

‘AKEPA

Loxops coccineus

Other: 'Akakane (Hawai'i I), 'Akepeu'ie (O'ahu, Maui)

L.c. coccineus (Hawai'i I)

L.c. wolstenholmei (O'ahu)

L.c. ochraceous (Maui)

native resident, endemic, endangered

O'ahu (and possibly Maui) subspecies extinct

The 'Akepa is a relatively distinct species among Hawaiian honeycreepers, currently sharing the genus *Loxops* with the ['Akeke'e](#) and perhaps with the [Hawai'i Creeper](#); see also [Synonymies](#). Some taxonomists (e.g., Amadon 1950) had expanded the genus to include 'amakihis, "creepers", and other small green or yellow Drepanines, but the distinct crossed mandibles of 'Akepa and 'Akeke'e (Perkins 1903, Richards and Bock 1973, Hatch 1985), along with other taxonomic evidence, restricts *Loxops* to these two or three species (Greenway 1967; Berger 1972, 1981; Pratt 1989b, 2005, 2009; AOU 1991; Tarr and Fleischer 1995). Some authors have included the Akeke'e as a subspecies of 'Akepa but most taxonomists agree that the Akeke'e should be considered a separate species and that the 'Akepa was comprised of three subspecies found on three islands (AOU 1991; [Synonymies](#)). It is now presumed extinct on O'ahu and possibly Maui, and is uncommon to locally fairly common at higher elevations on Hawai'i I (Lepson and Freed 1997, Pratt 2005). Curiously, it has not been found in the fossil record of any island (Olson and James 1982b, James and Olson 1991). Both the Maui and the Hawai'i subspecies of 'Akepa were listed as endangered by the USFWS in 1970 and by the State of Hawaii in 1982 (USFWS 1982c, 1983d, 1984d, 2006).

Andrew Bloxham (1827a, 1827b) collected the first two specimens of 'Akepa on *O'ahu* during the voyage of the *Blonde* in 1825 (Olson 1996a); his name for it, *rufa*, although long recognized ([Synonymies](#)), turned out to be preoccupied (Stejneger 1900, Olson 1986) and was superseded by *wolstenholmei* (Rothschild 1893b; see also Rothschild 1895, 1900; Wilson and Evans 1899; Newton *in* Evenhuis 2007:182). Twenty additional specimens have been located in museums (Rothschild 1900; W.E. Banko 1979, 1984b; Lepson and Freed 1997). Townsend (1839) and Deppe found them still fairly commonly in Nu'uauu Valley in 1837 but thereafter it was considered rare, not being mentioned by Dole (1879) and not encountered by Wilson during the late 1880s (Wilson and Evans 1899). The last specimen (possibly two, *cf.* Banko 1984b, but probably not) was collected by Palmer's assistant E. Wolstenholme on 24 (not "20") April 1893 in the mountains of the Wailua District (Rothschild 1900). Both Palmer and Perkins were also present when the specimen was taken (*cf.* Evenhuis 2007:110), and it represented the only encounter of the 'Akepa on O'ahu by Palmer (Rothschild 1900). Perkins (1903, *in* Evenhuis 2007:110) later noted only a single pair in the forests of the Wahiawa district, probably in 1900-1901 (Munro 1944, W.E. Banko 1984b). We consider these the last substantiated records of what is now an extinct taxon. Subsequent unsubstantiated reports include one around 1935, 1937, or 1939 (*E* 5:32, 14:76, and 23:55, respectively) along the Kipapa Trail above Mililani, and in Dec 1976 near the summit of the Schofield-Waikane Trail above Wahiawa (Shallenberger and Vaughn 1978; *AB* 31:376). Based on Poisson analyses of persistence probabilities using confirmed and unconfirmed records, Elphick et al. (2009) estimated that the 'Akepa went extinct on O'ahu in 1916, with an upper limit of 1986.

On *Maui*, specimens of 'Akepa were first collected by Otto Finsch (1880), who considered it the same as Dole's (1879) "*Hypoloxia aurea*" from Hawai'i I (see [Synonymies](#)). Palmer next secured a series of 20 in 1892, upon which Rothschild (1893g), unaware of Finsch's name, described it as a new species "*Loxops ochracea*". Wilson and Evans (1899) and Rothschild (1900) sparred a bit on the naming, Rothschild ultimately pointing out that Dole's "*aurea*" referred to the nominate subspecies of 'Akepa from Hawai'i I and could not be applied to the Maui taxon (see also Stejneger 1900, Olson 1994, [Synonymies](#)). Banko (1979) and Lepson and Freed (1997) note the existence of 62 specimens of 'Akepa from Maui, the last ones collected by Henshaw (1902a) near Ukulele 10-15 Jun 1901. Most specimens appear to have been secured at 1000-2000 m elevations above Olinda, although some may have been taken by Palmer as far E as Kipahulu Valley. Perkins (1903) considered it abundant to locally common on the northwest slopes of Haleakala in 1894; there are no records for the W Maui Mts.

Subsequent documentation of 'Akepa on Maui include sight records only, and we are unsure how far into the 20th century it survived; reflecting this uncertainty, Elphick et al. (2009; see above) estimated that it was extirpated in 1905-1987 with an upper limit of 1919-2004. Munro (*in* Gregory 1928, 1936) searched for them in 1928 and 1936 without success. From 1950 to 1995 there have been scattered reports of Maui 'Akepa from upper slopes of Haleakala. Over 100 individuals reported in 1961 (*E* 22:20) were questioned by E. Bryan (*E* 22:21) but remaining observations include descriptions of 1-3 individuals from experienced observers into at least the early 1980s (e.g., Richards and Baldwin 1953, Casey 1973, Scott and Sincok 1977, Conant 1981, Engilis 1990), and these could well be correct. Based on observations of 8 individuals at four locations during the [HFBS](#) in 1980 (later questioned by USFWS 2006), Scott et al. (1986) estimated a population of about 230 individuals with a patchy relict distribution, perhaps concentrated at 1100-2100 m elevation in and W of the Waikamoi watershed. Other observations in the 1970-1980s occurred near the junction of Kipahulu Valley and Haleakala Crater. Since the 1980s several reports have been by observers spending one to a few days in the field whereas intensive surveys (Baker 2001, Reynolds and Snetsinger 2001, Simon et al. 2002, USFWS 2006) have failed to confirm them. We presume that the 'Akepa on Maui, if it survived far into the 20th century at all, may now be extinct, or close to it, the victim of diseases and habitat deterioration resulting from cattle and pigs (Scott and Kepler 1985, Scott et al. 1985).

A male 'Akepa was first collected on *Hawai'i I* during Cook's third voyage, probably near Kealakakua Bay, upon which the species was described as the "Scarlet Finch" by Latham (1781-1785) and as *Fringilla coccinea* by Gmelin (1789; see also Stresemann 1950, Medway 1981, [Synonymies](#)). Early naturalists (Wilson and Evans 1899; Rothschild 1900; Henshaw 1902a; Perkins 1893; 1903; Munro 1944) variably assessed the status of 'Akepas on Hawai'i as from "nearly extinct" to "widespread and common to abundant" (summarized by Banko 1984b, Lepson and Freed 1997). It was found in most forests of all four mountains, as low as 550 m, and appeared to be fairly common but locally distributed. Observations since 1935 have been restricted to elevations >1100 m in 3-5 disjunct areas around the island (Richards and Baldwin 1953, Dunmire 1961, Conant 1975, Pratt et al. 1977, Banko 1984b, Scott et al. 1986, Lepson and Freed 1997, Lepson and Woodworth 2002, USFWS 2006), where there are larger trees present to support nest cavities (Freed 2001, Hart 2001). An 'Akepa specimen

reported by Munro (1944) from 3965 m elevation on Mauna Kea, over 30 km from the nearest forest, proved to be a [Red-billed Leothrix](#) (Montgomery and Howarth 1980). They had disappeared from the Kohala Mts by the 1970s (van Riper 1982a, 1982b; Scott et al. 1986). A total population of about 14,000 individuals was estimated during the [HFBS](#) in 1977-1979 by Scott et al. (1986): 5,300 above Ka'u, 7,900 along slopes above Hamakua, and 660 above Kona on the slopes of Hualalai (see also Pratt et al. 1989, Ralph and Fancy 1994b, Fretz 2002). The population above Kona has declined rapidly and may be extirpated (Lepson and Freed 1997, BLI 2009, Camp et al. *in* Gorresen et al. 2009) whereas the status elsewhere on Hawai'i during the 2000s was being debated (*EH* 17:1, 5-6) but appear to be stable (Camp et al. 2009, *in* Gorresen et al. 2009). Numbers recorded on the Volcano [Christmas Bird Count](#) indicate fluctuation and a near-significant declining trend ([Graph](#)). To help manage populations, nest boxes were erected and were being used in the 2000s (BLI 2009, Pratt et al. 2009a), and they are considered a good candidate for captive propagation (Lieberman and Kuehler 2009). Banko (1979) lists 215 specimens of 'Akepa from Hawai'i that he located in museums at that time.

[Acronyms and Abbreviations](#)

[Literature cited](#)

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