

THE ANT COMMUNITY OF A TROPICAL LOWLAND RAINFOREST SITE IN PERUVIAN AMAZONIA

Stefan P. Cover, John E. Tobin and Edward O. Wilson
Museum of Comparative Zoology, Harvard University, Cambridge,
Massachusetts 02138, U.S.A.

Though ants are known to be diverse and extremely abundant in lowland tropical forests, there have been few detailed studies of restricted areas. This is a preliminary inventory of the ant fauna in lowland rainforest at Cuzco Amazónico, a site in Peruvian Amazonia.

Cuzco Amazónico is a 15,000 hectare private reserve located 15 km. northeast of Puerto Maldonado, Madre de Dios, Peru. The area is approximately 200 m. in elevation and contains both terra firma and seasonally flooded primary forest. During June 1989, ants were collected primarily along four transects of 20 x 500 m., each located about one km. from the station, as well as in the immediate vicinity of the station. This effort was part of a general forest inventory sponsored by the Biotrop program. All major microhabitats for ants were sampled through intensive collecting and litter sifting. Though we collected at fresh treefalls, it is likely that canopy ants are under-represented in our samples. We did not collect all possible series of several of the more common forms, thus they also are under-represented in our material. These include several species of Crematogaster, Dolichoderus, Camponotus, Mycocepurus and Azteca.

The analysis thus far of our 926 collections has yielded 256 species belonging to 64 genera of ants, representing all six subfamilies and nearly 50% of the genera known from the Neotropics (Hölldobler and Wilson 1990). Despite the large number of genera and species at this site, the fauna is clearly dominated by a small minority of genera. By far the most diverse and abundant genus is Pheidole, comprising 49 (19%) of the total number of species collected and 23% of all collections. Of the 49 Pheidole species, as many as 26 are undescribed.

Pheidole is about twice as diverse as its nearest rival, Camponotus (23 species). Together the five most species-rich genera (Pheidole, Camponotus, Pachycondyla, Gnamptogenys and Strumigenys) contain 112 (44%) of the species. Moreover, 21 of the 64 genera were collected only once or are represented by only a single species. Thus, in Amazonian lowland rainforest high generic and species-level richness may not be inconsistent with pronounced ecological dominance.

We have calculated precise species accumulation curves for two important microhabitat types (rotten branches and sticks on the forest floor, and dead hanging branches in understory trees), and a less precise curve for the fauna as a whole. From these we derive estimates of faunal size and compare them to other such data from the literature.

Notable features of the myrmecofauna of Cuzco Amazonico include the nearly complete absence of large leafcutting ants (Atta and Acromyrmex) and of Paraponera clavata. Ant gardens containing Camponotus femoratus and Crematogaster parabiatica (broadly defined) are very abundant. Some of the more unusual finds include the second known species of Protalaridris, and the discovery that land snails are an important prey of Basiceros conjugans.

REFERENCE

Hölldobler, B. and E. O. Wilson. 1990. The Ants, The Belknap Press of Harvard University Press, Cambridge, Massachusetts