MANGROVES OF THE REEF DOMAIN: A CASE STUDY IN BELIZE

Ilka C. Feller
Smithsonian Environmental Research Center, Smithsonian Institution, 647 Contees Wharf Rd., Edgewater MD 21037, USA

Klaus Ruetzler
National Museum of Natural History, Smithsonian Institution, Washington, DC 20560, USA

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Contents

Summary

Mangrove forests are tropical coastal communities that are best developed along low-energy, tropical, muddy shorelines where they extend up rivers and estuaries. Muddy-coast mangroves are allochthonous systems; that is, they are built and strongly influenced by terrestrially-derived sediments and freshwater. In contrast, mud-poor oceanic or offshore mangrove islands form on shallow banks or in lagoonal areas where they are surrounded by coral reefs and seagrass meadows, well beyond the influence of terrigenous sediments and freshwater. These clear-water mangrove systems provide essential and diverse supratidal, intertidal, and subtidal habitats for rich communities of plants and animals. Mangroves are also critical, not only for sustaining biodiversity, but also for their direct and indirect benefit to human activities. Mangroves function as nurseries for many of the sport and commercial fishes found in deeper waters. Besides supporting and renewing coastal fishing stock, mangroves also benefit human economic development by stabilizing shorelines. This is a critical function in tropical coastal areas

that are periodically battered by tropical storms and hurricanes. Despite their ecological and economic significance, mangroves are one of the most imperiled ecosystems in the world and are threatened directly and indirectly by coastal development.

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Biographical Sketches

Ilka C. Feller (Candy Feller) is an ecologist at the Smithsonian Environmental Research Center. She

earned her PhD in 1993 at Georgetown University and has worked at the Smithsonian since 1999. Her research focuses on nutrient dynamics and animal-plant interactions in mangrove ecosystems. Candy uses a large-scale experimental approach to investigate how nutrient loading affects ecosystem structure and function of mangrove forests. Her field experiments are based at research facilities of the Smithsonian Marine Science Network in Belize, Florida, and Panama. To compare Neotropical and Indo-Pacific mangroves, she and her collaborators are doing similar studies in Australia and New Zealand. Candy is also active in marine education. She created a virtual tour of Caribbean mangrove islands. She has also organized numerous marine ecology courses for school teachers, resource managers, and elementary, undergraduate, and graduate students in Florida, Belize, Panama, and Puerto Rico.

Klaus Ruetzler is research biologist and curator of lower invertebrates in the National Museum of Natural History, Smithsonian Institution (starting in 1965). In 1985 he was appointed director of the newly conceived Caribbean Coral Reef Ecosystems Program (CCRE) at the same institution. He is a member of the editorial board of the international journal Marine Ecology, an Evolutionary Perspective (since 1979). Previous positions included Assistant Research Curator at the Museum of Comparative Zoology, Harvard University, 1963; and Research Associate, Institute of Zoology, University of Vienna, Austria, 1964–1965. His educational background is a Ph.D. from the University of Vienna, Austria, 1963 (dissertation: sponges of Mediterranean submarine caves). He conducted pre-employment field research on sponge biology and ecology Croatia, Italy, Bahamas, Puerto Rico, Malaysia, Thailand, Indonesia and Madagascar. His major professional interests are biology and ecology of sponges (Porifera); symbiosis and disease in lower invertebrates; bioerosion; and biodiversity and ecology of tropical coastal communities.