both phylogenetic and functional points of view. As is inevitable with any anatomical description which follows the organ system plan rather than the regional one, it is not now possible to obtain a complete picture of any part of *Latimeria*. The authors have included some pertinent remarks about blood vessels, nerves, and the brain; but for most of these details we must await the succeeding volumes. They have greatly enhanced the usefulness of the text by making frequent comparisons with the fossil coelacanths and with the rhipidistians.

The illustrations, including x-rays, photographs, and drawings, are numerous and excellent. There are a few unfortunate omissions, and some of the figures have no labels or are inadequately labeled. A lateral view of the complete skull plus visceral arches is, surprisingly, absent, although it would be very helpful. Additional drawings of the visceral skeleton, including the basibranchial elements, would be very desirable.

This volume, and the others to come, represent one of the most important additions to the literature of vertebrate morphology in many decades. The authors are to be congratulated for the thorough manner in which the investigation is being carried out.

BOBB SCHAEFFER
*Department of Geology and Paleontology,*
*American Museum of Natural History*

**Records of the American-Australian Scientific Expedition to Arnhem Land.** vol. 3, *Botany and Plant Ecology*. R. L. Specht and C. P. Mountford, Eds. Melbourne University Press, Melbourne, Australia, 1958 (order from Cambridge University Press, New York). xv + 521 pp. Illus. $19.50.

Arnhem Land, an aboriginal reserve on the northern coast of Australia, was the site in 1948, of a joint American-Australian scientific expedition. Seven months were spent by the participants at selected stations on the mainland and on a large offshore island; during this time, nearly 45,000 specimens of plants and animals were collected, as well as vast quantities of data and specimens for ethnologic and anthropologic study.

R. L. Specht, one of the coeditors of this second volume of the four planned to report the results of the expedition, served as the botanist and ecologist on the venture. He is also the author or coauthor of the sections of the report concerned with the identity of the higher plants and their ecological and phytogeographical interrelationships; the final section, on the ethnobotany of the region, is also written by Specht. Various specialists have contributed chapters on the fresh-water algae, on the Characeae, the marine algae, the Basidiomycetes (with the exception of the Agaricaceae, which are treated in a separate section), the lichens, the bryophytes, and the pteridophytes. A number of new taxa are described in several of these groups, especially among the fresh-water algae.

This is a scholarly work which does not purport to be entertaining reading; it is a technical report of a well-executed scientific study. As such, it is an exceedingly valuable addition to the botanical literature for that part of the world. The two chapters on climate, soils, plant ecology, and the geographical relationships of the flora should be especially useful.

RICHARD S. COWAN
*U.S. National Museum,*
*Smithsonian Institution*

**The Tarantula.** William J. Baerg. University of Kansas Press, Lawrence, 1958. 88 pp. Illus. $3.

"To anyone who has learned to know this spider, it is as handsome as a goldfinch, and fully as interesting." Though many an open-minded biologist might understandably take issue with the first assertion, after reading W. J. Baerg's lively and authoritative account of the tarantula, he could not help but subscribe, perhaps with sudden surprise, to the second. Tarantulas are indeed shown to be interesting animals in this small but factually saturated work.

"Tarantula," technically a misnomer, popularly refers to certain reputedly primitive and chiefly tropical spiders of the suborder Orthognatha (or Mygalomorphae). For the uninitiated they are too often *the* spidery horrors par excellence; their gargantuan proportions, often hairy massive bodies, huge projecting fangs, and unlikely turret of tiny gleaming eyes have somehow gained them an often unshakably sinister reputation. Their presumed invariably fatal bites, propensity for bullying human beings, and ability to leap fantastic distances, and other macabre characteristics, are investigated, discussed, and usually discounted by the author in his easy conversational and frequently witty style. He defends tarantulas vigorously and might well have asked, as did one eminent araneologist, why people regard tarantulas' hairy bodies and long, thin legs with frank horror when these same characteristics in Russian wolfhounds are quite acceptable if not desirable.

The book is entirely concerned with the ethology of these spiders, not with their distribution, classification, or identification. Drawing upon 35 years of experience with them, Baerg outlines, probably for the first time, a complete life history, from birth to death, of each sex—no small task when one considers that these chelicerate Methuselahs may live for 20 years or even longer. He provides a first-hand account of their mating habits, describes their seasonal activities, and deals briefly with their natural enemies—chiefly pompilid wasps.

There is a most entertaining and enlightening—though perhaps for some readers a chilling—description of Baerg's quests for the great spiders and their lore in Mexico, Central America, and the Caribbean area. Baerg concludes with a short though informative treatment of tarantula venom and its effects upon laboratory animals and even upon himself. Injection of the venom may be painful, he says, but in the case of the majority of species, the venom seems essentially harmless to man.

The little book was obviously written affectionately and from the vantage points of dedication and much experience. It is good reading, but in addition it is a valuable scientific contribution. In closing Baerg writes: "In fact, for anybody who has the good fortune of having one or more of them living in the backyard, as several of my colleagues have, tarantulas are good neighbors. . . . They stay long enough for one to become much attached to them." In 35 years of close association the author has clearly become attached to them as well as expertly informed about them.

R. E. CRABILL, JR.
*U.S. National Museum,*
*Smithsonian Institution*

**The Submicroscopic Organization and Function of Nerve Cells.** *Experimental Cell Research,* suppl. 5. Academic Press, New York, 1958. 644 pp. Illus. Cloth, $14; paper, $12.

Under the auspices of the Venezuelan Institute of Neurology and Brain Research of Caracas, Venezuela, a group of distinguished investigators from Venezuela, the United States, and several other countries reported, at a symposium held 15–22 March 1957, in Caracas, on recent advances in the fine structure and function of nerve cells.

The collected papers in this volume are grouped under five major headings: "The nerve fibers," "The nerve cell membrane," "The neurons," "The synapses," and "The receptors." These symposium papers do not represent an integrated approach to any one topic but are concerned with various problems of both investigative and theoretical interest. Some of the data presented are not