



Preface

Conserving the hottest of the hotspots

The biologist Norman Myers coined the term 'hotspot' to denote 25 diminutive regions of the earth that are both marvelous centers of biodiversity and alarmingly imperiled by human activities. Concentrated strongly but not exclusively in the tropics, these hotspots sustain up to half of the planet's biological diversity in just over 1% of its land area.

Few hotspots are hotter than the Brazilian Atlantic forest. This coastal and subcoastal strip of forest in southeastern Brazil contains roughly 20,000 plant species, more than 1400 species of terrestrial vertebrates, and thousands of invertebrate species, many of which are regionally or locally endemic. The Atlantic forest is also host to a diverse array of habitats, including rainforests spanning a broad range of latitudes and elevations as well as rare ecosystems such as restingas, swamps, inselbergs, dry forests, and high-altitude campos, most of which sustain ecologically specialized biota.

And the Brazilian Atlantic forest is direly imperiled. Located in the most populous region of Brazil, the Atlantic forest has suffered centuries of exploitation for timber, farmland, ranches, exotic-tree plantations, and hunting. Only 1% of the original forest is today protected in reserves, and most of the remainder has been destroyed or fragmented into a quarter million scraps of forest. Eight-tenths of these surviving fragments are tiny (under 0.5 km² in area) and most are isolated and highly vulnerable to edge effects. Virtually no large (>1000 km²) protected areas survive in the Atlantic forest outside of a single district, Serra do Mar. As a consequence the region is rife with endangered species; for instance, 80% of the 199 endemic bird species in the Atlantic forests are currently threatened with extinction.

A dozen papers in this issue of *Biological Conservation* focus on this imperiled and biologically irreplaceable region. Edited by Jean-Paul Metzger, a leading biologist at the University of São Paulo in Brazil, many of these papers provide vital new insights into the ecology of Atlantic forest fragments and their biota. Additional papers focus on forest restoration, strategies for landscape management, and the identification of disturbance-sensitive indicator species. And a particularly valuable article, by Milton Cezar Ribeiro

and colleagues, provides a comprehensive and up-to-date analysis of the geographic distribution, size, isolation, and disturbance status of surviving forest remnants in the Brazilian Atlantic region.

This collection of papers is important for two additional reasons. Firstly, the Brazilian Atlantic region is now facing an array of new land-use pressures, particularly from the rapid expansion of biofuel crops, plantations, and urban sprawl. Managing these new threats, and countering the effects of past forest loss and fragmentation via habitat protection, restoration, and the establishment of biological corridors, are crucial priorities. The papers in this issue highlight many high-priority conservation strategies for today and the future.

Secondly, its protracted history of exploitation makes the Brazilian Atlantic forest an invaluable laboratory for understanding the long-term effects of habitat fragmentation in other tropical regions. Many of the striking ecological changes evident in Atlantic forest fragments may one day manifest themselves elsewhere, such as in the Amazon, which today faces its own constellation of threats and is rapidly falling before the axe and bulldozer. Hence, the papers in this issue not only have great local relevance, but also considerable bearing for understanding the long-term fate of human-dominated landscapes in the tropics.

We should be grateful to Jean-Paul Metzger for assembling such a stellar group of scientists working in the Brazilian Atlantic forests. Collectively, their studies address one of the most vital conservation issues of our time.

William F. Laurance
 Smithsonian Tropical Research Institute,
 Apartado 0843-03092, Balboa, Ancón, Panama
 Biological Dynamics of Forest Fragments Project,
 National Institute for Amazonian Research (INPA),
 C.P. 478, Manaus, AM 69011-970, Brazil
 Tel.: +507 212 8252; fax: +507 212 8148
 E-mail address: laurancew@si.edu

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