Other: English Sparrow *P.d. domesticus*

naturalized (non-native) resident, long established

The House Sparrow was originally native to Europe and the Middle East but has become introduced throughout N and S America and extensively around the world, wherever human inhabitation occurs (Dement'ev and Gladkov 1954a, Lowther and Cink 1992, Cramp and Perrins 1994a, AOU 1998). In the Pacific, populations of the nominate subspecies (*P.d. domesticus*) have become established in Australia, New Zealand, islands of the extreme sw. Pacific, Easter I, and the Hawaiian Islands (Long 1981, Lever 1987, Higgins et al. 2006, Jaramillo et al. 2008). A closely related congener, Eurasian Tree Sparrow (*P. montanus*), has been introduced and established in the Mariana Is, Kwajalein I, and Yap (Pratt et al. 1987).

Although possibly brought in as early as 1859 or before (T.G. Thrum *in* Swedberg 1967a, Munro 1944), or perhaps in 1866 with W. Hillebrand (Meier 2005:37 lists "Indian sparrows" as one of several avian species that the botanist brought to Honolulu that year), the first documentation of House Sparrows reaching the Southeastern Hawaiian Islands applies to a shipment of 9 individuals reaching *O'ahu* from New Zealand in 1871 (T.G. Thrum *in* Swedberg 1967a; see also Caum 1933, Bryan 1937a). By 1879 Finsch (1880) noted House Sparrows (next to Common Mynas) to take "the chief place" in Honolulu; by 1888 Wilson (1890a) stated that it had "obtained a firm footing" on O'ahu; by 1890 Munro (1927, 1944) had noted that it had not spread to any appreciable extent on the island; and during the winter of 1899-1900 McGregor (1902), while visiting most or all of the Southeastern Islands (including Kaho'olawe), found the House Sparrow only in Honolulu, where he considered it common (see also Slivers 1892:77; PoP 18[11]:15-16). By 1896, however, Schauinsland (1906) had noted that it had already crossed the channel between O'ahu and *Moloka'i* on its own accord and was found around human habitations there. Rothschild (1900) mentions it for O'ahu, Moloka'i, "and probably other islands" but this may have been conjecture, as Henshaw (1902a) felt it was confined to O'ahu (albeit "abundant" in Honolulu) at the time.

The spread of House Sparrows through the remainder of the Southeastern Islands was not well documented, but by 1933 Caum indicated that it occurred on "all the Hawaiian Islands" (presumably including at least *Kaua'i*, *Lana'i Maui*, and *Hawai'i I*), and that it was spreading much more slowly than it had in the United States. He considered it common on O'ahu but not at all common on the other islands. Fisher (1951) failed to find it on *Ni'ihau* in 1947 but they were present on Lehua Is off Ni'ihau by 1960 and were undoubtedly established on the main island then. Richardson and Bowles (1964) considered it "surprisingly scarce" on Kaua'i in 1960. But by 1966 it was reported as commonly established on the six larger Southeastern Islands (*E* 27:28), they were common on Lana'i during the 1910-1920s (Munro 2007), and during the 1990-2000s they remained common to abundant on all eight islands, including *Kaho'olawe* (Morin et al. 1998; 70-75 counted during the 2013 and 2015 Christmas Bird Counts), frequenting urban areas and agricultural settlements but not found in exotic or native forests (*cf.* HAS 1959-2005; Berger 1972, 1981; Scott et al. 1986; Williams and Fleisher 1989; *E* 48:61-

64). However, in Nov 2010 they were found to inhabit all habitats of Lana'i, unlike on other islands where they remained confined to urban and suburban areas. Christmas Bird Count data indicate that House Sparrows declined during the 1990s-2014, after showing peak populations in the 1970-1980s, around Kapa'a on Kaua'i (Graph) and around Waipi'o (Graph), and Honolulu (Graph) on O'ahu.

House Sparrows have also reached all three *Northwestern Hawaiian Islands* with permanent human inhabitation. On *Kure* one was observed 18-20 Jun 1966, having likely arrived on a plane from O'ahu that arrived 15 Jun (Clapp and Woodward 1968, Woodward 1972); on *Midway* one was observed with feeding <u>Island Canaries</u> 10 Apr 1989, following the visit of a transport ship; and in *French Frigate* one was observed 3-9 Oct 2003. This last individual may have reached French Frigate on its own accord, as no large ships or planes had arrived within a week prior to the sighting.

The House Sparrow had been introduced to North America in attempts to control agricultural pests but had become a pest itself, doing much damage to grain and fruit crops (Lowther and Cink 1992). Earlier writers (e.g., Henshaw 1900b, 1902a; Bryan 1915; *PoP* 18[11]:15-16) feared it would become a similar scourge in Hawaii, and recommended that it be eradicated from O'ahu before it could spread to other islands. But it turned out not to be as big of a problem as predicted, and was even considered beneficial to agriculture (Henshaw 1911, Caum 1933 Bryan 1937a, Munro 1944, Pedley 1949), perhaps due to the warmer climates and lack of a peak agricultural harvest during the post-breeding season in Hawaii, as occurs in the continental United States. Since established in Hawaii they have differentiated in plumage and measurements from North American populations of *P.d. domesticus* (Johnston and Selander 1964, Selander and Johnston 1967; *E* 25:13-15).

Acronyms and Abbreviations

Literature cited

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