

A NEW *PARATRECHINA*
(HYMENOPTERA: FORMICIDAE)
FROM MACHU PICCHU, PERU

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ABSTRACT

Paratrechina burgesi n. sp. is described from 2 collections of workers from the vicinity of the Machu Picchu ruins. It is the first known species of *Paratrechina* with a reddish head and mesosoma and a black gaster, a color pattern common in some other ant genera.

RESUMEN

Paratrechina burgesi sp. nov. se describe de dos colecciones de obreras colectadas en la vecindad de las ruinas de Machu Picchu. Representan los primeros ejemplares de una especie de este género que tiene la cabeza y el mesosoma rojizos y el gáster negro, un tipo de coloración común en algunos otros géneros formicidos.

Mr. Richard Burges of the USDA Imported Fire Ant Project in Gainesville, Florida returned from a trip to Peru with specimens of some of the more conspicuous surface-foraging ants from Machu Picchu. Among these were 3 workers of a striking, bicolored *Paratrechina*, quite distinct from any described South American species of the genus. Later I found 11 workers of this ant at Harvard's Museum of Comparative Zoology (MCZ) collected by Dr. William L. Brown, Jr. at the same locality. My present research is a revision of the North American *Paratrechina*. I feel that this unusual Andean species should be described now, while I have the MCZ specimens on loan. This will add to the knowledge of the fauna of a region that is, at best, poorly known myrmecologically.

METHODS AND TERMINOLOGY

Point-mounted specimens were measured at 50X (eye measurements at 80X) with an ocular micrometer, and the measurements were converted to the nearest 0.01 mm equivalent. Measurements and setal counts taken were as follows:

- HL — head length in full face view from posterior margin of head to anterior margin of clypeus.
- HW — maximum width of head in full face view.
- EL — maximum diameter of compound eye.
- SL — straight line distance from basal collar of scape to its terminus.
- PW — maximum width of pronotum.
- WL — length of mesosoma (thorax plus propodeum) from anterior edge of pronotum (not including anterior flange) to posterior corner of metapleuron.

FL — length of fore femur.

SM — number of erect macrochaetae on scape.

PM — number of erect macrochaetae on pronotum, left of sagittal plane.

MM — number of erect macrochaetae on mesonotum, left of sagittal plane.

In addition the following indices were calculated:

$$\begin{array}{l} \text{Cephalic Index: } \frac{\text{HW} \times 100}{\text{HL}} \\ \text{Ocular Index: } \frac{\text{EL} \times 100}{\text{HL}} \\ \text{Scape Index: } \frac{\text{SL} \times 100}{\text{HL}} \\ \text{Femoral Index: } \frac{\text{FL} \times 100}{\text{HL}} \end{array}$$

SI (“SI₂” in the terminology of Ward 1980) is used here as the only indicator of scape length following Snelling (1976). This index is a more practical measure of the relative length of the scape for this genus.

Paratrechina workers have 2 major types of setae. The larger type is usually brown to black in color, erect and finely barbulate. The barbules are readily discernible at 200X. The smaller setae are brown to whitish, closely appressed to the body surface and simple. Following traditional terminology, the 2 hair types are, when considered collectively, referred to as pilosity and pubescence, respectively. The individual hairs comprising the pilosity are called macrochaetae (after Emery 1906). There is no currently acceptable term for the setae comprising the pubescence. Buren (1968) used the designation “pubescent hairs” in an attempt to make up for this deficiency, but his term is not adopted here.

Paratrechina burgesi Trager, NEW SPECIES

Fig. 1-4

MATERIAL STUDIED: PERU, Machu Picchu, 2600-2800 m, 28-II-1967-1-III-1967, William L. Brown, Jr., #H-176, 1 worker holotype and 10 paratypes. Same locality, on path near ruins, 8-V-1982, Richard J. Burges, 3 worker paratypes.

WORKER: *Diagnosis*: A medium-sized, bicolored, shiny, terrestrial species. The head and trunk are light brownish red and the gaster piceous brown. The body is largely free of pubescence and the integument is smooth and shining. Pilosity long and conspicuous on scapes, head and thorax, the distal 1/4 to 1/2 of the 8 largest thoracic macrochaetae strongly curved or bent anteromesad. This species does not closely resemble any other New World *Paratrechina*.

Description: Holotype worker: HL 0.80; HW 0.68; SL 1.00; PW 0.47; WL 1.00.

Head (Fig. 1): Longer than broad, CI 85, sides distinctly convex; occipital border weakly convex, scape about 1¼X longer than head, SI 125; head about 4½X as long as eye, EL 0.17, OI 21, mandible with 6 teeth arrayed as in Fig. 2.

Mesosoma (Fig. 3): In profile, pronotum weakly convex; mesonotum flat;

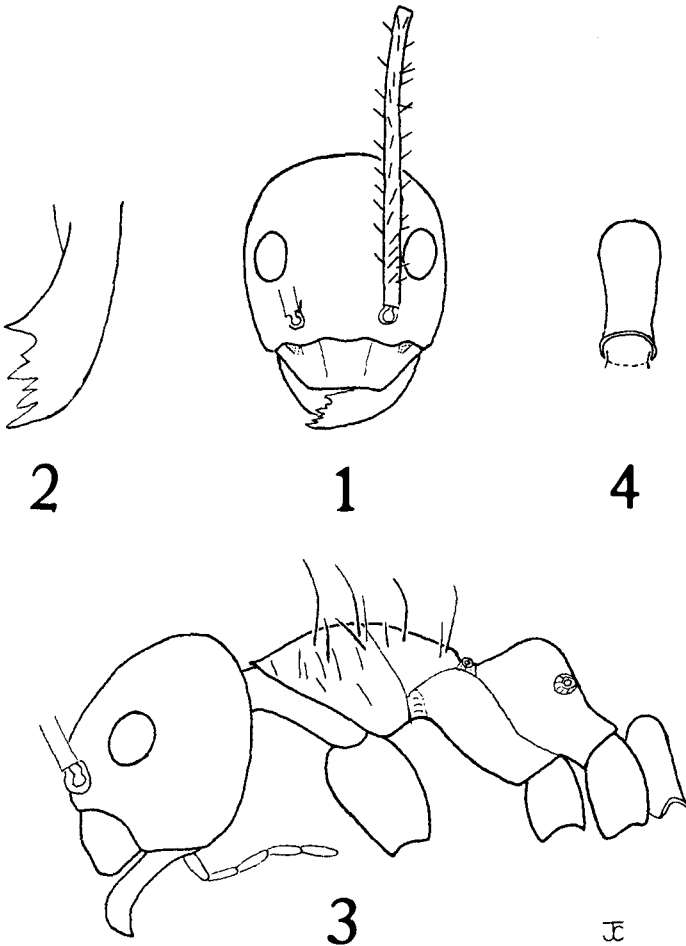


Fig. 1-4. *Paratrechina burgesi* Trager, worker (1) head, dorsal view; (2) left mandible; (3) lateral view, only promesonotal pilosity shown; (4) petiole, rear view.

tops of metathoracic spiracles somewhat below a line running through the mesonotal profile; propodeum strongly convex, notably higher in profile than promesonotum; legs rather long, FL 0.81, FI 101; these last 2 features reminiscent of the form of *P. caeciliae* Forel, to which this species does not otherwise appear closely related.

Petiole: In profile (Fig. 3), blunt and evenly rounded dorsally; from behind (Fig. 4), straight-sided and slightly wider dorsally than at base, dorsum distinctly convex.

Vestiture: Cephalic pubescence fine, not readily visible at below 30X and limited to patches behind the eyes extending to the rear border; absent on pronotum; fine whitish pubescence present on mesonotum and adjacent parts of mesopleura and metanotum, and on dorsal face of propodeum; petiole and gaster without pubescence. Numerous curved blackish macrochaetae on dorsum of head, those on the rear border somewhat longer; macrochaetae quite numerous (for the genus) on promesonotum: PM 14, MM3, the 8 largest of the promesonotal hairs 2X as long as any others on the thorax and curved or bent anteromesad over the distal 25-50% of their length. The antennae and legs densely pubescent, femora with 2 or 3 rows of evenly spaced macrochaetae on the convex outer surface; scape pilosity abundant for the genus: SM 41.

Color: Scapes, head, thorax and coxae light brownish red; funiculi, legs, propodeum and petiole somewhat darker; anterior 2/3 of first tergite dark brown, remainder of gaster piceous.

Sculpture: Some weak punctation on head and pronotum obscures shininess only slightly. Remainder of sclerites smooth and strongly shining, except at tip of gaster where there is heavy punctation on the rear border of the 4th gastral tergite and sternite and the entire 5th tergite and sternite.

Variation: HL 0.70-0.84, HW 0.61-0.76, SL 0.92-1.04, PW 0.44-0.53, WL 0.90-1.13, FL 0.71-0.86, CI 85-92, SI 123-134, OI 20-23, FI 97-105, SM 37-44, PM 9-16, MM 2-6. Other than in measurements, all specimens studied fit closely the description of the holotype, except that the 2 largest individuals have a slightly concave rear border of the head. In some individuals, the larger thoracic hairs are nearly straight. The Burges specimens yield the upper end of the above ranges of measurements and are lighter colored.

REMARKS

Mr. Burges (Pers. comm.) saw more specimens of *P. burgesi* running about in full daylight. The bright bicoloration of this species is very unusual for the genus.

The holotype and 3 paratypes on the same pin will be deposited at the Museu de Zoologia, Universidade de São Paulo, Brasil. The other paratypes collected by Brown will be returned to MCZ. The 3 paratype specimens collected by Burges will be deposited in the author's personal collection, the Florida State Collection of Arthropods in Gainesville, and the Los Angeles County Natural History Museum.

ACKNOWLEDGEMENT

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