



THE NEW YORK BOTANICAL GARDEN



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the end of each book are magnificent watercolor illustrations of the most important species printed on an off-white, heavy stock different from that of the rest of the book. On the reverse of each picture is a list of common names in the languages of the countries in which the weed occurs. For example, there are over 50 nations and their common names listed for *Echinochloa crus-galli*.

Agrostologists will not all agree on the taxonomy, e.g., the synonymy of *Pennisetum americanum*. An index would be helpful even though genera are arranged alphabetically. The English is sometimes uneven and awkward. Spelling and printing errors are few. None of these detracts, however, from the beauty of the books.

When I enthusiastically showed the books to a colleague, he asked the ultimate question, "Can you identify plants with them?" There *are* keys, which at a cursory glance appear functional. But the great value and utility of these manuals lie in the excellent illustrative material.

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**Plant Science. An Introduction to World Crops.** Jules Janick, Robert W. Schery, Frank W. Woods, and Vernon W. Ruttan. 3rd ed. 868 pp. illus. W. H. Freeman & Company, San Francisco, California, 1981. \$23.95.

This has long been one of the leading texts for elementary horticulture courses in North America, and the third edition will undoubtedly be welcomed. It is, not unexpectedly, larger than previous editions and has well-selected line drawings and photographs. The text is clearly written and the book is excellently printed and bound.

There are, however, some problems. The authors have each written separate chapters, and there are somewhat jarring disparities in style and particularly in the thrust of various chapters. In some instances, the student is assumed to have more formal botany and physical science than is likely and, in other instances, there is a tendency to belabor the obvious. While the horticultural expertise of the authors is unquestioned, it is doubtful to me whether a beginning student who has finished the course would be able to plant a vegetable garden or to advise a friend who might have a problem with an overly acid soil. There is no feel for the growing of plants.

The tendency to make beginning textbooks encyclopedic is seen in many fields of science. On the average, there are 14–15 weeks in a semester (fewer in a quarter). There is no way that a one-semester course could cover all of this book. If only selected sections are used, the continuity of presentation will probably be lost. Although not advocating the use of "how-to" as a major theme in a beginning text in horticulture, I suggest that students are attracted to the field because they like to grow plants and want to learn more about plants and the life of plants. I don't think that they will really enjoy this book, although they certainly will be exposed to a wealth of material.

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**Parmana. Prehistoric Maize and Manihot Subsistence along the Amazon and Orinoco.** Anna Curtenius Roosevelt. 320 pp. illus. Academic Press, New York, 1980. \$29.00.

This challenging book should be read and pondered by every economic botanist and ethnobotanist. It is really a pioneer penetration into a new field: using archaeological evidence from wet tropical areas in evaluating generally accepted theories on prehistoric subsistence in the "greater Amazon" and in a new theory.

Roosevelt suggests that the subsistence system of prehistoric societies of these tropical areas was probably not that of the forest but that of the floodplains, which had an advantage over the forests in production of seed crops—that enough carbohydrate and protein could have been available to these early people through cultivation of maize and beans on annually renewed and silted alluvial soil. The soils, she argues, would have a higher “carrying capacity” than the forests, which are not appropriate for seeding agriculture. The main thrust of the book consists of meticulously developed discussions and documentation from a variety of sources—archaeological material, early ethnohistoric reports, extensive field work, and personal investigation—intricately and expertly interwoven into development of Roosevelt’s theory.

A good part of the material offered is directly or indirectly applicable to theories of cultural evolution in similar areas beyond the Amazonia and Orinoquia, material touching upon changes in population, early nutritional needs for the establishment of comparatively large groups of people, settlement patterns, and growth of subsistence technology.

Throughout the book there is a wealth of material on soils, plant tools, the history of subsistence, hunting and fishing resources, and other relevant topics, all expertly presented as evidence in support of Roosevelt’s new theory. Special attention is given to maize and cassava. The third chapter, particularly that section dealing with plant tools, is especially significant, and, although some points may be open to question or to alternative interpretation, it offers much food for thought.

One of the important aspects of Roosevelt’s work lies in her field work: archaeological excavations in the wet tropical areas of Amazonia and at Panama in the Orinoquia. They represent probably the first systematic effort aimed at the procurement of carbonized plant remains from this region, which is notably poor in archaeological vegetal remains.

The book is more than amply illustrated with photographs, charts, tables, and maps. The 742 items in the list of references indicate the thoroughness with which the author has combed the literature and the broad spectrum of information she has amassed and utilized in the book.

The study of cultural anthropology and demography and the field of ethnobotany are indeed greatly enriched by this contribution.

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**The New York Botanical Garden Illustrated Encyclopedia of Horticulture.** Thomas H. Everett. Vol. 4, Di–Fu, pp. 1059–1422; vol. 5, G–Id, pp. 1423–1776; vol. 6, Id–Ma, pp. 1777–2130; vol. 7, Ma–Par, pp. 2131–2492; vol. 8, Par–Py, pp. 2493–2862. Illus. Garland Publishing, New York, 1981. \$52.50 per volume.

The first three volumes of this massive work were reviewed earlier in this journal (35: 474–475). These successive volumes maintain the superior quality of printing and inconsistent quality of the photographic illustrations. There are many beautiful photographs showing considerable detail, but on the same page with a good one may be a photograph of a plant with light-colored flowers appearing as detailless blotches of white.

These volumes continue the many interesting, useful, and varied plant descriptions. Historical discussions of scientific names are given. The continued absence of keys within the larger genera does pose some problems in locating the description of a particular species without reading the whole text.

The horticultural and botanical terminology of this encyclopedia could be more scientific. For example, *Ginkgo*, a gymnosperm, is spoken of as having flowers and a plum-like fruit. The term “dioecious” is defined but not used in conjunction with genera where this