

DISCOVERY OF AN ANCIENT MURRELET BREEDING SITE ON TEURI ISLAND, HOKKAIDO, JAPAN

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ABSTRACT

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Original abstract in English: The breeding of the Ancient Auk [now known as Murrelet], *Synthliboramphus antiquus*, has not hitherto been known from Hokkaido. In the springs of 1955 and [19]56, the author found carcasses of this bird on the [i]sland of Teuri, off the western coast of Hokkaido. Then at last a colony of Ancient Auk[s] with approximately 500 individuals has been found nesting on the steep cliff, which consisted of pebbles and scanty humus. Above their nesting site, there were about 500 *Cerorhinca monocerata* [Rhinoceros Auklet] and below there were about 1 000 *Larus crassirostris* [Black-tailed Gull]. The ancient auk makes a simple dish-like nest with a diameter of about 10 cm using gramineous grass, 30–50 cm deep in the natural crack. Two eggs are laid in June. The male and female incubate the eggs alternately. On the 1st of July, 1956, the chicks were being fed by the parent birds. The chicks leave the nest by the middle of July.

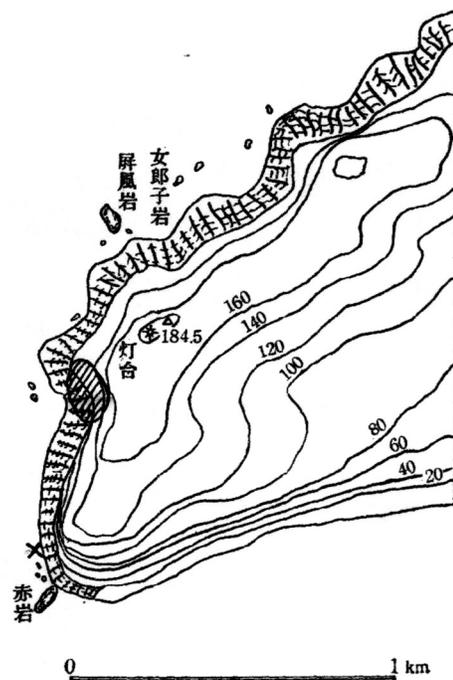
I. INTRODUCTION

Japan has previously had no known breeding sites for Ancient Murrelet, *Synthliboramphus antiquus* (Gmelin). In *Japan Birds Large Picture Book*, Kiyosu (1951) cites Shikotan Island, Kuril Islands, Chilbaldo, Korea and other known breeding locations. Since I began to teach at Teuri Middle School in 1953, I have continued to observe the island's birds, and now I have confirmed an Ancient Murrelet breeding site on the island, as reported herein.

II. TEURI ISLAND

Teuri lies 18 nautical miles from the port of Tomamae, off the west coast of Hokkaido. This small island's surface area is 5.46 [km²], its highest elevation is 84 m, its length and width are 4.65 km and 1.67 km, respectively, and its shoreline circumference is 11.885 km.

Steep cliffs face the sea on the island's west side, with high crags rising up from reefs in the sea at their base. In this region, there are well-known breeding sites for Common Murre *Uria aalge inornata* (Salmonsén), Rhinoceros Auklet *Cerorhinca monocerata* (Pallas), Spectacled Guillemot *Uria carbo* (Pallas), Japanese Cormorant *Phalacrocorax capillatus* (T & S), Black-tailed Gull *Larus crassirostris* (Vieillot), and other seabirds.



天売島略図

印ウミスズメ繁殖場

× 印ウミスズメ死体発見地

Translator's Note

Harry Carter was involved in Japanese seabird research and wanted to make Japanese-language historical information available to English-language seabird researchers. He informed me of the Murata (1958) paper in 2017 and explained that it needed to be translated and made available in English. It is translated and reproduced here with the kind permission of *Japanese Journal of Ornithology*, which was known as *Tori* at the time of the original publication.

Nest Site Location. Map above shows [the] west side of Teuri, where [the] nest site was found. Cross-hatched oval shows nest site. Just to its right is the lighthouse (灯台). The X mark at the lower left of the diagram is the place where the author found a female Ancient Murrelet carcass on June 10. Just below the X mark is the Red Cliff (赤岩), very visible on color photos of Teuri's west side.

III. CONFIRMATION OF ANCIENT MURRELET BREEDING SITE

By 1955, I thought that there were Ancient Murrelets among the many corpses of dead seabirds that I had collected along the coast, but damage to the carcasses made it extremely difficult to pin down identification to the species level. Receiving appointment as a wild bird protection warden in April 1956 gave me opportunities to patrol many breeding sites, and, on May 21, I found an Ancient Murrelet carcass while visiting the Red Cliff area. Its head had been lost after having been bitten off by a crow. Then, on the same day, I discovered two Ancient Murrelet eggs in a crevice at the base of the Red Cliff, but found no parent in the vicinity. The eggs were oval-shaped with dimensions 64 cm × 36 cm and 62 cm × 35 cm. The base color was yellow-tinted ashy with blotchy brownish-black-purple spots.

On June 10, about 100 m north of the Red Cliff, I found the carcass of a female Ancient Murrelet on top of a steep pile of stones and boulders that had accumulated up from the beach along a 10-meter section of shoreline where the cliff had collapsed from the top.

Then, while making detailed investigations on June 16 and 17, I abruptly came upon a flock of about 500 nesting Ancient Murrelets on a steep slope covered with mixed rocks and humus, about 400 m south of the lighthouse.*

IV. DESCRIPTION OF NESTING SITE

The Ancient Murrelet nesting site was on a steep 35-degree slope, covered with mixed stones and humus. Rhinoceros Auklets were nesting on the dirt slope above, and Black-tailed Gulls were on the cliff below. The Rhinoceros Auklets numbered about 500, and the Black-tailed Gulls about 1 000, and there were also smaller numbers of Spectacled Guillemots nesting among them in crevices on cliffs in the area.

Ancient Murrelet nests were thus interspersed with other birds' nests in the vicinity, but the structure of the Ancient Murrelet nest locations featured a steep slope covered with mixed stones and organic soil, with exposed crevices. I have been observing the similarities and differences between the nest preferences of Ancient

Murrelets and the other birds nesting near them while performing the present investigation. I intend to report on my conclusions about nests separately.

The Ancient Murrelet prepares a crude nest about 10 cm long in a 30–50 cm depression, with some soil in the bottom, spreads a small amount of dry grass in the crevice, and lays two eggs. Parents work together to incubate the eggs. In this case, on June 17 the eggs, which are comparatively large for the size of the adult birds, were already being incubated, and the parents had bare brood patches on their abdomens where plumage was missing. They alternated between incubation activity and foraging.

The following tables contain measurements of collected carcasses of dead birds and eggs.

TABLE 1
Ancient Murrelet specimen measurements—units: mm

Specimen	Body length	Wingspan	Tail length	Culmen	Gape	Tarsus	Foot
A	206	142	39	16	29	33	33
B	210	138	40	17	27	31	32
C	205	135	37	15	26	30	31
D	207	136	40	16	28	32	32
E	204	139	38	16	27	31	32

TABLE 2
Egg measurements—units: mm

[Nest]	[First egg (length × width)]	[Second egg (length × width)]
A	Length 64 × Width 36	62 × 35
B	63 × 37	59 × 34
C	54 × 34	57 × 33
D	60 × 35	59 × 33
E	57 × 36	58 × 32
F	61 × 37	63 × 39
G	64 × 39	63 × 38



Eggs of *Synthliboramphus antiquus* on Teuri Island, Hokkaido.

Photos provided by Eiji Murata from his discovery of the nest site.



Breeding place of *S. antiquus* on Teuri Island, Hokkaido. (Gulls are *Larus crassirostris* [Black-tailed Gull]).

* Dr. Yukiyasu Kiyosu arrived on the island on Jun 17th and also made the Ancient Murrelet identification.

V. COMMENTS

Udagawa (1953) conjectured that Ancient Murrelets breed on Teuri, but was unable to provide confirmation. Also, Kiyosu (1956) observed them feeding during migration.

Considering that previously reported breeding sites, such as the coast of the Amur River estuary in northern China, Chilibaldo, Korea, Sakhalin and Kuril Islands, Russia, lie north, south and at the same latitude as Teuri, it seems natural that Ancient Murrelets should breed on Teuri.

One consideration might be that Ancient Murrelets come to the island in the spring, breed, and leave in autumn along with other seabirds, but since their numbers are comparatively very small, it took longer to confirm their breeding activity.

Strict protection measures must be implemented for places where humans can access breeding sites.

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