Other: Green Singing-Finch, Yellow-bellied Canary

S.m. barbatus?

## naturalized (non-native) resident, recently established

Yellow-fronted Canaries are fond throughout most of Africa S of the Sahara Desert (AOU 1998). They are popular cage birds (known as "Green Singing-Finches" by aviculturists) and it has been introduced to various islands off Africa and to Puerto Rico and the *Southeastern Hawaiian Islands* (Long 1981, Lever 1987). In Hawaii they have become established since introduction in the mid 1960s, and are found fairly commonly in dry habitats of O'ahu and Hawai'i. We regard occasional observations from other islands (e.g., Feb 1985 on Kaua'i and Jan 1992 on Moloka'i) as probably pertaining to yellowish male House Finches. Reports by HAS (1993-2005) that they were established on Moloka'i are in error.

On O'ahu, a Yellow-fronted Canary was first observed and identified by M. Ord and W. King in Koko Crater 7 Jun 1964 (E 25:4); they assumed it had escaped from a local aviary. This was followed by several pair reported from the w. slopes of Diamond Head in Oct 1965, 17 there on the Honolulu Christmas Bird Count 2 Jan 1966 (E 26:77), 16+ there 15 Mar 1966 (E 26:112), and "flocks" on 12 Feb 1967 (E 27:97). These were likely part of deliberate releases that occurred with these, waxbills, and other small cage birds in this area at the time. Through the 1970s smaller numbers were observed in this area (cf. Graph), but fledglings were noted in May and Oct 1974 and a nest was found in Nov 1976 (Berger 1981; E 35:66, 37:128), indicating successful breeding. One observed near Kahuku 26 Nov 1977 (E 38:106) may have been from a separate introduction; population expansion from the Diamond Head area otherwise occurred fairly slowly. By 1977-1978 they were being seen in Kapiolani Park (E 37:128, 38:106), by Nov 1979 6-10 were reported from Bellows Field near Waimanalo (E 41:78), in Sep 1981 an individual was observed in Kailua, by the mid 1980s they had turned up in downtown Honolulu and near Pearl Harbor, in Apr 1990 four were reported from Ka'a'awa, in Nov 1992 one was observed in Aiea, and in 1994 five were observed near Laie. They were not considered established by Berger (1972) but considered established by Pyle (1977) and Berger (1981). Following this expansion in range populations appeared to contract, with most observations in the 1990-2000s being from the Diamond Head area, although numbers generally continued to expand around Honolulu (Graph), and two observed at Punamano Unit of PHNWR 11 Jul 2006 were farther W than previously recorded...

On *Hawai'i I*, 20+ Yellow-fronted Canaries were observed for the first time at Pu'u Wa'a Wa'a Ranch in May-Aug 1966 (Swedberg 1967a), at a location where deliberate releases of cage birds appeared to be occurring at the time. Although not reported from Hawai'i for the next 11 years, it seems likely that this introduction resulted in observations of many flocks (of up to 46 individuals) along the S slopes of Mauna Kea at 2100-2800 m elevation in Dec 1977-Feb 1978 (van Riper 1978). By Jun-Aug 1978 large numbers were found by the HFBS team along the N slopes of Mt Hualalai, including the Pu'u Wa'a Wa'a area, and two nests were found (Scott et al. 1986; *E* 39:76). Populations appeared to expand rapidly at this time, as they were seen in Kona in Fall 1979, Waimea in Mar 1980, and in the Puna District (a flock of 30 in wetter native forest)

in Feb 1981 (Paton 1981c). Through the 1980-1990s the species remained ubiquitous in core areas along the drier slopes of Mt Hualalai and Mauna Kea to the Kona Coast, with sporadic observations elsewhere, including 150-200 at Pu'u Kole on N slope of Mauna Kea 8 Oct 1989, Hakalau NWR for the first time in Aug 1990, S to Manuka SP near South Point in Oct 1991, along the coast of Volcano NP in Oct 1993. Numbers would increase at higher elevations in Aug-Nov, indicating upslope dispersal in fall; in May or Jun 2005 a desiccated carcass of one was found at about 4000 m elevation on Mauna Kea (BPBM 185370). On the N Kona Christmas Count a peak of 304 was recorded in 1988, after which numbers generally declined through 2001, perhaps indicating a peak in expansion there during the 1980s. During the 2000s reported numbers on Hawai'i I seemed also to be lower in other traditional locations, although they also had expanded up the Saddle Road to the Pu'u O'o Trail and along the Hamakua Coast to Pepe'ekeo by the late 2000s.

Eleven subspecies of Yellow-fronted Canary have been recognized (Clements 2007). Nothing has been published on subspecific diagnosis of the introduced population in Hawaii; introduced populations to African Is have included nominate *S.m. mozambicus* of se. Kenya through Mozambique, and *tando* of Gabon, Angola, and Zaire (Lever 1987), and it may be that these are the most common subspecies in the cage bird trade, but specimen examination (PP) suggests that the Hawaiian population shows characters closest to *barbatus* of Chad, Sudan and w. Kenya.

## Acronyms and Abbreviations

## Literature cited

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