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**DIET OF RED-FOOTED BOOBIES PROVISIONING CHICKS ON O’AHU:  
AUGMENTED WITH GENETIC ANALYSIS**

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The diet of Red-footed Boobies, (*Sula sula*) was quantified using 106 regurgitations collected opportunistically at Ulupau Crater, O`ahu, Hawai`i, from 81 adults during two years: 2014 (1–7 June) and 2015 (17 June–27 July). We sorted 1007 prey items into 3 categories: Fish, Squid, and Other (extremely digested “mush” and parasitic isopods). The average number of prey items per sample was  $8.1 \pm 5.7$  (2014) and  $10.6 \pm 8.4$  (2015). First, we assigned prey items a categorical freshness value: 1 (perfect condition), 2 (superficial digestion), or 3 (highly-digested and incomplete). Next, we measured sizes and took genetic samples from 492 items (freshness 1 and 2). 82% ( $n = 401$ ) of those items were genetically identified. Rarefaction analyses revealed robust estimation of species richness in the diet which included 29 fish and 3 squid species. Moreover, 98.7% (232 of 235) of identified squids were Purpleback flying squids (*Sthenoteuthis oualaniensis*). Despite the dominance of fish in 2014 (%PSIRI fish 32.3%, squid 15.1%) and 2015 (%PSIRI fish 29.9%, squid 22.3%), diet composition varied significantly among the two study years. Squid were also significantly larger in 2015 ( $7.2 \pm 1.1$  cm) than in 2014 ( $6.3 \pm 1.7$  cm), indicating that differences in relative abundance and size may have been associated with El Niño conditions in 2015, similar to results from French Frigate Shoals (Seki & Harrison 1982). Altogether, due to Red-footed Boobies having opportunistic diets, we suggest they can be used to sample variability among epipelagic nekton assemblages during periods of contrasting oceanographic conditions.