

OBSERVATIONS OF THE RINGED STORM-PETREL OFF THE NORTH-WEST COAST OF SOUTH AMERICA

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Since its description in 1854, very little information has accumulated about the biology of the Ringed Storm-Petrel (*Oceanodroma hornbyi*) except that this species is apparently most common in the Perú Current system to the west of the major upwelling areas of the Perú Coastal Current and that it appears to be a year-around resident of this region, between Valparaíso, Chile, to the south and southern Ecuador to the north (summary in R. C. Murphy, *Oceanic Birds of South America*, New York, Amer. Mus. Nat. Hist., pp. 741-743, 1936). The evidence for breeding times and areas is fragmentary, although it appears that the breeding area is the arid coastal mountains of Perú and Chile, since mummified remains are known from burrows in nitrate areas of northern Chile (Murphy, *op. cit.*, p. 743; A. W. Johnson, *The Birds of Chile*, Buenos Aires, Platt Establecimientos Gráficos S.A., p. 108, 1965), and fledged juvenile birds have been captured in June and July in Lima, Perú (María Koepcke, *Las Aves del Departamento de Lima*, Lima, privately printed, p. 18, 1964).

In October 1965 I had opportunity to observe the Ringed Storm-Petrel from the RV *Anton Bruun* while it was engaged in marine biological work off southern Ecuador and northern and central Perú. Table 1 is a summary of the observations, omitting birds found

TABLE 1. Observations of the Ringed Storm-Petrel at sea off northwestern South America October 1965. (Birds captured on deck omitted. Quotations from field notes)

Date	Position	Number recorded
2 Oct. 1965	approx. 3°15'S, 80°59'W	2-3
3 Oct.	5°07'S, 82°12'W approx. 5°45'S, 82°15'W	3 Several
4 Oct.	approx. 6°13.3'S, 81°06.8'W	1
5 Oct.	approx. 5°43'S, 82°06'W	1
7 Oct.	approx. 6°23.2'S, 82°17.3'W	1
10 Oct.	6°31.9'S, 82°13.1'W approx. 6°22'S, 81°46'W	1 1
14 Oct.	approx. 7°59'S, 80°36'W	"Going by regularly"
18 Oct.	8°22.5'S, 80°45'W 8°23'S, 80°45'W	Many flocks of 25- 50 on water "Many around ship" at night
21 Oct.	10°54'S, 78°55'W	1
29 Oct.	8 km south of Hor- migas de Afuera, Perú	1

on deck since the precise localities at which they came aboard were never certain. The density of the species in the area is not adequately represented in the table or by most observations from ships, since, in my experience, the Ringed Storm-Petrel never follows ships, unlike the other common storm-petrels of the area, the Sooty Storm-Petrel (*Oceanodroma markhami*), the Wedge-rumped Storm-Petrel (*O. tethys*), and the White-vented Storm-Petrel (*Oceanites gracilis*). Most of the Ringed Storm-Petrels I recorded were flying strongly across the ship's track, usually astern, or on tangential courses.

Most of the observations were made at distances of 80 to 110 km offshore, but one seen on 4 October at approximately 6° 13.3' S, 81° 06' W, northwest of Isla Lobos de Tierra, was only 13 km offshore, and the observation south of Hormigas de Afuera on 29 October was near the edge of the very narrow continental shelf. That the species often comes close to shore is supported by records discussed by Murphy (*op. cit.*) and by the finding of a dead bird at Ancón, Sta. Elena peninsula, Ecuador by M. P. Harris (Charles Darwin Research Station, Galápagos, Ecuador) on 1 November 1965 (M. P. Harris, *in litt.*).

The observations on 18-19 October are of particular interest. On 18 October from about 14:00-15:00 EST the ship passed numerous flocks of Ringed Storm-Petrels centered about 8° 22.5' S, 80° 45' W. Most of the flocks contained 25 to 50 birds resting on the water, separated by intervals of about 0.8 km from other flocks. I estimated very conservatively that the ship passed 500 birds in the hour. Later the same day, when the ship was hove-to working after dark in the same general area, a large number of Ringed Storm-Petrels were feeding at the edge of the lighted area around the ship. At 09:00 the next morning, while at 8° 44' S, 80° 45' W, I found a bird on deck that had almost certainly come aboard the previous night at 8° 23' S, 80° 45' W. When released, it flew above the ship, circled it once, then moved off to the southeast, circling higher and higher to a height of about 60 m. The day was overcast, and the sun was completely obscured. This behavior was in strong contrast to that of other petrels (*Oceanodroma markhami*, *O. tethys*, *Oceanites gracilis*) released on the same cruise, which made off low over the water with a fast, erratic flight under all kinds of weather conditions. It would appear that *O. hornbyi* was trying to use sun-compass orientation, as several species of land birds and ducks are now known to do (Kramer, *Long Distance Orientation*. Pp. 341-371 in Marshall, A. J., *Biology and Comparative Physiology of Birds*, New York, Academic Press, vol. II, 1961).

The large numbers of the species in the area in flocks, with this evidence of orientation behavior, suggest that the birds may have been flocking preparatory to moving to nesting grounds on the coast of Perú. If so, the nesting season of the Ringed Storm-Petrel begins in the southern summer. If newly fledged young fly to the sea in June and July, as Koepcke's (*op. cit.*) observations suggest, nesting probably does not begin until mid or late February, assuming 21 days for the preparation of the burrow (based on the observations of B. B. Roberts, British Graham Land Expedition 1934-37 *Sci. Repts.*, 1:141-194 on Wilson's Storm-Petrel, *Oceanites oceanicus*), 43 days of incubation, and 55 days for growth of the juvenile before flight (averages from data for four species of storm-petrels from James Fisher and R. M. Lockley, *Sea-birds*. London, Collins, pp. 183-189, 1954). The meaning of the orientation behavior and flocking observed, then, is obscure, unless potential

breeding birds gather at sea for periods of three to four months before moving to the breeding grounds or unless breeding is spread over a long period. Year-around collecting at sea for examination of the gonads

could give badly needed information about the start of the breeding season in this little-known species.

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NORTHERN RANGE EXTENSION OF WIED'S CRESTED FLYCATCHER

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Two specimens of Wied's Crested Flycatchers (*Myiarchus tyrannulus*) were taken north of their previously published range in May 1966. Both specimens were identified as the race *magister* by Richard C. Banks, Smithsonian Institution, Washington, D.C., and both are located at Zion National Park, Utah. One was taken at Beaver Dam, Mohave County, Arizona, 5 May (ZNP-1846, ♂). Its larger testis measured 12 × 5 mm. The second specimen (ZNP-1793, ♂) was taken 18 May, three miles above the Lytle Ranch in Beaver Dam Wash, Washington County, Utah. Its larger testis measured 14 × 8 mm. It was first detected on 27 April, among the cottonwood foliage at Beaver Dam, which is located at the confluence of Beaver Dam Wash and the Virgin River. Its call and soft *whit* was unmistakable although I did not see it that day. On 5 May, however, a pair was seen there, presumably mating; the male chased the female from tree to tree for about five minutes before the male was collected. Again on 12 May, a mating pair was

found at the same location by the writer and Bruce Moorehead. Additional records at Beaver Dam include five individuals observed 19 May (one was seen carrying either nesting materials or food), two on 26 May, one on 16 June, two on 23 June, and three on 21 July.

Beaver Dam Wash runs south from Utah's Bull Valley and Beaver Dam Mountains to Beaver Dam. About 25 miles of the wash is in Utah. There are sparse cottonwood growths throughout, and a single large cottonwood-willow woodland situated at the upper end of the wash about 20 miles north of Beaver Dam. That area was visited by the author, 18 May, for the purpose of finding and collecting the Wied's Crested Flycatcher. A mating pair was found and the male collected.

This flycatcher's previously known range was "from extreme southern Nevada, central Arizona (Big Sandy, Fossil Creek), and probably New Mexico (Gila River) south" (AOU Check-list 1957:338). The Nevada specimens were taken "opposite site of old Fort Mohave, Clark County, Nevada on 19 July and 16 August 1951" by Warren Pulich (personal communications). The Utah record extends the range north about 140 miles and represents the first for the state.

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A BREEDING COLONY OF CASSIN'S AUKLET AND POSSIBLE BREEDING OF THE RHINOCEROS AUKLET ON GOAT ISLAND, SOUTHWESTERN OREGON

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Goat Island, Curry County, Oregon, is an island approximately 21 acres in area about 2000 feet offshore from Brookings. The northern slope is utilized by burrowing alcids. On the nights of 23-26 March 1966 the authors noted calling Cassin's Auklets (*Ptychoramphus aleutica*) flying overhead in the vicinity of the northern slope. A dead bird was found on the northern slope on 25 March, another on 26 March, and two on 14 May 1966. On 14 May, 25 Cassin's Auklet burrows were found to contain active breeding birds. One excavated burrow contained a chick not more than four days old. Thoresen (Condor 66:456, 1964) found one dead Cassin's Auklet near the summit of Goat Island in 1958 (?), but did not find evidence of breeding.

On 24 March a partially deteriorated Rhinoceros Auklet (*Cerorhinca monocerata*) was found on the northern slope of Goat Island. On 25 March a burrow thought to be that of the Tufted Puffin (*Lunda cirrhata*) near the latter location was picked at random for excavation. The burrow contained a Rhinoceros Auklet in complete breeding plumage. The bird was photographed and released. On 26 March the burrow was reexamined and contained a Rhinoceros Auklet, which was actively digging. This bird appeared to be the same one photographed on 25 March. The burrow measured six inches in diameter. The main tunnel terminated 95 inches from its entrance. Two side branches about four inches from the entrance were 49 inches and 26 inches long (left and right sides, respectively) from the junction with the main tunnel to their terminus. On 14 May 1966 the burrow was again examined and was found empty. The main tunnel had been extended 18 inches. On the same date three partially deteriorated Rhinoceros Auklets in breeding plumage were found on the northern slope. Further evidence of this species on the Island was negative. The AOU Check-list (1957:255) gives the southern limit of the breeding range of the Rhinoceros Auklet as Destruction Island, Washington (formerly Farallon Islands, California).

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