

# **A new genus and species of Pteromalidae (Hym.) parasitic on Sphecid in South America**

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A NEW GENUS AND SPECIES OF *PTEROMALIDAE* (HYM.)  
PARASITIC ON SPHECIDS IN SOUTH AMERICA

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During his studies of various aculeate Hymenoptera in South America, Professor O. W. Richards reared an interesting parasite of little Sphecids of the genus *Microstigmus* and asked me for identification. The parasite has proved to be new to science. Some additional specimens, partly from the same hosts, have been found in the material of the Commonwealth Institute of Entomology and of the British Museum (Nat. Hist.).

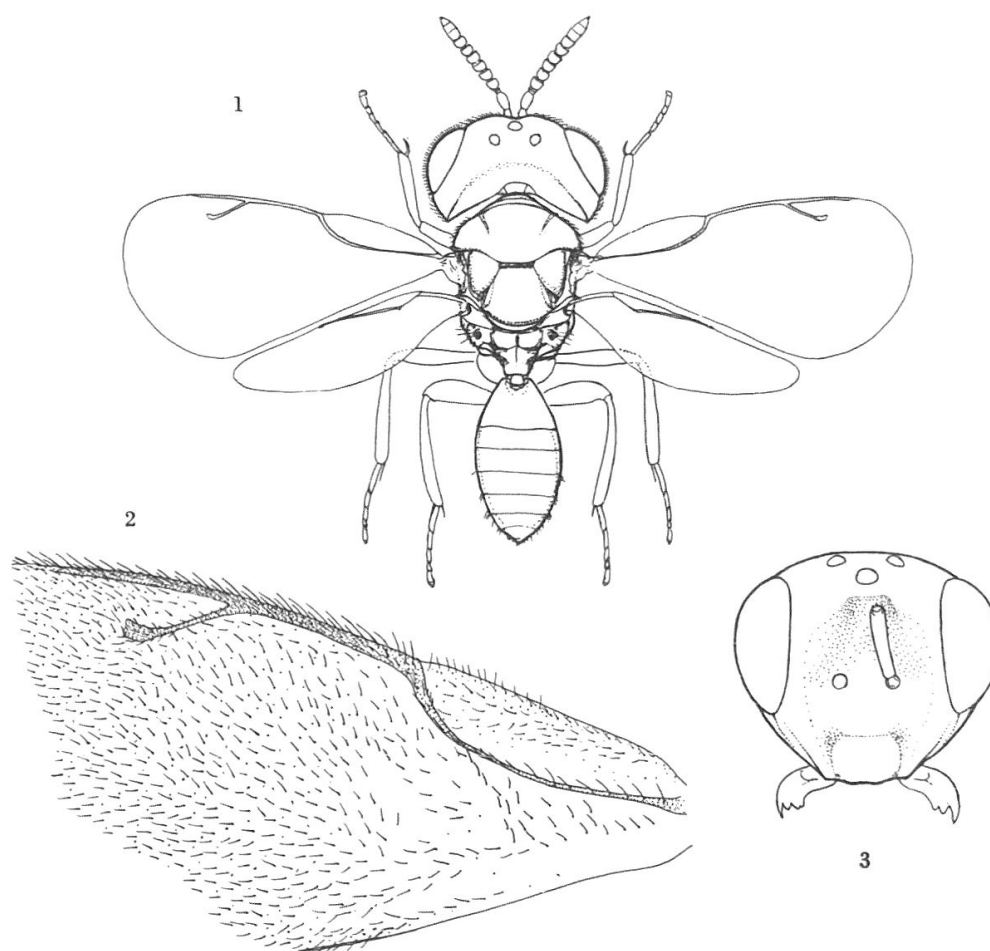
*Trichokaleva* gen. n.

Type-species: *Trichokaleva microstigmi* sp. n.

Head and thorax, except propodeum, with very dense and rather deep reticulation, densely pubescent, including the eyes. Head unusually large and stout, with temples moderately receding. Occiput not margined but rather abruptly changing from horizontal vertex to vertical occiput, temples below and genae posteriorly carinaceous. Ocelli fairly large, their triangle not broad, POL subequal to OOL or slightly greater. Scrobes relatively deep, distinctly though not sharply limited only above, in front of median ocellus. Clypeus broad, transverse, subquadrangular, its lower margin slightly waved, almost truncate. Lower face not radiately striate, together with clypeus almost in one plain, not receding below so that the mouth margin protrudes considerably (fig. 3), while the lateral parts which in front of malar sulcus abruptly recede backwards, are concave, more deeply so at mouth. Mandibles large, strongly sinuate, left mandible with three large teeth, the right with four, the upper two of which are small. Labio-maxillary complex normal, maxillary palpi slender, 5-segmented. Antennae inserted in middle of face, distinctly above lower ocular line, their toruli very small, interantennal space flat and about 3 times as broad as torulus. *Antenna* short, slender, subequal in the two sexes. Scapus slender and much shorter than height of eye, pedicellus elongate, longer than first funicle segment; 2 short anelli; 6 transverse funicle segments; 3 short claval segments, their sutures perpendicular, last segment subacuminate.

Thorax short (fig. 1), strongly convex, much broader at mesoscutum than at ends. Pronotum much narrower and much lower than mesoscutum, short, collar not distinctly developed, sides in oblique dorso-anterior view forming small shoulders which are otherwise hidden under mesoscutum; the latter strongly transverse, with notauli weakly indicated in anterior half, scuto-scutellar suture rather strongly sinuate, mesoscutum forming a broad lobe backward between the large sloping axillae which are moderately shifted forward. Scutellum with reticulation coarser than on mesoscutum, itself strongly convex, basally with deep transverse furrow, posteriorly with carinaceous

margin which in fact separates the frenum; the latter forming a subvertical, very finely reticulate band running laterally without interruption into the interalar tooth. Metanotum linear. Propodeum with median carina, almost straight converging plicae and mostly distinct costula crossing median carina in front of middle; median part of sclerite constricted posteriorly into distinct nucha which is, however, hardly marked dorsally, its hind margin thin, slightly emarginate; propodeum very short laterally, callus with weak hairs but with several longish erect hairs laterad of oval spiracle which is near to metanotal margin. Prepectus rather small, subtriangular, without carina, depressed and weakly reticulate in middle, hind margin thin. Mesepisternum bare, flat,



Figs. 1–3, *Trichokaleva microstigma* gen. n. sp. n. ♀; 2, part of forewing; 3, head in facial view.

subdepressed, reticulate; mesepimeron subdivided by oblique fovea, upper part mainly smooth. Legs weak, rather slender, but hind femur slightly broadened, externally rather roughly hairy; hind tibia with two spurs, the outer one very weak, half length of the inner one. *Forewing* very broad, with unusually broad costal cell, all over extensively hairy (fig. 2), with narrow bare streak just outside basal fold and a small speculum farther on towards wing disc, also bare below basal cell; submarginal vein strongly arched, forming a smooth arch with parastigma; marginal vein longer than the postmarginal which is longer than the stigmal, the latter hardly knobbed.

Gaster in both sexes hardly as long as and narrower than thorax, collapsing dorsally, shortly lanceolate or long-oval. Petiole small, smooth, slightly transverse. First gastral tergite not large, hind margin entire. Hypopygium in female ending near tip of gaster, ovipositor short, the sheaths minute and not visible from above. Pubescence of gaster very weak dorsally but longer and more conspicuous ventrally; cercal bristles short, weak.

The genus belongs to the Pteromalinae and seems to be near to the European *Kaleva* GRAHAM which, probably not by coincidence, also includes parasites of small Sphecids. *Trichokaleva* differs from *Kaleva* mainly in having strongly hairy eyes, very short antennal scapes, much more distinctly concave malar space, pronotal collar not sharply delimited, scutellum with carinaeous frenal line, complete system of carinae on the propodeum, unusually broad costal cell in the forewing and some minor characters. The broad head is also reminiscent of *Cratomus* DALMAN, another probable parasite of Sphecids (biology of the latter not yet known) and of some Central and South American genera described by GIRAULT, in particular of *Toxeumella* GIRAULT. It has, however, quite different head and antennae. In *Cratomus* the basal flagellar segments are rather long, not anellus-like, the forewing venation and propodeum are rather different, etc. In *Toxeumella* there are three short anelli, the eyes are glabrous, notauli percurrent. Dr. B. D. Burks has very kindly compared specimens of the new genus with specimens of relevant genera in the U. S. National Museum, Washington, and found them to be different.

*Trichokaleva microstigma* sp. n.

♀. Body mainly bluish green, with dorsal parts of head and thorax usually more bluish to cyaneous; posterior part of propodeum and anterior part of gaster brownish, becoming paler near petiole, sometimes pale colour of the chitin extending extensively on thorax and gaster. Antennae, and legs including apex of coxae, pale testaceous, antennal flagellum darker ochreous. Wings hyaline.

Length 1.7–2.3 mm.

Most of the important characters are seen on figs. 1–3. Relative measurements: head width 55, length 31, height 47, longest diameter of ocellus 4.7, eye 30:24, length of hairs on eyes 2, malar space 11.5, mouth width 20, distance between lower margin of clypeus and antennal toruli 18, distance between toruli 7.5, length of scapus 14.5, flagellum plus pedicellus 35.5 (in holotype). Scapus nearly linear, only very slightly thickened in distal half, hardly longer than both anelli plus funicle segments 1–4 combined. Pronotum on lateral panel with rather deep curved femoral depression. Mesoscutum nearly twice as broad as long (42:22), medially twice as long as laterally. Scutellum dorsally, up to frenal ridge, about 1.8 times the length of transverse groove at base of scutellum. Bottom of propodeal areolae slightly shiny, shallowly and in places rather vaguely reticulate. Gaster often shorter than in the figured specimen.

♂. Very similar to ♀ but face sometimes more brightly greenish, flagellum pale yellow except slightly darker clava. Scapus in lateral view broadest in basal third and hardly narrower towards apex which is about as broad as in ♀. Gaster still shorter, suboval, flat. Length of body 1.6–2.2 mm.

Biology: Parasite in nests of at least two *Microstigma* species (Hyme-

noptera, Sphecidae) built beneath leaves of trees and bushes.

Distribution: Trinidad, Guyana, Brazil (Pará, Mato Grosso).

Holotype ♀: Brazil, Mato Grosso, 12° 50'S, 51° 47'W, ex nest *Microstigmus* sp.? «C», 5. X. 1968 (O. W. Richards); deposited in BMNH, London.

Paratypes: Trinidad, 5♀1♂ 8. XII. 1928 (probably J. G. Myers); Trinidad, «1974», 1♀ 21. V. 1933 (D. V. Fitzgerald). Guyana: NW. District, Wanaina, ex *Microstigmus* sp., 1♀1♂ III. 1931 (J. G. Myers); Potaro River, Kaieteur-Takeit trail, ex nest *M.* sp. «C», 2♀ 10. IX. 1937 (Richards & Smart); Potaro River, Kaieteur Savannah, Le Barrier Wood, ex nest *M.* sp. «B», 1♀ 5. IX. 1937 (Richards & Smart); Mazaruni Settlement, nest *M.* sp.? «B», 1♀ 27. IX. 1937 (Richards & Smart). Brazil: Pará, Belém, nest *M.* sp.? «C», 1♀ 22. IV. 1968 (Richards); Mato Grosso, with the holotype, 2♀ 1♂ (allotype) (Richards). Paratypes deposited in BMNH, London, USNM, Washington and MHN, Geneva.