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FOREST CANOPY RESEARCH: NEW WORLD, OLD WORLD COMPARISONS

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Botany needs help from the tropics. Its big plants will engender big thinking.

E. J. H. Corner
(Cambridge University)

Tropical biology has evolved in many exciting dimensions since Professor Corner, noted botanist at Cambridge University earlier this century, offered his profound comment. The techniques and methods available for biological field work have become more portable, more accurate, and more accessible via publications. The advent of computerized herbaria records and of genetic techniques have greatly enhanced our capacity to classify species with accuracy. In contrast to these scientific advances, tropical biology also faces a plethora of setbacks: the numbers of species to classify has become daunting and excessively large (Erwin 1991, but see Gaston 1991); difficult customs regulations and unpredictable permitting exist for bringing specimens across political boundaries; many habitats are exploited and threatened by extinction; we remain unable to predict the dynamics of rare populations and establish management for their restoration; and the numbers of newly trained taxonomists do not appear sufficient to keep up with demand (reviewed in Wilson 1992).

Amidst this recent explosion in arenas of tropical biology, the Selby Botanical Gardens has forged a role—both taxonomic and ecological—as a center for the study of canopy plants. We have expanded Corner's original assumption to include the concept that small plants are also an important component of the tropical canopy! The mission of the Selby Botanical Gardens is embodied by four goals: research, conservation, education and display. The Gardens' journal, *Selbyana,* is an international publication devoted to research, conservation and education about canopy biology and tropical plants, especially epiphytes. But, in order to achieve these goals effectively, we need to insure that our publication reaches its intended audience and disseminates its messages to both temperate and tropical biologists alike. To better achieve our aims, we have modified the format of the journal and more clearly defined the scope of the publication.

This volume represents our first attempt to encompass a broader audience to include the disciplines of canopy research outside of a traditional taxonomic emphasis. Although the taxonomy of epiphytes and canopy plants will remain an important component of *Selbyana,* we hope to address more extensively the ecology and dynamics of the canopy environment in which epiphytes and many other organisms live. More importantly, we hope that the journal will become a forum for editorials as well as methods relating to the challenges of canopy research.

As a celebration of the pioneering successes in canopy biology during the past decade, we are featuring the abstracts from the world's first international canopy symposium in this issue. The Association of Tropical Biology, in conjunction with the American Institute of Biological Sciences sponsored a session on canopy biology in Honolulu, Hawaii, during August 1992. The symposium was entitled Rain Forest Canopy Research: New World, Old World Comparisons. It included a broad array of eminent canopy biologists: physiologists, modellers, ecologists, taxonomists, mammalogists, entomologists, and others. The geographic regions spanned from the Americas to Australia, Papua New Guinea, Hawaii, Africa and Asia. The speakers kindly submitted summaries of their talks, in order to publish them in one volume and serve as a cornerstone for the rapid development of the pioneering field of canopy biology, where we may expect to see great advances during the next decade.

As you read the authors' summaries, you will find that very few biologists have actually engaged in Old World versus New World comparisons. This symposium title was intended to serve as a catalyst in two ways: to stimulate biologists from both sectors of the tropics to come together in one conference and to encourage biologists to undertake such comparative studies (once the protocols for their field methods are established). In summary, the 1980's was a decade in which canopy methods were established and experimental techniques were designed for testing hypotheses in an above-ground environment. Presumably, in the 1990's, canopy biology will be executed with ecological precision leading to exciting new discoveries about the interactions of organisms in this region of forests.

Literature Cited

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