Japanese Pygmy Woodpecker Kogera (Jpn) *Dendrocopos kizuki*

Morphology and classification

Classification: Piciformes Picidae

Total length:	about 15cm	
Wing length:	♂ 76-88mm	♀ 79-91mm
Tail length:	♂ 42-57mm	♀ 46-57mm
Culmen length:	♂ 13.5-17.2mm	♀ 14.5-18.7mm
Tarsus length:	♂ 13.4-15.7mm	♀ 13.7-16.3mm
Weight:	♂ 17.8-22.8g	♀ 19.3-26.4g

Total length after Yoshii (ed. 1988), and other measurements taken by the author in the breeding period in Japan. The measurements include individuals captured from Hokkaido to Okinawa. The body size tends to be smaller in the southern regions than the northern ones from Sapporo, Hokkaido to Takachiho, Kyushu. The individuals of Amami-Oshima and Okinawa Islands are smaller than those of Kyushu. The measurements suggest that the populations of small islands, such as Miyakejima of the Izu Islands have morphological variation types different from those which the mainland populations from Hokkaido to Kyushu show according to latitudes. The details are under research.

Appearance:

Males and females are roughly similar in plumage coloration. The back and wings have brownish gray and white flecks. The abdomen is mostly white with brownish vertical stripes. The superciliary is distinctly white and the bill is black. Males have several red feathers on the side of the back of the head, which can be invisible. In juveniles the tail is short, the edge of a bill is tinged with yellow and plumage flecks are not so evident as in adults.

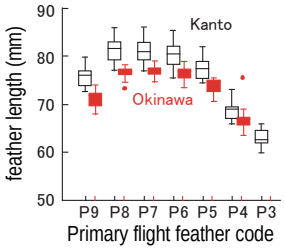


Fig. 1. Primary flight feather lengths of the populations of the Kanto region and Okinawa Island. Primary flight feathers are P9 to P3 in order from the outer of a wing.

The plumage coloration varies between regions as in the morphology. Japanese Pygmy Woodpeckers tend to look darker in the southern regions than in the northern ones, such as Hokkaido because the areas of white decrease as they go to the south.

Fig. 2. Head of a male Japanese Pygmy Woodpecker (left) and his red feather (right).

Vocalization:

Japanese Pygmy Woodpeckers utter "Ghee, giggi" or "Dzueei, Ki, ki-ki-ki-ki-ki-ki". They call "Ghee" in a soft voice when they identify each other in a pair or family. They give out "Kikki" in a sharp tone when they assert themselves.

Distribution and Habitat

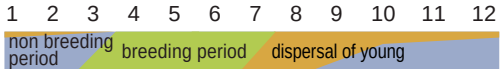
Distribution:

Japanese Pygmy Woodpeckers are distributed in most regions of Japan from Hokkaido to Okinawa, and in the Korean Peninsula, eastern China and southern Sakhalin. In Japan, they also occur in most small islands around the mainland including Iriomote Island, one of the southernmost islands of Japan, where they are assumed to be sparsely populated and therefore small in number. However, they are not found in Sado Island, Niigata Prefecture and Oshima Island of the Izu Islands, which are relatively large and wooded as well as close to the mainland. The species is classified into nine subspecies in the Check List of Birds of Japan 7th ed. (2012).

Habitat:

Japanese Pygmy Woodpeckers breed in a wide variety of woods, ranging from an urban green space to a natural forest, such as a broad-leaved deciduous forest, a broad-leaved evergreen forest, a subarctic coniferous forest and a mixed forest of coniferous and broad-leaved trees.

Life history



Nest:

Japanese Pygmy Woodpeckers usually excavate a nest hole in the dead branch of a live tree. The hole is about 15cm deep with an entrance about 3cm across. They excavate a new hole every year. They use almost no nest materials except that a few wood chips sometimes remain in a nest. Both males and females excavate a nest hole, but males mostly carry out the task.

Fig. 3. Cavity of Japanese Pygmy Woodpeckers.

Egg:

The mean egg size is 18.9mm (18.0-20.3mm) by 14.5mm (12.5-15.3mm). The weight is about 2g and the color is white with no flecks.

Incubation and nestling periods:

They lay one egg a day in the early morning. The study conducted mainly in Tokyo showed that the clutch size was mostly 3 eggs (range: 2-5 eggs). They started to incubate when they laid the last egg. The incubation and nestling periods were about 14 and 20 days, respectively. Both males and females incubated eggs and nestlings, but males did more frequently.

Post-fledging:

Juveniles usually leave the territory of their parent birds two or three months after fledging, though they sometimes remain until next March. The dispersal of juveniles is still unknown, but there is a record of the young male which nested in a tree about 130m from the nest tree he fledged the previous year in Shakujii Park, Tokyo (Fig. 4).

Fig. 4. An example of a young male dispersal (Shakujii Park in Tokyo).

Diet and foraging behavior

The diet of Japanese Pygmy Woodpeckers consists of the seeds of plants, such as *Rhus trichocarpa*, *R. javanica* and *Cornus controversa* as well as arthropods, such as insects and spiders. They generally peck at invertebrates such as insects on tree trunks, branches and leaves or under barks, or bore a small hole in trunks and branches to capture them inside. They may capture small skinks because they were observed to hold them in the bill.

Topics of ecology, behavior and conservation

● Equal division of roles between males and females and strong pair-bond

In most of the Japanese Pygmy Woodpecker pairs I measured, females exceeded males in tarsus length, wing length, weight and other measurements. The red feathers on the head that characterize males can be invisible in the field because they are short and small

♪ http://www.bird-research.jp/1_shiryo/koe/kogera_060706_mooka_mju.mp3
Mutsuyuki Ueta

♪ http://www.bird-research.jp/1_shiryo/koe/kogera_080516_utsunomiya_hirano.mp3
Toshiaki Hirano

Sumiyoshi 1-29-9, Fuchu, Tokyo, Japan

in number. It may be related to their cooperative breeding system by sharing similar roles that there is no great difference in morphology between the sexes and females which lay eggs are larger than males. In short, it is biologically reasonable that females are larger because they produce ova which are larger than sperms males produce. As a matter of fact, females are larger than males in many of the sexually reproducing species. In the species where the physical strength of males decides a dispute for females, which increases their reproductive success, males are larger than females, but it is not assumed to be an important attribute to Japanese Pygmy Woodpecker males.

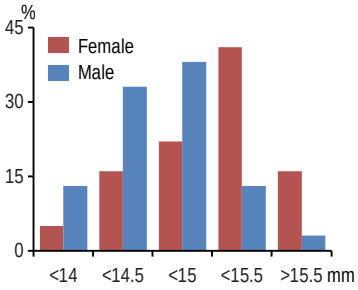


Fig. 5. Difference in tarsus length between the sexes (measured in the breeding period)

The male and female of a pair stay together, except when they roost, excavate a nest hole, and incubate eggs and nestlings. They softly whisper "Ghee ghee" very frequently when they move together. This call makes it easy to detect them. They are assumed to confirm each other by exchanging calls in this way. This call is also used in a family flock with fledglings.

Two pairs of the same individuals were confirmed to breed for three years consecutively in Tokyo (Taga 1988, Dobashi 1989). An observation showed that when one bird called "Kik-kik-kik" sharply in the treetops at daybreak, another bird flew directly to join it and then both birds began to move together.

I once kept a few Japanese Pygmy Woodpeckers and Great Spotted Woodpeckers (*Dendrocopos major*) for several years for a scientific purpose. I kept Japanese Pygmy Woodpeckers in a cage at home to take care of them everyday in most of the study period. Although the Japanese Pygmy Woodpeckers did not particularly take to me, but they called "Kik-kik-kik" to me whenever I came home unlike the Great Spotted Woodpeckers. As mentioned above, Japanese Pygmy Woodpeckers have a habit of attempting to maintain a close-knit pair relation. This habit probably made them behave like that toward a human.

Modest drumming and strong vocalization

All woodpeckers make a loud sound by beating the wood repeatedly with their bill, which is called "drumming", when they claim their territory or summon their mate. In recent years, some woodpeckers have also used the metallic part of a utility pole for drumming. Though Japanese Pygmy Woodpeckers also do the drumming, the sound does not carry a long distance because they keep the drumming modest (about 10 soft beatings per 0.4 seconds). But they shrill "Kik-kik-kik-kik", which can be heard from a distance. This call is assumed to perform a function, such as a territorial claim instead of the drumming as in the high-pitched “Pyoo” note of Japanese Green Woodpeckers (*Picus awokera*). Japanese Pygmy Woodpeckers utter this "Kik-kik" call when they make claims strongly. Nestlings may make a sound similar to this call when begging for food.

Inexplicable absence of Japanese Pygmy Woodpeckers in Ohshima of the Izu Islands and Sado Island

Though Japanese Pygmy Woodpeckers live in many islands of the Japanese Archipelago, they do not occur on Ohsima of the Izu Islands and Sado Island. Both islands have large enough woodlands for Japanese Pygmy Woodpeckers. As a matter of fact, they are commonly found in the mainland just 30km from the islands. On Sado Island, however, White-backed Woodpeckers (*D. leucotos*) and Great Spotted Woodpeckers occur which are by far larger than Japanese Pygmy Woodpeckers. In the Izu Islands, on the other hand, Japanese Pygmy Woodpeckers live on Miyakejima and Mikurajima Islands which are located at a greater distance from the mainland than Ohshima Island. Have they not settled there? Or become extinct? It is mysterious and interesting why they are absent from the islands.

Pruning of dead tree branches suitable for Japanese Pygmy Woodpecker nest hole in cities

In wooded parks and on school campuses branches with nest holes of Japanese Pygmy Woodpeckers have been also cut one after another under the pretext of safe traffic or scenic preservation. It is not uncommon for Japanese Pygmy Woodpeckers to lose their eggs or nestlings due to cutting of branches with their nest holes after they have laid eggs. Once I found Japanese Pygmy Woodpecker nestlings drowned in a pond because the nest tree fell into the water.

When I carried out a close check on dead branches in hills and mountains, I found that dead branches suitable for Japanese Pygmy Woodpecker nest holes were in shorter supply than expected, which suggests that they need a large territory (about 20ha) for a small bird to secure suitable dead branches for their nesting.

Literature

Dobashi N. 1989. Japanese Pygmy Woodpecker pairs that is individually identified and bred in Itawabshi Ward, Tokyo. Strix 8:161-168. [J+E]

Ishida K. 1997. Great Encyclopedia of Japanese Animals Vol. 4 "Birds". Heibonsha, Tokyo. [J]

Ishida K. & Taga R. 1988. The flora of Musashino wildwood and the distribution of nest holes of Japanese Pygmy Woodpeckers in Bajikoen Park, Tokyo. Strix 7:213-230. [J+E]

The Ornithological Society of Japan. 2012. Check-list of Japanese Birds (the 7th edition). [J+E]

Taga R. 1988. The nesting record of the Japanese Pygmy Woodpecker in Bajikoen Park in Tokyo. Strix 7: 291-295. [J+E]

Yoshii T. (ed.). 1988. Concise Dictionary of Bird Names. Sanseido, Tokyo. [J]

Japanese Pygmy Woodpecker Research Page of Ishida Laboratory in the University of Tokyo.
http://www.uf.a.u-tokyo.ac.jp/~ishiken/japanese/kogera/kogera.html

Languages of literature cited other than English: [J] in Japanese, [J+E] in Japanese with English summary.

Author

Ken ISHIDA the University of Tokyo

Though Japanese Pygmy Woodpeckers are my all-time favorite bird and I would like to be absorbed in their study, I am also engaged for various reasons in the ecosystem conservation and management of Amami-Ohshima Island, and research on fruition properties of *Quercus mongolica*. I have captured and studied Asian black bears and studying birds in the areas around Fukushima Daiichi Nuclear Power Plant after the accident as well. When I retired, I will set out on a study trip across Japan and east Asia, capturing and measuring Japanese Pygmy Woodpeckers and its relatives.

ishiken@es.a.u-tokyo.ac.jp