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Natural History and Early Descriptions of Subspecies of Northern Saw-whet Owl from Haida Gwaii (Queen Charlotte Islands), British Columbia

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Abstract

The first specimen of Northern Saw-whet Owl (*Aegolius acadicus*) from Haida Gwaii (formerly Queen Charlotte Islands), British Columbia was collected by Reverend John H. Keen on 12 December 1896. Within five years, Wilfred H. Osgood, biologist with the United States Biological Survey, described it as a new subspecies, the Northwest Saw-whet Owl (*A. a. scotaea*). Additional saw-whet owl specimens collected on Haida Gwaii a few years later were much darker than the type. J.H. Fleming of Toronto compared these specimens to the type of *scotaea* and the few specimens available from elsewhere in the species' range, and described another subspecies, *A. a. brooksi*, which eventually was confirmed to be endemic to the Islands, residing there year round. Soon after, it was recognized that *scotaea* was referable to the nominate subspecies, *A. a. acadicus*—a non-breeding visitant to Haida Gwaii—and likely would not have been described if observations or specimens of *brooksi* had been available at the time. This illustrates the challenges faced by naturalists describing new forms of flora and fauna at a time and place where the natural history was relatively unexplored and few specimens were available for comparative study.

Introduction

Naturalists today enjoy a world in which the flora and fauna of many regions have been well described and published information is available to guide them in their quests for understanding. Imagine visiting a region whose flora and fauna were almost completely unknown to naturalists. Such was the situation on the Queen Charlotte Islands (known now as Haida Gwaii), British Columbia when the Reverend John H. Keen arrived there to serve as an Anglican missionary in the last decade of the 19th century. Keen was also an ardent naturalist who collected specimens of plants and animals in his spare time, some of which, not surprisingly, were new to science. Descriptions of some of these early forms were necessarily based on incomplete knowledge of the natural history, migratory status, and extent of morphological variation among individuals, but they provide interesting footnotes to the history of natural history of the region.

A case in point was the description of a new subspecies of Northern Saw-whet Owl, *Aegolius acadicus scotaea*, which was based on one specimen taken on the Queen Charlotte Islands by Keen in 1896 that was determined many years later by avian taxonomists, who had more specimens at hand for comparison, to have been named prematurely. Its size and characteristics of plumage were found to fall within the range of variation of the largely migratory and widespread nominate subspecies, *A. a. acadicus*. A second subspecies of saw-whet owl, *A. a. brooksi*, was described about 15 years later based on a series of specimens taken on these Islands. The status of this subspecies has been upheld and it was eventually confirmed to be a non-migratory resident restricted, that is, endemic to the Queen Charlotte Islands. Two populations of saw-whet owl, a migratory form and year-round resident, therefore, co-occur on Haida Gwaii during a portion of the non-breeding season

(Sealy 1998).

More than 100 years later biologists, using techniques of molecular genetics, have confirmed that these well-marked subspecies are genetically separable and gene flow is low, reflecting their separate breeding ranges. Some of the challenges faced by early naturalists who attempted to inventory species and describe new forms at a time when comparative specimens were few and knowledge of natural history was incomplete are highlighted in this paper, with the focus on insular and coastal populations of saw-whet owls.

Northern Saw-whet Owl ranges across much of the forested region of North America and mountainous regions of north-central Mexico (Rasmussen et al. 2008). The two currently recognized subspecies (nominate *acadicus* and *brooksi*; Figure 1) are differentiated phenotypically and genetically (Topp and Winker 2008, Withrow et al. 2014). Since Fleming's (1916) description of *brooksi,* evidence from specimens, sightings and banding records, and genetic sampling has revealed this subspecies is endemic and a year-round resident of the archipelago of Haida Gwaii, British Columbia (Sealy 1998, Hamel and Hearne 2002, Pruett et al. 2013). Less well known, however, is that the specimens upon which the description of *brooksi* was based were not the first saw-whet owls collected on Haida Gwaii (Sealy 1998). The first specimen, soon after described as a new subspecies, was obtained near Masset[1] (see pages 19-20 for notes) on the north-central coast of Graham Island on 12 December 1896 by Rev. J.H. Keen, who served at Massett[1] from 1890 to 1899. Keen was a prodigious collector[2] who sent most of his plant specimens to the New York Botanical Garden (e.g., Benson 1948) and insects and other invertebrates, and most of the mammals, to the Dominion Experimental Farms in Ottawa. His contact there, Dr. James Fletcher, the Dominion entomologist and botanist (Gibson 1909), forwarded the mammals to other museums such as the Philadelphia Academy of Sciences (e.g., Rhoads 1894) and the U.S. Department of Agriculture, Biological Survey (e.g., Merriam 1895); the latter specimens eventually were accessioned by the United States National Museum (museum acronyms in Acknowledgements), which operated from within the Smithsonian Institution, Washington, DC.

Figure 1. The two recognized subspecies of Northern Saw-whet Owl (*Aegolius acadicus*). Left, *A. a. acadicus* (*photo by Mark Nyhof,* Osoyoos, BC, 2 May 1982); right, *A. a. brooksi*, endemic to Haida Gwaii, BC (*photo by Spencer G. Sealy,* Langara Island, 5 April 1971). (Sealy [1998], Krahe [2001] and Withrow et al. [2014] provide additional photographs of *acadicus* and *brooksi*.)

The Subspecies of Saw-whet Owl on Haida Gwaii

On the basis of the single (type) specimen (USNM #168171), Wilfred H. Osgood, who worked at the time for C. Hart Merriam, Chief of the Biological Survey, and collected specimens on Haida Gwaii from 13 June to 18 July 1900, described the new subspecies, Northwest Saw-whet Owl (*Nyctala acadica scotaea*). The American Ornithologists' Union (AOU) accepted this subspecies the following year, giving the range as "Puget Sound region, north to Queen Charlotte Islands, British Columbia" (Merriam et al. 1902:319). Osgood incorrectly transcribed the date of collection of this specimen as 19 December 1896, but Deignan (1961) "corrected" the date in his *Type Specimens in the United States National Museum* (the correct date can be seen on the red label denoting this as the the type specimen, as well as Keen's name given as the collector [Figure 2]). The collecting locality was given on this label as "British Columbia: Queen Charlotte Islands," but Osgood (1901a) included Massett, out of which Keen worked, thus, completing the type locality in the description of the subspecies. Osgood (1901a:43-44) identified the owl as an adult male, and characterized it as "Similar to *N. acadica* [see Figures 1, 3], but darker both above and below, dark markings everywhere heavier; flanks, legs, and feet more rufescent." He also noted:

"This dark-colored form of the Acadian owl doubtless ranges throughout the humid Pacific coast region. Its rarity probably accounts for its having been previously overlooked, for its characters are in general the same as those of the numerous other forms peculiar to the same region, which have long been recognized in nomenclature. The only specimens that I have examined beside the type are several imperfect ones from Puget Sound, which are in the [U.S.] National Museum collection. These agree with the type in richness of color and extent of dark markings."

I examined the type specimen of Northwest Saw-whet Owl (Figure 3) on 11 March 2013. All of the flight feathers (secondaries and primaries) were uniformly worn, i.e., the same age, denoting a hatch-year bird (see Pyle 1997). Osgood (1901a) had recorded the bird as an "adult".[3] In addition to the type specimen, four additional specimens of *acadicus* (AMNH #754293 (♂), QCIM #60 (♀) and #B-190 (♀), UMZM #959 (♂)) collected on Haida Gwaii that I aged were hatch-year

Figure 2. Label tied to the type specimen of Northwest Saw-whet Owl (*Nyctala acadicus scotaea*) (USNM #168171), showing J.H. Keen as collector, type locality as "British Columbia: Queen Charlotte Islands", and date of collection as 12 December 1896.

birds (two males, two females), spanning the period 12 October [1984] to 11 January [1915]. *Acadicus* has never been recorded on Haida Gwaii during the breeding season (also see Brooks and Swarth 1925) and *brooksi* has never been recorded off the Islands at any season (Sealy 1998). However, one specimen in particular caught my attention while I was assembling saw-whet owls collected from Alaska and coastal British Columbia, including Haida Gwaii, for an earlier study (Sealy 1998). This was a female saw-whet owl (USNM #241692), with a brood patch still discernible on the specimen, taken by George Willett as it left its clutch of four eggs on nearby Forrester Island (54°48' N, 133°31' W), southeast Alaska on 5 June 1914. Was it referable to *brooksi*? Willett (1915) may have recognized this bird as undescribed, if it had been the much darker *brooksi*, but for the record its identity was confirmed as *acadicus* by Joe T. Marshall, Jr. (see Sealy 1998) and a photograph of the specimen is given in Figure 4. Other specimens from southeast Alaska also are referable to *acadicus* (Withrow et al. 2014) and, not surprisingly, no intergrades between these subspecies have been suspected; because of this, Taverner (1926) speculated that these forms may be separate species, but Withrow et al. (2014), using molecular genetic techniques, suggested only that *brooksi* is a very young biological species.

Figure 3. Top: type specimen (USNM #168171, hatch-year male) of Northwest Saw-whet Owl (*Nyctala acadica scotaea*) collected in "British Columbia: Queen Charlotte Islands" [Massett], 12 December 1896; middle: *A. a. acadicus* (UMZM #959, hatch-year male, Sandspit, BC 10 November 1978); bottom: *A. c. brooksi* (UMZM #2870, after-hatch-year male, Masset, BC 19 March 1996). Note: Dates of collection of these specimens span 100 years and, hence, the richness of the brown colouration of the plumage may have been affected by different degrees of postmortem fading, or "foxing" (see Marshall 1967).

Figure 4. Adult female Northern Saw-whet Owl (*A. a. acadicus*; USNM #241692) taken by George Willett on Forrester Island, Alaska on 5 June 1914.

After Osgood's report was published, *scotaea* was reported from Washington and Oregon (e.g., Bowles 1906, Dawson 1908, Jewett 1910), southeast Alaska (Swarth 1911), and British Columbia (e.g., Kermode 1904), despite that Grinnell (1902) questioned its validity after comparing it with a specimen taken in Oregon on 14 December 1896 (two days after the type specimen of *scotaea* was obtained). Grinnell (1902:93) stated that "[This specimen] seems not distinguishable from examples from Ontario, Connecticut, Minnesota, and California. Perhaps it was a winter visitant from the less humid interior somewhere." Furthermore, Dawson and Bowles (1909:471) remarked that "… there is not sufficient material in hand to determine whether [*scotaea*] is the resident [Washington state] breeding form, or whether it is only a straggler from further north." Indeed, *scotaea* was synonymized with nominate *acadicus* (Ridgway 1914) and within two years the subspecies was removed from the *Check-list of North American Birds* (AOU 1916). Ridgway (1914:629), in his treatise *The Birds of North and Middle America*, however, kept the door open slightly regarding the validity of *scotaea*, despite his failure to detect geographic variation among specimens available to him. He commented that "The only peculiarities that I am able to observe in the type of *Nyctala acadica scotaea* consist in the deep ochraceous-buff auricular region and more reddish brown of the pileum [forehead, crown and occipital region]; but I am of the opinion that these characters will not prove constant when more specimens from the Queen Charlotte Islands have been examined." Ridgway's open mind likely was influenced during his conversations with Osgood and Merriam when *scotaea* was being described, as might be surmised from the acknowledgements in Osgood's (1901a) report. Saw-whet owls were not collected again on Haida Gwaii for nearly 20 years.[4]

Four of these specimens, all females taken near Masset in 1915, plus 22 additional specimens Fleming (1916) assembled for comparison from various collections[4], provided the basis for the description of what was, indeed, a new and considerably darker subspecies of Northern Saw-whet Owl from Haida Gwaii. Fleming named it *Cryptoglaux acadica brooksi*, honouring the naturalist and painter, Allan Brooks[5], who was at the time fighting for Canada in World War

I, and based the description on the type specimen (adult #24629 (♀), collection of J.H. Fleming, now ROM #43177) and three topotypes (two adults, FMNH #138351-52; one juvenile, ROM #42153). In a note added in proof, Fleming (1916:423) stated that he examined "two more [specimens] of the dark race, one of them a male," but was not completely convinced that *scotaea* belonged to mainland *acadicus*. He noted (p. 422):

"That the type of the North-west Saw-whet Owl is a stray, and does not represent the resident Queen Charlotte Island form is possible, though, as I have pointed out, it differs from mainland birds I have been able to compare it with, but against it are four birds that undoubtedly belong to a dark race, and if it should prove that the type of *scotaea* is not the light phase of this race the resident bird on the Queen Charlotte Islands would be without a name in which case I propose that it be called after Captain [sic; promoted to Captain then Major in 1914] Allen [sic] Brooks, who has done so much for British Columbia ornithology."

Osgood would have been amazed at how dark the specimens of *brooksi* were, compared to *scotaea*, had any been available for his examination. He almost had the opportunity to collect one, however, as the small owl that flew over his vessel "at 11 o'clock on the night of July 4" (Osgood 1901a:44) was likely of this subspecies.

Keen's Specimens and Osgood's List

Keen left the Islands in 1899, one year before Osgood arrived, and the two men did not meet. They apparently corresponded, however, although this can only be surmised as there are no archived records of correspondence between them.[6,7] In his detailed publication on the vertebrate fauna of Haida Gwaii, the first for the Islands, Osgood (1901a:9) noted that Keen had "generously furnished an annotated list of Massett birds, with notes for use in the present report, giving all the species positively identified by him." Among these records was a specimen of Sharp-tailed Sandpiper (*Caldris acuminata*).[8] Osgood (1901a:41) acknowledged that Keen "kindly forwarded me the [sandpiper] specimen on which this record was made. I have compared it with others of the same species and found it typical." This suggests Osgood and Keen corresponded, but it may have been through an intermediary, Dr. Charles F. Newcombe, a private collector from Victoria who had collected natural history specimens and ethnological objects from Haida Gwaii for the BC Provincial Museum (now Royal British Columbia Museum) since 1895 and with whom Keen corresponded regularly[9] and sent specimens; in fact, Newcombe had visited Keen in Masset.[10] Most likely, the sandpiper specimen was forwarded to Osgood at the Biological Survey from the BC Provincial Museum in Victoria, possibly through the efforts of Newcombe, Fannin or Kermode, all of whom were associated with the Museum at that time, but this cannot be confirmed.[11]

Osgood was already aware of Keen's observations of birds and mammals, as many had been listed by Fannin (1898), and he certainly knew about many of his specimens of flora and fauna, before commencing his work on Haida Gwaii in 1900. Lists and descriptions of new species of insects (e.g., Keen 1897) and mammals (e.g., Rhoads 1894, Merriam 1895, Preble 1898) already had been published. Merriam (*in* Osgood 1901a) acknowledged the dearth of information on the natural history of Haida Gwaii and, having described a new species of bat from Haida Gwaii based on specimens collected by Keen, believed that new forms still remained to be described. Osgood was sent to the islands to search for them and his discoveries bore out Merriam's prediction.[12]

Is **acadicus** *a Migrant on Haida Gwaii?*

The 10 or more individuals of *acadicus* recorded during the non-breeding season on Haida Gwaii since the first specimen was taken lend credence to the conclusion that Keen's original specimen was a non-breeding visitant, or "transient" (Brooks and Swarth 1925), but not a "stray," as Fleming (1916) had noted.[13] Brooks (1926) had come to the same conclusion about the occurrence of different subspecies of Peregrine Falcon (*Falco peregrinus*) and Goshawk (*Accipiter gentilis*) on Haida Gwaii. This sample of saw-whet owls is too small, however, for detection of a pattern of migration of the sexes and age-classes, as has been identified by results of banding studies elsewhere (e.g., Priestley et al. 2010, De Ruyck et al. 2012). Do migrating *acadicus* regularly stop over on Haida Gwaii during migration, in spring and/or autumn,

and if so do they stay for more than a few days at a time? Mid-winter dates of Keen's (12 December 1896) and Brown's (AMNH #754293[14], 11 January 1915) specimens of *acadicus* (Figures 3, 5) suggest longer stop overs, although those individuals may have been spending the non-breeding period there (also see Sealy 1998). Evidence for short stays (or early starvation), however, emerged from stable-isotope analyses of tissues of two specimens of *acadicus* found dead on Haida Gwaii that revealed consumption largely of terrestrial protein, compared with primarily marine invertebrates eaten during the non-breeding season by resident *brooksi* (Hobson and Sealy 1991; also see Sealy 1999). Determination of the lengths of stay and fates of migrating saw-whet owls requires intensive banding during migration, preferably supplemented by radio-tracking. In fact, radio-tracking would reveal whether individuals of *acadicus* settle for the winter on Haida Gwaii, move southward along the mainland after a few days, or starve.

The first saw-whet owl specimen from Haida Gwaii was taken almost 20 years before the first specimens of *brooksi* were described, and it was eventually confirmed to be a non-breeding visitant. In fact, *scotaea* likely would not have been described if specimens of *brooksi* had already come to light by the time of Osgood's visit to Haida Gwaii, especially because the specimen was collected during the non-breeding season. Knowledge of the diversity of the fauna of the northwest coast was in its infancy at that time and few specimens were available for ornithologists to study. Today's researchers have molecular genetic techniques at their disposal, which allow them to distinguish among even cryptically marked populations of organisms. With these techniques, *brooksi* was recently confirmed to be significantly differentiated as a subspecies distinct from the nominate subspecies on the mainland (Topp and Winker 2008, Pruett et al. 2013, Withrow et al. 2014).

Figure 5. Northern Saw-whet Owls collected on Haida Gwaii for W.W. Brown, Jr. Top: *A. a. acadicus* (AMNH #754293, hatch-year male, 11 January 1915); bottom: *A. a. brooksi* (AMNH #754294, after-hatch-year male, Masset, 1 November 1914).[4,14]

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Notes

[1] Keen resided in the settlement of Old Massett (Massett) near the tip of the spit on the east side of the entrance of Masset Inlet (54°0' N, 13°8' W), north coast of Graham Island. In 1961, the townsites of (New) Masset (spelling changed in 1948), also on Masset Inlet but ~ 3 km southeast of Old Massett, and nearby Delkatla were incorporated as the village of Masset (see Dalzell 1968 for additional details pertinent to the village and surrounding region).

[2] Keen spent most of the time available to him collecting insects and other invertebrates, as well as plants and mammals, but his bird records, to which Osgood (1901a) referred in his report, were almost entirely based on observations. Referring to birds, Keen (1910:116) noted that "[My observations] are scrupulously correct as far as they go, but they were made during the brief intervals of leisure in a busy clergyman's life, and are by no means as complete as they might be." Two bird specimens from Haida Gwaii were located, however, including the saw-whet owl (also see note #9). Most of the smaller species were preserved in "carbolized spirits" (Rhoads 1894:259). How Keen came to obtain the dead owl is conjecture, as it was not stated anywhere that he or others shot any birds. The owl likely was found dead or emaciated by him or another resident of the village, as Northern Saw-whet Owls have been recorded apparently starving during the non-breeding season.

[3] Osgood identified the specimen as a male, suggesting he skinned and dissected the bird, after its removal from spirits.

[4] The first specimen of saw-whet owl of the soon-to-be-described subspecies, *brooksi*, was a male (BMNH) 1919.10.8.1), accredited to Charles de Blois Green, taken on Haida Gwaii on 30 September 1914. Green began visiting Haida Gwaii in 1910 (Brooks 1930, also see Sealy and Carter 2007), and spent time there in 1914, with several specimens collected at Langara Island or Graham Island between 1 February (MVZ #106095) and 1 July (ROM #36597-98) (Green 1916). As there is no record that Green was on the Islands later that year, this specimen may have been acquired from another collector, as was common practice in those days. In fact, this specimen eventually became part of Allan Brooks's private collection (also see note #5), of which nine specimens, including the saw-whet owl, were sent to the British Museum in 1919 (R. Prys-Jones, Natural History Museum, pers. comm., 13 December 2013).

Four additional specimens of *brooksi*, allegedly collected in 1914 for Wilmot W. Brown, Jr., later became part of the private collection of Dr. Lawrence C. Sandford. In turn, Sandford's collection was acquired by the American Museum of Natural History upon his death in 1951 (T. Trombone, pers. comm., 25 November 2013), well after Fleming's (1916) paper had been published. Hence, these specimens were not available to him for comparison. They are currently housed in the American Museum, each labeled "British Columbia (Queen Charlotte I[slands]": AMNH #754294 (after-hatch-year ♂, 1 November) and AMNH #754295-7 (hatch-year ♂♂, 21, 25 August and 1 September). The provenance of some of Brown's specimens, however, has been considered suspect by some workers; indeed, during a study of variation in screech-owls (*Megascops* spp.), Marshall (1967:37) rejected Brown's specimens outright, stating that "… with their fictitious labels, [Brown's specimens] should … be given away." Regardless of whether Brown's actually collected AMNH #754294, all of the specimens are phenotypically referable to *brooksi* (I examined them and the others referred to in this paper). Fleming (1916) probably would have borrowed these specimens, if he had been aware of them, as he did the type of *scotaea,* a specimen from Mexico and four from the Pacific coast region from the USNM, and two skins from the Victoria Memorial Museum (now Canadian Museum of Nature).

[5] Candy and Campbell (2012) provided a detailed account of Allan C. Brooks's far-reaching contributions to ornithology and natural history in British Columbia. In 1920, Brooks, assisted by J. White (a local resident), collected a recently fledged ♂ of *brooksi* at Masset on 29 June (MVZ #101844).

[6] J. Dean, U.S. National Museum, pers. comm., 6 January 2009.

[7] J.R. Saucier, U.S. National Museum, pers. comm., 27 September 2013.

[8] The sandpiper specimen, taken near Masset on 27 December 1897 (Campbell et al. 1990), made its way into the collections of the BC Provincial Museum (RBCM #207) by 1898, in time for John Fannin (1898), the first curator, to include it in his *Preliminary Catalogue of the Collections of Natural History and Ethnology in the Provincial Museum* (also see note #4). A few years later, Kermode (1904) listed this species in the *Catalogue of British Columbia Birds* on the basis of this specimen, but he also referred to a second specimen of Sharp-tailed Sandpiper taken by Keen on the same date. No such specimen has been located and this record, probably in error, has not been referred to by subsequent authors.

[9] J.H. Keen to C.F. Newcombe, 17 March 1898, stating that "I am sending by this mail a bird-skin which I make out to be that of a "Sharp-tailed Sandpiper"… If my determination be correct, it is not in Francis' [Kermode] list … In a subsequent letter to Newcombe (21 August 1898), Keen wrote "I hope you got the packets I left for you at the Museum. I shall be interested in hearing what you made of the [Sharp-tailed] sandpiper"; on 15 October 1898, Keen wrote, "I am glad my sandpiper turned out be correctly named and to be new to the collection." (Newcombe family papers, BC Archives, MS-1077, Box 4, File 89).

[10] J.H. Keen to C.F. Newcombe, 9 August 1899, shortly after moving to Metlakatla on the mainland, Keen invited Newcombe to visit, acknowledging a previous visit while Keen had been in Masset. In a post-script, Keen asked Newcombe to "Please persecute [John] Fannin till he has set up my new weasel! I shall have a new mouse to send him shortly" (Newcombe family papers, BC Archives, MS-1077, Box 4, File 89). Keen sent his first weasel, preserved in spirits, to the USNM in spring 1897 (Preble 1898) and apparently sent another specimen of the weasel to the museum in Victoria in 1898 or 1899, but no record of this was found (G. Hanke, Royal British Columbia Provincial Museum, 13 November 2013).

[11] Osgood and Newcombe corresponded, and Keen's correspondence with Newcombe spanned at least from 3 October 1896 to 13 January 1915 (letters received by Newcombe have survived, but those to Keen apparently have not). In a letter to Newcombe, 14 January 1902 (one year after publication of Osgood's list), Osgood acknowledged receipt of two letters from Newcombe and included photos taken during his work on Haida Gwaii in 1901, but lamented the "unfavorable" weather they experienced. Osgood expressed his desire for Newcombe to obtain specimens of mammals (Newcombe family papers, BC Archives, MS-1077, Box 4, File 89).

[12] In addition to Northwest Saw-whet Owl, Osgood (1901a, 1901b) described one new species and two subspecies of birds from Haida Gwaii — *Dryobates picoideus* (Queen Charlotte Woodpecker [USNM #166816]), *Cyanocitta stelleri carlottæ* (Queen Charlotte Jay [USNM #166822]), and *Hylocichla aonalaschkæ verecunda* (Coast Hermit Thrush [USNM #166901]) — based on specimens collected by Osgood and his assistant, Edmund Heller. The subspecific status of the jay remains the same today, whereas the woodpecker is now recognized as a subspecies of Hairy Woodpecker (*Picoides villosus picoideus*) (AOU 1902, also see Pruett et al. 2013). The name of the thrush underwent several changes before being synonymized with Dwarf Hermit Thrush (*Hylocichla* [*Catharus*] *guttatus nana*) (AOU 1902; also see Ridgway 1907, Jones and Donovan 1996).

[13] Fleming's (1916) conclusion that the specimen of *scotaea* represented a "stray", or vagrant, was in line with evidence available at the time. He was not aware of Brown's specimen of *acadicus* taken on Haida Gwaii in 1915 (see note #14) and it was several decades before additional records of *acadicus* were recorded from Haida Gwaii (Sealy 1998).

[14] This specimen is the fifth of the Northern Saw-whet Owls allegedly collected on Haida Gwaii that bears the label of W.W. Brown, Jr. (also see note #4).

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About the Author

Spencer was drawn to islands in the Bering Sea and Queen Charlotte Islands (Haida Gwaii) during studies of the breeding biology of auklets and murrelets in the mid-1960s and early 1970s. For one raised on the Canadian prairies, these were life-changing experiences that introduced him to a new flora and fauna. Insular fauna has been a long-time interest and the unique subspecies of Northern Saw-whet Owl of Haida Gwaii caught his attention. Studies followed of its seasonally marine diet and confirmation of its range restricted to the archipelago.