

NETHERLANDS MOROCCO EXPEDITION 1981 - SOME PRELIMINARY RESULTS

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The significance of intertidal areas along the Atlantic coast of Morocco for palearctic and nearctic wader populations during autumn migration is firmly established thanks to the results of British expeditions during the last decade (Pienkowski 1972 & 1975, Moser et al. 1980). In contrast to the situation in autumn there is virtually no information on the number of waders that visit these areas during spring migration.

From 1 to 28 March 1981 we visited the intertidal flats and saltpan-area near Sidi Moussa to study the spring migration of waders. The actual study area is about 5 km long and situated in the northern part of the Sidi-Moussa-Ouolidia saltpan complex. The tidal inlet near Sidi Brehim formed the southern border of the study area. The creek enters into a system of interconnected salt pans about 2.5 km to the north. We selected this area since it is easily accessible most suitable for mistnetting. The principle aims of the expedition were:

1. To census regularly the number of waders in the study area in order to monitor fluctuations in the number present.
2. To capture and mark as many waders as possible to collect information on biometrics, weights and moult of body feathers.
3. To sample regularly the number of marked birds in the area in order to estimate the number of waders that migrate through the area during our stay.
4. To collect quantitative information on the standing crop of macrobenthic invertebrates and the food intake of the waders in the intertidal areas.

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Censuses

We carried out five counts in the Sidi Moussa area and one in Merja Zerga after finishing our activities at Sidi Moussa. The results are given in Table 1. For most species the numbers at Sidi Moussa show a slow but continuous decline resulting in a drop of the total number from 6100 on 1 March to 3700 on 26 March. The numbers of the Calidris species other than Dunlin Calidris alpina show irregular fluctuations which might have been caused by difficulties in finding them within mixed flocks of Dunlins and Ringed Plovers Charadrius hiaticula.

Catching

Over 600 waders were caught in the salines near Sidi Moussa (Table 2). Out of 28 controls, 21 birds (1 Ringed Plover, 1 Kentish Plover Charadrius alexandrinus, 13 Dunlins and 6 Redshanks Tringa totanus) were ringed the preceding autumn in the same area by the Durham University Expedition to Sidi Moussa. Many more ringed waders were seen, most of them almost certainly ringed by former British expeditions in the same area during autumn migration. Although it is not clear whether these birds stayed in the area throughout the winter or spent the winter months further south, these observations suggest that they show a strong site fidelity outside the breeding season.

Most waders (80%) were caught between 1 and 12 March. From 15 to 28 March we caught only 115 birds although the intensity of effort remained the same. We think the poor catching was caused by the moonlit nights during the second period. Full moon occurred on 20 March.

The data suggests that most birds had very low weights. For instance, about 50% of the Dunlins weighed less than 45 grams!

525 birds were marked with a blue dye and a coloured tape around the ring (above the knee) indicating the day of catching. In addition to the counts we sampled the proportion of dyed waders in the population at Sidi Moussa. These data will give information on the number of waders that left the area in the period between catching and sampling. The data are now being analysed. Our impression is that more birds left the area than was apparent from the counting results. This implies immigration from the south. Some birds stayed in the area for a rather long period. For instance, even during our last marked birds sample on 26 March we still found some birds marked on 1 or 2 March.

During two visits to Merja Zerga, the first one on 14 and 15 March and the second one on 31 March and 1 April, we looked for dyed waders to see whether birds that left the Sidi Moussa area visited other Moroccan wetlands on their northward migration. On the first visit we checked 3500 birds and found (besides one British dyed Dunlin) only one Sidi Moussa dyed bird (Dunlin). On the second visit we checked 3706 birds and found two birds from Sidi Moussa (both of them Dunlin).

Wader food and feeding

At several sites in the intertidal flats the macrobenthic animals were sampled. Mean biomass figures varied from 5 gm² on the sandy substrate in the southern part of the area to 21 gm² (ash-free dry weight) on the muddy substrate in the north. Important species, in terms of biomass and food for waders, were the polychaete Nereis diversicolor, the bivalve Cerastoderma edule and the gastropod Peringia ulvae (formerly Hydrobia ulvae). In general, individual polychaetes and bivalves are much larger than those at the Banc d'Arguin.

Many waders (especially Ruff Philomachus pugnax, Spotted Redshank Tringa erythropus, Black-tailed Godwit Limosa limosa, Dunlin and Little Stint Calidris minuta) fed in the salt pans on Chironomidae-larvae, the only prey items available. Part of the populations of Ringed Plover, Kentish Plover, Grey Plover Pluvialis squatarola and Redshank were found to behave territorially in the feeding areas on the intertidal flats.

A detailed report of the results of the expedition will appear this autumn.

	Sidi Moussa					Merja Zerga
	1 March	9 March	17 March	21 March	26 March	1 April
<i>Haematopus ostralegus</i>	5	43	12	6	3	105
<i>Himantopus himantopus</i>	322	278	293	334	327	8
<i>Recurvirostra avosetta</i>	546	173	183	182	119	2708
<i>Glareola pratineola</i>	-	-	1	3	8	30
<i>Charadrius hiaticula</i>	372	363	310	262	258	108
<i>Charadrius alexandrinus</i>	241	162	158	180	179	472
<i>Pluvialis squatarola</i>	242	476	510	661	408	3207
<i>Calidris canutus</i>	30	27	-	2	14	20
<i>Calidris alba</i>	35	139	42	12	20	8
<i>Calidris minuta</i>	123	255	92	85	292	656
<i>Calidris ferruginea</i>	3	48	34	17	18	156
<i>Calidris alpina</i>	2821	2353	1928	1718	1188	15238
<i>Philomachus pugnax</i>	46	88	153	145	189	-
<i>Gallinago gallinago</i>	13	30	5	15	13	1
<i>Limosa limosa</i>	359	205	188	87	60	659
<i>Limosa lapponica</i>	65	50	17	177	-	4
<i>Numenius phaeopus</i>	-	9	1	1	-	-
<i>Numenius arquata</i>	3	245	178	187	65	112
<i>Tringa erythropus</i>	112	66	14	9	9	5
<i>Tringa totanus</i>	505	330	403	421	294	521
<i>Tringa nebularia</i>	23	23	2	15	6	33
<i>Tringa ochropus</i>	1	-	-	-	1	-
<i>Tringa glareola</i>	1	-	1	-	1	-
<i>Actitis hypoleucos</i>	3	1	3	4	3	-
<i>Arenaria interpres</i>	237	159	172	162	223	22
<i>Phalaropus lobatus</i>	-	-	-	-	-	1

Table 1. Waders counted at Sidi Moussa and Merja Zerga during March and April 1981.

	numbers caught	new rings	retraps	controls
<i>Himantopus himantopus</i>	2	2	0	0
<i>Recurvirostra avosetta</i>	1	1	0	0
<i>Charadrius hiaticula</i>	41	40	0	1
<i>Charadrius alexandrinus</i>	18	17	0	1
<i>Pluvialis squatarola</i>	6	6	0	0
<i>Calidris canutus</i>	6	6	0	0
<i>Calidris minuta</i>	23	23	0	0
<i>Calidris ferruginea</i>	12	11	1	0
<i>Calidris alpina</i>	406	382	5	19
<i>Philomachus pugnax</i>	4	4	0	0
<i>Gallinago gallinago</i>	1	1	0	0
<i>Tringa totanus</i>	97	84	6	7
<i>Tringa nebularia</i>	5	5	0	0
<i>Actitis hypoleucos</i>	1	1	0	0
<i>Arenaria interpres</i>	8	8	0	0
TOTALS	631	591	12	28

Table 2. Numbers of waders caught at the Sidi Moussa saline complex from 1 to 28 March 1981.

References

- Moser, M. et al. 1980. Durham University Expedition to Sidi Moussa, Morocco - September 1980. Wader Study Group Bulletin 30:17
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