convey his immense enthusiasm and lifetime's neotropical experience. The text is exciting and accessible by not being overly technical and detailed. This is not a convenient pocket-sized volume but a veritable mine of information that will more than earn its space in one's luggage.

Bees are among the most important insects. By the age of twelve a Yanomamö boy can recognize 12 species of stingless bee (Meliponinae) from their structure, behaviour and nest architecture. Armed with a binocular microscope and *The Bee Genera of North and Central America*, even a novice will now be able to identify any of the 169 bee genera found north of the Colombia–Panama border. If only there were such a practical information source and identification guide for every major insect group and faunal region. The book is authoritatively written and illustrated by clear line drawings, photographs and scanning electron micrographs. The excellent, skilfully constructed key, which fills nearly half of the book and appears with parallel Spanish text, works backwards as well as forwards. To make identification even easier and the key even more user-friendly, if a specimen agrees with one of seven locators (based on fundamental characters), one is able to bypass large portions of the key text at a stroke. The book also includes information on collecting and preserving specimens and clear and concise notes on each genus. The authors directly address biodiversity issues and the specific needs of entomologists, ecologists and pollination botanists.

Quaternary Insects and their Environments reviews, for the first time and in a lucid and scholarly manner, the history, use and significance of fossil insect remains in the study of palaeoecology, palaeoclimatology, zoogeography and archaeology. Until now this information has been scattered throughout specialist journals. Insects respond rapidly to changes in the environment and it is this that gives entomologists a unique insight into the recent past. Insects can be sensitive and accurate bioindicators and therefore tell us a lot about climate, the environment and human activity during the past 1.8 million years. Every biologist, geologist or environmental scientist should contemplate getting involved in this exciting and rapidly developing field of research. I, for one, look forward to the opportunity of exploring some organic deposits with a trowel and a sieve. □

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Addendum

Moon Shot, reviewed by Arthur C. Clarke in *Nature* **370**, 107 (1994), is published in the United Kingdom by Virgin at £15.99.

What we ate

Peter D. Moore

Tropical Archaeobotany. Edited by Jon G. Hather. *Routledge: 1994. Pp. 270. £45, $65.*

MAN may not be able to live by bread alone, but it certainly helps. The exploitation of plant products for human consumption has had a vital role in the development of civilization, but most archaeological work on this topic has been centred on the temperate regions. The moist and monsoonal tropics of Africa, the Indo-Pacific and Latin America form the geographical focus of this collection of papers that arose from an archaeological conference held in Venezuela in 1990.

The volume admirably illustrates the impressive range of techniques now available to archaeologists attempting to reconstruct prehistoric agricultural practices and early human diets. Charcoal and carbonized plant materials survive well in archaeological sites and can result from the intentional burning of fuel wood and refuse, or the unintentional combustion of food. Both sources can offer insights into human culture. Charred roots and tubers, for example, have been identified by anatomical analysis and have permitted detailed reconstruction of early subsistence farming practices in the Pacific region.

Human gut contents provide direct evidence of past tropical diets, especially where desiccation has resulted in good preservation, but only materials that are resistant to digestion and post-mortem decay survive. Soft tissues are unfortunately lost but, even so, gut contents have fewer interpretative problems than, say, coprolites. The analysis and identification of starch residues on stone tools provide a further technique for dietary determination that avoids the effects of digestion.

Among microfossils, phytoliths are proving valuable not only for the study of grasses but also for many other plant families, from palms to gourds. Fossil pollen can also provide direct evidence of cultivation where the crop species is identifiable (as in the case of *Cocos nucifera*, but probably not in the case of cereals) or it can act as an indicator of vegetation disturbance when weed communities or the replacement of forest by grassland are detected. Perhaps the most novel techniques described here, however, relate to the use of biochemical analysis of small fragments of plant material that may permit identification of food species. Analysis of protein, lipid and DNA promise much for future studies.

The diverse nature of plant exploitation in the wet tropics is becoming increasingly apparent with the widespread application of these techniques. As far as early tropical agriculture is concerned, man evidently did not live by bread alone. □

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