

**A NEW SPECIES OF *MICCOSTRUMA* (Hymenoptera:
Formicidae) FROM WEST AFRICA, WITH
NOTES ON THE GENUS¹**

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ABSTRACT

Miccostruma tigrilla, new species, is the first West African member of the genus to be described. Its striking black-and-yellow color will serve to distinguish it from all other known species of related short-mandibulate higher dacetines. The distinctness of *Miccostruma* and other short-mandibulate strumigenite genera is threatened by the finding of increasing numbers of species with intermediate characters.

The new species described below is the first *Miccostruma* novelty to come to light since 1914, and the first from West Africa. It belongs to subtribe Strumigeniti of tribe Dacetini, subfamily Myrmicinae.

Miccostruma tigrilla new species
(Figs. 1, 2)

Holotype worker: Total length (TL) 2.0, head length (HL) 0.56, head width (HW) 0.48, cephalic index (CI) 86, projection of closed mandibles beyond anteriormost points of clypeal margin (ML) 0.05, mandibulo-cephalic index (MI) 9, length of trunk (WL) 0.55, scape L including basal lobe 0.23, greatest diameter of eye 0.07 mm.

Form and color pattern of head and body as shown in the figures. Color: mandibles, antennae, clypeus, promesonotum, legs and a broad bilobate band occupying about the basal 2/5 of the first gastric tergite, straw yellow; rest black to piceous-black; even the spongiform appendages are dusky. Head, antennal scapes, truncal dorsum, legs and both nodes densely and finely reticulo- to granuloso-punctate, prevailinglly opaque, except that antennal funiculus, sides of pronotum, fore coxae, much of sides of posterior trunk and sides of postpetiolar node have the sculpture effaced, more or less smooth and shining. Postpetiole with superimposed indistinct longitudinal striation in front; gaster smooth and shining (but with a thin patchy glaze of foreign matter or secretion), with the entire basal yellow area densely longitudinally costulate.

Body practically hairless, and almost completely without reclinate pubescence except for a short covering on mandibles, funiculi and legs. There are of course the conspicuous spatulate hairs of clypeus and

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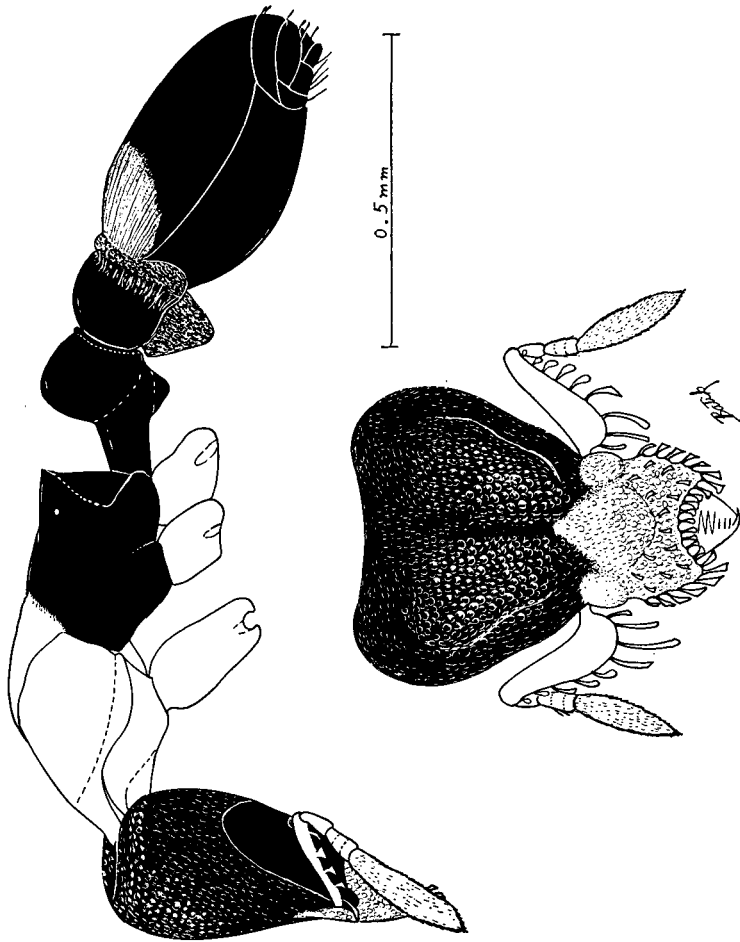


FIG. 1. (Above) *Microstruma tigrilla*, new species, holotype worker in side view. FIG. 2. (Below) same, dorsal full-face view of head. Drawing by George Batik.

scapes, as shown in the figures, and 6–10 short erect clavate hairs on gastric segments II–IV; a few short, fine erect hairs occur at the gastric apex and just before it on the venter. All tibial apices bear a few curved spatulate hairs, and more of these are found paired on each tarsomere of middle and hind legs. Smooth part of gastric dorsum with scattered minute white points that probably represent vestigial hairs.

Dorsum of head shallowly but distinctly sulcate inside lateral margins; a faint carina trails back from clypeus to a feeble median impression near mid-vertex. Clypeus expanded anterolaterally as a broad, translucent shield, very deeply excised in the middle and covering about half of the mandibles. Mandibles not dissected out, but from what can be seen, they are like those of most *Smithistruma* species, with a series of long sharp teeth near mid-length, a short series of denticles farther out, and a sharp tooth at the apex. A basal lamella is probably present, but hidden. Anterior labral lobes with their narrowly spatulate trigger hairs reaching almost to the mandibular apex, which is weakly downcurved. Antennae 4-segmented, segment III in some lights showing signs of a previous division into 3 separate segments; apical segment longer than I–III combined.

Pronotum forming a flat, near-circular disc (W 0.29 mm) with submarginate sides; mesonotum separated from it by a indistinct raised semicircular line, weakly convex. Propodeal dorsum submarginate, sides diverging caudad and extending into teeth that are so deeply involved in the black infradental lamellae as to appear rectangular from the side, but from above they are acute, and the space between them is deeply excavated. Trunk without a distinct middorsal carina. Metanotal groove obsolete or nearly so, but marked by a sharp yellow-black transition, and the trunk constricted in this region as seen from above.

Petiole with a narrow anterior peduncle and a semiglobose node (W 0.16 mm), its spongiform appendages reduced to vestiges. Postpetiole wide (W 0.28 mm), convex, with moderate spongiform appendages. Gaster (max. W 0.39 mm) without anteroventral spongiform pad. Legs stout, moderate in length, hind tibia L 0.27 mm.

Holotype worker from Ivory Coast: near Divo, 18 March 1963, berlesate from rain forest leaf litter, Dr. L. Brader leg., deposited in the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts.

Paratype a single worker from Ivory Coast: Circuit 1 in the Banco Forest Reserve, near Abidjan, January 1963, berlesate from rain forest leaf litter, W. L. Brown, Jr. leg., deposited with holotype. TL 2.1, HL 0.57, HW 0.50, CI 88, ML 0.06, MI 11, WL 0.58, scape L 0.26, eye diameter 0.08, L hind tibia 0.32 mm. Like holotype, but middle and hind coxae infuscated.

The new species is very distinct from the other two known species of *Miccostruma*: *M. mandibularis* and *M. marginata* (listed under *Epitritus* in Emery, 1922, *Genera Insectorum*, 174:327). Both of these

species (from southern and east Africa) are ferruginous in color, and in *mandibularis*, which has the anterior clypeal border concave, it is not nearly so strongly excised as in *tigrilla*. The head and pronotum are flatter and wider in *tigrilla*, and the body is more definitely sculptured and more completely opaque, including the postpetiole; the last is smooth and shining in *mandibularis* and *marginata*.

Miccostruma is now seen as a weak genus, an offshoot of the *Smithistruma-Trichoscapa* stock of the short-mandibulate Strumigeniti. Its main distinguishing character up to now has been the 4-segmented antennae (III, IV and V of *Smithistruma* being fused to make segment III of *Miccostruma*), but this distinction has been weakened by the finding of worker specimens of *Smithistruma baudueri* from southern Europe with partially and completely fused segments III, IV and V (Brown, unpublished notes). Furthermore, in the holotype of *Miccostruma tigrilla*, as described above, the former tripartite segmentation of the middle segment of the funiculus is still visible in some lights. Another generic character, the very short mandibles (i.e., largely covered by the clypeus), is matched by *Smithistruma cavinasis*, an African species described in 1950. Another character, not cited in the original generic description, is the strong reduction of pilosity and pubescence in *Miccostruma*. Except for longer specialized hairs and some pubescence on the mandibles, clypeus, antennae, legs and gastric apex, the three species are essentially hairless. This condition is approached by *Trichoscapa*, by Japanese samples assumed to belong to *Pentastroma* (= *Smithistruma*?), and by one or two undescribed *Smithistruma*, but when the combination of characters is considered, *Trichoscapa* is closest to *Miccostruma*.

As new species are discovered in tropical countries, the characters separating the short-mandibulate strumigenite genera are gradually losing their distinctiveness, and it seems likely that we may eventually see most of these genera merged again in one large genus, perhaps to bear the old name *Trichoscapa*. In view of the present rapid accretion of new species in this group, it seems best to wait until more of them can be considered carefully together before we make too many radical changes. For the moment, though, it seems safe to recommend that the subgenera *Weberistruma*, *Wessonistruma* and *Platystruma* be considered as simple synonyms of *Smithistruma*. *Serrastruma*, *Tingimyrme*, *Epitritus* and *Kyidris* now seem to be good genera, but *Codiomyrmex*, *Gymnomyrmex*, *Chelystruma*, and *Glamyromyrme* (= *Borgmeierita*) are in doubt.