

# The Status and Distribution of Owls in Japan

M.A. Brazil & S. Yamamoto

## ABSTRACT

Twelve species of owls belonging to nine genera have been recorded from Japan. Five are resident (*Otus bakkamoena*, *Otus elegans*, *Ketupa blakistoni*, *Strix uralensis* and *Asio otus*), one is a winter visitor (*Asio flammeus*) and two are summer visitors (*Otus sunia* and *Ninox scutulata*), the remaining four species (*Bubo bubo*, *Nyctea scandiaca*, *Aegolius funereus* and *Tyto capensis*) are vagrants. The populations of four out of five of the residents and of both of the summer visitors are considered to be healthy and are not threatened, although the Long-eared Owl is uncommon as a breeding bird. The rare Blakiston's Fish Owl, however, gives serious cause for concern. Loss of habitat is a potential threat to all owl populations and in the case of this species it is particularly serious. After habitat loss poaching is the second major factor affecting bird of prey populations including owls in Japan. Information on the distribution, status, habitat, food, voice and subspecies is given where available.

## INTRODUCTION

The Japanese avifauna as a whole is a complex of northern or Palearctic (Sino-Siberian), western or Sino-Manchurian, south-western or Oriental, and southern or Pacific elements. The 12 species of owls known from Japan reflect these diverse origins although Sino-Siberian, Sino-Manchurian and Oriental elements predominate. Of the 12, five are residents (Collared Scops Owl *Otus bakkamoena*, Ryukyu Scops Owl *Otus elegans*, Blakiston's Fish Owl *Ketupa blakistoni*, Ural Owl *Strix uralensis* and Long-eared Owl *Asio otus*), one is a winter visitor (Short-eared Owl *Asio flammeus*), two are summer visitors (Oriental Scops Owl *Otus sunia* and Brown Hawk Owl *Ninox scutulata*) three are vagrants from further north (Eagle Owl *Bubo bubo*, Snowy Owl *Nyctea scandiaca* and Tengmalm's Owl *Aegolius funereus*), and one is a vagrant from further south (Grass Owl *Tyto capensis*). In addition there are several potential vagrants, species which occur in regions adjacent to Japan, particularly the Soviet Far East, Sakhalin, and Taiwan, that may be observed in Japan in the future.

The mountainous and forested nature of much of the Japanese archipelago provides suitable habitat for breeding owls. While there have been local losses, such as in areas adjacent to major cities, the populations of four out of five of the residents and of both of the summer visitors are considered to be healthy and are not threatened, although the Long-eared Owl cannot be regarded as common in Japan. Only the rare Blakiston's Fish Owl gives serious cause for concern.

While there is little evidence of deliberate destruction of owls in Japan some are inadvertently killed during illegal netting of thrushes and buntings on migration for the grilled bird trade. The Oriental Scops Owl suffers most in this way. Loss of habitat is a potential threat to all owl populations, although in many areas logging is followed by reforestation, albeit mostly as a coniferous monoculture rather than as native broadleaved forest. This threat is particularly serious for Blakiston's Fish Owl. The effects of toxic chemicals on owls in Japan has not been studied although it is likely that they pose the most serious potential threat. Again it is Blakiston's Fish Owl that is most likely to suffer since it feeds heavily on freshwater fish, and since there is widespread use of agricultural chemicals in Hokkaido. Recent failure of eggs to hatch is possibly related to this factor.

An additional threat to rare birds in Japan, and one perhaps unique to Japan, is that posed by over-enthusiastic photographers. Photography at the nest is not controlled and is known in more than one instance to have caused desertion and nesting failure in Blakiston's Fish Owls.

## SPECIES ACCOUNTS

### **Snowy Owl *Nyctea scandiaca* Shiro-fukuro\***

**Distribution:** Snowy Owls have been recorded from many districts in Hokkaido, but only very rarely from further south in Honshu.

**Status:** A rare winter visitor in very small numbers, usually no more than 1 or 2 per winter and sometimes none. Recently there have also been several summer records. Single individuals were recorded in summer from Mt. Daisetsu in central Hokkaido in 1977 and 1986, one was captured on board a ship east of Sakhalin in May 1984 (Hokkaido Shimbun May 17 1984), one was captured at Ashoro in the Tokachi district and a second in Sapporo, both in July 1984 (Hokkaido Shimbun July 20th 1984), and in 1985 one bird was reported in summer from the Shiretoko peninsula in north-east Hokkaido. Both the Daisetsu and Shiretoko areas have extensive high altitude tundra-like areas which at first sight appear suitable for breeding, but which may not hold sufficient small mammal populations to support this bird. It is just conceivable that at some point in the future the Snowy owl might breed in Hokkaido.

**Habitat:** Occurs in open, usually snow-covered country in winter, sometimes on ice-floes (Morioka *in litt.*), and along sea-coasts.

**Food:** Not reported in Japan, but presumably consists of small mammals (hares are scarce, and there are no rabbits), rodents, and birds.

**Voice:** Not reported in the wild in Japan, although calls heard from birds in Oji Zoo have been described as "goh.hoo" (Yamamoto pers. obs.).

### **Eagle Owl *Bubo bubo* Washi-mimizuku**

**Distribution:** The Eagle Owl has been recorded mainly in north and northeast Hokkaido.

**Status:** Rare or accidental with only a handful of records before 1980. Since 1980 however, a flurry of records suggests that this species may in fact be resident in very small numbers. One bird was recorded at Esashi/Hamatonbetsu in August 1982, 1 on the Shiretoko peninsula in July 1984, and 1 at Asahikawa in summer 1986.

**Habitat:** Forests or wooded plains, marshes or even deserts.

**Food:** Not reported in Japan, but presumably consists of small mammals (hares are scarce, and there are no rabbits), rodents and birds.

**Voice:** Not reported in the wild in Japan, although the calls of captive *B. b. kiautschensis* from Korea are described as "ho hoo", "ho-o ho-o," and "hohohoho..." (Yamamoto pers. obs.).

**Subspecies:** *B. b. borrisowi* has occurred in Hokkaido. *B. b. kiautschensis* has been recorded from Miyake in the Izu Islands (date unknown), Goto Islands (1886) and Amami-oshima in the Nansei Shoto (1912) (OSJ 1974).

### **Blakiston's Fish Owl *Ketupa blakistoni* Shima-fukuro**

**Distribution:** Blakiston's Fish Owl formerly occurred throughout most of Hokkaido. In the 1880s the species was recorded from Hakodate in the extreme south-west and near Sapporo in the west

\*Japanese names follow WBSJ(1982).

(Hanawa 1981), although specimen data from the period are not exact and sometimes "Sapporo" and "Hakodate" simply implied taken in Hokkaido (Morioka *in litt.*). Certainly 100 years ago Hokkaido was forested as far south-west as Hakodate, but by the 1920s the forests and the bird's range had already shrunk dramatically. Its range was mistakenly thought to have contracted to include only East Hokkaido (Watanabe 1980), but it is now known that it still occurs very locally from the western and eastern parts of the Hidaka mountain range, the eastern part of the Daisetsu mountain range (Kawabe 1980), eastwards to Nemuro and north-east to the Shiretoko peninsula (Fig. 1). The same subspecies is resident in the southern Kurile Islands (Fujimaki 1984).

**Status:** Even when more widespread in Hokkaido *K. blakistoni* would have been uncommon, occurring at low densities limited by the availability of riverine territories. Currently it is an endangered, rare and local resident, threatened by increasing human pressure in the form of woodland felling and riverside development (Hokkaido Education Committee 1977). A partial survey in 1975-76 found evidence indicating a population of only 29 birds (Hokkaido Education Committee 1977; Hanawa 1981), and initially this was considered a reasonably accurate figure (Brazil & Yamamoto 1983); however more recent information suggests that the total population may be as high as 80-100 birds. Habitat loss, particularly of large trees containing cavities suitable for nesting, has reduced the population greatly during this century and continues to act as a limiting factor.

In 1980 six birds were held in captivity at Kushiro Zoo, where a variety of nest boxes have been tried to encourage the birds to breed (Watanabe 1980). Although eggs have been laid regularly hatching had not occurred by 1986. Poor breeding success may be a result of pairs not being isolated visually or audially. This species has recently bred in the wild in nest boxes (Brazil & Yamamoto 1983), and breeding in boxes has now been successful on more than one occasion, thus there is now some hope of the population increasing once again.

Distribution is further limited by the availability of rivers with plentiful fish which remain at least partially ice-free throughout the winter (Brazil 1985) and on the availability of riparian forests with sufficient small mammals active during winter to sustain the owls while rivers are frozen. Recent deaths have been as a result of electrocution, of accidental trapping in fishing nets hung out to dry, and in nets set to protect stock at fish farms from herons and kingfishers.

**Breeding Season:** Nesting occurs from mid-March onwards, incubation lasts about 37 days and the nestling period 50 days (Nagata 1972; Yamamoto pers. obs.).

**Habitat:** Extensive mixed footzone forest along rivers in inland Hokkaido, riparian forest alongside slow flowing rivers in the south-east and in steep-sided wooded valleys with fast flowing rivers to their mouths in the north-east. Territories extend along wooded river valleys for several kilometres, occasionally crossing watersheds to include adjacent rivers, and may be as large as 10-14km<sup>2</sup> (Nagata 1972; Yamamoto 1978). Even in the past when riparian forest was undisturbed, no more than 2-3 pairs would be likely along any one river because of the topography and nature of the rivers.

**Food:** Direct observation and analysis of pellets has revealed that they feed chiefly on fish such as trout, char and salmon, but they also rely heavily on frogs in spring, sometimes eating crabs and crayfish in spring and summer, and will also take small mammals particularly *Clethrionomys rutilus* and *C. rufocanus*, also *Pteromys momonga*, and birds up to the size of *Anas crecca*, and *Tetrastes bonasia*, particularly in winter. Pellets range in size from 34-77.5mm x 20-45mm (Yamamoto 1978). They are also recorded as taking *Lepus timidus* (Nagata 1972) and *Plecotus auritus* (Yamamoto pers. obs.).

**Voice:** Watanabe (1980) described the voice as "boo-boo" "woo"; the same call has also been transcribed as "boo boo, uoo" (WBSJ 1982). A variety of other less common calls have also been described (Brazil & Yamamoto this volume). Although calling occurs throughout the year it is more frequent from March to May (Watanabe 1980).

**Subspecies:** *K. b. blakistoni* occurs in Hokkaido (OSJ 1974). The same sub-species occurs in Sakhalin, and the southern Kurile islands of Etorofu, Kunashiri and Shikotan (Fujimaki 1974; Hanawa 1981), whereas on the continental mainland (the USSR, and China) the only other subspecies, *K. b. doerriesi*, occurs (Pukinsky 1973).

### **Long-eared Owl *Asio otus* Torafu-zuku**

**Distribution:** The Long-eared Owl has probably bred in Shizuoka prefecture, and is known to breed in small numbers in northern Honshu, from Yamagata and Miyagi prefectures northwards, and throughout Hokkaido (WBSJ 1981). It is a winter visitor from central Honshu southwards, rarely to Okinawa (Fig. 2). In winter it is found in communal roosts of up to 8-10 birds. These roosts are usually in dense conifers, but sometimes in bamboo thickets or even in abandoned houses (Morioka *in litt.*).

**Status:** An uncommon breeding species with perhaps only c100 breeding pairs. It is relatively much commoner in winter than in summer, and although there is as yet little evidence for it, it is assumed that the majority of the wintering birds are from the Asian mainland (Morioka *in litt.*).

**Breeding Season:** Nests are built in May, in old crow or hawk nests or on the ground. Incubation lasts 25-30 days and the nestling period 24 days.

**Habitat:** Sparse woodland with open country in deciduous or often pine woods, sometimes in coastal shelter belts of pines. In the Ishikari plain of Hokkaido they occur in shelter belts composed of natural broadleaved woodland (*Ulmus* sp., *Fraxinus* sp. and *Alnus* sp.), and planted trees (*Populus* sp. and *Robinia* sp.) (Matsuoka 1974), while in the Tokachi plain of Hokkaido they also breed in larch shelter belts (Fujimaki pers. comm.) and even amongst conifers planted as wind-breaks around farmhouses (Brazil pers. obs.).

**Food:** The stomach contents of 17 birds from a wide range of localities in Japan contained 80% small mammals (voles) and 20% small birds (Ikeda & Ishizawa 1949). In an analysis of pellets from shelter belts of the Ishikari plain Hokkaido, Matsuoka (1974) found that Long-eared Owls take rodents in proportion to their abundance suggesting that they are primarily opportunists, thus their main food was the commonest rodent *Clethrionomys rufocanus* (87.9%), but they also took *C. rutilus* (4.1%), *Apodemus speciosus* (0.3%), *A. argenteus* (1.0%), *Rattus norvegicus* (1.3%), *Sorex unguiculatus* (5%) and small birds (0.6%). Yamamoto (1981) found that *Mus musculus* and *Passer montanus* were particularly common prey, while Kiyosu (1965) also recorded them as taking *Turdus naumanni* and *Emberiza cioides*.

**Voice:** A low moaning "boo-boo-boo" (WBSJ 1982), or "oo-oo-oo-oo", during the breeding season only, in May and June.

**Subspecies:** *A.o.otus* (OSJ 1974).

### **Short-eared Owl *Asio flammeus* Komimi-zuku**

**Distribution:** The Short-eared Owl has been recorded from Hokkaido, Honshu, Shikoku, Kyushu, Izu Islands, and central and southern Nansei Shoto (Fig. 3).

**Status:** A regular winter visitor in small numbers from September to April.

**Habitat:** Open grassy and brushy river basins and marshes. Also in coastal grasslands.

**Food:** The stomach contents of 8 birds from a wide range of localities in Japan contained 78% small mammals and 22% small birds (Ikeda & Ishizawa 1949). Observations and pellet analysis have shown that they take small mammals such as: *Microtus montebelli*, *Mus musculus*, *Apodemus argenteus*, *A. speciosus*, *Micromys minutus*, *Eothonomys kageus*, small to medium-sized birds including *Passer montanus*, *Hypsipetes amaurotis*, *Sturnus cineraceus* and *Turdus naumanni* and various species of insects. Pellets range in size from 18.4 - 79mm x 12.5 - 20mm (Yamamoto 1981).

**Voice:** The typical calls of this species are loud, "gya-aw", gyaw", or "gya" (or "giyau" (Yamamoto pers. obs.)), although they also give softer calls "ge, ge, ge...", "pi-e, pi-e, pi-e" or "ho-ho" although these are uncommon. The louder calls were considered to be related to territorial behaviour (Ishikawa 1985).

**Subspecies:** *A.f.flammeus* (OSJ 1974).

### **Oriental Scops Owl *Otus sunia* Konoha-zuku**

**Distribution:** The Oriental Scops Owl breeds in Kyushu (except perhaps for the south and west), Shikoku, Honshu and Hokkaido (except for the extreme south-east) (WBSJ 1981) (Fig. 4). The Oriental Scops Owl has been shown to make use of nest boxes in Hokkaido for breeding. There are winter records from Honshu and it occurs throughout Nansei Shoto on migration. It is not known whether winter records from Honshu refer to resident birds or wintering birds from further north.

**Status:** A common summer breeder, and an uncommon winterer, migrating through Nansei Shoto in March and April where it can be heard calling at that season alongside *O. elegans* (Kabaya & Higuchi 1977).

**Habitat:** Occurs in footzone broadleaved forest, up to 1,500m in Honshu, and also in mixed forests in Hokkaido (Fujimaki pers. comm.), and in subtropical evergreen forest in Nansei Shoto.  
**Food:** The diet consists exclusively of insects. Stomachs of 12 birds obtained from Nagano Prefecture in October and November contained earwigs (405Forficulidae) (Ikeda & Ishizawa 1949).  
**Voice:** A soft monotonous toad-like "pew-pew-pew" according to WBSJ (1982), but is better represented by the more traditional Japanese rendition "bu-po-so" or a whistled "tu-tu-tu".  
**Subspecies:** Also considered as *Otus scops* in Japan (e.g. OSJ 1974; WBSJ 1982). The subspecies recorded from Japan is *O.s.japonicus* (OSJ 1974).

### **Ryukyu Scops Owl *Otus elegans* Ryukyu Konoha-zuku**

**Distribution:** The Ryukyu Scops Owl is resident in the Nansei Shoto from Amami-oshima south to Iriomote, including the Daito Islands which lie to the east of the main island chain (Fig.4).  
**Status:** This species is virtually endemic to the Nansei Shoto, Japan. Outside this island chain a small population exists on just one island off the Pacific coast of Taiwan. It is common throughout the Nansei Shoto wherever suitable habitat remains. It is most widespread on the forested islands of Amami-oshima (where it is locally very common), the northern third of Okinawa (Yambaru), and on Iriomote island, but also occurs in forested areas of southern Ishigaki.  
**Habitat:** Subtropical evergreen forest and also near, or even in, villages (Kabaya & Higuchi 1977).  
**Food:** Not known but probably predominantly insects, but also including small mammals and small birds.

**Voice:** A hoarse, coughing "uhu" or "kuru" lower pitched than the Oriental Scops Owl (Brazil pers. obs.), also described as "koho" and "u-koho". Calls are repeated from 15-30 times per minute depending on the season and on the island. The female is suspected of giving a different call, described as "nye" by Kabaya & Higuchi (1977). The calls of birds on the Daito islands are described as very similar to those of the Okinawa population (Kabaya & Higuchi 1977; Morioka *in litt.*).

**Subspecies:** *O. elegans* is also considered a subspecies of *O. sunia*, or amongst Japanese ornithologists *O. scops* (e.g. OSJ 1974; WBSJ 1982), but was treated as a full species by Marshall (1978). *O.e. elegans* occurs throughout the main Nansei Shoto chain, and *O.e. interpositus* on the Daito Islands (OSJ 1974). A third subspecies, *O.e. botelensis*, the only one occurring outside Japan, is restricted to the tiny island of Lanyu off south-eastern Taiwan, R.O.C.

### **Collared Scops Owl *Otus bakkamoena* O-konoha-zuku**

**Distribution:** The Collared Scops Owl breeds throughout Kyushu, including Tsushima island where it is very common, Shikoku, Honshu, including Sado Island, and Hokkaido (Fig. 5). In south-east Hokkaido in autumn there is an influx of migrant birds presumably from the Kurile Islands.

**Status:** A reasonably common resident and wanderer. In Niigata prefecture (Honshu) this is the second commonest owl (after Ural Owl) according to the numbers found dead and injured (Kazama 1985).

**Habitat:** Plains with sparse secondary growth, woods, marshy groves, park-like country and city gardens, even in the middle of Tokyo (Brazil 1986) in winter.

**Food:** The contents of 64 stomachs collected from Nagano Prefecture in November were made up of 50.4% insects (mostly *Noctuidae* and *Distrammena marmorata*), 20.9% small mammals (voles), 20.9% spiders, 7.4% small birds and 0.4% crustacea (Ikeda & Ishizawa 1949).

**Voice:** There seems still to be some confusion over the voice of this species in Japan. It has been described as "woz, woz" or "hoz, hoz" by Kobayashi (1954) and JAPB (1966), although Kiyosu (1965) noted its calls during May & June as "pou pou, pou pou". Higuchi & Momose (1980) who studied the calls of this species on Miyake Island and on Mt. Fuji regarded the typical call to be a regularly repeated "koo" or "kwee", while WBSJ (1982) describe it as a weak cat-like "mew". Birds heard calling on Tsushima Island gave calls similar to those described by WBSJ (1982) while birds heard on Miyake Island gave calls described as "kwee-kwee" (the same as Hiuchi & Momose 1980) and "pew-u, pew-u" (Brazil 1986). It seems possible that there are distinct populations in Japan with different vocalisations.

**Subspecies:** *O.b. semitorques* is resident in Japan and wanders southwards in winter. *O.b. ussuriensis* has been recorded from Honshu (Niigata) as a vagrant. *O.b. pryeri* is a little known resident of southern Japan, supposedly occurring on Hachijo Island in the Izu Islands and in central and southern Nansei Shoto (OSJ 1974).

### **Tengmalm's Owl *Aegolius funereus* Kinme-fukuro**

**Distribution:** Tengmalm's Owl has been recorded mainly from northern and central Hokkaido, and once from Miigata in Honshu in January 1955.

**Status:** Until very recently this species was regarded as possible that it is a rare resident. OSJ (1974) considered it an uncommon, possibly winter visitor, to Hokkaido; however it had been recorded fewer than ten times there prior to 1986 (Yamamoto pers. comm.). In 1986, however, several birds were found calling in summer near Lake Shikaribetsu, and also at Lake Kusharo, and breeding is suspected.

**Habitat:** Boreal coniferous or mixed forests.

**Food:** Not known in Japan.

**Voice:** "poo-poo-poo-poo ..." or "too-too-too-too ..." (Yamamoto pers. obs.).

**Subspecies:** *A.f. pallens* (OSJ 1974).

### **Brown Hawk Owl *Ninox scutulata* Aoba-zuku**

**Distribution:** The Brown Hawk Owl breeds throughout Kyushu, Shikoku, Honshu and Hokkaido (WBSJ 1981) (Fig. 6), in naturally occurring tree holes. This species has also nested in nest boxes in Japan.

**Status:** A common summer visitor, when it is more abundant than the Ural Owl.

**Habitat:** Lowland woods or forests with tall trees, wooded village and city parks or gardens, also coastal pine tree belts. In Shizuoka they were found most commonly around shrines at the foot of hills, and were found to favour areas where broadleaved trees outnumbered conifers (Obara 1982). This seems to be a common feature throughout Japan since it is in these areas, and often in these areas alone, that very old mature trees are protected.

**Food:** The stomach contents of 31 birds from Nagano prefecture taken in November contained nearly 90% insects (mostly *Noctuidae*), and the rest bats (Ikeda & Ishizawa 1949). In Kyushu, Taniguchi (1983) has shown that they feed almost exclusively on insects, of which seven families (*Lasiocampidae*, *Noctuidae*, *Sphingidae*, *Scarabaeidae*, *Buprestidae*, *Cerambycidae* and *Cicadiidae*) compose over 93% of the diet. They occasionally take lizards, small birds (*Alaudidae*, *Hirundinidae*, *Muscicapidae*, *Fringillidae* and *Ploceidae*) and rarely bats (*Rhinolophidae*). Yamamoto (1981) also records predation on escaped *Melopsittacus undulatus*.

**Voice:** Adults give a deep, oft repeated "hoho, hoho", and the young a thin "ri, ri, ri ...".

**Subspecies:** *N.s. japonica* occurs throughout Japan. *N.s. macroptera* is a straggler which has been recorded from Hokkaido, Honshu, the Izu, Iwo, Southern Nansei Shoto and Daito Is. *N.s. totogo* occurs in the northern, central and southern Nansei Shoto (OSJ 1974), but the last two are currently regarded as doubtfully separable subspecies (Morioka *in litt.*).

### **Ural Owl *Strix uralensis* Fukuro**

**Distribution:** The Ural Owl breeds throughout Kyushu, Shikoku, Honshu and Hokkaido, but is absent from Nansei Shoto (Fig. 7). It has nested in nest boxes in Japan.

**Status:** A common resident throughout Japan and, according to statistics relating to birds found injured and dead, the commonest owl in Niigata prefecture (Kazama 1985).

**Breeding season:** In Honshu the breeding season is during March and April when from 2-5 eggs are laid; young birds only 10 months old have been recorded laying in captivity (Kazama 1974).

**Habitat:** Coniferous or mixed forest up to 1,600m in Honshu, Kyushu and Shikoku. In Hokkaido it occurs in lowland mixed forest, and in the Tokachi district it breeds in shelter belts composed of deciduous trees amongst agricultural land (Fujimaki pers. comm.).

**Food:** The food habits of the Ural Owl are better known than of any other species in Japan (see Ikeda & Ishizawa 1949, Imaizumi 1968, Matsuoka 1977, Yoneda & Nakagawa 1979, Yoneda *et al.* 1979, Yamamoto 1981). An analysis of 89 stomachs showed that mammals compose 87% of the diet (including voles, squirrels and flying squirrels), birds 10% (including such large species as *Phasianus/Syrnaticus* sp.) and insects 3% (Ikeda & Ishizawa 1949).

Pellet analysis suggests that mammals compose 93.1% of the diet with *Clethrionomys rufocanus* (25.2%) and *Apodemus speciosus* (17.7%), *Rattus norvegicus* (16.9%) and *Apodemus argenteus* (15.8%) forming the majority, but even *Mustela nivalis*, *Dendrocopos kizuki* and *Hypsipetes amaurotis* are taken on occasions (Yoneda *et al.* 1979). Small mammals including *Sorex shinto*, *Microtus montebelli* and *Sciurus vulgaris*, small and medium sized birds up to the size of *Columba livia*, and also crayfish, rarely insects, were also found to be part of their diet (Yamamoto 1981). Pellets range in size from 44-53.5mm x 22-25.2mm (Yamamoto 1981).

**Voice:** The typical call is usually described as "gorosuke hoho", although Takano (1982) referring no doubt to the same calls transcribed them as "hoho, gurusuku". Several variant calls however have been described such as "ho-oh", "ho-ho", and "goh, goh, goh, goh ..." (Yamamoto pers. obs.). Young birds give typical adults calls within 8 months of hatching (Kazama 1974).

**Subspecies:** The very pale form *S.u. japonica* breeds in Hokkaido and the southern Kurile Islands and has been recorded from Korea. *S.u. hondoensis* supposedly breeds in northern Honshu (Aomori, Iwate, Miyagi, Fukushima Niigata & Tochigi) while *S.u. momiyamae* breeds in Central Honshu (Yamagata, Toyama, Fukui, Kyoto, Tottori, Nagano, north Chiba, Shizuoka and Aichi) (OSJ 1974). *S.u. fuscescens* breeds in southern Honshu, (south Chiba, south Shizuoka, to Hiroshima) Shikoku and Kyushu. The separation of the last three subspecies is, however, debatable and they may be better grouped as one.

### **Grass Owl *Tyto capensis* Minami-men-fukuro**

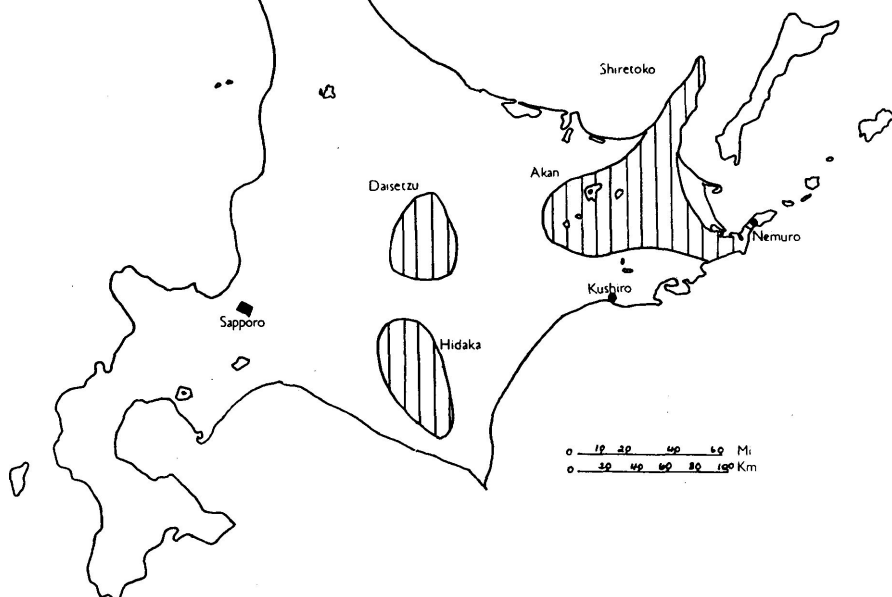
**Status:** A single bird was observed on Iriomote island in the southern Nansei Shoto on May 14 1975. (Morioka *et al.* 1978).

## **POTENTIAL VAGRANTS**

The Eurasian Pygmy Owl (*Glaucidium passerinum*), Northern Hawk Owl (*Surnia ulula*) and Great Grey Owl (*Strix nebulosa*) all occur in the Soviet Far East including Sakhalin (Flint *et al.* 1984), and could occur in Hokkaido. All three species are prone to occasional eruptions and range extensions in response to food availability at least in northern Europe and, in the case of the Great Grey Owl, also in North America (Mikkola 1983). Recent records of Snowy Owl, Eagle Owl and Tengmalm's Owl in summer in Hokkaido may indicate that in the past the island has been greatly underwatched (and to a large extent this is still true, the number of observers still being very small) or that these northern species are currently undergoing range extensions.

Five species, the Tawny Fish Owl (*Ketupa flavipes*), Collared Pygmy Owl (*Glaucidium brodiei*), Mountain Scops Owl (*Otus spilocephalus*), Tawny Owl (*Strix aluco*) and Brown Wood-Owl (*Strix leptogrammica*), occur in Taiwan but have not been recorded from Japan (Chang 1980). The Tawny Fish Owl is extremely rare in Taiwan, possibly on the verge of extinction and is extremely unlikely to ever occur here. The remaining four species are all essentially sedentary; however the arrival of a Grass Owl, presumably from Taiwan, in the southern Nansei Shoto indicates that other southern species too are potential vagrants, perhaps to Yonaguni or Iriomote Islands.

Figure 1. Present distribution of  
*Blakiston's Fish Owl*  
in Hokkaido, Japan



## CONCLUSIONS

Since long-term research has not been conducted on the status of owls in Japan it is not known whether populations are increasing or decreasing. In the case of one species however, *Blakiston's Fish Owl*, historical accounts and recent information show that a major decrease in range has occurred and that the population has declined over the last 100 years. This species, which once occurred virtually throughout Hokkaido, is now restricted to the area from the Hidaka mountain range eastwards to Nemuro and north-east to the Shiretoko peninsula. Within this range it is very patchily distributed. This decline is due primarily to loss of breeding habitat. Attempts have been and still are being made to aid this species (see Brazil & Yamamoto 1983), but the population remains endangered, with known deaths cancelling out the numbers hatched each year.

While most owl species in Japan are not at risk, *Blakiston's Fish Owl* needs urgent help, not only to provide suitable nesting habitat, but to protect its feeding habitat and to prevent disturbance at the nest. An additional safeguard would be the establishment of an independent captive breeding population to rear birds for release into vacant territories. Since, among those pairs that hatch two eggs, mortality of at least one chick is common (although in 1986 a pair with two fledged young were found at Ashoro in the Tokachi district), it would be advisable to remove a single egg from each clutch, or one of the chicks as soon as it hatches, for hand rearing.

Integration of hand-reared birds back into the wild population would be best achieved by rearing young owls in a facility incorporating part of their natural environment. The facilities currently available in zoos in Japan would not be suitable for this. Egg-laying has occurred amongst pairs in Japanese zoos (e.g. Kushiro Zoo, Hokkaido), but these have consistently failed to hatch. It seems likely that the behaviour of the adults is disturbed as a result of the close proximity of pairs which are neither visually nor vocally isolated.

After habitat loss, poaching is the major threat affecting birds of prey populations in Japan. For example in Tochigi prefecture between 1975 and 1977 both Collared Scops Owl and Brown Hawk Owl were poached in addition to several species of diurnal raptors (Kikuchi 1971, in Nakayama 1985); in addition Ural Owls were also suffering from poaching (Nakayama 1985).

Figure 2. Distribution of  
Long-eared Owl  
in Japan

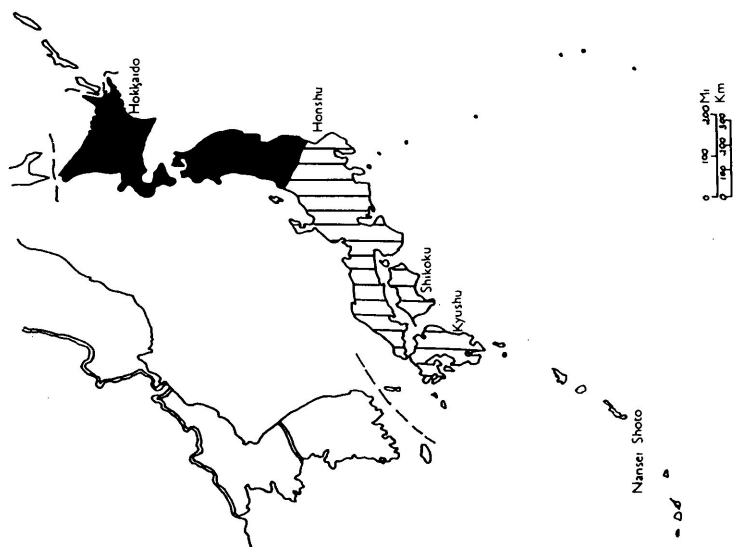


Figure 3. Distribution of  
Short-eared Owl  
in Japan



Figure 4. Distribution of  
Oriental & Ryukyu Scops Owls  
in Japan



Figure 5. Distribution of  
Collared Scops Owl  
in Japan

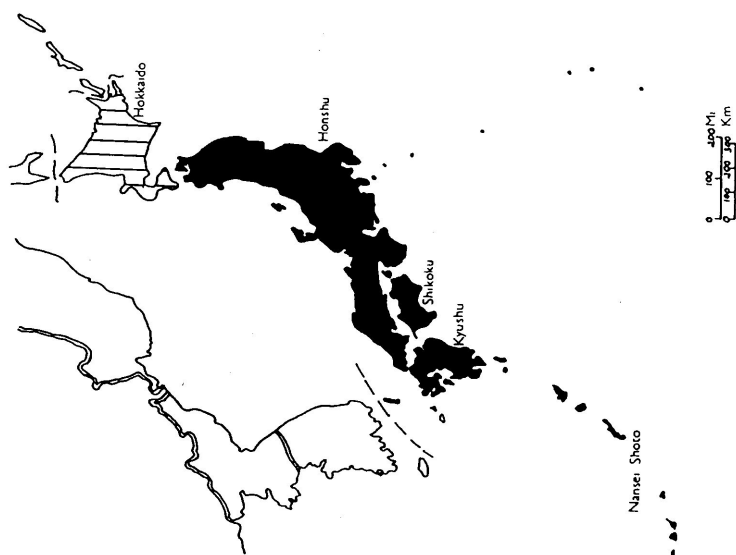


Figure 6. Distribution of  
Brown Hawk Owl  
in Japan

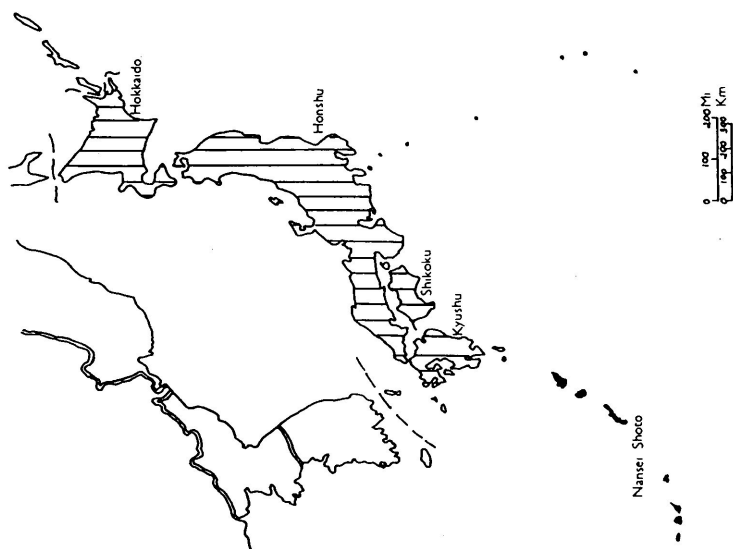
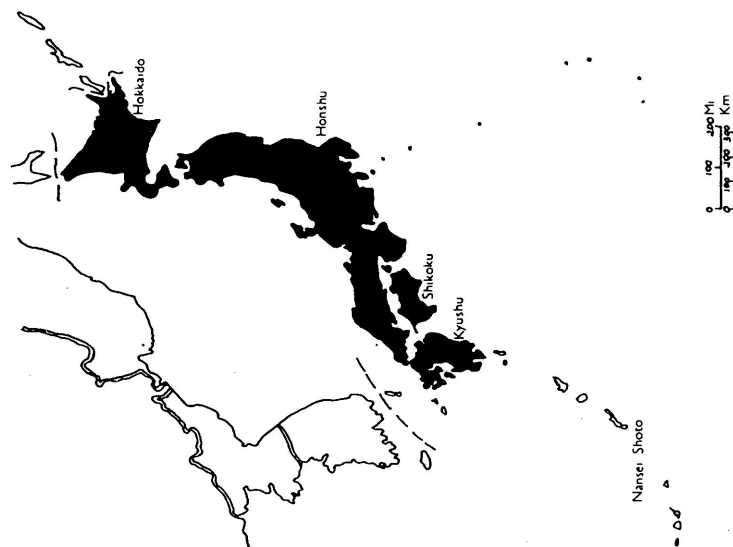


Figure 7. Distribution of  
Ural Owl  
in Japan



Both Collared Scops and Ural Owls feed primarily on voles and represent major predators on this group of small mammals which is also nocturnal. Ikeda & Ishizawa (1949) considered that these species of owls should be regarded as beneficial since they play an important role in regulating the numbers of voles which are harmful to farms and forest. The Brown Hawk Owl and Oriental Scops Owl both feed primarily on insects, *Forficulidae* and *Noctuidae*, which are very harmful to orchard trees, vegetables and other stored farm products, so these species too can be regarded as beneficial.

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Mark Brazil  
The Hawk Trust  
c/o Zoological Society of London  
Regent's Park  
London NW1 4RY  
England

Sumio Yamamoto  
16 Rakuyo  
Nemuro  
Hokkaido  
Japan

