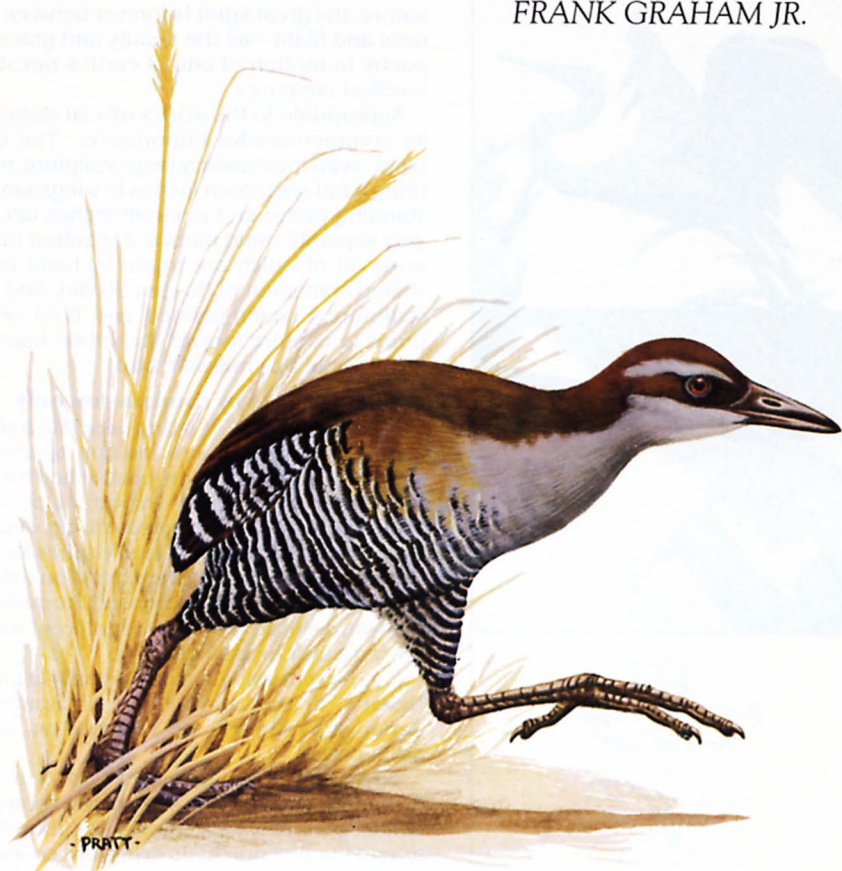


## BIRDLAND

## A Silence on Guam

FRANK GRAHAM JR.



*Flightless Koko or Guam rail: inevitable demise? (Paintings by H. Douglas Pratt)*

**T**HE POSSIBILITY of ultimate desolation lives with most of us today, mainly as a fear, a vague foreboding, though what guise it may come in is hard to imagine. Over the centuries the poets and their spiritual kin have dealt with it most vividly by setting a scene that is suddenly and mysteriously bereft of birds. There are no more chilling lines in English literature than Keats' "The sedge has withered from the lake, / And no birds sing." This is the prospect facing the people of Guam.

There are other recent incidents of birds' abruptly deserting an area—at Christmas Island in the central Pacific, for example, where thousands of seabirds abandoned their nestlings last year in a phenomenon scientists believe may be linked to one of the periodic changes in water currents and temperatures that disrupt fishing in the Pacific. Presumably, birds will return to the atoll when conditions are favorable for good fishing. The picture on Guam seems to be far different.

"Our entire native forest avifauna has retreated to the extreme northern part of the island and is declining before our eyes," says Robert Beck of Guam's Division of Aquatic and Wildlife Resources. "It is a situation without historical precedent. The birds will likely be going extinct in the next year or two." There is a feeling of helplessness among the island's scientists because, despite the urgency of reversing the crash, no one has yet found an explanation for it. The decline has occurred with startling suddenness, involving not simply a few closely related species but a broad range of avian families comprising all of the native forest birds. The U.S. government's Endangered Species Act, which theoretically is to be available for an emergency of this kind, has not been a factor because of what appears to be excessive foot-dragging in Washington.

"Over the past several decades habitat loss, introduced predators, war, pesticides, and hunting have probably all played a role in the gradual decline of our birds," Beck says. "But in the ab-

sence of a similar decline of the birds on our neighboring islands such as Saipan and Tinian, where physical conditions are much the same, the causes of the disaster here are still a mystery."

Guam, the southernmost of the Mariana Islands in the western Pacific, is a U.S. territory and an important military base. "Discovered" by Magellan in 1521 (though found and settled somewhat earlier by Micronesian people called Chamorros), the island was a Spanish colony until ceded to the United States in 1898. It is about thirty miles long, volcanic and mountainous in the south and partly covered by climax forest in the north. There are about 100,000 residents on Guam, chiefly of Micronesian or Oriental descent.

Birds restricted to certain islands, where their populations are naturally limited and their life cycles adapted to a narrow range of habitats, are especially vulnerable to extinction. Three species—Marianas mallard, nightingale reed warbler, and white-browed rail—disappeared from Guam in the 1960s, though local biologists believe there is no connection between those extirpations and the present crisis.

Despite its limited size, Guam has an interesting avifauna. Observers have recorded ninety species there, most of them migrants or vagrants. There are twenty-four resident species, seven of them introduced by humans in the modern era, but it is only native forest birds that have been hit by the mysterious catastrophe.

Koko, a Chamorro name for the Guam rail, was originally the object of most concern. It is found nowhere else in the world. After colonizing the island in the distant past, Koko lost the power of flight. Flightless rails make up a significant part of the recent extinction list for birds, two notable examples being the Laysan and Wake Island rails, both of which were casualties of World War II. Koko is now the only surviving endemic rail in Micronesia. It once inhabited every part of Guam and was hunted as a game bird until the mid-1970s.

"Roadside counts conducted since the early 1960s and station counts since



PRATT

*Rufous-fronted fantail: no apparent cause for a dramatic collapse of many species.*

1978 have been invaluable in providing a quantitative means of showing the alarming decline of Guam's native forest birds," writes Celestino Aguon, another biologist on Guam. "In the early 1970s the Koko population began to decline. Although the northern population seemed stable, the southern population, which once recorded twenty or more Koko per hundred miles traveled, recorded less than one bird per hundred miles in 1976. Because of such low counts, the southern route was discontinued and a north-central route was established. In the first year of roadside counts along the north-central route, a mean of 129.4 Koko per hundred miles was recorded. In 1982, a mean of only 0.3 birds per hundred miles was observed. In a period of six years the north-central population of Koko dropped over 99.8 percent."

**A**T FIRST GLANCE those figures might be accepted as merely the inevitable footnotes to the demise of another flightless rail. But there was nothing expected about the similar precipitous decline of the bridled white-eye. There are about eighty species of white-eyes, small, yellowish-green birds, most of them wearing prominent white rings around their eyes. They are found

all across the Old World tropics, from Africa through southern Asia to the Pacific islands. In most cases they are vigorous species, known to expand their ranges even over vast stretches of ocean. A subspecies of the bridled white-eye is endemic to Guam, while other races are still common on Saipan and elsewhere in the Mariana and Caroline islands. The large, active flocks that once were omnipresent on Guam are reduced to the vanishing point.

"It is now our most endangered bird," Bob Beck says. "In early February of this year we conducted a survey and attempted an *absolute* count. We concluded that there were less than fifty birds left. We repeated this count in March and were able to locate only six birds! So it appears that the white-eye is really on the way out."

Other species in serious trouble are:

✓ Marianas fruit dove, a handsome bird with its purple cap, yellow-and-orange breast, and tail band of bright yellow, designated by Guam as its "territorial bird."

✓ Micronesian kingfisher, which is distinguished from the fish-eating members of its family by a broader, more flattened bill. It feeds on insects, lizards, and crabs.

✓ Rufous-fronted fantail, an Old

World flycatcher closely related to the Willie wagtail of Australia.

✓ Cardinal honeyeater, one of the island's sweetest singers. Local ornithologists are painfully aware it is related to the several species of o-o that became extinct in Hawaii.

✓ Guam broadbill, of which Beck reports: "Last year our surveys turned up only fifty-four broadbills, which was discouraging enough. This year we located three." Like Koko and the Marianas crow, this species exists only on Guam.

✓ Marianas gallinule, a subspecies of the cosmopolitan common gallinule, or moorhen.

✓ Micronesian starling, an inoffensive species that molests neither crops nor buildings.

✓ White-throated ground dove, which, perversely, spends most of its time in trees.

✓ Marianas crow, often shot because of a local belief that anyone who hears its call will get sick.

✓ Vanikoro swiftlet, one of the cave swiftlets of the Indo-Australian and western Pacific regions, whose saliva nests are used by Orientals in brewing a much-esteemed consommé. This subspecies, which is endemic to the Marianas, once crowded into Guam's caves by the thousands but numbers less than a hundred on the island today.

The surveys and studies go on, though researchers have found no cause



PRATT

*Micronesian kingfisher: unusual bill.*

or combination of causes to account for this dramatic collapse in a varied complex of birds. Although pesticides might have affected certain species in the past, there is no evidence that they pose a serious problem now. Over-hunting has never threatened most of these species. Severe typhoons struck the island in 1962 and 1976, but all of these birds evolved in the face of Pacific storms. Some observers suspect loss of habitat as a critical element, but large patches of suitable forest are utterly devoid of birdlife; on Saipan, where much of the native forest has been reduced to scrub, birds are abundant.

Still a prime target of suspicion are the many predators brought to the island by humans, including rats, pigs, dogs, feral cats, a three-foot monitor lizard, and a brown tree snake that apparently arrived concealed in military shipments from southeast Asia about 1947.

"We did a series of experiments using the eggs and chicks of domestic fowl on Rota, an island near Guam that has no snakes," Beck says. "We found more predation there than on Guam itself, which makes us think the tree snake isn't the villain after all."

Diseases remain a fertile field for investigation. Tropical mosquitoes that were brought into Hawaii by the white settlers served as vectors in spreading avian malaria and other diseases that have been implicated in the disappearance of some native species in those islands.

"So far everything has turned up negative," says Lou Sileo, a biologist at the National Wildlife Health Laboratory, maintained by the U.S. Fish and Wildlife Service in Madison, Wisconsin. "Researchers have shipped us frozen carcasses and blood smears from different species, introduced birds as well as the endemics. We want to see if there is a reservoir of disease among the introduced birds. I'll go to Guam late this summer for further studies that can be done only on the scene."

The process within the Fish and Wildlife Service for moving birds onto the Endangered Species List (thus throwing the full weight of the federal government into the struggle against extinction) has almost come to a halt under the Reagan Administration. Meanwhile, several zoos in the United States express interest in mounting a captive-breeding program for Koko and some of the other beleaguered birds. Can the day be far off when the entirety of Guam's forest birdsong resounds within the confines of a city almost half a world away? ▲

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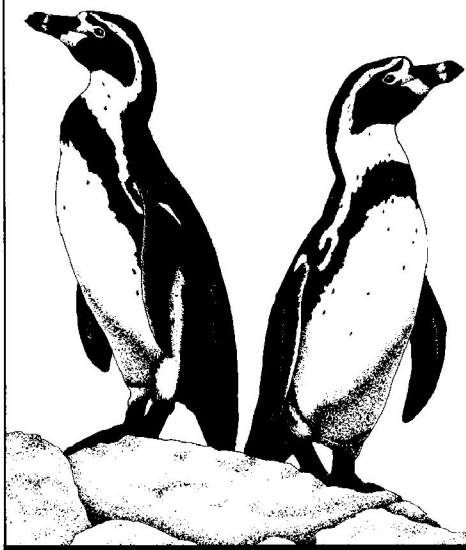
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