

# **Concept Note**

## A Rocha Dakatcha Nature Reserve

Creating a safe haven for five Red Listed species in the Dakatcha Key Biodiversity Area, Kenya



## Organisation - A Rocha Kenya



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#### A well-established local organisation

A Rocha Kenya (ARK) is a well-established Christian environmental NGO registered in Kenya and **committed to practical biodiversity conservation** through scientific research, environmental education and sustainable community-based conservation programmes.

Since 1999, we have been working closely with local authorities, communities and conservation organisations to **restore threatened habitats and protect endangered species** within two landscapes: Arabuko-Sokoke Forest (ASF) and Dakatcha Woodlands (DW); and two coastal seascapes: Mida Creek and the Watamu Marine National Park.

## (E)

#### A proven track-record in project management

Our technical, managerial and financial experience in initiating and managing projects is demonstrated through our projects including:

- Implementing the <u>Arabuko-Sokoke Schools and Eco-Tourism Scheme</u> (ASSETS), which uses eco-tourism funds to provide eco-bursaries to children living around the forest. Over 660 students have been funded through secondary school and their families engaged in practical conservation activities.
- Setting up long-term bird monitoring schemes: locally by running regular waterbird counts and bird ringing studies; nationally by being the lead partner in implementing the citizen science <u>Kenya Bird Map</u> in 2013; and internationally by scaling up the atlas to the African Bird Atlas Project.
- Publishing digitized datasets for Arabuko-Sokoke Forest (ASF) biodiversity on the <u>Global Biodiversity Information Facility</u> to inform management decision-making, using funding from the European Union Biodiversity Information for Development programme. ARK is just one of four GBIF publishers in Kenya.
- Contributing to the governance of the Watamu Marine National Park through the Global Challenges Research Fund project "Community Capabilities and Marine Protected Area Governance" in collaboration with the University of St Andrews, UK.

#### A solid field understanding of the Dakatcha Woodlands (DW)

ARK has been working in the Dakatcha Woodlands (DW) for 20 years. Our **scientific monitoring** has confirmed the **importance of this woodland for endangered and endemic species** such as Sokoke Scops Owl (*Otus ireneae*), Clarke's Weaver<sup>1</sup> (*Ploceus golandi*) and Golden-rumped Elephant-shrew (*Rhynchocyon chrysopygus*). We started land acquisition in 2014 in response to the rapid habitat loss observed, and have already acquired 1 517 acres of woodland of a planned 10 500 acres reserve, the A Rocha Dakatcha Nature Reserve (ARDNR). We are working with local churches, farmers and schools in this area around the reserve to engage them in habitat protection and restoration, and provide sustainable income-generating activities.

Our track record of successful land purchase in the area, solid knowledge of the natural environment, and trusted relationships with communities puts us in a vantage position to establish the necessary protected area.



#### A broad network of expertise

ARK is part of the international A Rocha network, which is a member of the International Union for the Conservation of Nature (IUCN). The ARDNR is part of in A Rocha's <u>African Tropical Forest Programme</u>, through which four African A Rocha organisations share resources, networks and expertise on forest and protected area management, with close support from A Rocha International.

## Project area - ARDNR

#### **Project area & wider landscape**

#### Wider landscape

Dakatcha Woodland (DW) is located about 150 km north of Mombasa and 25-50 km inland from the coast. It covers an area of **465 070 acres**, of which 32% is forest, 17% is woodland, and 50% has been converted to farming or open grazing land<sup>2</sup>. DW lies within the **Northern Zanzibar-Inhambane Coastal Forest Mosaic ecoregion and East African Coastal Forest Hotspot**, characterized by a complex mix of moist and drier forest with coastal thicket, savanna woodlands and swamps<sup>3</sup>. DW itself is a diverse mosaic of different forest types, savannah and seasonal wetlands.

Of the remaining 617 765 acres of coastal forest in this ecoregion, ASF protects 91 430 acres and Shimba Hills protects 47 445 acres, though the latter lacks most of the key threatened species. DW is therefore of **critical importance to the conservation of a number of coastal endemic species** but it is largely unprotected having only two small private reserves: ARK's 1 517 acres, and Nature Kenya's (NK) 1000 acres reserve for the Clarke's Weaver breeding habitat; and eight Community Conserved Areas (CCAs) covering 19 770 acres, though with very limited protection.

#### Project area: ARDNR

ARK has focussed on an area of DW that contains the only significant remaining areas of *Cynometra webberi* forest remaining, which is the preferred habitat of the Endangered Sokoke Scops Owl. In addition, stands of *Brachystegia spiciformis* and small seasonal rivers and wetlands form the correct breeding habitat for Clarke's Weaver (EN). The area also includes forest dominated by *Diospyros cornii* and *Newtonia hildebrandtii* on gently undulating land, interspersed with grassland and meadows, and abandoned farms. Some areas have already been heavily impacted by charcoal burning.

A detailed map of the Dakatcha KBA can be found in Annex 1.



#### **Biodiversity value**

East African Coastal Forests have some of the **highest densities of endemic species in the world**<sup>4</sup>. DW meets **Important Bird Area** (IBA) and **Key Biodiversity Area** (KBA) criteria and is part of the Coastal Forests Global Hotspot. ARK surveys in the existing ARDNR have recorded:



Mammals

15 species of mammals, including the globally Endangered and endemic **Golden-rumped Elephant-shrew**, whose existence north of Sabaki River was confirmed only recently by our camera trapping work.



Birds

the globally Endangered Sokoke Scops Owl (found only in DW, ASF and the East Usambaras) and Sokoke Pipit Anthus sokokensis, both endemic to coastal forest; and the Near-Threatened Southern-Banded Snake Eagle Circaetus fasciolatus.



several butterfly species which are represented by only two or three specimens in the National Museum of Kenya collection of over 30 million specimens, and a specimen in the *Embiopteron* family (Insecta), which was the first for Kenya.



two globally Vulnerable tree species: *Warbugia stuhlmannii* and *Cynometra webberi* 

#### **Main threats**

The fragmented Coastal Forests of Eastern Africa are **among the ten most threatened forest hotspots in the world**<sup>5</sup>, and the Dakatcha IBA is listed as an *IBA in Danger*, with a *very high* threat score and a *low* action score<sup>6</sup>. At a regional level, the pressure on land is expected to intensify as population increases, small holders and industrial agricultural expand, and coastal urban developments multiply.

The growing local population depends on the forest resources for their energy (wood), construction needs (wood), food (mammals) and livelihoods (sale of charcoal, timber, meat). As a result, **deforestation and poaching of wildlife, including the Golden-rumped Elephant-shrew, are rife**. *Brachylaena huillensis* trees have almost disappeared due to selective harvesting for the wood carving industry, and the timber from large hardwood trees (e.g. *Newtonia hildebrandtii*) has been sold in coastal towns.

Agriculture is the main economic activity for local communities, making land their most valuable asset. Pineapples have become an important source of income for local farmers because they grow particularly well on the red soils. Local regulations give little consideration to the immense pressure placed on the forest, and poor farming methods (slash and burn) leave the soil exposed for erosion.

The pressure on the land was compounded by the prospective arrival to Dakatcha of a large pineapple processing company in 2010, leading affluent buyers to buy land to carry out large-scale farming. The company has postponed its investment but their intention remains intact.

At site level, **agricultural expansion**, unregulated logging, charcoal burning and the expansion of commercial pineapple plantations are rapidly destroying and degrading what is left of the unique forest habitat around ARDNR.



#### Why land purchase?



Sokoke Scops Owl Otus ireneae

The competition to acquire land in DW is intensifying: **commercial interest is high**, both from large companies and charcoal burners. If we do not acquire land soon this internationally important forest will disappear in the coming years.

Our approach is defined by 20 years of experience in this landscape and comes as a realistic response to the threats faced. As the forest is increasingly fragmented, there is an **urgent need to secure a core reserve** in the landscape that is under unambiguous conservation management.

While we saw clear benefits with NK's Conservation Community Areas; we also recognised the difficulties of this approach in maintaining 'conservation agreements' amongst a multi-stakeholder group. Local land ownership is complex with many family members involved so it has proven difficult to secure a positive conservation consensus.

It may be possible that the government will pursue formal gazettement of the forest in the future, but we know this strategy to have failed adjacent to ASF in the recent past.

There is simply **too much urgency for us to wait**. We therefore concluded that it was most effective to buy land and create our own conservation area while working alongside our neighbours on sustainable development and education activities. This approach is working: our current existing reserve is well-respected and intact. The standing forest offers a sharp contrast to the surrounding areas. In 2019, NK followed our lead and started to acquire land in DW too.

#### Size of area to acquire

With the rapid rate of forest destruction, we urgently need to acquire an additional area of **6 800 acres** in order to maintain viable populations of Sokoke Scops Owl and Golden-rumped Elephant-shrew. We are therefore focussing on securing land parcels that our field surveys have confirmed hold populations of at least one of the **three Endangered species**: Sokoke Scops Owl, Gold-en-rumped Elephant-shrew and Sokoke Pipit. Our strategy is to **connect all the land parcels we currently own to create a single continuous reserve**, facilitating both connectivity for dispersal and reserve management.

#### **Current owners**

The land is community-owned, with ownership identified with families or individual farmers. Several **families have already been approached by ARK and are willing to sell land parcels**. Others will be approached as we secure funding to acquire more land. When compensated appropriately, most farmers are willing to sell some of their land. We always ensure they retain sufficient land to sustain their subsistence farming.

#### Land price

One acre of land can currently be bought for KES 30 000 (\$300), but the price is constantly rising. In the last few months alone, **the price of land has more than doubled as the pressure on the forest** 

**multiplies exponentially**. ARK has calculated that an additional KES 5 000/acre (\$50) are needed to cover all the costs incurred with purchase, such as mileage for visits, land negotiations and lawyer fees.

To date, ARK has acquired land following local customary purchase procedures. This involves the Public Administration Office, Chief, Sub-chief, and village Elders together with the land owner, their relatives, and the owners of the neighbouring land to reach full agreement on the position of boundary lines. The government has started to adjudicate the land in the area and ARK will soon be issued with a letter of allotment. Once this happens ARK can acquire a title deed for the land.

#### **Restoration activities**

We are drafting a **Land Management Plan** for activities in the reserve and to restore degraded habitats. This will include an assessment of habitat damage and natural regeneration, as well as the creation of permanent plots to measure habitat change and monitor biodiversity. We plan to **restore destroyed areas** through managed natural regeneration and the removal of invasive species. Through all these activities, we will **actively involve local communities** in the protection of the forest.

ARK is already helping to preserve this landscape through **scientific research and environmental education** in local schools and churches, and by engaging community members in sustainable farming practices. We will also implement **sustainable incomegenerating activities**, encouraging local communities to do butterfly farming, bee-keeping and tree planting in the reserve.

### Partners

**Local communities.** Farmers, Churches, Charcoal producers, Wood carvers, Private sector, the Dakatcha Woodland Conservation Group

Authorities. Kenya Forest Service, Kenya Wildlife Service, Kilifi County

**NGOS.** Action Aid, Anglican Development Services, Ministry of Education, Nature Kenya, World Vision

Bob Scott Foundation A.G.Leventis Foundation Eden Wildlife Trust Individual donors Lordship Africa

THER DONO

**KES 35 000** 

/ a c r e \$350

## Sustainable Development Goals

The purchase of land and restoration activities in Dakatcha contribute to 10 of the 17 Sustainable Development Goals:



## References

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### Credits





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3. World Wildlife Fund (2020) Eastern Africa: Coastal areas of Kenya, Somalia, and Tanzania. Retrieved from www.worldwildlife.org/ecoregions/ at0125 on 30/04/2020

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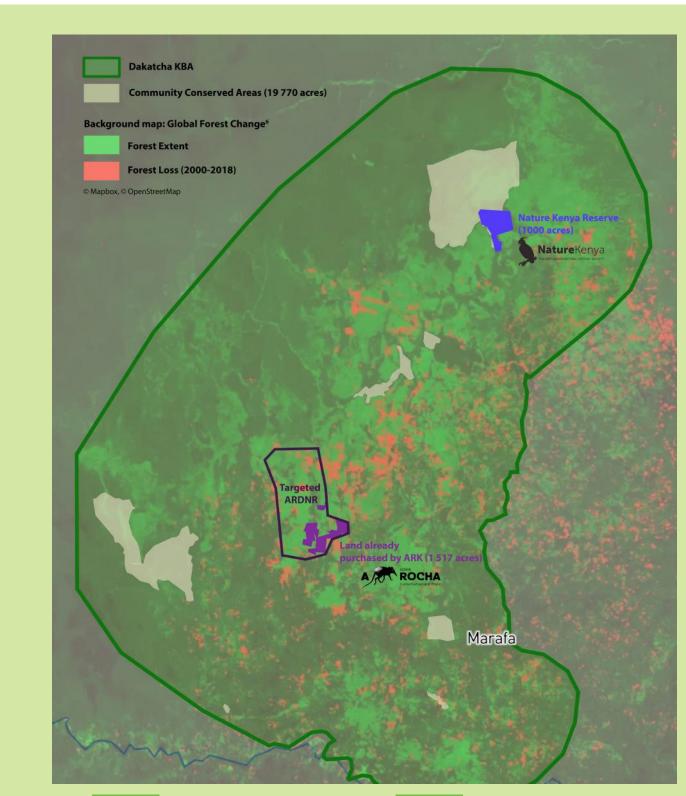
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- 2. A Rocha Kenya, Illegal Logging in ARDNR
- 3. Mustafa Adamjee, Sokoke Scops Owl
- 4. A Rocha Kenya, Biodiversity Survey in ARDNR
- 5. Lars Petersson, Golden-rumped Elephant-shrew
- 6. Raphaël Nussbaumer, Citrus Swallowtail
- 7. A Rocha Kenya, Brachystegia spiciformis

## Annex 1:

Map of the project area





#### Dakatcha IBA / KBA

BirdLife International (2020) Important Bird Areas factsheet: Dakatcha Woodland. Downloaded from http://www.birdlife.org on 26/04/2020. (Updated boundaries)



#### Global Forest Change

Hansen et al. (2013) High-Resolution Global Maps of 21st-Century Forest Cover Change, Nature, Vol 324

## Annex 2:

Biodiversity Lists for A Rocha Dakatcha Nature Reserve

#### LIST OF BIRD SPECIES

Occurr	ence is based on 177 full protocols sub	mitted on <u>Kenya Bird .</u>	<u>Map</u>	+++ ++ + 0 5 40	100%
001	Helmeted Guineafowl Numida meleagris	++	020	Black Cuckoo Cuculus clamosus	+
002	Crested Guineafowl Guttera edouardi	+	021	African Cuckoo Cuculus gularis	+
003	<b>Coqui Francolin</b> Peliperdix coqui	++	022	<b>Common Cuckoo</b> <i>Cuculus canorus</i>	+
004	<b>Crested Francolin</b> Dendroperdix sephaena	+++	023	<b>Red-eyed Dove</b> Streptopelia semitorquata	+++
005	White-faced Duck Dendrocygna viduata	+	024	<b>Ring-necked Dove</b> Streptopelia capicola	+++
006	Knob-billed Duck Sarkidiornis melanotos	+	025	<b>Emerald-spotted Wood-dove</b> <i>Turtur chalcospilos</i>	+++
007	European Nightjar Caprimulgus europaeus	+	026	<b>Tambourine Dove</b> <i>Turtur tympanistria</i>	++
008	Fiery-necked Nightjar Caprimulgus pectoralis	++	027	<b>Namaqua Dove</b> Oena capensis	+
009	Mottled Spinetail Telacanthura ussheri	+	028	African Green-pigeon Treron calvus	++
010	African Palm-swift Cypsiurus parvus	++	029	<b>Black Crake</b> Amaurornis flavirostris	+
011	<b>Little Swift</b> Apus affinis	++	030	<b>Allen's Gallinule</b> Porphyrio alleni	+
012	Fischer's Turaco Tauraco fischeri	++	031	<b>Common Moorhen</b> Gallinula chloropus	+
013	White-browed Coucal Centropus superciliosus	+++	032	<b>Red-knobbed Coot</b> Fulica cristata	+
014	Green Malkoha Ceuthmochares australis	++	033	Black-headed Lapwing Vanellus tectus	+
015	Levaillant's Cuckoo Clamator levaillantii	+	034	Senegal Lapwing Vanellus lugubris	++
016	<b>Jacobin Cuckoo</b> Clamator jacobinus	++	035	<b>African Jacana</b> Actophilornis africanus	++
017	Thick-billed Cuckoo Pachycoccyx audeberti	+	036	<b>Green Sandpiper</b> Tringa ochropus	+
018	Diderick Cuckoo Chrysococcyx caprius	+	037	<b>Common Greenshank</b> Tringa nebularia	+
019	Klaas's Cuckoo Chrysococcyx klaas	++	038	Madagascar Pratincole Glareola ocularis	+

039	<b>Yellow-billed Stork</b> Mycteria ibis	+	063	Black Sparrowhawk Accipiter melanoleucus	+
040	African Openbill Anastomus lamelligerus	+	064	Black Kite Milvus migrans	+
041	Woolly-necked Stork Ciconia episcopus	<vu>+</vu>	065	<b>Yellow-billed Kite</b> Milvus aegyptius	+
042	Saddle-billed Stork Ephippiorhynchus senegalensis	+	066	Sokoke Scops-owl Otus ireneae	(EN) ++
043	<b>Reed Cormorant</b> Phalacrocorax africanus	+	067	African Wood-owl Strix woodfordii	++
044	Hadeda Ibis Bostrychia hagedash	++	068	Pearl-spotted Owlet Glaucidium perlatum	+
045	<b>Glossy Ibis</b> Plegadis falcinellus	+	069	African Barred Owlet Glaucidium capense	++
046	African Spoonbill Platalea alba	+	070	Speckled Mousebird Colius striatus	++
047	<b>Black-headed Heron</b> Ardea melanocephala	+	071	Blue-naped Mousebird Urocolius macrourus	+
048	<b>Great Egret</b> Egretta alba	+	072	<b>Narina Trogon</b> Apaloderma narina	++
049	Black-shouldered Kite Elanus caeruleus	++	073	<b>Eurasian Hoopoe</b> Upupa epops	++
050	African Harrier-Hawk Polyboroides typus	+	074	<b>African Hoopoe</b> Upupa africana	+
051	European Honey-buzzard Pernis apivorus	+	075	Green Wood-hoopoe Phoeniculus purpureus	+++
052	African Cuckoo Hawk Aviceda cuculoides	+	076	Common Scimitarbill Rhinopomastus cyanomelas	+++
053	Black-chested Snake-eagle Circaetus pectoralis	+	077	<b>Von der Decken's Hornbill</b> Tockus deckeni	++
054	Brown Snake-eagle Circaetus cinereus	+	078	Crowned Hornbill Tockus alboterminatus	+++
055	Southern Banded Snake-eagle Circaetus fasciolatus	(NT) ++	079	African Grey Hornbill Tockus nasutus	++
056	<b>Bateleur Bateleur</b> Terathopius ecaudatus	(NT) +	080	<b>Trumpeter Hornbill</b> Bycanistes bucinator	++
057	<b>Martial Eagle</b> Polemaetus bellicosus	<vu>+</vu>	081	Silvery-cheeked Hornbill Bycanistes brevis	+
058	Wahlberg's Eagle Aquila wahlbergi	+	082	Lilac-breasted Roller Coracias caudatus	+++
059	Lizard Buzzard Kaupifalco monogrammicus	+++	083	<b>European Roller</b> Coracias garrulus	++
060	Eastern Chanting-goshawk Melierax poliopterus	+	084	<b>Broad-billed Roller</b> Eurystomus glaucurus	++
061	African Goshawk Accipiter tachiro	++	085	Grey-headed Kingfisher Halcyon leucocephala	++
062	Little Sparrowhawk Accipiter minullus	++	086	Striped Kingfisher Halcyon chelicuti	+++

087	Malachite Kingfisher Alcedo cristata	+	
088	Little Bee-eater Merops pusillus	++	٦
089	White-fronted Bee-eater Merops bullockoides	+	١
090	White-throated Bee-eater Merops albicollis	++	1
091	Madagascar Bee-eater Merops superciliosus	++	١
092	European Bee-eater Merops apiaster	+	1
093	Northern Carmine Bee-eater Merops nubicus	++	1
094	Red-fronted Tinkerbird Pogoniulus pusillus	+++	1
095	Black-collared Barbet Lybius torquatus	++	1
096	Brown-breasted Barbet Lybius melanopterus	++	12
097	Red-and-yellow Barbet Trachyphonus erythrocephalus	++	1
098	Pallid Honeyguide Indicator meliphilus	+	1
099	Lesser Honeyguide Indicator minor	++	1
100	Scaly-throated Honeyguide Indicator variegatus	++	1:
101	Greater Honeyguide Indicator indicator	+	1
102	Nubian Woodpecker Campethera nubica	++	1:
103	Mombasa Woodpecker Campethera mombassica	++	1:
104	<b>Green-backed Woodpecker</b> Campethera cailliautii	+	1:
105	<b>Cardinal Woodpecker</b> Dendropicos fuscescens	+	1:
106	<b>Brown-headed Parrot</b> Poicephalus cryptoxanthus	++	1.
107	Pale Batis Batis soror	++	٦
108	(Eastern) Black-headed Batis Batis minor	+	1
109	<b>Grey-headed Bush-shrike</b> Malaconotus blanchoti	+++	1
110	Orange-breasted Bush-shrike Telophorus sulfureopectus	++	1.

111	Black-crowned Tchagra Tchagra senegalus	+++
112	Black-backed Puffback Dryoscopus cubla	++
113	Slate-colored Boubou Laniarius funebris	++
114	East Coast Boubou Laniarius sublacteus	+
115	White-crested Helmet-shrike Prionops plumatus	+
116	<b>Retz's Helmet-shrike</b> Prionops retzii	+++
117	Chestnut-fronted Helmet-shrike Prionops scopifrons	++
118	Black Cuckoo-shrike Campephaga flava	++
119	White-rumped (Northern White- crowned) Shrike Eurocephalus rueppelli	+++
120	Red-backed Shrike Lanius collurio	++
121	Red- (Rufous-) tailed (Isabelline) Shrike	+
122	Long-tailed Fiscal Lanius cabanisi	++
123	Black-headed Oriole Oriolus larvatus	+++
124	African Golden Oriole Oriolus auratus	++
125	Eurasian Golden Oriole Oriolus oriolus	++
126	Fork-tailed Drongo Dicrurus adsimilis	+++
127	African Paradise-flycatcher Terpsiphone viridis	++
128	House Crow Corvus splendens	++
129	Pied Crow Corvus albus	+
130	<b>Eastern Nicator</b> Nicator gularis	+++
131	<b>Flappet Lark</b> Mirafra rufocinnamomea	+++
132	<b>Dodson's Bulbul</b> Pycnonotus dodsoni	+
133	Zanzibar Sombre Greenbul Andropadus importunus insularis	+++
134	Yellow-bellied Greenbul Chlorocichla flaviventris	+++

135	Northern Brownbul Phyllastrephus strepitans	+++	159	<b>Spotted Flycatcher</b> <i>Muscicapa striata</i>
136	Barn Swallow Hirundo rustica	+++	160	White-browed Robin-chat Cossypha heuglini
137	Lesser Striped Swallow Hirundo abyssinica	+	161	Red-capped Robin-chat Cossypha natalensis
138	Mosque Swallow Hirundo senegalensis	+	162	Collared Sunbird Hedydipna collaris
139	Northern Crombec Sylvietta brachyura	+	163	<b>Olive Sunbird</b> Cyanomitra olivacea
140	Lesser Swamp-warbler Acrocephalus gracilirostris	+	164	<b>Grey Sunbird</b> Cyanomitra veroxii
141	Sedge Warbler Acrocephalus schoenobaenus	+	165	Amethyst Sunbird Chalcomitra amethystina
142	Rattling Cisticola Cisticola chiniana	+	166	House Sparrow Passer domesticus
143	Short-winged Cisticola Cisticola brachypterus	++	167	Parrot-billed Sparrow Passer gongonensis
144	<b>Tawny-flanked Prinia</b> Prinia subflava	+++	168	Yellow-spotted Petronia Petronia pyrgita
145	Black-headed Apalis Apalis melanocephala	++	169	Red-billed Buffalo-weaver Bubalornis niger
146	Grey-backed Camaroptera Camaroptera brevicaudata	+++	170	White-headed Buffalo-weaver Dinemellia dinemelli
147	<b>Chatterer Rufous</b> Turdoides rubiginosa	++	171	Grey-headed Social-weaver Pseudonigrita arnaudi
148	Scaly Babbler Turdoides squamulata	++	172	Thick-billed Weaver Amblyospiza albifrons
149	Wattled Starling Creatophora cinerea	++	173	Yellow Weaver Ploceus subaureus
150	Black-bellied Starling Lamprotornis corruscus	+++	174	Golden Palm Weaver Ploceus bojeri
151	Greater Blue-eared Starling Lamprotornis chalybaeus	+++	175	Lesser Masked-weaver Ploceus intermedius
152	Violet-backed Starling Cinnyricinclus leucogaster	++	176	Village Weaver Ploceus cucullatus
153	Magpie Starling Speculipastor bicolor	+	177	<b>Clarke's Weaver</b> Ploceus golandi
154	<b>Red-billed Oxpecker</b> Buphagus erythrorhynchus	++	178	<b>Chestnut Weaver</b> Ploceus rubiginosus
155	Red-tailed Ant-thrush Neocossyphus rufus	+	179	Red-headed Weaver Anaplectes rubriceps
156	Bare-eyed Thrush Turdus tephronotus	++	180	<b>Red-headed Quelea</b> <i>Quelea erythrops</i>
157	Bearded Scrub-robin Cercotrichas quadrivirgata	+++	181	<b>Red-billed Quelea</b> Quelea quelea
158	Pale Flycatcher Bradornis pallidus	+++	182	Fan-tailed Widowbird Euplectes axillaris

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(EN)

183	<b>Green-winged Pytilia</b> Pytilia melba	+	192	African Pied Wagtail Motacilla aguimp	++
184	<b>Cut-throat Finch</b> Amadina fasciata	+	193	<b>Golden Pipit</b> Tmetothylacus tenellus	+
185	<b>Red-billed Firefinch</b> Lagonosticta senegala	+	194	Yellow-throated Longclaw Macronyx croceus	+
186	<b>Red-cheeked Cordonbleu</b> Uraeginthus bengalus	+++	195	<b>Pangani Longclaw</b> Macronyx aurantiigula	+
187	<b>Common Waxbill</b> Estrilda astrild	++	196	African Pipit Anthus cinnamomeus	+
188	<b>Bronze Mannikin</b> Spermestes cucullatus	++	197	<b>Sokoke Pipit</b> Anthus sokokensis	++
189	<b>Red-backed Mannikin</b> Spermestes nigriceps	+	198	<b>Malindi Pipit</b> Anthus melindae	+
190	<b>Pin-tailed Whydah</b> Vidua macroura	++	199	Yellow-fronted Canary Crithagra mozambicus	++
101	Long-tailed Paradise-whydah	+			

191 Vidua paradisaea

LIST OF MAMMALS

African Civet Civettictis civetta

Bushbuck Tragelaphus scriptus

**BushPig** Potamochoerus larvatus

**Caracal** *Caracal caracal* 

**Crested Porcupine** Hystrix cristata

Four-toed Elephant-Shrew Petrodromus tetradactylus

Gambian Pouched Rat Cricetomys gambianus

Golden-rumped Elephant-Shrew Rhynchocyon chrysopygus Harvey's Duiker Cephalophus harveyi

RI

Honey Badger Mellivora capensis

Large-spotted Genet Genetta maculata

**Suni** Neotragus moschatus

**Sykes' Monkey** Cercopithecus albogularis

**Unidentified squirrel** 

Vervet Monkey Chlorocebus pygerythrus

White-tailed Mongoose Ichneumia albicauda Yellow Baboon Papio cynocephalus

**Red Duiker** Cephalophus natalensis

**Spotted Hyena** *Crocuta crocuta* 

African Savanna Hare Lepus victoriae

**Common Dwarf Mongoose** *Helogale parvula* 

**Leopard** *Panthera pardus*  (VU)

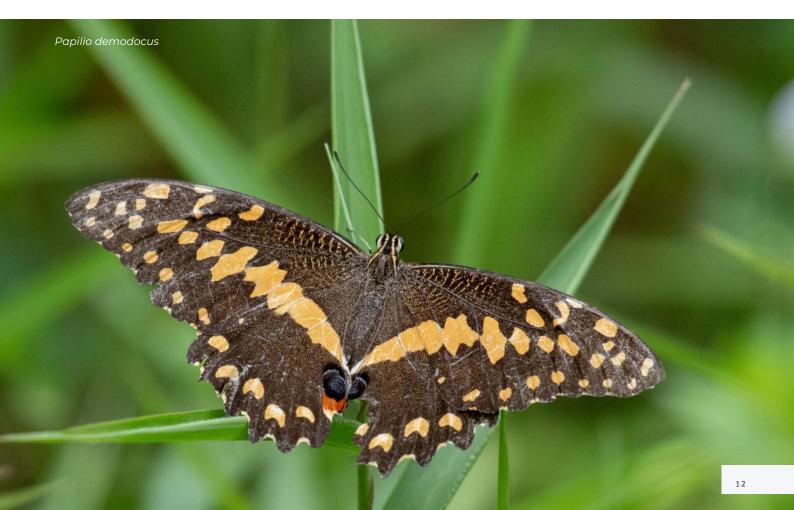
Serval Leptailurus serval

Golden-rumped Elephant-shrews Rhynchocyon chrysopygus

Coeliades anchises anchises 001 002 Deudorix antalus 003 Euchrysops osiris 004 Hypolycaena philippus philippus Iolaus pallene 005 Iolaus (Stugeta) bowkeri mombasae 006 007 Lampides boeticus Leptomyrina hirundo 800 009 Leptotes sp. 010 Pentila tropicalis mombasae Acraea pseudolycia astrigera 011 012 Charaxes brutus alcyune Charaxes jahlusa kenyensis 013 Charaxes varanes vologeses 014 015 Danaus chryssipus dorippus Byblia ilithyia 016 Euphaedra neophron littoralis 017 018 Hananumida deaedalus 019 Hypolimnas misippus Hypolycaena pachalica 020 Junonia hierta cebrene 021 Junonia natalica natalica 022 Junonia oenone oenone 023 024 Precis antilope

025	Melanitis leda leda
026	Bicyclus safitza safitza
027	Physcaeneura leda
028	Ypthima condamini condamini
029	Acraea anemosa
030	Acraea braesia
031	Acraea chilo chilo
032	Acraea neobule neobule
033	Byblia anvatara acheloia
034	Eurytela dryope angulata
035	Phalanta phalantha aethiopica
036	Telchinia serena
037	Ypthima sp.
038	Graphium antheus
039	Graphium colonna
040	Graphium philonoe philonoe
041	Papilio constantinus constantinus
042	Papilio dardanus tibullus
043	Papilio demodocus demodocus
044	Papilio nireus lyaeus
045	Belenois aurota
046	Belenois creona severina
047	Belenois gidica abyssinica
048	Belenois thysa thysa

049	Catopsilia florella
050	Colotis amatus amatus
051	Colotis antecippe zera
052	Colotis auxo incretus
053	Colotis calais calais
054	Colotis daira jacksoni
055	Colotis danae eupompe
056	Colotis eris eris
057	Colotis euippe omphale
058	Colotis evagore antigone
059	Colotis hetaera hetaera
060	Colotis ione
061	Colotis protomedia
062	Dixeia charina liliana
063	Dixeia sp.
064	Eronia dilatata
065	Eurema brigitta brigitta
066	Eurema senegalensis
067	Eurema sp.
068	Nepheronia buqueti buqueti
069	Plnacopteryx eriphia melenarge
070	Teracolus eris eris
071	Epiphora lugardi





001	Acacia polyacantha
002	Adansonia digitata
003	Adenium obesum
004	Afzelia quanzensis
005	Aloe volkensii
006	Bombax rhodognaphalon
007	Bourreria petiolaris
800	Brachylaena huillensis
009	Brachystegia spiciformis
010	Canthium mombazense
011	Carissa tetramera
012	Combretum collinum
013	Combretum illairii
014	Combretum schumannii
015	Commiphora africana
016	Commiphora boiviniana
017	Croton pseudopulchellus
018	Cynometra lukei
019	Cynometra webberi 🛛 🖤
020	Dichrostachys cinerea
021	Diospyros consolatae
022	Dobera glabra
023	Drypetes natalensis
024	Encephalartos hildebrandtii

	025	Erythrina webberi
	026	Euclea natalensis
	027	Euphorbia candelabrum
	028	Euphorbia grandicornis
	029	Euphorbia tirucalli
	030	Flueggea virosa
	031	Garcinia livingstonei
	032	Gardenia volkensii
	033	Gloriosa superba
	034	Grandidiera boivinii
	035	Grewia sp.
	036	Grewia densa
	037	Grewia glandulosa
	038	Grewia plagiophylla
	039	Haplocoelum inoploeum
	040	Helmsia collina
	041	Hieracium salaudum
	042	Hoslundia opposita
>	043	Julbernardia magnistipulata
	044	Laccodiscus ferrugineus
	045	Lannea schweinfurthii
	046	Lecaniodiscus fraxinifolius
	047	Lonchocarpus bussei
tii	048	Manilkara sansibarensis

049	Manilkara sulcata
050	Markhamia zanzibarica
051	Monodora grandidieri
052	Ochna mossambicensis
053	Ochna thomasiana
054	Ozoroa obovata
055	Pavetta crebrifolia
056	Premna chrysoclada
057	Psychotria punctata
058	Salvadora persica
059	Securidaca longipedunculata
060	Sterculia africana
061	Strychnos madagascariensis
062	Terminalia spinosa
063	Thespesia danis
064	Uvaria acuminata
065	Uvaria lucida
066	Vitex ferruginea
067	Volkameria inermis
068	Warbugia stuhlmannii 🛛 🖤
069	Ximenia americana
070	Zanthoxylum chalybeum
071	Zanthoxylum holtzianum

