

## William T. Brigham's Hawaiian Birds and a Possible Historical Record of *Ciridops anna* (Aves: Drepanidini) from Molokai<sup>1</sup>

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**ABSTRACT:** Two of the five known specimens of the extinct Hawaiian bird *Ciridops anna* (Dole, 1878) came to the Museum of Comparative Zoology with a small collection of Hawaiian birds of unknown origin. Historical evidence is marshaled to show that this material was almost certainly collected by William T. Brigham in 1864–1865. Circumstantial evidence suggests that the specimens of *Ciridops anna* may have come from the island of Molokai, where the species was previously unknown during the historic period.

THE EXTINCT 'ULA-'AI-HĀWANE, *Ciridops anna* (Dole, 1878), is one of the rarest of Hawaiian birds in collections; it is known from five historical examples only, the last obtained in 1892. One of the enduring mysteries in Hawaiian ornithology has been the origin of the two "Harvard" specimens of this species, concerning which Bangs (1910: 68) wrote: "The exact origin of these skins, of excellent make and in perfect preservation, I have been unable to learn. They came to the museum [Museum of Comparative Zoology, Harvard University] with a few other Hawaiian birds—six skins of *Acrulocercus* [= *Moho*] *nobilis* and several petrels and terns—and were catalogued by Dr. J. A. Allen in 1870; names for none but the Moheo [*sic*] being written on the labels or in the register by that naturalist."

Bangs presumed these two skins of *Ciridops* to be of an adult male and adult female (Figure 1). The latter, however, was regarded as an immature individual by Amadon (1950) and was exchanged before 1930 to the American Museum of Natural History in New York (Olson 1989) for one of the two syntypes of *Drepanis pacifica* (Bangs 1930: 363).

The other three specimens of *Ciridops anna* are known to have come from the island of Hawaii and it has always been assumed that the "Harvard" specimens did likewise. I have

examined all five specimens. That in the British Museum was prepared from alcohol and is consequently heavily bleached and not useful for plumage comparisons. Of the others, only the specimen remaining at Harvard and the holotype at the Bishop Museum are in equivalent plumage. Although they have never been directly compared, the available photographs and descriptions and my personal recollection of their appearance does not indicate them to differ from each other in plumage pattern or coloration.

I shall here build a case, on what I regard as compelling circumstantial evidence, that the "Harvard" specimens of *Ciridops* were obtained in 1864 or 1865 by William T. Brigham. Further circumstantial evidence suggests that Brigham may have obtained these birds on the island of Molokai, where the species was never otherwise recorded in the historic period.

William Tufts Brigham (b. 24 May 1841, d. 29 January 1926) was a Bostonian who was destined to become the first curator and director of the Bernice P. Bishop Museum in Honolulu. After graduating from Harvard College in 1862, he journeyed to the Hawaiian Islands, arriving 5 May 1864, in the company of Horace Mann, Jr. (b. 25 February 1844, d. 11 November 1868), whose principal interest was in botany. Each of these men traveled extensively in the Islands in pursuit of natural history. Brigham wrote that his explorations "took me all over" (Rose 1980: 22). Although Brigham (in Anonymous 1894: 44) stated that

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FIGURE 1. The "Harvard" specimens of *Ciridops anna*. That on the left is the presumed adult male remaining at Harvard (MCZ 10995) photographed before removal of the skull and its replacement with a cast (see Olson et al. 1987). The specimen on the right is the presumed female or juvenile that was exchanged from Harvard to the American Museum of Natural History, where it is now AMNH 230275.

"for more than a year," he and Mann "were constant companions" and "for more than six months we kept house together in Honolulu," much of Mann's exploration was done on his own. "While in a state of suspense as to what to do, Brigham had an offer as a position of teacher at the 'Oahu College' which he accepted and while he teaches I shall go off and make collections so that I think we are settled in that programme for the next six months" (Mann, in litt. to Asa Gray, 4 September 1864 [Archives, Gray Herbarium Library, Harvard University Herbaria, Horace Mann Papers]).

Mann's letters to Asa Gray indicate that he

traveled extensively among the Islands, although he did not visit Molokai. Mann left the Islands in May 1865 (Anonymous 1869: 45) and returned to Harvard "with their collection of plants, minerals, corals, shells, and other marine creatures" (Rose 1980:22). Brigham departed in the fall of 1865 and returned to Cambridge by way of China and India. Mann published to some extent on the flora of the Hawaiian Islands (Mann 1866–1871), a work interrupted by his untimely death at age 24. There is no mention whatever of birds in Mann's correspondence with Asa Gray (Archives, Gray Herbarium Library,

Harvard University Herbaria, Horace Mann papers), and any avian specimens from their joint venture would most likely have been taken by Brigham.

Brigham wrote on aspects of the geology of the Islands (e.g., Brigham 1868, 1869) and for a while (1868–1869) assumed Mann's post at Harvard as instructor in botany, but never published anything substantive on birds from the Hawaiian Islands. We do know for certain that the Brigham/Mann collections did include a few specimens of birds, however, because of evidence from two sources. Brigham wrote as follows to Sanford B. Dole, an influential Honolulu lawyer with an interest in ornithology who later became the first territorial governor of Hawaii: "I am afraid that I shall have to give up my position as Instructor in Botany at Harvard as I do not feel strong enough to do the work. I shall present your List of Birds at the next ladies [*sic*] meeting of the Nat. Hist. [Boston Society of Natural History]. I have written to Dr. Brewer about your 'sperm whale bird.' The death of John Cassin [preeminent American ornithologist at the Academy of Natural Sciences of Philadelphia] is a dreadful loss to ornithology, as no one in this country could compare with him in knowledge of foreign birds. *He did not examine our Hawaiian skins* [emphasis added]. I have got the British Museum Catalogue of Birds of Pacific Ids. [=G. R. Gray 1859] which I will send to you by the first chance. Why not try to collect the birds of the other islands—Marquesas—Micronesia to [*sic*] by correspondents?" (Brigham, in litt. to Dole, 25 January 1869 [Hawaiian Mission Children's Society Library, Honolulu, File "Brigham, Wm. T. to SBD[ole] 1866, 1867, 1868, 1869, 1870, 1897"]).

The "List of Birds" refers to Dole's "Synopsis of the Birds Hitherto Described from the Hawaiian Islands," which was duly read before the Boston Society of Natural History on 17 February 1869 and published in the Society's *Proceedings* (Dole 1869). This was the first summary of the avifauna of the Islands, apart from the tabulation in Finsch and Hartlaub (1867), and contains the following statements that are of prime significance in the present connection (Dole 1869:295): "Messrs. Brigham

and Mann, during their recent visit to the islands, found great difficulty in obtaining specimens of the mountain birds, of which they saw great numbers, and only procured some four or five species. The former found a bird on Molokai, which the natives said was a 'malihini,' or stranger, and portions [of the collection presumably, not portions of the bird] were placed in the collection of the Society, but have not yet been identified. The compiler has made a few additions to the birds already noticed. He would here acknowledge the material assistance in this work, rendered him by Wm. T. Brigham, Esq., of Boston, whose notes were placed at his disposal."

Despite a fairly intensive search in both Cambridge and Honolulu (see Acknowledgments), I have failed to locate any of Brigham's ornithological notes, nor any correspondence between him and Dole concerning Hawaiian birds, apart from the letter quoted above. Dole published a revision of his 1869 list that contained the original description of "*Fringilla*" *anna* (Dole 1878), but this was based on a specimen collected by Mills on the island of Hawaii, to which island the species has always been presumed to be endemic.

The Harvard collection containing the specimens of *Ciridops* consists of 12 specimens cataloged at the Museum of Comparative Zoology as follows (nomenclature after American Ornithologists' Union 1983): 10984–10985, *Oceandroma castro*; 10986, *Vestiaria coccinea*; 10987, *Ciridops anna*; 10988, *Anous minutus*; 10989–10994, *Moho nobilis*; 10995, *Ciridops anna*. This series conforms with Dole's statement that the Brigham/Mann collection comprised only "some four or five species."

As quoted above, Rose (1980) credited Mann with taking the Brigham/Mann collections back to Harvard. January 1870, when the birds were cataloged, was scarcely a year after Mann's death. Quite possibly they were still in his possession when he died and in due course were passed on to the authorities at Harvard by Mann's family, or even by Brigham, who helped settle Mann's affairs, including the completion of his botanical reports. This could explain why the specimens were not, in fact, acquired by the Boston

Society of Natural History, as might have been assumed from Dole (1869). The collections of the Boston Society were eventually turned over to the Museum of Comparative Zoology, but not until after 1909 (Bangs 1930), long after the material in question was cataloged at MCZ. There are no birds in the Boston Society acquisition that can be identified as the Brigham/Mann collection. Furthermore, although Helen James and I have examined and recorded data from virtually every specimen of Hawaiian bird in the major museums of the world, nowhere have we located any other material that might logically be attributed to the efforts of Brigham and Mann.

Because the specimens in question were collected before January 1870, which is before any systematic ornithological exploration in the Hawaiian Islands, there would have been very few other potential sources for this material. They certainly did not originate in Cook's voyage (Medway 1981). All of the specimens collected by Andrew Bloxam on the voyage of the *Blonde* in 1825–1826 were listed in his manuscript notes, which I have examined (Olson 1986), and the only species in common to the two collections is *Vestiaria coccinea*. From the list of birds obtained by the U.S. Exploring Expedition in 1840–1841, it is obvious that the collection could not have come through that source (Peale 1848, Cassin 1858). I have examined the material from the Danish *Galathea* expedition (1846) in Copenhagen and Berlin and it is clearly labeled. One possible source might have been the collector Andrew Garrett, who resided in Hawaii from 1852 intermittently through 1863 (Thomas 1979). But Garrett was mainly a collector of marine life; his bird specimens were relatively few, were often originally preserved in spirits (which the specimens of *Ciridops* definitely were not), and when made up as skins were of decidedly inferior quality to the specimens of *Ciridops*.

Thus, the size, the timing of its acquisition, the fact that it appeared at Harvard, and the lack of any alternative collection possibly attributable to Brigham/Mann all tally with the MCZ series containing *Ciridops* being the

Brigham/Mann bird collection referred to by Dole (1869) and in Brigham's correspondence.

If, then, the two specimens of *Ciridops anna* came from the Brigham/Mann collection, from which island did they come? The only certain historical occurrences of the species are from the island of Hawaii. *Moho nobilis*, which was endemic to Hawaii, is the most abundantly represented bird in the presumed Brigham/Mann collection. The source island of the other specimens cannot be determined by their historic ranges, because these species are all widely distributed in the archipelago.

What, then, was the strange bird that Dole said Brigham found on Molokai that was unknown to the natives? It is probably not unreasonable to assume that Brigham had a specimen or specimens of this bird to show when he made his inquiries. Of the species in the presumptive Brigham/Mann collection, *Moho nobilis* and *Vestiaria coccinea*, both renowned for providing the feathers for the much-admired Hawaiian feather cloaks, were probably the most familiar of all Hawaiian forest birds and would have been well known both to Brigham and to the natives. It is not likely that the Black Noddy, *Anous minutus*, would have been represented by Brigham as something enigmatic. Likewise, storm-petrels such as *Oceanodroma castro* would have been well known to anyone who traveled in the days of sailing ships. If Brigham obtained the two storm-petrels in the Harvard collection, he seemingly didn't bother to mention the fact to Dole (1869), whose only record of a storm-petrel was of "an unnamed species from the Hawaiian Islands . . . in the Smithsonian collections"; this was a reference to specimens cataloged in 1866 and collected on Kauai by Valdemar Knudsen that later became syntypes of *Cymochorea cryptoleucura* Ridgway, 1882.

Therefore, I suggest that Brigham's "malihini" bird from Molokai was, in fact, *Ciridops anna*, a species quite unknown to science at the time. It was probably on the verge of extinction wherever it occurred in the mid-nineteenth century and thus likely to have been unknown to most natives as well.

Bones of *Ciridops* have been found in fossil

deposits on Molokai, Oahu, and Kauai (Olson and James 1982, James and Olson 1991). Whereas those from Kauai are from a new species, and those from Oahu are also possibly distinct, the bones from Molokai appear to be indistinguishable from those of *C. anna*. Thus we know that *Ciridops* inhabited Molokai at least up until the late Holocene, and there is no reason why it could not have persisted on Molokai into the historic period, just as it did on Hawaii.

The evidence that William T. Brigham collected two specimens of *Ciridops anna* on Molokai in 1864–1865 is thus far entirely circumstantial. Because only a few written words would suffice to establish a positive link between Brigham, *Ciridops*, and Molokai, a much more concrete case might be made if Brigham's notes and correspondence with Dole that preceded the publication of Dole's (1869) list could be found.

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