ZOOLOGY

Nightmare on Wings

The giant flying foxes of Australia, often with wings four feet across, descend in hoards as the moon rises, and can ruin entire plantations overnight

➤ ON WARM spring and summer nights after rain in the tropical northeastern coast of Australia, wealthy fruit-growers peer fearfully out at their rolling orchards, for these are the nights of the Flying Fox Moon.

The best known Australian animals are the egg-laying platypus and echidna and the pouched or marsupial animals such as the kangaroo and wallaby. By virtue of its isolation Australia is the stronghold of the marsupials, and the country in which they have reached their most advanced development.

Only Two Nonmarsupials

There are, however, two—and only two—groups of non-marsupial land animals that are native to Australia: rats and bats. The rats are believed to have arrived on the north coast of Australia some 10,000 years ago and to have spread throughout the land, radiating into the many species (about 40) of the present day.

Bats, too, are supposed to have migrated to Australia from northern islands such as New Guinea, Timor and New Britain. Today they form the largest group of non-marsupial mammals in Australia. The four species of flying foxes probably outnumber all the others.

Their fantastic numbers, the high organization of each colony and their voracious appetite for fruit have placed flying foxes in the black books of most Australian farmers and fruit-growers in northern coastal districts. An entire plantation of paw-paws, mangoes, avocado-pears or other tropical fruits can be ruined overnight by a colony of flying foxes.

Damage Is Localized

Some years ago a lengthy research project on flying fox behavior in tropical Australia showed that the damage is localized and that the animals are therefore a hazard only in the districts where they have their camps. Usually, they feed over a radius of 20 miles from their camp. Outside this limit fruit-trees are probably safe.

They do not eat only man-grown fruits, however. In fact, they prefer the native bush fruits which formed their diet before civilization came. But, as is often the case with animal ecology, man made their conditions better by bringing new food supplies. Orchardists in Queensland and northeastern New South Wales have substantially improved the fruit supply, and thus the living conditions, of the local flying foxes.

A flying fox camp is an unforgettable sight. Usually situated in a secluded and remote location, either in mangroves or in jungles (seldom if ever in the eucalyptus forests which predominate in Australia), it may be used continuously for half a century or more before it is abandoned.

In the camp countless giant bats cling head down to limbs and foliage, bickering constantly and fanning themselves with their long wings. The trees and the ground are covered with droppings and the forest pervaded by a sickening odor. The bats themselves are the habitat of ectoparasites which live and breed in their thick fur.

Temperatures may rise well over 100 degrees F., and the bats suffer severely from heat and overcrowding. This causes irritability, bickering and an occasional fight. Their claws rather than their sharp teeth are used when fighting.

Each camp seems to be organized with a number of scouts or sentries, probably the oldest giant bats, who will raise the alarm if an intruder approaches.

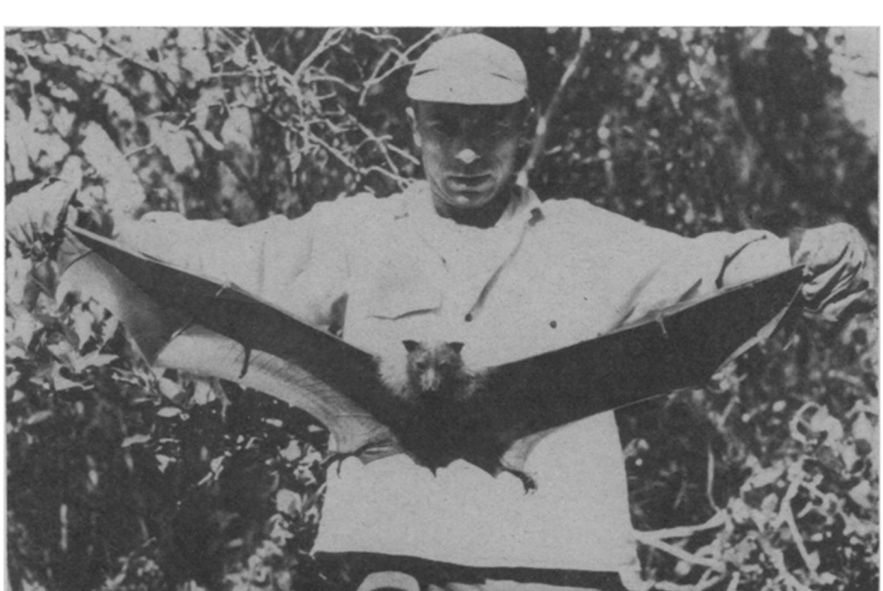
Normally, anyone can get into a camp without much trouble, but to catch a few flying foxes for research is not always easy.

The flying fox, like all bats, has sharp, hook-like claws with which the animal clings firmly to tree limbs. To dislodge it, one has a tug-of-war on his hands. One must pull with all his might as the giant bat screeches and screams, bares its sharp teeth and tries to bite while clinging tenaciously. Usually, the best method of capture is to cut off the tree limb and take it along —flying fox and all.

Shooting Expeditions Organized

In districts where flying foxes threaten fruit-growers, shooting expeditions to the bats' camps are organized. Such a shoot took place in Bundaberg two years ago.

Shooters say that killing flying foxes is not easy. After the first few shots, the giant bats panic and take to the air. Suddenly the noonday sky, spotlessly blue only seconds before, is



Australian News Service

OUT-FOXING A FLYING FOX—It is not easy to catch an irritable, clawing flying fox, as these giant fruit-eating bats are called. On warm summer nights after a rain these hungry beasts make their heaviest raids on fruit-bearing trees.

speckled with flying foxes, as more and more rise from the mangroves.

After a while, they land on another part of the mangroves along the river. The shooters, in motor boats, pursue them. They fire a few more shots and again all the bats are airborne and too high to hit.

In disorganized flights they shift to another part of the mangroves, land and hang themselves head-downwards from tree-limbs.

Some fruit-growers shoot flying foxes at night using spotlights to see them, but this, too, is an unprofitable or deficient method.

After a few shots, the winged bats are gone.

Bounties are offered—three pence a bat is paid in some Queensland shires on presentation of a pair of clawed feet—but they are too small to act as an incentive to hunters. The use of poison is discouraged.

Ordinarily, the flying foxes move out of their camps at dusk. On certain nights, mainly after rain, vast hoards of the bats can be seen flying silently overhead towards the fruit-bearing native trees and the orchards.

They are as agile as monkeys on the tree-tops, clambering up and down the limbs rapidly and easily, attacking the fruits with their sharp teeth.

The wing of a flying fox, like the wing of other bats, is really the arm on which a wide membrane has grown. The arm forms the upper support of the wing membrane, while the enormously enlarged fingers support the rest. One claw protrudes from each arm and is used for climbing, like a human climber uses a piton or steel spike. The claws in the feet are usually used for hanging, and so the head-downwards position is adopted for resting.

Few people in tropical Australia have a good word for the flying fox.

Because of the damage it may cause to fruit trees, it is not a popular animal.

But there is no doubt that things could be much worse if the flying fox were a prolific breeder. Fortunately, each female produces, as a rule, only one young at a time which she carries with her on food-getting expeditions at night.

The tribal Aborigine is perhaps the only Australian who may have a good word for the flying fox.

He eats it, as do various Pacific Islanders, and claims it to be a delicacy.

It's an ill wind. . . .

SOCIOLOGY

Birth Control vs Status

➤ THE INTIMATE link between birth control and the status of women drew comments from representatives of two countries whose attitudes toward women could hardly be more divergent—Egypt and Denmark.

In nine short months Egypt has set up birth control services in 2,200 health centers, and has now joined the ranks of some 20 other nations with national programs for fertility control, said Mrs. Aziza Hussein, Egypt's delegate to the U.N. Commission on the Status of Women.

But the program's success depends on changes in the status of Egyptian women, Mrs. Hussein told the Planned Parenthood—World Population conference in New York.

Many women, she said, "try to keep their hold over their husbands by having too many children," thus "clipping the husband's wings," so that he will feel compelled to stay with his wife.

Egyptian laws still give husbands the sole right of divorce and the right to marry more than one wife, Mrs. Hussein pointed out.

These laws are now being vigorously contested by women's organizations in Egypt.

She warned that if Egypt's population continues to grow at its present rate, the completion of the Aswan High Dam, 10 years from now, will have no effect at all on the per capita share of land—though it will increase arable land by one million acres.

In Denmark, on the other hand, birth control is a widely accepted principle. Yet, Denmark still has no general program for guiding the entire population on the use of contraceptives, Mrs. Nathalie Lind, Member of Parliament and president of the Danish Women's Association, said.

Freedom from the specter of unwanted pregnancy is essential to the liberation of women, she said.

It is the first step toward enabling the woman to "benefit from her education and create a career for herself."

Denmark has adopted the principle of equality between men and women in theory, but not yet in practice, Mrs. Lind stated.

Mrs. Lind said she would hesitate to recommend full legalized abortion as an answer to birth control.

In Denmark, abortions can be given only for medical or socio-medical reasons, never for social reasons, she emphasized.

The U.S. Ambassador to Denmark, Mrs. Katherine White, asked that the fact be stressed in order to relieve her from answering the many letters she has received from American women requesting help in setting up consultations with Danish physicians, Mrs. Lind said.

PUBLIC HEALTH

Home Heaters Blamed For Air Pollution

➤ HOME HEATING plants and backyard incinerators must share heavily in the blame for our present-day air pollution, an industry executive said.

Only 10% of the dustfall in a city like Chicago can be traced to industrial plants, said Edward C. Logelin, a vice president of United States Steel Corporation at a meeting of real estate counsellors in Lake Geneva, Wis.

"The remaining 90% is spread over such sources as traffic, open fires, wind-blown dust from the farms and prairies of the Middle West, rubbish thrown in the streets, improper fuel and faulty combustion of home heating plants," he said.

He noted that the dustfall increased tremendously in Chicago during the winter months, due to the use of home heating equipment, and said that backyard incinerators and leaf burning were major causes of pollution.

"The single incinerator in your backyard or mine may not seem much of a menace to cleaner air," he said. "Multiply them by thousands, however, and toss in smoldering bonfires of garden and other refuse, and you have quite a problem in air pollution; one which, in fact, makes industrial air pollution control simple by comparison."

Mr. Logelin called for a concerted effort on the part of householders, industry, municipalities and public institutions to bring about effective air pollution control. He cited a recent Cleaner Air Week program in Chicago as an example of an attempt to make the public aware of the necessity of clean air.

GENERAL SCIENCE

Science Magazine Issued In Spanish for Schools

➤ SCIENCE students in U.S. high schools who do not have good command of English will be able to pursue their interests by reading a new magazine published in Spanish.

"Revista iberoamericana de Educacion Quimica," called an "experiment" in science education, will carry a collection of articles from several magazines including Chemistry, Journal of Chemical Education, Chemical and Engineering News and probably original articles in future issues.

Quarterly Publication of Educacion Quimica is directed by the American Chemical Society under a grant from the National Science Foundation and the U.S. Agency for International Development.

Prof. Jose Gomez-Ibanez of Wesleyan University, Middletown, Conn., is the editorial director of the program.