

ORNITHOLOGY

Flightless Birds Face Extinction

A desperate battle is being waged to prevent New Zealand's fascinating and unusual flightless birds from disappearing from the earth; several species are gone already.

By ARTHUR SCHOLES

► THE GOVERNMENT of New Zealand is desperately trying to save what is left of its world-famed flightless birds.

The man-sized moa has been extinct for two centuries, and the flightless huia for one. Other species, including the remaining varieties of huia, the kiwi, the flightless rail, the takahe and the kakapo are all on the verge of disappearance. Of these, the kiwi is perhaps the best known, but it is the takahe and the kakapo that are in the greatest danger of extinction.

These two birds live in the still-wild Fiordland in the southwest of the South Island. Both are virtually defenseless against predators.

Once Thought Extinct

Takahes, thought extinct, were spotted in 1948 by Dr. G. B. Orbell in what was hailed as one of the most important ornithological discoveries of the century. In 1958 the kakapo was seen for the first time in 50 years.

The wild life branch of the Internal Affairs Department has since started separate campaigns to save each of the birds.

The most spectacular campaign is for the

takahe, which uses snowgrass for food as well as nests. The trouble has been that red deer, which also like snowgrass, have multiplied fantastically of late in takahe country.

Dr. Orbell first found takahes in a remote valley in the Murchison range, a sanctuary of 45 square miles, where few deer lived at that time.

Fiordland National Park had been a "low priority" region in the Government's program for noxious animal control, but last year the Government became alarmed by the way the deer were decimating the price-less takahe population.

Three Forest Service hunters were sent to Lake Eyles, a special area set aside for takahes. In two months they shot more than 1,600 deer and, in passing, spotted 30 takahes. The program still is going on.

The kakapos present a different problem. Five of them were captured and sent to the branch's native bird reserve at Mt. Bruce in the Wairarapa, north of Wellington. Four died, and the Government ordered that no more kakapo be caught until it finds out why they died.

A biologist visited the remote Tutoko Valley in Fiordland, where the kakapos were captured, to gather more data on the birds' habits and food preferences. Field research is to be stepped up in the coming months.

'Owl Parrots'

What already is known about the kakapo is that it is a heavy-bodied native parrot and the only one of the world's 500 known types of parrots for which ornithologists had to establish a separate family. Scientifically, kakapos are known as the *Strigopidae*; more commonly they are referred to as "owl parrots."

Although the kakapo is a night-time bird, it did not start out that way. In the past 100 years, man has been clearing New Zealand's forests and introducing new animals.

In the early days of settlement the kakapos were slaughtered by the hundreds for food or for skins, which were sold to foreign collectors. Its main enemies today are hawks, stoats, weasels and dogs.

The kakapo has learned to hide during the day in a hole among rocks or under tree roots. Mainly a vegetarian, its diet consists of berries, plant shoots and roots. It has been known to devour lizards and other small creatures. The one surviving bird at Mt. Bruce has not objected to eating apples and pears.

A fine-looking bird, the kakapo, largest of New Zealand's parrots, is predominantly green with touches of black and yellow. Most birds have a keel on the breast-bone

to which powerful muscles required to flap wings are attached. In the kakapo, this system is almost non-existent.

Tree-Climbing Bird

However, after the kakapo climbs a tree in search of food, it can glide to earth on its stumpy wings. It can also travel quickly downhill, alternately running and gliding.

The kakapo has a strange emotional structure that makes it moody. It is too early to predict success for efforts to propagate it in captivity. That will probably have to wait until chicks can be captured for rearing by hand, as has been done with the takahe.

To find a kakapo, let alone capture one, is no mean feat. The country in Fiordland is wild and hazardous. Mostly mountainous, it is heavily forested, containing bluffs and rock faces virtually impossible for man to traverse.

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PALEONTOLOGY

Fossils of Tiny Fungus Found in Tennessee

► ANCIENT REMAINS of certain kinds of fungus have been reported for the first time in the Western hemisphere.

They were discovered in western Tennessee, which now shares honors with Germany, Scotland and Australia in producing fossils of fungi that grew several million years ago.

Fungi are a large group of tiny non-green plants that have existed on earth for eons, and are still going strong today. Since they do not manufacture their own food, these mushrooms, smuts, mildew, rusts and blights survive on dead or living material.

Fungi are used in the manufacture of foods and also to produce industrial alcohol. A number of important medical drugs such as penicillin, Aureomycin, streptomycin, Terramycin and actinomycin, are produced from these non-green plants.

Ancient fossils of a specialized type of fungi growing about 60 million years ago were found near the Mississippi River region of Tennessee, by Dr. David L. Dilcher of Yale University.

These fungi of the *Meliolaceae* and *Microthyriaceae* families were discovered on well-preserved leaves removed intact from the surface of broken pieces of clay, Dr. Dilcher reported in *Science*, 142:667, 1963.

The rarity of these fungi in the fossil record of the New World is probably due to lack of preservation rather than to absence of the fungi.

The same types of fungi are distributed around the world in the present-day age, but are most abundant in warm, humid places. The discovery of the fossil remains indicates that western Tennessee was warm and humid during the Eocene Epoch.

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ON THE WAY OUT?—This pompous-looking bird, a kakapo or "owl parrot," in one of New Zealand's rapidly dwindling number of flightless birds, now faced with extinction.