

RHOTROMYRMEX MELLEUS, brief characterization of,

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COLLECTION

Tetramorium melleum Emery, 1897, Termeszetr. Füz. 20: 586, pl. 15, fig. 29, 30, worker. Type locality Belaio Island, near Friedrich-Wilhelmshafen (now Madang), New Guinea. Type in Hungarian National Museum, Budapest; not seen.
Rhotromyrmex (Acidomyrmex) melleus, Emery, 1922, Gen. Insect., 174: 290.

Worker: A rather average Rhotromyrmex in size and in its testaceous color, close to R. wroughtonii, but differing in the following respects:

1. Propodeal teeth very long, spiniform (about as long as twice the distance between the centers of their bases), their tips straight or curved outwards.
2. Sculpture of head and alitrunk predominantly densely reticulate-punctulate and opaque; longitudinal costulae (rugulae) of vertex absent or very few and weak, widely spaced. Rugulae of alitrunk also obsolete or nearly so, but there is a weak median longitudinal carinula on the pronotum.

Essentially, the worker is an exaggeration of the long-toothed variant of wroughtonii ("sumatrensis") of the Sumatran highlands. Were the worker of R. melleus not so constant throughout its range, one would be tempted to consider it conspecific with wroughtonii. The discovery of more intermediate material in the right places might of course lead to this merger, anyway.

Female, dealate, previously undescribed: TL 3.8, HL 0.75, HW (without eyes) 0.68, alitrunk L 1.06, scape L 0.54 mm. Cephalic index 91. (E. O. Wilson #1088).

General shape as shown in fig. 2; head as seen from front view with sides almost parallel, gently convex; occipital angles broadly rounded, occipital margin shallowly concave within a zone bounded by the lateral ocelli. Mandibles armed as in worker. Humeri broadly rounded. Petiole seen from above with node about as long as broad (0.20 mm) measuring from the spiracles. Postpetiole broader (W 0.34 mm) than long, subrectangular, with nearly parallel sides and rounded corners as seen from directly above; with a prominent rounded anteroventral process. Gaster broad and slightly flattened above anteriorly.

Integument of body smooth and shining throughout, with a few separated shallow punctures, especially on the occiput above the compound eyes. Appendages with indistinct, fine, dense punctulation, especially at extremities, but more smooth, shining near the body. Body nearly hairless; with only very fine, short,

diffuse, appressed pubescence on dorsum and occiput of head, on mandibles and appendages, on both nodes, and a little more conspicuously developed on both surfaces of gaster. Gastric apex with a few fine erect hairs. Color dark orange-brown to brown, gaster darkest, appendages lightest; ocellar triangle blackish. Another dealate female from Bisianumu, near Sogeri, Papua, is a little smaller: TL 3.1, HL 0.70, HW 0.64 (CI 91), WL 0.94, scape L 0.49 mm. Both the pilosity-pubescence and the punctures carrying the hairs are better-developed and more abundant in this specimen than in the one from Nadzab (Wilson #1088, described above). A few curved erect hairs are present on scutum and postpetiole, and are more abundant on the gastric dorsum and apex. Rather coarse punctures above and below the eyes tend to be elongate, with incipient ridges forming between them. Limited areas around the wing insertions are slightly roughened, especially the anterodorsal sides of the propodeum, which are finely and densely punctulate and opaque. Color as in Nadzab female, but head and gaster tend toward dark mahogany.

Male unknown.

Distribution: So far as known, the Island of New Guinea and one locality on northern Cape York Peninsula, Queensland, Australia.

The New Guinea-Papua records here cited are all from the collections of E. O. Wilson, and the numbers cited all refer to his notebook (see also below): Northeastern New Guinea: Huon Peninsula, Ebabaang, 1300-1400 m, No. 830, and Wamuki, 800 m, strays on ground, No. 853. Nadzab, dry evergreen forest, a dealate female, No. 1088, and workers foraging "in low arboreal zone," No. 1104. Bubia, near Lae, lowland rain forest, strays on top of large rotten log, No. 1076, and lower Busu River, near Lae, rain forest, "workers tending scale on branch of sapling" 2 m tall, No. 1022. Papua: Bisianumu, near Sogeri, about 500 m, rain forest strays, Nos. 617 and (female stray) 655; workers "extremely abundant in a clearing in the forest; tending aphids on bamboo shoots, and on extrafloral nectaries; a few workers carrying small insects. Nest in soil, marked by irregular piles of fine particles of excavated earth." Queensland: vicinity of Tozer Gap, Iron Range, northern Cape York Peninsula, in rain forest (P. F. Darlington).

Biology: About the Ebabaang collection (No. 830) Wilson wrote as follows: "Huge colony in soil

between two buttresses of tree at trailsides. Heaps of fine particles of excavated earth, but in no recognizable form. Once again I was unable to excavate well enough to hit brood or sexuals. Two great irregular columns of ants, comprising many thousands of individuals, proceeded from the nest along the trail (9 AM, sunny morning) on either side of the nest, fanning out in a few feet into the surrounding soil and leaf litter. A third column proceeded up the tree. Workers seemed to be everywhere on the ground within 20 feet of the nest, and all sorts of small arthropods— isopods, entomobryids, insects of various orders (Homoptera, Psocoptera, fragments of larger insects)— were being carried back to the nest. The total intake of insect food in a single day must be tremendous. Coccids (root mealybugs) were in the earthen galleries in the nest. There is no doubt that this huge colony completely "owned" a large area around its nest. It is remarkable that this is the only colony of the genus found thus far in the highlands— colonies must be few and far between, but huge in size, when they occur, as was my impression gained at Bisianumu."

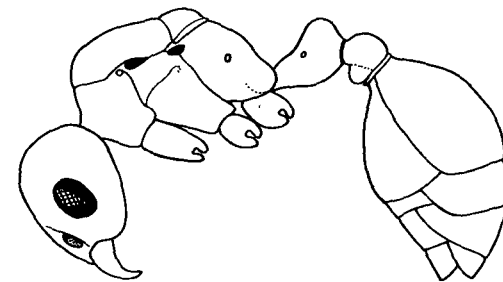


Fig. 2, Rhotromyrmex melleus female (Nadzab, New Guinea)

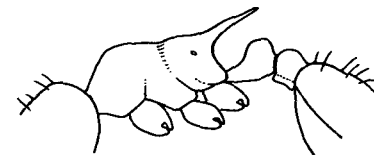


Fig. 1, Rhotromyrmex melleus worker (Bisianumu, Papua)

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