Brown-eared Bulbul Hiyodori (Jpn) *Hypsypetes amaurotis*

Morphology and classification

Classification: Passeriformes Pycnonotidae

Total length:	249-290mm
Tail length:	115.1 ± 6.4mm (106)
Wing length:	125.9 ± 5.7mm (110)
Culmen length:	30.8 ± 1.3mm (60)
Tarsus length:	22.9 ± 1.3mm (105)
Weight: :	79.9 ± 12.1mm (111)

Total length after Enomoto (1941). The other measurements (average ± SD) are by the authors in the Tsukuba City. The measured individuals include both breeding and wintering birds. Though females are slightly smaller than males, individual and regional variations are too great to distinguish clearly between sexes.

Appearance:

Both male and female are gray from the head to the back, with the wings and tail ashy brown. The ear coverts are conspicuous reddish brown. They have ashy brown vertical stripes from the chest to the belly. They tend to be paler in plumage coloration in the northern regions and darker in the southern areas. Since *Hypsitepes amaurotis amaurotis* and *H. a. magnirostris* in particular are gray but the other subspecies are dark brown on the chest, which makes it relatively easy to distinguish these two subspecies from the others (Saito 2002).

Photo. 1. Brown-eared Bulbul feeding on a cherry in a cherry tree

Distribution and Habitat

Distribution:

Brown-eared Bulbuls are distributed in Sakhalin, the southern part of the Korean Peninsula, Taiwan, northern Philipinines and Japan. The populations in Japan are classified into eight subspecies, with *H. a. amaurotis* in the four main islands including Tsushima, Yakushima, Tanegashima, the Osumi Islands and the Izu islands, *H. a. squamiceps* in the Ogasawara Islands, *H. a. magnirostris* in the Volcanic Islands, *H. a. borodinonis* in the Daito islands, *H. a. ogawae* in the Amami Islands, *H. a. pryeri* in the Okinawa and Miyako Islands, *H. a. stejnegeri* in the Yaeyama Islands excluding Yonaguni Island and *H. a. nagamichii* in Yonaguni island. It is strongly recommended, however, to review the classification of these subspecies (The Ornithological Society of Japan 2000).

Photo. 2. Hypsypetes amaurotis ogawae

Habitat:

Brown-eared Bulbuls occur in the open woods in a wide variety of habitats, such as farmland and urban areas from lowlands to considerably high mountains. They generally used to be a winter resident in urban areas. In Tokyo, however, they have started to stay in urban areas even in spring and summer since around 1968 and breed in the center of the city in the 1980s (Karasawa 1997).

Life history

Breeding system:

Brown-eared Bulbuls are monogamous and breed from May to September. There is a record of a pair which bred three times successfully in the same breeding season, but they usually attempt to breed two or three times because their first or second breeding attempt often fails due mostly to predation. It is not until July, therefore, that they generally breed successfully (Fig. 1).

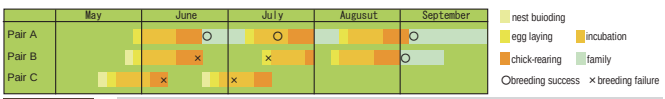

Fig. 1. Breeding patterns of Brown-eared Bulbuls.

Nest:

Brown-eared Bulbuls build a bowl-shaped nest at the fork of a branch with dense foliage at a height of 1-15m above the ground. The nest is 6-10cm in diameter and 3-6cm in depth, which is small for their body size. They use twigs and ivies for the exterior and fine grass stalks and roots for the interior. In urban areas, however, plastic strings are used for the exterior in almost all their nests.

Photo. 3. Eggs of Brown-eared Bulbuls.

Egg:

The clutch size is about four eggs (Haneda & Kobayashi 1967, Kamon 1995). The egg has brown flecks on a light purple brown ground. The egg size is about 3cm by 2cm.

Incubation and nestling periods and fledging rate:

Females chiefly incubate for 12-14 days, and both male and female raise their young. The nestlings fledge about ten days after hatching without their flight feathers fully-grown, but they stay close to the nest for several days because they cannot fly very well. The parent birds look after the fledglings for one or two months afterwards (Haneda & Kobayashi 1967, Kamon 1995). Ten pairs of Brown-eared Bulbuls attempted to breed 2.3 times per pair per year on average in the study site of Tsukuba City, Ibaraki Prefecture, central Japan. Overall, they attempted to breed 23 times and succeeded 11 times. Eight of the ten pairs fledged their young successfully. Predation was primarily responsible for their breeding failure (Kamon 1995, Tanaka 2000).

Migration:

In contrast with the other subspecies, the nominotypical subspecies *H. a. amaurotis* that occurs in the main islands of Japan migrates. It sometimes moves as far as Amami-Oshima and Okinawa Islands to winter. It is known to fly across some bays and straits in a flock of one to several hundred birds. It is also observed to migrate in a flock of several to several dozen birds throughout Japan.

Diet and foraging behavior

The diet of Brown-eared Bulbuls consists of vegetable matter, such as fruit, nectar, petals, leaves, sprouts, and animal matter, such as reptiles, insects, spiders and land snails. They also feed off breadcrumbs from people. In Tsukuba City, the food items of Brown-eared Bulbuls included 74 species (32 families) of woody plants, eight species (7 families) of herbs and 12 species (6 families) of farm crops (Yamaguchi 2004). They prefer berries, but they also eat dry fruits, and therefore their diet covers almost all kinds of fruits and nuts. In addition, they cause damage to leafy vegetables, such as Japanese mustard spinach *Brassica rapa var. perviridis* and cabbages in winter. The proportion of animal matter increases in their diet in spring and summer when insects are abundant. They are often observed to chase after large insects, such as cicadas. They mostly feed animal matter to their nestlings.

Photo. 4. Brown-eared Bulbul sucking nectar from cherry blossoms.

Topics of ecology, behavior and conservation

● Are they year-round residents, winter residents or nomads?

Since Brown-eared Bulbuls are vocal and conspicuous birds, it is relatively easy to estimate their abundance with censuses. Figure 2 shows the annual fluctuation in the number of bulbuls in the Tsukuba

♪ http://www.bird-research.jp/1_shiryo/koe/seguroseki_090312_nasu_hirano.mp3
Toshiaki Hirano

♪ http://www.bird-research.jp/1_shiryo/koe/seguroseki_090102_utsunomiya_hirano.mp3
Toshiaki Hirano

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

City, Ibaraki Pref. based on line censuses.
Approximately 20 Brown-eared Bulbuls are assumed to occur as a year-round resident in the census area, and numerous birds fly over without stopping during migration periods in the spring and autumn. It is probably because they are less active and stay in a grove during the summer when they molt that their detection frequency decreases in the summer census. They gradually increase afterwards and reach the maximum number around New Year. The birds that contributed to a rise in their population can be winter visitors from northern regions and stay in or near the study site until spring. The peak number represented in the autumn results from a large flock of bulbuls feeding on fruit in a tree. Though the number decreased with the disappearance of the fruit, it is not because Brown-eared Bulbuls have left the study site but because they frequently feed in the cropland outside the census range. The peak number between February and March resulted from feeding flocks in a Japanese mustard spinach field. These flocks occasionally exceeded 100 birds. A large number of Brown-eared Bulbuls feed in roadside cherry trees in April. The winter visitors gradually left the study site afterwards and only the resident individuals stayed for the summer.
The tracking of identified individuals conducted in Tsukuba City also confirmed the year-round residents and wintering individuals. In other words, Brown-eared Bulbuls observed in the city are classified into the following three categories: year-round residents, passers-by and wintering individuals. They are known to make a long distance movements with the disappearance of fruit; one bird banded in Osaka in December was recaptured in Wakayama Pref. about 100km away in the next January (Wada 2002). This indicates that some bulbuls are nomadic during the winter.

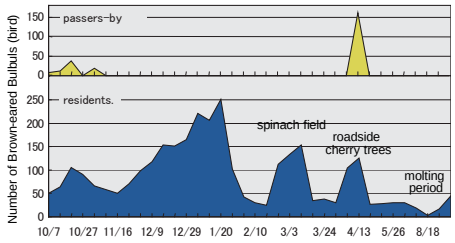

Fig. 2. Annual fluctuation in the number of Brown-eared Bulbuls in Tsukuba City, Ibaraki Pref. (From Yamaguchi 2005).

Migration of Brown-eard Bulbuls

Yamashina (1934) reported that only the population of Hokkaido, northernmost Japan was a migrant and the other populations were a resident or nomadic. Nowadays, however, Brown-eared Bulbuls seem to have changed their behavior.
Therefore, I asked the people concerned all over Japan to provide information about migrating Brown-eared Bulbuls in the autumn of 2004. The information came from 80 sites across Japan, where 88,294 birds (1,976 flocks) were observed in total. The migration was observed in eight regions excluding the Chugoku and Kyushu regions where the number of examples was too small for analysis.
Since it was known that Brown-eared Bulbuls moved from the north to the south in the autumn migration, it was expected that the migration was also observed sequentially from the north to the south. Contrary to the expectation, however, they tended to set out on their migration later in northern areas than in southern ones, such as the Kansai region (Fig. 3). The migration was first observed in the Kansai region on September 9 and continued for three months until November 8. In Hokkaido, northernmost Japan, on the other hand, the migration was first observed on October 10 and last on November 2.

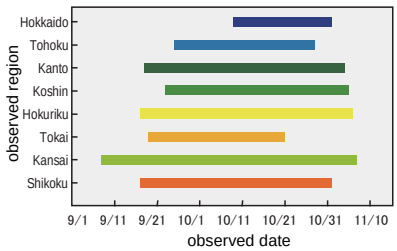

Fig. 3. Observed period of Brown-eared Bulbul migration in the autumn of 2004 in eight regions of Japan in the order from northeast to southwest. (From Yamaguchi 2005).

The analysis suggested that the populations of southern regions started to migrate before the arrival of northern populations. The migration of southern populations may be the movement from the high altitudes to the low altitudes.
Although I am collecting information about Brown-eared Bulbul migration in the autumn of 2005 as well, the migration seems to be later than in 2004. Since there is information that nuts and fruits are in plentiful supply in most places in Japan in the autumn of 2005, it is interesting to study the relations between Brown-eared Bulbul movement and nut and fruit production.

Relationship of Brown-eared Bulbuls to humans

Brown-eared Bulbuls are considered to be one of the major agricultural pest species in Japan. According to the data from the Ministry of Agriculture, Forestry and Fisheries, the area of Brown-eared Bulbul damage was estimated to be 4,400ha (the 6th place among birds), the quantity 5,300t (the second place) and the amount 894 million yen (the 3rd place) in fiscal year 2003. They have caused serious damage to fruit farmers in particular across Japan. The Ministry of the Environment reported that as many as 343,000 Brown-eared Bulbuls were destroyed as a pest species and about 34,000 birds were hunted in fiscal year 2000.
Since they consume a great amount of insects (agricultural pests) in summer, however, they make a contribution to agriculture. There is a possibility of committing a major error when only their damage is emphasized. Though we have still no data on the Japanese population of Brown-eared Bulbuls, it is time we attempted to coexist with them, adopting the technique of population management including habitat management.

Literature

Enomoto Y. 1941. Wild Bird Handbook (Vol. 2). Osaka Chapter of Wild-Bird Society of Japan, Osaka. [J]
Kamon Y. 1995. Clarification of moving rage of Brown-eared Bulbuls *Hypsipetes amaurotis*. Graduation thesis. Tsukuba University. [J]
Karasawa K. 1997. The Brown-eared Bulbul. The encyclopedia of Japanese Animals 4. Birds II. p.83. Heibonsha, Tokyo. [J]
Saito Y. 2002. Can Brown-eared Bulbul's subspecies be really distinguished? Yacho 649: 15-17. [J].
Tanaka T. 2000. The change of territory and moving range of Brown-eared Bulbuls relative to the distribution of mature fruits. Master's thesis. Tsukuba University. [J]
Ornithological Society of Japan. 2000. Check-list of Japanese birds the sixth edition. [J+E]
Haneda K. & Kobayashi T. 1967. Study of the life history of Brown-eared Bulbuls. J. Yamashina Inst. Ornithol. 27: 61-71. [J]
Yamaguchi Y. 2004. Nationwide movement and the impact on farm products by Brown-eared Bulbuls. Journal of agricultural science 59: 173-178. [J]
Yamaguchi Y. 2005. Bird damage measures against Brown-eared Bulbul thought from the migration and condition of nut fruition. Research journal of food and agriculture. 28: 35-39. [J]
Wada T. 2002. Brown-eared Bulbuls' food in winter and their life. Yacho 649: 6-9. [J]

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

Author

Yasuhiro YAMAGUCHI
Agricultural Research Center, Wildlife Management Laboratory

Six years have passed since I started to study Brown-eared Bulbuls. As I study them, I make more new discoveries and face more mysteries. But some say that they have more often posed mysteries. Have I entered an "off-limits" area ?
yamay@affrc.go.jp