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## Migrant Waders at Aldabra, September 1967-March 1968

M. J. Penny

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## Migrant waders at Aldabra, September 1967–March 1968

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Observations of palaeartic waders during the first three phases of the Royal Society Expedition to Aldabra, between 1 September 1967 and 14 March 1968 are listed and compared with those from other places in the area. Seventeen species are included in the check list, of which four are considered vagrants, and the rest more or less regular migrants. Counts made during the expedition with the intention of finding the seasonal variation in numbers of the birds have proved statistically invalid, and only a few tentative conclusions may be drawn from them. The Turnstone, *Arenaria i. interpres*, may be a winter resident in fair numbers, as may the Whimbrel, *Numenius p. phaeopus*. Although no firm conclusion can be drawn, it is suggested that most of the other birds are passage migrants, with few staying at Aldabra for the winter. Thus the island is not an important wintering ground for any species, though it probably has some value as a resting place for the birds during their migratory flights. For the Crab Plover, *Dromas ardeola*, however, it may be one of the few wintering grounds where the species occurs in any numbers, and as such important. The suggestion is made that the other islands in the Indian Ocean, east of the axis of Madagascar, may function not as a destination but as a 'safety net' for vagrant birds or flocks.

## I. INTRODUCTION

Vaurie (1965) includes the islands of the Indian Ocean among the wintering grounds of several species of palaeartic wader. Records from the western islands are few, however, and seldom cover more than a short period, and it is not clear to what extent the birds actually winter there as opposed to passing through on migration farther south. Records from Aden from January to September, with numbers observed each month, are given by Paige (1960), and from these it is possible to picture the movement of some of the birds south to the Kenya coast, where Fogden (1963) records some waders, among them six species some of whose members appear to summer in East Africa. Records from Madagascar (Rand 1936; Homes 1947) also link up with those by Paige, as do those from Comoros by Benson (1960) for the period August to mid-November. The early records from Aldabra, summarized by Benson (1967), are sparse and cover only a small part of the year, though most of the species recorded here are mentioned. There are also some interesting records, some of them at sea, by Bailey (1967); these are very valuable in giving the eastward extent, at least as far as Seychelles, of palaeartic migrants. Loustau-Lalanne (1963) gives an account of the shore birds in Seychelles.

The records presented here were collected during the first three phases of the Royal Society Expedition to Aldabra, from 31 August 1967 to the end of March 1968. Observations in phase I (to 15 September) were made by C. W. Benson and the present author together or

separately; those in phase II (to 31 December) by the present author alone; and those in phase III by Benson during his work on the land birds. Incidental observations of the greatest interest were passed on by A. W. Diamond and P. Grubb, and by nearly all the other members of the Expedition.

Nomenclature here follows Vaurie; the seasons are given their northern names throughout.

## 2. COLLECTION OF DATA

During phases I and II observations were made at places scattered widely round the atoll, and while this meant that probably all of the species occurring were recorded, it did not permit accurate estimation of the numbers involved. Subsequent work on the figures collected in the daily record of shore birds shows that the variance in the counts is too great to permit statistical analysis. Three sets of counts, selected from the daily record to balance roughly the number of counts in the three main habitat types, are included here as an appendix. It had been hoped that these would furnish statistical evidence of changes in the abundance of species through the autumn, but this was not possible, though averages for the three periods suggest that there is a variation for certain species. This is discussed following the check list.

The three principal habitats for shore birds at Aldabra are as follows:

*Sea coast.* For the most part very exposed, the intertidal zone usually rocky, with small pockets of sand in places. Along the coast in front of Settlement, however, the shore is more sheltered, and at low tide a wide shallow area between the shore and the 'reef' (more properly a wave-cut platform) is exposed, where numerous larger waders feed.

*Lagoon shore.* On the southern edge of the lagoon there are wide muddy or sandy areas exposed at low tide, with a fringe of mangroves in most places. This is a favoured habitat for small waders. The northern edge, however, is much steeper, with the mangroves in water even at low tide, and correspondingly fewer waders.

*Channels.* The edges of the channels are of two kinds, West Channels (Passe Femme) being silted up and shallow, with many waders at low tide, and East Channel being narrower and swifter, with cobble beaches where few if any waders are seen except at the lowest tides. Main Channel is more like West Channels, being wide and shallow at low tide except in the middle, but Passe Gionnet is very narrow and deep, and there are no wader records from its edges.

The location of other places named in the check list is shown in figure 1. During the very rough weather of the southeast monsoon, from September to the beginning of December, there were few records of waders on the south sea coast, except those of flocks sheltering at high tide behind the dunes at Dune Jean-Louis and Dune d'Messe.

A potentially interesting feature of the shallows at the east end of the lagoon, represented here by the records from Bras Takamaka, is that they are covered to a depth of more than 5 cm only at spring tides, which at Aldabra occur once a fortnight. Thus numbers of waders foregather there during the period of neap tides. As the tide rises towards the end of the fortnight, these birds move eastwards along the lagoon shore until they are crowded into the mangrove shallows at Bras Cinq Cases in great numbers. Standing among the trees and in the numerous small clearings here, they proved impossible to count, but should a method be devised, this will be the best place at which to form an estimate of the number of birds present at least in the eastern end of the lagoon.

The larger islands in the lagoon are surrounded at low tide by extensive sandflats, where, however, no very great numbers of waders are to be seen. Whether this is because of the exposure of such areas to the wind, or the poverty of the invertebrate fauna of the sand, is not clear. The small rocky Iles Chalen provide a high-tide roost for numerous waders (*ca.* 1000 observed by A. M. Hutson and A. W. Diamond 28 February); and the flat areas behind the dunes of the South coast provide roosting sites for many more.

A more complete description of Aldabra is given by Stoddart & Wright (1967).

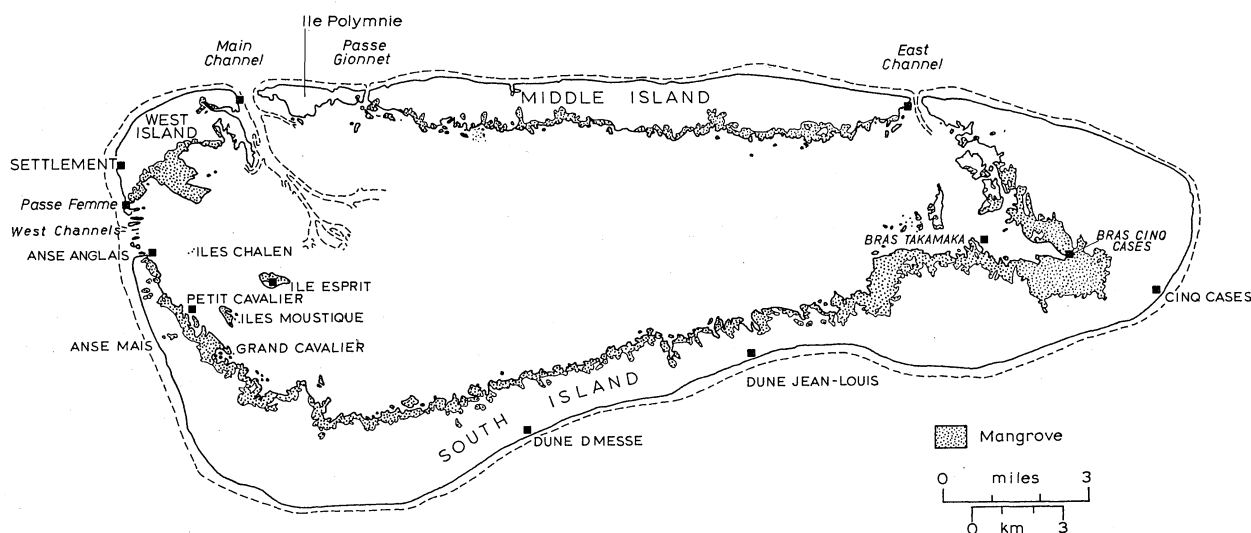


FIGURE 1. Sketch map of Aldabra showing places mentioned in text. Passe Femme is the name given to the northernmost of the West Channels.

### 3. CHECK LIST

Records from surrounding areas are given for comparison with Aldabra. These are from many sources, but the principal ones are as follows: Aden (Paige 1960), Kenya (Fogden 1963), Comoros (Benson 1963), Madagascar (Rand 1936; Homes 1947), Seychelles (Loustau-Lalanne 1963), Indian Ocean around Seychelles (Bailey 1967).

The dates given for each species are for the first and last records from Aldabra in the period September to March 1967–8.

#### *Charadrius hiaticula tundrae* (Lowe) (Siberian Ringed Plover)

26. ix. 1967 to 22. ii. 1968. In small numbers at Bras Takamaka at the beginning and end of the period; no records in December. Seventeen birds together 10 November. Not recorded from Aldabra before, but predicted by Benson (1967). Recorded in greatest numbers elsewhere: Comoros (30. viii. to 9. xi.) with 20 birds in November; Madagascar, common August to February (van Someren 1947). Not from Seychelles. Common on Kenya coast October to April (Jackson 1938); quite common in South Africa December to April (Broekhuysen & Meikeljohn 1941).

Probably passage migrant at Aldabra in small numbers.

*Charadrius mongolus atrifrons* Wagler (Mongolian or Lesser Sand Plover)

A record by Grubb from Astove, 5. iii. 1968, seems most likely to have been this species, and Vaurie's account suggests that the subspecies *atrifrons* is most likely in the area. Grubb noted a pale wing stripe, a black bill 'not as thick or as long as that of a (greater) sandplover', and long black legs. Head and breast were warm buff, shading with the dark brown of the mantle but sharply demarcated from the white of the belly. The rump was dark, with white feathers visible on each side. The tail was dark brown with a still darker tip.

Recorded from Aden (Browne 1950) with 70 birds in February; considered by Fogden to summer in Kenya; common near Mombasa (Jackson 1938). Not recorded from Aldabra, but possible as a vagrant, as presumably was Grubb's record.

*Charadrius leschenaultii* Lesson (Geoffroy's or Greater Sand Plover)

4. ix. 1967 to 14. iii. 1968. Regularly seen in fair numbers, but declined in December. Flock of 220 birds roosting at Dune Jean-Louis, 10 September; two flocks totalling 150 birds probably this species at Petit Cavalier, 6 December. Not recorded from Aden, but evidently common in Kenya, where it summers. First record in Comoros, 26 August, and last in Madagascar, 4 May; it may summer in those places also. Regular in Mauritius (Rountree *et al.* 1952). 'Permanent resident' of Seychelles according to Loustau-Lalanne, though it is most unlikely that it breeds there. This needs further investigation. A few probably summer at Aldabra, but most of the rest are probably passage migrants staying only for a short time in the autumn. Birds of this species were coming into breeding dress in February, and several were seen in full breeding dress in March.

*Pluvialis squatarola* (Linnaeus) (Grey Plover)

1. ix. 1967 to 13. iii. 1968. Regular through the period, but in small numbers. Fourteen birds roosting together at Dune Jean-Louis, 10 September, 15 feeding together, Esprit, 2 December. Twenty-five roosting together Iles Chalen, 29 February. Four in summer plumage Bras Takamaka, 26 September. Recorded from Comoros and Madagascar, but more common in Kenya, where it summers in small numbers. Summers also in Madagascar (Homes). Regular in Mauritius (Rountree *et al.* 1952), but rare in South Africa (Broekhuysen & Meikeljohn 1941). More than 100 birds at Aden in April, declining to end of records in September. Regular migrant to Seychelles (Loustau-Lalanne); June and October to November (Bailey). These records as well as the constancy of its numbers at Aldabra suggest that this species habitually summers south. There appear to be few migrants to Aldabra, unlike Kenya where the numbers rise during August. That some migrants do arrive is apparent from the occurrence of birds in breeding dress.

*Arenaria interpres interpres* (Linnaeus) (Turnstone)

1. ix. 1967 to 14. iii. 1968. Numerous throughout period in all habitats including the sea shore, where it is one of the few waders commonly seen. Frequently recorded also among *Casuarina* some way from the shore. Some in apparent breeding dress throughout. Apparently not common Comoros, though 20 birds seen in November. Summers in Madagascar, recorded from Kenya, 1 August, and Seychelles in June, suggesting that it summers there also.

Probably maintains a summer population at Aldabra, possibly of first-year birds, but more data needed to establish how many migrants and how early they arrive.

*Calidris minuta* (Leisler) (Little Stint)

Recorded in lagoon, 30 November and 2 December, on latter occasion flock of 44 flying near Esprit. Not recorded from Aldabra before, but predicted by Benson (1967). This species seems to be common only in Kenya of the areas under consideration, though Broekhuysen (1956) indicates that several hundred at a time may be seen in November in Cape Province. This suggests that the species normally migrates down the coast of East Africa and perhaps inland. Newton (1867) found it common in Seychelles where Loustau-Lalanne calls it a regular migrant. Probably not regular at Aldabra, or it would have been recorded more often.

*Calidris ferruginea* (Pontoppidan) (Curlew Sandpiper)

1. ix. 1967 to 14. iii. 1968. Very common on lagoon shore in September; flock at Dune Jean-Louis, 10 September, numbered 400 birds, some in breeding dress. Numbers declined in December, rose again in February. Common in Kenya and Madagascar, small numbers summering in both places; the main influx of migrants occurs in Kenya at the end of August, as at Aden, where however there were 200 in July. Regular in Seychelles.

Probably maintains a summer population at Aldabra, though this would not be detected in September, since the species evidently migrates early in the year. Decline of numbers in December suggests that some at least of the birds may move on further south in midwinter. Large numbers have been recorded in the neighbourhood of Cape Town in October. Thus classed here as partial winter resident, partial passage migrant.

*Calidris alba* (Pallas) (Sanderling)

2. ix. 1967 to 9. iii. 1968. Scattered records until 91 birds at Anse Mais on 4 December. Twelve at Esprit, 2 December, may have been part of this flock. Rare in Comoros, Madagascar, 29 September to 3 March. Summers in Kenya (?), and in considerable numbers in SW Africa (Broekhuysen 1956), several hundreds migrating to Cape Province in December. Evidently regular in Seychelles. Apart from its summering representatives, this seems to be a late migrant, on passage at Aldabra, where few stay.

*Tringa nebularia* (Gunnerus) (Greenshank)

6. ix. 1967 to 14. iii. 1968. Regularly seen in small numbers, maximum eight on 3 October at Bras Takamaka. Regular singly at pools inland. Madagascar end of November to March, but Comoros, 14 August onwards, 60 birds on 9 November. Regular in Seychelles. Seems to be migrant in small numbers, with perhaps occasional vagrant groups, as Little Stint; a few may summer.

*Tringa glareola* Linnaeus (Wood Sandpiper)

Two recorded by A. M. Hutson at a pool near Cinq Cases, 24 February; at least one there daily to 28 January. One in same area 22 February (Benson), and a couple seen overhead on the same day (Grubb). Regular in Kenya beside fresh water July to September, numbers up to 6; common on migration inland in southern Africa. Vagrant to Aldabra.

*Tringa hypoleucos* Linnaeus (Common Sandpiper)

5. ix. 1967 to 22. ii. 1968. Singly beside pools inland throughout, but up to 10 together reported by Diamond on the shore of East Channel 17 to 20 March. Most abundant wader in

Comoros, common in Madagascar, summers in large numbers in Kenya; quite rare in South Africa, not recorded from Aden. Regular in Seychelles.

It seems that a few birds winter and perhaps also summer at Aldabra. The group seen by Diamond could have been migrants on their way northwards.

*Xenus cinereus* (Güldenstädt) (Terek Sandpiper)

9. ix. 1967 to 14. iii. 1968. Small numbers on lagoon shore, all in same locality (around Grand Cavalier). Twelve together, 6 December. Predicted by Benson (1967). Rare in Comoros (one on 16 October), six in Kenya by 16 September. Apparently some birds summer at Aden, where 20 recorded in May and two or three in July and August. Not uncommon in Madagascar, but mentioned by Bailey as a rare migrant to Seychelles in October. There is an unpublished record by the Bristol Seychelles Expedition of two birds on Praslin, Seychelles, 16 February 1965. There may be a few summer residents at Aldabra, but most birds are probably migrant in small numbers.

*Limosa lapponica lapponica* (Linnaeus) (Bar-tailed Godwit)

1. ix. 1967 to 14. iii. 1968. Regular in small numbers along sheltered coast until 30 November, when 46 birds in flock seen at Grand Cavalier. Flock at Anse Mais, 4 December, may have been the same birds. Predicted by Benson as likely to occur occasionally, but may be regular, arriving late in year. Not recorded from Comoros; mentioned from Madagascar and Kenya, where it seems uncommon. Up to 24 at Aden in May, and 20 in August, of which six were in partial breeding dress. Records from Cape Province (Broekhuysen 1956) rather variable, but sometimes in quite large numbers. Said to be regular in Seychelles (Loustau-Lalanne). Vaurie gives 'Red Sea south to Cape' as the wintering range, as well as islands in the Indian Ocean and the west coast of India, but records seem sparse. Appears to winter at Aldabra at least in small numbers.

The Black-tailed Godwit, *L. limosa*, was not recorded from Aldabra, but in view of Fogden's record of one in Kenya, and Broekhuysen and Meikeljohn's at the Cape, it may well occur as a vagrant although Aldabra is well outside its accepted winter range.

*Numenius arquata* subsp. probably *orientalis* Brehm. (Common Curlew)

Single records at Grand Cavalier, 30 November and 6 December. Subspecies impossible to distinguish in the field. Vaurie says that migrants south to East Africa appear to be intermediate between the two forms, but Rudebeck (1963) indicates that birds at Aldabra should be *orientalis*. Not recorded from Aden, and one only (October) in Comoros, *orientalis*; Madagascar, 5 November to 3 April, seems to have been seen regularly. Summers in Kenya, 20 in July and 40 by September. *N. a. orientalis* regular in Seychelles. Vagrant to Aldabra, where both the European and the eastern form could equally occur.

*Numenius tenuirostris* Vieillot (Slender-billed Curlew)

One recorded at Grand Cavalier 30 November, and three individuals at Moustique on the same day. Field description agreed closely with that given by Smith (1963) from Morocco, after very good views both on the ground and flying. Not recorded elsewhere in the Indian Ocean as far as I can discover; this is well to the south of the wintering range given by Vaurie. At present must be classed as a vagrant, but many records of white-backed Whimbrel giving short curlew-like flight calls could possibly prove to have been of this species.

*Numenius phaeopus phaeopus* (Linnaeus) (Whimbrel)

1. ix. 1967 to 14. iii. 1968. Second most abundant wader (after Turnstone) in September and December, declining in February. Common in all habitats, including inland among *Casuarina*, but especially in the more open mangrove creeks, where it often perches high up in dead trees, and gives alarm calls which disturb all other species when approached. Most birds seen fitted the description given, in Witherby, Jourdain, Ticehurst & Tucker (1941), but some had more white on the upper parts and were paler below. These might have been referable to the form *alboaxillaris* mentioned by Vaurie, and by Clancey (1964), or possibly to *N. tenuirostris* above. Close observation and the collection of skins might elucidate this point, though in view of the rarity of *N. tenuirostris*, mentioned by Kozlova (summarized by D.D.H., *Ibis* **105**, 410–411), collection of such birds should be restricted to one skin.

Records for all other localities considered here mention the Whimbrel as a common species, outnumbering Curlew, except for Aden, where neither was recorded. Summers in Madagascar (Homes) and in Kenya. Probably also summers at Aldabra in fair numbers, with an influx of migrants later in the year which from the figures seem to move away after December, presumably south.

*Dromas ardeola* Paykull (Crab Plover)

1. ix. 1967 to 14. iii. 1968. Seen only in small numbers until 38 and 57 together on 15 and 18 October. Thereafter seen regularly, often in flocks of over 100 birds. Comoros end of August to end of October, in very small numbers (1 to 4), though Nicoll (1906) records flocks of 12 to 30 on Mayotte. Common in Madagascar January and March, full dates not given; apparently not common in Africa; White (1965) mentions records from Natal, Zanzibar, Pemba, and Mafia. Aden in May, up to 50 by the end of August. Ten on Bird Island, Seychelles, November (Bailey); Loustau-Lalanne calls it a 'permanent resident' and says that it probably breeds in the Colony.

This species breeds on the coast of Somalia in March to October (Archer & Godman 1937). The record from the Lamu Archipelago, off the Kenya coast north of Mombasa, is very dubious. It is said to migrate to the coast of Arabia November to February, and 'up the east coast' presumably of the Red Sea. Later records indicate that it migrates more widely than had been thought, and Aldabra may well be an important wintering ground although the species stays there for such a short time. It is strange that it should be so scarce in the Comoros, and possibly records for mid-winter will indicate that it is more common there than is thought. The fluctuation in numbers indicates that although it maintains a summer population at Aldabra it does not breed there, as had been thought possible. No nesting burrows were found despite a search of the few likely areas. Therefore classed as winter visitor.

*Other possible vagrants*

To the list of other possible vagrants to Aldabra given by Benson (1967) I would add the following: *Limosa limosa* (Linn.), recorded in Kenya; *Phalaropus fulicarius* (Linn.), vagrant to Seychelles, *Gallinago media* (Latham), one record of a vagrant in Seychelles (Crook, personal communication in Loustau-Lalanne 1963).

These birds are all on the African list (White 1965), and if they have occurred in Seychelles they are also likely at Aldabra.



Loustau-Lalanne mentions also *Gallinago g. gallinago*, saying that it is regular singly in Seychelles. It is an inland species in Africa, and most unlikely even as a vagrant to Seychelles.

A record by Loustau-Lalanne which I think must be mistaken is that of *Eudromias morinellus* (under Dotterel *Charadrius* sp.), which he regards as a regular visitor. Vaurie includes in the wintering range of this species nowhere south of the Persian Gulf. Thus while occasional vagrants may reach Seychelles, and indeed Aldabra, its regular occurrence so far south is very unlikely. (But see *Numenius tenuirostris* in the check list for another species which has been seen well out of its accepted wintering range. There is clearly a need for more detailed and longer term observations from all the islands to establish their place in the migratory system.)

#### 4. DISCUSSION

##### (a) *Importance of the islands as wintering grounds*

Bailey (1967) concludes from his observations in 1963 and 1964 that 'the islands of the Indian Ocean are clearly an important wintering area' for eight species. Four of these eight, Turnstone, Greater Sandplover, Whimbrel, and Curlew Sandpiper, are represented in fair numbers at Aldabra; Sanderling are less common; Grey Plover and Common Sandpiper are relatively rare; and Curlew are very rare.

The meaning of 'important' in this context is not quite clear. It seems most unlikely that the majority of any species of palaeartic bird spends the winter among the islands, since their land area is very small. If, as is more likely, the word means that the islands shelter numerous waders during the winter, their importance as a wintering area depends not only on the size of the world population of the species concerned, but also on the intentions of the birds arriving there during the autumn. On the first count the islands can hardly be called important; if the second criterion is taken, it remains to be shown that the same birds return annually, so that the islands are important to some of the world population of a species as their sole wintering ground. This has been demonstrated for South Africa (Middlemiss 1961, 1962) and Zambia (Tree 1965). It seems just as likely that the islands function as a 'safety net' which catches some of the fringe vagrants, and that others fail to make landfall and perish somewhere to the south. It would be interesting to discover, by marking experiments in Seychelles and elsewhere in the area, whether the migrants are from a compact breeding area as well as whether they return every year to the same islands. This might indicate whether the wave-front of migration is continuous, or whether it is non-uniform or even discontinuous, with the islands as a destination for some of the birds. In the absence of such evidence for the islands, however, their importance even to a part of a species must be left as an open question.

It is doubtful, in fact, whether Aldabra enters into the question at all, being to the west of the axis of Madagascar. It may well be that it is a part of a general Malagasy-Mascarene wintering area, or a stepping stone on the way there. No species occurs on the island which is absent from neighbouring places. The Little Stint, which occurs at Aldabra but is uncommon in Madagascar, is abundant on migration in Kenya and South Africa, so that this record from Aldabra may be regarded as vagrant. The same arguments apply to the records from Seychelles.

In short, for the islands to be important as a wintering ground to one breeding group of a species, their importance to any whole species being discounted, they must be shown to harbour during the winter more of that breeding group than is harboured by neighbouring islands or the mainland. This has not yet been proved.

It is out of the question to regard the Indian Ocean islands as important wintering grounds for waders as a group, except to the extent that they may be the salvation of some of the wider vagrants or the destination of a few migrants.

(b) *Variation of numbers at Aldabra*

Although the figures collected during the first three phases of the Royal Society Expedition have no statistical significance, being too few and too variable, some trends are visible among them which suggest that there is a seasonal variation, in some species. Of all the species for which sufficient figures are available even to start considering their implications, only the Turnstone remains constant throughout the period. The average numbers of sightings of this species in the three separated sessions were 25, 28, and 22 per trip or count, with only one count in which the species was not recorded. The numbers ranged between 1 and 69. Thus the Turnstone is either a resident of Aldabra during the winter, or on passage in steady numbers throughout, the former seeming the more likely interpretation. The size of the summer population cannot be determined from these figures, since the species evidently arrives early, being recorded in Cape Province (Broekhuysen 1956) as increasing between 18 July and 26 August.

Similarly, steady figures were obtained for the Whimbrel in the first two sessions, with averages of 15 and 14 per count, but in the third (spring) session the average fell to 6 and 7. Although other factors may have been involved, it seems possible that the birds had started to leave the atoll on their way north.

The Crab Plover is a special case, though analysis of the figures shows them to be only marginally significant. It was first recorded in double figures on 21 September, when 13 were seen together by Settlement. By 15 October, 38 were in the same place, and 50 were seen together at the east end of the lagoon on 8 November. On 4 December a flock of 220 was observed in West Channels, and the numbers stayed high until February to March, when only two flocks of more than 50 were seen in the month, one being 190 birds by Settlement. These observations confirm those of Archer & Godman (1937) in defining the migratory season of the Crab Plover, whose wintering grounds seem to be restricted to the north end of the Malagasy region, apart from those birds which winter in the Red Sea and on the Arabian coast. For this species Aldabra may be an important wintering area.

The figures break down at this point, leaving evidence for only the most tentative suggestions, but some of these are given below, for what they are worth.

The Greater Sandplover is more common in December than in the other two sessions considered here, and it could be that it is a passage migrant at Aldabra, and only a few are winter resident. McLachlan & Liversidge (1940) describe it as an 'uncommon migrant' from October to May in eastern South Africa; it is evidently common in East Africa, from Fogden's records. It is known from Madagascar and the Comoros, and this may be the destination of the Aldabra birds. Much the same comments apply to the Curlew Sandpiper, with the addition of South Africa as a wintering ground where it is abundant. The estimate of 200 birds in March at Aldabra could then represent a flock moving north.

The Sanderling and the Godwit are late arrivals at Aldabra, and the few records suggest that of these the Sanderling at least moves on soon after its arrival.

For the other species involved the figures are too few to give an idea of their migratory status; a summary of the records, in the three seasonal groups, is given as an appendix.

I am very grateful to all the members of the Royal Society Expedition, who passed on information from other islands and parts of Aldabra, and particularly to C. W. Benson, who taught me to identify the species rare in Britain, and contributed most of the data after December. He has also given invaluable assistance in the writing of this account.

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## APPENDIX

Summary of records of shore birds (nine most common species) in three seasonal groups. S = 1 to 30 September; ND = 20 November to 22 December; FM = 1 February to 14 March. There are 16 counts included for September, 15 for November to December, and 12 for February to March.

species	total sightings	range	times absent	mean when present	mean for month
<i>Charadrius leschenaultii</i>	S 292	1-160	4	24.3	18.2
	ND 85	1-18	5	8.5	5.7
	FM 164	1-83	2	16.4	13.7
<i>Pluvialis squatarola</i>	S 45	1-13	4	3.8	2.8
	ND 43	1-15	5	4.3	2.9
	FM 24	1-6	3	2.7	2.0
<i>Arenaria interpres</i>	S 394	1-69	0	24.6	24.6
	ND 386	8-56	1	27.6	25.7
	FM 264	1-59	0	22.0	22.0
<i>Calidris ferruginea</i>	S 299	1-149	7	33.2	8.7
	ND 191	1-106	8	27.2	12.7
	FM 219	1-(200)	8	54.7	18.2
<i>Calidris alba</i>	S 13	1-6	10	2.2	0.8
	ND 118	1-91	10	23.6	7.9
	FM 19	3-8	8	4.8	1.6
<i>Tringa nebularia</i>	S 8	1-3	10	1.3	0.5
	ND 16	1-3	6	1.8	1.1
	FM 7	1-2	6	1.2	0.6
<i>Limosa lapponica</i>	S 11	1-4	11	2.2	0.7
	ND 156	1-46	6	17.3	10.4
	FM 75	1-28	6	12.5	6.3
<i>Numenius phaeopus</i>	S 235	2-39	0	14.7	14.7
	ND 196	1-37	0	14.0	14.0
	FM 75	2-(35)	1	6.8	6.3
<i>Dromas ardeola</i>	S 24	1-16	10	4.0	1.5
	ND 1125	8-255	1	80.3	75.0
	FM 421	2-190	3	46.7	35.1