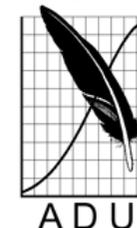


# Ornithological Observations



An electronic journal published by BirdLife South Africa and the Animal Demography Unit at the University of Cape Town



Ornithological Observations accepts papers containing faunistic information about birds. This includes descriptions of distribution, behaviour, breeding, foraging, food, movement, measurements, habitat and plumage. It will also consider for publication a variety of other interesting or relevant ornithological material: reports of projects and conferences, annotated checklists for a site or region, specialist bibliographies, and any other interesting or relevant material.

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## **FORTIETH ANNIVERSARY CONFERENCE OF THE INTERNATIONAL WADER STUDY GROUP: THE AFRICAN CONTRIBUTION**

**Les G Underhill**

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## FORTIETH ANNIVERSARY CONFERENCE OF THE INTERNATIONAL WADER STUDY GROUP: THE AFRICAN CONTRIBUTION

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Editorial comment – One of the objectives of OO is to try to provide readers with access to at least the abstracts of ornithological papers presented at international conferences which relate to Africa, and especially southern Africa. This is the first in what we hope will become a series.

The International Wader Study Group (IWSG) (<http://www.waderstudygroup.org>), founded in the United Kingdom in 1970 as the Wader Study Group, held its 40th anniversary conference in Lisbon, Portugal, on the weekend 2 to 5 October 2010. Several of the founding members were present, and the original instigator, Clive Minton, traced the early history and development of the group. From its roots as a network of British groups of mainly amateur wader ringers, the centre of gravity of membership has crossed the North Sea to continental Europe, and it has mixed membership of both professionals and amateurs with an interest in shorebirds. The IWSG mounts an annual conference, with the past dozen conferences being scattered across Europe, in France (twice), England, the Netherlands (twice), Poland (twice), Hungary, Spain, Germany, Ireland and Sweden, and the 2011 conference is scheduled for the weekend 24–26 September in Inverness, Scotland. These events are characterized by excellence in three spheres: science, conservation and fun.



**Figure 1** – Clive Minton, the "instigator"

The focus of the IWSG membership is mainly on waders in Eurasia, and migrating to Africa, and the annual meeting is always held in Europe. The IWSG produces a journal three times a year; each issue of the *Wader Study Group Bulletin* is about 80 pages long, with most issues being genuinely global, containing papers from all wader flyways. The Western Hemisphere Shorebird Reserve Network (<http://www.whsrn.org/western-hemisphere-shorebird-reserve-network>) focuses on the flyway between North and South America, and has a meeting every second year, the next one scheduled for 2011. The Australasian Wader Studies Group (AWSG) (<http://www.awsg.org.au/>) focuses on the flyway from Asia to Australasia. Clive Minton was transferred by his company to Australia in the late 1970s, and the explosion of wader studies along that flyway can to a large measure be attributed to his contagious enthusiasm and organisational skills. The AWSG produces the *Stilt*,



and mainly contains papers on wader studies in Australia. Papers in the *Stilt* are available online (<http://www.awsg.org.au/stilt.php>).

This report highlights the papers at this year's Lisbon conference that related to Africa. There were five of these, out of the 38 oral presentations at the conference. Two of the five papers related to the Banc d'Arguin in Mauritania, two to African Black Oystercatchers and one to the Little Stint. The only other "non-European" paper reported on habitat loss in the Yellow Sea region of China, along the flyway from Siberia to Australia and New Zealand – this is such an important conservation issue that this abstract is also included in this selection of abstracts..

#### GEOGRAPHICAL TRENDS IN THE TIMING OF MOULT OF LITTLE STINTS *CALIDRIS MINUTA* IN AFRICA SOUTH OF THE EQUATOR

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In Grey Plover *Pluvialis squatarola*, a Palearctic migrant wader with populations that moult at different latitudes, the date when adults start to moult is related to the migration distance and the latitude at which they moult. Still, the duration of moult is the same at all southern latitudes. We set out to determine if this is also valid for populations of Little Stints that moult in the southern hemisphere. Attributes of the primary moult of 3131 adults ringed at four locations between 15°S and 35°S latitude in southern Africa from 1971–2010

were analysed using the Underhill-Zucchini moult model. In adults that showed continuous moult of all 10 primaries we found clear latitudinal trends to both moult starting dates and duration. At the southernmost location moult started on average 27 days later (27 October) and lasted up to 38 days less (105 days) than at the northernmost location (30 September, 143 days). But the average end of moult was only 11 days apart (9 February in the south and 20 February in the north). This suggests a flexible moult strategy in Little Stints, with longer moult further north, where more time is available because of the earlier arrival and shorter migration distance, than in the south. The end of moult is constrained at all latitudes by the departure for the breeding grounds.

#### ARE AFRICAN BLACK OYSTERCATCHERS GOOD INDICATORS OF LARGE-SCALE TRENDS IN INTERTIDAL COMMUNITIES? A STABLE ISOTOPE STUDY

Sophie Kohler<sup>1,2\*</sup>, Cecile Mablouka<sup>1</sup>, Jackie Hill<sup>2</sup>, Maelle Connor<sup>2</sup>,  
Katrjn Ludynia<sup>3</sup>, Jessica Kemper<sup>4</sup>, Johan Huisamen<sup>5</sup>, Les Underhill<sup>3</sup>,  
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The African Black Oystercatcher *Haematopus moquini* is a resident shorebird confined to the coasts of Namibia and South Africa, where it feeds exclusively in intertidal zones. Globally, oystercatchers are known for their specialized feeding habits, however, their potential as bio-indicators has not yet been investigated. The southern African



coastline is influenced by the Benguela Upwelling System on the west and the Agulhas Current in the south, resulting in major differences in ocean productivity. We investigated biogeographic trends in stable isotope composition of the African Black Oystercatcher to test whether the observed patterns in isotopic signatures of the primary food of filter-feeders have deeply penetrating effects, transmitted to top-predators. Blood samples and feathers of oystercatchers were collected from breeding adults and chicks feeding at 13 rocky shore locations throughout the range of the species, between East London, on the south-east coast of South Africa and Halifax Island, off Lüderitz, southern Namibia. Main prey species (mussels and limpets) were collected at all sampling sites. Oystercatchers and their prey showed an overall westward enrichment in  $\delta^{15}\text{N}$  values reflecting a shift at the base of the food web, from oligotrophic conditions on the east coast to eutrophic conditions on the west. The  $\delta^{13}\text{C}$  values of oystercatcher tissues did not show clear geographic gradients but rather reflected variations in prey assemblages along the coastline. Blood and feathers of adults displayed strong geographic correlations based on their  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  composition, suggesting high fidelity to diet and/or feeding area throughout the year. We suggest that African black oystercatchers are excellent indicators of local and biogeographic trends on the southern African coastline, both in terms of intertidal community structures and oceanic conditions throughout the year.



Figure 2 – The 40<sup>th</sup> birthday cake

## WHY DO AFRICAN BLACK OYSTERCATCHERS HAVE A BREEDING SEASON?

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The African Black Oystercatcher *Haematopus moquini* has a restricted coastal range, from the Eastern Cape of South Africa to southern Namibia. In South Africa, oystercatchers have a clearly defined breeding season, with most eggs being laid in midsummer, November–January. In the northern part of the range, around Lüderitz, Namibia, the breeding season is in early autumn, February–April. Most bird species breeding along the Benguela Upwelling System have extended and variable breeding seasons. For example, White-fronted Plovers *Charadrius marginatus* which have the same breeding habitat as the oystercatchers, the narrow zone immediately above the high water mark, breed throughout the year. In South Africa, summer is the main breeding season. In Namibia, breeding of plovers is bimodal with peaks at the solstices, midsummer and midwinter.

Breeding adult African Black Oystercatchers are effectively prisoners to their territories throughout the year. Their food, mainly limpets and mussels in the intertidal zone, is present within the territories year round, and the abundance of this prey varies little through the year. Climate, especially along the Namib Desert coastline, is equitable, with minimal rain and little variation in temperature. Given the general lack of variability, it is not obvious why there should be such a short breeding season. This presentation considers various factors, such as food, tides and storms, which could drive African Black Oystercatchers to have a breeding season, and which could explain the difference between the timing of breeding in South Africa and Namibia.



## HABITAT HETEROGENEITY AND PERSISTENT DEMOGRAPHIC STRUCTURING IN RED KNOTS WINTERING AT THE BANC D'ARGUIN, MAURITANIA

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The quality of non-breeding habitats has large-scale effects on the fitness of migratory birds. Spatial segregation according to age or sex during the non-breeding period is a well known phenomenon in migratory species. It has been discussed that either dominance behaviour or habitat specialisation is driving habitat segregation. We discovered, that in a comparatively small wintering site (less than 16 km<sup>2</sup>), a socially foraging shorebird, the Afro-Siberian Red Knot *Calidris canutus canutus*, shows a remarkable stable differentiation in sex and age between two high tide roost and adjacent foraging areas less than 2 km apart. The birds were highly site faithful to "their" site, and only a small proportion of birds switched sites between winters. The movements that took place were directed from the site with more females and adults to the site with more males and juveniles. Red Knots at the site with more females and adults had longer bills. Surprisingly, survival was also higher at that site. We discuss the mechanisms driving this habitat segregation and how individuals might be able to move nevertheless.

## WHY YOUNG BIRDS FORAGE AT NUTRITIONALLY POOR AND DANGEROUS PLACES: CLASSICAL FOOD-SAFETY TRADE-OFFS MEDIATED BY VARIATION IN FORAGING ABILITY

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Food-safety trade-offs are generally studied in the context of energy state. Animals in low energy states tend to accept the highest danger levels in return for higher energy gains. However, successful foraging requires animals to be able to find and handle food items efficiently and adequately compete with other foragers at the same time. Individuals will differ in the extent to which they have mastered both types of skill. Here we examine how individual differences in competitiveness and foraging skills affect the trade-off between food and safety in Red Knots *Calidris canutus canutus*. Why do some young knots select feeding areas that are poor in food and low in safety? At Banc d'Arguin, Mauritania, a tropical area of intertidal mudflats on the West African coast where this study was carried out, red knot feed at low tide, mostly on seagrass meadows. During high tide they have to retreat to the "dangerous" shoreline to roost. Surprisingly, some birds remained in near-shore foraging areas even during low tide, and these birds tended to be young. To quantify habitat use of different classes of birds in habitats that differ in predation danger, food densities, and substrate complexity we distinguished (1) a bare zone very close (0–40 m) to the approaching raptor concealing dune ridge and relatively poor in buried bivalve food and (2) the seagrass beds somewhat further (40-250 m) offshore that were thus safer and also richer in food. Observations of age-related agonistic interactions,



energy intakes rates, and indices for energy state (abdominal profile index), showed that, due to limited skills in foraging and competitiveness, young birds achieved higher intake rates in near-shore bare habitat where they fed in “easier” substrate, with fewer competitors, but with higher predation danger and lower food abundance. Observations in spring, when adults fuel up for migration, show higher numbers of birds foraging in near-shore foraging sites, despite the fact that, due their higher fat loads, these birds must suffer reduced escape ability. We conclude that the young birds that feed on the nutritionally poor and dangerous bare near-shore habitat, due to their limited skills in foraging on seagrass and competition with dominant conspecifics, achieve higher feeding success in bare than in seagrass habitat. In spring, the trade-off between energy gain and safety shifts towards accepting higher risks for greater energy gains, although during this time predation danger may have somewhat relaxed.

#### **WHAT WILL BE THEIR FINAL FATE? RED KNOTS *CALIDRIS CANUTUS* *PIERSMAI* AND *C C ROGERSI* DEPEND ON A SMALL THREATENED STAGING AREA IN BOHAI BAY, CHINA**

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We counted Red Knots *Calidris canutus* repeatedly during their northwards migration through Bohai Bay, China, in the northwestern Yellow Sea, identifying birds to subspecies level using plumage characters, and systematically searched for colour-banded birds from the non-breeding grounds. We modelled migratory turnover, and revised flyway population estimates using recent published counts from the non-breeding grounds. Two Russian-breeding subspecies occurred at our study site, *C. c. rogersi* (migrating to Chukotka), and *C. c. piersmai* (migrating to the New Siberian Islands); they co-occur on non-breeding grounds in Australia and New Zealand, but differed markedly in timing of migration. We conservatively estimate that our study site, comprising only 20 km of coastline, was used by over 38% of the red knot flyway population, including c. 41% of *piersmai* subspecies world population, which is estimated to be only 49,000–60,000 birds, and c. 31% of *rogersi* population estimated to be 51,000–62,000 birds. Unfortunately, in the recent 10 years, approximately 453 km<sup>2</sup> of offshore area, including 156 km<sup>2</sup> intertidal flats, have been claimed along the coast of Bohai Bay for two industrial projects. We present the results of counts conducted during 2006–2009 to evaluate the impacts of land claim on Red Knots and other shorebirds, e.g. Eurasian Curlew *Numenius arquata*, Curlew Sandpiper (*C. ferruginea*) and Broad-billed Sandpiper (*Limicola falcinellus*). Their increase in numbers suggests that shorebirds have become concentrated on the remaining tidal flats. We predict that shorebird, especially red knot and curlew sandpiper, densities on the residual areas will continue to increase and that at the same time those flyway populations with a particular dependence on the bay's resources will decline. To evaluate the future of these fragile shared



international resources, it is vital to continue population monitoring and promote an immediate conservation action plan for the remaining coastal wetlands in this region.

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*Figure 3 – Cutting the IWSG birthday cake – part of the fun!*