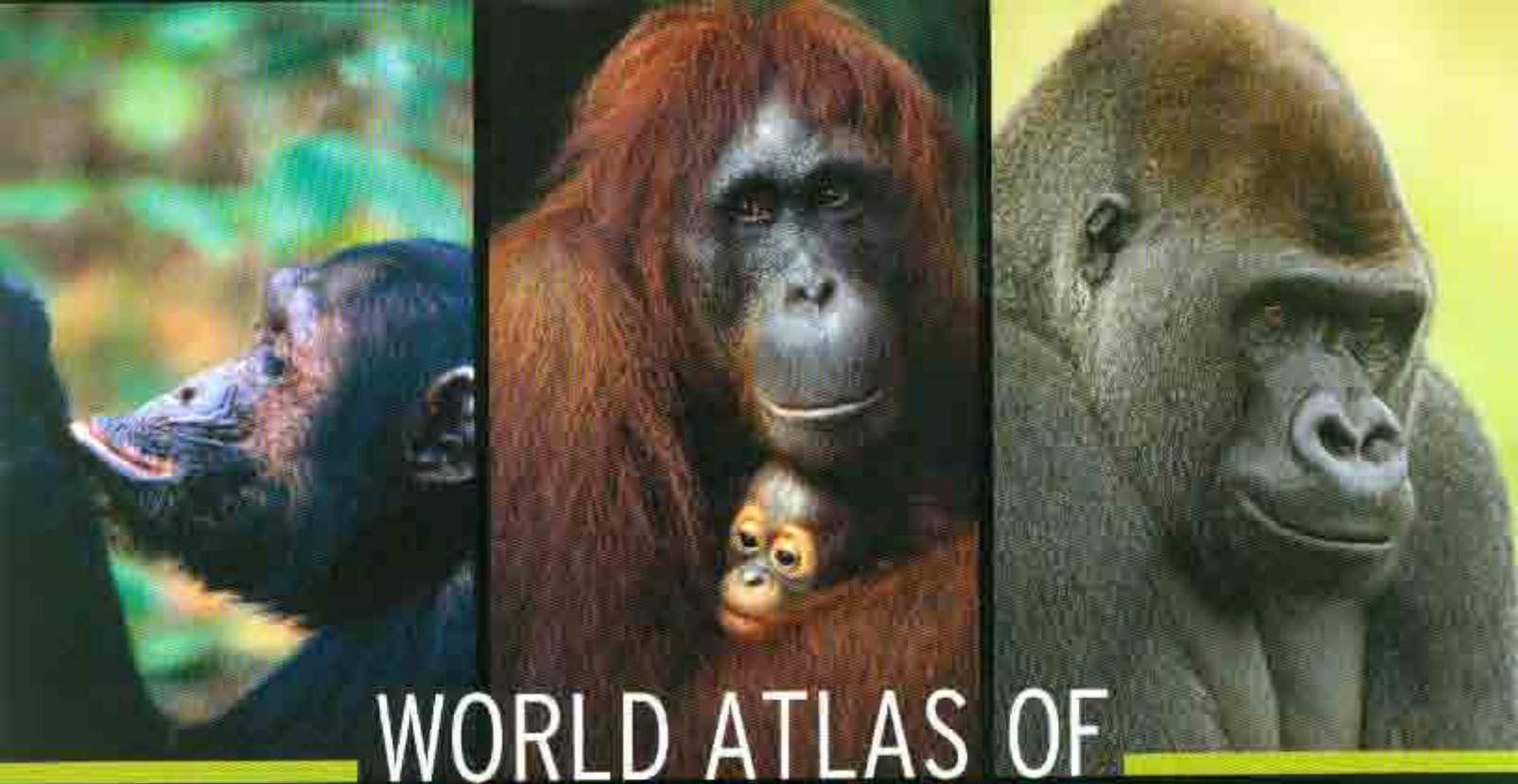

WORLD ATLAS OF GREAT APES AND THEIR CONSERVATION

ROYALTIES FROM THE SALE OF THIS BOOK WILL SUPPORT THE CONSERVATION EFFORTS OF THE GREAT APES SURVIVAL PROJECT

EDITED BY JULIAN CALDECOTT AND LERA MILES FOREWORD BY KOFI A. ANNAN

UNEP WCMC

Box 5.1 SEED DISPERSAL BY BONOBOS AND THE SURVIVAL OF RAIN FOREST

As specialized frugivores, bonobos are essential for the long-term survival of the rain forests in which they live. In the Lomako forest, bonobos occur together with seven other primate species, but they are the only one to ingest regularly and disperse the whole seeds of a wide variety of species of rain forest tree and liana. Bonobos are excellent seed dispersers for a number of reasons.

First, they are primarily frugivorous (up to 70 percent or more of the diet is ripe fruit) and rarely damage the seeds consumed.

Second, they are large bodied and have simple guts, so that even large seeds can be swallowed whole and passed undigested via the feces. The seeds of some fruit species are very large, among the biggest being those of *Anonidium mannii* (Annonaceae). These fruit weigh 3 kg (or more) and contain over 50 seeds that each measure 3 cm in length and weigh about 10 g.

Third, bonobos travel long distances and maintain large core areas. Individuals cover over half their community range each year, and spend more than 90 percent of their time within primary rain forest, thus providing long-distance dispersal within a suitable habitat for rain-forest trees.

Fourth, they often carry fruits long distances before sharing and eating them, such as the fruits of *Treculia africana* (Moaceae) that weigh 10 kg or more. The seeds may later be dispersed even further before being defecated.

Fifth, bonobos do not sleep where they have been feeding, but move away to build nests and sleep in trees elsewhere.

Many species of tree and liana appear to have evolved with bonobos and rely on them for dispersal. *Carpodinus gentilii* (Apocynaceae) has fruits that weigh about 1 kg with a hard rind, 2.5 cm thick, that smaller-bodied monkeys are unable to open. Others, such as *Pancovia laurentii* (Sapindaceae), have seeds that germinate readily after passing through a bonobo gut, but not at all if the fruits fall uneaten beneath the parent tree or are artificially planted, even at a distance from it.

The dietary diversity of the bonobo means that it is the most important disperser of many rain forest tree species in DRC, and may be the only disperser of some of them. Of 130 fruit species collected and measured in a study, bonobos have been seen to eat 63. The list of fruit species known to be eaten by bonobos increases with each year of investigation,[94] so it seems likely that bonobos are involved in the dispersal of half or more of all fruiting trees in the inner Congo Basin. Without bonobos, therefore, major changes in this ecosystem would be likely to occur within very few generations.

Frances White