

Brazil's other big forest in dire straits

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THE ongoing degradation of the Amazon rainforest has obscured the plight of its smaller sibling: the Atlantic forest in Brazil, which is a biodiversity hotspot. Once covering about 1.5 million square kilometres, the rainforest has been reduced to about one-tenth of its original area in the past 500 years, a new study has shown.

The Atlantic forest supports more than 20,000 species of plants, 260 mammals, 700 birds, 200 reptiles, 280 amphibians and hundreds of unnamed species.

Unless the damage is halted, monkeys and birds unique to the region will go extinct, including iconic species such as the golden lion tamarin (*Leontopithecus rosalia*) and the northern woolly spider monkey (*Brachyteles hypoxanthus*), both among the most endangered of all the world's monkeys.

"Unfortunately, the forest is in very bad shape," says Jean Paul Metzger at the University of São Paulo in Brazil. "Species extinctions will occur more rapidly and, since 30 per cent of the species are endemic to the region, they will disappear forever."

The desperate state of the forest became clear when Metzger's colleague Milton Cezar Ribeiro mapped the entire region in great detail using satellite images, combined with vegetation maps produced by the SOS Mata Atlantica Foundation, a charity campaigning to save the forest.

Ribeiro found that of the remaining forest, about 80 per cent is split into fragments of less than 0.5 square kilometres. The average distance between these fragments is 1.4 kilometres, making it difficult for animals to move from one part of the forest to another (*Biological Conservation*, vol 142, p 1141).

To make matters worse, only about 14 per cent of the remaining forest is protected. That's because 70 per cent of Brazil's population lives in what was once the Atlantic forest, including the cities of São Paulo and Rio de Janeiro. "So in 500 years, and mainly in the past 100 years, we destroyed 90 per cent of the forest," says Ribeiro.

One priority is to protect the largest remaining tracts of forest, particularly the Serra do Mar, along the coastal mountains near São Paulo. Also, reconnecting the fragments to create larger areas will help the movement of otherwise marooned animals.

"If the Atlantic forest were a medical patient, it would be on life support and gasping for breath," says Bill Laurance of the Smithsonian Tropical Research Institute in Manaus, Brazil. "I see a dire need to protect the remaining fragments, and to reconnect fragments wherever possible."

Mark Cochrane of South Dakota State University in Brookings agrees: "It is imperative to create a comprehensive conservation plan as soon as possible."