

INLAND WANDERINGS OF THE ANCIENT MURRELET

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THE Ancient Murrelet (*Synthliboramphus antiquus*) has been reported from widely scattered areas of the United States and Canada. In an attempt to understand a recent record of this Pacific alcid in Illinois, I made an intensive search of the literature but found no generally inclusive discussion of these wanderings. This paper, therefore, reviews the inland distribution of Ancient Murrelets in North America, relates the distribution to weather conditions, and presents a hypothesis concerning the direction of inland movements.

Normal range.—Ancient Murrelets live along the coasts and offshore islands of the North Pacific from Japan and the western coast of the United States northward. They breed “from the Komandorskie Islands and Kamchatka to Amurland, Sakhalin, the Kurile Islands, Korea, and Dagelet Island; and from the Aleutian, Sanak, and Kodiak islands to Graham and Langara islands in the Queen Charlotte group, British Columbia; casually to northwestern Washington (Carroll Island)” (AOU Check-list Committee, 1957). There is apparently only one record of their breeding in northwestern Washington, that reported by Hoffmann (1924).

Bent (1919) states that “the fall migration consists of a general offshore movement and a gradual southward drift, off the coast, as far south as southern California. . . . [the birds spending] the winter on the open ocean.” According to the AOU Check-list (1957), they winter “from the Komandorskie Islands south to Fukien, Formosa, and the Ryukyu Islands (Ishigaki); and from the Pribilof Islands to northern Baja California (Ensenada).” Many birds remain near their northern breeding areas, the Aleutian Islands (Gabrielson and Lincoln, 1959, and references cited therein). They are frequent during the fall and winter, along the entire coastline of British Columbia, although usually found well out to sea (Brooks and Swarth, 1925) and regularly occur from November to March along the California coast (Grinnell and Miller, 1944). During recent Christmas Bird Counts sponsored by the National Audubon Society (1954–64) they were observed at Ladner, Victoria, and Vancouver, British Columbia; Orcas and Wasp islands, Seattle, and Sequim, Washington; Oakland, Orange County (coastal), Tomales Bay, Monterey Peninsula, San Francisco, Los Angeles, and Santa Barbara, California.

Inland records.—The fifth edition of the AOU Check-list (1957) lists the following inland records: “interior British Columbia (Swan Lake, Okanagan) [one record], Oregon (Bend), Nevada (Elko), Idaho (Hayden Lake),

TABLE 1
INLAND DISTRIBUTION OF *SYNTALIBORAMPHUS ANTIQUUS*

Location	Date	Authority	Remarks
Lake Koshkonong, Jefferson Co., Wisconsin	Late Oct. 1882	Sennett, 1884	Shot on lake
Toronto, Ontario, Canada	18 Nov. 1901	Fleming, 1912	Shot 2 miles out on Lake Ontario
Lake Hook, McLeod Co., Minnesota	5 Nov. 1905	Roberts, 1932	Shot on lake
Crystal Beach, Ontario, Canada	15 Nov. 1908	Fleming, 1912	Dead on northeastern shore of Lake Erie
Montreal, Quebec, Canada	13 April 1913	Lewis, 1923	Captured
Lehi, Utah Co., Utah	21 Dec. 1925	Woodbury et al., 1949	Taken at Jordan River near Lehi
5 miles east of Tekamah, Burt Co., Nebraska	27 Oct. 1929	Swenk, 1933	Shot near Missouri River
Hayden Lake, Kootenay Co., Idaho	29 Dec. 1929	Hedges, 1941	Found dead
Swan Lake, Okanagan, British Columbia, Canada	26 Oct. 1939	Munro and Cowan, 1947	Collected
Bend, Deschutes Co., Oregon	18 Nov. 1950	Jewett, 1951	Found alive near Bend
Little Cut Foot Stoux Lake, Itasca Co., Minnesota	22 Nov. 1950	Gunderson, 1951	Caught in a bullhead net
Sandusky Bay, Erie Co., Ohio (200 airline miles NE of White horse)	28 March 1951	Handley, 1953	Two seen, one netted on Lake Erie
Pelly Lake, Yukon Territory, Canada	Nov. 1951	Soper, 1954	Caught in a fish net by an Indian
Mabton, Yakima Co., Washington	22 Nov. 1951	Svihla, 1952	Taken from an irrigation ditch
Lake Pontchartrain, Orleans Co., Louisiana	6 May 1954	Newman, 1954 and Lowery, 1960	Swam up to a skiff, north of Little Woods, La.
Roosevelt, Duchesne Co., Utah	12 Nov. 1955	Scott, 1956	Captured
Elko, Elko Co., Nevada	14 Nov. 1955	Gullion, 1956	Dead in a yard, one other seen alive in area
Almota, Whitman Co., Washington 9¼ miles west of Anatone, Asotin Co., Washington	25 March 1956	Solf and Verner, 1956	Sight record, on Snake River Flew out of fog bank in mountains (elev: 5,100 ft)
Lafayette, Boulder Co., Colorado	27 Oct. 1956	Buss, 1957	Dead along road "just south" of Lafayette
Pelican Lake, Crow Wing Co., Minnesota	28 Nov. 1957	Douglass and Douglass, 1958	Shot on lake
Cranbrook, British Columbia, Canada	14 Nov. 1961	Lupient, 1962	Captured
5 miles NE of Macomb, McDonough Co., Illinois	7 Dec. 1961	Guiguet, pers. comm.	
Spokane County, Washington	16 Nov. 1962	Balding, 1964	Captured on gravel road
Missoula, Missoula Co., Montana	Late Oct. 1963	Rogers, 1964a	Picked up alive
	19 March 1964	Rogers, 1964b	Found alive in residential area

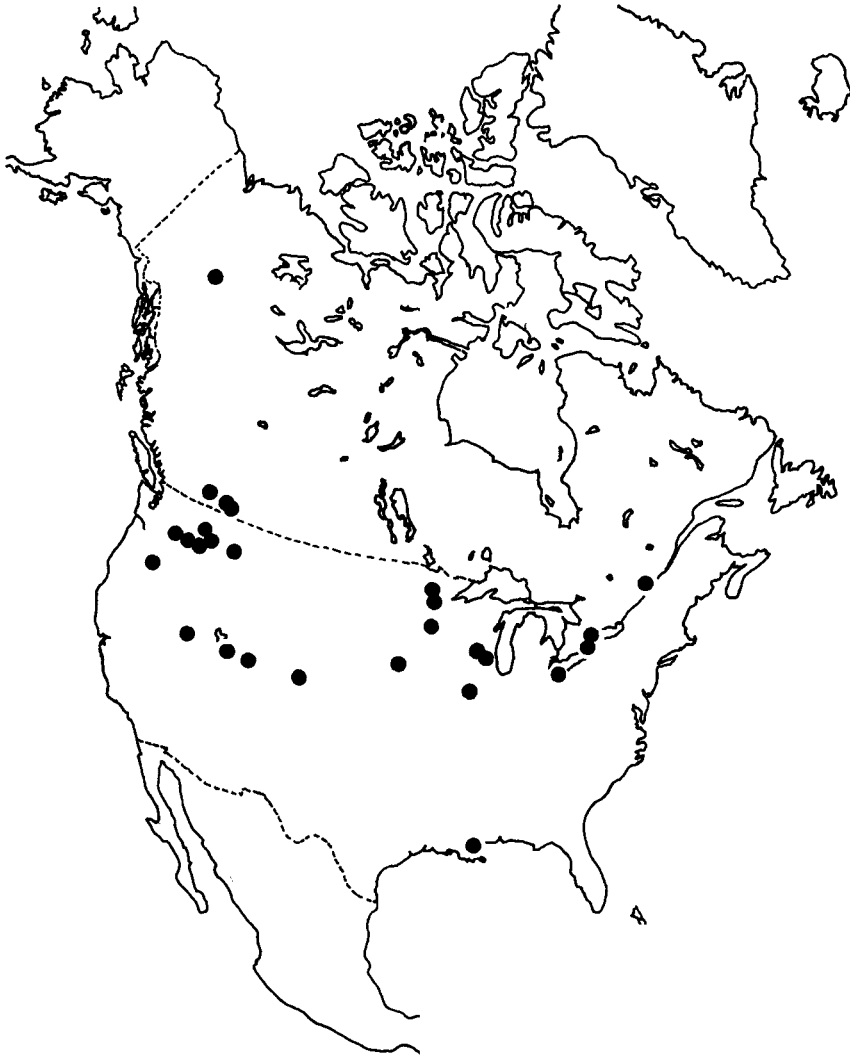


FIG. 1. Inland distribution of the Ancient Murrelet in North America. Filled circles represent records discussed in text and listed in Table 1.

Nebraska (Tekamah), Minnesota (Lake Hook), Wisconsin (Lodi, Lake Koshkonong) [two records?], Ohio (Sandusky Bay), southern Ontario (Toronto, Crystal Beach) [two records] and southern Quebec (Montreal).” These and 12 other records are shown in Figure 1. Table 1 presents additional information for most of the records plotted.

Weather records.—Knowledge of weather conditions was obtained from (1) the United States Weather Bureau's *Climatological Data, National Summary* (various monthly and annual sections, as cited in text: 1950–64); (2) *Audubon Field Notes* (various issues, as indicated: 1946–64); and (3) literature concerned with specific inland wanderings.

DISCUSSION

Effects of weather.—Various authors discuss prevailing weather conditions in attempting to explain individual inland records. Sennett (1884) noted that a bird from Wisconsin was taken “during a northern ‘blizzard’—a storm so severe that it drove most of the ducks out of the lake.” Gunderson (1951) suggested that a Minnesota record was correlated with a drop in temperature of 45 degrees in less than 24 hours and strong northwest winds. Fog, snow storms (Buss, 1957), and strong southwesterly winds (Svihla, 1952; Solf and Verner, 1956) were variously related to three records from eastern Washington. Jewett (1951) pointed out that strong winds moved in from the North Pacific for 3 days prior to the finding of an Ancient Murrelet in central Oregon. Gullion (1956) discussed “the first major winter storm” and the collection of a dead bird in Nevada. As Gullion hypothesized, the high winds did apparently carry more than one bird inland: an Ancient Murrelet, associated with an “unprecedented cold wave” according to Scott (1956), was captured 2 days earlier in eastern Utah. A bird collected in Colorado may have been influenced by westerly winds which reached velocities of 170 miles per hour at high altitudes (Douglass and Douglass, 1958). Recently, in interior British Columbia, one was taken “following a heavy storm which moved from coast to interior” (C. J. Guiguet, pers. comm., 6 Oct. 1964).

During the present investigation, recent records were compared with pertinent weather analyses. Severe wind damage and/or other unusual characteristics, such as fog, made most storm systems associated with western and some central inland wanderings readily identifiable. For example, the storm system bringing birds to Nevada (Gullion, 1956) and Utah (Scott, 1956), during November 1955, also brought the lowest temperatures since 1896 to Oregon and 60 to 80 miles per hour winds to most of the Northwest (U.S. Weather Bureau, November 1955:Vol. 6).

Although inland wandering has been recorded primarily during October and November (Table 1), a time when birds are presumably moving southward, it may also start while birds are wintering or returning to the northern breeding areas. Records supporting this are Solf and Verner's (1956) sight record of a bird in western Washington on 25 March, and a record from western Montana dated 19 March (Rogers, 1964*b*). The Washington record

may well be related to a severe storm that struck a few weeks earlier. Associated with a deep low-pressure center over the Queen Charlotte Islands, British Columbia, this storm moved rapidly eastward across the state, bringing damaging winds of 60 to 90 miles per hour (U.S. Weather Bureau, March 1956:Vol. 7). The Montana record may have resulted from a similar storm recorded by the United States Weather Bureau (March 1964:Vol 15, p. 107): "By March 11, another storm was intensifying over southern British Columbia, Canada. Winds reached 45 to 55 m.p.h. along our northern Pacific coast."

Correlation of inland records with coastal storms was moderated by a lack of knowledge regarding the Ancient Murrelet's ability to adapt to fresh-water and/or withstand arid terrestrial conditions. This same question may be similarly considered in relating the inland occurrences of other alcids to their seasonal activities, or specific weather patterns, or both. During November 1950, Ancient Murrelets were collected in Oregon and Minnesota (Jewett, 1951, and Gunderson, 1951, respectively); according to Handley (1953), 4 months later, during March 1951, two were seen (one was collected) on Lake Erie. Although unusual weather conditions are implicated for the November records (by Jewett, 1951, and Gunderson, 1951) and other March records (as discussed elsewhere), I could not find comparable weather patterns for the March record (weather conditions were not discussed in Handley's report). Handley's birds may have wintered on Lake Erie. A May record from Louisiana and an April record from Montreal also apparently represent birds that were not collected until months after they had wandered inland.

A recent Illinois record dated 16 November 1962 (Balding, 1964) may be related to a series of record-breaking storms that struck the Pacific coast during mid-October. According to the United States Weather Bureau (Oct. 1962:Vol. 13), the hurricane-force winds striking Oregon at that time brought "one of the major weather catastrophes of the state's history." During the latter part of October, according to the same report, "heavy fog was unusually frequent and persistent in the Pacific Northwest." Either of these, fog or high winds, might force a flock of Ancient Murrelets inland.

Adverse coastal weather conditions are clearly involved in inland wanderings of this species. Whether other factors of an intrinsic or biological nature are involved is unknown. Perhaps an occasional Ancient Murrelet is simply blown off course.

Probable routes.—In relating an Oregon record to his Nevada record, Gullion (1956) recently suggested that one would expect birds being diverted while on southerly migration to be gradually pushed inland as they moved south rather than to be blown directly east from the northern California

coast. Analyses of various reports and patterns of distribution as shown in Figure 1 indicate that this is indeed the explanation for many records from the western United States. Although the evidence is rather limited, a southeasterly drift may also characterize movements of birds recorded from the eastern half of the continent. This idea is implied in earlier speculations: Sennett (1884) theorized that a bird reached Wisconsin in 1882 by way of the Mackenzie River Valley and Canada's interior lakes, and Fleming (1912) discussed "Mr. A. C. Bent's suggestion" that birds reached the Great Lakes area after wandering through the Northwest Passage and into Hudson Bay. Both workers thought that the Rocky Mountains posed too great a barrier, that having passed through the Bering Strait, the birds represented an extended "summer migration," or lost Arctic Ocean "stragglers." Records of Ancient Murrelets north of the Bering Strait are apparently not known; but, as shown by more recent inland records, they are able to fly across (or are blown across?) mountains. Those crossing in the Yukon Territory and British Columbia during October and November, if not actively migrating in a southerly direction would conceivably be forced, because of adverse climatic conditions, to move southward. Noteworthy cold air intrusions preceded the recovery of Ancient Murrelets in Wisconsin (Sennett, 1884) and Minnesota (Gunderson, 1951).

A lack of records from Canada's interior and the prevailing pattern of winds across the United States (from west to east) may detract from the hypothesis that eastern birds traveled in a southeasterly direction. But the many lakes in central Canada could afford a safer route and the westerly winds during a period of active southerly migration would presumably force a wanderer toward the southeast. Although some records occurring during the same season form a nearly straight line extending from west to east (such as Oregon, 1950; Minnesota, 1950; and Lake Erie, 1951—see Fig 1), storm activity along the Pacific coastal regions has driven wintering or migrating Ancient Murrelets inland at different points; a record from the Yukon Territory and one from eastern Washington are dated the same month of the same year (Table 1).

SUMMARY

Published inland records of the Ancient Murrelet in North America are reviewed and their relation to weather conditions discussed. Most of the records are directly or indirectly associated with weather disturbances over the Pacific coast. About two-thirds of the records are dated November or late October, presumably months of great migratory activity. Although positive evidence is scanty, a southeasterly drift rather than a direct west-to-east movement is indicated for both western and eastern records and the birds are apparently able to survive for considerable periods on freshwaters.

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