

In urgent need of protection for the woolly spider monkey

John Hatton, Nick Smart and Koy Thomson

Brazil has more primate species than any other country in the world but large-scale deforestation for agriculture and industry has brought an estimated 22 species to the verge of extinction. Nowhere is this habitat destruction more evident than in Brazil's Atlantic forest ecosystem. Although originally extending along the entire length of the eastern coastline, today only small isolated tracts of primary forest remain. In 1983 the authors, aided by an Oryx 100% Fund grant of £200, carried out a vegetation and habitat survey in the forest of Fazenda Montes Claros, one of the last remaining refuges for the woolly spider monkey *Brachyteles arachnoides*. The 47 individuals within the forest form the largest single breeding population in the world today. Rapid and effective action is required to secure this habitat if there is to be any hope of saving this primate from extinction.

Considering the fragmentary nature of Brazil's existing Atlantic forest ecosystem it is difficult to believe that this once formed part of a continuous cover that stretched some 2000 miles along Brazil's eastern coastline. Explorers in the nineteenth century described these as being among the world's tallest and most impressive forests, floristically complex, rich in orchids and bromeliads and with abundant endemic fauna. However, since the first Portuguese settlers arrived in south-eastern Brazil more than 450

years ago, colonisation has concentrated in this area and today it is the cultural, industrial and agricultural centre of modern Brazil. Large-scale forest destruction in the south-east has accelerated in recent years due to rapid expansion in the mining and industrial sectors. Fuel is in short supply and large tracts of primary forest have been harvested for production of charcoal to provide energy for the steel industry. Today, only tiny remnants of forest are left, with an estimated one per cent still in a relatively undisturbed state (Figure 1).

These forests are unusually rich floristically and provide habitats for many spectacular vertebrate species. Forest destruction has, undoubtedly, resulted in the loss of a number of plant species and in a dramatic decline in the native fauna. The lion tamarins *Leontopithecus* spp. especially have been affected. It is estimated that of the strikingly beautiful golden lion tamarin *L. rosalia rosalia* no more than 200 remain in the wild.

The situation facing the woolly spider monkey *Brachyteles arachnoides* is even more precarious. Its geographical distribution is restricted to the forests of south-eastern Brazil and it is the most endangered of all the South American primates. Habitat destruction has taken a tremendous toll of *Brachyteles* and it now ranks among the world's most endangered monkeys. It is the largest of all the South American primates, and its acrobatic manner of locomotion and feeding requirements make it more dependent on high forest than any other Brazilian primate. Mittermeier *et al.* (1982) consider that this spectacular primate ranks with the great apes in zoological and anthropological interest and deserves to become a symbol of Brazil's fauna.

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At the time of writing the continued survival of this primate had been documented in only five protected areas and two privately owned forests, and the total number of individuals located with any certainty amounted to fewer than 100. The importance of the forest at Fazenda Montes Claros is that it contains 47 woolly spider monkeys, the largest remaining population in the world. In view of the urgency of the situation, the present authors carried out a vegetation and habitat survey, in January and February 1983, of the Fazenda Montes Claros forest to determine the extent of good primary forest to enable conservation bodies to purchase and secure a viable habitat for the woolly spider monkey.

The Fazenda Montes Claros Forest

The 880-ha-area of forest inhabited by *Brachyteles* is situated on a privately owned *fazenda* (farm), Fazenda Montes Claros. In addition to the woolly spider monkey, three other primate species are found within the forest: the buffy-headed marmoset *Callithrix flaviceps*, the tufted capuchin monkey *Cebus apella nigratus*, and the brown howler monkey *Alouatta fusca*. Neither the tufted capuchin nor brown howler monkeys are considered endangered. However, the buffy-headed marmoset is known in only one other biological reserve and is listed as endangered in the *The IUCN Mammal Red Data Book* (1981), another reason for the Fazenda Montes Claros forest to be considered a site for immediate conservation. At present, the forest has no protective status and its preservation and the survival of the primates within it have, so far, been due to the goodwill and concern of the owner.

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Woolly spider monkey (Nick Smart).

The forest is situated in a region of steep hills, ridges and valleys, with an altitudinal range from 400 to 680 m. Although the forest boundary encompasses an area of 880 ha, the good primary forest is restricted to the valley bottoms and lower slopes of the hillsides. The two main valleys have permanent streams lined with the palmito palm *Euterpe edulis*, the young pith of which is considered a delicacy in Brazil and is reported by Nishimura (1979) to be eaten by the woolly spider monkey. The good primary forest in the valley bottoms has the multi-layer structure typical of tropical moist forests, consisting of tall emergents (up to 35 m high), a main middle canopy (± 20 m) and a lower tree layer (± 10 m) (Figure 2). It is rich in epiphytic bromeliads,

orchids and lianas, and constitutes prime habitat for the woolly spider monkey.

The unusual species richness for which Brazil's Atlantic forest ecosystems are renowned is evident even in this relatively small tract of forest: over 196 different tree species were found during our survey. The Leguminosae, with 26 per cent of all species identified belonging to it, is the most widely represented family. In the good primary forest, many of Brazil's best known hardwoods are still to be found, including the jacarandas *Machaerium* spp., the jequitibas *Cariniana* spp., the angicos *Piptadenia* spp. and Pau Rei *Basiloxylon brasiliensis*. A number of trees whose fruits are an additional important food source for the

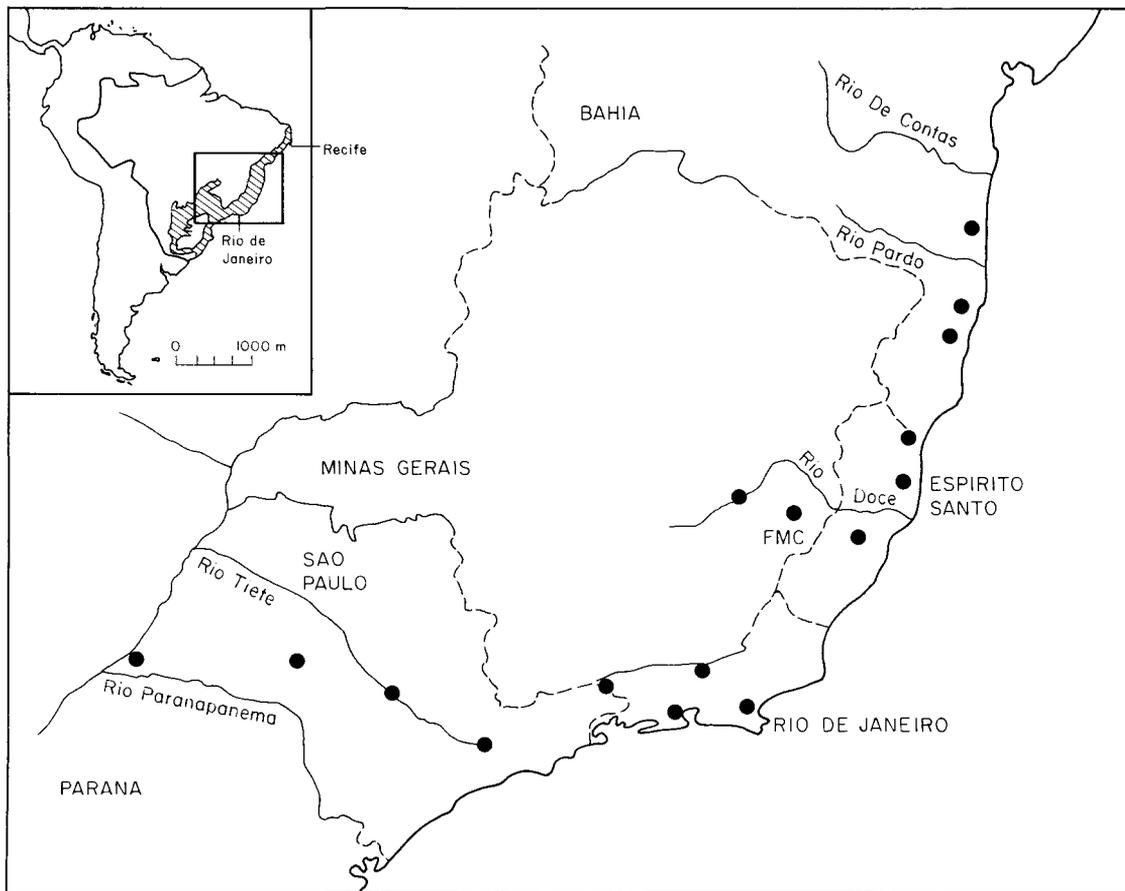


Figure 1. Loss of Atlantic rain forest since the mid-nineteenth century. Shaded area represents the previous extent of the forest, dark circles in the expanded section indicate remaining fragments. FMC: Fazenda Montes Claros.

woolly spider monkey, such as the caja manga *Spondius dulcis* and the jatoba *Hymenaea stilbocarpum* are also found in the primary forest.

With increasing altitude the primitive forest in the valley bottom grades through secondary forest with few or no emergents to young regenerating forest interspersed with bamboo and bracken on the summit ridges (see Figure 2). The absence of

any high canopy probably makes this habitat of little use to the woolly spider monkey, although the buffy-headed marmoset appears to have adapted well to this higher altitude habitat. The disturbed areas on the summits of the hills are probably a result of clear-felling and fire, as indicated by the relatively even-age structure of the regenerating stands in these areas.

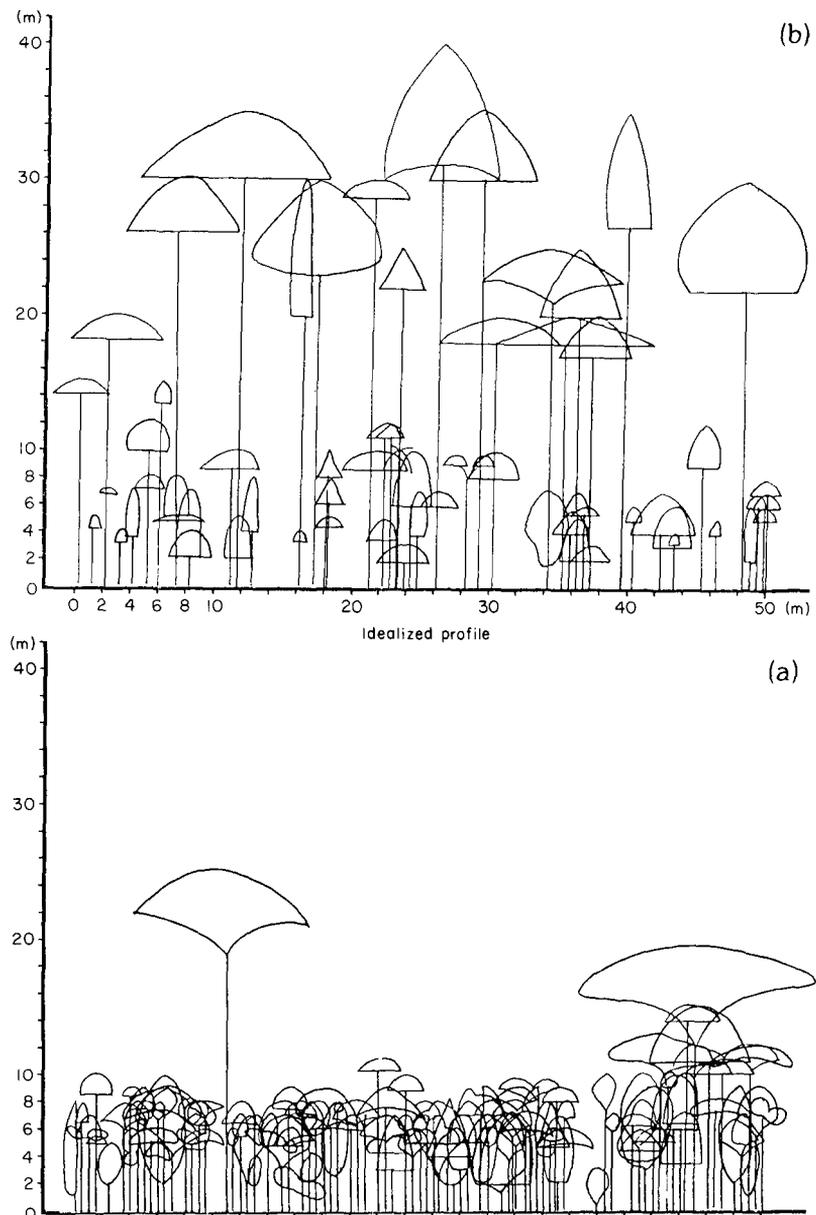


Figure 2. (a) Transect through multi-layered primary forest. (b) Transect through young regenerating forest found towards summit of hills.

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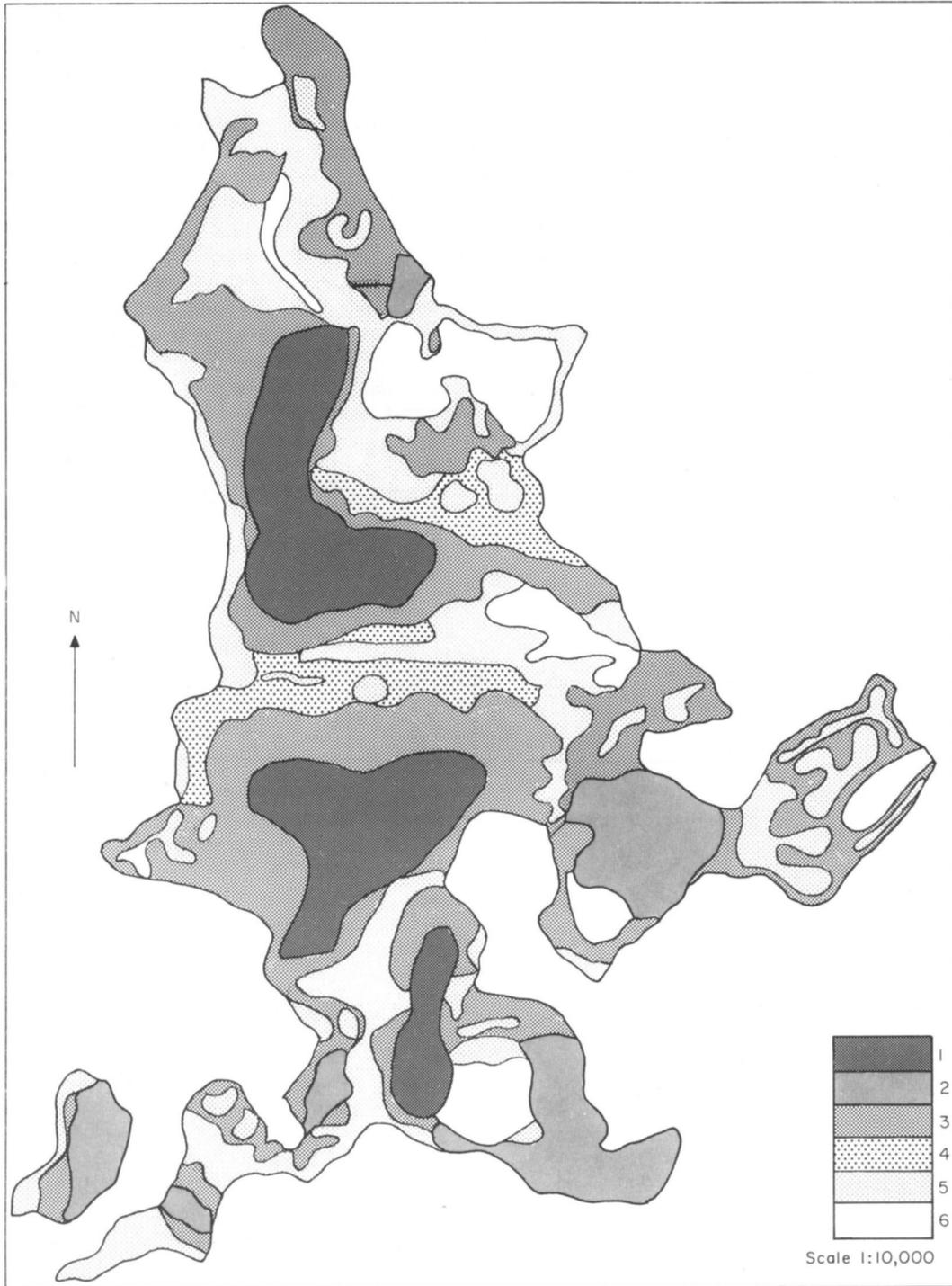


Figure 3. Vegetation types of Fazenda Montes Claros forest: (1) primary forest, (2) primary/secondary forest, (3) secondary forest, (4) young regenerating forest, (5) scrub, (6) cleared areas.

We were able to map the whole forest according to broad habitat types, and it is apparent that a mosaic has developed within the boundary (Figure 3) with only three core areas of primary forest remaining, representing about 20–30 per cent of the total area. The actual habitat available to the woolly spider monkey is, therefore, far less than the 880 ha encompassed by the forest boundary. Two breeding groups of woolly spider monkeys, totalling 47 individuals, inhabited the forest in February 1983. The farmer has prohibited hunting and this may be expected to lead to a slow population increase, so steps will soon have to be taken to extend the habitat range of the woolly spider monkeys by protecting the present secondary forests, promoting regeneration in bracken infested areas in an attempt to 'shade out' the bracken, and by preventing fires in scrub areas.

Hill (1962) considers the woolly spider monkey to be the least known of all the South American primates and much more information about its habitat requirements and feeding behaviour is required. Certainly, the area is of the highest scientific interest and could provide a centre for primate and forest studies in Brazil. Already a small laboratory has been donated by the farmer for research workers visiting the forest, an encouraging start for the few devoted Brazilian conservationists who have put so much effort into preserving this habitat.

The situation for the woolly spider monkey is, indeed, precarious, since it is unlikely that future landowners will be as sympathetic to the monkey as the present farmer, who is already in his seventies, and it is imperative that action is taken now to protect the forest. Moves are at present under way to purchase prime areas as a first step towards upgrading the area to reserve status. The operation will be costly as the timber is of great value. However, the price to pay for not preserving the forest may be the addition of another unique animal to the ever-lengthening list of extinct species.

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