

Plant Life in Southeast Asia

Ecological Research in Humid Tropics Vegetation (A symposium, Kuching, Sarawak, July 1963. A. J. G. H. Kostermans and F. R. Fosberg, Eds. UNESCO Science Cooperation Office for Southeast Asia, Bangkok, Thailand, 1965. 386 pp. Illus. Paper) presents an interesting, information-packed account of current ecological research and thinking relating to the vegetation of southeast Asia. The 27 contributed papers are arranged in two groups: Recent results of ecological studies of humid tropics vegetation (21 papers), and quantitative methods in the study of humid tropics vegetation (6 papers). These two headings, however, do not convey the great diversity of the contents.

The geographic range covered includes India with its humid west coast, north Thailand, the islands between the Philippines and Formosa, the Solomon Islands, and north Australia, with Indonesia and Malaysia forming the center. This region differs from the other two major humid tropics regions (Africa and America) by its wider geographic spread and lack of continental coherency. Consequently, the symposium was concerned with both continental and insular vegetation. Habitats of the latter category range from large volcanic to small coral islands. Much of the area is as yet little known botanically, although highly industrialized forms of tropical agriculture (particularly rubber) and intensive silviculture (in India) are practiced in some parts. Therefore, the papers reflect an entire cross-section of ecological research orientations, from floristic explorations with new check lists, over strict vegetation typifications, vegetation-environmental-relations studies, detailed stand statistics of important rain forests, and experimental studies in a rubber plantation. Most of the papers deal with natural or unmanaged vegetation, and emphasis is given not only to the typical lowland rain forest on latosols, but also to other important environmental segments of the humid tropics, to limestone and sandstone habitats, to swamps, and to montane and subalpine environments. With regard to the fundamental edaphic relations, it becomes clear that conventional analyses of soil nutrients give little clue to the vegetation differences of even such divergent ecosystems as heath forest on podzolized sand, mixed dipterocarp forest on fine-textured latosol, and peat swamp forest.

Thus, it is concluded that nutrient cycling will be an important concern for future research. While aspects of the nutrient potential are perhaps the most important facets of ecological concern, there is a surprising absence of a consideration of water relations, in spite of observations that there are seasonal variations in rainfall in some areas, that height growth of the rain forest in Queensland is related to macropore space, and that the upper canopy of the typical dipterocarp forest shows a remarkably xerophytic appearance.

The emphasis on quantitative methods is directed primarily to sampling problems in the typical lowland rain forest. Here, the very high number of species composed of relatively few individuals presents the greatest problem in quantitative descriptive ecology. It is pointed out that the accuracy of counts of individuals is a function of the enumerations rather than of the area. However, the obtaining of any reasonable degree of statistical accuracy is currently impractical because of the labor involved. Instead, attention is drawn in methods research to investigating the accuracy of basal area sampling and plotless techniques, and meanwhile, sampling is done on the basis of arbitrary plot sizes of 0.25 to 1 acre (0.1 to 0.4 hectare; much smaller than indicated by species/area curves), and locations of plots are stratified by physiographic rather than floristic features. However, the floristic complexity of the tropical rain forest is not as universal a feature as usually believed. This is apparent from species/area curves presented (p. 236) and from the possibility of classifying the mixed dipterocarp forest of North Borneo by single dominants.

Most papers are followed by lively discussions that include basic conceptual considerations of the nature of the plant community, which some contributors believe to be a concept contrary to that of the continuum. For these interesting and thought-provoking discussions alone, the volume is worthwhile reading, even for the more locally oriented temperate-zone ecologist.

The final sections contain well-written and well-illustrated reports on the remarkable field trips into ecologically interesting terrain, including the largest mountain massif between the Himalayas and New Guinea, Mount Kinabalu (4077 meters). Some major conclusions of the symposium are summed up by the individual working groups that dealt with such subjects as sec-

ondary plant communities, quantitative methods of description, nutrients in vegetation and soil, vegetation of limestone areas, palynology, autecological research, and conservation.

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A Basis for Politics

In **Human Aims in Modern Perspective** (Antioch Press, Yellow Springs, Ohio, 1966. 133 pp. \$4), D. W. Gotshalk attempts to combine the political philosophies of Plato and Karl Popper. He rejects Plato's philosopher king in favor of Popper's social engineer, pointing out, however, that a man cannot be an engineer today without some theoretical training. "Politics is engineering, social engineering. But as it is done now, it is like physical engineering done without any adequate knowledge of the principles of physics. The need is to transfer politics from its present shaky foundations to a more solid normative base" (p. 190). *Human Aims in Modern Perspective* tries to show how philosophy can do for government what physics and mathematics do for engineering.

Gotshalk reasons that a "solid normative base" for politics can be and must be based on an understanding of nature and man's place in it. Nature is both mechanical and "telic," or goal-directed. Man has telic superiority because of his ability to set his own goals and purposes, but he is relatively insignificant on the mechanical or causal level. This "paradoxical" position of man implies that his basic goals must be "to strengthen the human being's mechanical position in ways that develop or at least do not mutilate his telic nature, and to articulate his telic nature in ways that invigorate or at least do not stunt his mechanical being" (p. 30). The most comprehensive features of man's telic nature are his acquisitive and creative impulses and the fact of his "self-determinacy." Therefore, man must strive to develop a self-determinacy of a sort under which the acquisitive and creative impulses have "an equal, ample, and intercoherent fulfillment." This will be possible only in a society with institutions and government that promote the aims of man.

One difficulty with Gotshalk's argument is that his establishment of a