## 'AKIAPOLA'AU

Other: Hawai'i Nukupu'u

monotypic

## native resident, endemic, endangered

The 'Akiapola'au is endemic to Hawai'i I, where, in the 2000-mid 2010s, it persisted in small numbers in high-elevation forests (USFWS 1983d, 2006; Pratt et al. 2001). The AOU (1983) referred to this species as H. "munroi" but once 'Amakihis were removed from the genus *Hemignathus* (see Hawai'i 'Amakihi), the name returned to the long-standing wilsoni (Olson and James 1995; AOU 1998, 2015; Pratt et al. 2001, Pratt 2014; see Synonymies). Peale (1848) was the first to write about the 'Akiapola'au (under the name "Hemignathus? lucidus", apparently separate from the Oa'hu Nukupuku; see Synonymies), indicating that a specimen collected on Hawai'i in 1840-1841 was "too much mutilated to venture specific characters for it." Additional specimens collected in 1877 by Baillieu (see Palila) were apparently overlooked by early taxonomists (Banko 1984c, Olson and James 1994a). Wilson (1889b, 1890a) collected 14 specimens in 1887-1888 (Banko 1984c) but thought that they referred to "Heterorhynchus olivaceus", Lafresnaye's (1839) name for the O'ahu Nukupu'u. Rothschild took Wilson to task for this error (see Wilson and Evans 1899) but apparently later felt guilty and made up for it by naming the here-to-fore undescribed species Heterorhynchus wilsoni (Rothschild 1893g, 1900; see Oa'hu Nukupuku for priority of *Hemignathus* over *Heterorhynchus*). The 'Akiapola'au was considered conspecific with the nukupu'us by Bryan and Greenway (1944) and Munro (1944) but Amadon (1950) re-split it based on its unique lower mandible shape. There are no subfossil records of 'Akiapola'au from any other Hawaiian island (James and Olson 1991, 2003).

Early collectors (Wilson and Evans 1899; Rotshchild 1900; Perkins 1893, 1903; Munro 1944) considered the 'Akiapola'au to be common and widespread on Hawai'i during 1887-1896, but by 1898-1901 Henshaw (1902a) noted that they were generally rare and only locally "rather common". Over 150 specimens were secured during this period, including 74 by Henshaw (Banko 1979, 1984c). They were found as low as 600 m above Hilo but primarily at 1,000-1,700 m elevation on the slopes of all three volcanoes.

The next reports of 'Akiapola'au did not occur until 1937 (*E* 11:62-65), after which numerous observations through the 1970s indicated a steady contraction of range and numbers (Berger 1972, 1981; Banko 1984c, Scott et al. 1986). It was listed as endangered by the USFWS in 1967 and by the State of Hawaii in 1982 (USFWS 1982c, 1983d, 2006, VanderWerf 2013a). They were observed fairly commonly in Hawaii Volcanoes NP in the 1940s-1950s (e.g., Baldwin 1953, Richards and Baldwin 1953) but the last report there was in the late 1950s (Dunmire 1961, 1962; Conant 1976; Scott et al. 1986). However, they remain fairly common in the Wai'akea and Ola'a Forest Reserves upslope of the NP (Jacobi 1974, Pratt et al. 1977, Camp et al. 2010), perhaps showing decadal cycles (higher population sizes in the 1970s, 1990s and early 2010s than in the 1980s and 2000s) and a significant increase there between 1971 and 2014 according to Volcano Christmas Count data (Graph). The last observation on Hualalai was in 1971 (*E* 

34:3) and a report from the Kohala Mts that same year (E 34:1) is problematic (see <u>Maui</u> <u>Nukupu'u</u>).

By the late 1970s the island-wide population had been reduced to about 1,500 birds in four fragmented populations in Koa forests at 1,000-2,100 m elevation above Hamakua, Kau, and Kona, and in dry forests at 2,000-2,900 m elevation around the S side of Mauna Kea), according to HFBS data (Scott et al. 1986). Clearing of land and grazing by ungulates were thought to be primary causes of population decline (Scott and Kepler 1985, VanderWerf 2013a) and reforestation was recommended to manage populations (Scott et al., 1985). By 1990-1995 these populations were estimated at about 1,200 individuals, with large decreases occurring above Kau (from 500 to 44) and in the dry Mauna Kea habitats (from about 50 to probably extirpated by 2004; Fancy et al. 1996, Pratt et al. 2001, Gorresen et al. 2009). In 2005, however, the Kau population was estimated at +1,000 birds and the overall population at 2,100 birds (USFWS 2006, Pratt et al. 2009b), indicating increases at higher elevations but decreases at lower elevations (Camp et al. 2009), highly fluctuating occurrence patterns (cf. Pratt et al. 1977, Scott et al. 1986, Camp et al. 2010b; Graph), and/or inconsistent surveying techniques (cf. Pratt et al. 2001). Restoration and management of koa (Acacia) trees and the fencing to eliminate ungulates during late 2000s and early 2010s appeared to help increase the numbers of this population (Pratt et al. 2009a, 2009b; VanderWerf 2013a), and a captive breeding program (based on capture of adults because eggs would be too difficult to safely collect) might also help (Lieberman and Kuehler 2009). During 2010-2016, Akiapola'aus were found regularly in small numbers (usually < 8) at Hakalau Forest NWR, in kipukas in the Hilo and Upper Wai'akea Forest Reserves, off Saddle Road, and in the Wai'akea and Ola'a Forest Reserves above Volcano NP, where a single-day high count of 16 was recorded 13 Dec 2014.

## Acronyms and Abbreviations

## Literature cited

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