

Threatened Birds of Asia:

The BirdLife International Red Data Book

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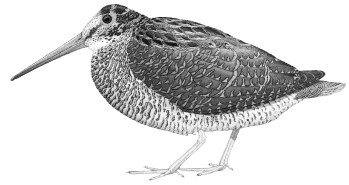
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RYUKYU WOODCOCK

Scolopax mira

Critical —
Endangered —
Vulnerable A2c,e; C1

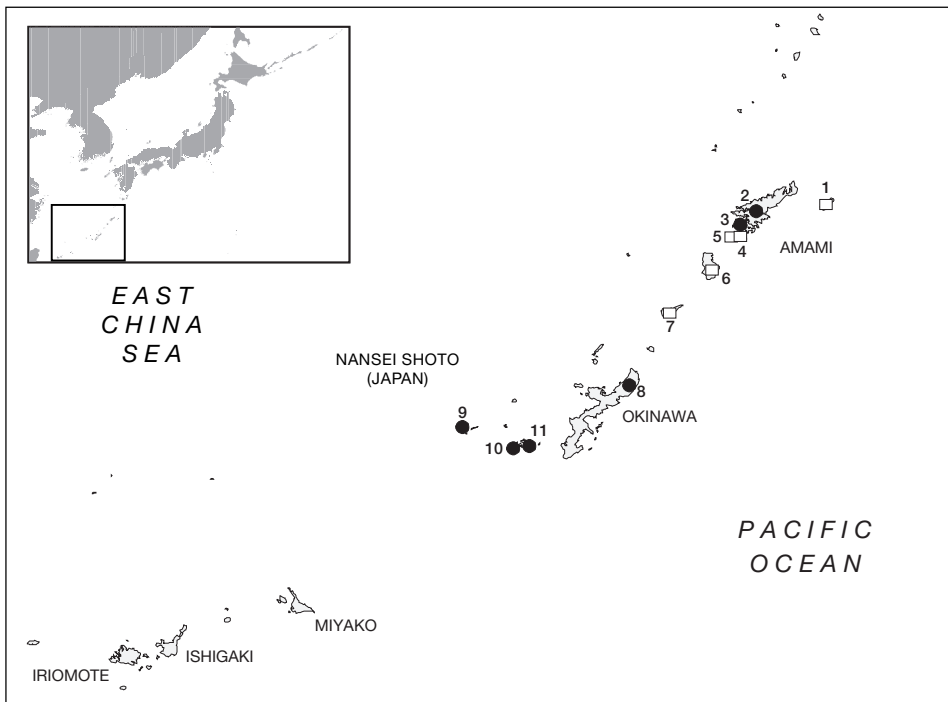


This woodcock has a small, declining population as a result of logging of forest and also predation. The combined effects of logging, introduced predators and accidental shooting are likely to lead to an increased rate of decline in the near future. These factors qualify it as Vulnerable.

DISTRIBUTION The Ryukyu or Amami Woodcock (see Remarks 1) is endemic to the central Nansei Shoto islands in southern Japan, although it could possibly also occur on other islands further south such as Miyako, Ishigaki or Iriomote (Brazil and Ikenaga 1987), and it seems quite feasible that it could occur on smaller islands near Amami and Okinawa such as Yoron-to, Iheya-jima, Izena-jima and Ie-jima. Records (north to south) are from:

■ **JAPAN** *Kikai-shima* island, scarce winter visitor (OSJ 2000; see Remarks 2);

Amami-ooshima island, several collected (including the type), September–December 1904, January 1905, March 1907 (Hartert 1916, nine specimens in AMNH, BMNH and MCZ), “very common”, especially near Yamato-son, 1928 (Kobayashi 1930), “a reasonably common



The distribution of Ryukyu Woodcock *Scolopax mira*: (1) Kikai-shima; (2) Amami-ooshima; (3) Kakeroma-jima; (4) Uke-shima; (5) Yoro-shima; (6) Tokuno-shima; (7) Okino-erabu-shima; (8) Kunigami-gun; (9) Kume-jima; (10) Aka-jima; (11) Tokashiki-jima.

○ Historical (pre-1950) ● Fairly recent (1950–1979) ● Recent (1980–present) □ Undated

resident”, 1984–1987 (Brazil and Ikenaga 1987), now mainly found in the western half and at the eastern tip of the island, its numbers around Naze City having declined markedly, early 1990s (Kanai and Ishida 1995);

Kakeroma-jima island, June 1991 (Ishida and Takashi 1998), June 1994 (Kanai and Ishida 1995); *Uke-shima* island, resident breeding (OSJ 2000);

Yoro-shima island, resident breeding (OSJ 2000);

Tokuno-shima island, suspected to occur (Hachisuka 1952 in Brazil and Ikenaga 1987), breeding now confirmed, undated (WBSJ 1978 in Brazil and Ikenaga 1987, Kanai and Ishida 1995);

Okino-erabu-shima island, scarce winter visitor (OSJ 2000; see Remarks 2);

Okinawa island, **Kunigami-gun** (locally called Yambaru or Yanbaru), small numbers known to be present since the first discovery of a bird near Yonaha-dake, August 1980 (Yoshii 1985 in Brazil and Ikenaga 1987, Brazil 1991, McWhirter *et al.* 1996);

Kume-jima island, recently (McWhirter *et al.* 1996), irregular visitor (OSJ 2000; see Remarks 2);

Aka-jima island, recently (McWhirter *et al.* 1996), irregular visitor (OSJ 2000; see Remarks 2);

Tokashiki-jima island, photographed, September 1985 (Brazil and Ikenaga 1987; see Remarks 2).

POPULATION The total population was judged in the early 1980s to be “in the 100’s or perhaps in the low 1000’s” (Brazil 1985b), and was recently estimated to be fewer than 10,000 individuals (N. Yanagisawa, Y. Fujimaki and H. Higuchi in Rose and Scott 1997).

On Amami-ooshima (which has an area of 720 km²) Kobayashi (1930) described this species as “very common” in 1928, when it could be easily found on moonlit nights. In 1984–1987 it was considered to be “a reasonably common resident” there (Brazil and Ikenaga 1987), but in the early 1990s it was mainly found in the western half and at the eastern tip of the island, its numbers around Naze City having declined markedly (Kanai and Ishida 1995). During a night survey along the roads and trails that cover most of Amami, Kanai and Ishida (1995) encountered a total of 123 birds (most on forest trails rarely used by people) at an average of 3.6 birds per 10 km. A radio-telemetry study of this species on Amami in the early 1990s found that it has a total home range of c.0.2 km², or an area of c.0.5 km in diameter (Ishida and Takashi 1998). If for the sake of argument it is accepted that (a) the figures under Threats (84% forest cover in 1971 on a 720 km² island) are correct, (b) the species occurred throughout the area covered by forest, and (c) that a single adult exclusively occupies 0.2 km², then the total population on Amami in 1971 would have been $0.84 \times 720 \times 5 = 3,024$ adults; but of course two adults may occupy a single home range, yielding a population of over 6,000 adults 30 years ago. A recent survey by the Wild Bird Society of Amami (website of the Minami-Nippon Shimbun [South Japan News], 25 October 2000) found the population to have declined in the past five years: in 1996, 37 birds were counted in a study of 386 hours, 26 birds in 501 hours in 1997, but only 7 birds in 418 hours in 1998 and again 7 birds in 424 hours in 1999 (these have the equivalence of 9.6, 5.2, 1.7 and 1.6 birds per 100 hours) (see Remarks 3).

It has been reported to be “reasonably common” on Tokunoshima (Brazil and Ikenaga 1987), and indeed a highly reliable observer based on the island for two years described it as “abundant” there to K. Sugimura (*in litt.* 2001). However, it seems to be “uncommon” on Okinawa (Brazil and Ikenaga 1987), where its population is believed to be small and confined to the north-eastern part of the island (Ishida 1992). The area of *Castanopsis* forest on Okinawa that is over 30 years old was, in 1994, very approximately 100 km² (Y. Ito *in litt.* 2001), and (a) if the species is exclusively confined to this habitat, (b) if it occurs at a density equivalent to that on Amami (5/km²), and (c) if it was under no pressure from disturbance or predation,

then 500 birds would be expected to survive in Yambaru; but (b) and (c) are almost certainly not true, and the true number may be expected to be considerably lower.

The breeding populations on Kakeroma-jima, Uke-shima and Yoro-shima must all be very small, since they are collectively only a few tens of km² in area; yet they may be very important refuges in the light of the threat posed by mongooses and other ground predators on Amami (see Threats, also Remarks 2).

ECOLOGY Habitat This nocturnal ground-dwelling species is found in subtropical broadleaf evergreen hill forest, often with cycads, where it prefers damp shady areas of the forest floor and is seldom seen except when it ventures out onto forestry tracks at night (Brazil and Ikenaga 1987). In winter it has been found near villages (Environment Agency of Japan 1991) and in sugarcane fields (Brazil 1985b). When disturbed, it is as likely to run for cover as to fly, and if it is flushed it drops again after a short distance, or flies up into nearby trees (Brazil 1991).

Food It has been observed probing for food in soft earth and short vegetation by roads, and in the mud of roadside banks (Brazil and Ikenaga 1987), presumably for invertebrates. An adult was watched pulling up earthworms and placing them in front of three newly fledged juveniles (Ishida and Takashi 1998).

Breeding It nests on the forest floor, and clutches of 2–4 eggs are laid from mid-March to early May (Environment Agency of Japan 1991). Chicks have been found in late April (M. Tsuneda in Kanai and Ishida 1995), and fledged young in early May and late June (Ishida and Takashi 1998).

Migration Following its discovery on Okinawa in 1980, it was suggested that some birds perhaps move south from Amami in winter, but the species was later proved to remain all year on Okinawa and is therefore assumed to be resident on both islands (Brazil 1991). However, Ishida and Takashi (1998) found that its density on Amami was reduced in December, which they suggested might be explained by some of the population migrating to the southern islands in winter; however, this requires fuller investigation (see Remarks 2).

THREATS The Ryukyu Woodcock is one of five threatened members of the suite of seven bird species that are entirely restricted to the “Nansei Shoto Endemic Bird Area”, threats and conservation measures in which are profiled by Stattersfield *et al.* (1998).

Habitat loss It is likely that the range and numbers of this species have declined because of an overall reduction in the area of its forest habitat. On Amami, forest trees were not heavily utilised before 1954, and even in 1971 an official report indicated that 84% of the 720 km² island were “still fairly well forested” (Bruce 1975b); but large areas of mature forests have been clear-cut in the last few decades and replaced by young secondary forests, although this logging is only economically feasible through national and provincial government subsidy (Sugimura 1988; see Remarks 4).

On Okinawa the range and population of this species must also have contracted markedly this century because of the clearance of its habitat, and there is substantial (particularly since 1945) and continuing deforestation and much local wood-gathering, often followed by afforestation with conifers in its very small range (Brazil 1991, Ito *et al.* 2000). A more detailed review of the loss of habitat experienced by this species is in the equivalent section under Okinawa Rail *Gallirallus okinawae*.

Hunting The Eurasian Woodcock *Scolopax rusticola*, which is a winter visitor to the Nansei Shoto islands, is generally classified as a game species in Japan and may be shot (Environment Agency of Japan 1991). On Amami, the Eurasian Woodcock has been given special protection by the Kagoshima prefectural government in order to protect the Ryukyu Woodcock, but on the other islands where it occurs, such as Tokuno-shima and Okinawa, there is a danger that the latter could be mistaken for Eurasian Woodcock and killed (Brazil and Ikenaga 1987).

Introduced mammals The Javan mongoose *Herpestes javanicus* (or *H. edwardsi*) was introduced to Amami for snake control, and it is now found around Naze City in the centre of the island (Abe 1994). The population of the mongoose there was estimated to total tens of thousands, or even more than a hundred thousand (Abe 1993). Although it has been thought unlikely that a mongoose would prey on adult woodcocks, it is a potential predator of the eggs and chicks, and it has been reported to prey on young domestic chickens and the endemic Amami Jay *Garrulus lidhi* (Handa 1990). Moreover, Kanai and Ishida (1995) found that there has been a major decline in the numbers of Ryukyu Woodcock in areas where the mongoose is common (but where the forest is still in good condition), suggesting that the mongoose may be causing a high level of predation; however, feral dogs and cats were encountered during the survey, which are also potential predators of the woodcock. Similarly, Ishida and Takashi (1998) also found that the density of Ryukyu Woodcocks was low in the areas where the mongoose was found. It is not clear what stage the mongoose has reached in its establishment on the island: it appears to be spreading into mature forest (see Measures Proposed), which would have very serious implications for the endemic fauna of Amami.

In 1975 feral pigs were seriously damaging potential ground-foraging sites for the Okinawa Woodpecker *Sapheopipo noguchii* in Yambaru (Bruce 1975a; see relevant account), and this would presumably have been having a similar deleterious effect on the Ryukyu Woodcock and the Okinawa Rail (see relevant account).

MEASURES TAKEN Legislation In 1990, the Ryukyu Woodcock was listed as a “special bird” in Japan, it was listed as a nationally endangered species in 1993 (Kanai and Ishida 1995), and it is also on the Red List of Japan. This means that its conservation importance is recognised and it can be used as a reference species in environmental impact assessments for development projects (Environment Agency of Japan *in litt.* 1999).

Protected areas Yuwangatake (3.2 km² including 1.03 km² of Special Protection Area) on Amami-ooshima was established as a National Wildlife Protection Area mainly for the conservation of threatened endemic species (Environment Agency of Japan *in litt.* 1999). More recently, Kinsakubaru (3.0 km²) has been established as a Prefectural Wildlife Protection Area for the woodcock and the two threatened Amami endemic birds (SC). Information on developments in Yambaru, Okinawa, is given in the equivalent section under Okinawa Rail.

Research Several surveys and ecological studies of this species have been completed (e.g. Brazil and Ikenaga 1987, Ishida 1992, Kanai and Ishida 1995). A radio-telemetry study of its home range was completed in the early 1990s, and counts were made along mountain roads in various areas on Amami and Kakeroma-jima in 1990–1997 (Ishida and Takashi 1998).

MEASURES PROPOSED Habitat protection The preservation of the remaining areas of forest on the islands where it occurs is vital for the conservation of this species. On Amami, the Kinsaka-baru forest, one of the most important areas within the species’s range on the island, was unprotected (Brazil and Ikenaga 1987) and appears still to be in need of formal protection; the equivalent section under Amami Thrush has further recommendations. On Okinawa, the fullest account of the various proposals and ideas, most importantly those involving the creation of a major protected area embracing all the natural forest at Yambaru, is given under Okinawa Woodpecker.

Control of introduced predators Control of introduced predators is essential to ensure the survival of this species and for several other threatened endemic species, including the Amami rabbit *Pentalagus furnessi*, which Yamada *et al.* (2000) and Sugimura *et al.* (2000) have conclusively shown to be targeted by the mongoose as it spreads south-west from near Naze into the major areas of mature forest. Ishida and Takashi (1998) proposed that attempts be made to eradicate the mongoose from Amami, and this idea must urgently be given serious consideration and realistic costing. Research is also urgently needed on the ecology of the

mongoose and on its pattern of colonisation of Amami, so that biologists can quickly and clearly gauge how best to conduct a complete eradication campaign against it throughout the island. Careful evaluation of the optimal means of controlling numbers in given areas is required in order (a) to contain the population before it spreads further into the mature forests and (b) to simplify the process of eliminating it altogether. Similar work is needed on the ecology, impact, numbers and control of feral cats and dogs on the island. Brazil (1985b) hinted that hunting organisations in the Nansei Shoto might be persuaded to assume responsibility for some of necessary control work. Meanwhile, it is imperative that the authorities on the islands where this species occurs or may occur are regularly reminded not to allow any new introduction of alien predators for biological control purposes, and in particular no weasels and no mongooses (the pressure to introduce the latter as a biological control of the Nansei Shoto's complement of highly poisonous snakes must be resisted at all costs) should be permitted to be released on any other islands.

Research The status of the population of this species on Amami and Okinawa should be monitored in a very carefully planned replicable manner, particularly to determine the impact introduced predators on its numbers, and surveys could also be conducted on the other islands where it occurs (see Remarks 2). Studies of the ecology of the species are needed to determine optimal conditions and/or areas (it would be worth investigating, for example, whether populations are tied to lower-lying areas where watercourses create the dampest substrates; this would help determine whether the area of occupancy is much smaller than the area of forest remaining) and to identify the best management strategies in relation both to forestry practices and predator impact.

Local awareness The need for an education campaign on Okinawa in support of Yambaru is outlined under Okinawa Rail. This species would also benefit from a local education campaign on Amami, the focus of which might be the Amami Jay but which nevertheless would seek to build pride in and commitment to all the endemic and threatened taxa to be found in Amami's forests (see Remarks 1 under Amami Jay).

REMARKS (1) The Ryukyu Woodcock is very closely related to but distinct from Eurasian Woodcock *Scolopax rusticola* (see Hayman *et al.* 1986, Brazil and Ikenaga 1987, Brazil 1991). (2) It is not clear why records from Kikai-jima, Okino-erabu-shima, Kume-jima, Aka-jima and Tokashiki-jima were believed to concern transient non-breeding birds; regular or irregular dispersal by an insular endemic to offshore islands on a seasonal basis seems very unusual, and it may be worth checking (unless this has already happened) whether in fact the islands in question hold small breeding populations. (3) These data are at face value very disturbing, but they need to be placed in the public domain through a peer-review process of scientific scrutiny. It is important to confirm that the surveys were undertaken at equivalent times of the year, at equivalent times of day, in equivalent weather conditions, along the same routes at the same speeds, using observers of similar capability. If the data are truly comparable, they indicate a decline of 83% in four years in much the largest single population known, and probably therefore sufficient to qualify the entire species as Critically Endangered. (4) It is therefore slightly baffling to find Amami being described as 820 km² (*sic*) and as having 85% forest cover in a very recent report (Sugimura *et al.* 2000).