

in the form of the petiolar node and the relative proportions of the head and antennal scapes (see above under *P. salomonis*).

### (3) *The Neotropical Species*

Three species of *Probolomyrmex* are known from the Neotropical Region. Two of them, *P. angusticeps* Smith and *P. petiolatus* Weber, are sympatric on Barro Colorado Island, Panama, whereas the third species, *P. boliviensis* Mann, is from Bolivia. The two latter species are represented only by the holotypes, a worker and a queen respectively, but the worker types of *angusticeps* have recently been supplemented by further material from the type locality; this includes alate and dealate queens, larvae and pupae. *P. petiolatus* is the most distinctive of these species. *P. angusticeps* and *P. boliviensis* are rather alike and probably closely related; they could conceivably be geographical variants of a single species.

#### *Probolomyrmex angusticeps* M. R. Smith (figs. 1, 3-7, 28-31)

*Probolomyrmex angusticeps* M. R. Smith, 1949, *Proc. ent. Soc. Wash.* 51 : 39, ♀. Type locality: Barro Colorado Island, Panama Canal Zone.

The following notes are based on a series of ten workers and five queens from a colony collected by the author on June 21st, 1961, at the type locality, Barro Colorado Island. I have not seen the holotype or paratype of *P. angusticeps*, but workers from the material discussed here have been determined by comparison with them, by Dr. M. R. Smith.

#### *Worker* (figs. 28, 29)

The following characters are given additional to those stated in Smith's original description.

(1) Dimensions (N = 10): HL, 0.76-0.80 mm.; HW, 0.45-0.47 mm.; SL, 0.61-0.64 mm.; CI, 58-59; SI, 135-140; WL, 1.12-1.17 mm.; PW, 0.39-0.41 mm.; dorsal petiole width, 0.22-0.24 mm.; petiolar node index, 56-62; petiole height, 0.31-0.34 mm.; petiolar node length, 0.44-0.46 mm.; lateral petiolar index, 132-142.

(2) Palpal formula, maxillary 4: labial 2 (4 specimens dissected). Proportions of the palp segments vary slightly; typically the three basalmost approximately subequal in length, and about 1.5 times as long as broad; apical segment slightly narrower and about 3 times as long as broad; in some instances second segment elongated to almost 2.5 times its breadth; labial palp segments narrow and relatively elongate, basal having about same proportions as apical maxillary segment, and apical about 4 times as long as broad, and 1.25 times as long as basal segment.

Workers very uniform in structure, but showing slight variation in shape of subpetiolar process.

#### *Queen* (figs. 1, 30, 31)

The five queens mentioned above have the following dimensions: HL, 0.74-0.76 mm.; HW (behind eyes), 0.46-0.47 mm.; SL, 0.60-0.62 mm.; CI, 61-63; SI, 130-132; WL, 1.13-1.18 mm.; mesonotal width, 0.40-0.42 mm.; dorsal petiole width, 0.23-0.24 mm.; petiole height, 0.33-0.35 mm.; petiolar node length, 0.43-0.45 mm.; lateral petiolar index, 128-130; palpal formula, maxillary 4: labial 2 (2 specimens dissected). These specimens differ from the workers in the usual characters of full sexuality discussed in the generic diagnosis above. Colour generally as in worker (medium reddish-brown), eyes blackish-brown, each ocellus with an associated dark brown spot. Wing venation (fig. 1) similar to that of *P. greavesi*. Palpal structure identical to that of workers. Characters differentiating these specimens from the queen of the related *P. boliviensis* are given below.

The larval characters of *P. angusticeps* are discussed above (p. 348, figs. 3-7). The pupae are peculiar for ponerines in lacking cocoons.

*Distribution*.—Known only from the type locality, PANAMA: Barro Colorado Island.

*Biology*.—My Barro Colorado accession originally consisted of 22 workers, 7 queens (4 alate), 11 pupae (9 worker, 2 male), 2 pharate pupae and 6 larvae of various instars. These were collected from an old beetle gallery in a fairly sound, dry portion of a rotting branch about 30 cm. long and 8-10 cm. in diameter, lying on the floor of primary rainforest. The ants were in a single group occupying almost 3 cm. of the