

BIOLOGY

Brazilian cave yields skeletons

Some 10,000 years ago, waters from the rain forest flowed through Toca da Boa Vista Cave, not far from the Bahia coast in Brazil. The stream swept dead Pleistocene mammals into the soggy hole, where they remained undisturbed until the arrival of a Brazilian caving club in 1992. The group's prize find: two nearly complete skeletons from the primate family *Atelinae*, cousins of today's spider monkeys.

One specimen, *Protopithecus brasilienus*, is now considered the largest nonhuman primate ever to call the Americas home, report Walter C. Hartwig of the University of California, Berkeley's anthropology department and Castor Cartelle of Brazil's Instituto de Geociencias in the May 23 *NATURE*. At about 25 kilograms, the monkey weighed roughly the same as a large dog—and more than twice as much as the largest South American primate today.

P. brasilienus had a stocky build and a set of menacing canine teeth, which it bared as it fought for food and females, says Hartwig. The rest of the primate's teeth were adapted to a vegetarian diet. Its skull shows that the big primate had an enlarged vocal sac, which it used to communicate over long distances, as howler monkeys do today.

Although *P. brasilienus* was identified and named in 1838 by a Danish naturalist who found leg bones in another Brazilian cave, Hartwig says the new skeleton gives scientists their first detailed look at the creature.

The second skeleton from Toca da Boa Vista represents an extinct member of *Atelinae* that Hartwig says is wholly new to scientists. The discoverers named the monkey *Caipora bambuio- rum* for a mythical forest creature of the local Indians and the caving club, respectively, report Hartwig and Cartelle in the June 25th *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES*.

Weighing in at about 20 kg, *C. bambuio- rum* appears to have been slightly smaller than its cousin. Although *C. bambuio- rum* had canine teeth for display purposes, this primate, like its kin, spent most of its life in the upper branches of trees, seeking fruit.

There are two competing explanations for why New World primates had reached large sizes by the late Pleistocene, Hartwig notes. First, the forest grew over a wider area during that era than it does today, supplying ample food for big animals. Alternatively, the retreat of the forest by the late Pleistocene could have created a fiercely competitive climate in which bigger animals bullied their way to the dinner table. In either case, dwindling resources eventually pulled the rug out from under the large species.