'APAPANE *Himatione sanguinea*

Other: *Akakani* monotypic

native resident, endemic

The 'Apapane has long been considered the most abundant of the Hawaiian finches, and it remains so today (Fancy and Ralph 1997, Pratt 2005). During the mid-2010s it was found on all six forested islands, although perhaps approaching extirpation on Lana'i. It is a nectar feeder, specializing on the blooms of the 'ohia lehua (*Metrosideros polymorpha*), the dominant plant of upper-elevation forests. It is also one of four species (along with 'O'u, 'I'iwi, and 'Akohekohe) that undergo seasonal migrations or dispersals and may frequently commute between islands, during storms or otherwise (Munro 1944, Baldwin 1953; but see Berger 1972, 1981). 'Apapanes therefore show little to no geographic variation (Stejneger 1887a [but *cf.* 1900], Wilson 1890a, Amadon 1950).

The 'Apapane was first collected near Kealakekua Bay during Cook's third voyage (Medway 1981) and named by Latham (1781-1785), Gmelin (1789), and Cabanis (1850) as the "Crimson Creeper", *Himatione sanguinea* (see Synonymies). The genus name was based on the use of 'Apapane feathers in Hawaiian war capes (himations) and "*sanguinea*" referred to the blood-colored plumage of adults. Cook (*in* Cook and King 1784:227) had earlier observed one at Waimea, Kaua'i, in Jan 1778, describing it as different from 'I'iwis and the "size of a canary bird, of a deep crimson colour" (see also Beaglehole 1967:630). Bloxam (1827a) named the 'Apapane "*Nectarina byronensis*" honoring Commander Byron of the *Blonde*, unaware of the previous name (see Olson 1996a), wheras "*Himatione*" was also adopted for several species of Drepanines for a time (Synonymies). Earlier taxonomists (e.g., Gray 1859, Sclater 1871; cf. Wilson and Evans 1899) thought that 'amakihis might be female 'Apapanes but this was cleared up by Dole (1879) and Finsch (1880). An interesting record is of a hybrid 'Apapane X 'I'iwi captured in the Upper Waiakea Forest Reserve, Hawai'i I on 28 May 2011 and released (Knowlton et al. 2014).

Banko (1979, 1987d) summarized early observations and localities for 593 specimens of 'Apapane that he located in collections at the time. Accounts by early naturalists (King 1779, Cook and King 1784, Wilson 1890a, Seale 1900, Perkins 1903) and subfossil deposits (Olson and James 1982b, James 1987, James and Olson 1991) indicate that they were common down to low elevations prior to the 1900s, even feeding in beachside coconut palms (King 1779, C. Clerke *in* Beaglehole 1967), although it is unclear whether or not sightings at sea-level during the 1880-1890s were associated only with inclement weather at higher elevations during winter months (see below). They have since become restricted primarily to elevations above 600-1000 m, with seasonal movements, particularly in winter, resulting in occasional observations as low as 200-400 m elevation.

Under 'I'iwi, Wilson and Evans (1899) mention a report of numbers of "these birds" on ***Ni'ihau*** after storms, almost certainly referring to both 'I'iwis and 'Apapanes, as indicated by Newton (*in* Evenhuis 2007:65). A dead 'Apapane found on ***Kaho'olawe*** 17 Mar 2010 was also likely driven there by a storm. 'Apapanes remained common on

Kaua'i, ***Maui***, and ***Hawai'i*** through the mid-2010s, but had become less common on ***O'ahu*** and ***Moloka'i***, and had been reduced to very small numbers on ***Lana'i*** since considered common there in 1913 (Munro 2007). Scott et al. (1986) estimated populations during the HFBS in 1978-1981 of 30,000 on Kaua'i , 39,000 on Moloka'i, 110,000 on Maui (including 16,000 in the W Maui Mts), and over 1,000,000 on Hawai'i I. Subsequent trends on these islands have been difficult to determine due to variable distributions in response to flowering 'ohia (MacMillan and Carpenter 1980, Ralph and Fancy 1995, Hess et al. 2001, Simon et al. 2002, Gorresen et al. 2009). Significant declines have been recorded on the Volcano Christmas Bird Count on Hawai'i in 1972-2014 (Graph), and declines were also noted on Kaua'i during the 1990-early 2010s by Foster et al. (2004) and Paxton et al. (2016), the latter estimating the population on the Alaka'i Plateau at 98,506 birds. During 2010-2016, single-location high counts were recorded on Kaua'i of up to 90 (on 8 May 2013) in the Alaka'i Plateau; on Maui of up to 150 (on 25 Mar 2015) in Waikamoi Preserve and up to 235 (18 Mar 2011) by researchers in the remote Hanawi Natural Area Preserve; and on Hawai'i I regularly of over 100, especially at Hakalau Forest NWR (high count 150 on 17 Dec 2014; see also Camp et al. 2010a), Hawai'i Volcanoes NP (high count 250 on 10 Dec 2011) and in kipukas in the Hilo and Upper Waiakea Forest Reserves, off Saddle Road (high count 300 on 22 Apr 2011 and 5 Mar 2013). As with the Hawai'i 'Amakihi, low elevation observations of 'Apapanes along the se. coast of Hawai'i (e.g., E of Pahoa in Sep 2000) suggests resistance to avian malaria.

On O'ahu, 'Apapanes were noted to be scarcer than on other islands as early as the turn of the 20th century (Seale 1900, Bryan and Seale 1901, Perkins 1903), and observers through the early part of the century also noted declines (*E* 9:66, 27:96). They have subsequently been found in small to moderate numbers at higher elevations in the Wai'anae Range and in upper valleys of the Ko'olau range (Banko 1987d, Shallenberger 1977b, Shallenberger & Vaughn 1978; *E* 37:43), occurring at lower elevations and in exotic flowering trees during winter months (Shallenberger and Vaughn 1978, *E* 17:56). In 1991 a population of about 25,000 was estimated on O'ahu (Camp et al. *in* Gorresen et al. 2009). Subsequent observations and Christmas Count data around both Waipi'o (Graph) and Honolulu (Graph) indicate a continued slow decline, except for a spike in abundance noted on the Honolulu count in 1955-1958 (Graph), when flocks were visiting a large flowering Eucalyptus grove above Manoa Valley (*E* 17:56); occasional counts of 100+ were reported on O'ahu during the 1990s and early 2000s, but in 2010-2016 the majority of counts were < 15, with a high count of 41 in the Nanikula Forest Preserve, s. Waianae Range, on 3 Jan 2015.

On Moloka'i, 'Apapanes were considered abundant during the late 1800s and early 1900s (Perkins 1903, W.A. Bryan 1908) and continued so at higher elevations through the 1970s (Richardson 1949, Scott et al. 1977; *E* 24:46). Although reported to be declining in numbers into the 1990s (Pratt 2002a), some evidence along with lower-elevation (< 250 m) sightings during the 2000s may indicate a stable or increasing population there (Gorresen et al. 2009). During 2010-2016 the high count was of 96 birds at the Waikolu Lookout above Kawela 21 Dec 2014. Walther (2006) summarizes the status of 'Apapane on Lana'i, documenting a steady decline in numbers since those noted by Munro between 1923 and 1937 (*in* Gregory 1924-1936 and Buck 1937-1938; see also

Munro 1944). A population in the low hundreds in the 1970-1980s (Hirai 1978b, Scott et al. 1986) has apparently declined further, with only small numbers (< 10) noted through 2006 (Walther 2006) and only second-hand reports of singles through 2012.

Acronyms and Abbreviations

Literature cited

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