The New Hork Eimes



## July 25, 2007

## BOOKS OF THE TIMES A Zoologist With a Pouch of Stories

## By WILLIAM GRIMES

Motorists, take note: "If you ever see a fresh kangaroo carcass lying beside the road it is well worth stopping to take a closer look." This advice, which Tim Flannery offers early on in "Chasing Kangaroos," might not strike the American reader as useful, but the invitation is hard to resist. Australia's national symbol could well be, as Mr. Flannery insists, the most remarkable animal that has ever lived, "so breathtakingly different," from its

## CHASING KANGAROOS

A Continent, a Scientist, and a Search for the World's Most Extraordinary Creature

By Tim Flannery

Illustrated. Grove Press. 258 pages. \$24.

coquettish eyelashes to its capacious pouch and onward to the tip of its big, fat tail, "that if it did not exist we'd be unable to imagine it."

The kangaroo on the Australian national seal — the one most likely to show up dead on the roadside — is but one of the many species explored by Mr. Flannery in his engaging and, yes, bouncy tour of the kangaroo family and the landscape of his native Australia. Some 70 species make up the kangaroo family, which includes wallabies and rat kangaroos. Their quirks and evolutionary mysteries have kept Mr. Flannery, a zoologist at Macquarie University in Sydney, busily occupied for more than 30 years.

Part road trip, part nature show and disguised memoir as well, "Chasing Kangaroos" takes the author to searing deserts, lush rain forests and stark mountain ranges in search of kangaroos past and present, large and small. He stalks the giant Procoptodon goliah, a potbellied 280-pounder with a strangely humanlike skull that bounded across ice-age Australia, and cradles in his hands the darling little banded hare wallaby, a threatened species that he tries to reintroduce to the wild.

Mr. Flannery spends most of his time on the four largest species: the desert-dwelling red kangaroo, the euros of the rocky ranges, and the eastern and western grays of the more watery South and East. But he cannot resist the more eccentric members of this truly weird family, oddballs like the northern nailtail wallaby, so named for the mysterious black thumbnail-size plate in a tuft at the end of its tail, or the rare tree kangaroos, which, as the name suggests, live in trees, as their ancient ancestors did. There is even a kangaroo that has stopped hopping.

The big roos are strange enough. Let's start with digestion. Kangaroos feed on tough grasses but rely on thousands of stomach worms to break the grasses down. The worms, each one as thick as a hairpin and twice as long, pay for their nonstop buffet by contributing nutrition in the form of their excretions and dead carcasses.

More visibly, the kangaroo, the only large animal that hops, can put on dazzling displays of speed and endurance. An adult male eastern gray can outrun a horse or swim a mile. Smaller kangaroos are also fast. The fabulous oolacunta, a rat kangaroo that is now extinct, streaked across the desert at speeds that made it seem to float above the ground. One naturalist and his assistants, working in relays with fresh horses, pursued an oolacunta over rough terrain for 12 miles in 1931 before finally catching up to the little fellow, which then keeled over and breathed its last.

Mr. Flannery's lifelong kangaroo quest can be read as an extended exercise in frustration. The countless hours spent in the broiling sun, looking for a single tooth or bones the size of a fingernail clipping, lead, often as not, to dead ends or new puzzles within old ones.

"It is a strange thing to crawl for days on end along the edge of a salt lake in one of the most empty deserts in the world, your eyes strained with the glare of the sun and the effort of concentration, your back a vast, slow-moving vessel crewed by a

thousand flies," Mr. Flannery writes of one of his expeditions. This one ended in triumph. From a deposit of fossilized crocodile excrement, he extracted a "speck of ancient bone" and jumped to his feet, "screaming in exhilaration."

On that occasion Mr. Flannery had discovered a tooth that belonged to what may prove to be the missing link between ancient possumlike creatures and the modern kangaroos. This was but a spark in a sea of darkness. Scientists know very little about how the kangaroo evolved or when, in part because fossil-bearing sediments older than five million years on mainland Australia cannot be dated directly. We do know that about 4.5 million years ago, the age of kangaroos begins, with about 80 species flourishing in Australia.

Mr. Flannery does explore several hypotheses about kangaroo evolution, some of them his own, most notably the notion that the disappearance of megafauna in Australia 46,000 years ago, including giant kangaroos, resulted from human hunting. This event had momentous consequences. As the giants disappeared, the uneaten plant matter set off frequent intense fires that promoted the spread of eucalyptuses at the expense of rain forest, and because eucalyptuses release less moisture into the air than rain forest trees, the continent's climate changed, becoming much drier.

For the adaptable kangaroos, no problem. Hopping gave them an advantage as feeding grounds and watering points became separated. The euro, moreover, can survive on less than half the water required by a sheep or goat, and euros rarely urinate, recycling their urea through saliva and onward to the stomach. The kangaroo not only thrived, it dominated.

Meanwhile, good news from the banded-hare-wallaby front. Mr. Flannery reports in a postscript that when last sighted, each of the three females that he released into the wild had a baby in her pouch.

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