

## ‘O’u

## *Psittirostra psittacea*

**native resident, endemic, endangered, presumed extinct**

monotypic

The 'O'u, endemic to the *Southeastern Hawaiian Islands*, was considered the most abundant of the Hawaiian honeycreepers and was found on all six major islands during the 1880-1890s (Perkins 1903) but is now presumed extinct (Snetsinger et al. 1998, Reynolds and Snetsinger 2001, Pratt 2005). C. Clerke (*in King 1779*) made the first post-contact mention of the 'O'u during Cook's third voyage, noting that a "bird with a yellow head, which, from the structure of its beak, we called a parroquet, is likewise very common", but that it "by no means belongs to the tribe [slender-billed Drepanines], but greatly resembles the *Lexia* [sic] *flavescens*, or yellowish cross-bill of Linnaeus". The species was described based on specimens collected during this voyage (Gmelin 1789, Wilson and Evans 1899, Stresemann 1950, Medway 1981). Although several other species and subspecies of 'O'u were subsequently described from other islands, including "*P.p. olivacea*" amended to "*P.p. deppet*" from O'ahu (Rothschild 1900, 1905) and "*P.p. oppidana*" from Moloka'i (Bangs 1911; see also [Lana'i Hookbill](#)), Stejneger (1887b) Bryan and Greenway (1944), and others showed that the differences were within the normal range of variation for this sexually dimorphic species, and it has since been regarded as monotypic (see [Synonymies](#)). 'O'u, [Apapane](#), and [I'iwi](#) all shared the trait of riding thermals and undergoing high-altitude flights in flocks (e.g., Wilson 1890a, Perkins 1901, Bryan 1908, Munro 1944, Baldwin 1953), which could have resulted in frequent inter-island movements and maintenance of genetic uniformity between islands (Freed et al. 1987, Tarr and Fleisher 1995). Native Hawaiians had separate names for males ('*O'u po'olapalapa*) and females ('*O'u laueo*), which described their differing plumages (Munro 1944).

On *Kaua'i*, Stejneger (1887b) considered the 'O'u "rather rare" but Bryan and Seale (1901, 1915) found them common at low elevations in the 1890s. By the 1940-1970s observations were primarily restricted to singles or pairs in the Alaka'i Swamp (e.g., Richardson and Bowles 1964; Berger 1972, 1981; Banko 1986; Conant et al. 1998, Gorresen et al. 2009; *E* 2:52, 22:3, 24:22-23, 28:102, 32:51-54, 37:29), although 6 together and at least 10 overall were observed at the head of the Koaie Stream 1 Jun 1968 (*E* 29:19). The 'O'u was listed as endangered by the USFWS in 1967 and by the State of Hawaii in 1982 (USFWS 1982c, 1983c, 1983d, 2006), with exposure to avian malaria considered the primary (but not the only) threat (Atkinson 1977; Scott and Kepler 1985; Scott et al. 1985, 1986). Sincock et al. (USFWS 1983c) estimated a total population of 62 in 1968-1973 and Scott et al. (1986) estimated only 10 remaining in 1981, based on a sighting of only one individual on transects during the [HFBS](#); similarly, only one could be found during a survey in 1984 (Scott and Kepler 1985). The last confirmed observation was of one on 17 Feb 1989 (*AB* 43:370, *HWN* 4[2]:1; *cf.* *E* 53:49) and the 'O'u is now presumed extirpated from Kaua'i (Reynolds and Snetsinger 2001, Forster et al. 2004, USFWS 2006; see also below).

On *O'ahu*, up to 46 specimens were collected, beginning with one by Bloxam in 1825 (Olson 1996b) and concluding with one by Mann in 1869 (Rothschild 1900, Banko 1979). Subsequently the 'O'u was not found commonly, perhaps because it was already declining there by the mid-1800s (Perkins 1903, Munro 1944). Wilson could not find them in 1887-1888 (Banko 1986) and believed them "extinct or extremely scarce" on O'ahu at that time (Wilson and Evans 1899). A pair observed by Perkins (1903) in 1893 at about 914 m elevation on Mt. Ka'ala is the last confirmed observation from O'ahu;

Perkins (*in* Evenhuis 2007:111) considered them possible transients from Kaua'i or Moloka'i. Bryan (1901a) possibly observed one in Moanalua Valley in Oct 1899. On *Moloka'i* 'O'u were common in the late 1800s along the cliffs above Kalaupapa (Wilson 1890a, Wilson and Evans 1899) and in the interior (Schauinsland 1906; see *E* 57:76-79). Bryan (1908) found them widely distributed but uncommon in Apr-Jun 1907 and collected 16 individuals, but these were the last substantiated record for the island (Munro 1944; *cf.* *E* 27:90-91); Elphick et al. (2009; see below) estimated that it became extirpated there in 1911-1928. Perkins (1903) and others considered 'O'u "excessively common" on *Lana'i* during the late 1800s (Munro 1944), and were still considered common there in 1913 (Munro 2007) but they quickly vanished, 5-6 specimens collected in 1923-1927 (Banko 1986) and observations in 1931 ("rarely") by Munro (*in* Gregory 1932) being the last reports (*cf.* *E* 6:3, Hirai 1978b; see also below). On *Maui*, Finsch (1880) noted 'O'u as abundant above Olinda in 1879. Fifteen specimens were secured by early naturalists in 1892 and 1901, the last by Henshaw on 21 Jun 1901 (Banko 1979, 1986; see also below). Banko (1986) credits Baldwin with a possible observation on Maui in 1945 but it was not mentioned by Richards and Baldwin (1953) and we assume this report is an error.

On *Hawai'i*, 'O'us were brought alive to Captain Cook (Cook and King 1784; misidentified as [Hawaii Creeper](#) and ['Elepaio](#) by Beaglehole 1967:630) and they were noted by later 19<sup>th</sup>-century naturalists as being common or abundant and widespread (Perkins 1893, 1903; Rothschild 1900; Henshaw 1902a). They were generally found between 300 and 1200 m elevation but were collected as low as Hilo in 1875 (Sclater 1881) and were reported by Palmer up to 2100 m (Rothschild 1900). Subsequently, none were reported for over 30 years (Banko 1986) and by the 1930-1950s only small numbers were detected in the upper Ola'a Forest Preserve and in the Puna District, at elevations of 750-1220 m elevation (e.g., Baldwin 1944, 1953; Richards and Baldwin 1953; *E* 5:55, 11:64, 16:41). Scattered observations of 'O'u in these and other areas of se. Hawai'i continued through the 1970s (e.g., Dunmire 1961; Conant 1980b, 1981; USFWS 1982, 2006; Gorresen et al. 2009; *E* 20:89, 35:21, 40:158). Only 33 individuals were recorded on transects during the [HFBS](#) in 1977-1979 (32 in Hamakua and one in Puna; [HRBP](#) 5402), and based on this Scott et al. (1986) estimated about 400 individuals remaining at 900-1500 m elevations. Highest densities were in the upper Waiakea Forest Reserve in forests that have since been destroyed by volcanic eruptions (Snetsinger et al. 1998, Reynolds and Snetsinger 2001). Subsequent declines in numbers were severe and the last substantiated observation was of 2 individuals in the Ola'a tract 14 Jun 1986 (*cf.* *E* 47:65). Considering the plummeting population trajectories on other islands and the preference of this species for lower elevations, we now presume the 'O'u is extinct on Hawai'i I and all other Hawaiian islands (Reynolds and Snetsinger 2001, Gorresen et al. 2009). Based on Poisson analyses of persistence probabilities using confirmed and unconfirmed records, Elphick et al. (2009) estimated that the 'O'u was extirpated on Hawai'i I in 1984-1990, with upper limits of 1998-2001. Values for estimated extirpation years on other islands include 1984-1993 (upper limit 2002-2007) on Kaua'i, 1911 (1928) on Moloka'i, 1932-1934 (1948-1959) on Lana'i, and 1905 (1919) on Maui.

#### [Acronyms and Abbreviations](#)

#### [Literature cited](#)

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