SOOTY TERN *Onychoprion fuscatus*

Other: *'Ewa'ewa* *O.f. oahuensis*

breeding visitor, indigenous

The Sooty Tern is one of the most common and ubiquitous birds of tropical oceans, worldwide (Cramp and Simmons 1985, Higgins and Davies 1996, AOU 1998). They breed on suitable atolls across the entire Pacific (King 1967, Gould 1974, Harrison 1983, Schreiber et al. 2002), including Johnston and Wake atolls (Amerson and Shelton 1976, Rauzon et al. 2008). They are the most abundant breeding seabird species in the Hawaiian Islands, with close to a million pairs estimated breeding in the Northwestern Islands alone (Table). Sooty Terns disperse widely throughout the tropical Pacific (King 1967, Pitman 1986); banding records suggest that populations breeding in Hawaii disperse primarily toward the sw. Pacific in Nov-Jan when numbers are reduced or absent at colonies (Gould 1974). Sooty Terns were combined along with other terns in the genus *Sterna* (as *fuscata*) until tern genera were split by the AOU (2006).

Andrew Bloxam (1827a; see Olson 1996a), visiting Hawaii in 1825 aboard the vessel *Blonde*, collected and described a juvenile Sooty Tern as "*Sterna Oahuensis*", from which the subspecific name for the population breeding in the central Pacific (including the Hawaiian Isands) is derived (Gray 1859, Wilson and Evans 1899, Olson 1996a). This name was mistakenly applied to "*Sterna panaya*", the Bridled Tern, by Finsch and Hartlaub (1867), followed by Dole (1869, 1879). There are six other, weakly differentiated subspecies worldwide (four in the Pacific; Higgins and Davies 1996, Schreiber et al. 2002), some of which may occur as visitors to Hawaii given dispersal patterns of this species, but none have been identified.

In the *Northwestern Hawaiian Islands*, Sooty Tern breeds on every island group, with a total population size of about 1.2 million breeding pairs (Table). The largest colonies occur at ***Lisianski*** (500,000 pairs) and ***Laysan*** (425,000), with smaller numbers (10-100,000 pairs) on, in descending order, ***Midway***, ***French Frigate***, ***Pearl and Hermes***, ***Necker***, ***Nihoa***, and ***Kure*** (Table), and with about 400 pairs on ***Gardner Pinnacles***. Colony sizes show substantial inter-annual variation and are difficult to estimate (Fefer et al. 1987); thus, the above totals should be considered imprecise and subject to change. Totals on Midway were reduced by humans to "one or two small colonies" in 1891 (Munro *in* Hadden 1891) but appeared to have recovered to an estimated 600,000 in 1938, before black rats were introduced in 1943 (Hadden 1941; see also Fisher and Baldwin 1946); populations slowly recovered (to about 100,000 pairs, primarily on Eastern I) during the late 2000s following eradication of rats in 1997. Populations on all islands have at times been affected by hunting, egg collecting, de-vegetation by rabbits, and/or harassment programs aimed to move colonies away from runways (e.g., *E* 20:47, 21:4); but, in general, breeding populations in the Northwestern Hawaiian Islands appear to be relatively stable (Schreiber et al. 2002). Finally, a tern photographed in a breeding colony on Eastern I, Midway Atoll 5 Jun 2008 (HRBP 5496-5497 published *NAB* 62:632) shows characters suggesting a hybrid of a Sooty Tern with either Bridled Tern (as suggested somewhat by the bird's appearance) or Gray-backed Tern (more likely in this mixed colony) but its identification remains unconfirmed (it may also be just an aberrant

Sooty Tern). Information on the history of the species and data on breeding phenology for each Northwestern Island, compiled as part of the POBSP, can be found in the Atoll Research Bulletins for each breeding locality (Seabird Page).

Three fairly large Sooty Tern colonies also exist in the *Southeastern Hawaiian Islands*. On Kaula Rock off ***Ni'ihau***, an estimated 35-50,000 pairs nest (Harrison 1990; see also Caum 1936, *E* 22:2), and off ***O'ahu***, 60-90,000 pairs breed on Manana islet and 10-20,000 pairs breed on Mokumanu islet (Harrison 1990). They are occasionally observed prospecting Lehua Islet NE of Ni'ihau, but rats on the island may be preventing breeding. In 1947 and 1948 Sooty Terns on Mokumanu bred in Nov-Mar (see also Seale 1900) whereas those on Manana bred in Apr-Jul (Richardson and Fisher 1950); however, the breeding season of this species is ephemeral (Schreiber et al. 2002), and that of Mokumanu has subsequently occurred more often during the spring and summer (Harrison 1990). In some years individuals return to islet colonies in Dec, with large numbers recorded on the Honolulu Christmas Bird Count (e.g., 1,500-6,000 in 1963-1967) but otherwise they were recorded on only seven of 59 counts during1944-2007. Heavy rains can cause complete colony abandonment resulting in earlier timing for subsequent breeding attempts (e.g., Whittow et al. 1992). Although noted in small numbers in 1940 (Northwood 1940b), breeding on Manana was not confirmed until 1947 (Richardson and Fisher 1950). Numbers rapidly increased in the 1950s (*E* 10:16-17, 11:15, 17:25), undoubtedly based on the designation of this islet as a state sanctuary and protection from human encroachment in 1945.

Sooty Terns have been observed over or offshore of all Southeastern Islands, most commonly O'ahu and ***Kaua'i*** but also including ***Moloka'i***, ***Maui***, ***Lana'i***, ***Kaho'olawe*** (Gon et al. 1992), and ***Hawai'i I***. They are recorded just off shore, calling overhead at night (including at high elevations; e.g., >3000 m over Mauna Loa, Hawai'i I, 11 Jul 2004), and occasionally sitting on runways or stranded on beaches. They are also commonly observed *at sea* and during one-day trips from shore. King (1970) recorded them abundantly during monthly surveys in 1964-1965, in all months of the year but with a reduction in densities during Sep-Dec. King's data also show higher densities in the southern portions of his survey areas during Nov-Dec, with a marked northward shift toward breeding colonies in Jan-Mar. Spear et al. (1999) also recorded them more abundantly in spring than in fall S and E of Hawai'i I and Rowlett (2002) recorded them in decreasing abundance during daily censuses in Aug-Nov. Observations from and during one-day trips off the Hawaiian Islands also reflect this variation in seasonal and geographical abundance.

Acronyms and Abbreviations

Literature cited

Citation: Pyle, R.L., and P. Pyle. 2009. The Birds of the Hawaiian Islands: Occurrence, History, Distribution, and Status. B.P. Bishop Museum, Honolulu, HI, U.S.A. Version 1 (31 December 2009) http://hbs.bishopmuseum.org/birds/rlp-monograph/