

# AN ELEVATIONAL SURVEY OF THE BIRDS OF THE MUBUKU AND BUJUKU RIVER VALLEYS, RWENZORI MOUNTAINS, UGANDA

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## SUMMARY

Eighty-four species of birds were recorded during surveys at five camps in the Mubuku and Bujuku River valleys of the Rwenzori Mountains in 1990 and 1991. Species numbers declined gradually from a peak of 61 at the low edge of the forest at 1960m to 44 at 3000m. Above this, as the habitat changed to giant groundsels and lobelias, the decline was more dramatic to 13 at 3400m and only seven observed at the peak at 4000m. There were six species for which we find no published Rwenzori records.

## INTRODUCTION

From 10 November to 12 December 1990 and from 8 April to 1 May 1991, personnel from Makerere University and Uganda Department of Forestry, Kampala and the Field Museum of Natural History, Chicago conducted surveys of the avifauna of the Mubuku and Bujuku River valleys at the south end of the Rwenzori Mountains in Uganda. We worked out of four camps:

- Kyoha, 6 km NW Ibanda, Mubuku Valley, 1960m
- 10-19 November 1990; 8-14 April 1991
- Mahoma, 8 km NW Ibanda, Mubuku Valley, 2075m
- 22-30 November 1990; 3-8 May 1991
- Nyachaba, 10 km NW Ibanda, 2700m
- 3-12 December 1990; 16-22 April 1991
- John Mate, 15 km NW Ibanda, 3400m
- 24 April-1 May 1991

These camps are described in detail (Kerbis et al., this volume). Observations were also made up to the Bujuku Huts at 4000m.

## METHODS

Quantitative surveys were made primarily through the use of mist nets, and were augmented by observational records. At each of the camps, we ran as many as 40 nets at a time, set in straight lines of 15 to 20 in an attempt to sample thoroughly the habitat variety at a given elevation. Approximately equivalent equivalent net-days were accumulated at the three lower camps, with about half as many at John Mate which we visited only once. Voucher series of specimens were collected along with tissues for genetic analyses and stomachs for diet studies. Birds released from the nets were marked by cutting a small angled section from the outermost tail feather, allowing us to identify these as previously captured if they were caught additional times.

## RESULTS

The following table shows the 82 bird species that we encountered during this survey, and the elevations at which we found them. English names follow Lewis and Pomeroy (1989) for species included in that volume and Howard and Moore (1984) for additional species; scientific names follow Peters' Checklist of the Birds of the World (1934-1986). The listings under each elevation represent a rough attempt to depict relative abundances as based on the netting data:

+ = 1 capture, ++ = 2-5 captures, +++ = 6-10 captures, ++++ = 11-20 captures; +++++ = >20 captures; SRO = sight record only.

## DISCUSSION

### New species for the Rwenzori Mountains

There were seven species for which we find no previous published records in the Rwenzori Mountains (Ogilvie-Grant, 1910; Howard, 1991). Little Grebes (*Tachybaptus ruficollis*) were seen regularly on Lake Mahoma at 3000m during our stay at the 2700m camp in April of 1991. Three Scaly-throated Honeyguides (*Indicator variegatus*) were netted well into the forest at 2075m. Four of the new species are lowland forest birds that we found only at our lowest camp. Buff-spotted Pygmy Crane (*Sarothura elegans*) was represented by one mist-net record. We saw a few individual Crowned Hornbills (*Tockus abholrennatus*) regularly at the lowest camp. Little Greenbulbs (*Pycnonotus vivens*) and Blue-shouldered Robin Chats (*Cosypha cyanocamptor*), each represented by two mist-net records, may be at their upper elevational limits here. Finally, we found Mountain Wagtails (*Motacilla clara*) to be moderately common on rocks in the Mubuku River at both of our lower camps.

### Abundances

Recognizing the many pitfalls associated with analyses of mist-net data (Pomeroy and Good, 1992), we are using our mist-net data only as a very rough assessment of abundances. At each elevation there were one to several species that dominated the fauna. At the 1960m camp, Yellow-whiskered Greenbulbs (*Pycnonotus latirostris*) were far and away the most abundant species. Just 100m above this, its relative abundance dropped and the Blue-headed Sunbird (*Nectarinia alinae*), Mountain Greenbul (*Pycnonotus lephrolaemus*) and Regal Sunbird (*Nectarinia regia*) replaced it as the most common birds. In the 2700-3000m range, Mountain Greenbulbs and Regal Sunbirds became even more dominant, with growing numbers of Greater Double-collared Sunbirds (*Nectarinia agra*). This latter species was the only bird we found to be particularly common at 3400m. It too dropped out as we climbed to 4000m, with only the Scarlet-tufted Malachite Sunbird (*Nectarinia johnstoni*) common in the main lobelia zone.

Collar and Stuart (1985) lists one Rwenzori species, Shelley's Crimson-wing (*Crypsospiza shelleyi*) as "near threatened". This species was not encountered by the British Museum expedition of 1905-1906, but we found it with some regularity from 1960m to 3400m.

**Diversity changes by elevation**

Surveys of birds along mountain slopes generally show a gradual decline in species number with increasing elevation (e.g. Robbins et al., 1987 in the Andes; Willard et al., 1991 on an isolated South American peak; Goodman and Gonzales, 1990 and Goodman et al., 1995 in the Philippines). The pattern is the same in the Mubuku Valley of the Rwenzori, with the peak species number (62) in our survey at the lower edge of the forest at 1960m declining to 53 at 2075m and to 47 at 2700-3000m. The number drops dramatically in the giant groundsel zone around 3400m (13 species recorded), and tails off to only 7 at the highest elevations of the valley.

Only one species, the Streaky Seedeater, spanned the full range of elevations that we surveyed. Most of the species recorded had been observed by 2075m, and among forest birds, the Rwenzori Turaco, Abyssinian Crimson-wing and Scarlet-tufted Malachite Sunbird were the only species to appear for the first time above this elevation (excluding the African Wood Owl which may well have been missed at lower elevations). There were several possible examples of the congenic replacement of species so prevalent in the Andes (Terborgh and Weske, 1975), where one species in a closely related pair decreases as another increases with elevation. The most obvious was the shift in the two woodland warblers *Phylloscopus laetus* and *umbrovirens* just above 2700m. Other possible examples of this pattern of elevational replacement include: the very similar Red-faced and Abyssinian Crimson-wings; *Cryptospiza reichenovii* and *sahadorii*; Masked and Chestnut-throated Apalis (*Apalis binotata* and *porphyrolaema*); the Lamianus shrikes *laehderi* and *falleborni*; the underground thrushes *Cosypha cyanocamptor* and *archeri*; the two forest warblers *Bradypterus barrati* and *cinnamomeus*; and finally the turacos, *Tauraco schuetti* which we inexplicably missed during this survey but which was found commonly up to 9000 ft by members of the British Museum expedition (Ogilvie-Grant, 1910) and *johnstoni* which is found alone above that elevation.

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After the preparation of this paper the results of further collections of birds were published in:

- Howard, P.C., T. Daveyport & M. Baltzer. 1996. *Rwenzori Mountains National Park: biodiversity report*. Forest Department, Kampala.

# THE BIRDS OF THE MUBUKU AND BUJUKU RIVER VALLEYS

176

English name	Scientific name	1960m	2075m	2700m	3400m	4000m
Little Grebe	<i>Tachyaptus ruficollis</i>			SRO		
Black Kite	<i>Milvus nigans</i>				SRO	
Great Sparrowhawk	<i>Accipiter melanoleucus</i>			SRO	SRO	
African Mountain Buzzard	<i>Buteo creophilus</i>	SRO		SRO	SRO	
Buff-spotted Pygmy Crane	<i>Sarothura elegans reichenovi</i>	+				
Olive Pigeon	<i>Columba arquatrix</i>	SRO		SRO		
Lemon Dove	<i>Aplopelia larvata jacksoni</i>	+	+			
Tambourine Dove	<i>Turtur tympanistria fraseri</i>	++++	++			
Rwenzori Turaco	<i>Tauraco johnstoni</i>			+	+	
Barred Long-tailed Cuckoo	<i>Cercocoryx m. montanus</i>		+			
African Wood Owl	<i>Ciccabius woodfordii bohndorffi</i>			+		
Scarce Swift	<i>Schoutedenapus myoptilus</i>			SRO	SRO	
Alpine Swift	<i>Apus n. elba</i>				SRO	
Cinnamon-chested Bee-eater	<i>Merops oreobates</i>	+				
Crowned Hornbill	<i>Tockus alboterminatus</i>	SRO				
Western Green Tinkerbird	<i>Pogonius coryphaeus hildamariae</i>	+++				
Yellow-rumped Tinkerbird	<i>Pogonius bilineatus mfumbiri</i>	++	++			
Scaly-throated Honeyguide	<i>Indicatrix v. variegatus</i>		++			
African Gray-headed Woodpecker	<i>Dendropicos griseocephalus</i>			SRO		
Black Saw-wing	<i>Psaldirocne holomelaena ruwenzori</i>	++	++	++		
Mountain Wagtail	<i>Motacilla clara chapini</i>	++	++			
Grey Cuckoo Shrike	<i>Coracia caesia pura</i>	SRO		+		
Common Bulbul	<i>Pycnonotus barbatus minor</i>	++	+			

Willard, Gnoske & Kinyo

177

English name	Scientific name	1960m	2075m	2700m	3400m	4000m
Little Greenbul	<i>Pycnonotus v. virens</i>	++				
Yellow-whiskered Greenbul	<i>Pycnonotus latirostris eugenius</i>	+++++	+++++	++		
Mountain Greenbul	<i>Pycnonotus tephrolaemus kikuyuensis</i>	++++	+++++	+++++		
Fischer's Greenbul	<i>Phyllostreptus fischeri sucosus</i>	++	++			
Luhder's Bush Shrike	<i>Laniarius l. luehderi</i>	+++				
Fulleborn's Black Boubou	<i>Laniarius fulleborni holomelas</i>		+++	++++		
White-starred Forest Robin	<i>Pogonocichla stellata ruwenzori</i>	++++	+++++	+++++	+++	
Archer's Robin Chat	<i>Cossypha archeri</i>		++	++++	+++	
Blue-shouldered Robin Chat	<i>Cossypha cyanocampter bartteloti</i>	++		++++	+++	SRO
Red-throated Alethe	<i>Alethe poliopteryx</i>	+++	++++	++		
Abyssinian Ground Thrush	<i>Zoothera p. piaggiae</i>	+		++		
Northern Olive Thrush	<i>Turdus abyssinicus baraka</i>	++		++		
Mountain Illadopsis	<i>Trichastoma pyrropteron</i>	++++	++	++	++	SRO
Gray-chested Illadopsis	<i>Trichastoma poliothorax</i>	++++				
African Hill Babbler	<i>Abyssinian Hill Babbler</i>	++++	+++	+++++		
Evergreen Forest Warbler	<i>Bradypterus barratti baraka</i>	++	++			
Cinnamon Bracken Warbler	<i>Bradypterus cinnamomeus mildbreadi</i>		+++	++++	++	SRO
Black-faced Rufous Warbler	<i>Bathmocercus rufus vulpinus</i>	+++	++			
Mountain Yellow Warbler	<i>Chloropeta similis</i>		+++	++++		
Chubb's Cisticola	<i>Cisticola chubbii</i>	+++	+++	++		
Banded Prinia	<i>Prinia bairdii obscura</i>	+++	+			
Collared Apalis	<i>Apalis r. ruwenzorii</i>	++++	+++	++++		
Masked Apalis	<i>Apalis binotata personata</i>	+++	+++			
Chestnut-throated Apalis	<i>Apalis p. porphyrolaema</i>		+	++		
White-browed Crombec	<i>Sylvietta l. leucophrys</i>	+++++	+++++	+++		

Birds

English name	Scientific name	1960m	2075m	2700m	3400m	4000m
Gray-capped Warbler	<i>Hypergerus lepidus</i>	++				
Red-faced Woodland Warbler	<i>Phylloscopus l. laetus</i>	SRO	+++	+++		
Brown Woodland Warbler	<i>Phylloscopus umbrovirens alpinus</i>			++	++	SRO
White-eyed Slaty Flycatcher	<i>Melaenornis fischeri toruensis</i>	++	+			
Dusky Flycatcher	<i>Muscicapra adusta pumila</i>	+	+++	+++		
Rwenzori Batis	<i>Batis diops</i>		++	+++		
Paradise Flycatcher	<i>Terpsiphone viridis ferreti</i>	++				
Stripe-breasted Tit	<i>Parrus f. fasciiventer</i>	+	+	++		
Collared Sunbird	<i>Anthreptes collaris garguensis</i>	++	++			
Blue-headed Sunbird	<i>Nectarinia a. alinae</i>	+++++	+++++	+++++		
Variable Sunbird	<i>Nectarinia venusta igniventris</i>	+	++	++		
Greater Double-collared Sunbird	<i>Nectarinia afra stuhlmanni</i>		++	+++++	+++++	
Northern Double-collared Sunbird	<i>Nectarinia preussi kikuyensis</i>	+++	+++	+		
Regal Sunbird	<i>Nectarinia r. regia</i>	++	+++++	+++++		
Purple-breasted Sunbird	<i>Nectarinia purpleiventris</i>	++	++			
Scarlet-tufted Malachite Sunbird	<i>Nectarinia johnstoni dartmouthi</i>					SRO
Yellow White-eye	<i>Zosterops senegalensis stuhlmanni</i>	+++++	+++++	+++++		
African Citril	<i>Serinus c. trinelloides frontalis</i>	++		+++++		
Streaky Seedeater	<i>Serinus s. riolatus graueri</i>	++++	++	++++	+++	SRO
Thick-billed Seedeater	<i>Serinus b. irtoni tanganyicae</i>	++	+++	+++		
Gray-headed Negrofinch	<i>Nigrita ca. ricapilla sparsimguttata</i>	+++	+			
Red-faced Crimson-wing	<i>Cryptospiza reichenovii australis</i>	++				
Abyssinian Crimson-wing	<i>Cryptospiza salvadorii ruwenzori</i>			++++		
Dusky Crimson-wing	<i>Cryptospiza jacksoni</i>	++++	+++	++		
Shelley's Crimson-wing	<i>Cryptospiza shelleyi</i>	++	+	+++	+	

Willard, Gnoske &amp; Kirby

English name	Scientific name	1960m	2075m	2700m	3400m	4000m
Red-headed Bluebill	<i>Spermophaga r. ruficapilla</i>	+++				
Sweet Waxbill	<i>Estrilda melanotis kilimensis</i>	SRO	+	+		
Black-crowned Waxbill	<i>Estrilda n. nonnula</i>	+				
Baglafaecht Weaver	<i>Ploceus baglafaecht stuhlmanni</i>		++			
Strange Weaver	<i>Ploceus alienus</i>	+++++	+++	+++		
Brown-capped Weaver	<i>Ploceus i. insignis</i>	+				
Sharpe's Starling	<i>Cinnyricinclus sharpii</i>	++		SRO		
Slender-billed Chestnut-winged Starling	<i>Onychognathus tenuirostris theresae</i>	+++	SRO	SRO		
White-necked Raven	<i>Corvus albicollis</i>	SRO	SRO	SRO	SRO	SRO