

APPENDIX G

Status of the Spotless Crake in American Samoa.

Wilson Bulletin 115(4). 2004.

Mark J. Rauzon^{1,3} and Mino Fialua²

1Marine Endeavours, 4701 Edgewood Ave. Oakland. CA 94602, USA.

2National Park of American Samoa, National Park Service, Pago Pago, American Samoa 96799, USA.

3 Corresponding author; E-mail:mjrauz@aol.com

ABSTRACT.

During July 2001, during seabird surveys in dense montane rainforest at the summit of Ta'u, we documented the occurrence of the Spotless Crake (*Porzana tabuensis*) in American Samoa for the first time in 17 years. The last sightings were made during 1985-1986 in lowland agricultural areas, semiwetland and secondary forests. Norway Rats (*Rattus norvegicus*) also were discovered in the montane forests and pose a threat to the continued survival of the crake at its only colony in the Samoan archipelago. Received 4 June 2003, accepted 15 August 2003.

The Spotless Crake (*Porzana tabuensis*), also known as the Sooty Rail, is present over much of South Pacific, including Australia, New Zealand, New Guinea, Philippines, and many oceanic islands as far east as the Marquesas Islands and Pitcairn Islands (Pratt et al. 1987). Although widely scattered in small vulnerable populations, the Spotless Crake (*P. t. tabuensis*) exists in virtually every major island group in the South Pacific. In Western Polynesia, it is extirpated from Futuna but occurs on three islands in Tonga, and on six islands in Fiji (Watling 2001). It is known from Samoa only on the island of Ta'u, the easternmost high island of the Samoan archipelago. This population was discovered in 1923 when biologists with the Whitney South Seas Expedition found the birds in marshy coastal habitat on the northwest side of the island (Murphy 1924, Banks 1984). Others were not able to find the secretive species during 1975-1976 (Amerson et al. 1982). The population was thought to be extirpated since it had not been seen since 1923 (Muse and Muse 1984), but was rediscovered during 1985, when a road-killed specimen was found. Subsequent searches found one individual, and

heard several more 1 km east of Ta'u village (Engbring and Engilis 1988). Since so much time had passed between the initial discovery and rediscovery, and these sightings were in lowland, agricultural forests in the northwest area where they were discovered, Engbring and Engilis (1988) speculated that the population was small and decreasing as wetland habitat diminished with a reduction in subsistence agriculture. The discovery of crakes at the summit of Ta'u suggests the population may have been larger than originally thought and that crakes could be present on other island summits in Samoa.

STUDY AREA AND METHODS

Ta'u (14° 14' S, 169° 267'W) is the largest of the Manu'a Islands located approximately 100 km. east of Tutuila in the U.S. Territory of American Samoa. The National Park of American Samoa was established in 1993, and approximately half of the island of Ta'u was leased to the U.S. Park Service (Craig 2002). The Ta'u Island Unit encompasses 2,160 ha of coastal, upland and high elevation scrub forests rising from the eastern and southern coastlines to the highest point in the territory at the summit of Mt. Lata (966 m). Habitat at the summit is composed of dense montane rainforest characterized by the 'ie'ie vines *Freycinetia storkii* and *F. reinecki*, tree ferns (*Cyrtandra* spp.), native *Melastomes* and the invasive alien melastome (*Clidemia hirta*). Rainfall at the summit can exceed 750 cm per year and misty conditions characterize the daily weather. Hurricanes episodically modify the forest environment and the most recent (Hurricane Val in 1991), destroyed much of the tree canopy on the summit.

During seabird surveys in at the summit on 19 July 2001, at 08:00 h (Samoa standard time), we heard calls we thought were Tahiti Petrel (*Pseudobulweria rostrata*) or Audubon's Shearwater (*Puffinus lherminieri*) chicks in burrows, but the sounds apparently moved. The location was marked, and after dark we attempted to locate the adults arriving to feed the chicks at the burrow. Since no sightings were made, we placed a voice-activated tape recorder in the undergrowth at the site, but no vocalizations were captured on tape. When calls were heard again at 16:00, we tried to locate the bird by crawling through the tangled undergrowth of ferns and vines to the

base of several tree ferns, where the sound was last heard. Although some digging had occurred under the ferns, we found but no burrow or other nest. Later, we heard sounds from this area at about 07:30 on 21 July, and again attempted to find the calling bird in the dense vegetation. The sound moved away rapidly, suggesting a bird other than a seabird chick, which would have been unable to move so quickly in the dense undergrowth.

RESULTS AND DISCUSSION

Our search through the tangles elicited bird movements and a rattle-like alarm call preceding the emergence of a Spotless Crake from the vegetation. Its conspicuous red eye, pink legs, and dark gray body were diagnostic. Crakes were heard again making a "bup-bup-bup-bup-bup" call from this site in December 2001 and December 2002. A "churring" call that was repeated at sunrise, and sunset near our camp, about 0.5 km from the previous site may have been this species. Another crake was heard and glimpsed in December 2002 in similar habitat about 1.6 km distant. Spotless Crakes are considered monogamous and territorial, possibly throughout the year (Taylor 1996). Our observations in the same area on our different visits suggest crakes are territorial year round and widely scattered through the montane forest area of Ta'u, estimated to be about 20 km². Spotless Crakes have been recorded elsewhere at high elevations. They occur from sea level up to 3,300 m in New Guinea (Taylor 1996). Throughout its range, they are found in rank vegetation in almost any habitat, in fern-covered hillsides, heathy flats and coastal scrub, usually near water (Taylor 1996). On some islands, Spotless Crakes occupy low-stature forests and also rocky habitats without standing water. They also readily occupy artificial wetlands, farmlands, and seabird islands where they have been reported to eat a wide range of prey including insects on a cow carcass, seeds, shoots and invertebrates and eggs of shearwaters, petrels and terns (Taylor 1996). In the Kermadec Islands, New Zealand, they have been reported foraging in trees that hold Black Noddy (*Anous minutus*) nests (Taylor 1996). On Ta'u, Tahiti Petrels are relatively common nesters in the areas where crakes were encountered and it is possible that the crakes prey on Petrel eggs.

In July 2001, we also found that Norway Rats (*Rattus norvegicus*) were present in moderate densities on the summit of Ta'u. Throughout the Pacific Islands, Spotless Crakes have suffered reductions and local extinctions where humans and commensals are present (Taylor 1996). Overall, the status of the crake in Western Polynesia is alarming due to declining populations as a result of introduced dogs, cats, mongooses and rats (Watling 2001). Spotless Crakes survive in New Zealand rat-infested areas by inhabiting the wettest part of the marsh, where rats are least likely to go (C. R. Veitch, pers. comm.). Likewise, crakes may persist on Fiji, despite the presence of the mongoose, by inhabiting isolated swamps (Watling 2001). As a result of rat predation, Spotless Crakes have become rare on Norfolk Island, and the species is extinct on Raoul Island in the Kermadec Island group. Spotless Crakes persist in the Pitcairn Islands where rats have been eradicated from Oeno Island and should increase as a result (B. Bell, pers. comm.). On Poor Knights Island, New Zealand, Spotless Crakes increased after human occupation ceased and pigs were removed (Taylor 1996). Norway Rats have been present at low elevations on Ta'u for many years and may have contributed to the extirpation of the Spotless Crake from these areas. Pacific Rats (*R. exulans*) are common in the forest area on Ta'u, but evidently only Norway Rats are established in the upper rainforest. Norway Rat predation on crakes, on their invertebrate foods and on seabirds is likely to be a significant threat to their survival. The climate, terrain, fiscal and legal constraints makes rat control on Ta'u summit very unlikely in the near future. Current rodenticide registration in U.S. Pacific territories does not allow usage in nonagricultural areas. An exemption from the U.S. Environmental Protection Agency (EPA) to the Federal Insecticide, Fungicide, and Rodenticide Act is being sought. The EPA and USFWS are pursuing national registrations for rodenticides (brodifacoum and diphacinone) for conservation purposes, to be used in all U.S. territories and possessions, and should be available within several years. Even with such a registration, significant fiscal and physical barriers must be overcome to insure that the Spotless Crake, a candidate for listing under the Endangered Species Act, continues to survive in the Samoa Archipelago.

ACKNOWLEDGEMENTS

We thank the staff of the National Park of American Samoa, especially P. Craig, and Rory West, Jr. for logistical help; D. Duffy of the Pacific Cooperative Studies Unit, Univ. of Hawaii, for financial support; and comments by reviewers J. C. Coulson and J. Smallwood. K. Swift and H. Freifeld, of the U.S. Fish and Wildlife Service and two anonymous reviews improved the manuscript. This project was funded in part by NPS Cooperative Agreement # 8036-2-9004 to the University of Hawaii.

LITERATURE CITED

AMERSON, A. B, Jr., W. A. WHISTLER, AND T. D. SCHWANER. 1982. Wildlife and wildlife habitat of American Samoa II: accounts of flora and fauna. U.S. Fish and Wildlife Service. Honolulu, Hawaii.

BANKS, R. C. 1984. Bird specimens from American Samoa. *Pacific Science* 38:150-169.

CRAIG, P. (Ed). 2002. Natural history guide to American Samoa: a collection of articles. National Park of American Samoa, Pago Pago, Tutuila.

ENGBRING, J. and A. E. ENGILIS, Jr. 1988. Rediscovery of the Sooty Rail (*Porzana tabuensis*) in American Samoa. *Auk* 105:391.

TAYLOR, B. P. 1996. Family Rallidae. Pp. 108-209 IN del Hoyo, J., Elliott, A. and Sargatal, J. (Eds). (1996) Handbook of the birds of the World. Vol. 3. Hoatzin to Auks. Lynx Edicions. Barcelona.

MURPHY, R. C. 1924. Birds collected during the Whitney South Pacific Expedition, II. *Am. Mus. Novit.* 124:1-13.

MUSE, C. AND S. MUSE. 1982. The birds and birdlore of Samoa. Pioneer Press, Walla Walla, Washington.

PRATT, H. D., P. L. BRUNER AND D. G. BERRETT. 1987. The birds of Hawaii and the tropical Pacific. Princeton Univ. Press, Princeton, New Jersey.

WATLING, D. 2001. Birds of Fiji and Western Polynesia: Including American Samoa, Niue, Samoa, Tokelau, Tonga, Tuvalu and Wallis-Futuna. Environmental Consultants, Suva, Fiji.