

## HAWAIIAN RAIL

## *Zapornia sandwichensis*

Other: *Moho*, Spotted Hawaii Rail

*Z.s. sandwichensis* (w. Hawai'i I)

*Z.s. millsii* (e. Hawai'i I)

**native resident, endemic, extinct**

Only seven study skins of the Hawaiian Rail, formerly endemic to the *Southeastern Hawaiian Islands*, are known (Banko 1979, Olson 1999a, Fuller 2001), all procured on *Hawai'i I*. Two specimens, now in museums in Leiden and Vienna, were collected near Kealahou during the third visit by James Cook (Stresemann 1950, Medway 1981), probably on 26 Jan 1779, when a landing party purchased "two small fowl" from some taro farmers (Ellis 1782:92). Cook named it "*Rallus ecaudatus*" (C. Clerke in King 1779, Cook and King 1784; cf. Wilson and Evans 1899), but Rothschild (1900) pointed out that Cook's description was insufficient and should be superseded by Latham's description of *Pennula sandwichensis* (Gmelin 1789) based on one of the specimens (see also Sharpe 1893a, 1893b). The genus "*Ortygometra*" was also applied to this species by Gray (1959) and Dole (1869, 1879), and it was later moved to *Porzana* in 1973 and then to *Zapornia* by the AOU (2016; see [Synonymies](#)).

The remaining five specimens (BPBM 20-21, AMNH 546232, and two in Britain) were collected between Hilo and Volcano in 1859-1864, probably in open areas rather than forests (Henshaw 1902a), by the bird-catcher Hawelu for James Mills (Wilson 1890a; Manning 1978, 1979; Olson 1994; Olson and James 1994a). Rewards for the procurement of additional specimens during the late 1880s were never collected, and an intensive search for them with dogs between Hilo and Volcano in 1892 was unsuccessful (Rothschild 1900, Manning 1982, Fuller 2001). The last reliable report of a Hawaiian Rail (by local residents who knew the bird well) appears to have been from 1884 along this road, by which year mongooses had become abundant in the area (Rothschild 1900); reports between 1884 and 1893 are unsubstantiated (Henshaw 1902a; Berger 1972, 1981). Based on Poisson analyses of persistence probabilities using confirmed and unconfirmed records, Elphick et al. (2009) estimated that the Hawaiian Rail went extinct in 1879-1899, with upper limits of 1934-1952. Munro (1927) speculated that forest clearing by early Polynesian settlers may have increased suitable habitat for Hawaiian Rails.

Based on the specimens from the Hilo-Volcano area, Dole (1879) named a new species, *P. millsii* (Olson 1994). The two specimens from the dry western side are paler and streakier dorsally than the five specimens from the wet eastern side (Olson 1999a), prompting most early ornithologists to recognize two species ([Synonymies](#)). Although possibly related to age of the birds when collected (Stresemann 1950, Greenway 1958, Ripley 1977), these differences led Olson (1999a) to recommend a single polytypic species, the nominate form formerly of w. Hawai'i and *P. s. millsii* formerly of e. Hawai'i.

The Hawaiian Rail was probably widespread on Hawai'i I (Giffin 1993, Olson 1999a, Ziegler 2002), and was one of at least 10-12 species of *Zapornia* represented in the subfossil records of Kaua'i, O'ahu, Moloka'i, Maui, and Hawai'i (summarized under genus *Porzana* by Ziegler 2002), including the smallest rail ever discovered, *Z. menehune* of Moloka'i (Olson and James 1991). Two of these taxa, from Kaua'i and Maui, were very similar to Hawaiian Rail in size and osteology but probably evolved flightlessness

independently and should thus be considered separate species (Olson 1999a). Hawaiian Rail and these two species appear most closely related to the Sooty Crake (*Z. tabuensis*) of the sw. Pacific, whereas the other species of extinct small rails in the Southeastern Islands appear more closely related to Baillon's Crake (*Z. pusilla*; see [Laysan Rail](#)) and a larger species of unknown provenance (Olson 1973b; Olson & James 1999). The subfossil record and historical reports (e.g., Dole 1879, Henshaw 1902a) indicate that rails may have been present on several islands around the time of European contact, and apparently survived on Moloka'i through the mid-1800's (Perkins 1903, *in* Evenhuis 2007:165, 181, 321; Bryan 1908), but specimens were never procured from islands other than Hawai'i.

#### [Acronyms and Abbreviations](#)

#### [Literature cited](#)

Citation: Pyle, R.L., and P. Pyle. 2017. The Birds of the Hawaiian Islands: Occurrence, History, Distribution, and Status. B.P. Bishop Museum, Honolulu, HI, U.S.A. Version 2 (1 January 2017) <http://hbs.bishopmuseum.org/birds/flp-monograph/>