

Supplement November 2014
to the
“ Follow-up Monitoring Survey of Birds
on Chumbe Island, Zanzibar,
of February 2014”



African Paradise Flycatcher feeding young

Report to CHICOP

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Summary

A visit to Chumbe Is., Zanzibar, from November 24th to 30th 2014 fell into the reproductive period of many bird species. The results of our field observations relate to an area of ca 75.000 square metres in the southern third of the island. Within this area, we utilized the full length (ca 770 metres) of paths, of which some 470 metres are bordered on both sides by 'native coral rag forest'. Along some 300 metres, the same vegetation is standing only on one side, while the other side comprises habitats influenced by human activity, or seashore.

No Narina Trogon *Apaloderma narina* responded to tape luring during two walks at early morning / late afternoon. The twenty years old Mangrove Kingfisher *Halcyon senegaloides* was not seen. Census of birds along a line transect: Singing activity peaked around dawn (5:15 a.m.) and faded from 6 a.m. In this period, maximum numbers of singing males included 34 Zanzibar Sombre Greenbuls *Andropadus importunus insularis*, 14 Red-capped Robin Chats *Cossypha natalensis*, 8 African Reed Warblers *Acrocephalus baeticatus*, and a total of 22 males of six more species. This first transect survey can be seen as baseline reference for a more comprehensive monitoring of breeding birds on Chumbe Is. in the future.

This survey completes a previous follow-up monitoring survey, which we conducted in February 2014.

Acknowledgements

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1 Introduction

Having spent two weeks on Chumbe for a monitoring survey in February 2014, we returned in November for a short visit to the island.

Our main aims were

- to search for a species known to be very rare in Zanzibar, the Narina Trogon *Apaloderma narina* which, from previous records, could be suspected to be a possible resident on Chumbe Is.
- to try and find the one individual Mangrove Kingfisher which had been captured and ringed on Chumbe as early as 1994, and which was photographed 20 years later by an anonymous guest
- to have a look at reproduction activities of the islands breeding birds at a time when 'the small rains' were due to be in
- to introduce a monitoring method more simple than ringing of birds: the standardised census of singing males along a line transect.

2 Study area, weather conditions, attendant circumstances

We visited Chumbe from Nov 24th to 30th. As in our previous visits, the study area comprised the southern third of the island, while the northern two thirds again remained unexplored. For a general description see our report of February.

To record the number of singing males of the species present (see below) we used the network of footpaths depicted in Figure 1. Our census circuit comprised some 770 metres and can be divided into 10 sections (Table 1). Sections 1, 5, 8, and 9, in total some 300 m, are passing human structures and / or the seashore. Thus only one side of the path is made up from bush, which is normally used by singing males. In the other sections, together some 470 metres, both sides of the path are bordered by more or less native medium to tall bush/forest.

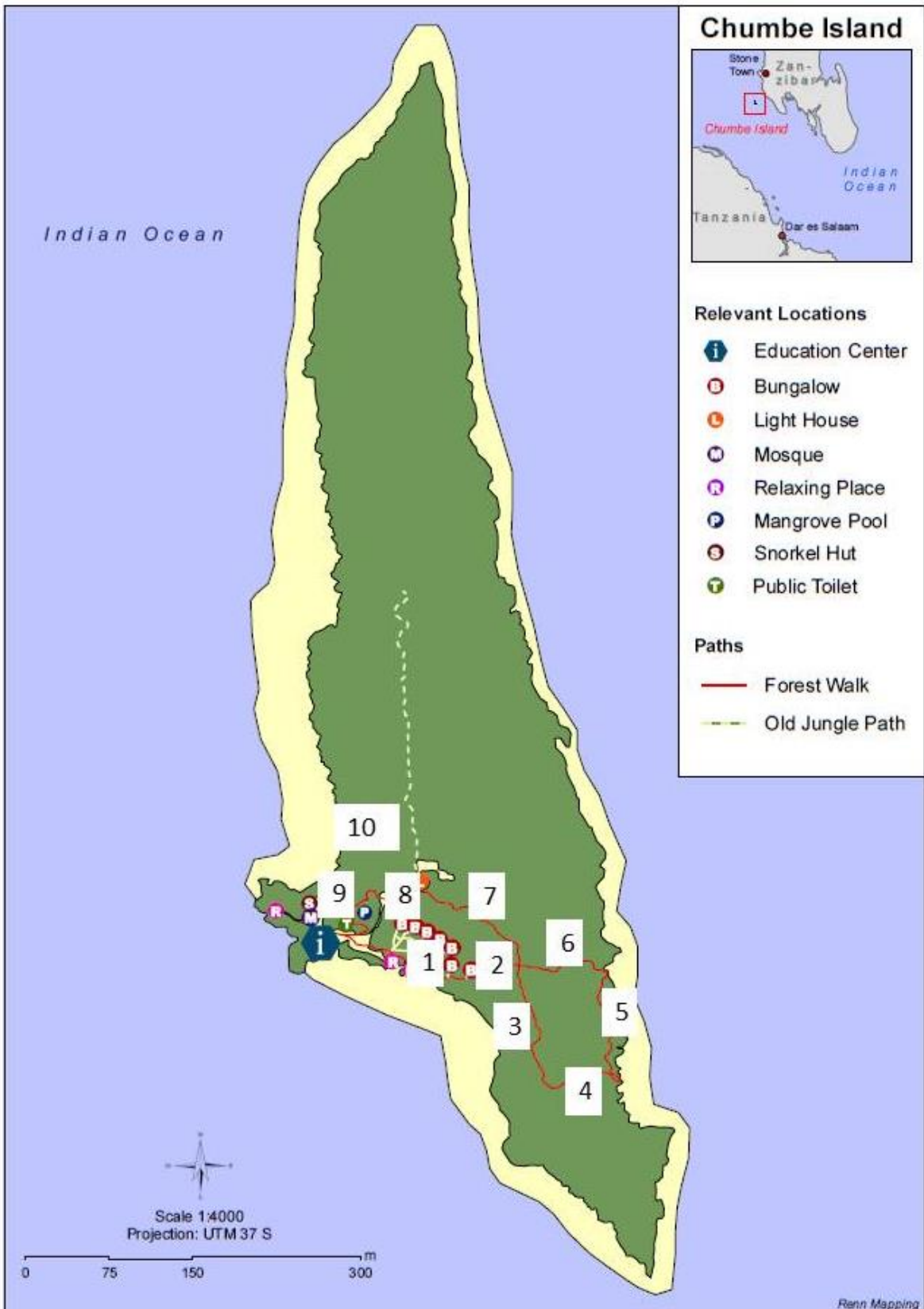


Figure 1: Map of Chumbe Is. (provided by CHICOP) showing sections 1 to 10 of the line transect used for the census of singing males as part of the bird survey 2014. Note: The path from Mangrove Pool to manager house (Section 10, ca 100 m) not shown in red.

Table 1: Sections used for the census of singing males. Shaded areas mark sections combined in Table 3.

Number of section	Description	Approx. length
1	Starting from the guest bungalows 1 southwest to number 7	70 m
2	entering the bush eastwards to cross-junction of Forest Walk trail	30 m
3	turning right and southwards along Forest Walk trail	100 m
4	following the trail turning east to the east coast	70 m
5	along the cliffs northward to the remnants of the telegraph cable	100 m
6	westward to cross-junction	70 m
7	continuing to lighthouse	100 m
8	passing compost area to mangrove pool	30 m
9	circuit around mangrove pool	100 m
10	from mangrove pool to manager house	100 m

Chumbe had received good rains over much of the year 2014. In November, rain had fallen on three days of the first and the third week (Ulli Kloiber, Omari Nyange, pers. comm.). During our stay more rain fell on Nov 27th and 29th.

This had rendered the vegetation fresh and green as compared to the dry aspect of last February.

3 Methods & activities

For luring Narina Trogon we used the tape recorded song of the species replayed by a portable loudspeaker which was audible to human ears to some 30 m. On Nov 25th and 26th, from 5:30 to 6:30 p.m. and from 6:45 to 7:30 a.m. respectively, we walked the whole network of paths replaying the song every 50 metres.

For finding the Mangrove Kingfisher ringed in 1994, we checked the legs of each Kingfisher, that we happened to see perched.

Transect census of singing males:

Capturing birds, as conducted in February, can provide reliable data to assess trends over time. However, it is time consuming and depends on a set of prerequisites not readily accomplished.

In the absence of such facilities, a more simple alternative is the recording of bird numbers along a line transect. The network of paths described above provides a convenient structure for a line transect as such. To record birds along a transect it is often recommended that notes are taken of every bird seen or heard, and to include what the observed birds were doing actually, f. e. searching for food, singing etc..

On Chumbe however, due to the dense bush growing along many stretches of the paths, one hears many more individuals than can be seen sufficiently. Therefore, we considered it best - for the purpose of a simple Chumbe monitoring scheme - to confine the recording only to birds (males) that are actually singing.

By their singing they indicate that they hold and defend a territory, and they do so above all at the onset of the breeding period of their species. In most song birds, it is only the males which sing in order to advertise for a female. But in a few species, male and female of a pair sing in duet. Once a pair has formed, and a territory is successfully established, singing activity is often reduced. Then, males of many species sing only for a short while, often early in the morning and / or before sunset, but otherwise turn to activities like foraging, building a nest, breeding etc. In different species, activities like singing do not peak necessarily at the same times (again of day and year).

Anyway, counts of singing males can provide useful data on the breeding of species. Trends can be monitored, if standardisation of the following is considered and maintained over time:

- the same area (implicated by the line transect, provided the full length is covered)
- the same times of day and season
- ideally the same observer(s), who of course need to be familiar with the songs and calls of the species present
- birds seen engaged in other activities, f. e. sitting, flying, searching for food, etc. should be included only, if they are singing at the same time. If they are silent they must not be included in the transect census of singing males
- silent birds seen engaged in activities clearly related to reproduction, f. e. holding nesting material or food for their young in their bills, or right at their nest sites, should of course be recorded, but separately (see 4.2 of this report).

From own experience along the paths, we think, that the risk of double counting the same individual can be minimized with due attention even at the bends of the path.

Our census of singing males was carried out on Nov 28th and 29th, starting from dawn at 5:15 a.m. and 5:20 respectively. The full length of paths was walked in the order lined out above, from section

1 to 10. Proceeding slowly it took about one hour until the end of the full transect, at the manager house, was reached.

Additionally, singing males were counted during the two 'Trogon walks' described above. Note that these differed from the 'census walks' in the time of day, and in the direction taken: On Nov 25th, the census was made in the evening from 5:30 p.m. to dusk, while on Nov 26th, the circuit started only at 6:45, and from the manager house and was continued clockwise (instead of counter-clockwise) from the mangrove pool in direction to the lighthouse, east coast and so on. Thus, the different sections were checked earlier or later, as compared to the censuses of Nov 28th and 29th.

No mist **netting and ringing of birds** was done during this visit.

For the sake of easy reference, we adopt again the alphabetic order introduced in the most recent bird species list (KLOIBER 2013). For the commonly used taxonomic order, please refer to Field Guides (f. e. STEVENSON & FANSHAWE 2009).

4 Results and discussion

4.1 Target species Narina Trogon and Mangrove Kingfisher

Narina Trogon is known to respond to taped playback in the breeding season, but not in (austral) winter (Maclean 1985). No reaction of a Trogon to our tape luring could be noticed. This makes the suspected presence of this species less probable.

It happened only a few times that we spotted Mangrove Kingfishers perched as free as to allow to check the legs for a ring. One individual wearing a ring on its left leg had most probably been ringed on the spot in February 2014. No right-ring bird was seen, which would hint at one of the 1994 birds.

4.2 Overview on reproductive activities of breeding species

At our visit in February 2014, breeding time had been over. Breeding success was thought to be influenced by the very dry conditions during the preceding months. However, results from capturing and ringing of birds according to constant effort standards had indicated, that in most breeding species there were no obvious changes compared to twenty years ago, i. e. before CHICOP activities had altered some habitat components.

Now, in November, we were lucky to arrive at a time when males of many species were singing and holding territories, building nests, or already were feeding young birds still in a nest (Table 2).

Table 2: Reproductive activities of Chumbe Is. breeding birds recorded end of November 2014

	Males singing	Building nests	Feeding young
<i>Acrocephalus baeticatus</i> African Reed Warbler	x		X
<i>Andropadus importunus</i> Zanzibar Sombre Greenbul	x		
<i>Centropus superciliosus</i> White-browed Coucal	x		
<i>Cinnyris (Nectarinia) bifasciata</i> Purple-banded Sunbird	x	x?	
<i>Cossypha natalensis</i> Red-capped Robin Chat	x		
<i>Cyanomitra (Nectarinia) veroxii</i> Mouse-coloured Sunbird	x	x?	
<i>Halcyon senegaloides</i> Mangrove Kingfisher	x		
<i>Passer domesticus</i> House Sparrow	x	x	
<i>Streptopelia semitorquata</i> Red-eyed Dove	x		
<i>Terpsiphone viridis</i> African Paradise-flycatcher	x		X

4.3 Breeding activities

African Reed Warbler: Two birds were seen collecting or holding insects in their bills as food for young. The nest(s), somewhere at the mangrove pool, were not found.

Purple-banded Sunbird and / or **Mouse-coloured Sunbird:** We were shown the beginnings of five nests inside of four buildings (twice staff quarters, twice manager house, and guest bungalow) which were suspended from poles or strings of palm thatches, from electric bulbs, or from a branch of an *Euphorbia* (see Photo). While the nest builders were described as resembling Purple-banded Sunbirds, the nests sites also suggest Mouse-coloured Sunbird, which are 'usually under shelter of ... derelict building' (Maclean 1985).



Abandoned nest of a Sunbird built in front of staff accommodation east of lighthouse.

African Paradise-flycatcher: A female with a bunch of insects in her bill flying into the mangrove stand at the pool. This helped us to find the nest with two young about a week old (see photo on front page).

4.4 Transect census of singing males: A preliminary baseline reference for a future monitoring of breeding birds

Since no capturing and ringing of birds was planned during this short trip, we used the opportunity to conduct a census of singing males as pointed out above in 3.

The species totals of the evening census and the three morning censuses (Figure 2) differ considerably, although all sections of the path network were covered at all four dates.

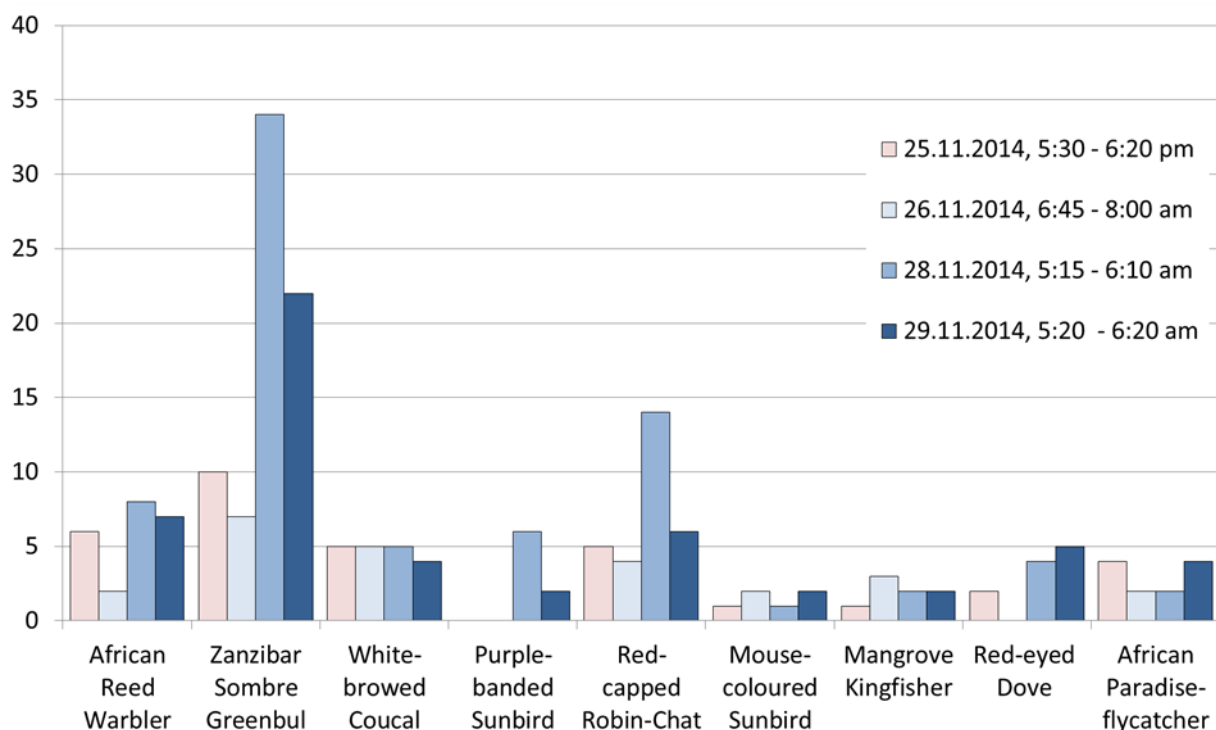


Figure 2: Numbers of singing males recorded along the network of footpaths during one evening walk and three morning walks. Note that the morning walk of 26.11. started only at 6:45 and passed the path sections of map 1 in a sequence different from the two 'early morning' walks.

Numbers recorded during the two 'early morning' walks were clearly higher in five species compared to the totals of the 'late morning' census and the evening census. This indicates that singing activity is high around dawn, while an obvious decrease was noted from about six o'clock in these species. Therefore, it may be speculated if the lesser numbers of the census of Nov 29th are related to the somewhat later start, and even later end, of this walk. In the four remaining species, the evening totals appear to equal the respective morning numbers. These latter species could be monitored during both morning and evenings. However, the totals recorded on Nov 28th and 29th appear to be a preliminary baseline reference for future censuses. For this purpose, we add detailed raw data on how singing males had been distributed along the sections (Table 3). Also, we welcome suggestions to improve the design of the proposed transect census of singing males.

Table 3: Distribution of singing males along the line transect (for details see Figure 2)

		section							total
		1	2+3+4	5	6+7	8	9	10	
African Reed Warbler	Nov 25 th	2	2	0	2	0	0	0	6
	Nov 26 th	0	0	0	0	0	2	0	2
	Nov 28 th	2	3	2	0	0	1	0	8
	Nov 29 th	0	4	0	0	0	2	1	7
Zanzibar Sombre Greenbul	Nov 25 th	2	2	2	2	0	1	1	10
	Nov 26 th	0	0	0	0	1	2	4	7
	Nov 28 th	2	10	4	9	0	7	2	34
	Nov 29 th	4	8	3	4	1	0	2	22
White-browed Coucal	Nov 25 th	1	0	1	0	0	0	3	5
	Nov 26 th	0	0	0	1	0	0	4	5
	Nov 28 th	1	1	0	2	0	1	0	5
	Nov 29 th	2	1	1	0	0	0	0	4
Purple-banded Sunbird	Nov 25 th	0	0	0	0	0	0	0	0
	Nov 26 th	0	0	0	0	0	0	0	0
	Nov 28 th	0	2	1	2	0	0	1	6
	Nov 29 th	0	1	1	0	0	0	0	2
Red-capped Robin-Chat	Nov 25 th	1	0	1	2	0	0	1	5
	Nov 26 th	0	0	0	2	0	1	1	4
	Nov 28 th	1	3	1	6	0	0	3	14
	Nov 29 th	0	0	2	4	0	0	0	6
Mouse-coloured Sunbird	Nov 25 th	0	0	0	0	0	0	1	1
	Nov 26 th	0	0	0	0	0	1	1	2
	Nov 28 th	0	1	0	0	0	0	0	1
	Nov 29 th	0	0	0	1	0	1	0	2
Mangrove Kingfisher	Nov 25 th	0	0	0	0	0	1	0	1
	Nov 26 th	0	0	0	0	0	1	2	3
	Nov 28 th	0	0	0	0	0	2	0	2
	Nov 29 th	0	0	0	0	0	2	0	2
Red-eyed Dove	Nov 25 th	0	1	1	0	0	0	0	2
	Nov 26 th	0	0	0	0	0	0	0	0
	Nov 28 th	1	0	0	3	0	0	0	4
	Nov 29 th	0	1	0	3	0	0	1	5
African Paradise-flycatcher	Nov 25 th	0	2	0	0	0	0	2	4
	Nov 26 th	0	0	0	0	0	1	1	2
	Nov 28 th	0	0	0	0	0	2	0	2
	Nov 29 th	2	0	0	0	0	1	1	4

5 Literature

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