



Figure 15.4. Dendrograms comparing different sampling methods by ant species trapped in India. Data pooled from 36 plots for each sampling method.

are active at night. Although light traps are typically used to sample flying insects, they can occasionally be useful for attracting flying alate ants and some nocturnal ant species. Scented traps are essentially a combination of two standard ant sampling techniques (pitfall traps and baits); in this study they consisted of 2.5-liter plastic jars that were baited with unrefined sugarcane and hung at about 1 m from the ground on wooden pegs. Intensive hand collecting was performed in each 1-ha plot to collect representatives of as many species of ants as possible. Two persons made the search for 1 hour between 1400 and 1500 in every case.

In addition to providing the first estimates of ant diversity and abundance for any forest locality of India, the results of this study provide informative comparisons of five different methods of ant sampling. The combination of the four trapping methods used was somewhat more successful than hand collecting, yielding 120 species from 31 genera while hand collecting yielded 101 species from 27 genera. More significant is the fact that the traps and hand col-

lecting yielded different species; while 78 species were obtained by both methods, the traps yielded 42 unique species and hand collecting yielded 20 unique species. It appears, therefore, that in spite of the efficacy of the traps, a combination of trapping and hand collecting may be desirable if a more complete list of ant species at a site is desired.

Of the four trapping methods used, pitfall traps sampled the most species, followed by vegetation sweeps, scented traps, and light traps in that order. The fact that pitfall traps and vegetation sweeps were more successful is not surprising; indeed the fact that scented traps and light traps yielded as many ants as they did is surprising. Not only did the scented traps and light traps yield more ants than expected, they yielded an ant fauna rather different from that obtained by the other methods (Fig. 15.4).

Had this study included leaf litter extraction as in the ALL Protocol, many more ant species would likely have been collected. However, the combination of several sampling methods used in this study, including hand collecting, illustrates that different techniques usually collect different components of the ant fauna. Therefore, if a more thorough inventory of ground-dwelling ants is desired, it is recommended that a few additional methods be used along with the ALL Protocol.

Brazil

Two studies in Brazil, one in the highly fragmented Atlantic rainforests of Bahia and the other in the Brazilian Amazon, reveal the utility of the ALL Protocol as a means of detecting habitat disturbance.

Atlantic Forests

In Bahia, ten 110-m transects were established from the center of a botanical reserve of secondary rainforest in the Centre for Cocoa Research, Itabuna, Bahia (Majer et al. 1997).