SOME OBSERVATIONS OF WADER PASSAGE ON THE SOUTH KENYA COAST DURING 1978

by Brian S. Milligan

Introduction

The observations recorded here were made in a relatively unstudied area of the East African coast at Msambweni ($4^{o}29'S$ $39^{o}28'E$), 30 miles south of Mombasa. Wader passage has also been studied in the Dar-es-Salaam (Dar.) area (Harvey 1974) and north of Mombasa, Mida Creek ($3^{o}22'S$ $39^{o}57'E$), Further north, Fogden (1963) published data from Kiunga ($1^{o}45'S$ $41^{o}30'E$). Little, however, has previously been recorded from the south coast of Kenya.

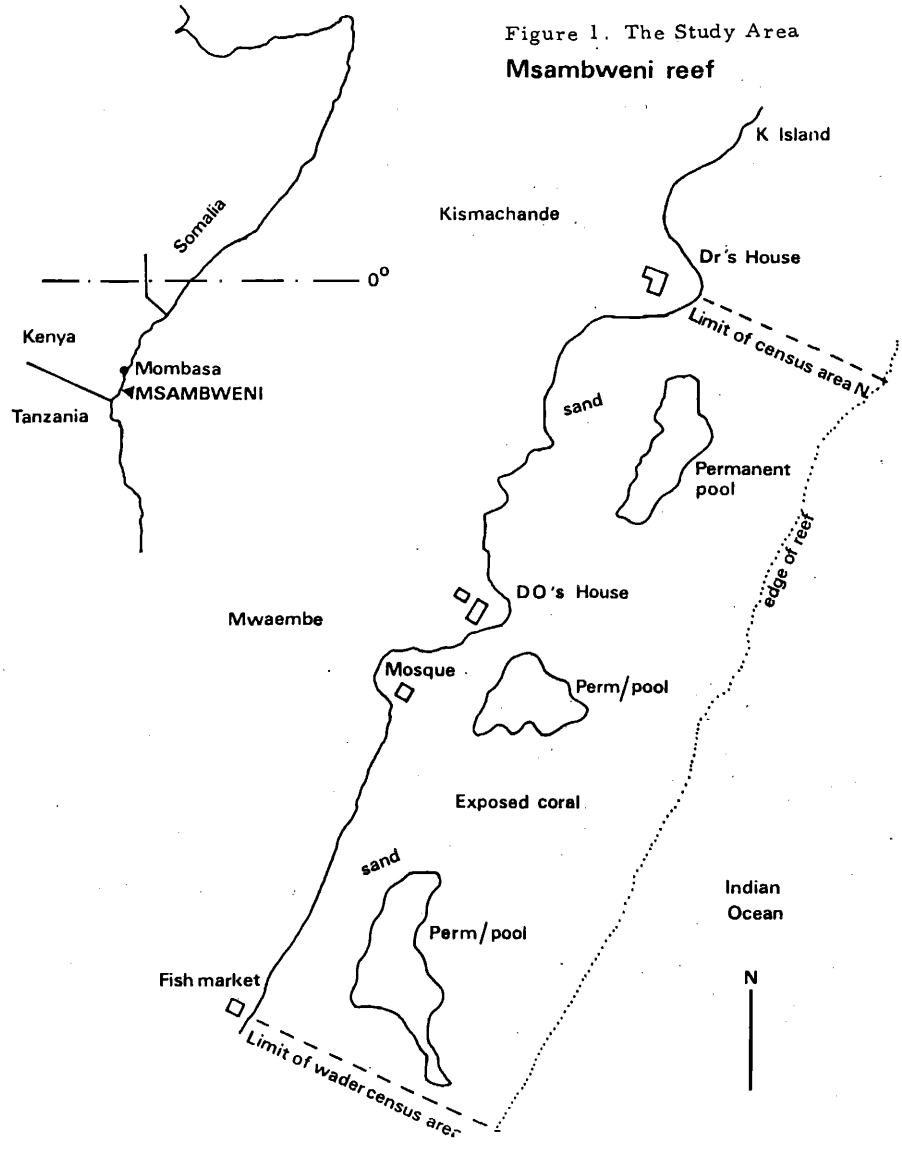
Msambweni has none of the tidal mud-flats that Harvey (1974) cites as the best feeding areas for waders. Nevertheless, as a site typical of the south coast, it was censused between January and August 1978 and has revealed some interesting information.

Habitat

Most of the south Kenyan coast has a 'fringing' reef on or close to the shore; that is a reef that is neither sinking or rising relative to the land-mass. Bock (1970) categorizes such habitat into reef pools and lagoons. The latter with its coral debris, coral mushrooms and associated sand areas has the richest variety of species, and this was confirmed at Msambweni although the former is the predominant habitat.

Wader counts were made at low tide (when the coral is exposed) up to 4 times each month, over a census area of about $\frac{1}{2}$ mile x 100 yards (approx. 800 x 100m). The maximum counts for each species in each month are given in Table 1. The area surveyed was mainly exposed coral, with very few sandy lagoons of the type most favoured by waders.

Figure 1. The Study Area



Individual Species

Crab Plover Dromas ardeola. The number of Crab Plovers at Msambweni was very variable because of local movement. This species breeds fairly locally and all individuals are not true migrants. There was a small wintering population with obvious passage in March. All birds seemed to pass through quickly, and they were often most active at night. By April 60% of the remaining birds were juveniles and this proportion rose to 100% with the departure of adults. There was a further influx of summering juveniles in May and June. A return passage started in August although this does not show well in Table 1.

Ringed Plover Charadrius hiaticula. Mackworth-Praed and Grant (1952) state that this species is present on the Kenya coast until April, though it is clear that a small number of non-breeding birds are present throughout the northern summer (Britton 1976). At Msambweni numbers built up rapidly to a peak in the last week of February, with passage continuing throughout March and tailing off in April. Only a single bird was recorded in May. Not surprisingly, numbers counted were greatest at high tide, when the sea covered the coral and reached the sand. Return passage had hardly got under-way by the end of August, but at Dar. Harvey (1974) noted that Ringed Plover passage was a month later than that of Curlew Sandpiper.

Sand Plover spp.C. mongolus and C. leschenaultii. For the purposes of simplicity in counting, these two species were counted together, although they can be seperated by bill-to-body ratio (Williams 1963) and the difference in leg colour as well as overall size. Passage was heavy during February and March (max = 160+), but the summering population consisted entirely of birds in juvenile non-breeding plumage. (Harvey asserts that these are young birds of the previous year rather than delayed adults). Thirty-five birds were again present by mid-August (Fogden (1963) counted 40 C.mongolus at Kiungu in mid-August), but peak passage occurs in September. As at Mida and other sites it was noted that both species often feed in association with Sanderling and Curlew Sandpiper, despite the predominance of coral over sand at Msambweni. No 'double peak' in spring passage was experienced, probably due to the mixture of races of C.leschenaultii.

Grey Plover Pluvialis squatarola. Unlike other species of Palaearctic wader recorded. there was no increase in numbers to a spring peak. This might suggest that S.Kenya experiences a gradual dispersal of birds rather than an influx of birds from further south which would constitute a passage, though Dar. clearly experiences a substantial March migration (Harvey 1974). Without figures for December it is difficult to decide whether those counted in January represented wintering or passage birds. All the birds recorded in May/June were in juvenile/non-breeding plumage.

Sanderling Calidris alba. This was thesecond most numerous wader at Msambweni after Curlew Sandpiper with which it associates both in feeding and timing of migration. Passage peaked at the end of February when 140 birds were on the beach, though earlier picture was complicated by the local movements of wintering flocks. Five hundred were just outside the census area at the end of January. The pattern of feeding behaviour is strikingly different from that usually observed in Europe: generally birds, feeding in shallow pools, scattered over the exposed coral, and there were rarely gatherings on the sand at the water's edge. This may possibly be accounted for, at Msambweni at least, by the relatively short period for which each tide reaches the sand.

Little Stint C.minuta. Notable in that none recorded all year.

Curlew Sandpiper C.ferruginea. The most numerous wader at Msambweni with 500+ recorded at a roost outside the census area in February, the month of peak spring passage. No summering individuals were recorded, though flocks are frequent at the more favourable sites, such as Mida and Dar. However, those recorded on July 22nd at Kiunga by Fogden (1963) seem as likely to be early migrants (possibly failed breeders) as summering birds, particularly since Dar experiences influences by this time (Harvey 1974). At Msambweni the first appearances were in August, and numbers were consistently increasing towards the end of the month.

Whimbrel Numenius phaeopus. There are few places on the coast with flocks of more than 100. The small numbers at Msambweni showed little seasonal variation, though 40+ birds were roosting at Kismachande in February. The population seemed to follow the same pattern as at Kiunga and Dar, in that the proportion of summering to wintering birds is much higher than in any other species. Moreover, the consistency of figures shows that summering juveniles are not chance stragglers, but there is an established behavioural pattern. Autumn passage was underway by August to peak in mid-September (Fogden 1963, Harvey 1974).

Greenshank Tringa nebularia. Fifteen birds at a nearby roost was the largest number recorded at Msambweni, and the only clear indication of passage through the area. Elsewhere on the coast it is common in both the palaearctic winter and summer, though Harvey (1974) notes little evidence for passage at Dar. One bird, possibly the same individual, was present on every count between May and July.

Terek Sandpiper Xenus cinereus. Never occurs in large numbers on the Kenyan coast. Fogden (1963) reports a maximum of 6 at Kiunga on 16 September 1963, while Britton (1976) refers to up to 30 between August and April. Spring passage seemed to occur a little later than with other species, possibly because its breeding range extends further south in central Russia than with other Palaearctic waders. Its attraction to Mangroves, like the Common Sandpiper, has been suggested by Mackworth-Praed and Grant (1952). This was not the case among the small numbers at Msambweni where the preferred habitat seemed to be exclusively sandy pools.

Common Sandpiper Actitis hypoleucos. Compared to the heavy passage recorded on rivers and lakes inland, this species seemed to appear on the coast only in small numbers. At Msambweni they were strongly attracted to the areas of Mangrove root exposed at low tide. None were recorded after April.

Turnstone Arenaria interpres. Far fewer Turnstones are seen on the East African coast than Curlew Sandpipers or Sanderlings. Peak spring passage occurred in mid-March a little after other species of wader, while return passage in autumn was more prompt than Mackworth-Praed and Grant (1952) suggest, being well under way by August. The birds recorded in May and June were in juvenile/winter plumage, although one, presumably a genuine late migrant, was in summer plumage in May.

Discussion and Summary

Despite the small sample of birds examined, the data obtained show some clear patterns such as the concentrated spring movement over the end of February/beginning of March, the small summering flocks of juveniles/non-breeders, and the start of autumn migration. Overall, patterns at Msambweni seems to correlate well with other sites on the East African coast as far as timing of movements, structure of population and ratios of summering birds are concerned. Moreover it confirms that, although the presence of summering birds depends on local conditions and the particular restrictions due to a certain habitat, they occur as part of an established patternalong the whole coast and not chance variations.

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Species	J	F	M	A	M	J	J	A
Crab Plover Dromas ardeola	3	1	40	10	20	3	-	2
Ringed Plover Charadrius hiaticula	9	37	30	16	1	-	-	2
Lesser Sand Plover C. mongolus / Greater Sand Plover C. leschenaultii	49	100	+	+	13	10	15	35
Grey Plover Pluvialis squatarola	29	23	19	13	4	3	-	7
Sanderling Calidris alba	50	140	120	38	1	-	-	30
Curlew Sandpiper C. ferruginea	60	190	150	46	-	-	-	76
Whimbrel Numenius phaeopus	8	10	10	5	6	3	4	7
Greenshank Tringa nebularia	1	4	3	2	1	1	1	1
Terek Sandpiper Xenus cinereus	1	1	8	8	4	-	-	-
Common Sandpiper Actitis hypoleucos	4	3	2	-	-	-	-	-
Turnstone Arenaria interpres	11	24	26	10	3	1	-	10
Total monthly maxima (excl. Sand Plover spp.)	172	434	409	150	53	21	20	170

Table 1. Mwaembe/Msambweni Reef - Monthly Maxima, 1978.

Figures refer to the maximum count for each species within the census area. For reasons of simplicity both Sand Plover species were counted together and not at all in March and April.