Other: Common or Indian Sandgrouse P.e. hindustan

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

The Chestnut-bellied Sandgrouse inhabits dry plains and stubble fields in a narrow band across sub-Sahara Africa to the Red Sea and coastal Arabia E to Pakistan and India (Ali and Ripley 1981, Cramp and Simmons 1985, AOU 1998); introductions to Australia and the sw. USA have been unsuccessful, but releases to Hawai'i I in the early 1960s have resulted in an established breeding population (Johnsgard 1981, Long 1981, Lever 1987), that had become stable and flourishing from the 1960s through the mid-2010s..

Birds from India (see below) were introduced by HDFG to 3 Hawaiian Islands: Kaua'i (118 released 30 Mar 1961), Moloka'i (137 released 30 Mar 1961), and along the Saddle Road on *Hawai'i I*, where 123 were released 25 Mar 1961 and 370 were released Mar-May 1962 (Christensen et al. 1964, Swedberg 1967a, Lewin 1971, Paton et al. 1982a; E 24:48). Sandgrouse on Kaua'i and Moloka'i have not been reported since shortly after release. Sandgrouse on Hawai'i I were thought to have disappeared by 1966 (Lewin 1971, Blake 1975, Paton et al. 1982a) but in the late 1960s-early 1970s, reports of a few birds along the N Kona coast began to accumulate. In 1976-79 increasing numbers were sighted a few km S of Waimea along Highway 190 (Pyle 1979), followed by collection of two in this area 26 Nov 1979 (BPBM 157137-138; HRBP 5182-5183 of specimens). It was first considered established by Berger (1981) and added to the Hawaii checklist by Pyle (1983). Expanding reports in the open ranchland to the S of Waimea continued, suggesting successful breeding: 40 were noted NE of Waimea in winter 1981, 100+ birds were near Waimea-Kohala airfield 16 Aug 1981 (HRBP 0148), and more than 200 birds were at a water hole along Keanuiamano stream bed, a few km W of Waimea in early Oct 1981 (Paton et al.1982a). A survey to the Holoholoku area SE of Waimea-Kohala airfield 11-13 Jan 1989 found 50-75 sandgrouse each day and collected 5 specimens (BPBM 178069-73). Through the 2010s observations continued regularly in these areas, often involving small flocks flying across the Hwy 190 near the Saddle Rd. junction, flying eastward in early mornings and westward in afternoons, and on the ground in barren land SE of Waimea-Kohala airfield (Pratt 2002a; HRBP 5857-5860). Higher counts at the airport include 48-203 birds 6-16 Sep 2012 and 91 on 3 Mar 2013. and, near the junction, 94 on 18 Jan 2012, 36 on 15 Jun 2010, and 32 on 25 Jul 1983.

Farther from Waimea, sandgrouse have been observed upslope near Pohakuloa Training Facility along Saddle Road, SW to Waikoloa Rd. and the area upslope from Puako, W along Kawaihae Road and Waikoloa Stream down to 400 m elevation, and N to the Hawi area, including at Upolu airstrip at the N end of Hawai'i. High counts in these areas include 67 birds at Pohakuloa 26 Feb 2014, 254 at the Upolu airstrip 25 Dec 2013, and 100+ birds around a reservoir near Keawewai Gulch 30 Nov 2002.

Sandgrouse in Hawaii have long been assumed Chestnut-bellied as identified by HDFG when introduced in 1961-1962. In the 1980's several independent observers noted that some birds had the dark underwings, more characteristic of Chestnut-bellied (Johnsgard 1981), while others flying with them had white underwings, more

characteristic of Black-bellied Sandgrouse (*P. orientalis*), but these were likely first-year. Chestnut-bellied Sandgrouse, which can have lighter brownish underwings than older birds. All specimens in the BPBM collection have dark underwings and are adult Chestnut-bellieds (PP examination). Berger (1981) attributes introduced birds in Hawaii to *P.e. erlangeri* of the sw. Arabian Peninsula but it appears that they were *P.e. hindustan* of Iran, Pakistan, and India, imported primarily from India (Bump and Bohl 1964b, Swedberg 1967a, Walker 1967), and the specimens show characteristics of *hindustan* (PP examination).

## Acronyms and Abbreviations

## Literature cited

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