

letter from Sydney



Extinction and oversupply

Wallabies, tuataras,
dibblers and potoroos
wax and wane on islands



In isolation, tuatara flourishes.

The wildlife of Australia and New Zealand is so unusual that a serious scientist once proposed that the world be divided into two faunal areas—Australia and everything else.

With so many unusual species, the ebb and flow of rare animals in their reaction to a changing environment is a continual battle between extinction and oversupply.

In a survey of mammals in north-eastern New South Wales, biologist John Calaby found two colonies of a small macropodid, a potoroos, of which only one single specimen had been recorded between 1913 and 1958. The rediscovery of the Leadbeater possum in Victoria in 1960 and the more recent rediscovery of the dibbler in Western Australia (1967) show how difficult it is to establish whether a marsupial species is really extinct or rare.

One of the most recent examples is the discovery of the Parma wallaby, a 26-inch relative of the kangaroo that hadn't been observed since 1932 and was thought to be extinct.

It was discovered that the Parma had been imported from its native bushland across the Tasman Sea to the 5,000-acre Kawau Island, 30 miles north of Auckland, New Zealand. There, with few natural enemies, the animal flourished to the point of being a pest: It was interfering with the development of commercial pine forests.

On a larger island, Tasmania, wallabies not of the Parma breed have become so numerous that fauna protection officials sponsor annual wallaby shoots. The most recent hunt bagged 1,200 wallabies at Avoca in northwest Tasmania, much to the outrage of conservationists.

On the continent, the Parmas, along with other wallabies and many other marsupials, are facing extinction by human hunters, imported predators such as the fox and the feral domestic cat, and destruction of habitats by rural development.

Another variety that has survived on isolated islands is the tuatara, a stumpy-tailed reptile with a row of white spines down its back that Prof. Charles Birch of Sydney University calls a living fossil. Fourteen of the small beasts, some

of them 50 years old, are under study at the university; they were found on two small islands in Cook Strait.

Tuataras are the sole living representative of a once widely distributed group of reptiles known as Rhynchocephalia, meaning beak-head. They are not the ancestor of the modern lizards. Rather the ancestors of the modern lizards and tuataras were contemporaries. The lizards evolved into many different forms; the tuataras have for some reason stayed the same for at least 135 and possibly for 200 million years.

Tuataras, instead of having teeth in sockets as do lizards, have a double row of serrations actually on the jaw bone. These serrations cannot be replaced, and become worn down during the animal's long lifetime. It has been estimated that a two-foot long tuatara is from 60 to 100 years old.

Another difference from lizards is that the ribs of the tuatara have hook-like processes similar to those found in birds. Tuataras also have a number of "spare" bones embedded in the abdominal wall among the true ribs.

The tuataras probably owe their survival to isolation and lack of indigenous competitors. Their chief natural enemies are all introduced—man, cats and dogs.

Tuataras occasionally share the burrows of the petrels, apparently in harmony even with the chicks. Like the birds, tuataras hatch from eggs. The female tuatara buries her eggs in the soil. They hatch 13 to 14 months later.

As tuataras grow they develop a ridge of spines along their back and on their head. The spines are larger on males, but are erectable in both sexes. Tuatara is a Maori word meaning "peaks on the back." The peaks are erected in times of danger or when hunting for food—beetles, snails, crickets and lizards.

W. A. Scholes



Australian News Bureau

Parma wallaby: up from extinction.