A New Genus and Three New Species of Pangoniini 
(Diptera: Tabanidae) from Bolivia

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Key words: Boliviamyia fairchildi n. gen., n. sp. - Esenbeckia griseipleura n. sp. - Esenbeckia gracilipalpis n. sp. - Bolivia - Tabanidae

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Boliviamyia new genus
Type species: fairchildi sp. nov. 
(Figs 1-4, 6-11)

Boliviamyia (Fig. 11) is characterized within the Pangoniini by having the eyes bare in both sexes, without pattern; male eyes with strongly differentiated large upper-median facets (Fig. 4); female frons broad and divergent towards antennae with prominent callus that is well separated from eye margins (Fig. 1); antennal flagellum with basal plate and 4 terminal flagellomeres (Fig. 2); palps swollen with short dorsal groove (Fig. 3); proboscis short (i.e. no longer than palps) with large fleshy labellae and female with well developed mandibles; wings with cell r 5 open, vein r 4 with appendix. Genitalia: male with bifid gonostyli (Fig. 6), confirming placement within the Pangoniini; tergite 9 sclerotised along basal margin (Fig. 7); female with tergite 9 undivided but tergite 10 with median membraneous fold (Fig. 9); sternite 8 (Fig. 10) subquadrate; genital fork without combs and spermathecal ducts not sclerotised or expanded at base (Fig. 8).

Boliviamyia fairchildi sp.nov.

Description of female (Fig. 11). Head - Eyes bare and without pattern in life. Frons (Fig. 1) index 1.7, diverging towards antennae, yellowish-grey pollinose becoming browner towards vertex; callus dark brown, roughly oval in shape, well separated from eye margins. Subcallus concolorous with frons, but with orange ground colour showing through the yellowish-grey tomentum. Clypeus and parafacials similar to subcallus but with coarse, mostly black hairs. Antennae (Fig. 2) orange brown, flagellum becoming darker apically; scape and pedicel with thin greyish tomentum and short black hairs. Palps (Fig. 3) concolorous with clypeus, short and swollen at base, with a narrow dorsal groove. Proboscis short, not longer than palps, the labellae large and fleshy and mandibles well developed.
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Thorax - Scutum dark brown with narrow lighter grey median stripe on anterior two-thirds (which sometimes appears brown when viewed from behind), a pair of narrow grey sublateral stripes that expand inwardly beyond the transverse suture (leaving a narrower brown median line) and are linked along suture to grey lateral margins (which are orange-brown in ground colour); mostly short black haired but some pale hairs at least anteriorly. Pleura with background colour orange-brown on katatergite, upper two-thirds of anepimeron and anepisternum and upper third of katepisternum, otherwise black; entirely grey polinose with black hairs. Scutellum dull orange-brown through grey tomentum, the hairs pale (sometimes mostly black on disk). Legs: coxae as pleura; femora blackish with thin grey tomentum; tibiae and tarsi dark brown with black tips; hairs black. Wings lightly smoky but with extreme base (i.e. as far as vein h) contrasting pale yellow; costal cell brown; stigma light brown. Cell r₄ open and vein r₄ with appendix. Halteres with brown stem and yellowish knob. Squamae concolorous with base of wing.

Abdomen - Dorsally dark brown with greyish hind-margins that expand laterally and (except on tergite 1) into large median triangles. Hairs mostly concolorous with background. Venter dark brown with grey hind-margins and hairs concolorous with background.

Lengths - Body 7 - 9.5 mm; wing 7 - 9 mm.

Description of male - Similar to female except for sexual differences. Upper median eye facets large, clearly differentiated from lower facets and
occupying approximately 70% of eye area (Fig. 4). Palps more slender, without groove. Abdomen with grey pattern slightly reduced. Femora black, contrasting with dark yellow-brown tibiae.


**Collecting details** - During early October 1993, two cloth canopy traps, adapted from Catts (1970) and Hribar et al. (1991), were deployed 100 m apart in a forest clearing at Potrerillo del Guenda. One was phthalogen-blue, the other was black and both were baited with 1-octen-3-ol (released at approximately 12 mg/day), an effective bait for tabanids (French & Kline 1989). Over a three day period the blue and black traps caught, respectively, 31 and 203 *B. fairchildi*, the highest daily total being 127 in the black trap. During a concurrent 12 month operation of a single black canopy trap at Potrerillo, 14 August 1993 to 26 August 1994, *B. fairchildi* was captured only during the period 28 August to 8 October 1993, with 86.8% of captures (66/76) being made in a single week, 18-23 September. Clearly this species has only a very limited, seasonal period of flight activity. The single trap was positioned in an open site, cleared for pasture, which may be the reason for the lower catch there compared to the forest sites. During October 1993, specimens of *B. fairchildi* were also collected from a horse at Potrerillo, demonstrating that this species has the potential to be a biting pest, but the extent of this role is presently unknown.

**REMARKS**

*Boliviamyia* is similar to *Fairchildimyia* Philip & Coscarón, 1971 in general appearance and will key to *Fairchildimyia* in Chainey et al. (1994), but in *Fairchildimyia* the eyes are densely hairy in both sexes and in the female an eyeband is present (this is exceptional in Pangoniinae) and mandibles are absent. The eyes of male *Boliviamyia* occupy a greater proportion of the head than in male *Fairchildimyia* (Figs 4, 5). The wings of *Fairchildimyia* are milky in appearance with the veins edged brown, whereas in *Boliviamyia* they are evenly lightly tinted with no concentration of colour around the veins and not appearing milky. In Coscarón (1976) *Boliviamyia* keys to *Protosilvius* Enderlein, 1922 of southeastern Brazil (reviewed by Fairchild 1962). However,
Protosilvius females differ by having a narrow parallel sided frons without callus, slender palps without dorsal groove and mandibles apparently absent, and both sexes have the antennal flagellum with very short and/or irregularly formed basal plate and the apical flagellomeres very long and slender. In Fairchild (1969) Boliviamyia keys to the geographically separated Apatolestes Williston, 1885 (found in western Canada and U.S.A. and northwestern Mexico), but Apatolestes has the antennal flagellum annulate, lacking a basal plate.

Etymology - This new species is dedicated to the memory of GB Fairchild who died while this paper was in preparation.

Esenbeckia (Esenbeckia) gracilipalpis sp. nov. (Figs 12-14, 19)

Description of female - Head. Frons (index 5, Fig. 12) greyish yellow-brown pollinose, with ill defined narrow dark brown callus. Subcallus concolorous with frons; clypeus and parafacials somewhat greyer. Beard whitish, aurigenal hairs black. Antennae (Fig. 13): scape and pedicel yellow-brown pollinose with black hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 14) brown, very long and slender with dark hairs, which on outer surface are mostly confined to the rim. Proboscis (Fig. 19) slightly less than one and a half times height of head in length, with slender black labellae and pseudotracheae present.

Thorax - Scutum orange-brown with rather long yellow-brown hairs. Pleura a little greyer with mostly pale yellowish hairs, except apically on anepisternum where hairs are black. Legs black haired: fore coxae grey pollinose with mixed whitish and black hairs; fore and mid-femora brown, sometimes darker on antero-dorsal surfaces, becoming paler apically; fore and mid-tibiae yellow-brown, but not strongly contrasting with femora; hind femora black, hind tibiae dark brown. Wings light brown but more yellowish in costal and basal cells. Tegula with a few yellow hairs, otherwise black haired. Halteres yellow-brown.

Abdomen - Tergite 1 pale yellow. Tergite 2 black-brown with narrow yellow-brown hind-margin. Rest of tergites black but tergite 3 with slightly pale hind-margin. Hairs of dorsum mostly black but tergite 1 with pale yellow hairs on hind-margin and rest of tergites with small pale tufts on hind corners. Sternites similar but with white hairs on hind-margins.

Lengths - Body 15.5 - 20 mm, wing 16 - 19.5 mm.

Male unknown.

Material examined - BOLIVIA: Dept. Santa Cruz: Holotype (F), Prov. Andrés Ibáñez, Potrerillo del Guenda, 17°42'20"S, 63°27'25"W, 510m, 8.xi.1992 PB, NHM; Paratypes: 3(F), same data as holotype; 2(F), same data, 23.-29.x.1993; 7(F), same data, 30.x.-5.xi.1993; 8(F) same data, 6.-12.xi.1993; 30(F), same data, 13.-19.xi.1993 NHM, FSCA, MNKM, UNH (an additional six females in poor condition are excluded from the type series).
REMARKS

Differs from other species with yellow, orange or rufous mesoscutum by having very long slender palps, long proboscis with slender labellae and by leg and abdominal pattern. It will not key out satisfactorily in Wilkerson and Fairchild’s (1983) review of *Esenbeckia (Esenbeckia)*. *E. gracilipalpis* is structurally closest to *E. pechumani* Wilkerson & Fairchild, 1983 but that species is smaller (14 - 16 mm) and has tergites 1 - 2 and posterior third of tergite 3 translucent yellowish with a diamond shaped dark median mark on tergite 2; sternites 1 - 3 translucent pale yellowish-brown, sternites without white haired hind-margins and sternite 3 with lateral dark spots; fore legs and mid tibiae mostly golden yellow haired.

*Esenbeckia* (Esenbeckia) griseipleura sp. nov.

(Figs 15-18)

Description of female. Head - Frons (index 4, Fig. 15) yellowish-brown pollinose, becoming paler basally, with dark brown callus. Subcallus concolorous with base of frons. Clypeus and parafacials slightly more greyish than subcallus. Beard whitish. Antennae (Fig. 16): scape and pedicel yellow-brown pollinose with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim. Proboscis (Fig. 18) about two-thirds height of head in length, with labellae flattened at sides and blunt tipped; with orange-brown hairs; flagellum orange, becoming darker on terminal flagellomeres. Palps (Fig. 17) orange, largely flattened at sides and blunt tipped; with orange-brown hairs, which on outer surface are mostly confined around rim.
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REFERENCES


Wiedemann CRW 1828. *Aussereuropäische zeiflügelige Insekten* [part]. 1, Hamm, xxxii + 608 pp.
