naturalized (non-native) resident, recently established

P.c. bengalenisis

Red-vented Bulbuls are native to the Indian Subcontinent and Southeast Asia, S to the n. Malay Peninsula (Ali and Ripley 1996a, Long 1981, AOU 1998). Non-native populations have become established in various places around the world, including Fiji, Samoa, Tonga, Australia, New Zealand, Majuro in the Marshall Is (Long 1981, Williams and Giddings 1984, Lever 1987, Pratt et al. 1987, Vander Velde 2002), and on O'ahu in the *Southeastern Hawaiian Islands*, where they have become one of the most abundant species on the island since introduction in 1965 or 1966.

Introduction and population expansion of Red-vented Bulbuls on *O'ahu* were detailed by Berger (1975b), van Riper et al. (1979), Williams (1983a), and Williams and Giddings (1984). Six Red-vented Bulbuls, "new escapees", were identified 10 Oct 1966 in a plantation manager's yard in Waipahu, after having been noticed by the manager two months previous (*E* 27:55). Escaped Red-vented Bulbuls were reported during the mid-1960s in Makiki Heights, when a tree broke through an aviary (see also Red-whiskered Bulbul), and additional Red-vented Bulbuls were observed at Fort Shafter sometime in 1965-1966, Keolu Hills above Kailua in early March 1967, Waimanalo 3 Jun 1967 (*E* 28:23), W of the Honolulu Airport 2 Feb 1968 (*E* 28:93), and Lanikai in Jan 1969 (*E* 29:74). These widespread observations suggest multiple releases of this popular cage bird or, possibly, that the species had been introduced earlier, perhaps along with Red-whiskered Bulbuls and other cage birds on Diamond Head in 1965 (Berger 1972, 1975b, 1981; Williams 1983a; see also Non-established List).

Observations around O'ahu increased rapidly in both numbers and range, such that by 1975-1977 they were found throughout lowlands of se. O'ahu from Kaneohe around through Honolulu to Pearl Harbor (Berger 1975b, HAS 1975, Shallenberger and Vaughn 1978, van Riper et al. 1979), by 1980 they had spread to Laie and Wahiawa (Berger 1981), and by 1982 they were seen in lowlands around the entire island (Williams and Giddings 1984, HAS 1986). Christmas Bird Count data reflect the increase in numbers (see also van Riper et al. 1979, Williams 1987), at Waipi'o through the mid 1980s (Graph) and around Honolulu through the mid 1990s (Graph). Based on these data Williams and Giddings (1984) calculated that the population had doubled once every 1.8 years between 1968 and 1982. These increases were followed generally by slight declines through the mid-2010s at both Waipi'o (Graph) and Honolulu (Graph). Williams and Giddings (1984) reported them only up to 200 m elevation but this species has since been observed up to 500 m and higher in exotic vegetation above Aiea and Honolulu in the Ko'olau range and may aid in dispersing non-native plants into native forests (Foster 2009). They breed on O'ahu from Jan-Oct (Berger 1981).

Among other nuisances, Red-vented Bulbuls are a threat to agricultural, especially fruit and nut crops (Ali and Ripley 1996a, Watling 1978, Kishinami 2001; *E* 23:20), and they were thus put on Hawaii's list of prohibited species for importation by HBAF in 1965 (*E* 28:23-34) and were then also listed by DLNR as "injurious to wildlife" (*E* 68:73). Realization that the species was originally brought to O'ahu illegally may have been a primary reason Williams (1983a) had difficulty tracing the origins of the introduction (see also Red-whiskered Bulbul). Rumors circulated that bulbuls had

escaped from a cage while in transport at the Honolulu airport, but it was perhaps more likely that they arrived via an illegal bird-cage industry. In any case, when Red-vented Bulbuls began showing up on other islands in the 1980s (during the period of expansion) HBAF and/or HDFW undertook concerted efforts to eradicate them before they became established (*cf.* Williams 1983b), proposing a control program that was passed by the Hawaii State Legislature in 1988 (*E* 68:73).

On Kaua'i, scattered reports of Red-vented Bulbuls at Anahola, Princeville, Kekaha, Kalaheo, Lawai, Waipolu, Hanalei, and Hanapepe between 1985 and 1997 prompted HDFW to follow up and circulate posters requesting further information, but HDFW (and we) considered all reports, as well as reports around Poipu and Lihue in Jun 2016, to be unconfirmed. On *Moloka'i*, one observed 24 Aug 1983 on hotel grounds at the W end of the island and another near Kaunakakai 10 Mar 2014 likely got there naturally from O'ahu. It is possible that these birds were quickly captured or removed. There have thus far been no reports of Red-vented Bulbuls from Lana'i. Visitors to *Kaho'olawe* in 1989 and 1992 reported them present at Smuggler's Cove but they have not been observed on this island since. On *Maui*, a fledgling found near Kanaha Pond 14 May 1987 was removed by HDFW, and this was followed by further observations at Pukalani 29 Dec 1987 (E 48:57) and Kealia Pond in 1995-1996 (which could have been local releases during this period; see Chestnut Munia); another was reported at Kealia 29 Aug 2011. Williams (1983b) detailed the first observation of 1-2 Red-vented Bulbuls on *Hawai'i I*, near Kona in Aug-Sep 1982. The appearance of what local residents referred to as the "black cardinals" created a debate between them and agency officials about the fate of this pair, but they apparently disappeared on their own accord by Nov 1982 (one) and Jan 1983 (the other). One found in Hilo 20-22 Jun 1988 was removed by HDFW (E 48:114), and another observed on hotel grounds in Waikaloa for a few days around 21 Sep 2003 was also investigated by HDFW, with results unknown to us. Although Williams (1983b) felt that the first pair observed in Kona probably got there through deliberate introduction, the fact that it and most other records away from O'ahu occurred during the period of expansion on O'ahu, in contrast to Red-whiskered Bulbul which expanded more slowly and has no records away from O'ahu, suggests that they dispersed to outer islands on their own. Whether or not control efforts occurred or made a difference, the species has not become established on any island except O'ahu.

Based on specimen examination, P. Bruner and Williams (in Williams 1983a) identified the subspecies on O'ahu as the widespread *P.c. bengalenisis* from India (Ali and Ripley 1996a; confirmed by PP examination, USNM and BPBM), and Williams suggested that they may have come to Hawaii from Fiji, where *bengalenisis* had been introduced and became established since introduction in about 1903 (Watling 1978). However, the coincidence in timing with the introduction of the Indian subspecies of Red-whiskered Bulbuls (not found in Fiji) also suggests transport directly from India.

Acronyms and Abbreviations

Literature cited

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