

poorly characterized or that are still defined by different concepts in different zoogeographical regions.

Very user-friendly keys to ant subfamilies and genera are presented in Hölldobler and Wilson (1990). These keys are accompanied by drawings of each genus. A comprehensive list of identification guides for each genus is presented in Table 5.1.

For the New World, MacKay and Vinson (1989) produced a guide to the species identification of the ants, commenting on the power and validity of species identification keys for most genera occurring in the Americas. This and Creighton's (1950) review of the ants of North America, along with information found in Kempf's (1972) catalogue and the Brandão addendum of 1991, may aid in locating the sources to be used for the study of the New World Formicidae. (See Chapter 5 for more resources.)

Where the ground-dwelling ant fauna is concerned, some special difficulties may arise. The study of this seldom-collected segment of the fauna may reveal new taxa or indicate the need for better definitions of others.

## Electronic Resources

A new and important source of information regarding ants is the growing number of Internet World Wide Web pages. In particular, the social insects Web site, [http://research.amnh.org/entomology/social\\_insects/](http://research.amnh.org/entomology/social_insects/), included, as of late January 2000, the following information: phylogeny; on-line catalogues (Neotropical Ponerinae and Australian ants); Torre Bueno's and Harris's glossaries of terms relating to surface sculpture; visual guides to ant morphology and anatomy; inventories (Central Park [New York City], Saint Louis region, Michigan state, major habitats in southern Bahia [Brazil], *Acacia* ants, Costa Rica, Arabian Peninsula, and Lakekamu [New Guinea]); collection invento-

ries (American Museum of Natural History [AMNH], School of Environmental Biology, Curtin University of Technology [CURT], and Fundación e Instituto Miguel Lillo, Universidad Nacional de Tucumán [IMLA] types); keys (pictorial guide to Japanese ants, keys to Atlantic forest and Madagascar genera, and keys to species of *Glamyromyrmex*, *Leptothorax* (*Myrafant*), *Neostruma*, *Nomamyrmex*, *Pheidole*, *Simopelta*, *Smithstruma*, *Strumigenys*, and *Trichoscapa* of Costa Rica); Ward's technique for mounting ants for museum collections; images of CURT and Museu de Zoologia da Universidade de São Paulo (MZSP) ant collections (including the MZSP types); and slide shows on the ant colony cycle and food storage, as well as movies offering a 360° view of an ant. The site includes important links to related Web pages and links to popular, educational, and pest control sites.

## Collection Resources

The levels of curation of entomological collections in temperate zones and of those in tropical countries are generally unequal; furthermore, the levels of curation across collections in tropical countries are grossly uneven as well. Thus any generalizations must be viewed critically. For the sake of efficiency, collaboration and aid must account for these differences, in order to avoid inefficiently utilizing limited resources. A shared mission among collections is necessary—one that supersedes myopic nationalistic visions and that complements each institution's weaknesses and shortcomings. Such cooperation is absolutely essential to the mission of surveying the planet's biodiversity before it is gone forever.

Fortunately, natural history museums and collections have a long-standing tradition of cooperation, resulting from the shared realization that no collection can possibly be "complete" in every field of knowledge, especially