

SPRING COUNTS OF WADERS AT COASTAL WETLANDS IN SOUTHERN SPAIN

by Patrick J. Dugan

Introduction

In recent years knowledge of the winter distribution of shorebirds and their migrations through Europe and N.W.Africa has increased greatly. Whereas most study has been concerned with the larger coastal wetlands where greatest numbers of birds occur, smaller estuaries, particularly those in southern Europe, have received relatively little attention. This is particularly true of southern Spain, except for the marismas of the Guadalquivir which are known to be of international importance for wildfowl, but which support relatively few shorebirds other than Black-tailed Godwits Limosa limosa (Ree 1973). Elsewhere in southwest Spain there are small estuaries, whose use by migratory or wintering waders is not well documented. In April 1980, while visiting the Coto Doñana, I took the opportunity to visit these estuaries and record their use by shorebirds.

Study Area

From 13 to 16 April inclusive, the six small estuaries between Ayamonte, on the Portugese border, and Cadiz (Fig.1) were visited and shorebirds counted at high water. Most sites were visited also at low water to check whether birds had been overlooked at high tide. Further to these counts, birds present on small stretches of sandy shore were counted when time permitted.

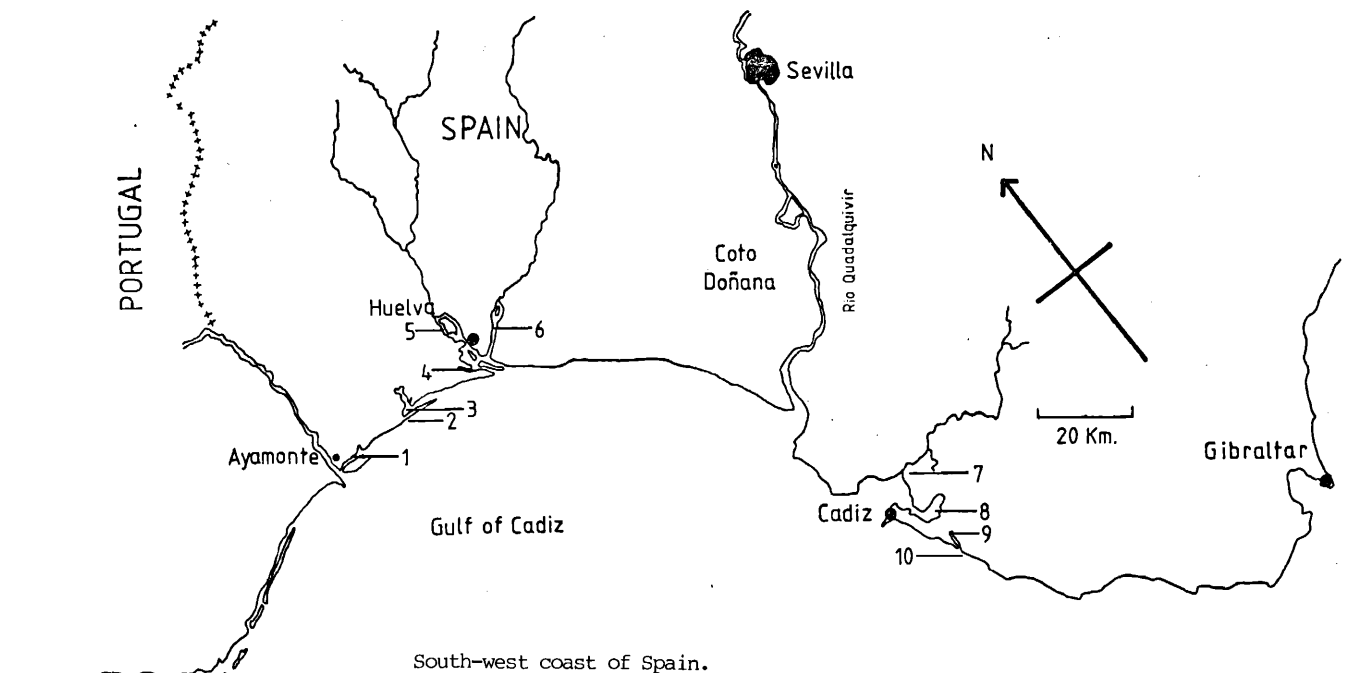
Each of the six estuarine sites (Table 1) was bordered by large areas of saltmarsh but the extent of the intertidal mud varied. Only at Huelva, where three small estuaries meet, and at Cadiz are extensive areas of mudflat found. Salt-pans were present in most areas and used at high water as both feeding and roosting sites.

Counts and Discussion

A total of ca. 3700 waders were seen, of which Dunlin Calidris alpina, Curlew Sandpiper C.ferruginea, Ringed Plover Charadrius hiaticula and Grey Plover Pluvialis squatarola were the most abundant and widespread. The distribution of the birds was surprising. Despite the large intertidal area available at Huelva few birds were recorded there at either high, or low water. This may be a result, through pollution, of the intensive industrial development on the shores of the rivers, although the presence of a large roosting flock of Grey Plover suggests that feeding conditions may have been favourable and that roosting flocks of smaller species may have been overlooked. At Cadiz Bay there is an abundant invertebrate fauna; large numbers of polychaetes and bivalves, including Scrobicularia plana, were reported by local people who gather the shellfish for human consumption. However, few birds were seen here either, for reasons that are not obvious. In view of the absence of most species from the two large estuaries, the large numbers of birds recorded at El Puerto de Santa Maria were surprising. These birds fed at low water on the intertidal mud of the River Guadalete and some also at high water in the salines. About 10% of the Dunlin and Ringed Plover and 30% of the Curlew Sandpiper fed here at this time. In contrast, overall numbers recorded at Isla Cristina and El Terron were low.

Despite the marked variation in total numbers recorded at the different sites it is clear that large numbers of some species do use these estuaries at times. Indeed, it is likely that the counts were underestimates in the larger areas as a consequence of the short time available to search for birds there. Also, it is possible that considerable turnover of populations, frequently observed in other countries in migratory waders, occurs in the southern Spanish estuaries.

Although the visits to sandy shores were brief and the stretches examined were short, (ca. 2-3 km in total), 80 Sanderling Calidris alba and 35 Turnstone Arenaria interpres were seen. Between the Portugese border and Gibraltar there are ca. 200 km of sandy beach and it seems likely that large numbers, particularly of Sanderling, may be found in small flocks scattered along the coast. Indeed, despite the interest in shorebirds in recent years little is known of the winter distribution of Sanderling in southern Europe and Africa. Small flocks have been recorded between Cadiz and Gibraltar in other years (Feeney et al. 1961) but much further study is required.



- 1. Isla Cristina;
- 2. Playa de Nueva Umbria;
- 3. El Terron, Rio Piedras;
- 4. Huelva, Rio la Bota;
- 5. Huelva, Rio Odiel;
- 6. Huelva, Rio Tinto;
- 7. El Puerto de Santa Maria, Rio Guadalete;
- 8. Cadiz Bay, La Carraca to Puerto Real;
- 9. San Fernando to Sancti-Petri;
- 10. Playa de Sancti-Petri.



In contrast to the considerable advance in understanding of the autumn migration patterns of several species which resulted from the Moroccan and Mauritanian expeditions of the early seventies, information on spring migrations remains relatively scarce. Recently, interest has been directed towards this by two Wader Study Group projects (Ferns 1979; Dick 1979). However, of these, only the latter, that of Knot, was concerned with migration over a large geographical area. The notable absence of Knot from the present survey is consistent with the results of the W.S.G. study which concluded that only one major area on the Atlantic coast i.e. Baie d'Aiguillon in France, is used regularly by large numbers of this species on spring migration. The study of Dunlin, Sanderling, Turnstone and Ringed Plover movements was confined to the British Isles and for these and the other species seen in southern Spain there is little information available with which to compare present counts. Feeney et al. (1961) reported large numbers of waders only in the marismas of the Guadalquivir although they surveyed areas visited in the present study. Further they did not report any Curlew Sandpiper or Dunlin. Wilson et al. (1980) concluded that Curlew Sandpipers migrating south in autumn along the Atlantic coast of Europe followed a more easterly trans-Sahara and mid-Mediterranean route in spring. The counts reported here suggest that this view requires reconsideration. The large flock of Curlew Sandpipers at El Puerto de S. M. and the presence of birds at Cadiz suggest that northward migration, at least by some birds in some years, takes a more westerly course than suggested. Further study is required to confirm whether these areas are used regularly by Curlew Sandpiper and other species. It is hoped this can be carried out in the near future.

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#### IMPRESSIONS ON A TROPICAL MUDFLAT

by R.W. Summers

The habits of waders in the tropics are not well known in comparison to those in temperate and arctic regions. However the mudflats of tropical regions are the winter home of many species of waders. One of the most striking features of tropical mudflats is the fringe of mangroves at the top of the shore, rather than saltmarsh. These areas present problems for waders both at low tide and high tide.

I had the opportunity to make some observations on waders inhabiting the relatively tiny mudflats found in the Seychelles during November 1976. Observations were made at a small estuary on the west side of Mahe (the largest island) and at a bay near Victoria, the capital. At low tide the mudflat of the small estuary was about 40 m wide and there was a further 20 m of dense mangrove at the top of the shore. Both Red Mangroves Rhizophora mucronata and White Mangroves Avicennia marina were present and the tallest bushes reached about 5 m. The following waders were observed foraging on the open mudflat and among the mangroves; Grey Plover Pluvialis squatarola, Turnstone Arenaria interpres, Curlew Sandpiper Calidris ferruginea, Little Stint C. minuta and Whimbrel Numenius phaeopus. It was quite bizarre to hear Whimbrels calling from the depths of mangrove thickets when one usually associates these birds with wide open spaces. Most of the waders were solitary and groups of more than three were not seen. Actually, it would be difficult for flocks to maintain cohesion among the aerial and stilt roots. The mangroves were inundated to a depth of about 0.5 m at high tide and no waders were seen.

The bay at Victoria was more extensive and composed more from coral sand rather than river silt. The top of the shore had a belt of White Mangrove bushes which were small and scattered on the seaward side and taller and denser towards the land. In addition to the waders mentioned above, Greater Sand Plover Charadrius leschenaultii, Terek Sandpiper Xenus cinereus, Bar-tailed Godwit Limosa lapponica and Greenshank Tringa nebularia were also found here. Most fed on the open sandflat at low tide and few were seen in the mangroves. The impression was that wader densities were smaller than on temperate estuaries in winter. At high tide waders flew between the bushes to roost at the back of the mangrove fringe where patches of mud were still exposed. If the mangroves had graded straight into land forest the waders would have had difficulty in finding a roost site. It would seem that mist-netting waders by day in mangroves is a real possibility (see also A.L. Spaans 1979, WSG Bull. 25: 32-37). The roost was not large (about 150 birds) though fairly compact. The species present were Grey Plover, Greater Sand Plover, Mongolian Sand Plover Charadrius mongolus, Asiatic Golden Plover Pluvialis dominica, Turnstone, Curlew Sandpiper, Little Stint, Terek Sandpiper, Bar-tailed Godwit and Whimbrel.

Crabs were ubiquitous and probably formed the greatest biomass within the invertebrate community. Most were quite small (1-2 cm across the carapace) though large individuals (10 cm across the carapace) also occurred. They foraged on the mud surface within a short radius (about 20 cm) of a burrow down which they scuttled when disturbed. They quickly reappeared and resumed feeding when left undisturbed. Therefore, whilst waders foraged across the mudflat a moving circle devoid of crabs went with them, as crabs departed into and out of burrows. The waders which fed on small crabs (eg. Turnstone, Terek Sandpiper, Whimbrel and Greater Sand Plover) had to move very quickly over the mudflat in order to take the less wary. Crabs are not an easy prey to deal with once caught and I watched a Turnstone take several minutes to dismember and eat a Red-clawed Land Crab.

The Seychelles have tiny patches of mudflat and mangrove in comparison to continental areas: eg. in Africa, mangroves occur from Somali to the Transkei on the east coast, mainly at the deltas of the Rufiji (Tanzania) and Zambesi (Mozambique), and from Gambia to Nigeria on the west coast. The importance of these areas to western Palaearctic waders is relatively unknown!

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