

A Previously Unreported Population of Herald Petrel on Ta'u Island, American Samoa

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Abstract.—Sightings of territorial Pacific Herald Petrels (*Pterodroma arminjoniana heraldica*) over forested ridges of Ta'u Island, American Samoa, and of a downy chick of a *Pterodroma* petrel near the top of the island indicate the presence of a breeding colony there. The closest known colony of this subspecies is in Tonga, 1210 km to the south-southwest of Ta'u. A Herald Petrel specimen collected from the Ta'u population is described and compared with other Pacific populations. Received 31 January 1990, accepted 20 March 1990.

Key words.—Herald Petrel, *Pterodroma*, Ta'u Island, American Samoa, distribution.

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The Pacific Herald Petrel (*Pterodroma arminjoniana heraldica*) breeds in several island groups from Raine Island and New Caledonia in the western Pacific to the Marquesas and Easter Island to the east (Murphy and Pennoyer 1952, Jouanin and Mougis 1979, King 1984, Harrison 1987), but it has not been previously reported from American Samoa (Amerson *et al.* 1982b, Banks 1984). Here we document the existence of a breeding population of Herald Petrel on Ta'u Island (14° 15' S, 169° 28' W), American Samoa, which represents an addition to the known breeding avifauna of United States possessions. The nearest known breeding population is on Tonga, 1210 km south-southwest of Ta'u.

On 21 July 1986, while participating in a bird survey of American Samoa for the U.S. Fish and Wildlife Service (Engbring & Ramsey 1989), Pyle observed a light-morph Herald Petrel near Auauli Cove along the north coast of Ta'u, flying inland at a height of about 15 m. The next day, Engbring saw two similar petrels flying along a ridgeline above Lavania Cove on the southern coast of Ta'u, and four more were seen by both observers on 27 July flying directly inland at an altitude of ca. 200 m during an hour of observation from a road along the north coast of the island. On 25 July 1986 Pyle observed a downy gray chick of a *Pterodroma* in thick vegetation aside Olotania Crater (alt. 870 m) near the peak of Ta'u.

From 2-6 May 1988 Pyle and Spear daily counted 30-40 light-morph Herald Petrels wheeling over the densely forested ridgeline along the north coast of Ta'u Island. Birds were concentrated above a

large basin of several stream valleys centered 4.5 km west of Fitiuta Point. In contrast to our observations in July, they were calling frequently and displaying brief bouts of aerial pursuit, behavior which suggested courting. The calls consisted of high-pitched notes, some quite raspy, as has been described for the nominate form of Herald Petrel (Gill *et al.* 1970). On 11 August 1989 Engbring again observed numbers of petrels wheeling over this ridgeline and exhibiting similar behavior as the birds in May. As many as 24 were counted in view at one time and a total of 100 birds was estimated during three hours of observation.

On 6 May 1988 Spear collected an adult female Herald Petrel as it headed inland near Vailega Spring, 4 km east of Ta'u village. The specimen has been deposited in the American Museum of Natural History (AMNH, #826004; Fig. 1). It was in breeding condition with fresh plumage, no molt, heavy fat and with the largest follicle measuring 4.3 mm. The oviduct was convoluted, indicating that the bird had previously bred. The brood patch was downy. Measurements by Spear were: total length 357 mm; wing extent 915 mm; unflattened wing chord 269 mm; flattened wing chord 277 mm; culmen 28.0 mm; tail 115 mm; tarsus 34.5 mm; and middle toe with nail 45.6 mm. The total fresh mass of 326 gms included 20 gms of food in the stomach.

The chick observed by Pyle near the peak of Ta'u was in size, structure and coloration similar to a Herald Petrel chick collected during the Whitney South Sea Expedition to Tonga on 24 July 1925



Figure 1. Herald Petrel collected on Ta'u Island, American Samoa, on 6 May 1988. American Museum of Natural History # 826004.

(AMNH # 249955). By contrast, similar-aged specimens of Tahiti Petrel (*P. rostrata*), the only other species of *Pterodroma* known to breed on Ta'u (Amerson *et al.* 1982b), were larger and had proportionally more massive beaks than the chick observed on Ta'u. The fact that the chick was not in a burrow and that there was no burrow in the vicinity of the observation further suggests that it was a chick of Herald Petrel. The Tahiti Petrel nests in burrows, and of the surface-nesting *Pterodroma* petrels in the Pacific—Kermadec (*P. neglecta*), Phoenix (*P. alba*), Herald, and Murphy's (*P. ultima*) petrels (Murphy and Pennoyer 1952:3)—only the Herald has been recorded in American Samoa.

All of the Herald Petrels we observed on Ta'u were of the light morph and closely resembled the individual collected. A comparison of the specimen with other Herald Petrels at AMNH revealed that the plumage was similar to light-morph individuals from elsewhere in the Pacific. However, a well-defined breast band found on the Ta'u specimen and individu-

als observed there is perhaps more prominent and occurs more consistently than on Pacific Herald Petrels collected from other populations. The undertail coverts of the Ta'u specimen are also white with bolder black barring than those found on other light-morph specimens at AMNH (Fig. 2).

As compared with 67 female Pacific Herald Petrels measured by Murphy and Pennoyer (1952), the Ta'u specimen had larger than average tail, culmen, tarsus, and middle toe lengths but a smaller than average unflattened wing chord. A bird collected on 7 April 1967 at 11° 51' S 167° 27' W, about 340 km northeast of Ta'u, also had typical measurements except for a shorter than average wing chord (Clapp 1974). More specimens of Herald Petrel from Ta'u are needed to ascertain whether or not this pattern in measurements, along with the breast band and undertail covert differences mentioned above, discriminate this population.

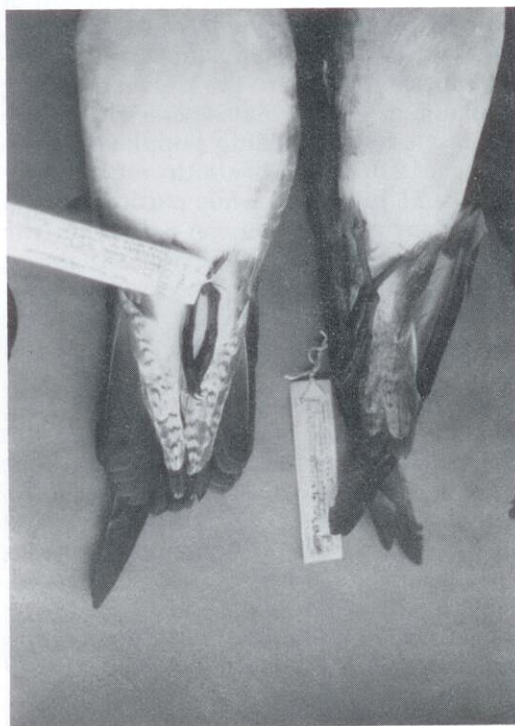


Figure 2. Herald Petrels collected on Ta'u Island, American Samoa, on 6 May 1988 (left; AMNH # 826004) and on Tonga, 24 July 1925 (right; AMNH # 249965), showing the difference in undertail covert pattern. The Tonga bird shows a pattern typical of other light-morph Pacific Herald Petrels.

Our observations indicate that Herald Petrels breed primarily during the austral winter on Ta'u, which coincides with breeding of this species on other islands in the Pacific (King 1984, Harrison 1987). The birds we observed in early May 1988 were courting and appeared to be prospecting, whereas the smaller numbers and directed behavior we observed in July 1986 suggested that they were incubating or feeding checks. The prospecting birds observed in August 1989 may have been young, prebreeding birds, or may indicate a protracted or, to some extent, year-round breeding season, as is typical of other *Pterodroma* populations in the tropical Pacific (Murphy and Pennoyer 1952). Breeding appears to be limited to the nearly impenetrable *Freycineta storckii* thickets found above 670 m altitude on Ta'u (Amerson *et al.* 1982a), with a concentration of nesting perhaps occurring on the north side of the island.

Although the Herald Petrel had not been reported from the Samoan Islands, Amerson *et al.* (1982b) included the Collared Petrel (*Pt. leucoptera brevipes*) as a possible resident of Ta'u on the basis of sight reports (Peale 1848, Amerson *et al.* 1982b). However, we observed no Collared Petrels during our surveys of Ta'u and no specimens have been reported from American Samoa (Banks 1984). The prominent breast band on the Ta'u Herald Petrels, a characteristic otherwise unique to Collared Petrel among the *Pterodroma* (King 1967, Harrison 1987), suggests that the Collared Petrels earlier reported in American Samoa were actually Herald Petrels.

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