

NOTES ON THE WINTERING AREAS OF RED KNOT *Calidris canutus rufa* IN ARGENTINA, SOUTH AMERICA

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Introduction

Although it has long been stated that Red Knot winter coastally in the southern parts of South America to Tierra del Fuego (e.g. Ridgway 1919, Meyer de Schauensee 1970), very little information indeed appears to be available on their status or distribution. For instance, the species is barely mentioned by Hudson (1920) or Wetmore (1926, 1927). Myers and Myers (1979) describe the Red Knot as a common shorebird in coastal Buenos Aires Province though generally only small flocks were observed (10-30) with a maximum of 110 at Peninsula Valdez (see Figure 1). Humphrey et al (1970) described the Red Knot as an irregular visitor to Tierra del Fuego, but more recent reports by Devillers and Terschuren (1976) of flocks of 3,000-5,000 in January at Rio Grande suggest that this region may be an important wintering area.

Clearly, more detailed information on the status and wintering distribution of Red Knot in South America is a major current requirement for the future conservation of the species, especially if, as seems likely from our knowledge of knot in other areas, the birds tend to concentrate in large numbers at a relatively small number of sites (Morrison and Harrington 1979, Morrison et al 1980). This note describes the results of preliminary surveys funded by the World Wildlife Fund to investigate the wintering distribution of Red Knot and other North American shorebirds in Argentina in November and December 1979.

Itinerary and Methods

Figure 1 shows the areas visited by car to carry out preliminary assessment of shorebird wintering areas in Argentina during the period 22 November - 19 December 1979. Both inland and coastal areas of northeastern Buenos Aires Province, lying between Buenos Aires and Punta Rasa, were visited between 22 and 25 November 1979. We departed from Buenos Aires on 2 December 1979 and drove to Tierra del Fuego, arriving at Rio Grande on 11 December 1979. As many coastal areas and habitats were visited as time allowed during this journey. The return trip from Tierra del Fuego took from 12 to 19 December 1979, mechanical problems with the car preventing coverage of many new areas. We were joined by Eric Carp from 2-5 December 1979 and by Matthew Drennan from 4-19 December 1979. RIGM returned to Buenos Aires on 12 December 1979.

Results and Discussion

Information on the times and locations of sightings of Red Knot during our surveys is summarised in Figure 1 and Table 1. With the patchy distribution of our coverage owing to restricted access to the coast by road, it is risky to draw detailed conclusions from our results, but some useful general statements are possible. Firstly, there is a major wintering area of *Calidris canutus rufa* on the Argentinian Atlantic coast of Tierra del Fuego, especially along a stretch about 2km north of Rio Grande, and at Punta Popper just south of Rio Grande. With the exception of 400 knot at Bahia Bustamente, we found no large numbers of knot elsewhere in Argentina; the single group found at Rio Grande comprises more than 80% of all the knot we found: thus, it appears that *rufa* concentrates at favourite spots on the wintering grounds just as they do at favourite stopover areas in North America during their autumn migration (Morrison et al 1980).

Our second observation concerns the places where we found knot in Argentina, and the food they were apparently hunting. The habitat where we found the majority (5543 of 6218 = 89%) of knot was *restinga*, described by Murphy (1936) as "a broad wave-cut platform in the country rock ... between tides but nearer low tide ... its surface broadly plane, but very rough in detail, with many pools in which fishes and other marine animals survive between tides.... the rocky projections are usually covered with mussels."

We could not see what the knots were hunting on the *restinga* near Rio Grande, but their faeces in a nearby resting area were packed with fragments of mussel shells. Knots on some of the first extensive *restinga* we saw, just south of Comodoro Rivadavia, were not eating mussels during the hour or so that we watched them, and indeed they were not foraging at all for the first 20-30 minutes. Later they joined Hudsonian Godwits *Limosa haemastica* foraging in tidal pools, apparently hunting for amphipods that were abundant in patches of crusty algae.

The knots that we watched on the extensive intertidal sandflats at Bahia Bustamente (Chubut Province) were probing in moderately soft sand, and were catching lightly-coloured, thin-shelled bivalves about 1-1.5 cm long. The knots at Bahia San Sebastian (Tierra del Fuego) had been foraging on very muddy intertidal flats, but were only feeding sporadically during the 1-1.5 hours that we watched them. Bivalve shells resembling surf clams were present in 6-8 inch thick windrows near the high tide line, and could have been the principal prey species of the godwits and knots we found at Bahia San Sebastian.

A third comment regards the general habitat distribution of knot in Argentina. Much of our survey included inland areas of the country, particularly in Buenos Aires Province (see Itinerary, Figure 1), but also including many lakes, ponds, sloughs and marshes in other provinces as well. In spite of extensive travel inland, we never found a single Red Knot away from the coast. Thus, as during its autumn migration, *rufa* is highly dependant upon coastal habitats in the wintering zone. But, as indicated in Figure 1, we found knots at only 11 of the 53 coastal locations visited. In general, the places where we found knots had extensive sand or mud flats, or extensive *restinga*. We also surveyed many kilometres of beaches, which typically were composed of shingle derived from the famous Tehuelche Gravel that covers the pampas of Patagonia, but is reduced in size and often polished by the wave action. However, we practically never found knots unless the beach bordered extensive *restinga*. Similarly, we looked at the banks and mouths of several rivers (i.e. several kilometres of the Rio de la Plata shoreline, the mouth of the Rio Negro, parts of Bahia San Julian, the mouth of the Rio Chico/Rio Santa Cruz, and the shores of Rio Gallegos in the town of Rio Gallegos) but did not find knots, in spite of the fact that sand bars and beaches often looked similar to habitats knots sometimes use in North America. A single and notable exception to this was the flock of knots on *restinga* near the mouth of the Rio Grande in Tierra del Fuego. Nor did we find *rufa* on the sandy oceanfront beaches at Cabo San Antonio, Buenos Aires Province, at Balneario El Condor, Rio Negro Province, at Puerto Madryn, Chubut Province, or along the Balneario south of Comodoro Rivadavia - all of these places outwardly resembled landforms where small numbers of knot are sometimes found in North America.

Another of our objectives was to collect information on ages and moult of knot during the survey. Most of the birds we found were in basic (winter, non-breeding) plumage, so determining whether they were juveniles or older birds was difficult. In some cases when we could get close to flocks, some juveniles and some older birds were noted, but establishing a reliable ratio of the age groups was not possible; few individuals still retained traces of visible alternate (breeding) plumage (see Table 1).

Finally, a remark about oiling is in order. On three occasions we were able to approach knots closely enough and in sufficient numbers to determine a ratio of visibly oiled birds: these were 15 of 100 birds at Bahia Bustamente (15%), none of 150 at Bahia San Sebastian (0%), and 1 of 75 at Rio Grande (1.3%), for an average of 5% of all the birds we checked. This is a high incidence as compared to other areas we have studied knots. Bahia Bustamente is, notably, not far north of Comodoro Rivadavia, one of the most important oil centres in Argentina.

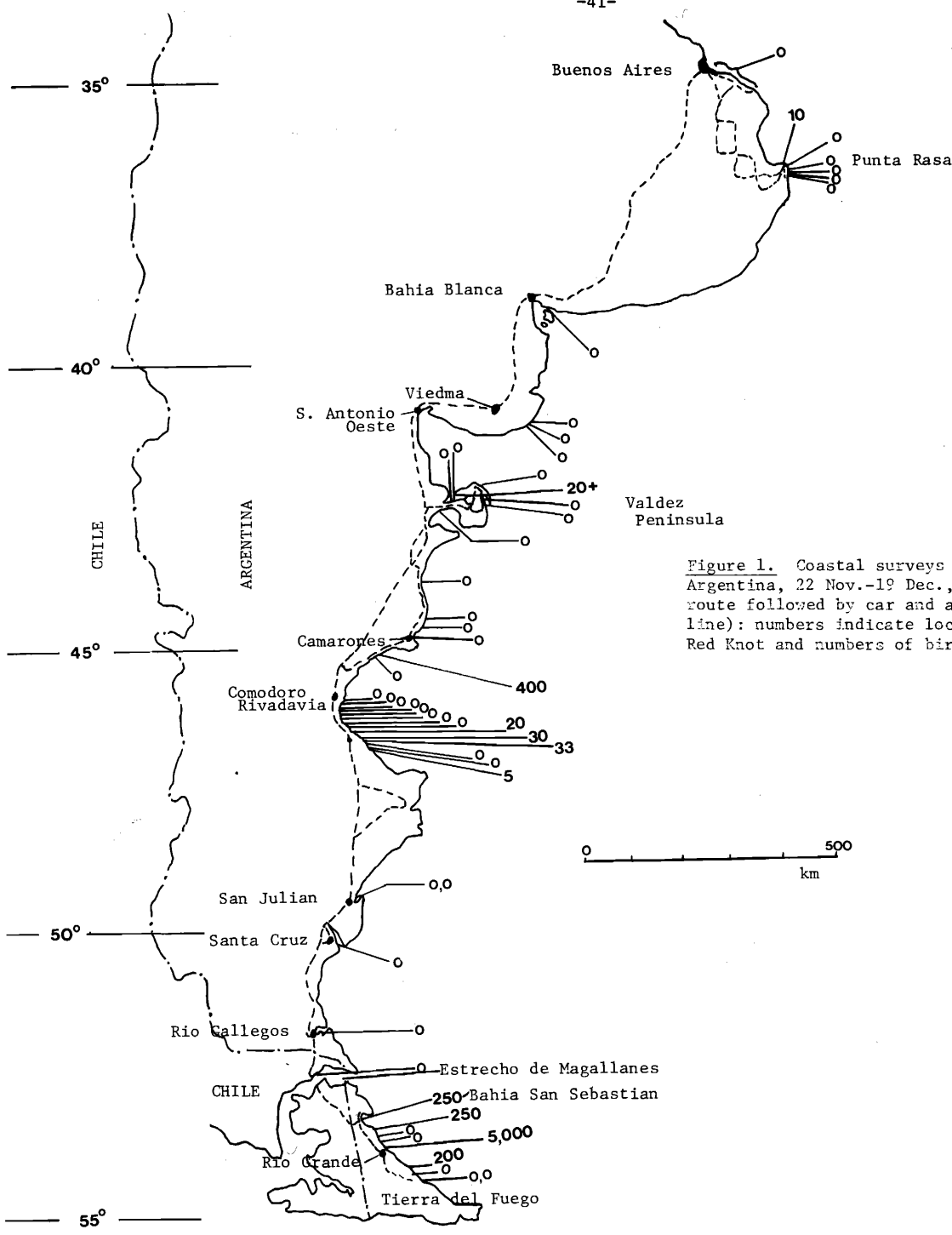


Figure 1. Coastal surveys for Red Knot in Argentina, 22 Nov.-19 Dec., 1979. Map shows route followed by car and areas visited (dashed line); numbers indicate locations checked for Red Knot and numbers of birds seen.

Table 1. Sightings of Red Knot, coastal Argentina, November/December 1979, with comments on habitats and moult.

Date 1979	Location	Number	Remarks
24 Nov.	Punta Rasa, B.A. Province	10	A sandy/muddy intertidal flat on the west side of Punta Rasa, facing Bahia San Clemente. About one third of the birds showed traces of alternate (breeding) plumage. No knot were seen on about 5-10 km of oceanfront beaches of Cabo San Antonio, or in any of the coastal lagoons or ponds.
5 Dec.	Valdez Peninsula, Chubut Province: SE shore of Golfo San Jose	20+	On flats to E of Whale Camp. Distant, foraging with peep at low tide.
7 Dec.	Bahia Bustamente, Chubut Province	400+25	Extensive sandy flats near Ea. Co. Condor. Feeding on white bivalves with thin shells measuring up to an estimated 1.5 cm long. Probing. Fifteen of 100 knots checked at close range were visibly oiled on ventral plumage. Most were in basic plumage. 0/200 checked for leg bands. Several km of beaches were checked on Bahia Bustamente, but knot were found only on flats. Knot fed on wet areas of sand both on flats and in water.

Table 1 (continued).

<u>Date</u> 1979	<u>Location</u>	<u>Number</u>	<u>Remarks</u>
8 Dec.	Santa Cruz Province 78 km S of C. Rivadavia	20	On <u>restinga</u> with 88 Hudsonian Godwits, foraging around a tidal pool having a mat of algal growth (light, moss-like). Falling tide. All in basic plumage.
8 Dec.	81 km S of C. Rivadavia	30	Flying south along coast, with 45 Hudsonian Godwits.
8 Dec.	87 km S of C. Rivadavia	33	Foraging on <u>restinga</u> . With 119 Hudsonian Godwits, Sanderling <u>Calidris alba</u> etc. All in basic plumage.
8 Dec.	94 km S of C. Rivadavia	5	Foraging on <u>restinga</u> . With 95 Hudsonian Godwits, Sanderling etc. All in basic plumage.
11 Dec.	Bahia San Sebastian Tierra del Fuego	250	With 640 Hudsonian Godwits, resting at edge of incoming tide on enormous muddy flats. Huge windrows of clam shells seen at high tide line. None of 150 knot counted were visibly oiled (occasional Hudsonian Godwit had spot of oil on breast, but frequency estimated to be very low, perhaps 1/100). Some juveniles were identified: one sample of birds examined contained an estimated 83 adults and 4 juveniles. Some adults had traces of alternate (breeding) plumage - 16/156 showed traces of red ventrally. 19/24 checked had moult in the proximal primary feathers. No bands were noted after repeated examination of the flock.
12 Dec.	Rio Grande Tierra del Fuego	5,000- 6,000	Foraging on outer edges of <u>restinga</u> at low tide, and c. 1000 sitting on beach near high tide line. Also a large flock (c.1,500) sitting in a tight group on the <u>restinga</u> , not foraging. At c. 12.30 all but 400 knot flew in one huge flock towards Punta Popper, 400 remained on beach c. 1-1.5 km north of military zone. The latter were checked for oiled birds, but none was seen in c. 200. After flushing the flock, faeces were examined and all showed fragments of mussel shells. As we left, another 800 knot arrived from the south and joined those north of the military zone. Most observations were of distant birds and notes on ages or plumages were not obtainable. One group of 500 studied at closer range (c. 150-200 m) were in basic plumage, though some likely had traces of alternate (breeding) plumage not visible to us. No age ratios were obtained.
12 Dec.	Rio Grande, Punta Popper Tierra del Fuego	????	Viewed from Rio Grande. A large flock of terns (1,000+) and a grey 'carpet' of shorebirds we believe were knots. No estimate of numbers was practicable.
12 Dec.	Coast S of Punta Maria Tierra del Fuego	200	Resting at high tide with c. 2,000 White-rumped Sandpipers <u>Calidris fuscicollis</u> and 150 American Oystercatchers <u>Haematopus leucopodus</u> . A pebble beach.
13 Dec.	Rio Grande Tierra del Fuego	2,500	Same area as on 12 Dec.; many more birds were suspected to be out of view over edge of <u>restinga</u> .
13 Dec.	Cabo Domingo Tierra del Fuego	250	On <u>restinga</u> with c. 1,000 White-rumped Sandpipers, foraging.

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