Other: O'ahu Creeper (<1997) monotypic

## native resident, endemic, endangered, presumed extinct

The O'ahu 'Alauahio, known as the O'ahu Creeper until 1997, was formerly widespread on *O'ahu* (down to sea level in the fossil and subfossil record; Olson and James 1982b, James 1987) but is now presumed extinct. It was the first of Hawaii's "creepers" to be described and because "creepers" from other islands have variously been considered conspecific, the name *maculata* has been applied to what is now considered five different species of two or three genera (see <a href="Synonymies">Synonymies</a> and 'Akikiki). Placement of *Paroreomyza* in the Drepaninae has also been questioned (Pratt 1992a, Tarr & Fleisher 1995) but it has since been considered unequivocally a Hawaiian honeycreeper and perhaps allied with *Oreomystis* (see 'Akikiki) as a basal taxon unrelated to other thin-billed species (Fleisher et al. 2001; Pratt 2001, 2005, 2014; James 2004; Reding et al. 2009; Olson 2009; Lerner et al. 2011).

The O'ahu 'Alauahio was first collected in 1836 or 1837 by Townsend and Deppe, perhaps in Nu'uanu Valley during 11-15 Jan 1837, when they collected many native birds (Townsend 1839). Early naturalists, primarily Palmer (Rothschild 1893b, 1900), Perkins (1903), and Munro (1944, E 11:29), found O'ahu 'Alauahios to be uncommon to fairly common during the 1890s in both the Ko'olau and Wai'anae ranges, "far back in the forests" and at elevations above 450 m. By the late 1800s, however, Perkins (1903) noted that O'ahu 'Alauahios seemed "to have disappeared from the mountains in the vicinity of Honolulu where it formerly occurred". Indeed, the only specimens from the Ko'olau range collected by Perkins appear to have been taken at the N end (above Kawailoa) and Palmer only observed and collected it in the Wai'anae Range (Rothschild 1900, Banko 1984b). Seale (1900) apparently failed to find O'ahu 'Alauahios during extensive collecting in the late 1890s, but Bryan (1905b) found them to persist in small groups in forests of the Wai'anae Mts and collected 13 specimens. The last substantiated records of the O'ahu 'Alauahio were of specimens collected by Loye H. Miller at Leilehua Ranch in the Wai'anae Mts above Wahiawa in Apr-May 1903, by L. Richards near Pu'u Kamana (between Waiawa and Kipapa streams) at 425 m elevation 20 Jul 1950, and by G.E. Swedberg at 700 m elevation along the Poamoho Trail in the nc. Ko'olau range 19 Sep 1968 (not 9 Sep as reported E 38:136). The 1950 specimen (MVZ 122617) is a flat skin only (no skull) and the 1968 specimen (BPBM 155011) is preserved in fluid but identifications of both appear correct (PP examination). Flocks of 30-50 individuals were reported on the date the last specimen was secured but it seems likely that O'ahu 'Amakihis may have comprised most of this flock. Banko (1979, 1984b) summarized early observations and localities of most specimens collected. It was listed as endangered by the USFWS in 1970 and by the State of Hawaii in 1982 (USFWS 2006).

Since the last verified specimen was collected, in 1968, there have been more than 30 sight reports of O'ahu 'Alauahio, through 2002, from throughout the Ko'olau and Wai'anae ranges. This contrasts with the observations of Munro (1944, *E* 11:29), who hiked more than 200 miles throughout O'ahu in 1935 without observing a single individual, and W. Donagho (*E* 27:96-97), who failed to find any during his extensive

forays between 1947 and 1966. Shallenberger and Pratt (1978) and Shallenberger and Vaughn (1978) vetted all records published in the 'Elepaio and elsewhere between 1940 and 1978, and considered only three records to be "virtually certain," the remainder ranging from "probable" to "highly unlikely" (see also Elphick et al. 2009). Some of these records include well-described birds (e.g., Shallenberger and Vaughn 1978; E 19:26, 35:31, 46:132-133); however, many published observations indicate uncertainty (cf. Shallenberger 1977b) and several of these descriptions were based on birds "creeping" (which 'alauahio's are not known to do) and/or favor juvenile O'ahu 'Amakihis, which can be very similar in appearance. The vast majority of recent reports of O'ahu 'Alauahios are from Jul-Nov, when juvenile 'amakihis are prevalent. One individual identified as an O'ahu 'Alauahio was studied by numerous observers at a sap leak of a koa tree along Aiea Trail above Aiea in Dec 1976 and it was concluded after long evaluation to have been an O'ahu 'Amakihi. Because of the similarity between these two species, potential confusion with the <u>Japanese Bush-Warbler</u>, and the fact that field guides may have been misleading (cf. Shallenberger and Pratt 1978), we consider all sight reports since 1968 as unsubstantiated. Extensive searches during the 1990s (see P. Baker and Baker 2000, Pratt 2005) have failed to locate O'ahu 'Alauahio and, based on Poisson analyses of persistence probabilities using confirmed and unconfirmed records, Elphick et al. (2009) estimated that it went extinct (or will do so) in 1974-1981, with upper limits of 1989-2020; see also Roberts (2010). We consider the O'ahu 'Alauahio to be extinct.

Acronyms and Abbreviations

## Literature cited

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