length 1.78-2.39 mm., width 0.65-0.92 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, San Rafael de Vara Blanca, 18,26/VII/93, 1700 m. (INBio). Paratypes, 16 ♀, same; 4 ♀, Heredia, Vara Blanca, 26/VII/93, 1800 m.; San José, 2 km W of Empalme, I/95, 2300 m., P. Hanson; 6 ♀, Cartago, 30 km N of San Isidro, 21-24/VII/95, 2640 m.; 9 ♀, San Gerardo de Dota, 7-11/VIII/95, 2250 m.; 17 ♀, Puntarenas, Coto Brus, Est. Biol. Las Alturas, 11-16/VIII/95, 1550 m.; 4 ♀, 13-18 km N of San Isidro, 22/VI/95, 1700 m.; 2 ♀, Puntarenas, Est. Pittier, 20 km N of San Vito, 11-14/VI/95, 1800 m. (INBio, USNM, LACM, MNH, BBM, LWQ)

Etymology: 'entos', Gr, inner; 'lophos', Gr, crest.

99. *Psychoda aculeata* Quate, n.sp.

Fig. 31 e

Grey species distinguished by spiny, spherical lobe on inner face of female subgenital plate.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, separated from preceding; flagellomeres 12, 13 partially fused, separated from 11; ascoids Y-shaped; antenna about 3.75X palpus. Eyes separated by 1 facet diameter. Hair patch of frons extends to bottom of facet row 1, clearly separated from patch on vertex. Palpal formula = 8:7:7:7. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 and R_{2+3} about equal in length.

Subgenital plate with setose, spherical lobe arising from base on inner face.

Measurements: Antenna 0.91-1.0 mm. Wing length 1.54-1.74 mm., width 0.63-0.72 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Guanacaste, Estación Pitilla, 9 km S of Santa Cecilia, 10-14/VII/93, 700 m. (INBio). Paratypes, 4 ♀, same (USNM, LWQ).

Etymology: 'aculeatus', L, furnished with spines.

100. *Psychoda flagellata* Quate, n.sp.

Fig. 31 f

Pale species distinguished by pair of flagellate ornamentations on inner face of ♀ subgenital plate anterior of genital digit.

Female. Antenna with 14 flagellomeres, terminal flagellomere smallest, all flagellomeres separated; ascoids Y-shaped; antenna about 4.0X palpus. Eyes separated by 1 facet diameter. Hair patch of frons extends to facet row 1, separated from patch on vertex. Palpal formula = 7:6:6:7. Labellum with 1 short and 3 long teeth.

Wing with radial and medial forks complete; R_2 and R_{2+3} about equal in length.

Subgenital plate apical lobes arising from quadrate base wider and longer than lobes, sides slightly convergent; flagellate ornamentation on inner face of ♀ subgenital plate on each side of base of genital digit.

Measurements: Antenna 0.96-1.04 mm. Wing length 1.57-1.76 mm., width 0.65-0.72 mm.

Male. Unknown.

Holotype ♀, COSTA RICA, Heredia, Estación Biol. La Selva, 22-25/VII/93, 50-100 m. (INBio). Paratypes, 3 ♀, same; 4 ♀, Limón, Puerto Viejo de Talamanca, 20-22/VII/93, sea level (INBio, USNM, LACM, LWQ).

Etymology: 'flagellatus' L, whipped; referring to flagellate ornamentations of ♀ genitalia.

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RESUMEN

Se registran 100 especies de Psychodidae, excluyendo Phlebotominae, de Costa Rica, siguientes, excepto especies de *Maruina*, así incluyendo claves para todos los táxones, como descripciones e ilustraciones para todas las especies nuevas:

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