

A new genus of Australasian Flower Flies (Diptera: Syrphidae)

[Eine neue Schwebfliegengattung aus der Australis (Diptera: Syrphidae)]

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Abstract	A new genus and two new species of flower flies are described from the Australasian Biotic Region [<i>Austrophilus</i> gen. nov. (type <i>Helophilus terraereginae</i> FERGUSON); <i>A. necopinus</i> spec. nov. (New Britain); <i>A. obscurus</i> spec. nov. (New Guinea)]. All 5 species are redescribed, essential characters illustrated, and keys provided to the groups of the subtribe Helophilina and species of <i>Austrophilus</i> .
Key words	key, Australasian region
Zusammenfassung	Eine neue Gattung und zwei neue Arten werden aus der zoogeografischen Region der Australis beschrieben. [<i>Austrophilus</i> gen. nov. (Typus <i>Helophilus terraereginae</i> FERGUSON); <i>A. necopinus</i> spec. nov. (Neubritannien); <i>A. obscurus</i> spec. nov. (Neuguinea)]. Die 5 zur Gattung zählenden Arten werden detailliert charakterisiert bzw. beschrieben und wichtige Merkmale Abgebildet. Bestimmungsschlüssel für Gruppen der Subtribus Helophilina und der <i>Austrophilus</i> -Arten werden vorgestellt.
Stichwörter	Bestimmungsschlüssel, Australis

Introduction

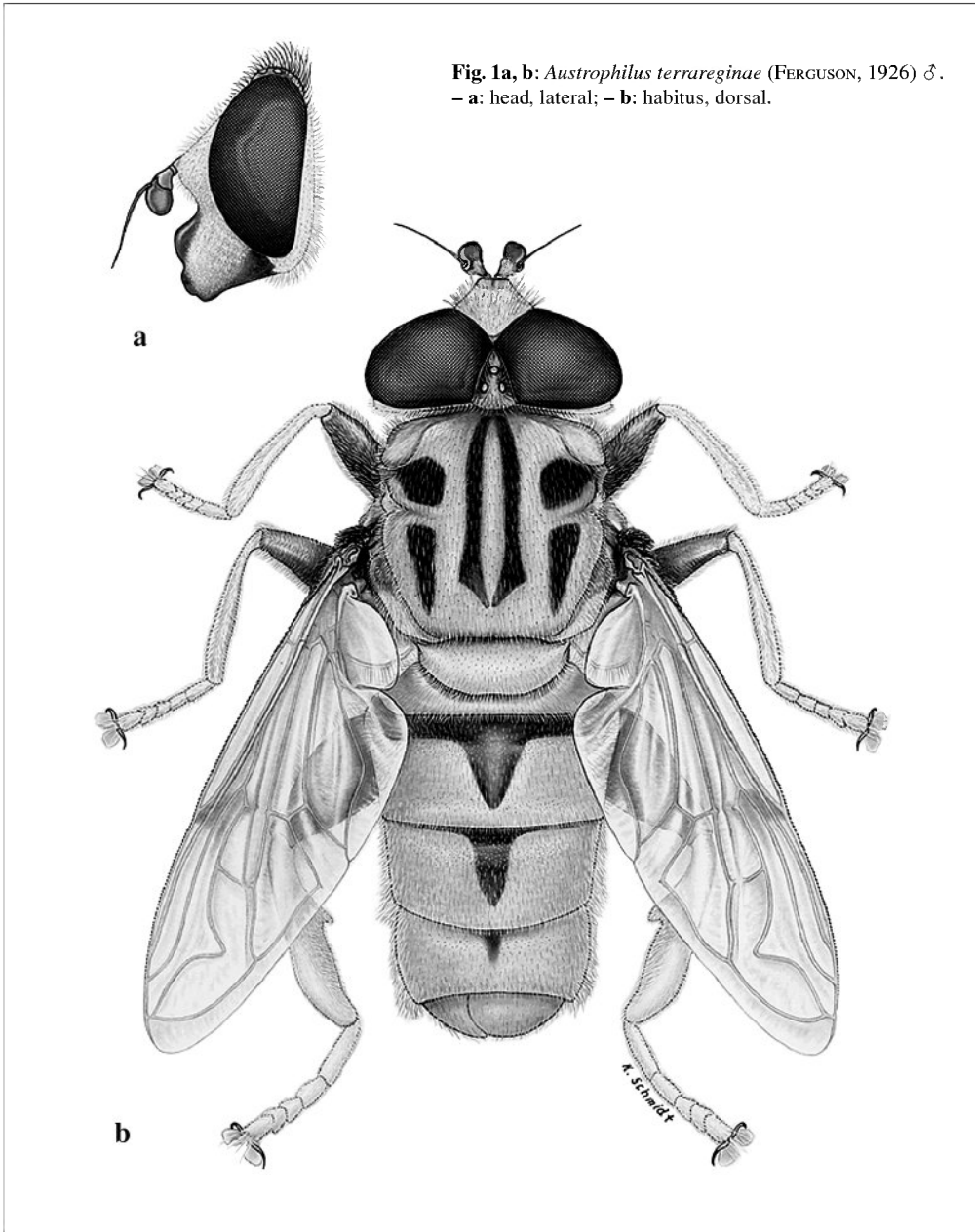
Austrophilus is a group of little-known flower flies from the tropical areas of the Australasian biotic region. The group consists of only 5 species, 3 of which are known only from the types. Altogether less than a dozen specimens are known. The data associated with those specimens are summarized below. However, from the phylogenetic position of the group, one can predict that the adults visit flowers, where mating probably takes place; the females oviposit in water held in natural containers, such as tree-holes or bromeliads; the males defend territories around the flowers and oviposition sites; the larvae are filter-feeders, with characteristic long rat-tails; and pupation occurs outside, but near the water in which the larvae breed.

Years ago while preparing the treatment of the flower flies for the "Catalog of Diptera of the Australasian and Oceanian Regions" (THOMPSON & VOCKEROTH 1989), I reviewed all the available types of the various names of these flies. Some of species were found to belong to new genera, but unfortunately these were not described at that time. These observations were summarized in a circulated but unpublished manuscript (THOMPSON 1995). One of these genera is herein validated to make the name available for the research of a colleague (Christian KASSEBEER).

Austrophilus **gen. nov.**

Austrophilus THOMPSON. Type-species: *Helophilus terraereginae* FERGUSON (Fig. 1).

Head: Face black, broad, about as broad as long, occupying about 1/3 head width, concave beneath antenna, with large low medial tubercle, pollinose and pilose laterally, shiny and



bare medially; gena narrow, about 1/2 as broad as long; anterior tentorial, pit short extending along ventral 1/3 of eye; facial stipes narrow; frontal prominence distinct, at dorsal 1/2 of head; frontal lunule small; frons broad, about as long as broad at antenna, with slightly convergent sides dorsally, 1/2 as broad at vertex as at antenna, pollinose and pilose; vertex square, as long as broad, pollinose and pilose; ocellar triangle isocetes, small; eyes bare, narrowly holoptic in male; antenna short, about 1/3 as long as face; basoflagellomere oval; arista bare, about 1 1/2 times as long as antenna.

Thorax: slightly broader than long (1.1), long pilose; mesonotum with shiny and pollinose pattern; katepisternum discontinuously pilose, with narrowly separated patches; metasternum pilose; katepimeron bare; anepimeron with dorsomedial and posterior portions bare; postalar pile tuft absent; metathoracic pleuron with some pile venter to spiracle; metathoracic spiracle large, larger than basoflagellomere; plumula elongate; scutellum without apical sulcus, without ventral pile fringe. **Legs:** mid coxa bare posteriorly; hind femur usually strongly swollen, hind tibia transverse apically, carinate ventrally. **Wing:** Cell R_1 open; stigmatic crossvein present; cell R_{4+5} with short petiole, shorter than humeral crossvein; vein R_{4+5} strongly sinuate; vein M_2 absent; vein A_1+CuA_2 short, oblique. **Abdomen:** Oval, about 2/3 as broad as long.

Within the current classification of flower flies, *Austrophilus* falls into the subtribe Helophilina of the tribe Eristalini, subfamily Eristalinae. Among the genera of Helophilina, *Austrophilus* is most closely related to *Habromyia*. *Austrophilus* is distinguished from *Habromyia* by the following: 1) metafemur is greatly swollen; 2) metatrochanter is produced apicoventrally into a distinct tooth; 3) metatibia is usually carinate to apex; 4) petiole of cell R_{4+5} is short, shorter than humeral crossvein; and 5) frontal prominence is not greatly produced, not extending anterior to facial tubercle. While the male genitalia (Fig. 2) have been studied only in two species, the aedeagus with its greatly elongate dorsoapical and large lateral processes are unique among helophilines.

The characters and groups of Helophilina are summarized in the following key. Not all the groups are named nor of equivalent rank as my own research on the higher classification of flower flies remains incomplete. These matters are left to Christian KASSEBEER, who is revising the tribe Eristalini for his PhD thesis.

Key to the groups of the subtribe Helophilina

- | | | |
|---|---|---|
| 1 | Cell R_1 petiolate, closed before reaching wing margin..... | subtribe Eristalina |
| – | Cell R_1 open to wing margin | 2 |
| 2 | Postalar pile tuft present | subtribe Eristalina |
| – | Postalar pile tuft absent | 3 |
| 3 | Eye bare..... | 8 |
| – | Eye pilose. Katepimeron bare | 4 |
| 4 | Pterostigma elongate, not simulating a crossvein, at most slightly darkened basally; male broadly dichoptic; mesonotum with pollinose vittae | |
| | | “<i>Helophilus</i>” campbelli MILLER |
| – | Pterostigma very short, simulating a crossvein | 5 |
| 5 | Basoflagellomere longer than broad, usually twice as long as broad; wing usually dark anteriorly; male eyes broadly holoptic; metafemur never greatly swollen, rarely slightly so; mesonotum unicolorous (Neotropics only)..... | <i>Quichuana</i> KNAB |
| – | Basoflagellomere as broad or broader than long; wing without dark anterior margin .. | |
| | | 6 |
| 6 | Wing partly bare basomedially; mesonotum unicolorous; metafemur swollen, usually greatly so; male eyes dichoptic or narrowly touching | <i>Mallota</i> MEIGEN |
| – | Wing entirely microtrichose; mesonotum usually with yellow or gray pollinose vittae or fasciae; metafemur slender | 7 |

- 7 Male dichoptic; 1st and 2nd sterna fused laterally; mesonotum with obscure gray pollinose vittae *Pleskeola* STACKELBERG
- Male holoptic; 1st and 2nd sterna separate; mesonotum usually with a distinct yellow to gray pollinose pattern *Myathropa* RONDANI
- 8 Katepimeron bare 10
- Katepimeron pilose 9
- 9 Metabasitarsis with globuliferous hairs basoventrally; male holoptic; vein R_{4+5} strongly sinuate 26
- Metabasitarsis without such pile; male dichoptic; vein R_{4+5} only slightly sinuate *Chasmomma* BEZZI
- 10 Anepimeron with dorsomedial triangular portion pilose; face straight, without tubercle; pterostigma elongate (Philippines) “*Helophilus*” *celeber* OSTEN SACKEN
- Anepimeron bare dorsomedially 11
- 11 Pterostigma very short, simulating a crossvein 16
- Pterostigma elongate, not simulating a crossvein, at most slightly darkened basally 12
- 12 Wing bare; scutellum with two medial tubercles *Pilinascia* MALLOCH
- Wing completely microtrichose; scutellum without tubercles 13
- 13 Face produced anteriorly on ventral 1/2, strongly concave on dorsal 1/2; facial tubercle distinct; oral margin extended beyond antennal base; ocellar triangle small, equilateral, widely separated from eye. Metatibia with weak anteroventral carina (New Zealand only) *Paleoxylota* HULL
- Face not strongly produced; facial tubercle frequently indistinct; oral margin not extended beyond antennal base; ocellar triangle usually large, with lateral ocellus close to eye 14
- 14 Metatibia with anteroventral carina on apical 1/2. Ocellar triangle normal sized, small; front not very broad (Holarctic only) *Helophilus* MEIGEN
- Metatibia without carina on apical 1/2, round in cross-section 15
- 15 Ocellar triangle extremely large; lunule greatly enlarged; front very broad in both sexes (Peru and Chile only) *Ohmyia* THOMPSON
- Ocellar triangle normal, small; lunule not greatly enlarged; front narrow (males) to broad (females), never very broad (New Zealand only) “*Helophilus*” species
- 16 Wing entirely microtrichose 19
- Wing partly bare on basal 1/3 17
- 17 Thorax densely pilose; mesonotum without distinctive pollinose ground patterns; wing hyaline; frontoantennal region not greatly produced *Mallota* MEIGEN
- Thorax sparsely pilose, with pile usually short and scattered; mesonotum usually with distinctive pollinose vittae and/or fasciae 18
- 18 Cell R_{4+5} with long petiole, petiole as long as or longer than humeral crossvein; metatrochanter simple; metafemur not greatly swollen; wing dark anteriorly; frontoantennal region usually greatly produced anteriorly, extending beyond facial tubercle, subconical to conical (Neotropics only) *Habromyia* WILLISTON

- Cell R₄₊₅ with short petiole, petiole short than humeral crossvein; metatrochanter produced apicoventrally into a distinct tooth; metafemur greatly swollen; wing hyaline; frontoantennal region not greatly produced, not extending beyond tubercle (Australasian Region only, Fig. 1)..... *Austrophilus* gen. nov.
- 19 Face extensively black in background color, pale pollinose laterally, shiny black medially 23
- Face pale, yellow to orange in background color and completely pale pollinose 20
- 20 Metafemur with basoventral process on posterior surface, greatly enlarged in ♂
..... *Prohelophilus* CURRAN & FLUKE
- Metafemur simple, never greatly enlarged 21
- 21 Ocellar triangle extremely large, obtuse, with anterior ocellus close to base of triangle; front very broad in both sexes, greatly swollen below; metatibia with ventromedial carina on basal 1/3 or more *Dolichogyna* MACQUART
- Ocellar triangle normal size, small, not obtuse; front not very broad 22
- 22 Metatibia apically truncate, with ventral carina restricted to basal half or less, with apical 1/2 rounded ventral *Parhelophilus* GIRSCHNER
- Metatibia apicoventrally produced as an acute or rounded spur, with ventral knife-edged carina on basal 1/2, carina continuing less distinctly posteroventrally to or almost to tibial apex *Lejops* (*Lejops* RONDANI)
- 23 ♂ with metafemur enlarged, arcuate, with basal and subapical ventral tubercles; metatibia arcuate and produced into a long apical calcar. ♀ with sterna 1 and 3 swollen; sternum 1 overlapping sternum 2; sternum 2 reduced, sunken, medially membranous *Lejops* (*Polydontomyia* WILLISTON)
- ♂ without ventral femoral tubercles nor apical tibial calcar. ♀ with normal flat sterna 24
- 24 Ocellar triangle very large; posterior ocelli closer to eye margins than to midpoint between them; abdomen partly reddish in background color or with pairs of white pollinose arcuate maculae or both *Lejops* (*Asemosyrphus* BIGOT)
- Ocellar triangle small; posterior ocelli not closer to eye margins than to midpoint between them; abdomen black, without white pollinose maculae 25
- 25 Face produced anteroventrally, almost straight, without distinct tubercle; large flies, length 10 mm or more *Lejops* (*Arctosyrphus* FREY)
- Face not produced anteroventrally, with large distinct tubercle; smaller flies, length 8 mm or less *Lejops* (*Lunomyia* CURRAN & FLUKE)
- 26 Scutum with pale pollinose vittae; male genitalia never greatly enlarged (widespread Old World tropics) *Mesembrius* (*Mesembrius* RONDANI)
- Scutum without pollinose vittae; male genitalia usually greatly enlarged (Madagascar only) *Mesembrius* (*Vadonimyia* SÉGUY)

Key to species of *Austrophilus*

- 1 Scutum and scutellum pale pilose 3
- Scutum and scutellum extensively black pilose 2

- 2 Abdomen shiny black posterior to 1st tergum; costal cell bare on basal 4/5 or more; arista orange; basoflagellomere brownish orange *obscurus*
- Abdomen with pollinose fasciae on 3rd and 4th terga; costal cell microtrichose; arista black; basoflagellomere black *laticornis*
- 3 Abdomen with black pile medially; metatibia without spur *helophiloides*
- Abdomen entirely pale pilose 4
- 4 Metatarsus orange, orange pilose; metatibia with medioposterior spur in male
..... *terraereginae*
- Metatarsus brownish black, black pilose; metatibia simple, without spur *necopinus*

***Austrophilus helophiloides* (WALKER, 1861)**

Eristalis helophiloides WALKER, 1861. – WALKER 1861: 284. Indonesia, Maluku, Bacan I. [=Batchian I.] Lectotype ♂ BMNH here designated. VAN DER WULP 1896: 115 (catalog citation); KERTÉSZ 1910: 220 (catalog citation); THOMPSON & VOCKEROTH 1989: 448 (catalog citation as unplaced *Helophilina* species). **Comb. nov.**

Head: Black; face silvery white pollinose, except for shiny medial vitta extending over tubercle and half way to antennal bases, pale yellow pilose; frontal triangle silvery white pollinose except shiny anteromedially, yellow pilose; gena shiny, bare; occiput silvery white pollinose, slightly more golden dorsally, yellow pilose; vertical triangle sparsely gray pollinose, black pilose; antenna brownish, black pilose.

Thorax: Black; pleuron yellowish gray pollinose, yellow pilose; scutum yellow pilose, generally yellow pollinose, with black pollinose submedial vittae extending from anterior margin to about 2/3 distance to scutellum, with these vittae interrupted submedially; scutellum orange, yellow pilose. **Legs:** Coxae black, yellowish gray pollinose, yellow pilose; trochanters black, shiny, yellow pilose; pro- and mesofemora black except orange on apex, shiny except sparsely gray pollinose dorsoposteriorly, yellow pilose; metafemur swollen, black except narrowly brownish apically, shiny, yellow pilose except black pilose apically and ventrally; tibiae orange, yellow pilose; tarsi brown, yellow pilose except with scattered black pile dorsally on metatarsi. Halter yellow; calypter brownish with yellow fringe. **Wing:** Hyaline, with slight brownish cast due to dense microtrichia; microtrichose except bare cell BC, basal 1/4 of cell C, anterior to vein Rs, basal 2/3 of cell R, antero-basal 2/3 of cell BM, antero-basal 1/4 of cell CuP, and basomedial 1/2 of alula.

Abdomen: Dorsum yellow pilose except black on black pollinose areas; tergum 1 black, yellowish gray pollinose; terga 2 and 3 black except orange lateral 1/4, shiny laterally, golden pollinose except for black medial inverted T-shaped macula; tergum 4 brownish orange and golden pollinose except black basomedial triangular area. Sterna 1 and 2 black, gray pollinose, yellow pilose; sternum 3 orange, yellow pilose, shiny except sparsely pollinose medially; sternum 4 orange, yellow pollinose and pilose; terminalia orange, sparsely yellow pollinose and pilose.

Distribution: Indonesia (Maluku)

Type material. *Eristalis helophiloides* WALKER, a male with appropriate labels (see THOMPSON 1988) in the Natural History Museum (BMNH), London, was studied and is designated lectotype to fix the concept and name. The labels are: 1) circular red holotype label, 2) circular green type label, 3) circular label with “Bac.,” 4) “*Eristalis, helophiloides, Wlk*” in AUSTEN’S hand; and 5) “E. Indies, Bachan, A. R. Wallace.”

Material examined. Indonesia. Maluku: Bacan I. (type). This species is known only from the unique male type.

Austrophilus laticornis (BIGOT, 1884)

Eristalomyia laticornis BIGOT, 1884 – BIGOT 1884: 338, New Caledonia. Holotype ♀ BMNH. THOMPSON & VOCKEROTH 1989: 448 (catalog citation as unplaced Helophilina species). **Comb. nov.**

Eristalis laticornis: KERTÉSZ 1910: 223 (catalog citation); HULL 1936: 198 (distribution).

Head: Black; face silvery pollinose except shiny tubercle, white pilose; gena shiny, bare; occiput silvery-white pollinose and pilose except black pilose on dorsal 1/3; eye bare; lunule shiny, dark orangish brown; front black pollinose and pilose, except narrowly silvery pollinose along eye margins and as a narrow shiny medial vitta; antenna black, black pilose; basoflagellomere circular, with large basomedial sensory pit on innerside; arista black, bare.

Thorax: Black; scutum black pilose except yellow pile intermixed on anterior 1/2 and on postalar callus; mesonotum generally black pollinose, with distinct submedial silvery white vitta anterior to transverse suture becoming obscure posterior to suture, then merging into a broad brownish to silvery white prescutellar macula; postpronotum, notopleuron, and transverse suture silvery-white pollinose; scutellum dark reddish brown, black pilose except yellow along margins; pleuron extensively silvery pollinose, yellow pilose, with a few black hairs dorsally on anepimeron; halter yellow; calypter dirty white with black fringe. **Legs:** Black, extensively yellow pilose; profemur black pilose on apical 1/2; mesofemur black pilose on anteroapical 1/2 and apex; metafemur only slightly swollen, black pilose on apical 1/8 and with stronger apicoventral black hairs; tarsi black pilose. **Wing:** diffuse brownish black, darker medially. Microtrichose except bare: Medially on alula; basal 1/3 of cell R; narrowly along anterobasal 2/3 of cell BM; and narrowly anteriorly on cell CuP.

Abdomen: Generally black and short black pilose; tergum 1 silvery-white pollinose, yellow pilose; tergum 2 yellow pilose on basal 1/2 and laterally apically; tergum 3 with narrow basolateral silvery-white pollinose transverse fascia occupying basal 1/5, fascia narrowly interrupted medially, yellow pilose laterally; tergum 4 with bright golden pollinose transverse fascia occupying basal 1/3, fascia narrowly interrupted medially, yellow pilose laterally; sternum black, shiny, except sparsely gray pollinose on sternum 4, yellow pilose except black pilose on apical 1/2 of sternum 4.

Distribution: New Caledonia.

Type material: *Eristalomyia laticornis* BIGOT, holotype female with the appropriate BIGOT and BMNH labels (see THOMPSON 1988) now in the Natural History Museum (BMNH), London.

Material examined: New Caledonia (type). This species is known only from the unique female type.

Austrophilus necopinus spec. nov.

(Fig. 3a-d)

Head: Black; face white pollinose except shiny medial vitta covering tubercle and extending to oral margin, yellowish-white pilose; gena very sparsely gray pollinose and bare anteriorly, white pollinose and white pilose posteriorly; lunule orange; frontal triangle white pollinose marginally, shiny medially, yellowish-white pilose; vertical triangle grayish-white pollinose, black pilose; occiput white pollinose on ventral 1/3, becoming more golden pollinose dorsally, golden pilose; antenna orange, orange pilose; basoflagellomere with a very small sensory pit on inner side; arista missing on type.

Thorax: Black; postpronotum golden pollinose, golden pilose; scutum golden pollinose with black pollinose maculae, golden pilose, with black narrow submedial vittae on anterior 3/4 but broadly separated from scutellum, with large quadrate black pollinose macula

posteromedially from postpronotum and anterior to transverse suture, with smaller narrower triangular black pollinose vitta mesal to wing base; scutellum yellowish orange, shiny, golden pilose; pleuron gray-yellow pollinose, golden pilose; plumula brown; calypter dorsal lobe brown, ventral lobe brownish orange; halter yellow. **Wing:** Hyaline except slightly brownish anteromedially at area between stigmatic crossvein and fork of Rs; microtrichose except bare cell BC, narrowly on base of cell C, cell R_1 to level of fork of RS, basal 3/4 of cell R, cell BM, basal 1/2 of cell CuP (with bare area extending along anterior and posterior margin to apical 3/4), basomedial 1/4 of alula and basal 1/4 of anal lobe; tegula and basicosta black pilose. **Legs:** Brownish black except tibiae orange and tarsi brownish; coxae grayish-yellow pollinose, yellow pilose; trochanters shiny, yellow pilose; metatrochanter ventroapically only slightly produced into indistinct medial spur; femora shiny, generally yellow pilose, with black pile on posteroapical 1/4 of profemur, anteroapical 1/3 of mesofemur, ventral margin and apicoventral 1/3 of metafemur; tibiae and tarsi orange pilose except metatarsus black pilose; ♂ metafemur only slightly swollen and not excavated on basal 2/3 posteromedially; ♂ metatibia simple.

Abdomen: ♂ black on basal 4 segments, orange-brown on apical ones, genitalia orange; dorsum densely golden pollinose except for black pollinose maculae, golden pilose; tergum 1 more grayish-yellow pollinose; tergum 2 with narrow black pollinose basal fascia but isolated from lateral margins and produced medially into triangular vitta reaching to apical 1/4; tergum 3 with broad medial triangular black pollinose vitta reaching apical 1/5; tergum 4 with narrow medial black pollinose vitta on basal 3/4; segments 5-8 golden pollinose; sterna brownish black except paler on apical margin, sparsely gray pollinose, yellow pilose.

Distribution: New Britain.

Holotype male: PAPUA NEW GUINEA. New Britain: Gazelle Peninsula, 1969, "Vudal Student," held on deposit at National Museum of Natural History (USNM), Washington, until ultimate deposition at appropriate Papua New Guinea collection. For details about meaning of "held on deposit" see ZUMBADO & THOMPSON (1997: 80).

Derivatio nominis: The species epithet, *necopinus*, is an adjective and refers to the fact that this species was overlooked as merely *terraereginae*. The two species are virtually identical in overall habitus, differing only in the male genitalia and minor details (frontal triangle shiny medially (*necopinus*) versus pollinose (*terraereginae*), antenna orange (*necopinus*) versus brownish black dorsally on basoflagellomere (*terraereginae*), ♂ tergum 8 pollinose (*necopinus*) versus shiny (*terraereginae*), and as indicated in the key).

Austrophilus obscurus spec. nov.

Head: Black, face gray-white pollinose except shiny medial vitta covering tubercle and extending to oral margin, white pilose laterally; gena sparsely gray pollinose and bare anteriorly, denser white pollinose and white pilose posteriorly; lunule black; frons shiny medially, white pollinose laterally, yellowish-white pilose; vertex shiny, black pilose; antenna with scape and pedicel black and black pilose except for a few yellow pili ventrally on pedicel; basoflagellomere brownish orange, with small, about size of basal arista diameter, sensory pit on inner side; arista orange; occiput densely white pollinose and white pilose on ventral 3/4, becoming more gray pollinose and black pilose dorsally.

Thorax: Black except scutellum yellow; postpronotum yellowish-gray pollinose, yellow pilose anteriorly, black pilose posteriorly; scutum generally gray pollinose with black pollinose maculae, with pollinosity more yellowish along anterior margin and on notopleuron, with black narrow submedial vittae on anterior 3/4 but broadly separated from scutellum, with large quadrate black pollinose macula posteromesially from postpronotum and anterior to

transverse suture, with smaller narrower triangular black pollinose vitta mesial to wing base, black pilose except yellow pilose at lateral ends of transverse suture and along anterior margin; postalar callus black pilose except broadly long yellow pilose laterally; scutellum shiny, yellow, yellow pilose except black pilose medially; pleuron silvery-white pollinose, yellow pilose except some black pili dorsally on anepisternum and anepimeron; plumula brown; calypter brown dorsal lobe, yellow ventral lobe; halter orange. **Wing:** Hyaline except brownish anteromedially at area between stigmatic crossvein and fork of Rs; microtrichose except bare cell BC, basal 4/5 of cell C, cell R1 to level of fork of RS, basal 3/4 of cell R, cell BM, basal 1/2 of cell CuP (with bare area extending along anterior and posterior margin to apical 3/4), basoapical 3/4 of alula, and basal 1/2 of anal lobe; tegula and basicosta black pilose. **Legs:** Brownish black; coxae silvery-white pollinose, yellow pilose; trochanters sparsely gray pollinose, yellow pilose; metatrochanter strongly produced apicoventrally into distinct spur; femora sparsely grayish-white pollinose except shiny metafemur, generally yellow pilose, with black pile on posteroapical 1/3 of profemur, anteroapical 1/3 of mesofemur, along ventral margin and apicoventral 1/3 of metafemur; pro- and mesotibia white pilose; metatibia black pilose except yellow pilose on apicoposterior 1/3; pro- and mesotarsi yellow pilose; metatarsus black pilose except yellow pilose on posterior margin and ventrally.

Abdomen: Black; tergum 1 densely white pollinose, yellowish-white pilose; terga 2-5 shiny except sparsely gray pollinose basolaterally on tergum 5, short black pilose except longer yellow pile laterally on all terga, on basolateral 1/3 of tergum 2 and intermixed across tergum 4; sternum 1 white pollinose, white pilose; sterna 2-3 shiny, white pilose; sternum 4 shiny, black pilose except white pilose basolaterally; sternum 5 sparsely gray pollinose basally, black pilose.

Distribution: New Guinea (Irian Jaya).

Holotype female: INDONESIA. Irian Jaya: Japen I., Mt. Eiori, Camp 2, 2000 ft., Nov 1938, L. E. CHEESMAN, BM 1938-593, deposited in The Natural History Museum, London.

Derivatio nominis: The species epithet, *obscurus*, is an adjective and refers to the comparatively dull appearance of this species in contrast to the bright golden pollinose patterns of the other *Austrophilus* species.

Austrophilus terraereginae (FERGUSON, 1926)

(Figs 1a, b, 2a-d)

Helophilus terraereginae FERGUSON, 1926 – FERGUSON 1926a: 162. Australia, Cairns District. Holotype ♂ SAMA. FERGUSON 1926b: 519 (location of type); HULL 1936: 201 (distr.); THOMPSON & VOCKEROTH 1989: 448 (catalog citation as unplaced *Helophilina* species). **Comb. nov.**

Head: Black; face white pollinose except shiny medial vitta covering tubercle and extending to oral margin, yellowish-white pilose; gena very sparsely gray pollinose and bare anteriorly, white pollinose and white pilose posteriorly; lunule orange; frontal triangle white pollinose, yellowish-white pilose; frons shiny on apicomedial 1/4, golden pollinose and golden pilose elsewhere; vertical triangle grayish-white pollinose, yellow except black pilose on ocellar triangle; vertex black shiny, black pilose; occiput white pollinose and white pilose on ventral 2/3, becoming more golden pollinose and golden pilose dorsally; antenna orange except brownish dorsoapically on basoflagellomere, orange pilose; basoflagellomere with a very small sensory pit on inner side; arista orange, bare.

Thorax: Black; postpronotum golden pollinose, golden pilose; scutum golden pollinose with black pollinose maculae, golden pilose, with black narrow submedial vittae on anterior 3/4 but broadly separated from scutellum, with large quadrate black pollinose macula

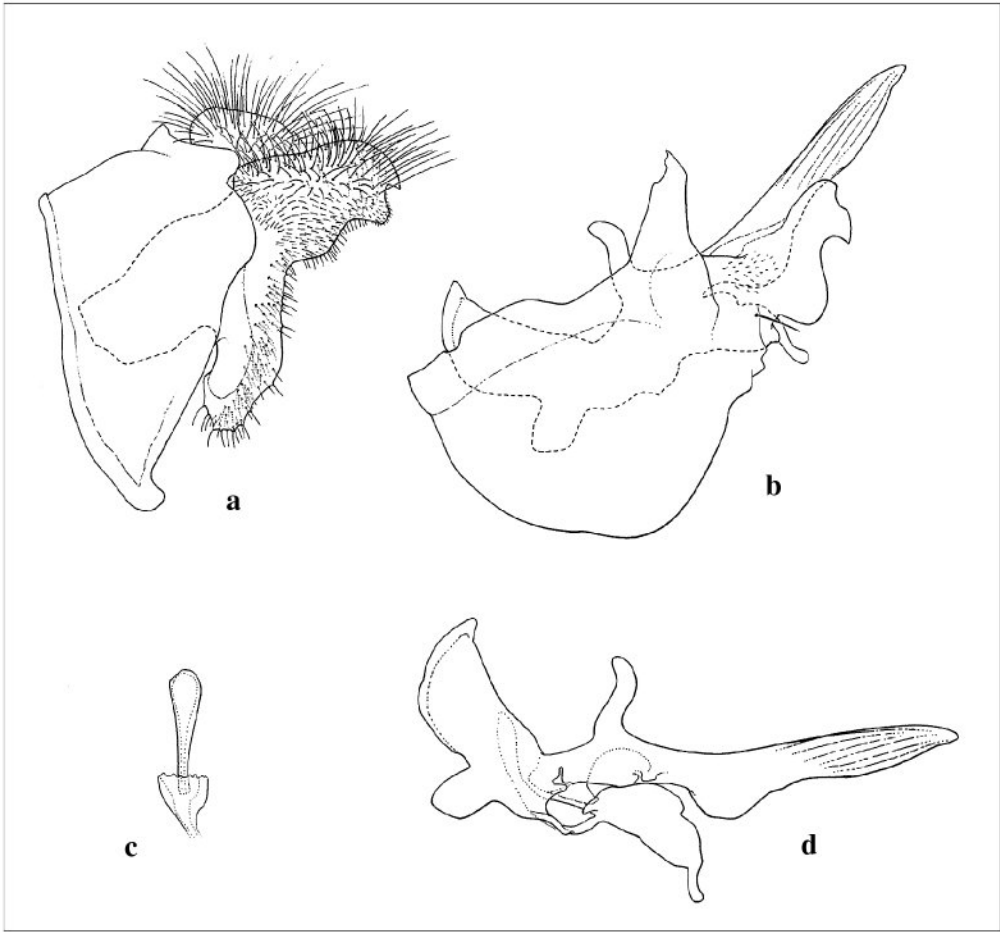


Fig. 2a-d: *Austrophilus terraereginae* (Ferguson, 1926), male genitalia. – **a:** 9th tergum and associated structures, lateral; – **b:** 9th sternum and associated structures, lateral; – **c:** ejaculatory apodeme, lateral; – **d:** aedeagus, lateral.

posteromedially from postpronotum and anterior to transverse suture, with smaller narrower triangular black pollinose vitta mesal to wing base; scutellum yellow, shiny, golden pilose; pleuron gray-yellow pollinose, golden pilose; plumula brown; calypter dorsal lobe brown, ventral lobe yellow; halter yellow. **Wing:** Hyaline except slightly brownish anteromedially at area between stigmatic crossvein and fork of Rs; microtrichose except bare cell BC, narrowly on base of cell C, cell R1 to level of fork of RS, basal 3/4 of cell R, cell BM, basal 1/2 of cell CuP (with bare area extending along anterior and posterior margin to apical 3/4), basomedial 1/4 of alula and basal 1/4 of anal lobe; tegula and basicosta black pilose. **Legs:** Brownish black except femoral apices, tibiae and tarsi orange; coxae grayish-yellow pollinose, yellow pilose; trochanters shiny, yellow pilose; metatrochanter ventroapically strongly produced into distinct medial spur; femora shiny, generally yellow pilose, with black pile on posteroapical 1/4 of profemur, anteroapical 1/3 of mesofemur, ventral margin and apicoventral 1/3 of metafemur; tibiae and tarsi orange pilose; ♂ metafemur greatly swollen and excavated on basal 2/3 posteromedially; ♂ metatibia with distinct tooth on basal 1/3.

Abdomen: ♂ black on basal 3 segments, orange-brown on apical ones, genitalia orange; dorsum densely golden pollinose except for black pollinose maculae, golden pilose; tergum 1 more grayish-yellow pollinose; tergum 2 with narrow black pollinose basal fascia but isolated from lateral margins and produced medially into triangular vitta reaching to apical 1/4; tergum 3 with broad medial triangular black pollinose vitta reaching apical 1/3; tergum 4 with very small narrow medial black pollinose vitta on basal 1/2; segments 5-7 golden pollinose; segment 8 shiny; sternum 1 gray pollinose laterally, shiny medially, yellow pilose; sterna 2-3 brownish orange, shiny, yellow pilose; sternum 4 golden, golden pollinose, golden pilose. ♀ brownish black; tergum 1 golden pollinose and pilose; tergum 2 shiny except for large triangular golden pollinose macula, with macula occupying medial 1/2 of tergum laterally and extending to point medially, maculae separated by medial 1/4, yellow pilose except apical 1/3 black pilose; tergum 3 shiny except basal 2/3 golden pollinose except broadly shiny medially, yellow pilose except apical 1/3 black pilose; tergum 4 shiny, except basal 1/

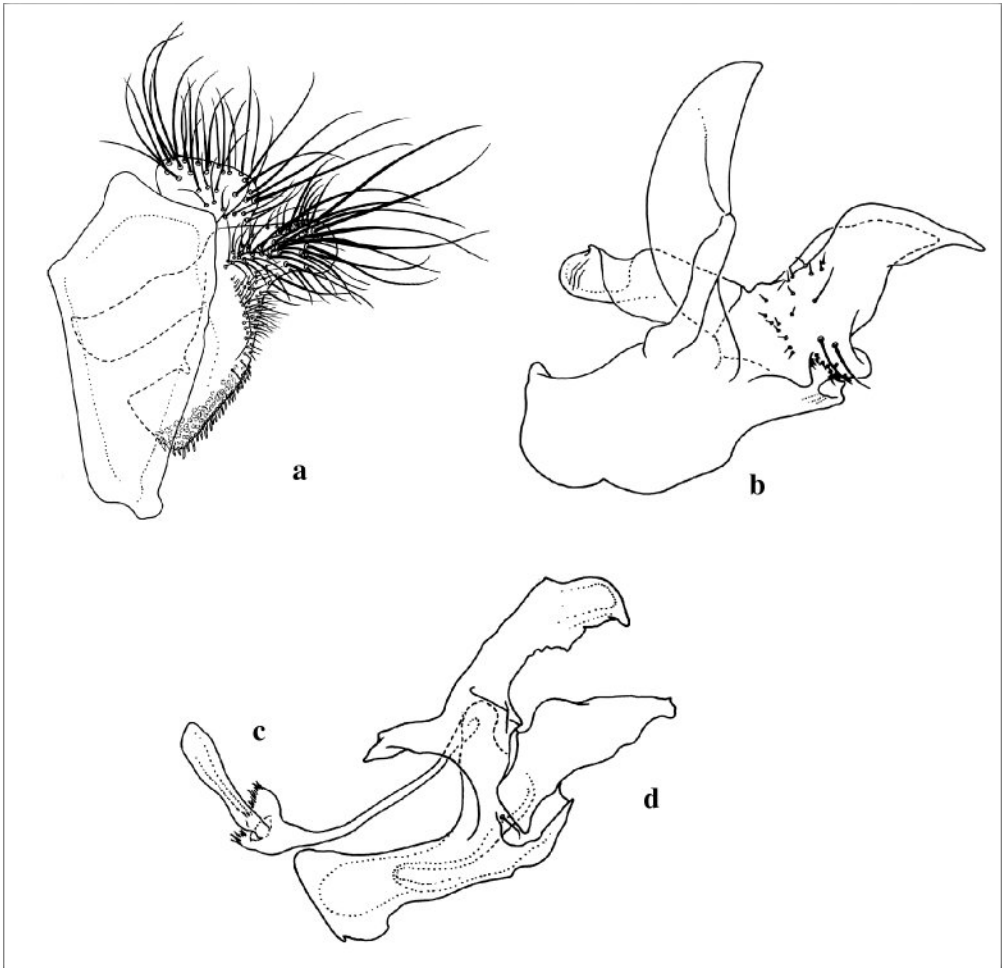


Fig. 3a-d: *Austrophilus neopinus* spec. nov., male genitalia. – a: 9th tergum and associated structures, lateral; – b: 9th sternum and associated structures, lateral; – c: ejaculatory apodeme, lateral; – d: aedeagus, lateral.

3 golden pollinose except narrowly shiny medially, golden pilose; tergum 5 shiny except very narrowly golden pollinose basally, yellow pilose; sternum 1 brownish medially, yellow laterally, shiny, yellow pilose; sternum 2 black, shiny, yellow pilose; sternum 3 black, shiny, yellow pilose, swollen and arched medially; sternum 4 black, shiny, black pilose except yellow pilose basally; sternum 5 black, shiny, black pilose.

Distribution: Australia (Queensland); Indonesia (Maluku, Aru Is.); New Guinea (Irian Jaya, Papua New Guinea).

Material examined: INDONESIA. Maluku: Aru Is., Elgner, 1911 (♂ ANIC). Irian Jaya: Humboldt Bay Distr., Pukusam Dist., west of Tami River, June 1937 (♂ BMNH). Australia. Queensland: Kuranda, F. P. DODD (♂ 2 ♀ ♀ BMNH); Redlynch, 10-17 Aug 1938, R. G. WIND (♂ BMNH); Cape York, Lockerbie Area, 13-27 April 1973, S. R. Monteith (♂ ♀ ANIC).

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