lesser panda and giant panda (which are apparently related in name only) and the great variety of civets and mongooses, which are quite unfamiliar to American zoologists. The account of the whales is limited to the forms that enter fresh water, including, of course, the peculiar isolated pigmy dolphin of Tung Ting Lake in China. The rabbits and hares are treated as an order distinct from the closely allied rodents proper, and this draws attention to the presence of a variety of montane pikas closely related to those of the western mountains of North America; the rodents proper include such familiar American genera as *Citellus*, *Marmota*, and *Eutamias* and many others, which calls further attention to the zoological resemblances between North America and Asia. The elephant group is represented by the Indian elephant, which ranges eastward to Indo-China; the aquatic coastal dugong, related to the American manatees, forms one of the most distinct of the orders; the list of even-toed ungulates includes tragulids, pigs, wild cattle, goat-antelopes, true antelopes, sheep and goats, and a wealth of deer; and finally, the odd-toed ungulates are represented by the Malay tapir and three types of rhinoceroses.

Any account of the mammals of eastern Asia necessarily leans heavily on the two large volumes on the mammals of China by the late Glover M. Allen. Because of its bulk the latter work is, however, wholly unsuited to field use, and we are fortunate to have Dr. Tate's handbook-sized work. The illustrations are in general excellent. A curious vagary of typography is the capitalization of the most familiar animal group names, such as Bat, Cat, Wolf, etc., together with the common names in general. This is entirely contrary to modern zoological practice, as may be seen by reference to the *Journal of Mammalogy* or Webster's *Dictionary*.

The high price of this book, as well as of the trade edition of the Pacific World Series in general, most unhappily limits the dispersion of these introductions to natural history at the levels where they would be most useful.

KARL P. SCHMIDT

Department of Zoology,
Chicago Natural History Museum

A review of the North American species of Philanthus, north of Mexico (Hymenoptera: Sphecidae). R. W. Strandtmann. (Graduate School Studies. Conti. in Zoology and Entomology, No. 7) Columbus: Ohio State Univ. Press, 1946. Pp. 32. (Illustrated.) $2.50.

From a study of 5,500 specimens of these common wasps, Dr. Strandtmann has achieved a taxonomic analysis of the genus within the area selected. The biology, to which no contributions are made, is reviewed in a single page, and no other topics are discussed.

The well-drawn figures, both of the entire wasps and of morphological details, are pleasing. The presentation of distributional data, mostly only by state, is inadequate. From 100 to 1,200 records of each of the 7 most numerous species would have afforded a real basis for an analysis of their zoogeographic affinities and quantitative distribution—the inescapable responsibility of every taxonomist reviewing a group from adequate material.

Counting "*hirticulus*" as the male of *bicinctus*, there are 22 species, two still known from only one sex. Thirteen of these occur only west of the Mississippi, 3 are ubiquitous, 1 is Floridian, and the remaining 5, with the normal pattern of northern species, inhabit more or less of the Northeast (in one instance, entire East) and prairie and mountain states. Five species are little known, represented by 5 specimens or less, 5 by from 6 to 25, and 5 more by under 100. Of the remaining 7, three of the four represented by over 500 individuals are ubiquitous, and the fourth is widespread over the West.

The species *politus* is divided into 9 subspecies. One occupies the territory east of and including the states bordering the west shore of the Mississippi River. The others are all west of that river and, except for texana, are an aggregate of geographically intermingling forms that seem to present no basis for designating subspecies rather than variants. At least they demand a very much more detailed geographical analysis.

It is a satisfaction to see that the author has disposed of many of the unnecessary trivial names that have cluttered past literature. Yet a little time spent in correspondence could have disclosed the identity of *barbatus* Smith, *crabroniformis* Smith, and *multimaculatus* Cameron. When this has been done, we may anticipate further nomenclatorial changes.

J. C. BRADLEY

Cornell University, Ithaca, New York

Forest soils and forest growth. S. A. Wilde. Waltham, Mass.: Chronica Botanica; New York: G. E. Stechert, 1946. Pp. xx + 241. (Illustrated.) $5.00.

This is the first textbook on the subject of forest soils to appear in the American literature. It represents a scholarly attempt to cover the broad fields of soil science with emphasis on soil as a medium for the growth of forest trees.

In brief, the book might be considered as a monograph on forest soils of cool-humid climates with special emphasis on the management of forest nursery soils of the Lake States. The author's familiarity with the European literature, particularly the Russian, has resulted in the unnecessary use of many foreign terms to describe conditions which have already been acceptably described in the American literature. Examples of this are the use of the terms *melanization* for incorporation of humus, *melanized* horizon for the conventional A_1 horizon, *grood* soils, and *charral* soils.

As in many books, general statements are made which, if important, should be substantiated by quantitative evidence rather than by the citation of references from which they were derived. An example of this can be found on page 65: "In general, soils with a low content of fine soil material, *i.e.* sandy soils, support only trees which have low requirements for moisture and nutrients, such as pines, scrub oaks, white birch, and aspen. On the other hand, soils with a high content of fine particles, *i.e.* loam soils, support trees which have high requirements for moisture and nutrients, such as species of spruce and fir, hard maple, basswood, elm, and white ash (Haig, 1929; Scholz, 1931; Coile, 1935; Hosley, 1936)." The work of at least two of the authorities cited (Haig, 1929, and Coile, 1935) contained little, if anything, to verify the statement as made.

In a number of places the author speaks of "plant food" in the soil. Since plant food is manufactured in the plant through the process of photosynthesis, it is apparent that the author means "plant nutrients" when he speaks of "plant food."