MAUI 'ALAUAHIO

Paroreomyza montana

Other: Maui Creeper (<1997)

native resident, endemic (Maui); extirpated (Lana'i)

The Maui 'Alauahio is polytypic, with the nominate subspecies initially discovered on Lanai (*P.m. montana*, Wilson 1889a) and *P.m. newtoni* later described from Maui (Rothschild 1893d), reflecting the fact that the Maui's avifauna was generally and inexplicably the last to be documented. See 'Akikiki, O'ahu 'Alauhio, and Synonymies for information on the taxonomic history of the 'alauahios and "creepers," including consideration that the 'alauahios, in particular *newtoni*, may not be members of Drepaninae. Pratt and Pratt (2001; see also Pratt 2005) suggest that populations formerly found in the W Maui Mts (see below) were intermediate between the two subspecies. The Maui 'Alauahio is common in the subfossil record of Maui, down to lower elevations than historically recorded (James and Olson 1991) and probably on Moloka'i although the species there is not confirmed (James and Olson 1991, H. Baker and Baker 2000, Pratt 2005). A Drepanine genus with a long, blunt-tipped bill, *Vangulifer*, with two species found in the subfossil record of Maui, may have been closest to *Paroreomyza* (James 2004, pers. comm.)

On *Lana'i*, Wilson collected four or five specimens in 1888, upon which he named the species in 1889, followed by Palmer's collecting of 18 specimens in 1892 (and perhaps in other years) and Perkins' collecting of 27 specimens in 1894 (Wilson and Evans 1899; Rothschild 1900; Perkins 1903; Banko 1979, 1984b). These early naturalists generally considered the 'alauahio to be common on Lana'i at elevations upwards of 450-600 m, as its name "*montana*" implies. Munro (1944 and *in* Gregory 1924, 1929, 1932, 1933) collected eight more specimens in 1923-1928 and documented a steady population decline through Mar 1937, when he made the last known observation of a pair. The Maui 'Alauahio is undoubtedly extirpated from Lana'i (Hirai 1978b, Scott et al. 1986); based on Poisson analyses of persistence probabilities using confirmed and unconfirmed records, Elphick et al. (2009) estimated that it was extirpated there in 1928-1937, with upper limits of 1934-1942.

On *Maui* the 'alauahio was historically widespread (e.g., Perkins 1903), including populations in the W Maui Mts and around Mt Haleakala, but it is now restricted to upper-elevation forests of the latter, primarily the ne. slopes, where it remained a fairly common species through the mid-2010s. It was first collected on Maui in 1879 by O. Finsch (1880) but he did not recognize it as separate from <u>Hawai'i 'Amakihi</u>, and it was left to Rotshchild (1893d) to describe the subspecies (as a species) based on specimens collected by Palmer in 1892 (Banko 1979, 1984b). Several specimens collected in the W Maui Mts by Perkins in 1896 (Banko 1979, 1984b), at which time it was considered "hardly less than extremely abundant" there (Perkins 1903), are the last substantiated records from that side of Maui. On Mt Haleakala it was considered abundant at the turn of the 20th century (Henshaw 1902a, Perkins 1903) but by the 1930s it was generally noted as only "fairly common" or "not uncommon" by Munro (1944 and *in* Gregory 1928, 1929). Banko (1984b) summarizes observations during the 1940s through 1970s, at which time it was variably considered fairly common to very common, but also seemed

P.m. montana (Lana'i) *P.m. newtoni* (Maui) to be contracting to higher elevations. It gradually disappeared from the crater and more accessible areas (other than upper Kipahulu Valley) of Haleakala NP during the 1960s-1970s (Dunmire 1961; Conant and Stemmermann 1979, 1980) but remained common outside of the park (e.g., Scott and Sincock 1977). During the HFBS in 1980 they were restricted primarily to two disjunct areas: a larger area dominated by native vegetation along the ne. slopes of Mt Halekala (where they were considered "abundant") and in an experimental forest of introduced trees near Polipoli SP on the w. slopes of Mt Haleakala (Scott et al. 1986). At this time the total population in these areas was estimated at 35,000 individuals, primarily between 1,500 and 2,100 m elevation, with a notable drop-off below 1,400 m. A third, small population also still existed in remnant dry forests along the sw. slopes of Haleakala at Kahikinui (H. Baker and Baker 2000) and in the 2010s it was hoped that habitat restoration on the E slopes of Mt. Haleakala might provide additional areas for Maui 'Alauahio populations (Warren et al. 2015). The total population was estimated at <8,550 pairs in 1997 (H. Baker and Baker 2000) but at 55,262 (range 52,729-57,921) individuals in 2011 (Brinck et al. 2012). During the 2000smid 2010s they appeared to be maintaining fairly good densities at appropriate elevation along the ne. slopes of Haleakala, comparable to or higher than those of Scott et al. (1986), but also may have undergone continued contraction of range upslope (Simon et al. 2002, Camp et al. in Gorresen et al. 2009, Brinck et al. 2012). A fire, which consumed much of the vegetation at Polipoli SP in Jan 2007, may have severely impacted the population of 'alauahios (E 67:67-69), but small numbers (up to 5) of 'alauahios were observed in recovering forest there in Feb 2013. During 2010-2016, single-location counts of >15 were regularly tallied at Hanawi Natural Area Preserve (high count 37 on 25 Feb 2011) and at Waikamoi Preserve (high count of 92 on 30 Mar 2011).

Acronyms and Abbreviations

Literature cited

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