

New light on Snow's Krusenstern Island.¹—"Krusenstern Island" became a part of ornithological literature when Salvin (1888) described two new procellariids procured by Henry James Snow during the spring of 1883 and assigned Krusenstern as their type locality.

One Krusenstern Island, in the Marshall Islands, now called Ailuk Atoll, is located at 10° 20' N and 169° 56' E (U. S. Dept. Interior, 1957a). A second Krusenstern (or Krusenstern), in the Tuamotu Archipelago, now called Tikehau Atoll, lies at 15° 00' S and 148° 10' W (U. S. Dept. Interior, 1957b). A third Krusenstern, in the Diomed Islands of the Bering Straits, now called Little Diomed Island, is at 65° 45' N and 168° 55' W (Orth, 1967). The fourth Krusenstern, south of the northwestern Hawaiian Islands, was variously called an islet, reef, or rock and listed at: 21° 55' N and 176° 05' W (U. S. Navy Dept., 1943); 20° 15' N and 175° 37' W (Findlay, 1886); 22° 15' N and 175° 37' W (Murphy, 1951), and its existence was often doubted. It was officially removed from the charts as a navigation hazard in December 1923 (U. S. Navy Dept., 1923) as a result of a survey by the 'USS Milwaukee' on 26 October 1923, during which no trace of such rocks was found (U. S. Natl. Archives, 1923) though it does appear on some later charts. The location of Snow's "Krusenstern" was much debated by various authors because of these four separate localities, until finally Murphy (op. cit.) concluded that the locality had been deliberately falsified. Only the Marshall and Hawaiian localities were seriously considered as sites of Snow's collecting activities.

In describing *Puffinus cuneatus* (= *P. pacificus chlororhynchus*) and *Oestrelata* (= *Pterodroma hypoleuca*, Salvin (1888: 353-354) used three of Snow's specimens (received from H. Seebohm) from Krusenstern Islands, adding that these islands "are apparently the small cluster of islands so named by Kotzebue, which form part of the Marshall Group, and are situated in about latitude 10° 17' N, longitude 190° W. . . . The native name of the largest is Ailuk." He further stated that, "There is a Krusenstern Rock lying to the westward of the Sandwich Islands; but this can hardly be the place whence these petrels were obtained as the sea is described as only breaking in one spot." Seebohm (1890: 107) gave the location of Krusenstern as "about forty degrees to the east of the Bonin Islands" and later (1891: 191) placed it "between the Sandwich Islands and the Marshall Islands."

Lister (1891: 295) placed it "to the west of the Sandwich Islands" and Godman (1908: 76) placed it "in the Marshall group." Hartert (1926: 352) insisted that "Krusenstern Islands or Rocks, is south of Lisiansky [sic] and Laysan, and has nothing to do with the Marshall Islands, from which it is more than a thousand miles away." Other writers (Peters, 1931, 1934; Ornithological Society of Japan, 1932, 1942, 1958) accepted the Krusenstern records without comment. Bryan and Greenway (1944) commented that Krusenstern Rock was probably nonexistent and that the type locality of *Oestrelata* (= *Pterodroma hypoleuca*) was therefore doubtful.

Fisher (1946: 587-588) attempted to resolve the questionable type locality of *Puffinus pacificus cuneatus* and *Pterodroma leucoptera hypoleuca* by recognizing and discussing each of the four possible Krusenstern localities. He dismissed the Bering Sea and Tuamotu locations and rejected Krusenstern Rock or Reef south of the Hawaiian Islands because this "is always awash, if it can be found at all." He concluded that "the type locality, . . . if Snow did actually collect them on Kotzebue's *Krusenstern* in the Marshalls, should be Ailuk in the Radak (Radack, Ratak) Chain of the Marshall Islands, Central Pacific." Baker (1951) accepted Fisher's conclusion and listed records of

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three of the Krusenstern species, *Puffinus pacificus*, *P. nativitatus*, and *Pterodroma hypoleuca*, under Ailuk Atoll. He did not list other species from Snow's Krusenstern collection.

Murphy (1951: 17-20) presented a thorough discussion of the Krusenstern locality. He briefly summarized Fisher, then noted that his own "investigations at the British Museum . . . established that Salvin's type was actually attributed to 'Krusenstern Reef,' south of Lisiansky [sic] Island of the Hawaiian chain." He further noted that the position of Krusenstern Island given by Seebohm (1890) as "about forty degrees to the east of the Bonin Islands, . . . was the one assigned to 'Krusenstern Reef' (latitude 22° 15' N., longitude 175° 37' W.)." Murphy reviewed previous discussions of this "Reef" and considered that it was nonexistent. He stated that Snow, a seal and otter hunter who operated from Yokohama between 1873 and 1888, was known to have visited the northwestern Hawaiian Islands but was not known to have visited the Marshalls. Murphy, who credits James C. Greenway, Jr., for independently arriving at the same conclusion, deduced that Snow may have been illegally hunting seals or bird feathers and that he might therefore have listed "Krusenstern Island" as his collecting locality to conceal his visit to an island such as Laysan or Lisianski. Murphy did not pinpoint the type locality, but listed it as "one of the chain of Leeward Islands of Hawaii."

Nothing in Snow's writings (1897, 1910) indicates that Snow visited the northwestern Hawaiian or Marshall islands, or that he was engaged in feather harvesting. He admittedly (1910) poached seal and sea otter and was arrested by the Russians for it. He published an account of his voyages in great detail and fully cooperated with the British Admiralty in charting islands and harbors in the North Pacific; this information was surely of use to his seal- and otter-hunting competitors.

In 1882 Snow traveled to England via the United States, and presumably via Honolulu. He must have gone by commercial vessel, however, for he made arrangements to send his own ship to the Kurils for the next hunting season. Snow does not mention how he returned to Japan, but he was there in time to sail for the Kurils on 5 May 1883.

To have collected the "Krusenstern" specimens in "spring 1883" in the northwestern Hawaiians, he would have to have been there at least 3 or 4 weeks prior to 5 May. No vessels—American, Japanese, or other—are known to have visited the northwestern Hawaiian Islands in the spring of 1883. No records exist showing any vessel leaving Honolulu for Japan in 1883 before 26 April, nor does Snow's name appear on the passenger list of any vessel departing Honolulu during that spring (Jean Dabagh, archivist, State of Hawaii, in litt.)

Authors used the words "obtained," "procured," and "discovered," as well as "collected," for Snow's involvement with the Krusenstern specimens. Perhaps Snow did not collect these specimens, but received or bought them from Japanese poachers who were first known (Hornell, 1934) to have visited the northwestern Hawaiians in summer 1882. He was a partner of another natural history dealer, Alan Owston, of Yokohama. The specimen labels on each of the birds in question are stamped "Owston, Snow, and Co.;" nothing shows that Snow collected them. The handwriting on the labels of the two Krusenstern specimens in the U. S. National Museum is the same as on three Kuril specimens collected by Snow; the handwriting on an Owston specimen label is different.

We feel, therefore, that verification of the type locality rests not on evidence of Snow's visit to the northwestern Hawaiians, but on biological justification for Murphy's statement that the birds came from that area.

Most authors have been concerned with only a part of Snow's Krusenstern material,

with attention concentrated on the confused type locality of two procellariids (e.g. Fisher, 1946; Murphy, 1951). The remaining 7 species in the collection were generally ignored, though data for all but 1 (*Sula sula*) were published by workers at the British Museum, most notably Saunders and Salvin (1896) and Sharpe and Ogilvie-Grant (1898). The senior author has examined 11 of the 13 Krusenstern specimens cataloged in the British Museum (2 could not be found) and the 2 at the U. S. National Museum. Attempts to assign the specimens, especially the terns, to the Hawaiian or Marshall islands on the basis of measurements were unsatisfactory, for none of them was sexed. Lack of sex data is unfortunate as accurately sexed individuals of *Sterna lunata* (and perhaps of other species) can be assigned to geographical populations in these areas by measurements alone. Color phase is no criteria for determining the locality of the *Puffinus pacificus*; light phase birds are found throughout the central and north Pacific.

Some light may be shed by comparing known species from each area with the Krusenstern specimens. In Table 1 the specimens are compared with the breeding seabirds of Laysan and Lisianski, and with breeders or possible breeders on Ailuk Atoll and the Marshalls in general. All 9 species represented in the Krusenstern collection are among the 17 species that breed commonly on both Lisianski and Laysan. Only 3 of the Krusenstern species are included among the 7 seabird species listed as possible breeders from Ailuk Atoll (Amerson, 1969); these 3 are also widespread throughout the northwestern Hawaiian Islands. Of the remaining 6 species, 5 have never been found at Ailuk, but breed in the Marshalls. One of these, *Puffinus nativitatus*, breeds solely at Taongi Atoll, the northernmost atoll of the Marshalls. Taongi is similar physically and biologically to the islands of the northwestern Hawaiians and unlike the other Marshall atolls. The remaining species, *Pterodroma hypoleuca*, has never been found in the Marshalls, but is

TABLE 1
COMPARISON OF "KRUSENSTERN" SPECIES WITH SEABIRD SPECIES KNOWN FROM
LAYSAN-LISIANSKI, AILUK ATOLL, AND THE MARSHALL CHAIN

Species	Laysan- Lisianski	"Krusenstern"	Ailuk Atoll	Marshalls
<i>Diomedea nigripes</i>	X			
<i>Diomedea immutabilis</i>	X			X ¹
<i>Pterodroma hypoleuca</i>	X	1		
<i>Bulweria bulwerii</i>	X			X ²
<i>Puffinus pacificus</i>	X	2		X
<i>Puffinus nativitatus</i>	X	2		X ²
<i>Oceanodroma tristrami</i>	X			
<i>Phaethon rubricauda</i>	X	2		X
<i>Sula dactylatra</i>	X			
<i>Sula leucogaster</i>	X			X
<i>Sula sula</i>	X	1		X
<i>Fregata minor</i>	X		X	X
<i>Sterna sumatrana</i>			X	X
<i>Sterna lunata</i>	X	2		X
<i>Sterna fuscata</i>	X	3	X	X
<i>Thalasseus bergii</i>			X	X
<i>Anous stolidus</i>	X	1	X	X
<i>Anous tenuirostris</i>	X		X	X
<i>Gygis alba</i>	X	1	X	X

¹ 1 record only.

² Taongi Atoll only.

a common breeder in the northwestern Hawaiians. Unfortunately the Krusenstern material does not include *Sterna sumatrana* and *Thalasseus bergii*, species found on Ailuk and the Marshalls but not in the Hawaiian Islands, nor *Diomedea nigripes* and *Oceanodroma tristrami*, species unique to the Hawaiians. Among several possible reasons why albatrosses would be missing from the collection if the birds came from Laysan or Lisianski are the difficulty in preparing large specimens in the field and the fact that poachers might not want to advertise birds they were plundering.

Birds of Ailuk Atoll are still imperfectly known and attempts to assign the Krusenstern specimens to either an Hawaiian or a Marshall Island population are hampered by the paucity of comparative material from Ailuk. Snow's collection, nevertheless, is definitely more representative of one of the northwestern Hawaiian Islands than of the Marshalls.

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Inland records and first specimen of Black-legged Kittiwake from Mississippi.—On 25 January 1969 I noted an immature Black-legged Kittiwake (*Rissa tridactyla*) among a flock of 125 Bonaparte's Gulls (*Larus philadelphia*) which were resting on the waters of "Lower Lake," a basin lying below the dam and outlet channel of Sardis Lake, Panola County, in northern Mississippi. The bird was seen again on 26 January and 7 and 10 February frequenting the basin area and outlet channel and sharing the latter as feeding ground with Bonaparte's Gulls and Ring-billed Gulls (*Larus delawarensis*). Y. J. McGaha and I collected it on the last date and found it to be a female in first winter plumage weighing 317 g. This specimen, now No. 3565 in the Vaiden Collection of the University of Mississippi Department of Biology, is the first taken in Mississippi.

The first two sightings of the Black-legged Kittiwake in Mississippi were recorded from the Gulf Coast area. A single immature, possibly the same individual in each case, was reported offshore in Mississippi Sound on 28 October 1961 and 11 March 1962 by two groups of observers (*Audubon Field Notes*, 16: 46, 338, 1962). My only previous observations for Mississippi was another inland record of two immatures on 4 December 1967 (*A.F.N.* 22: 51, 1968) that were found on Grenada Lake, another federal flood control reservoir 42 miles south of Sardis Lake. No certain sightings were obtained in later efforts to find and collect the birds on 9 and 20 December 1967 and 17 January 1968.—W. MARVIN DAVIS, *Department of Pharmacology, University of Mississippi, University, Mississippi 38677*.