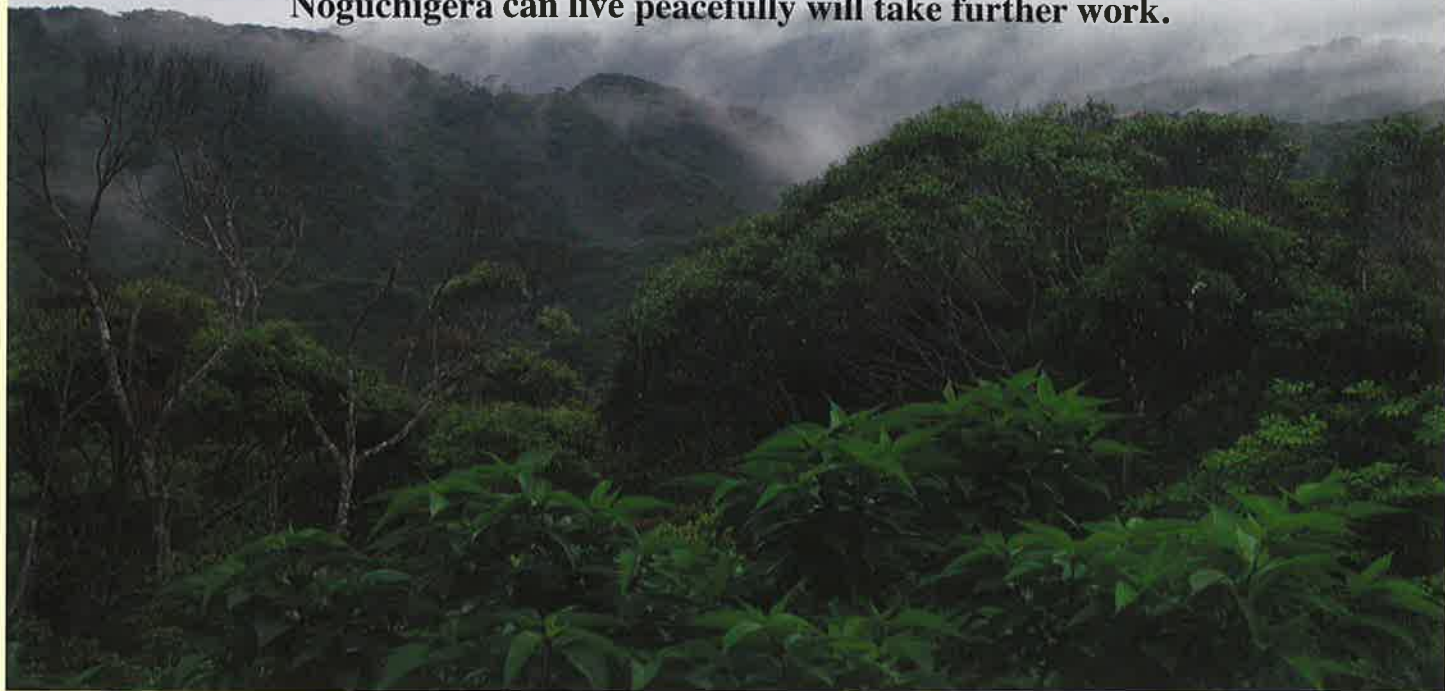


Noguchigera has lived and evolved in the forest of Yambaru and it is a treasure.

To protect and restore the environment where
Noguchigera can live peacefully will take further work.



Things We Can Do

1. Let's take out the garbage and keep the garbage secure. That may reduce the number of crows that prey on Noguchigera chicks.
2. Let's take our responsibilities to our pets seriously, caring for them and keeping them from depending on animals like the Noguchigera for food.
3. If we see Noguchigera, let's keep our distance so that we do not threaten them or their nests. Getting too close to their nests can cause the adults to leave the nest, leaving the chicks cold and hungry.



Request for Cooperation from Yambaru Wildlife Conservation Center

Please notify us if you see a Noguchigera wearing leg bands. Providing the following information will help a great deal:

【Memo】

1. Your Name, Contact Information
 2. Date you saw Noguchigera
(e.g. December 24, 2010 13:30)
 3. Where you were
(e.g. Okuma, Kunigami-son. Approx. ** meters from the entrance of Mt. Yonaha-dake.)
 4. The color of its leg bands
(e.g. Left top: orange, Left bottom: white, Right top: orange, Right bottom: metal)
- Please tell us what you know for certain and please avoid guessing.
(e.g. The left top leg band seemed white. The left bottom seemed bluish.)

Noguchigera rest
like this on forest trees.



Contact: Ministry of the Environment, "Yambaru Wildlife Conservation Center"
263-1 Hiji, Kunigami-son, Kunigami-gun, Okinawa, Japan TEL 0980-50-1025 FAX 0980-50-1026

Produced by: Ministry of the Environment, "Yambaru Wildlife Conservation Center" and "The Noguchigera Conservation and Growth-Promoting Project Group"

Supervised by: Nobuhiko Kodaka (KYUSHU RESEARCH CENTER Forestry & Forest Products Research Institute)

Cooperation: Yutaka Toguchi, "Yamashina Institute of Ornithology", "Conservation & Animal Welfare Trust" and Shigeru Matsuoka

Publication: Published in 2007 and revised in 2010



Noguchigera

(*Sapheopipo noguchii*)

~Okinawa Woodpecker Living in the Forest of Yambaru~



Scientific Name: *Sapheopipo noguchii*
English Name: Okinawa Woodpecker
Total Length: Approx. 30 centimeters (1 foot)

Nationally Designated Special Natural Monument (Cultural Assets Preservation Act)
Domestic Endangered Species (Law for Conservation of Endangered Species Wild Fauna and Flora)
Endangered Species (Ministry of the Environment Red List)
Okinawa Prefecture Bird, Village Bird of Higashi Village.

The Okinawa Woodpecker is dark brown with a beautiful red-tipped feather near its stomach that you can see in the sunlight. For generations people of Yambaru have called it "Kitatacha" or "Kichichicha," but it is known in Japan as Noguchigera.

Noguchigera in this photograph : ♀ mBWP178



Ministry of the Environment



What do we know about Noguchigera?

Noguchigera, Okinawa Woodpecker lives only in Yambaru, the northern part of Okinawa, Japan. It was pronounced a new species in 1887 and later Noguchigera became famous elsewhere in the world. Its name comes from Mr. Noguchi, who is thought to have been involved in discovering this species. Its scientific name, *Sapheopipo noguchii* means "Unique woodpecker of Mr. Noguchi."

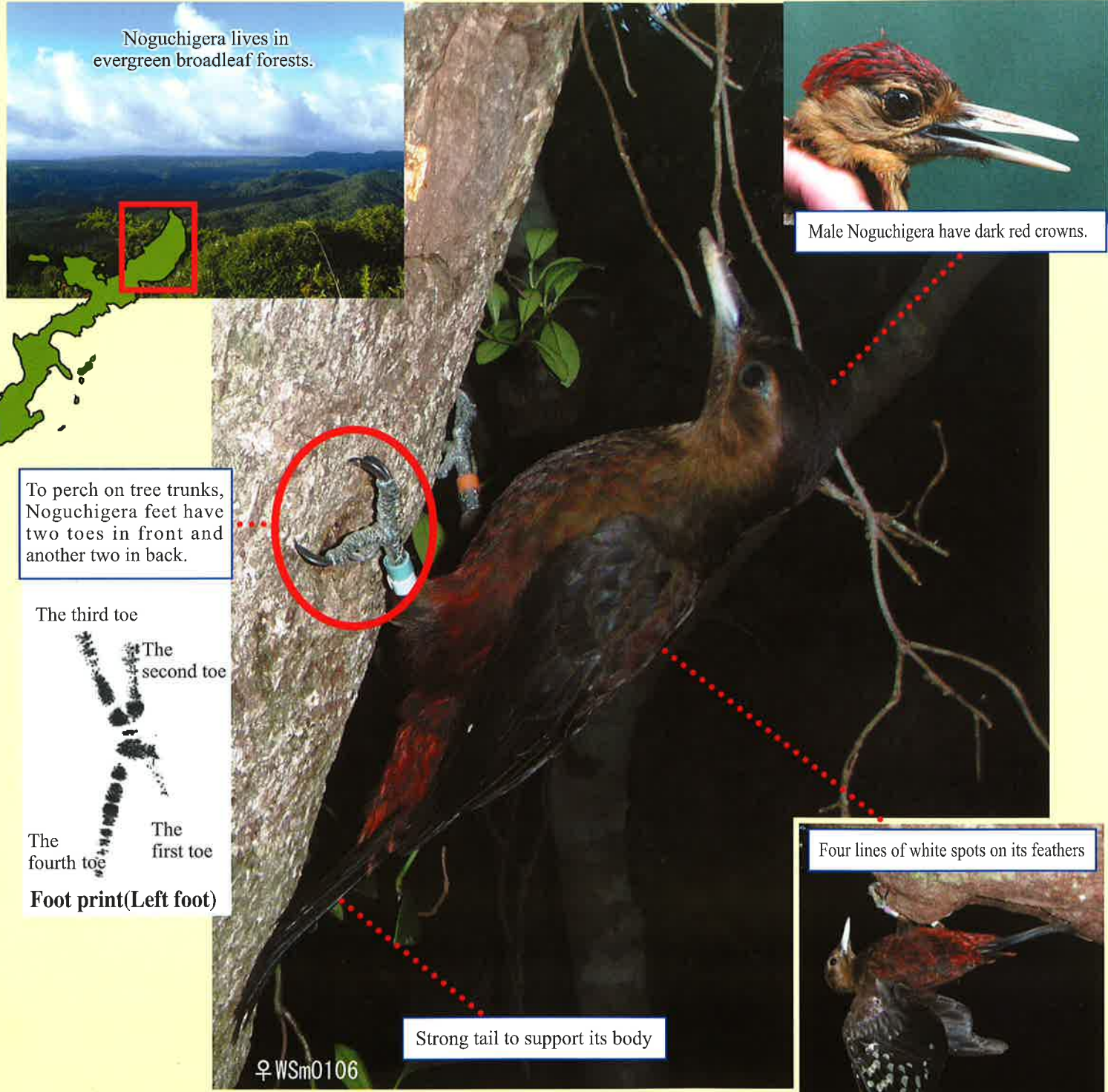
Previously, scientists estimated that about 100 Noguchigera lived in the wild; however a more thorough survey effort in the 1990's, estimated approximately 400 live in Yambaru.



Noguchigera lives in evergreen broadleaf forests.



Male Noguchigera have dark red crowns.



To perch on tree trunks, Noguchigera feet have two toes in front and another two in back.



Strong tail to support its body

♀ WSm0106



Four lines of white spots on its feathers

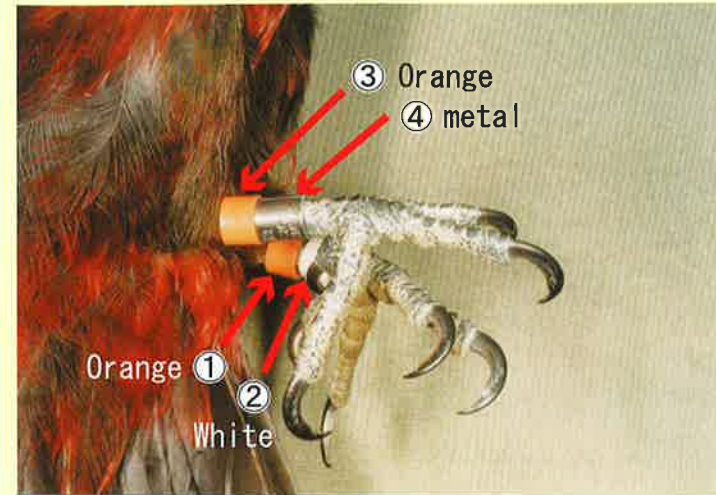


Surveying for Noguchigera

Under "Rehabilitation of natural habitats and maintenance of viable population for the Noguchigera," since March of 1999 we have attached leg bands to the Noguchigera that we identify and check on the birds with leg bands to better understand Noguchigera. Information we gather on their average lifespan, breeding activity, and community structure can help us protect them and restore their population in Yambaru.

◆ Attaching Leg Bands and Measuring Noguchigera ◆

We attach leg bands to each Noguchigera we capture. Later we can identify each Noguchigera by the unique combination of colored leg bands that we attach to each bird. As a result we can measure each bird, record how it is over time, and learn more about Noguchigera overall.



Each leg band is either made of colored plastic or metal. We record the color combination using the first English letter of each color. We list the letters in order from ①Left foot top, ②Left foot bottom, ③Right foot top, and ④Right foot bottom. For example, we use "OWOm" to identify the bird on the left.



◆ Follow-Up Research ◆

We keep track of the birds with leg bands, sometimes following the calls or drumming that Noguchigera make in the mountains where they live. When we find one with leg bands, we record the color of its leg bands and information like what it is doing when we see it, where it is, how it looks, as well as any information about its mate and how they are raising their chicks.

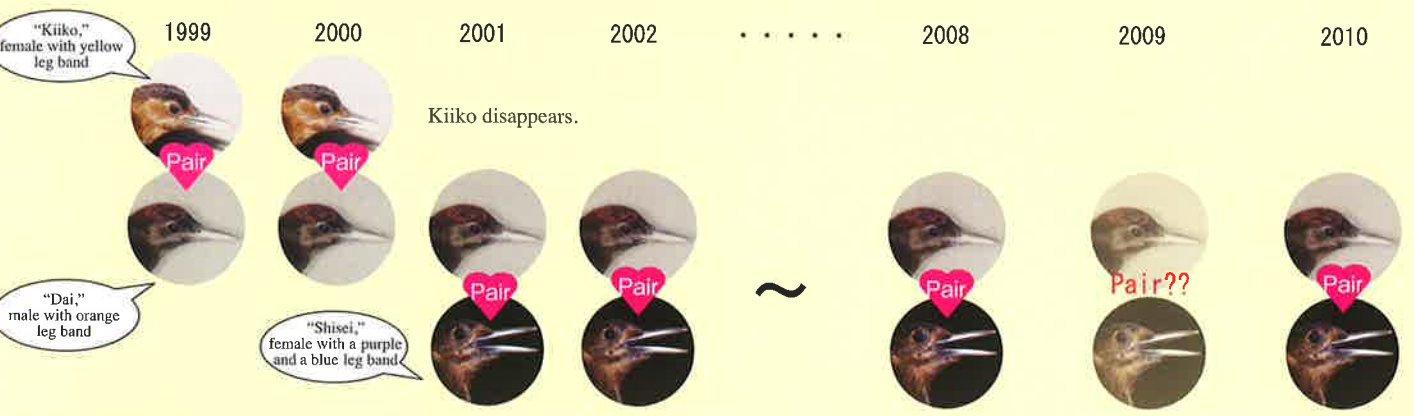
※Drumming
Families of woodpeckers make noises by knocking on trees to mark their territories or to attract a mate.



In 1999 we captured the male Noguchigera on the left. We call him "Dai" (Orange) because he wears an orange leg band. According to our follow-up research, Dai mated for ten consecutive years, from 1999 to 2008 and he also mated in 2010. The next section introduces what we have learned from watching Dai and the other birds.

Noguchigera Prefer One Mate

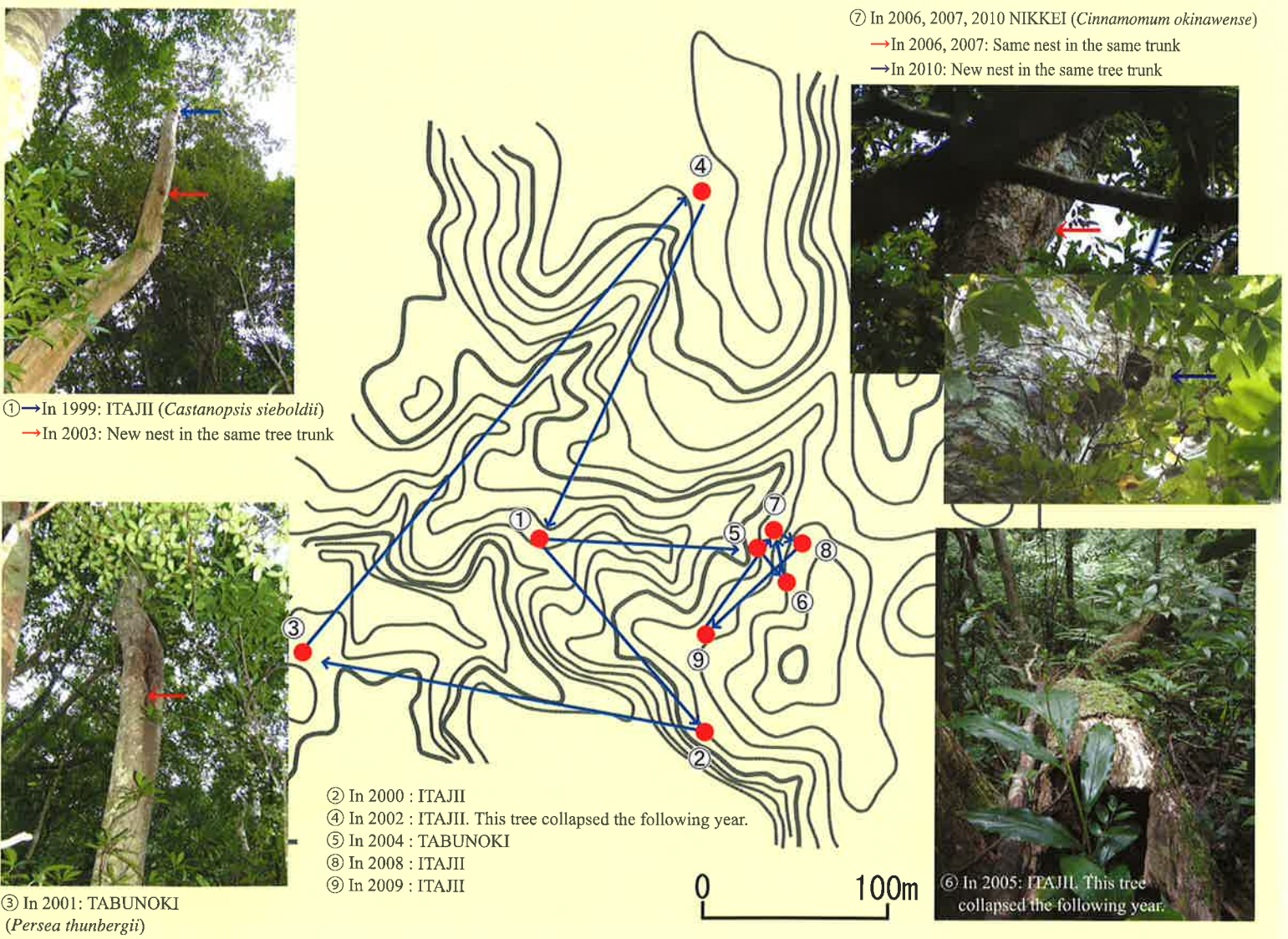
From what we saw, Noguchigera breed with the same mate each year unless that mate disappears.



※Dai mated with Kiiko in 1999 and 2000, however Kiiko disappeared in 2001. That year Dai paired up with Shisei instead. This pair succeeded in breeding from 2001 through 2008. Unfortunately, they did not breed in 2009 and we could not find the pair, but they successfully mated again in 2010 and a chick left their nest.

Moving and Making New Burrows

Noguchigera tend to settle in a small area compared to other woodpeckers of their size. From 1999-2010, Dai made burrows within approximately 4 hectares of his old burrows.



Burrows

A Noguchigera couple usually digs a burrow in the spring to prepare for the mating season. Usually they live among trees over 40 years old, burrowing into wide trees that can accommodate their nests. Noguchigera typically choose trees with diameters larger than 30 centimeters measured from about 1.3 meters above the ground. They usually dig their burrows between 3 and 6 meters above the ground, making a circular entrance about 7 centimeters wide and a hole approximately 30 to 40 centimeters deep. Making these burrows often takes several weeks to one month, however some Noguchigera have started in December and only finish at the beginning of spring.

They mainly chose to burrow into ITAJII trees, but they can also choose NIKKEI, TABUNOKI, and ISUNOKI trees. Recently, Noguchigera also nest in SENDAN(*Melia azedarach*) or RYUKYU-MATSU (*Pinus luchuensis*) in forested areas near town.



The diameter of the Noguchigera burrow in this collapsed ITAJII was 7 centimeters.



ITAJII



TABUNOKI (*Persea thunbergii*)



SENDAN (*Melia azedarach*)

Egg Laying and Hatching Chicks

After the nest is complete, the pair mates and the female lays eggs. The parents take turns warming their eggs during the day but only the male warms the eggs during the night. After 2 weeks the chicks hatch.



Yield of 4 eggs per couple



Chicks in the burrow

When they hatch, the chicks do not have all the feathers adults have, so they cannot maintain their body temperature. To help them stay warm, both parents take turns warming and feeding the chicks during the day, and only the male remains in the nest to warm the chicks at night.



A chick, looking outside of the nest.

Fledging

Chicks leave their nests 4 weeks after hatching. Of the four, often two chicks can successfully leave their nest. Young Noguchigera spend time with their parents for a while after growing their adult feathers and flying out of the nest. They become independent in autumn.

Different Food

Noguchigera feed nuts, insects and spiders to their chicks. Male Noguchigera often collect spiders and cicada nymphs in the soil, while females often search for long-horned beetle larvae in tree trunks. They can collect various kinds of food in a small area by foraging for different food in different places.



Male parent carrying centipedes



Female parent carrying a long-horned beetle larva



Male searching for food above ground



Adult male and young foraging for food above ground



Males often have dirt on their beaks because they forage for insects in the soil.

Food of Noguchigera No.1

~ KIMURA-GUMO (*Heptathela kimurai*) (Trap door spider) ~
This species digs holes in the ground and lives in them. Moss usually covers and camouflages the entrances of their homes so the holes are very hard to find.



Nest, camouflaged by moss



After Noguchigera foraged trap door spiders.

Noguchigera find these nests, pull out spiders skillfully and eat them, or feed them to their young.

Food of Noguchigera No.2



Nuts of ITAJII



~ Acorns ~
Noguchigera crack and eat the nuts of *Castanopsis* by holding them in cracks on dead trees, on the ground, or among the roots of trees so they can crack them with their beaks.



Noguchigera Evolved Unique Traits in the Forest of Yambaru

Scientists gave Noguchigera its own genus and species based on its unique color and morphology. However, DNA testing indicated that Noguchigera is genetically similar to the genus *Dendrocopos*, including AKAGERA (*Dendrocopos major*), a woodpecker that lives in Hokkaido, and on the other islands that make up Japan's main island chain and O-AKAGERA (*Dendrocopos leucotos*), a woodpecker that shares much of AKAGERA's range but also lives on Amami-oshima Island in Japan.

Among these species, however, only Noguchigera frequently forages on the ground or digs into the soil to gather insects for food. Noguchigera have evolved feather coloration very similar to the color of the forest floor that camouflages them and protects them from predators like TSUMI (*Accipiter gularis*) and HASHIBUTO-GARASU (*Corvus macrorhynchos*) that hunt from above.

Originally, there were no carnivorous mammals in Yambaru so Noguchigera had a safe environment foraging on the ground with little fear. In the past its unique digging habits and the color of its feathers helped Noguchigera thrive in the abundant natural forest of Yambaru.



Camouflaged Noguchigera on the forest floor



O-AKAGERA (*Dendrocopos leucotos*)
Photograph: Shigeru Matsuoka



Losing Habitat

It is said that around 1880 Noguchigera lived in forested areas, from Northern Okinawa, South to Mt. Onna-dake, and people frequently saw them around Mt. Nago-dake in the 1930's. However, in 2007, people only confirm Noguchigera, between Shioya Bay and Taira, in the Higashi Village area.



Changing of Noguchigera's habitats

As people have built dams that flooded forest land, created forest roads, cleared land for development, and harvested trees, this progress has diminished and fragmented Noguchigera's original habitat.



After trees were cut down



Another Problem

Today invasive alien species such as Small Indian Mongoose (*Herpestes auropunctatus*) and feral cats also live in the forest of Yambaru. Mongooses and feral cats have attacked Noguchigera.

HASHIBUTO-GARASU (*Corvus macrorhynchos*) (crows) also attack Noguchigera nests and crow populations are increasing in Okinawa.



The feather of a mongoose found in the stomach of a mongoose



A mongoose



A crow, looking inside of a Noguchigera nest