

## ZOOLOGY

# Natural Oddities Down Under

**In Australia it is feared that kangaroos and koala bears are so diminished in number that they may become extinct, reports Arthur Scholes.**

► THERE ARE strange creatures in Australia and New Zealand, the part of the world known as "down under."

The kangaroo is one of the most peculiar. And the koala, which looks like a teddy bear, is another strange creature that excites interest in zoos throughout the world.

A public campaign has begun to save the kangaroo from extinction.

Prof. A. J. Marshall, explorer, author and zoologist, has attacked the unbridled slaughter of kangaroos and is organizing the campaign. He fears that several species of kangaroo are in danger of being extinguished if the slaughter is allowed to continue.

Prof. Marshall, lecturing at Monash University, Melbourne, is asking public support for a move to have the export of kangaroo meat stopped for at least five years.

## Koala Saved by Rigid Control

"The koalas once faced the same danger when they were killed in thousands for skins. They were saved only by rigid control," said Prof. Marshall, "but 35 other species of Australian marsupials are extinct, and it is our duty not to allow the kangaroo to join them."

In 1960-61, 5,708,000 pounds of kangaroo meat were exported. In 1961-62, the figure fell to 2,618,000 pounds. This is taken to indicate that the kangaroo is being slaughtered out of existence.

In some areas kangaroos were once a pest and had to be controlled, but it is charged that there was unbridled slaughter in New South Wales, Queensland, South Australia and, to some extent, in Western Australia.

Fear of an epidemic of conjunctivitis among Australia's living teddy bears, the cuddly koalas, has drawn attention to the perilous future facing these friendly creatures. Not only is the total koala population small, but it is getting smaller. The koala also faces new threats from advancing civilization.

Tied to their ever-shrinking environment, the slow-breeding docile creatures of the Australian bush are no match for the hazards of settlement, with its clearings, bush fires and enemies. Naturalists consider that these facts, separately or together, could bring about the extinction of the koalas.

Koalas are frail creatures, and the eye trouble now being experienced in Queensland is just one of their living hazards. A biologist who has been doing research on the animals carried out autopsies on 28 of them. He found that pneumonia was responsible for the deaths of 21. Other koalas had hepatitis and a fungus infection. Some



W. Brindle

**DOOMED FOR EXTINCTION—**  
*The cuddly koala is one of the strangest of the earth's animals, and a fight is on in Australia to save it from extinction.*

of the females had cystic diseases of the ovaries.

The survival rate among koalas is very low and there is a low reproduction rate as they breed only every second year and the mothers have only one baby.

The bears are fully grown in four years and may live to be 20, but it is thought most unlikely that many reach this age. They live longer in reserves than in the natural bush, because of the previously mentioned ravages of bush fires and predatory animals, such as the introduced fox. Accident and disease also keep their life spans down.

Naturalists believe that millions of koalas have been killed by epidemics introduced since the arrival of the white man in Australia 175 years ago. The worst years were 1887-89 and 1900-03.

Disease among the koala population is thought to be more prevalent in Queensland and New South Wales. A more robust breed of koala seems to survive in Victoria, the southern state of Australia.

The koala is not, as was once thought, born in its mother's pouch. Its birth is similar to that of uterine animals. At birth it weighs approximately a fifth of an ounce and is only three-quarters of an inch long. After being suckled in the pouch for about

six months the baby koala is well furred and has grown to about seven inches. It uses the pouch for another two months, occasionally venturing to its mother's back, finally leaving the mother at about 12 months.

The surprises of capricious nature never amaze New Zealanders, for theirs is a country of oddities.

The land, beautiful with mountains, fiords and rolling plains, has been lavished with a collection of natural rarities and fantasies unrivaled in the plant and animal worlds.

There is the bubbling thermal activity of the North Island. Here are spluttering cauldrons, gushing columns of steam and water. Hot and cold streams lie side by side amid nightmare shapes and those of great beauty formed by mineral deposits erupted from exploding geysers and fumaroles.

## Tuatara, Oddest Rarity

Oddest of New Zealand's animal rarities is the tuatara. Alone in the animal kingdom, the tuatara is a living fossil. Related to the dinosaurs, it is the sole inhabitant and descendant of the reptile life prominent on earth 100 million years ago.

The tuatara looks like a lizard, grows to a length of two feet, is rather fearsome in appearance with its olive green yellow spotted skin and a ridge of spines along its back, but is not naturally vicious.

Not only its origin but also its living habits are strange. Living only on 16 coastal islands, the tuatara usually shares the burrow of the petrel, an ocean-going bird. Here it hibernates during the winter when the bird is away from the islands.

Only two rare, harmless bats are numbered among native mammals, but among the great variety of New Zealand's native birds are to be found some of the strangest the world has ever known.

The kiwi—with its peculiarly shaped body, its long, curving beak and lack of tail and wings—is easily the most remarkable. The kiwi is nocturnal and flightless, and so is the rare kakapo, which is New Zealand's largest parrot and unlike any other type of parrot. The kakapo is a prehistoric survival and is fast disappearing because the disturbance of man is sending it further into the wilderness.

In the plant world there are also rarities in New Zealand, for 75 per cent of its flowering plants are not found anywhere else. Among this remarkable flora is the world's largest member of the violet family and the world's smallest conifer. The tiny pine bears fruit when only two or three inches high and is fully grown at three feet.

New Zealand's forest lands contain many other strange things, such as the brilliant red rata that grows upon and chokes its host tree, and the so-called cabbage tree that is actually a giant lily. But what caused the kotukutuku, the New Zealand fuchsia, peculiar for its blue pollen, to be deciduous in Auckland and evergreen in Wellington,

500 miles to the south, is a mystery.

No other land has such spectacular thermal activity, nor so many volcanoes, mostly extinct, as New Zealand. Auckland, the largest city, is built over 60 extinct volcanic cones.

Of the few active volcanoes in New Zealand, the smallest is the most fiery—White Island, a submerged mountain 30 miles off the East Coast of the North Island. With only its top above water, emitting clouds of steam, it seethes with activity. Within its small crater are boiling pools, turbulent molten sulfur, and steam and gas vents, as well as a small vent that splutters raw hydrochloric acid. The steam rising from the island is so hot that it must come straight off molten rock.

There is not only wonder in activity, for in the quietness of the Waitomo Glowworm cave, near Rotorua's thermal wonderland, is another breath-taking delight—a cavern 100 feet high, 50 feet long and 40 feet wide, the home of the glowworm. Covering roofs and walls in their thousands, the glowworms emit a soft ethereal blue-green radiance.

• Science News Letter, 83:26 January 12, 1963

**MEDICINE**

**Measles Antibodies Clue To Multiple Sclerosis**

➤ A "DISGUISED" measles virus may offer a clue to the mystery of multiple sclerosis, research at the University of California, Los Angeles, Medical School suggests.

Drs. John M. Adams and David T. Imagawa published a preliminary report in the Proceedings of Experimental Biology and Medicine, Dec., 1962, of finding antibodies to measles in the spinal fluid of multiple sclerosis patients.

These antibodies are substances made by the body specifically to destroy the measles virus. They were found in the spinal fluid of more than 75 per cent of 35 multiple sclerosis patients tested. No evidence of measles antibodies was found in 50 individuals who did not have multiple sclerosis.

Spinal fluid is the liquid that bathes the central nervous system. The presence of measles antibodies in it may indicate infection by the virus of some part of the nervous system. The question is: How does a childhood disease such as measles contribute to multiple sclerosis, a disease of young adulthood?

The researchers speculate that the measles virus may be able to remain in the central nervous system indefinitely, following a measles infection, in a disguised form. In this case the virus would not put on a disguise but achieve one by taking something off.

If it sheds its protein coat, remaining in the form of infectious nucleic acid, which is the core of the virus, it might go undetected and unmolested by the body's antibody defenses. Thus, coatless measles, or immature viruses, as scientists refer to them, may multiply in the nervous system unimpeded by antibodies.

In the process of multiplication, the virus may produce both forms of virus, some with the protein coat and some without. Presence of mature virus with protein coat

stimulates antibody production, which could account for measles antibodies in the spinal fluid.

The disguised virus may be responsible for progressive destruction of the myelin sheath surrounding nerves. Multiple sclerosis is characterized by loss of the myelin sheath around the nerves. Measles virus injected into mice will cause destruction of this sheath.

The evidence is all indirect, Dr. Adams emphasizes, and there is nothing to implicate definitely the measles virus in multiple sclerosis. These are promising new leads to a long-standing puzzle.

• Science News Letter, 83:27 January 12, 1963

**PUBLIC HEALTH**

**Home Treatment of TB In 70 Alaskan Villages**

➤ A PIONEERING health project in 70 Alaskan villages where drug treatment at home reduced the tuberculosis epidemic is offered as a model public health procedure in Public Health Reports (Dec.).

In many parts of the world conditions are similar to those existing in Alaska where home treatment at first served as a substitute for hospitalization.

Dr. George W. Comstock of the tuberculosis branch of the U.S. Public Health Service and Merilyns E. Porter, a public health nurse now in San Francisco, described the beginning of the project when day-to-day medical care was administered by the school teacher, aided by radio consultation with a doctor at the nearest field hospital.

About nine per cent of the village population, or 1,625 patients able to walk about, received drug treatment at home. Medical services were provided by four field hospitals located in villages, which also were headquarters for public health, education, welfare, business and transportation.

Combinations of isoniazid and sodium para-aminosalicylic acid (PAS) were given by mouth. Chest X-rays of the treated patients showed that 56 per cent became better and 13 per cent worse while they awaited hospitalization.

The first village visit was planned with assistance from the nursing supervisor, who accompanied new nurses. Along with bottles of medication, tuberculin-testing equipment and other nursing supplies, each nurse carried a sleeping bag, emergency food and extra clothing for a possible forced landing and overnight stay on the tundra.

Almost everyone in the villages, which consist usually of about 200 persons living in 30 to 40 households, cooperated in the health program. Patients, their families and neighbors, and workers at all levels in education, health and welfare helped. Now, even with enough hospital beds, home treatment is used for TB patients before and after hospitalization.

The researchers reported that although TB among Alaskan natives has receded from its almost "overwhelming prevalence" of ten years ago, it is still a major health problem. Control measures should be sufficient to allow the largely uninfected younger children to remain free of TB throughout life.

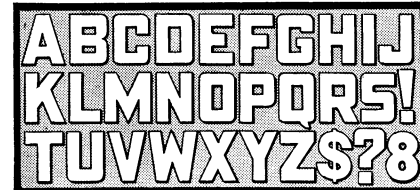
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