

Splendid Isolation: The Curious History of South American Mammals, by **George Gaylord Simpson**. Yale University Press, £11.

Of all the continents South America in particular lends itself to an attempt to provide a concise but comprehensive historical account of its mammal fauna. Its isolation through most of the Tertiary period, the 'age of mammals', was only a little less complete than that of Australia, but its fossil record is enormously more comprehensive, with an almost continuous sequence from the late Cretaceous, when a few fragments demonstrate the existence of marsupials and primitive ungulates, to the Pleistocene and post-Pleistocene when the distinctive 'megafauna' of giant sloths, glyptodons, sabre-toothed cats, elephants etc. finally disappeared from the scene. However, continuity of a fossil record is a relative concept and even the best needs a skilled practitioner to make any sense of a sequence whose successive elements may not only be separated by a few million years but by several thousand miles, and may be represented, through the fortuitous nature of fossilisation, by small random samples of the species actually present and by equally small, erratic samples of their bones or teeth.

George Gaylord Simpson is a guide who inspires confidence. He has been an active student of the fossil mammals of South America, in the field and in museums, for fifty-five years and it is very pleasing that he has condensed his vast experience into such a digestible form. It is basically a chronological account, documenting the arrival and radiation of the strange edentates, ungulates, caviomorph rodents and primates and their relatively recent interaction with invaders from North America as the island continent rejoined its northern neighbour within the last two million years or so.

To some extent the book falls between two stools – it is written in narrative form rather than as a reference work, but the detailed discussion of unfamiliar groups can be rather tedious for those without the existing framework of knowledge on which to hang the details (in spite of the author's statement in the preface that he has 'not assumed any previous technical or detailed knowledge of the subject'). There are intermittent glimpses of the fossil sites and of the personalities of the palaeontologists who explored them, but in a subject where interpretation has been a distinctly subjective matter one might have hoped for a little more flesh to clothe the bones of the palaeontologists if not of the fossil mammals themselves.

GORDON B. CORBET

Hawaiian Reptiles and Amphibians, by **Sean McKeown**. Oriental Publishing Co., Honolulu, \$3.50

Vertebrates of Florida, by **Henry M. Stevenson**. Florida University Press, \$35.

Florida and Hawaii are two states of the USA which share an ongoing problem: introduced species. Even five years ago Florida's vertebrates included a dozen species of reptiles and amphibians, 25 birds and 10 mammals which were the result of escapes or liberations, among them such exotics as rhesus monkey, spectacled caiman and budgerigar. But interesting as Florida's native fauna is (or was), it cannot match that of Hawaii in terms of endemic species; neither can it match it for introductions and extinctions.

Only four of Hawaii's 22 species of reptiles and amphibians can be considered native: one sea snake and three marine turtles. The rest, which include poison arrow frogs, bullfrogs, chameleon, gekkos, skinks and snakes, have been brought by man. In fact introductions have been going on so long that some, such as the Eurasian toad *Bufo bufo* and the black spotted frog *Rana nigromaculata*, have not been recorded since the war. The history of species such as the giant toad *Bufo marinus*, introduced in 1932 to control sugar cane beetles – and of course ran amok – is almost too well known to need repeating. But some species, including four gekkos and three skinks, were probably

already in the islands before the arrival of Captain James Cook.

Hawaiian Reptiles and Amphibians is a useful identification guide, well illustrated, with colour photographs of all species, and a concise, informative text; in addition, useful additional biological data is given. Clearly the success of the geckos in colonising Hawaii – and so many other oceanic islands and coastal regions – is largely due to their ability to reproduce parthenogenetically, obviously a great advantage. Of the five species in Hawaii, the mourning gecko *Lepidodactylus lugubris* and the Indo-Pacific gecko *Hemidactylus garnoti* are unisexual, as is the blind snake *Typhlina bramina*.

Vertebrates of Florida, in addition to being a thorough checklist with distribution maps for many species, also contains keys to all the species concerned – though these are clearly intended for corpses in museums, not living animals in the wild.

JOHN A. BURTON

Foxes, Woylies and Poisonous Plants

Many native Australian animals have evolved a high tolerance to poisonous plants that can kill exotic animals, including livestock, and in some cases this may have prevented a native animal's extinction. For instance, the woylie, or brush-tailed rat-kangaroo *Bettongia penicillata*, once widespread but now reduced to three forests in south-western Australia and one in Queensland, can eat large quantities of *Gastrolobium* and *Oxylobium* plants, which contain the active ingredient of Compound 1080, a commercial predator poison. If a fox, one of the causes of the woylie's decline, happens to eat a woylie that has just dined on these plants, the fox dies – and wherever woylies survive the poisonous plants are common (except in the Queensland stronghold, where there are no foxes).

What was the Unicorn?

The suggestion often made that the unicorn was an Arabian oryx seen in profile, so that the two horns looked like one, has always seemed rather improbable. John Burton has come across a reference in a book published in 1937, Jennison's *Animals for Show and Pleasure in Ancient Rome*, to the practice, described by Aristotle in his *Historia Animalium*, of 'binding together the soft and flexible horns of young antelope, so that the two should grow into one'. The author suggests that this was probably the origin of the one-horned unicorn. Oryx were often domesticated in ancient Egypt – usually fringe-eared or beisa oryx – so that the binding could easily be done.

MOUNTAIN GORILLA POSTER. The Mountain Gorilla Project has produced this poster for display in Rwandan schools and colleges, part of an effort to make the people aware not only of the need for gorilla protection but of the very existence of such animals. The posters – which show a young gorilla photographed in the wild by Dr Sandy Harcourt, the project co-ordinator – can also be obtained from the ffPS office for £1.20 including p&p.

