HAWAI'I 'AKEPA *Loxops coccineus*

Other: 'Akakane monotypic

native resident, endemic, endangered

The 'akepas are a relatively distinct species-group of four taxa among Hawaiian honeycreepers, sharing the genus *Loxops* 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 the 'akepas (Perkins 1903, Richards and Bock 1973, Hatch 1985), along with other taxonomic evidence, restricts *Loxops* to these five taxa (Greenway 1967; Berger 1972, 1981; Pratt 1989b, 2005, 2009; AOU 1991, 2013, 2015; Tarr and Fleischer 1995, Fleischer et al. 2001, James 2004, Olson 2009). The 'akepas have been considered as comprising from one to four species (see Synonymies); based on genetic, morphological, plumage, and behavioral differences (Pratt 1989b, 2005, 2014), the 'Akeke'e of Kaua'i was split from the other three taxa by the AOU (1991) and the O'ahu Akepa and Maui Akepa were afforded separate-species status by the AOU (2015). Curiously, the 'akepas have not been found in the fossil record of any island (Olson and James 1982b, James and Olson 1991).

A male Hawai'i 'Akepa was first collected during Cook's third voyage, probably near Kealakakua Bay, ***Hawai'i I***, 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 the Hawai'i 'Akepa 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. However, 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). A specimen of Hawai'i 'Akepa identified by Munro (1944) from 3,965 m elevation on Mauna Kea, over 30 km from the nearest forest, proved to be a Red-billed Leothrix (Montgomery and Howarth 1980). Banko (1979) lists 215 specimens of 'Akepa from Hawai'i I located in museums at that time.

By the 1970s Hawai'i 'Akepas had disappeared from the Kohala Mts (van Riper 1982a, 1982b; Scott et al. 1986) and the species was listed as endangered by the USFWS in 1970 and by the State of Hawaii in 1982 (USFWS 1982c, 1983d, 1984d, 2006; VanderWerf 2013a). A total population of about 14,000 individuals was estimated during the HFBS in 1977-1979 (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, Pratt et al. 2010) and numbers recorded on the Volcano Christmas Bird Count indicate a

significant declining trend (Graph). The status at higher elevations such as in Hakalau Forest NWR during the 2000-mid 2010s was debated (*EH* 17:1, 5-6), reported to be declining (Freed et al. 2008; Freed and Caan 2010, 2013) or more-or-less stable (Camp et al. 2009, 2010a, 2014c, 2015). During 2010-2016, single-day counts of up to 15 were regularly recorded at Hakalau Forest NWR (high count 26 on 28 Apr 2012) and small numbers (usually <4) were being recorded in kipukas in the Hilo and Upper Waiakea Forest Reserves, off Saddle Road (high count 5 on 9 Feb 2013). To help manage populations, nest boxes were erected and were being used in the 2000s-mid 2010s (BLI 2009, Pratt et al. 2009a. Camp et al. 2010a, VanderWerf 2013a), and they are considered a good candidate for captive propagation (Lieberman and Kuehler 2009).

Acronyms and Abbreviations

Literature cited

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