

Avifaunal atlasing of the Mkhuze Reserve

Dr Robin Brace, University of Nottingham

Xander Combrink, Enzemvelo KZN Wildlife

Introduction

The Greater St. Lucia Wetland Park (GSLWP), designated as South Africa's first World Heritage site in 1999, covers an area of nearly 300,000 ha along the northern coast of South Africa up to the border of Mozambique. One of the criteria on which the park's proclamation as a World Heritage Site rested, was its rich biological diversity.

Recognition of the presence of numerous rare and threatened species contained within the diverse ecosystems represented in the park, saw the launching – in 2003 – of the GSLWP Rare, Threatened & Endemic Species (RTE) project, a joint initiative of the Wildlands Conservation Trust (the lead NGO on community development issues in KwaZulu-Natal province), Ezemvelo KZN Wildlife (wildlife management authority for the park) and the GSLWP authority (planning authority for all park developments). Phase 1 of this project, that involved 14 rapid field transect surveys (using point counts for birds), has produced initial broad scale data on presence and absence of some of the target species across the entire park.

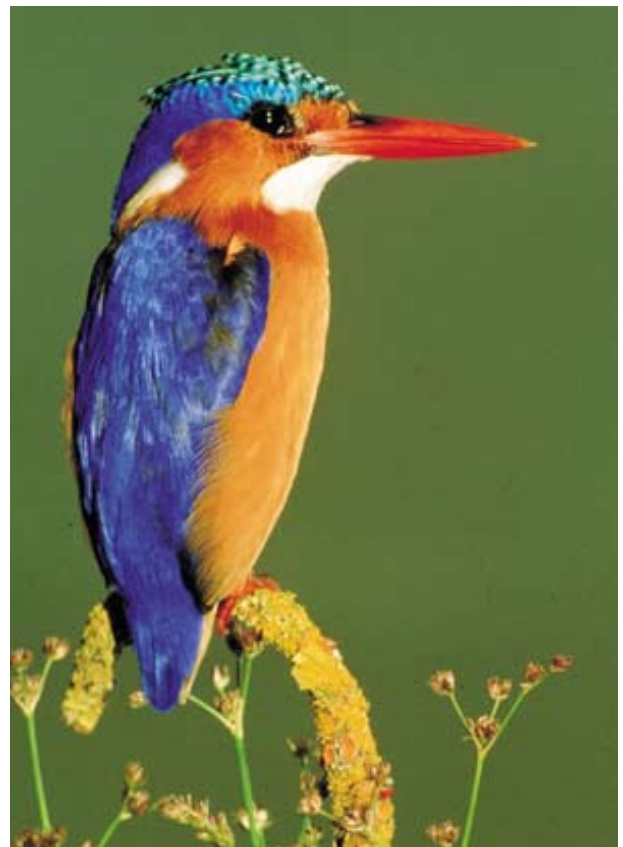
Operation Wallacea's collaboration with the RTE project is designed to help completion of Phase 2 of the project – that commenced in June 2006 and is due to run through to 2010 – which will provide much more detailed distributional information of species within each sector of the park, and also on their habitat associations. To this end, Operation Wallacea is concentrating on the Mkhuze Game Reserve, that constitutes approximately 13% by area of the GSLWP and that has a good range of terrestrial habitats including savanna, and sand forest, fig and riverine forest types.

Given the prevailing habitat diversity in Mkhuze, it is not surprising that its relatively well known avifauna is rich, with c.440 species. Nevertheless, there is a paucity of official park-based documentation of species. Moreover, the status of many species during the period of the survey (end of the South African winter) is not well known, though palearctic migrant representation can be expected to be limited and many intra-Afrotropical migrants will undoubtedly not have returned to breed.

Results

In what was the first year for Operation Wallacea in collaborating with Ezemvelo KZN Wildlife in its development of the Greater St. Lucia Wetland Park (GSLWP), Rare, Threatened and Endemic Species (RTE) project, the aim was to survey in detail bird occurrence within two, 5 x 5 km squares in the Mkhuze Game Reserve (a total of 100 such squares lie partially or totally within the GSLWP). Since previous atlasing had found difficulty in accurately proportioning effort according to habitat type across 5 x 5 km squares, sampling effort had switched to smaller sub-units, such as 1 x 1 km squares, that have been the focus of attention in this study.

Emphasis in 2006 lay with trialing a survey regime in which four such squares were visited each morning (to noon), with each survey lasting 1 hour. A total of eight squares were inspected in each of two pre-selected (by Xander Combrink) 5 x 5 km squares (A and B). Each square was walked six times, thus yielding a total of 48 walks in each 5 x 5 km square. To ensure rapid transference between 1 x 1 km squares, squares were



Malachite Kingfisher

	Square A			Square B (inc. Nsumo Pan)			A + B
	Survey	Other	Total	Survey	Other	Total	
No. species	117	12	129	173	20	193	223
No. birds identified	2265			5307			7572
Mkhuze Game Reserve							
Species additional to above	29		Overall Total			252	

Table 1. Birds identified in survey squares.

'set' alongside park roads. The choice of route adopted – '□-shaped' with three, 500m legs (in from/out to a road) – lay with a compromise between effective (though not total) square coverage and maximizing time for detecting birds. This sampling regime worked well, and thus is recommended for 2007 surveys.

In all survey squares, >70% of birds recorded, were identified; in eight out of 16 squares this level was >80%. These figures are deemed highly acceptable given the dense nature of some of the terrain – that spanned thornveld, low woodland with scrub, sand forest, grassland and pan – concerned.



Species accumulation analyses (using Abundance-based Coverage Estimates of Species Richness [ACEs]) revealed substantial species accrual plateauing in most – though not all – squares. It is concluded that six walks per square is adequate from a comparative richness perspective (across squares), but that a fuller species picture is likely to emerge by adding (if time permits) a further walk.

Mkhuze boasts a bird list of c. 440 species, including c. 70 migrants (not present during the survey period) and many visitors/vagrants. Table 1 shows that a sizeable proportion of those species likely to have been present, were recorded.

Mkhuze is ornithologically well known, and thus it is not surprising that just two new species were added to the reserve inventory: Cape Weaver and Parasitic Weaver (Cuckoo Finch), of which the latter (a species known for nomadism) is new to the GSLWP also.

Three of the four South-east African coast endemics known to occur, were recorded: Rudd's Apalis, Neergaard's Sunbird, Pink-throated Sunbird (Lemon-breasted Seedeater not observed). Two threatened (vulnerable) species – Cape Griffon (Vulture), Lappet-faced Vulture – were seen, together with two near-threatened species: Lesser Flamingo, Neergaard's Sunbird.

Relevant Publications

Brace, R. (2006). South African Bird Survey Report. Unpublished report, available on the Operation Wallacea website [accessed 15-06-2007]