

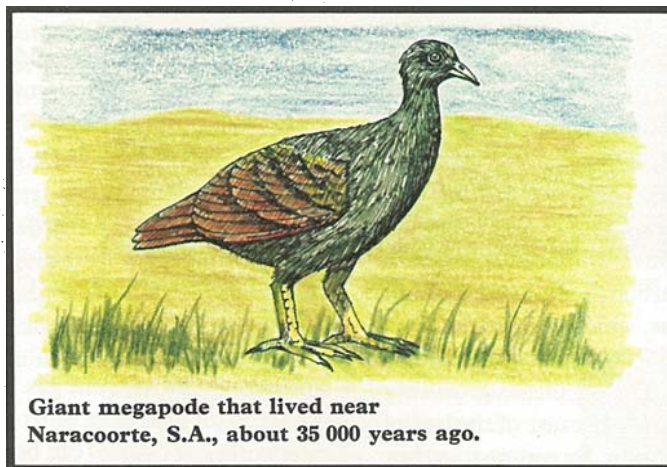
## Bird fossils hint at the past

Most of us take our birds for granted. Even so, they are an interesting group—many are unique to Australia. Emus and many parrots, for example, occur only on this continent, and even many of our local representatives of worldwide bird families differ from their relatives.

All these modern birds, of course, developed through the epochs by the process of evolution. We don't know much about their ancestors; fossil birds don't seem to be found particularly often.

Following a great deal of activity at the turn of the century, fossil birds received scant attention until the 1950s, when a series of joint American and Australian expeditions began to produce a large number of finds. Currently, studies of these fossils, which reside in various museums around Australia, are being carried out cooperatively by a number of individuals—in particular by Professor Pat Vickers Rich of Texas Tech University and Dr Gerald van Tets of the CSIRO Division of Wildlife Research.

The oldest fossil feathers turned up at Koonwarra in



Giant megapode that lived near Naracoorte, S.A., about 35 000 years ago.

southern Victoria, along with fish and insects, in lake deposits aged about 120 million years. We have no idea what their owners looked like—they may have been reptilian ancestors rather than birds.

The next glimpse of the past comes from fossils a little more than 40 million years old. By then the inhabitants of south-eastern Australia included several different kinds of penguins, one of which stood 1.4 metres high.

Fossil records of the last 20-odd million years are rather more informative. By 20 million years ago familiar birds like emus, cormorants, cranes, ducks, eagles, owl-  
nightjars, rails, and stone

curlews were already here, although often the species differed from those of today. The emus, for example, were considerably smaller. In addition, flamingoes, which now inhabit only Africa and south-western Asia, seem to have lived here during much of that period.

An interesting group of now-extinct birds is the mihirungs. These huge emu-like creatures were unique to this continent, and may well have survived until after the Aborigines arrived. Legends of the Tjapwurong Aborigines of western Victoria tell of 'mihirung parimal' (giant emus) that lived in their area when the local volcanoes were still active—and the

lava last flowed about 8000 years ago.

All the mihirungs were larger than modern emus; the largest was a colossal 3 metres tall and weighed about 450 kg.

Dr Van Tets has compared the fossil bones of two large species of the mound-building megapodes with their modern relatives. Both were considerably larger than the existing Mallee fowl, scrub-fowl, and brush-turkey. The larger of the two extinct birds seems to have weighed 7 kg—about the same as a domestic turkey—and the smaller one (*Progora naracoortensis*) 5 kg. By comparison, modern adult brush-turkeys and Mallee fowls average 2 kg, and scrub-fowls 1 kg.

The reconstruction pictured here of *P. naracoortensis* is reasonably accurate as far up as the shoulders. Fossil bones of the neck and head have yet to be found, so these parts have been drawn by guesswork from a knowledge of the bird's modern relatives.

Birds from Australia's past.

Pat Vickers Rich and G. F. van Tets. *Australian Natural History*, 1976, 18, 338-41.