

been observed (Corcovado, La Selva, Tortuguero), this species has been the most abundant inhabitant. It was the dominant ant in a study of *Conostegia setosa* at La Selva (Tennant 1994). The species also nests in dead sticks and branches on or above the forest floor, and under bark flaps on tree trunks. When nests are in myrmecophytic melastomes, carton galleries may occur on the outside, connecting pouches and extending down the stem to the ground. Colonies appear to be polydomous. Workers are generalist foragers, and may be taken at baits or in samples of sifted leaf litter. Colonies have occasionally been found as exotics in greenhouses in the United States (New York, Washington D.C.), which is no surprise given the frequency with which it is found in live plant cavities in Central America.

Specimens from the Caribbean coast of Panama, at the southernmost limit of the species, are the most aberrant. Minors and majors are identical to Costa Rican *P. anastasioi* with respect to shape and measurements, but differ in color. Instead of being clear yellow orange, minors are a dusky gray brown and majors similar but with the posterior third or more of the head yellow (approaching *P. punctatissima*). The specimens were collected in ant-plant domatia in forest understory, thus matching the behavior of *P. anastasioi*.

Specimens from Hispaniola and Jamaica exhibit a slightly different but consistent combination of characters that distinguish them from other *P. bilimeki*-like forms. The minor worker scapes are long, like *P. anastasioi* (Fig. 1). Minor and major workers are uniformly dark red brown. Collecting on Jamaica by JTL yielded collections from multiple habitats and nest sites. Collections were made in lowland second growth, wet forest on karst, and cloud forest. Nests were found beneath epiphytes, in rotten wood on the ground, and under stones. Multiple collections in the Dominican Republic by W. L. Brown in 1975 were from diverse habitats: evergreen forest, coffee plantation, limestone, ravine, and mixed hardwood-pine forest. The fact that the specimens from Hispaniola and Jamaica are somewhat differentiated from mainland and other *bilimeki*-like island (Cuba, Bahamas) forms suggests a period of isolation and shared ancestry, which justifies the recognition of *P. jamaicensis* as a distinct species.

This leaves the residue that is *P. bilimeki*. This is a heterogenous assemblage that may itself prove to be multiple species when more material is available. The main feature differentiating *P. bilimeki* from *P. anastasioi*, *P. jamaicensis*, and *P. punctatissima* is the shorter scapes. Typically specimens are uniformly red brown, but some collections from the northern part of the range, including the type of *P. bilimeki*, are yellow orange, like *P. anastasioi*. The sculpture on the first gastral tergite is highly variable. There is always some degree of shagreened, opaque sculpture anteriorly, around the postpetiolar insertion, but it varies from covering the entire tergite to covering only about the anterior third. Within nest series, shagreening is typically more extensive on minor workers than major workers; in many series where the first gastral tergite is completely shagreened in the minor worker, only the anterior third is sculptured in the major.

*Pheidole bilimeki* is a common species in open, recently or frequently disturbed habitats. It occurs in all tropical climate zones where ants occur: lowland dry forest, lowland wet forest, and montane habitats to about 1500m elevation. In Costa Rica it is a common ant of roadsides, nesting under stones or in dead fenceposts. It is a frequent pest ant in houses. It is a common ant at baits in second growth dry forest vegetation in seasonally dry Guanacaste Province. It can also be abundant in large disturbances deep within primary forest reserves. The Peñas Blancas Valley is a large forested reserve in the Cordillera de Tilarán in northern Costa Rica. In 2001 there was a large debris torrent that created a very large area currently undergoing primary succession. The area is about 5km from the edge of the reserve and human settlement. As of early 2008 the area was dominated by *P. bilimeki*.

Finally, there is the widespread weedy species, *P. punctatissima*. In terms of metric characters and sculpture, it is very like *P. anastasioi*. The minor workers are relatively large and the scapes relatively long (Fig. 1). The coloration is distinctive. The minor workers are always dark red brown to nearly black. The major workers have a color similar to that of associated minor workers over most of the body, but a posterior portion of the head is a sharply contrasting yellow. The coloration is uniform over much of the range, but populations in the mountains of Chiapas State in southern Mexico have the yellow spot greatly reduced. The shagreening on the gaster of minor workers is typically strong and covers the entire first gastral tergite.