



THE NEW YORK BOTANICAL GARDEN



Springer

Review: [untitled]

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Source: *Economic Botany*, Vol. 45, No. 1 (Jan. - Mar., 1991), pp. 139-140

Published by: Springer on behalf of New York Botanical Garden Press

Stable URL: <http://www.jstor.org/stable/4255320>

Accessed: 12/08/2010 17:47

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BOOK REVIEWS

PETER BRETING, BOOK REVIEW EDITOR

The Tropical Rain Forest: A First Encounter. Marius Jacobs (ed. Remke Kruk et al.). Springer-Verlag, Berlin and New York, NY. 1988. xvi + 295 pp. \$39.95. ISBN 0-387-17996-8.

For anyone interested or working in our tropical rain forests, this volume is a must. The coverage is not only all-inclusive but is authoritative. This edition—a translation from the original Dutch edition of 1981—will long be an encyclopedia on the shelf of botanists, foresters, conservationists and other specialists whose prime thrust lies in the rain forests of the world.

The contents throughout are scientifically reliable. They were written by a tropical botanist, himself an avid conservationist and worker for preservation of genetic diversity. One of the outstanding characteristics of the book is its concentration on both the biological and human aspects of tropical rain forest studies.

This English version has a chapter contributed by Roelof A. A. Oldeman and a Foreword by Vernon H. Heywood. It is unfortunate that Dr. Jacobs could not have lived to see this book appear in English: he died in 1983. But it is indeed a worthy memorial to this outstanding tropical botanist.

The contents are divided into 19 sections: 1) Public Awareness; 2) How Rain Forests Are Studied; 3) Climate; 4) Soils and Cycles; 5) Trees; 6) Other Life Forms; 7) Composition; 8) Primary and Secondary Forests; 9) Tropical America; 10) Malesia; 11) Tropical Africa; 12) Relationships of Plants and Animals; 13) Evolution; 14) How Species are Formed; 15) Fringes of the Rain Forest; 16) Value of the Rain Forest; 17) Damage and Destruction; 18) Protection; and 19) Forest and Man. There follow an extraordinarily complete bibliography of 395 items and a detailed index that easily unlocks the immense amount of data in the foregoing pages.

It is, in a way, unfortunate that this edition was published in a heavy paper back, because the use that it will have warrants a hard cover.

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Farmers as Hunters: the Implications of Sedentism. Susan Kent (ed.). Cambridge University Press, 40 West 20th St., New York, NY 10011. 1989. ix + 152 pp. \$44.50. ISBN 0-521-36217-2.

Ethnobotanists will find this collection of essays stimulating. It offers several novel suggestions concerning the influence of sedentism brought about in part by the domestication of plants and the role of hunting in cultures of developing societies that were increasingly dependent on agriculture.

The twelve contributors, all specialists in various fields of archeology, have approached the principal topics from a variety of viewpoints and from a wide geographic spectrum in the ten essays: 1) Perceptions of farmers as hunters; 2) Cashinahua hunting and male-dominance; 3) Hunting and horticulture in Papua New Guinea; 4) Farming and foraging in Amazonia; 5) Patterns of foraging and gardening in a semi-sedentary Amazonian community; 6) Hunting, farming and sedentism in a rain forest foraging society; 7) Horticulture and large mammal hunting; 8) Sedentism and prehistoric animal procurement in the American Southwest; 9) The myth of ecological determinism; 10) New directions for old studies.

The purposes of this thought-provoking selection of essays are “to employ different theoretical perspectives, different levels of analysis and different data bases from various parts of the world to study farmers as hunters and to explore the implications of sedentism.” The book has admirably fulfilled this aim and is highly to be recommended to all students of the role of hunters in farming groups in primitive societies.

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Natural Rubber Science and Technology. A. D. Roberts (ed.). Oxford University Press, 200 Madison Ave., New York, NY 10016. 1988. xx + 1136 pp. \$150.00. ISBN 0-19-855225-4

No plant has changed life more drastically in its century of domestication than has *Hevea brasiliensis*. This rubber tree is unique in being the only species of cultivated plant which is the almost exclusive source of its product: in this case, more than 98% of the world's natural rubber.

Much has been written about the chemistry, production and certain economic aspects of natural rubber. It would be difficult, probably impossible, to point to a more complete coverage of these topics. The product of 37 experts, the book is divided into 23 chapters: 1)

History of the rubber industry; 2) Rubber biosynthesis; 3) Latex concentrates; 4) Processing of rubber latex; 5) Rheology of raw rubber; 6) Compounding; 7) Injection moulding; 8) Compounding for tires; 9) Blending with thermoplastics; 10) Chemical modification of rubber; 11) Non-sulphur vulcanization; 12) Sulphur vulcanization chemistry; 13) Oxidative ageing; 14) Graft copolymers; 15) Strength properties; 16) Friction and wear; 17) Diffusion of liquids and solids in rubber; 18) Low temperature crystallization; 19) Engineering use; 20) Vibration isolation and earthquake protection of buildings; 21) Physical testing and automation; 22) Chemical analysis; and 23) New uses. Each chapter has a comprehensive list of references. The 67-page index makes literally every point—even the most casually mentioned—in the previous 1077 pages available to the reader or research specialist.

The general thrust of this volume concerns primarily the chemical and technological aspects of natural rubber. There are two aspects of growing importance for the future of plantation rubber that might have added much to the overall coverage of the book. They are: 1) a review of current research on diseases of *Hevea*, their control and significance to the plantation industry; and 2) genetic and selection programmes on interspecific hybrids between *Hevea brasiliensis* and some of the other nine species which are known only from the wild. It is probable, however, that adequate consideration of these topics would be too extensive and tangential to the encyclopedic coverage already offered.

There can be no doubt that this volume will long hold its place as a definitive work. It should be on the desk of every specialist involved with the rubber industry; agronomists and plantation managers will find in it much of direct and indirect value in their several responsibilities. The editor and authors, as well as Oxford Press, are to be congratulated in preparing and publishing such a highly worthwhile contribution.

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Baskets and Basket Makers in Southern Appalachia.

John Rice Irwin. Schiffer Publishing, Limited, Box E, Exton, PA 19341-9990. 1982. 191 pp., illus., paper. \$10.50 + \$1.50 postage. ISBN 0916838617.

The eight chapters in this richly illustrated book cover: "The Importance and Use of the Basket in Southern Appalachia," "Types and Styles of Appalachian Baskets," "Basket Materials," "Portraits of the Mountain Basketmakers," "Miniatures, Toys, Keepsakes and Decorated Baskets," "The Indian Influence on Southern Appalachian Mountain Baskets," "Basket Related Items," "The Basket in Appalachia Today."

Altogether, we are given an intimate, folksy view of the oldtime weaver's art (including close-up instruc-

tions), and the men and women who proudly preserve it. The reader is moved by admiration for those who designed and labored to produce a particular basket for every need in their time, and all will be grateful that their works remain after them through the zeal of faithful collectors. Many can be seen in the Museum of Appalachia, 15 miles north of Knoxville, Tennessee.

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Plant Polyphenols—Vegetable Tannins Revisited. Edwin Haslam. Cambridge University Press, 40 West 20th St., New York, NY 10011. 1989. x + 230 pp. \$70.00. ISBN 0521-32189-1.

The title of this volume alludes to a book about the vegetable tannins (now more properly known as plant polyphenols) published by the same author in 1966. Since then, new techniques used in the isolation and structural elucidation of natural products have enabled the complex structures of many plant polyphenols to be determined precisely. The publication of the present volume is timely, because interest on the vegetable tannins is no longer focused only on the leather industry. Knowledge of the chemistry and biochemistry of these compounds is becoming increasingly important in many areas, including agriculture, chemical ecology, enology, nutrition, and medicine. The book's author has excellent credentials to write on plant polyphenols, having made major contributions to our knowledge on these substances over the last thirty years or so. The overall result is a lucid and enjoyable account of the botany, organic and physical chemistry, biological activities, and practical consequences of these interesting plant secondary metabolites.

The book is divided into four chapters, entitled, in turn, "Polyphenols—Vegetable Tannins," "Proanthocyanidins," "Gallic Acid Metabolism," and "Polyphenol Complexation." Full references are included after each chapter, and the volume is provided with a Botanical Index and a General Index. In the initial chapter, plant polyphenols are introduced as compounds of molecular weight up to 20,000, with the general properties of possessing an astringent taste and the ability to complex with proteinaceous materials. The second chapter deals in detail with the condensed tannins (proanthocyanidins) in terms of their structural variation, biosynthesis, and chemical reactions. An analogous discussion of the hydrolysable tannins (constituted by the ellagitannins and gallotannins) is provided in the third chapter. With the structural and chemical attributes of the plant polyphenols thus so clearly articulated, the author then in the final chapter can describe in some depth how these compounds interact both reversibly and irreversibly with proteins. Comprehension of the discussion in chapters two