

Birds of Micronesia

The word Micronesia is derived from the Greek words "mikros" meaning small and "nesos" meaning island, and is an apt description for the region in the far western Pacific stretching approximately from the Equator to the Tropic of Cancer and from the International Date Line to 130 degrees east.

Although Micronesia encompasses an area of almost three million square miles (equivalent to the size of continental USA), the combined land area of all its 2,000 or so islands amounts to less than 775 square miles. For the most part, the islands are too small to be included on a standard-sized map of the world!

The Micronesian islands fall into four rather loosely defined, geographic groups: the Mariana Islands, the Caroline Islands, the Marshall Islands and the Gilbert Islands. These island groups are divided, in turn, into six separate political units: Guam and the Northern Mariana Islands, Palau and the Federated States of Micronesia, the Mar-

shall Islands and Kiribati. Apart from Kiribati (once a U.K. protectorate), all the other island nations were formerly outlying territories of the United States and are currently in varying stages of independence.

The Federated States of Micronesia

The Federated States of Micronesia became an independent nation in close association with the United States in 1986. Consisting of 607 islands with a total land area of 257 square miles, most of the islands are tiny coral atolls. The islands are divided into four states: Kosrae, Pohnpei, Truk and Yap—these names being derived from the main islands within each state. Pohnpei is the largest island at 129 square miles and is the capital. The total population of the Federated States is 94,000.





General Geography and Biology

All islands in Micronesia are oceanic. That is to say that they have never been connected to the Asiatic continent or to other land masses by means of land bridges. Thus all indigenous wildlife originally arrived by sea or air. It is not surprising, therefore, that few terrestrial vertebrates have gained a foothold in this remote region, fruit bats (*Pteropus* spp) and sheath-tailed bats (*Emballonura* spp) being the only native mammals.

The Micronesian islands fall into two main types: the low coralline atolls, usually no more than several feet in elevation, and the higher volcanic elevations (the highest peak in Micronesia being Totolom on Pohnpei at 2,595 feet). The atolls are usually covered with brushy forest dominated by coconuts, while the larger, higher islands support several habitat types including well developed native forest (especially at the higher elevations in the interior), mangroves in sheltered bays, agricultural forest around villages (chiefly coconut and breadfruit), scrubby secondary forest, grassy savannas and a few marshes.

Some Bird Statistics

Given its tiny size and extreme isolation, one might expect the bird life of the Federated States of Micronesia to be rather sparse. In fact, the islands are home to 26 different species of native landbirds and harbor a further 11 species of breeding seabirds. Of the landbirds, 13 species are endemic, i.e. they are found only on the islands within the political unit. Of these 13 endemic species, seven are confined to a single island (five species found only on Pohnpei and two species found only on Truk).

Profile of Two Species

. . . the Micronesian Kingfisher

The Micronesian kingfisher (*Halcyon cinnamomina*) is found only on Pohnpei in the Federated States of Micronesia, but also occurs on Guam and Palau. There are three different subspecies: *reichenbachii* (Pohnpei), *cinnamomina* (Guam) and *pelewensis* (Palau). The different races vary in size (8 - 9½ inches), the race on Pohnpei being the intermediate of the three. There are also slight differences

in plumage. The kingfishers on Pohnpei are white below with a blue black eyestripe, and a rusty cinnamon crown. Juveniles are rusty cinnamon below (as are juvenile and male Guam birds) and have cinnamon edging to some of their blue wing and back feathers. Palau birds and female Guam birds are similar to the Pohnpei adults but with no distinct juvenile plumage.

The Micronesian kingfisher is a forest bird preying upon small animals such as insects and worms. They rarely fly high and so are difficult to see, normally sitting quietly for long periods, but then darting out after flying insects or dropping to the ground for a lizard. The call is usually made from the concealment of dense shrubbery and consists of a harsh *tchip-weer* or *skreer* and a loud *kewp-kewp-kewp-kewp*.

. . . and the Micronesian Pigeon

The Micronesian pigeon (*Ducula oceanica*) is found throughout the Federated States of Micronesia and also occurs in Palau and the Marshall Islands. There are five distinct subspecies: *monacha* (Yap and Palau), *teraokai* (Truk), *townsendi* (Pohnpei), *oceanica* (Kosrae and the Marshall Islands), and *ratakensis* (also the Marshall Islands). The different races vary chiefly in the color of the crown and hind neck.

The Micronesian pigeon is a large pigeon, measuring 16 inches in total, from head to tail. The

A. & B.

Not all Micronesian kingfishers have the same plumage. Individuals can be white, rusty cinnamon, or both white and rusty cinnamon below depending on subspecies, sex and age. The male (left) and female (right) shown here are of the Guam race.

C.

In the northwestern Pacific island home, the Micronesian pigeon prefers the dense forest canopy where it feeds on various fruits and large fleshy seeds.

D.

Because it is so tasty, the Micronesian pigeon is exposed to considerable hunting in parts of its Pacific island home. As a result, it is a shy and secretive bird, and is most likely to be seen only in flight.

E.

The Micronesian kingfisher is a forest bird and rarely flies very high. It generally uses a hole in a tree trunk as a nesting site and preys on small animals such as insects and worms.



A.



Photo: Animals Animals/Michael Dick

B.



Photo: Animals Animals/Michael Dick

C.



Photo: H. Douglas Pratt

D.



Photo: H. Douglas Pratt

E.

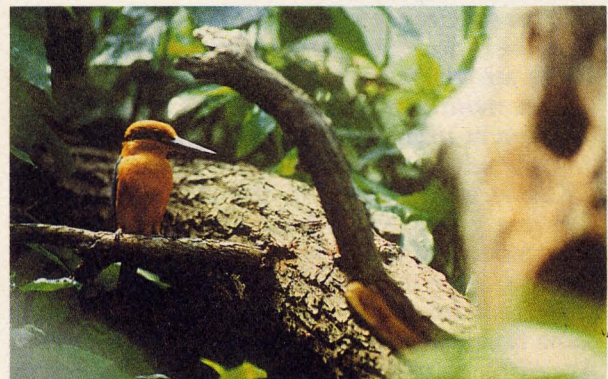


Photo: New York Zoological Society



adults have a small round bump on top of the bill of unknown function. It is a smart looking bird with a grey head (various shades depending on subspecies) and bib, rusty chestnut underparts and a black back, wings and tail. In the light the black feathers gleam with a green or brown iridescence.

The pigeon lives in the canopy of dense forest on high islands or in the coconut plantations on atolls, where it feeds on fruit and large fleshy seeds, freely swallowing fruits with stones up to almost one inch in diameter and often hanging upside down to get at choice morsels. It is a solitary, shy and secretive bird and is most likely to be seen in flight, which is steady with deep heron-like wingbeats. The pigeon's call has been likened to the barking of sea lions, being a loud hoarse *grow-row-row-ow* which accelerates and drops in pitch. Sometimes a series of mellow hoots all on the same pitch is also heard.

Extinctions in Micronesia

Over 90 percent of bird extinctions during historic times (i.e. since 1600) have occurred on islands (as opposed to continents) with the largest number of documented extinctions (51 species in total) occurring on islands in the Pacific region. The major cause of these extinctions is the effect of exotic animal species introduced by man. Species evolving on tiny islands are especially vulnerable to the habitat changes caused by introduced herbivores, such as deer and rabbits. They are also unused to coping with the predator pressure from introduced carnivores such as cats and rats. Hunting is also a significant factor, and habitat destruction is playing an increasingly important part. Collecting specimens has been a contributory factor for some species.

Three species are known to have become extinct from the Federated States of Micronesia since 1600. These are the Kosrae crake (*Porzana monasa*), the Kosrae mountain starling (*Aplonis corvina*), both last seen in 1828, and the Pohnpei mountain starling (*A. pelzelni*) last reliably reported in 1956.

Kosrae island, lying to the east of the main Caroline group was a favorite resting place for whalers during the early years of the nineteenth century. Here they would beach their ships and strip them down for cleaning or repair, and at the same time inadvertently release their ship's rats. An early naturalist, F.H. von Kittlitz, visiting

Kosrae in 1828, collected specimens of the crake and the starling and placed them in the Leningrad museum—these birds have never been seen alive again. It is likely that the whaler's rats brought about the demise of the Kosrae crake and mountain starling. The Pohnpei mountain starling is a more recent extinction. It appears to have declined drastically since 1932 when 59 specimens were collected. The last specimen was taken in 1956, and in 1983 the species was not located during a survey of the island. The interior of the island is still forested and no convincing reason can be found for its disappearance.

Birds Threatened with Extinction

There are three species which are thought to be in danger in the Federated States of Micronesia. One is the Truk monarch (*Metabolus rugensis*) which is confined to the high islands and a few low islets within the lagoon of Truk. Although the species appears to be recovering compared to earlier status reports, there is still a threat from deforestation. A second threatened species is the great Truk white-eye (*Rukia ruki*) which occurs on Tol, Polle, Onei and Pata in the lagoon of Truk. It is rare on all these islands except Tol where an important remnant of original forest is found around the summit Mt. Winibot. The cause of this species' scarcity on the other islands is unknown,

A.

In common with all kingfishers, the young Micronesian kingfishers are typical nest "resters." Lacking warming plumage and with closed eyelids for the first few days, they are fully dependent on their parents.

B.

A characteristic feature of the Micronesian pigeon is a small round bump on top of the bill, the function of which is not yet known.

C.

The Micronesian kingfisher (*Halcyon cinnamomina*) often sits quietly for long periods on one of its lookouts, then suddenly darts out after flying insects or drops to the ground for a lizard. (Picture: juvenile of the Pohnpei race).

D.

Frequent rainfalls (measurable precipitation occurs 300 days per year) ensure lush tropical vegetation which covers the volcanic islands of Pohnpei, where the administrative center of the Federated States of Micronesia is located. Unfortunately, there are currently no protected areas for the benefit of the native flora and fauna either on Pohnpei or on any other island in the federation.

A.



Photo: Animals Animals/Michael Dick

B.



Photo: H. Douglas Pratt

C.



Photo: H. Douglas Pratt

D.



Photo: H. Douglas Pratt

although disturbance of the indigenous forest is undoubtedly important. The third threatened species is the great Pohnpei white-eye (*R. longirostra*), although a survey in 1983 found it to be more common than once thought.

The Micronesian pigeon and the Micronesian kingfisher are not currently considered threatened with extinction, although the former is rare on Truk and to a lesser extent on Pohnpei. The chief threat to the pigeon is probably hunting, given its size, and the bird's shyness is probably a result of exposure to hunting. Indeed during the 1930s, when the islands were under Japanese rule, several Japanese made a livelihood as professional pigeon hunters on Pohnpei, averaging 75-100 pigeons a day.

Conservation in Micronesia

There are currently no protected areas in the Federated States of Micronesia. It could be argued that perhaps there is no need as, compared to many nations, the wildlife does not appear to be suffering unduly. But there have already been warnings from the past that all is not well — from the two bird extinctions last century and the more recent one in 1956. In addition, a further three species have been listed as threatened by the International Council for Bird Preservation, the organization which monitors the status of birds worldwide. This amounts to 23 percent of the native land birds either extinct or possibly threatened.

The rate of human population growth in the Federated States is among the highest in the world. This growth means more land is cleared for agriculture and community development. Thus on Pohnpei garden plots are placed farther and farther into the interior forests each year, leaving less available habitat for the wildlife and birds. Tourism adds to the population and development pressure and is becoming increasingly important as an economic source. So much so that in 1983 a new airport capable of handling large jets was completed at Kosrae.

In the old days the subsistence culture on the islands resulted in a balance with the natural environment. Today advanced technology increases the pressure on resources, not only by removing and degrading the land, but by the improved efficiency of modern equipment. Firearms and power

boats are two of the more obvious innovations leading to the overharvesting and disruption of bird populations like the Micronesian pigeon. There is an obvious need to set up reserves in the Federated States of Micronesia now, so that haphazard development does not totally destroy the habitat and so result in the extinction of more beautiful birds.

The Cachet Artist: Dr. H. Douglas Pratt



"I can't tell you why," Dr. H. Douglas Pratt states. "I've always been fascinated with birds. Even as a child I would get up in the middle of the night, read about them, draw them." This early interest in birds eventually led Dr. Pratt

to his Ph.D. in ornithology and to a career which combines scientific study, education and art. He has conducted many research expeditions and several nature tours to Micronesia and has authored and co-authored a number of scientific studies concerning the birds and wildlife of Micronesia. His illustrations have appeared in numerous publications, including *National Geographic*, *Encyclopaedia Britannica* and *Audubon*. Additionally, Dr. Pratt is co-author and illustrator of a field guide to the birds of Hawaii and the tropical Pacific. When not conducting field work or leading nature study groups in the Pacific, Dr. Pratt resides in Louisiana.