

***Odontomachus cornutus* Rediscovered
(Hymenoptera: Formicidae: Ponerinae)**CHARLES KUGLER¹

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ABSTRACT: *Odontomachus cornutus*, a large neotropical ant known until now only from a description of a single worker, type since destroyed, is redescribed from 7 workers, 2 males and a queen.

The large and bizarre ponerine ant, *Odontomachus cornutus*, has been known for the last 36 years only from a brief description of a single worker from Bucay, Ecuador (Stitz, 1933). That specimen was destroyed in the bombing of Hamburg during World War II (Brown, 1976). Recently I had the good fortune to find multiple specimens of this unmistakable species, including all castes, in the southern Chocó of Colombia. The purpose of this paper is to extend and qualify Stitz' overbrief characterization of the worker, and to present the first descriptions of the queen and male.

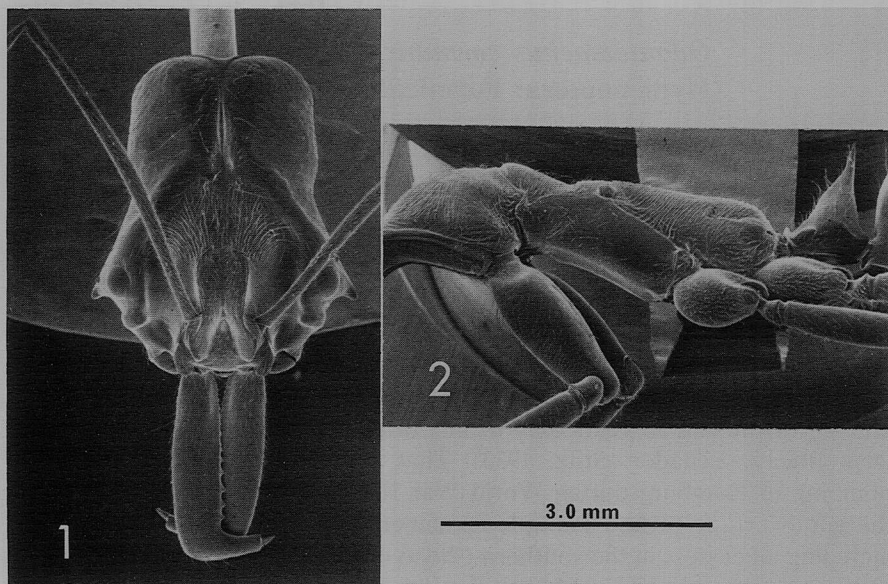
The reader is referred to Brown's (1976) world revision of *Odontomachus* for background information on the taxonomy and biology of the subtribe Odontomachiti, and for definitions of the measurements and indices used here. Diagnostic characters appear in italics.

Odontomachus cornutus Stitz
(Figs. 1, 2)

Worker metric characters, those of smallest worker followed by those of largest: *TL* 13.68, 18.71; *HL* 3.40, 4.56; *HW* (across vertex) 2.00, 3.10; *HW* (across ocular prominences) 2.90, 3.84; *ML* 2.15, 2.75; *scape L* 3.6, 4.36; *eye L* 0.36, 0.44; *WL* 4.08, 5.36; *hind femur L* 4.10, 5.12; *hind tibia L* 3.40, 4.24; *petiole L* 0.85, 1.20; *CI* (using *HW* across vertex) 59, 68; *MI* 63, 59; *SI* 180, 141.

Composite description of worker: Mandibles long, more robust in major workers (maximum mandible *W* excluding teeth/*ML* = 28%) than in minors (23%). Callows (Fig. 1) with acute apical and intercalary teeth; very long, truncate subapical tooth; and 14-17 teeth along the entire length of the ventral masticatory border, gradually diminishing in size basad, and changing from triangular to slender and curved. In older ants all teeth wear to shorter and more rounded. Palpal formula 4, 4. Head (Fig. 1) with ocular

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Figs. 1, 2. *Odontomachus cornutus* worker. Fig. 1, dorsal view of head and mandibles. Fig. 2, side view of trunk and petiole.

prominences drawn out as stout oblique teeth; median furrow strongly impressed and confluent with antennal fossae; occipital carina not strongly produced. Eyes small (EL/HL = 10–11%). Scapes extend well beyond occipital corners (by 20% of SL in smallest worker; by 15% in largest).

Trunk profile usually with metanotum declining caudad to a variable degree so that there is a distinct step up to the propodeum, but in some specimens (Fig. 2) metanotum and propodeum are continuous and nearly flat. Metasternum without metasternal processes. Mesepisterna without anteroventral lobes when seen from above. Apical tibial spurs 1, 2, 2. Orifice of propodeal spiracle subcrescentic.

Petiolar node in profile (Fig. 2) with a sloping, sinuous anterior face; posterior face weakly convex below, straight along vertical apical spine. Anterior penduncle with a prominent, sharp, upturned lip. Node as seen from the front not swollen; weakly convex sides converge to base of spine, then through a broadly concave arc become strongly tapered and flat to the acute apex of the compressed spine. Anterior edge of spine more or less carinate, and in some specimens the sharp edge extends about halfway down the node. Subpetiolar process subtriangular, with convex anterior edge, concave posterior edge, and bluntly rounded apex. Gaster with a narrow, triangular stridulatory file on second acrotergite.

Sculpture: Mandibles and head smooth and shining, except for weak longitudinal striation between frontal carinae, and coarse, fan-like striation in

antennal fossae. Weak longitudinal striation also on ventral aspect of anterior corners of head. Piligerous punctures are scattered throughout. Pronotum with fine, whorled striation above, bracketed by bands of transverse striae fore and aft, the latter flaring ventrad to cover humeri. Mesonotum, metanotum and propodeum (including declivous face) transversely striate; slightly coarser on the propodeum. Antermost striae of propodeum longitudinal in some specimens. Sides of mesopleura largely smooth, but with effaced, largely vertical striation on each end; ventral aspect covered transversely with same weak sculpture. Legs, petiolar node and gaster smooth and shining, with scattered piligerous punctures. Gaster also with very fine, dilute pitting best seen at 50 \times .

Light yellow to golden pubescence of about 0.05–0.2 mm present on all parts of body except nude posterior face of petiole; predominant and dense on tibiae, tarsi, antennae and propodeum; dilute, appressed and difficult to see on gaster and upper surfaces of mandibles. Somewhat longer hairs (up to 0.3 mm) on head, trunk, petiole, coxae and femora. Longest (0.3–0.7 mm), more erect, and golden to light brown pilosity only on ventral surfaces of mandibles, near midline of head (dorsum, 28–36 hairs; venter, 20–22; labium, 2), disc of pronotum (14–16), ventral surfaces of coxae, flexor surfaces of femora (3–8), and throughout gaster except for anterior face of first tergum.

Body uniformly ferruginous brown with darker frontal carinae and clypeus, and largely black mandibles. Violaceous reflections seen on all parts (under strong lighting); more bluish over more darkly colored areas.

This description departs from that of Stitz (see also Brown, 1976:144) only in minor ways: width of vertex and shape of mandibles (as shown by his figure), extent of preapical dentition, striation and pilosity on pronotal disc, and a slightly different interpretation of color. Notable only is his statement that the pronotum is transversely striate above; all of mine are predominantly whorled.

QUEEN: TL 19.16; HL 4.79; HW (across vertex) 3.23; HW (across ocular prominences) 4.05; ML 2.92; scape L 4.60; eye L 0.65; WL 5.92; hind femur L 5.20; hind tibia L 4.40; petiole L 1.30; CI 67; MI 61; SI 142.

Single specimen dealate; differs from workers in the normal ways, and in the following: Striation on pronotum entirely transverse; that on meso- and metanota longitudinal. Petiole from the side with anterior face concave up to base of relatively broader spine, at which point there is a small step down in the outline. Apical spine curved more caudad, giving the posterior face a more concave outline (flattened midlength). Anterior peduncle without sharp upturned lip.

MALES (2 specimens): TL 10.24, 10.42; HL 1.27, 1.30; HW (across eyes) 1.80, 1.84; ML (chord) 0.25, 0.22; eye L 0.85, 0.88; maximum diameter of

median ocellus 0.20, 0.19; WL 4.00, 4.14; petiole L 0.95, 0.98; CI 141, 142; MI 173, 192.

Head short, without a neck. Anterior clypeal margin very weakly convex. Mandibles short, compressed apically into blunt, smoothly rounded paddles; outer surfaces with a few short setae, none more prominent or stiff than the others. Free edge of labrum strongly emarginate, lateral corners acute. Palpal formula 6, 4. Mesoscutum lacks notauli. Mesonotum and metanotum with weak to prominent median carina. Propodeal spiracles subcriscentic, placed on prominent tubercles; anterior peduncle with sharp upturned lip. Wings typical for Ponerini. Petiolar node a short, acute to subacute cone. First gastric segment not constricted behind. Spine of pygidium seen from the side straight or weakly downcurved, parallel-sided, apex blunt; from above, tapered and acute. Parameres widely rounded apically.

Sculpture on head from smooth or very weakly alutaceous around eyes to weakly roughened elsewhere. Scattered piligerous punctures occur throughout. Trunk rather strongly sculptured. Mesonotum mostly longitudinally striate; pronotum, pleura and propodeum striate to rugose-striate; orientation of striae varies slightly between the 2 specimens. Wide, impressed bands with bridging striae or costae mark some sutures of sides. Petiole grades from smooth above to striate on sides. Gaster smooth to alutaceous, very shiny, and with scattered piligerous and nonpiligerous punctures throughout.

Pubescence much as described for worker, but more conspicuous on gaster; none on upper surfaces of mandibles. Pattern of pilosity also much the same, but shorter (up to 0.5 mm); and emergent hairs not so obvious on head, absent on mandibles and arrayed on pronotum along promesonotal suture.

Color shiny black except for dark brown face, legs beyond the femora, and hind segments of gaster; brown clypeus, scape and pedicel; yellow-brown terminalia and trochanters. Antennae not shining due to dense pubescence. Bluish reflections most clearly seen on smooth areas.

All specimens were taken from Finca los Guadales, the farm of Jim West, Meredith Foyle and Jack Sachs, some 10 km southwest of San José del Palmar (about 5 km by road to La Badea, then footpath for about 3 hours), Departamento del Chocó, Colombia on 1-4 June 1978 by C. Kugler. Four workers and a dealate queen were collected as strays from the lower boundary of the property on the Río Torito, 610 m. Three more workers and 2 males were found in a nest or nest fragment in soft deep soil under leaf litter on a ridge above the farm buildings, 850 m. Few individuals and no larvae were seen in this "nest," even after digging down to 30 cm. In both places the vegetation is montane forest, apparently primary. The area has been colonized only in the last 10 years, and this finca has escaped

extensive cutting. The present owners hope to preserve the major part of their land in its natural state, and they welcome visiting scientists. Annual rainfall in 1977, as measured by a home rain gauge, was 4.8 m. Driest months are January, February, July and August (4.5 cm to 16.6 cm per month).

The range of *O. cornutus*, as presently known, is restricted to the two sites on the Pacific slope of the Colombian and Ecuadorian Andes.

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