

Short Communications

Status of the Common Buzzard *Buteo buteo* in the Northern Mariana Islands, Pacific Ocean

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The Common Buzzard *Buteo buteo* breeds from Europe across Asia to Japan (Tubbs 1974). Three subspecies breed in Japan, including the south-eastern most endemic *B. b. toyoshimai* on the Ogasawara (Bonin) Islands (Brazil 1991). We previously reported the Common Buzzard as a rare migrant in the Mariana Islands, seen on Anatahan and Sarigan (Glass *et al.* 1990). That report is re-evaluated here using additional information gathered from the literature, other biologists and island residents, and more recent sightings of Common Buzzards.

Anatahan (16°22'N, 145°40'E) and Sarigan (16°42'N, 145°47'E) (32.3 and 5 km² respectively) are two of a chain of small islands which form the Commonwealth of the Northern Mariana Islands (CNMI) (Fig. 1). Both are steep volcanic mountains. The vegetation has been altered by feral goats and pigs; habitats include tropical forests with little diversity and sword grass stands. Both islands have been sporadically inhabited during the past hundred years by populations of less than 50 people and have rarely been visited by biologists.

Fritz (1902) visited Anatahan and reported that its fauna was similar to that of other northern Mariana islands, except that large birds of prey were seen soaring at great heights. Birds of prey were not seen on other islands. The exact date of his visit is not reported. Roger Clapp (pers. comm.), visiting Anatahan on 15 August 1979, glimpsed a bird through the forest canopy he thought was a buteonine hawk.

On 19–20 August 1983, Tom Lemke and Gary Wiles saw single Common Buzzards on several occasions on the north-east coast of Anatahan. They saw another single bird on Sarigan, 40 km north, on 7–8 and 19 September 1983. They found no previous confirmed records of this species in Micronesia and hypothesised that all their observations were of a single migrating individual that moved between the two islands (Glass *et al.* 1990). Alternatively, their sightings could reason-

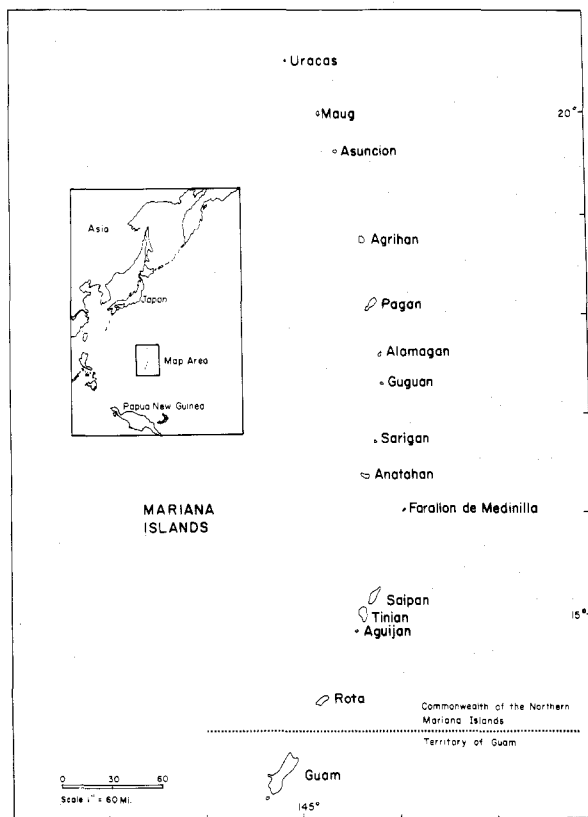


Figure 1 Map of the Mariana Islands.

ably have been of 3-4 different individuals (Wiles pers. comm.). Although there are records of unidentified individuals of *Buteo* spp. from Palau, Guam, and Pagan, these islands have been studied well enough that current breeding can be ruled out (Marshall 1949; Pratt & Bruner 1981; Glass *et al.* 1990; Wiles *et al.* in prep.).

On 28 September 1988, JR and PG saw three Common Buzzards simultaneously over the south and south-east sides of the crater cone on Anatahan. Over the next hour they saw two single birds that may or may not have been the same individuals seen earlier. The following day they saw a single bird on the north coast near where Lemke and Wiles saw birds in 1983. They were told by Ben Taisacan, a resident of Anatahan since 1953, that hawks were commonly seen at this location. He reported that he had seen a pair of hawks at a large stick nest in a very tall tree near there several years before. Both he and another resident, Ben Igisiar, said hawks were present year-round on Anatahan.

On 13 May 1992, DS climbed to the south crater rim where he saw up to four individual Common Buzzards simultaneously. A single hawk was also seen circling above the crater on Sarigan on 16 May 1992.

DS heard the hawks on Anatahan calling; one pair repeatedly circled each other, once making contact with their talons. In 1988, the bird seen on the north shore, and one on the south rim of the crater, circled above JR and PG and called repeatedly. PG tape recorded the call of the bird on the north shore. The bird(s) seen on Anatahan in 1983 also were heard calling (Wiles pers. comm.). Common Buzzards call 'almost exclusively in the territory and most often in the breeding season' (Gensbol 1984).

Migratory Common Buzzards pass through the Ryukyu and Yaeyama Islands of southern Japan in November and December and again in March and April (Brazil 1991). These dates are later than for populations of Common Buzzards from Europe that reach their southern wintering grounds in Africa beginning in mid-October (Gensbol 1984). Buzzards observed on Anatahan and Sarigan in May, August and September would not likely be on migration based on those references.

We conclude that a previously undescribed breeding population of Common Buzzards is probably present on Anatahan. This is based on: (1) hawk observations in about 1900 and again in 1979, the 1980s, and 1992; (2) several individuals seen together; (3) dates of observations outside the normal migratory dates for the species; (4) vocalisations heard, and behaviour seen, that are most often associated with breeding territories; (5) information gathered from local residents indicate nesting and year-round occupancy; and (6) other populations in the southern part of the Buzzard's range are resident and Anatahan would have one of the most southerly populations. The nearest documented breeding location is on Haha-jima (26°40'N, 142°00'E) in the Ogasawara

Islands, approximately 1200 km to the north. A resident population on Anatahan would be the south-easternmost breeding location for the species and the only one in the tropical Pacific. In the Atlantic, the resident *B. b. bannermanni* breeds in the Cape Verde Islands in late December to mid-January (de Naurois 1973 in Cramp & Simmons 1980); this is the south-westernmost breeding location and is at about the same latitude as Anatahan. The single individuals seen on Sarigan in 1983 and 1992 may have been either one of a small breeding population or an individual wandering to that island. A lack of sightings on other visits in the 1980s and 1990, and the small size of the island, suggest the latter.

Populations in the southern part of the Common Buzzard's range are non-migratory (Tubbs 1974; Brazil 1991); this would almost certainly be true of the Anatahan hawks. Common Buzzards are wide-spread geographically, and most isolated island groups have endemic subspecies: Corsica and Sardinia; the Azores; the Canaries; the Cape Verdes; Japan; Minami-daito-jima; and the Ogasawara Islands (Cramp & Simmons 1980; Gensbol 1984; Brazil 1991). It seems likely the Anatahan population represents an undescribed endemic subspecies. It may be the last population of a formerly widespread subspecies. Five other islands in the chain are larger than Anatahan; however, all, except possibly Agrihan, have been surveyed extensively enough to rule out undetected Common Buzzard populations. Steadman (1992) reported on a late Holocene bone deposit containing nine species of birds previously unreported from Rota in the southern Mariana Islands; he also speculated on the former presence of hawks in the Marianas. The only resident raptors currently known from Micronesia are owls on Palau and Pohnpei (Pratt *et al.* 1987).

The population on Anatahan and Sarigan is small and deserves protection and study. Common Buzzard populations may reach densities of one pair per 0.9 km² under good conditions and have been known to reach eight pairs on 36 ha Skomer Island (Brown 1976). Anatahan could be expected to have perhaps as many as 35 pairs of hawks. We recommend that future visits be made to document nesting and census the population.

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Synchronous Breeding of Land Birds On Barrow Island, Western Australia, After Cyclonic Summer Rains

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Breeding responses of single species of birds to heavy rains in the Australian arid zone are well documented, e.g. the Emu *Dromaius novaehollandiae* (Davies 1979, 1982), Budgerigar *Melopsittacus undulatus* (Wyndham 1980), White-browed Scrubwren *Sericornis frontalis* (Ambrose & Davies 1989), Zebra Finch *Taeniopygia guttata* (Serventy 1971; Davies 1977, Zann & Straw 1984) and Black-faced Woodswallow *Artamus cinereus* (Immelmann 1963). Most studies of the extent of breeding by bird communities after desert rains have concentrated on gonadal responses by examination of carcasses (e.g. Keast & Marshall 1954; Keast 1959, 1968), whereas only a few studies (e.g. Carter 1889; Carnaby 1954; Serventy & Marshall 1957) have recorded the ac-

tual timing of such nesting. The occurrence of breeding after rainfall have been discussed further by Immelmann (1963, 1971) and Davies (1976).

This paper presents breeding notes on 10 of the 15 species of land birds observed during a visit to Barrow Island (20°43'S, 115°28'E) from 4-21 May 1992 after the desert island had experienced cyclonic summer rains.

Barrow Island is located about 62 km north of Onslow, mainland Western Australia, and is vegetated mainly by spinifex *Triodia* spp. Its average annual rainfall is 324 mm, 74% falling mostly as cyclonic rain between February and June inclusive. Only 122.4 mm of rain fell during 1990, making this the driest year record-