

Voucher specimens were deposited in the Museum of Comparative Zoology, Harvard University (MCZC) and in the P. S. Ward collection at the University of California at Davis (PSWC). In addition, duplicate specimens from Australia, Papua New Guinea, Madagascar, Mauritius, Argentina, Bolivia, Brazil, Colombia, Ecuador, and Venezuela were returned to the following host institutions, respectively: Australian National Insect Collection, Canberra (ANIC); Entomology Collection, University of Papua New Guinea (UPNG); Parc Botanique et Zoologique de Tsimbazaza, Antananarivo (PBZT); Mauritius Sugar Industry Research Institute (MSIR); Instituto Miguel Lillo, Tucumán (IMLA); Museo de Historia Natural "Noel Kempff Mercado," Santa Cruz (UASC); Instituto Nacional de Pesquisas da Amazônia, Manaus (INPA); Museo de Historia Natural, Universidad Nacional de Colombia, Bogotá (UNCB); Museo Ecuatoriano de Ciencias Naturales, Quito (MECN); and Instituto de Zoología Agrícola, Universidad Central de Venezuela, Maracay (IZAV).

The primary database was supplemented by information on Winkler leaf litter collections from Malaysia (data kindly provided by Annette Malsch) and West Africa (Belshaw and Bolton 1994a). The 11 Malaysian samples are all from Pasoh Forest Reserve, and each consists of 9 m²

of rainforest leaf litter sifted to yield about 6 liters of concentrated litter. The West African samples are from 34 sites (20 localities) in Ghana; at each site ten 1-m² quadrats were randomly placed in an area of approximately 1000 m², and all the leaf litter in these quadrats was collected, sifted, and extracted. Because the sampling methods used in the Malaysian and Ghanaian studies differ from those described here, I have not used these data for the analysis of diversity patterns. They have been employed mainly to broaden the geographic base for a genus-level comparison of faunal composition (Tables 8.11 and 8.12).

Content of the Winkler Leaf Litter Samples

The 110 Winkler samples yielded a total of 29,942 worker ants from 6 subfamilies, 103 genera, and approximately 911 species (Table 8.2). Because of taxonomic uncertainties the cumulative tally of the number of species should be considered provisional. I estimate that it could be higher or lower by as much as 10%. Site richness (alpha diversity) per sample ranged from 0 to 75 species (mean 20.3 ± 15.9 s.d.), from 0 to 27 genera (mean 10.6 ± 6.4 s.d.), and from 0 to 5 subfamilies (mean 2.8 ± 1.0 s.d.). The number of worker ants per Winkler

Table 8.2 Summary of Winkler Leaf Litter Samples: Taxonomic Content

Subfamily	Number of Genera	Number of Species (% of Total)	Number of Workers (% of Total)
Cerapachyinae	2 (1.9)	4 (0.4)	45 (0.2)
Dolichoderinae	6 (5.8)	10 (1.1)	137 (0.5)
Ecitoninae	2 (1.9)	3 (0.3)	107 (0.4)
Formicinae	14 (13.6)	ca. 97 (10.6)	3,873 (12.9)
Myrmicinae	57 (55.3)	ca. 594 (65.2)	22,067 (73.7)
Ponerinae	22 (21.4)	ca. 203 (22.2)	3,713 (12.4)
Total	103	ca. 911	29,942