KAUA'I 'ELEPAIO

native resident, endemic

The Kaua'i 'Elepaio was formerly a subspecies of 'Elepaio (*C. sandwichensis*) until split by the AOU (2010) based on differences in vocalizations (VanderWerf 2007b), morphology, ecology and behavior (Pratt et al. 1987, Conant et al. 1998, VanderWerf 2015), and genetic analyses (VanderWerf et al. 2010); see also Synonymies, O'ahu 'Elepaio, and Hawai'i 'Elepaio. The 'elepaios are most closely related to Old-World monarch flycatchers (Monarchidae) of SE Asia and the Pacific (Mayr 1943, VanderWerf et al. 2010), which have colonized the sw. Pacific as far north as Pohnpei and Tinian (Pratt et al. 1987). They resemble fantails (*Rhipidura*) in appearance and the genus Pomarea molecularly (Filardi and Moyle 2005, VanderWerf et al. 2009); Peale (1848) believed most Pacific fantails, including the 'elepaios, to be conspecific. C. Clerke's description of the Hawai'i 'Elepaio (in King 1779) of a "small bird of the flycatcher kind" appears to be the first post-contact mention of this genus. It was subsequently described three times based on three different specimens collected during Cook's last voyage (Medway 1981, Olson 1989b) and confusion about the nomenclature of 'Elepaio (see Synonymies) continued, primarily due to the further naming of different age-sex groups as separate taxa (Sclater 1881, 1885; Ridgway 1882; Stejneger 1887; Wilson 1891b; Newton 1892; Rothschild 1893c, 1900; Wilson and Evans 1899; Henshaw 1902e; MacCaughey 1919). Dole (1869, 1879) listed it under three separate genera (see Synonymies) and Newton (in Evenhuis 2007:75) stated that it was "as puzzling a question as I ever had to do with".

From 1944 to 1998 the 'elepaios were recognized as a single species (Bryan and Greenway 1944, AOU 1998), of five subspecies, residing on Kaua'i, O'ahu, and Hawai'i (Pratt 1979a, 1980b; Olson 1989c). The absence of the species from the four islands of Maui Nui (reports in Bryan 1908 and E 21:26, 22:19, 22:21 are unsubstantiated), even in the subfossil record (Olson and James 1982b), has long puzzled ornithologists (VanderWerf 2007b). Molecular genetic evidence suggests that they flew from Kaua'i (where they first colonized ~830,000 years ago) to O'ahu (~490,000 years ago) and then to Hawai'i (~440,000 years ago) by-passing Maui Nui somehow, or that they were present on Mau Nui <10,000 years ago, when earliest fossil records from these islands are dated, and have since become extirpated (VanderWerf et al. 2007b, 2010). Banko (1979) listed the locations of nearly 800 specimens of 'elepaios (of all three species). Banko (1981a) summarized early accounts and natural history of the 'elepaios, and Berger (1972, 1981) and VanderWerf (2015) summarized their biology, and conservation. 'Elepaios are rather tame birds, perhaps because they were revered and protected by Hawaiian priests, who regarded them as guides to the selection of sound trees to build canoes (Bryan 1937b).

The Kaua'i 'Elepaio is restricted to the island of *Kaua'i*, where it was considered one of the most common landbirds from the late 1800s through the 1960s (e.g., Bryan and Seale 1901, *E* 4:12, Richardson and Bowles 1964, *E* 31:47). It was found at elevations as low as 150 m, but populations at these lower elevations have since decreased severely with the clearing of forest for agriculture and urbanization (Banko 1981a), despite their having adapted better to human changes (including the inhabiting of

Chasiempis sclateri

monotypic

non-native forests) than other Hawaiian forest birds on Kaua'i (Munro 1944; Richardson and Bowles 1964; Conant 1977; Scott et al. 1986; VanderWerf 1993, 1994, 2015), and perhaps because they had a greater resistance to avian diseases than the Drepaninae (Warner 1968, Scott and Kepler 1985, VanderWerf 2001, Paxton et al. 2016; but see van Riper et al. 2002, VanderWerf et al. 2006b). The USFWS (1983c) found them from 500 m to the highest elevations of Mt Waialeale and estimated a population size of 40,000 individuals in 1973. Scott et al. (1986) found little change in densities, through most of their study area in Alaka'i Swamp, during the HFBS, indicating a stable population at these elevations through 1981. Banko (1981a) documented declines at lower elevations and Walther (1995) found them no lower than 900 m in elevation in 1994, but further surveys through the 2000s indicated increasing densities and a total population size of about 150,000 individuals (Gorresen et al. 2009). Analysis of monitoring data has indicated increases in Kaua'i Elepaio population densities of 41% in interior forests between 1981 and 2012, and 88% between 2000 and 2012 (Paxton et al. 2016). Singlelocation high counts during 2010-2016 were of 35 in e. sections of the Alaka'i Plateau 29 Mar 2011 and 11 Apr 2012, with several other counts > 30 in various sections of the plateau.

Acronyms and Abbreviations

Literature cited

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