

Recent Sightings of the Micronesian Megapode on Tinian, Mariana Islands

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Abstract—The Micronesian Megapode (*Megapodius laperouse laperouse*) was once extant throughout the Mariana Islands. On Tinian, prior to 1995, it had only been reliably sighted once this century. From November 1994 to August 1995, five transects were monitored on military-leased land in areas where megapodes were reported to have been seen by local residents. No megapodes were detected during the surveys, however, there were three different individual sightings in April-June 1995. The sightings were in the Maga, Bateha, and Mt. Lasu areas. One megapode was observed for 5 hours, during which time the bird foraged on the forest floor and in trees, rested, and dusted.

Introduction

Historically, the Micronesian Megapode was known to occur on all of the Mariana Islands with the possible exception of Farallon de Medinilla (Reichel & Glass 1991). The species apparently disappeared from Guam, Rota, Saipan, and Tinian 60-100 years ago (Baker 1951, Owen 1974). In recent years, megapodes have been located in native limestone forests on Aguiguan, Saipan, and Tinian (Wiles et al. 1987, Craig et al. 1992, Stinson & Glass 1992).

In 1970 the U.S. Fish and Wildlife Service (USFWS) listed the megapode on the U.S. Endangered Species List throughout its range (USFWS 1970). Possible causes for the decline of the species have been suggested: hunting of adult birds by humans (Engbring & Pratt 1985); predation of nests by humans, monitor lizards (*Varanus indicus*), and feral animals (pigs, *Sus scrofa*; dogs, *Canis familiaris*; cats, *Felis catus*) (Baker 1951, Greenway 1967, Falanruw 1975); agricultural development (Greenway 1967); and destruction of habitat by feral ungulates, primarily cattle (*Bos taurus*) (Lemke 1984).

The U.S. Navy leases the northern half of Tinian (15° 00' N, 145° 38' E) for training exercises. In 1994 they contracted with the USFWS to fund a study of five endangered species on the island, including the Micronesian Megapode. Since there had been only one confirmed sighting of the megapode in recent history (Wiles et al. 1987), systematic surveys were conducted on the

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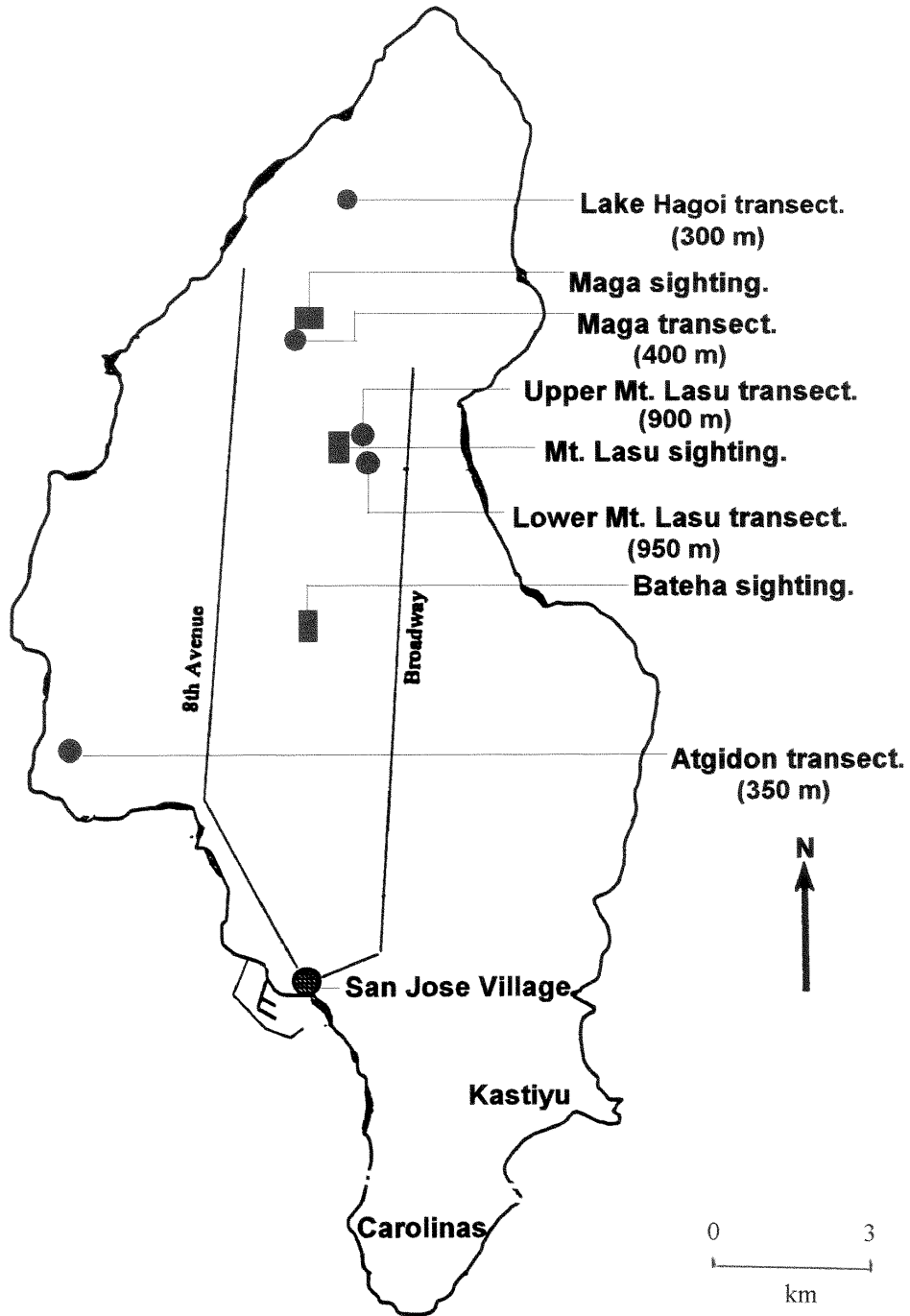


Figure 1. Map of Tinian, Mariana Islands. Transect locations (November 1994-August 1995) and sighting locations (April-June 1995) for the Micronesian Megapode

military-leased land to try to determine if there was a viable population remaining on the island.

Methods

In September 1994, five transects of varying length (Fig. 1) were established with observation stations every 50 m. Four of the transects (Upper and Lower Mt. Lasu, Maga, and Atgidon) were located in native limestone forest, and one (Lake Hagoi) was located in a previously disturbed area where local residents reported seeing megapodes (Fig. 1). At each station a 2-3 minute megapode vocalization recording was played at 70-80 decibels to attract birds or elicit their calls. After 3-5 minutes the observer would slowly walk to the next station. Transects were monitored monthly from November 1994 to August 1995 from 0530-0910 hr. Pratt & Bruner (1978) indicate that the species is most vocal shortly after dawn, and falls silent after mid-morning. A complete description of the transects and their locations appears in O'Daniel et al. (1996).

Results

Approximately 58 hours were spent searching for megapodes. No megapodes were detected, either vocally or visually, during the monthly surveys, however three separate incidental sightings of single birds were recorded in 1995. These occurred at Maga, Mt. Lasu, and Bateha (Fig. 1). Details of these sightings are provided below.

MAGA

On 26 April 1995, a team of archaeologists (D. Dillon, M. Donham, M. Holderby, and S. Smith) doing survey work in limestone forest sighted a "chicken-like" bird which they reported as being a Micronesian Megapode. The bird flew in front of them and landed in plain sight on a low tree branch. All four men had been working in the forest on Tinian for 9 months, all had seen many feral Red Junglefowl (*Gallus gallus*). Each one, when asked separately, described the bird and pointed out the illustration of the Micronesian Megapode in Pratt et al. (1987). This is the area where Wiles et al. (1987) also saw a single megapode in 1985, at the same time of year.

BATEHA

On 12 May 1995, at 0730 hour, a Micronesian Megapode was sighted by O'Daniel and Yayoi Yamauchi in a narrow strip of native limestone forest running north-south through Bateha. The forest in this area was 5-10 m tall, the dominant species being *Guamia mariannae*, *Cynometra ramiflora*, *Premna obtusifolia*, *Ficus tinctoria*, and *Pisonia grandis*. The canopy cover was continuous and the forest was characterized by thin, rocky soil with numerous outcrops of limestone rock.

The bird was viewed through 10x binoculars. The megapode stopped approximately 30 m away at the base of a large fig tree (*Ficus tinctoria*) to forage. O'Daniel approached to within 3 m and observed the bird for approximately 1 minute. It had a dark, grayish-black body, a lighter gray head with a small crest, yellow bill, dull yellow legs and feet with oversized toes, and a very short tail. These characteristics, along with the bird's behavior, distinguished it from the Common Moorhen (*Gallinula chloropus*) and Red Junglefowl, the only two species of ground-dwelling birds on Tinian which could be mistaken for megapodes.

At 0830 hr O'Daniel returned to the place where the megapode was last seen. She walked slowly 50 m north (the direction the bird was headed when last seen), stopped, and played a megapode vocalization recording for 1 minute. Approximately 1 minute later, the megapode was sighted walking toward O'Daniel, who followed the bird through the forest for 5 hours, documenting its behavior. Her presence did not seem to be detected by the bird.

The megapode continued to forage on the forest floor, traveling 3-10 m between places where it would stop and vigorously scratch the ground with its feet. At 1018 hr, it flew into a low tree where it preened for several minutes and then rested on a dead 7-8 cm diameter horizontal branch 3 m off the ground until 1120 hr. After resting, it foraged for 4 minutes on the branch, scratching the branch with its feet and eating, presumably small invertebrates. It then hopped and flew to a large adjacent tree where it foraged for 45 minutes 5 m off the ground in an abandoned rat (*Rattus* sp.) nest which was approximately 0.5 m in diameter. It scratched all the nest material of leaves and sticks away, apparently exposing small invertebrates for consumption.

At 1217 hr the bird flew to the forest floor where it continued to forage until 1320 hr, when it began to dust bathe. It first scratched around on the forest floor, disturbing the soil, then sat down breast first and ruffled its feathers several times, dusting itself. It alternated between sitting upright on the ground and with its neck and chin resting on the ground, and dusting its right side. This was achieved by stretching its feet out in front and pushing against the ground, making its body move in a tight circle along the ground. Several times it rubbed its head and neck in the soil. It continued this behavior for approximately 15 minutes. At 1340 hr, it stood up and shook its feathers once, and wandered into the secondary forest adjacent to the limestone forest.

The megapode tape was played to observe the bird's reaction as it walked away, but the recording was ignored. Further observations were discontinued as it was impossible to follow the bird into the secondary forest. During the time the megapode was observed in the limestone forest, it wandered a straight-line distance of approximately 110 m.

MT. LASU

On 2 June 1995, Howard Cole (biology instructor, Tinian High School) was hiking along the ridgeline south of the old Japanese Shrine on Mount Lasu with

five students, between the limestone forest and an area characterized by *tangan-tangan* (*Leucaena leucocephala*) trees, orchid trees (*Bauhinia* sp.), and vines, when he reported seeing a dark slate-gray bird which looked like a wild chicken, except its feet were bright yellow and uncharacteristically large. Its tail was held down and was smaller than a chicken's, and the bird walked hunched over like a guinea hen (*Numida meleagris*). The back of the head came to a point. Later that day, he recognized the bird as a megapode after reviewing his field guide (Pratt et al. 1987).

Several years before this, Cole thought he saw another megapode on the Carolinas plateau (Fig. 1), but discounted this sighting because Pratt et al. (1987) stated that the species was only a possibility on Tinian. He had read elsewhere that it had not been sighted on the island for many years.

Discussion

These observations reveal that megapodes continue to occur on Tinian, however, their population status remains questionable. It is not known if the three individual sightings were of the same or different birds, however, Maga and Mt. Lasu are relatively close, making it possible to move between them.

It is also unknown if the bird(s) were resident on Tinian or if they came from another nearby island. Megapodes are capable of flying several kilometers between islands without difficulty (Pratt & Bruner 1978, del Hoyo et al. 1994). It is possible that the bird(s) were transient, dispersing to Tinian after the breeding season on Aguiguan or Saipan, which increases in activity from September-February (Jones et al. 1995). If so, it may explain why the bird seen on 12 May 1995 was never sighted before. Both authors worked throughout the area almost daily for at least five months without seeing a megapode or structures resembling nesting mounds.

Another possibility is that a bird or birds were brought to Tinian by humans from another island, which is known to have occurred on Saipan in the recent past (Engbring et al. 1986).

Tinian still has native forest that megapodes could potentially inhabit. If these sightings are of transient birds, it is important that annual surveys be conducted, especially since the population on Aguiguan is probably larger than previously believed (Wiles, pers. comm.), increasing the likelihood of dispersal. The authors agree with Wiles et al. (1987) that an extensive survey still needs to be done in the Kastiyu area (Fig. 1), where a large tract of native limestone forest still exists.

Dusting behavior has been described for the Australian Brush-turkey (*Alectura lathami*) (del Hoyo et al. 1994). These individuals go to regularly used sites, squatting in pits, and beating their wings to throw sand and dust over their plumage. The megapode observed at Bateha was seen throwing soil in the air with its beating wings, but also circling on its side and rubbing its head and neck on the ground, similar to behavior observed in guinea fowl (O'Daniel, pers. observ.).

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