

Further additions to the avifauna of the Isunkaviola Plateau, Ruaha National Park, south-central Tanzania, emphasize its ornithological importance

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Summary

Isunkaviola Plateau is located in the western part of Ruaha National Park, south-central Tanzania, and is a remote and infrequently visited area. Previous ornithological work there has revealed some notable range extensions, and in this paper, we detail the results of surveys conducted in October 2019, to supplement species inventories provided by Glen *et al.* (2005) and Glen (2011). We provide detection probabilities for 114 species encountered during 55 census point counts, and document two species that are new for Ruaha NP; the Scaly Francolin *Pternistis squamatus* and Green Twinspot *Mandingoa nitidula*. Five additional species were also added to this list from mist netting. We categorize forest dependence for all species recorded on the plateau and indicate those with strong preference for higher altitudes. To date, a total of 148 bird species have been recorded within the Isunkaviola area, further illustrating the critical value of a small elevated and forested area within a broad savanna ecosystem. Given its unique avifauna, the Isunkaviola Plateau remains as an important birding site within Ruaha National Park, and therefore, improving accessibility and awareness will not only open the area for avitourism, but also encourage further biodiversity research.

Keywords: Avitourism, forest-dependent bird species, high altitude miombo woodland, Ruaha National Park

Introduction

The Isunkaviola Plateau is located in the remote western part of the Ruaha National Park (Fig. 1). Ruaha National Park is the second largest national park (20 226 km²) in Tanzania after the recently (2019) established Nyerere National Park, with an area of 30 000 km² (formerly part of Selous Game Reserve; Tanzania National Park 2020). Unlike most of Ruaha National Park which is covered by miombo woodland (also known as *Brachystegia*; Baker & Baker 2002, Glen 2011), bushed grasslands (Williams 1967) and the wetlands of Ihefu (Marttila 2011), the Isunkaviola Plateau supports rich mature woodlands and forested riverine habitats at an elevation of approximately 1550–1870 m. Because of its altitude, the plateau possesses unique and rare habitats within the National Park such as riverine and *Drypetes* climax forests (Glen *et al.*

2005). The remaining hinterlands within Ruaha National Park are part of an undulating plateau at an altitude of around 1000 m.

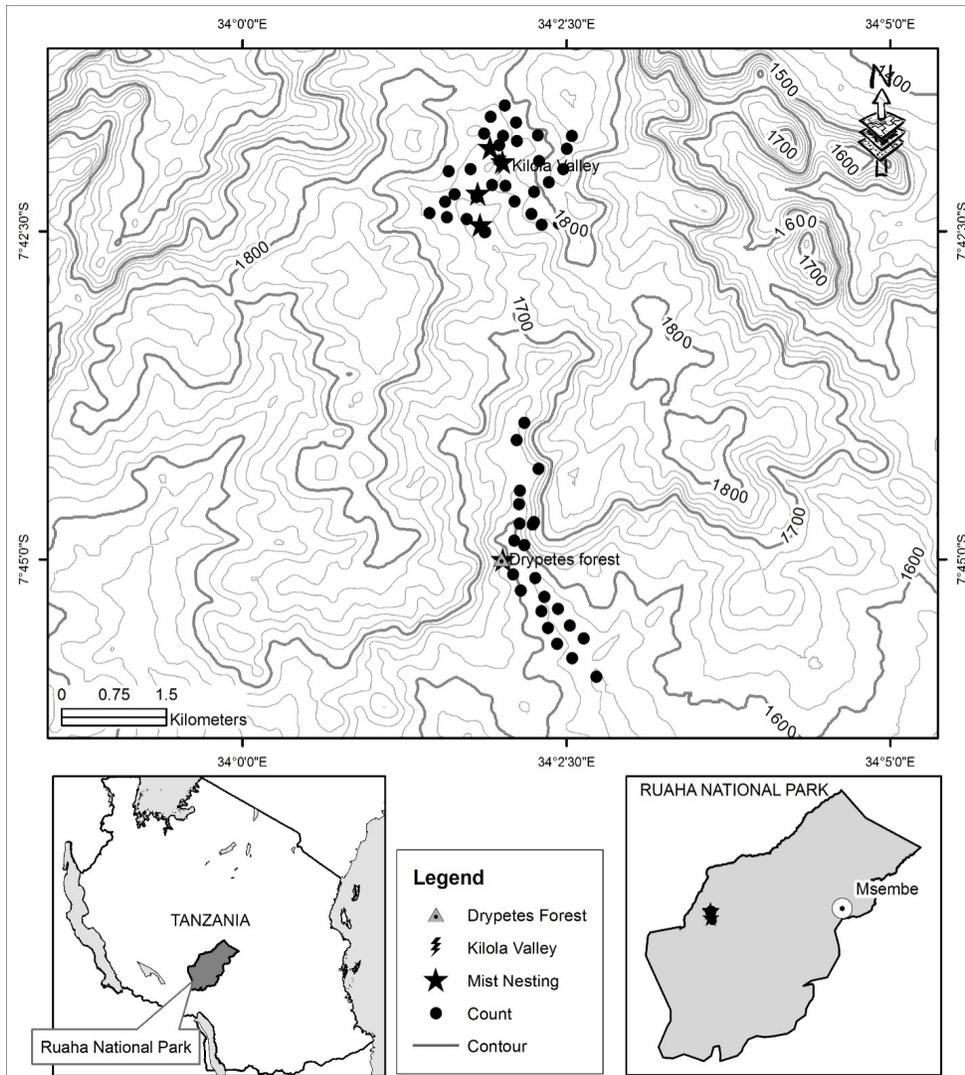


Figure 1. Map of the study area showing sampling points. Msembe is the Park Headquarters, located at along the eastern margins of the Park.

Due to the difficulty of accessibility, much of the biodiversity of this area remains undocumented, although there have been visits for vegetation surveys between 1973 and 1976 (Bjornstad 1976), and information on small mammals has been published by Stanley *et al.* (2015). Visits for systematic bird surveys were conducted between 2001 and 2004 (Glen *et al.* 2005) and further information is given in the unpublished annotated checklist of the Ruaha National Park (Glen 2011). There is no recent published information on the status of the birds of this area. Moreover, the role of the *Drypetes* forest and riverine habitats has not been extensively studied, and given the

potential for avitourism within the Great Ruaha-Rungwa ecosystem, the birdlife of the area should be documented further.

Glen *et al.* (2005) and Glen (2011) reveal that much of the birdlife of the Isunkaviola Plateau is unique within Ruaha National Park showing affinities with the forest avifaunas of both the eastern Congo and Eastern Arc Mountains. Fieldwork at the Isunkaviola Plateau in early 2000s (Glen *et al.* 2005) identified 17 bird species with range extensions at this location. Of those, 11 were species recognized as forest dependent or species known to be indicators of true forest habitat (see Glen 2011 for further information).

Here, in addition to presenting the status (detection probability) of species recorded during avifaunal surveys in October 2019, we categorize species by forest dependence and highlight those species with a strong preference for high elevations. Including additional species recorded by Glen (2011), we provide a comprehensive species list for the Isunkaviola Plateau, further illustrating the ornithological importance of this little-known wilderness area of Ruaha National Park.

Methods

Study area

In addition to habitats surveyed in previous visits by Glen *et al.* (2005), we extended our surveys to cover surrounding miombo woodlands at Isunkaviola Plateau. By contrast, the study by Glen *et al.* (2005) sampled mainly the *Drypetes* section (07°45' S, 34°02' E) and Kilola Valley (07°42' S, 34°02' E; Fig. 1). The riverine forest of the Kilola Valley at Isunkaviola is approximately 4 km long and 100 m wide (Glen *et al.* 2005) with adjoining fingers of forest following small tributaries. These streams, springs and marshes provide year-round surface water in the Kilola Basin, and are especially important for wildlife towards the end of the dry season (September–November).

Field methods

We used point-counts and mist netting to census birds in the study area following Ralph *et al.* (1993). All point-count and mist netting locations were geo-referenced using a hand-held GPS, and later mapped (Fig. 1). With the exception of marshy and swampy areas, canopy cover at sampling sites for point-counts, varied from 10–90% (51.66 ± 19.47 , $n=50$), whereas the canopy height varied from 3–40 m (15.88 ± 10.7 , $n=50$). At our mist netting site, the canopy cover varied from 60–80% (73.0 ± 9.74 , $n=5$) whereas the canopy height varied from 15–30 m (24.6 ± 7.47 , $n=5$). Both survey methods were conducted simultaneously with two separate teams from 9–17 October 2019 while camping in the survey area.

Point counts

Census points were established along the Kilola Valley in the *Drypetes* forest section, and in the adjacent miombo woodland. Fifty five census points were established between 1568 m and 1860 m and were spaced at least 250 m from each other (Fig. 1). Within the Kilola Valley, census points were established following altitudinal gradients, with parallel points within the riverine forest and adjacent woodlands. All birds (seen and heard) within a 50 m radius were identified and counted within 10-min periods at each point. Our survey team also included an experienced field assistant, Maneno Mbilinyi, well versed in local bird vocalizations. The first five minutes of each point count conducted was spent recording details of vegetation canopy cover and canopy height.

Mist netting

Four mist nets of 12 m-length were placed at selected points within the Kilola Valley, and in *Drypetes* forest. A total of five sites were selected to cover as much of the variation within the riverine forest as possible, and mist nets were run from 0600–1830 hrs for two to three consecutive days at each location, and were checked at least every 30–40 mins. Nets were placed either parallel or perpendicular to the valley depending on the landscape orientation. Trapped birds were identified and marked (wings marked by a marker pen to recognize recaptures) and released. Mist nets were placed at altitudes from 1613–1776 m (Fig. 1).

Data analysis

We derived estimates of detection probability as a proportion of the number of points ($n=55$) on which a species was recorded. Species were also classified according to ecological niche as either: forest specialists (*FF*), forest generalists (*F*), forest visitors (*f*) or non-forest (*nf*) species as per Britton (1980), Bennun *et al.* (1996), Harrison *et al.* (1997) and Bowie *et al.* (2004), and using our local field experience. Species elevation preferences (*m*) are based on those provided by Britton (1980) and Bowie *et al.* (2004).

Taxonomy and nomenclature follows the Handbook of Birds of the World and BirdLife International (2019), except concerning the taxonomic rank of Ruaha Chat *Myrmecocichla collaris* where we follow Glen *et al.* (2011) and Aliabadian *et al.* (2012).

Results and Discussion

Species richness and relative abundance

A total of 114 bird species were recorded from 55 point-counts, comprising a total of 805 individual birds (Appendix 1). New species recorded for Ruaha National Park (Glen 2011) included Scaly Francolin *Pternistis squamatus*, which was seen briefly (and also heard once near the camp) at 1802 m on 12 October 2019. This is presumably the rare subspecies *udzungwensis*, known from 120 km to the east in the Iringa Highlands (Britton 1980). Another new addition to the Ruaha National Park species list is the Green Twinspot *Mandingoa nitidula*, with a female trapped in riverine forest at 1761 m on 13 October 2019. This is a secretive bird and can easily be overlooked, but being a nocturnal migrant, it can occur widely in forest habitat (N. Baker, pers. comm.).

From a total of 7104 metre-net hours, 44 individual birds of 18 species were caught in mist nets (Appendix 2). The most commonly trapped birds were Grey-olive Greenbul *Phyllastrephus cerviniventris* (Fig. 2), Olive Sunbird *Cyanomitra olivacea*, African Paradise-flycatcher *Terpsiphone viridis* and Bleating Camaroptera *Camaroptera brachyura*. Five bird species: Tambourine Dove *Turtur tympanistria*, African Hill-babbler *Sylvia abyssinica*, Green Twinspot *Mandingoa nitidula*, Western Violet-backed Sunbird *Anthreptes longuemarei* and Grey Tit-flycatcher *Fraseria plumbea* were caught in mist nets, but were not recorded during point-count surveys in the adjacent woodlands. Some of these are skulking species (e.g., African Hill-babbler, Green Twinspot), and although vocal, the African Hill-babbler can be easily overlooked (Bradley *et al.* 2018). All six species captured showed a preference for riverine forest habitat within the wider area surveyed.

A further 29 bird species which have been previously reported from the Isunkaviola Plateau (Glen *et al.* 2005, Glen 2011) were not recorded on our surveys (Appendix 3).



Figure 2. One of eight Grey-olive Greenbuls *P. cerviniventris* captured on the Isunkaviola Plateau, Ruaha NP, during field surveys in October 2019; it seems probable that a controversial report of the congeneric Leaflove *P. scandens* in Glen *et al.* (2005), which was questioned by Fishpool (2009), in fact refers to this species (photo: Juma Joseph Minya).

Forest dependence and altitudinal preference

Unlike most areas in Ruaha National Park, the altitude and habitats of the Isunkaviola Plateau support species of highlands and forest habitat (Bowie *et al.* 2004, Romdal & Rahbek 2009, Fjeldså *et al.* 2010). In this study alone, we recorded six forest specialists: African Olive-pigeon *Columba arquatrix*, Olive Sunbird *Cyanomitra olivacea*, African Broadbill *Smithornis capensis*, Crowned Eagle *Stephanoaetus coronatus*, African Hill-babbler and Green Twinspot. Other highland and/or forest specialists known from Isunkaviola Plateau but not recorded on our surveys include White-tailed Crested-flycatcher *Elminia albonotata*, Eastern Crested-flycatcher *Trochocercus bivittatus*, Forest Double-collared Sunbird *Cinnyris fuelleborni*, Lemon Dove *Aplopelia larvata* and Waller's Starling *Onychognathus walleri* (Bowie *et al.* 2004, Glen *et al.* 2005, Glen 2011). Of the remaining species that we recorded on our surveys, 11 are forest generalist, while 55 are forest visitors (Appendices 1–2).

The Isunkaviola Plateau is unique within the Ruaha ecosystem in hosting both forest-dependent and highland species, as well as a further 71 species of non-forest habitats (Appendices 1–3). These high altitude relictual montane and riverine forests comprise important niches supporting high biodiversity (Stolberger 2005, Stanley *et al.* 2015).

Conclusion

The remote Ruaha wilderness zone and little explored Isunkaviola Plateau comprise an interesting ornithological location. The riverine and *Drypetes* forests are unique and rare habitats within Ruaha National Park and support a distinctive assemblage of forest-dependent and high altitude species. The absence of some species that were previously recorded at this site, and the low detection rates in this study, can best be explained by: (i) limited survey efforts or species habitat restrictions, and, (ii) the possibility that there could be some seasonality and local movement of species there. Further studies, extending to lower altitudes in both cold and hot seasons could provide additional information on this little known aspect of birdlife in the National Park.

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Appendix 1. The 114 bird species recorded from point counts surveys, their ecological niches (forest dependence and association with high elevation) and detection probability at Isunkaviola Plateau, Ruaha National Park. The Scaly Francolin *Pternistis squamatus* was recorded for the first time in the park. Abbreviations: FF = forest specialist, F = forest generalist, f = forest visitor, nf = non-forest species.

English name	Scientific name	Forest dependence	Highland species	Detection Probability
Hildebrandt's Francolin	<i>Pternistis hildebrandti</i>	nf		0.02
Scaly Francolin	<i>Pternistis squamatus</i>	F		0.07
Coqui Francolin	<i>Peliperdix coqui</i>	nf		0.04
African Olive-pigeon	<i>Columba arquatrix</i>	FF	*	0.04
Red-eyed Dove	<i>Streptopelia semitorquata</i>	f		0.07
Ring-necked Dove	<i>Streptopelia capicola</i>	f		0.04
African Green-pigeon	<i>Treron calvus</i>	f		0.05
White-browed Coucal	<i>Centropus superciliosus</i>	nf		0.04
Black Cuckoo	<i>Cuculus clamosus</i>	f		0.02
Klaas's Cuckoo	<i>Chrysococcyx klaas</i>	f		0.04
African Emerald Cuckoo	<i>Chrysococcyx cupreus</i>	f	*	0.04
Red-chested Cuckoo	<i>Cuculus solitarius</i>	f		0.20
Black Crane	<i>Zapornia flavirostra</i>	nf		0.05
Purple-crested Turaco	<i>Gallirex porphyreolophus</i>	f		0.13
Schalow's Turaco	<i>Tauraco schalowi</i>	f		0.27
Hadada Ibis	<i>Bostrychia hagedash</i>	nf		0.02
Hamerkop	<i>Scopus umbretta</i>	nf		0.04
African Scops-Owl	<i>Otus senegalensis</i>	nf		0.02
African Wood Owl	<i>Strix woodfordii</i>	F	*	0.02
Verreaux' Eagle Owl	<i>Bubo lacteus</i>	nf		0.02
Bateleur	<i>Terathopius ecaudatus</i>	nf		0.07
Crowned Eagle	<i>Stephanoaetus coronatus</i>	FF		0.02
Wahlberg's Eagle	<i>Hieraaetus wahlbergi</i>	nf		0.02
Gabar Goshawk	<i>Micronisus gabar</i>	nf		0.02
African Grey Hornbill	<i>Lophoceros nasutus</i>	nf		0.07
Crowned Hornbill	<i>Lophoceros alboterminatus</i>	f		0.07
Common Hoopoe	<i>Upupa epops</i>	nf		0.11
Green Woodhoopoe	<i>Phoeniculus purpureus</i>	nf		0.07
Common Scimitarbill	<i>Rhinopomastus cyanomelas</i>	nf		0.09
European Bee-eater	<i>Merops apiaster</i>	f		0.11
Racquet-tailed Roller	<i>Coracias spatulatus</i>	nf		0.22
Broad-billed Roller	<i>Eurystomus glaucurus</i>	f		0.05
Brown-hooded Kingfisher	<i>Halcyon albiventris</i>	f		0.02
Striped Kingfisher	<i>Halcyon chelicuti</i>	nf		0.04
Crested Barbet	<i>Trachyphonus vaillantii</i>	nf		0.07
Whyte's Barbet	<i>Stactolaema whytii</i>	nf	*	0.04
Yellow-rumped Tinkerbird	<i>Pogoniulus bilineatus</i>	F	*	0.09
Red-fronted Tinkerbird	<i>Pogoniulus pusillus</i>	nf		0.02
Yellow-fronted Tinkerbird	<i>Pogoniulus chrysoconus</i>	nf		0.02
Black-collared Barbet	<i>Lybius torquatus</i>	nf	*	0.11
White-faced Barbet	<i>Pogonornis macclounii</i>	F		0.02
Lesser Honeyguide	<i>Indicator minor</i>	f		0.05
Greater Honeyguide	<i>Indicator indicator</i>	f		0.13

English name	Scientific name	Forest dependence	Highland species	Detection Probability
Cardinal Woodpecker	<i>Dendropicos fuscescens</i>	f		0.15
Brown-necked Parrot	<i>Poicephalus fuscicollis</i>	f	*	0.02
Brown Parrot	<i>Poicephalus meyeri</i>	nf		0.05
African Broadbill	<i>Smithornis capensis</i>	FF		0.04
Eastern Black-headed Oriole	<i>Oriolus larvatus</i>	f		0.44
African Golden Oriole	<i>Oriolus auratus</i>	f		0.04
White-breasted Cuckooshrike	<i>Cebblepyris pectoralis</i>	f		0.07
Black Cuckooshrike	<i>Campephaga flava</i>	f		0.09
White-crested Helmetshrike	<i>Prionops plumatus</i>	nf		0.07
Retz's Helmetshrike	<i>Prionops retzii</i>	f		0.04
Chinspot Batis	<i>Batis molitor</i>	nf		0.09
Black-throated Wattle-eye	<i>Platysteira peltata</i>	f	*	0.04
Grey-headed Bush-Shrike	<i>Malaconotus blanchoti</i>	nf		0.02
Black-backed Puffback	<i>Dryoscopus cubla</i>	f		0.40
Marsh Tchagra	<i>Bocagia minuta</i>	nf		0.02
Brown-crowned Tchagra	<i>Tchagra australis</i>	nf		0.04
Fork-tailed Drongo	<i>Dicrurus adsimilis</i>	nf		0.29
Black-crowned Tchagra	<i>Tchagra senegalus</i>	nf	*	0.27
Brubru	<i>Nilaus afer</i>	nf		0.02
Orange-breasted Bush-shrike	<i>Chlorophoneus sulfureopectus</i>	f		0.04
Tropical Boubou	<i>Laniarius aethiopicus</i>	f	*	0.24
African Paradise-flycatcher	<i>Terpsiphone viridis</i>	f		0.20
Common Fiscal	<i>Lanius collaris</i>	nf		0.02
Yellow-bellied Hyliota	<i>Hyliota flavigaster</i>	f		0.04
Red-faced Crombec	<i>Sylvietta whytii</i>	nf		0.02
Green-capped Eremomela	<i>Eremomela scotops</i>	f		0.04
Yellow-breasted Apalis	<i>Apalis flavida</i>	f		0.02
Brown-headed Apalis	<i>Apalis alticola</i>	F	*	0.11
Miombo Wren-warbler	<i>Calammonastes undosus</i>	nf		0.11
Bleating Camaroptera	<i>Camaroptera brachyura</i>	f		0.11
Red-faced Cisticola	<i>Cisticola erythrops</i>	nf		0.02
Trilling Cisticola	<i>Cisticola woosnami</i>	nf		0.18
Tawny-flanked Prinia	<i>Prinia subflava</i>	f		0.05
African Yellow Warbler	<i>Iduna natalensis</i>	nf	*	0.02
Moustached Grass-warbler	<i>Melocichla mentalis</i>	nf		0.02
Lesser Swamp Warbler	<i>Acrocephalus gracilirostris</i>	nf		0.02
Fan-tailed Grassbird	<i>Schoenicola brevirostris</i>	nf	*	0.02
Grey-rumped Swallow	<i>Pseudhirundo griseopyga</i>	nf		0.11
White-headed Saw-wing	<i>Psaldiprocne albiceps</i>	f	*	0.02
Lesser Striped Swallow	<i>Cecropis abyssinica</i>	nf		0.02
Mosque Swallow	<i>Cecropis senegalensis</i>	nf		0.07
Red-rumped Swallow	<i>Cecropis daurica</i>	nf	*	0.02
Barn Swallow	<i>Hirundo rustica</i>	nf		0.04
Red-throated Rock Martin	<i>Ptyonoprogne rufigula</i>	nf	*	0.02
Grey-olive Greenbul	<i>Phyllastrephus cerviniventris</i>	F		0.02
Common Bulbul	<i>Pycnonotus barbatus</i>	f		0.45
Willow Warbler	<i>Phylloscopus trochilus</i>	f		0.09
African Yellow White-eye	<i>Zosterops senegalensis</i>	f		0.07
Violet-backed Starling	<i>Cinnyricinclus leucogaster</i>	f		0.35

English name	Scientific name	Forest dependence	Highland species	Detection Probability
Arrow-marked Babbler	<i>Turdoides jardineii</i>	nf		0.05
Yellow-billed Oxpecker	<i>Buphagus africanus</i>	nf		0.02
Greater Blue-eared Starling	<i>Lamprotornis chalybaeus</i>	nf		0.05
Kurrichane Thrush	<i>Turdus libonyana</i>	nf		0.16
Miombo Scrub-robin	<i>Tychaeton barbata</i>	nf		0.15
White-browed Scrub-robin	<i>Cercotrichas leucophrys</i>	nf		0.02
African Dusky Flycatcher	<i>Muscicapa adusta</i>	F	*	0.04
White-browed Robin-chat	<i>Cossypha heuglini</i>	f		0.20
Collared Sunbird	<i>Hedydipna collaris</i>	f		0.07
Olive Sunbird	<i>Cyanomitra olivacea</i>	FF		0.05
Amethyst Sunbird	<i>Chalcomitra amethystina</i>	f		0.24
Western Miombo Sunbird	<i>Cinnyris gertrudis</i>	nf		0.09
Variable Sunbird	<i>Cinnyris venustus</i>	f		0.05
Spectacled Weaver	<i>Ploceus ocularis</i>	f		0.05
Holub's Golden Weaver	<i>Ploceus xanthops</i>	nf		0.11
Jameson's Firefinch	<i>Lagonosticta rhodopareia</i>	nf		0.02
Common Waxbill	<i>Estrilda astrild</i>	nf		0.02
Bronze Mannikin	<i>Spermestes cucullata</i>	nf		0.13
Yellow-throated Bush-sparrow	<i>Gymnoris supercilialis</i>	nf		0.07
African Pipit	<i>Anthus cinnamomeus</i>	nf		0.02
African Pied Wagtail	<i>Motacilla aguimp</i>	nf		0.02
Cabanis's Bunting	<i>Emberiza cabanisi</i>	f		0.02

Appendix 2. The 18 bird species caught in mist nets at Isunkaviola Plateau, Ruaha National Park, in October 2019. The Green Twinspot *Mandingoa nitidula* was recorded for the first time in Ruaha National park. Abbreviations: FF=forest specialist, F=forest generalist, f=forest visitor, nf= non-forest species, # = not recorded during point counts.

English name	Scientific name	Forest dependence	Highland species	No. of individuals caught
Tambourine Dove#	<i>Turtur tympanistria</i>	F		1
Cardinal Woodpecker	<i>Dendropicus fuscescens</i>	f		1
African Broadbill#	<i>Smithornis capensis</i>	FF		2
White-crested Helmetshrike	<i>Prionops plumatus</i>	nf		3
Black-crowned Tchagra	<i>Tchagra senegalus</i>	nf		1
Fork-tailed Drongo	<i>Dicrurus adsimilis</i>	nf		1
African Paradise-flycatcher	<i>Terpsiphone viridis</i>	f		6
Bleating Camaroptera	<i>Camaroptera brachyura</i>	f		5
Trilling Cisticola	<i>Cisticola woosnami</i>	nf		1
Grey-olive Greenbul	<i>Phyllastrephus cerviniventris</i>	F		8
African Hill-babbler	<i>Sylvia abyssinica</i>	FF	*	1
Grey Tit-flycatcher#	<i>Fraseria plumbea</i>	f		1
White-browed Robin-chat	<i>Cossypha heuglini</i>	f		2
Western Violet-backed Sunbird#	<i>Anthreptes longuemarei</i>	f	*	1
Olive Sunbird	<i>Cyanomitra olivacea</i>	FF		6
Amethyst Sunbird	<i>Chalcomitra amethystina</i>	f		2
Green Twinspot#	<i>Mandingoa nitidula</i>	FF		1
Yellow-throated Bush-sparrow	<i>Gymnoris supercilialis</i>	nf		1

Appendix 3. The 29 bird species not recorded at Isunkaviola during our October 2019 field surveys but reported previously by Glen *et al.* (2005) and/or Glen (2011). Abbreviations: FF = forest specialist, F = forest generalist, f = forest visitor, nf = non-forest species.

English name	Scientific name	Forest dependence	Highland species
Shelley's Francolin	<i>Scleroptila shelleyi</i>	nf	
Lemon Dove	<i>Aplopelia larvata</i>	FF	*
Dusky Turtle-dove	<i>Streptopelia lugens</i>	f	
Mozambique Nightjar	<i>Caprimulgus fossii</i>	nf	
Mottled Spinetail	<i>Telacanthura ussheri</i>	f	
Thick-billed Cuckoo	<i>Pachycoccyx audeberti</i>	f	
Crowned Lapwing	<i>Vanellus coronatus</i>	nf	
Common Greenshank	<i>Tringa nebularia</i>	nf	
Spotted Eagle-owl	<i>Bubo africanus</i>	nf	
White-backed Vulture	<i>Gyps africanus</i>	nf	
Dark Chanting-goshawk	<i>Melierax metabates</i>	nf	
Augur Buzzard	<i>Buteo augur</i>	nf	
Eastern Crested-flycatcher	<i>Trochocercus bivittatus</i>	FF	
White-tailed Crested-flycatcher	<i>Elminia albonotata</i>	FF	*
Eastern Nicator	<i>Nicator gularis</i>	F	
Lazy Cisticola	<i>Cisticola aberrans</i>	nf	
Black Saw-wing	<i>Psalidoprocne pristoptera</i>	f	*
Pearl-breasted Swallow	<i>Hirundo dimidiata</i>	nf	
Yellow-bellied Greenbul	<i>Chlorocichla flaviventris</i>	f	
Red-winged Starling	<i>Onychognathus morio</i>	f	
Waller's Starling	<i>Onychognathus walleri</i>	FF	*
White-eyed Slaty-flycatcher	<i>Melaenornis fischeri</i>	F	*
White-starred Robin	<i>Pogonocichla stellata</i>	F	*
Red-capped Robin-chat	<i>Cossypha natalensis</i>	F	
Ruaha Chat	<i>Myrmecocichla collaris</i>	f	
Green-headed Sunbird	<i>Cyanomitra verticalis</i>	f	*
Forest Double-collared Sunbird	<i>Cinnyris fuelleborni</i>	FF	*
East African Citril	<i>Crithagra hyposticta</i>	f	*
Black-eared Seedeater	<i>Crithagra mennelli</i>	f	