

THE AVIFAUNA OF VWAZA MARSH WILDLIFE RESERVE, NORTHERN MALAWI

Françoise Dowsett-Lemaire, December 2014

The Vwaza Marsh Wildlife Reserve covers 986 km² and ranges in altitude between 1100 and 1661 m. It lies within Atlas squares 1033C4 (the marsh *stricto sensu*), 1133A2 (Zaro, or Zwaro pool), 1133B1 (Lake Kazuni) and marginally 1033D3 (hilly area).

"Vwaza Marsh" in the north and west of the reserve is an extensive floodplain drained by the Luwewe River into the South Rukuru, an important river forming the southern boundary. The alluvial plain lies at 1100–1200 m and rises in the east; this site is one of the most northerly locations in Africa for mopane (*Colophospermum mopane*) woodland, which is found pure or mixed with miombo or species of undifferentiated woodland. Habitat types are described in McShane & McShane-Caluzi (1988).

The great majority of bird records originate from the Atlas surveys carried out from the late 1970s to early 2000s (Dowsett-Lemaire & Dowsett 2006, Dowsett-Lemaire 2006). Additional species listed below come from past surveys by Con Benson (e.g. Benson 1937, 1940–41) and a collecting expedition by the Field Museum (Chicago) in 2009 (Engel *et al.* 2012). McShane & McShane-Caluzi (1988) compiled a list based on their own surveys and those of Atlas collaborators up to c.1985; they also included records given in the text of Benson & Benson (1977), but some past observations given only in the references therein were overlooked (e.g. Greater Flamingo). Msowoya (1996) reported four species not in McShane's list, with observers' names. Engel *et al.* (2012) tried to present a complete list, including records from the marginal square 1033D3 (taken from Dowsett-Lemaire & Dowsett 2006), but more often than not, these did not come from the small section of Vwaza Marsh in that square but from the lower slopes of the Nyika Plateau. References given under species records are not always correct and they overlooked some sources of past records.

Bird species of the Zambezian biome are well represented in the reserve (Dowsett-Lemaire *et al.* 2001). Of special interest is the White-winged Starling, a highly localized and relict Zambezian endemic, which today occurs nowhere else in Malawi. Vwaza Marsh is also the only locality in the country where Swainson's Francolin occurs, reaching the Luwewe drainage (1133A2) at the eastern limit of its Zambian range.

Bird names and family order follow Dowsett-Lemaire & Dowsett (2006), with a few common alternative names in brackets. References pre-dating the Atlas work are given only when they are not superseded by Atlas observations. "Throughout" means present in all three main squares (1033C4, 1133A2 & B1); squares are given for more localized species. Sources are mainly Dowsett-Lemaire & Dowsett (2006), and also Engel *et al.* (2012, with most additions from 1033C4). "Resident" means recorded year-round, but some of the larger waterbirds or vultures may not breed locally. The current bird list amounts to 380 species.

This list can be used in conjunction with the checklist on the Nyika Vwaza Trust website for the Nyika National Park, which was based on an earlier publication by Françoise Dowsett-Lemaire: Annotated list and life history of the birds of Nyika National Park, Malawi–Zambia. Tauraco Research Report No. 8. Tauraco Press, Liège, Belgium (2006).

VWAZA MARSH WILDLIFE RESERVE BIRD LIST

- Little Grebe *Tachybaptus ruficollis* (Atlas). Resident: 1033C4, 1133B1.
- White-breasted (Great) Cormorant *Phalacrocorax carbo* (Atlas). Resident throughout.
- Reed (Long-tailed) Cormorant *Phalacrocorax africanus* (Atlas). Resident throughout.
- African Darter *Anhinga rufa* (Atlas). Resident throughout.
- White Pelican *Pelecanus onocrotalus* (Atlas). Resident or visitor: 1133A2 & B1.
- Little Bittern *Ixobrychus minutus* (Atlas). Resident: 1133A2.
- Black-crowned Night Heron *Nycticorax nycticorax* (Atlas). Resident: 1133A2 & B1.
- Common Squacco Heron *Ardeola ralloides* (Atlas). Resident throughout.
- Rufous-bellied Heron *Ardeola rufiventris* (Atlas). Resident: 1033C4, 1133B1.
- Cattle Egret *Bubulcus ibis* (Atlas). Resident throughout.
- Green-backed Heron *Butorides striata* (Atlas). Resident: 1033C4, 1133B1.
- Black Egret *Egretta ardesiaca* (Atlas). Resident: 1033C4, 1133B1.
- Little Egret *Egretta garzetta* (Atlas). Resident throughout.
- Yellow-billed (Intermediate) Egret *Egretta intermedia* (Atlas). Resident throughout.
- Great White Egret *Egretta alba* (Atlas). Resident throughout.
- Purple Heron *Ardea purpurea* (Atlas). Resident or visitor: 1133B1.
- Grey Heron *Ardea cinerea* (Atlas). Resident throughout.
- Black-headed Heron *Ardea melanocephala* (Atlas). Resident throughout.
- Goliath Heron *Ardea goliath* (Atlas). Resident: 1133A2 & B1.
- Hamerkop *Scopus umbretta* (Atlas). Resident throughout.
- Yellow-billed Stork *Mycteria ibis* (Atlas). Resident throughout.
- Openbill Stork *Anastomus lamelligerus* (Atlas). Resident: 1133A2 & B1.
- Black Stork *Ciconia nigra* (Atlas). Resident throughout.
- Abdim's Stork *Ciconia abdimii* (Atlas). Intra-African (non-breeding) migrant throughout.
- Woolly-necked Stork *Ciconia episcopus* (Atlas). Resident: 1033C4, 1133B1.
- White Stork *Ciconia ciconia* (Atlas). Palearctic migrant (wintering) throughout.
- Saddlebill (Saddle-billed Stork) *Ephippiorhynchus senegalensis*. Resident throughout.
- Marabou Stork *Leptoptilos crumeniferus* (Atlas). Resident or intra-African migrant throughout.
- Sacred Ibis *Threskiornis aethiopicus* (Atlas). Resident and intra-African migrant: 1133A2 & B1.
- Glossy Ibis *Plegadis falcinellus* (Atlas). Resident or visitor throughout.
- Hadada Ibis *Bostrychia hagedash* (Atlas). Resident throughout.
- African Spoonbill *Platalea alba* (Atlas). Resident throughout.

Greater Flamingo *Phoenicopterus roseus* (Borley in Long 1962). Afrotropical vagrant to Lake Kazuni (October 1959): 1133B1.

Fulvous Tree Duck *Dendrocygna bicolor* (Atlas). Intra-African (non-breeding) migrant: 1133A2 & B1.

White-faced Tree Duck *Dendrocygna viduata* (Atlas). Resident: 1133A2 & B1.

White-backed Duck *Thalassornis leuconotus* (Atlas). Resident: 1033C4, 1133B1.

Egyptian Goose *Alopochen aegyptiaca* (Atlas). Resident: 1133A2 & B1.

Spur-winged Goose *Plectropterus gambensis* (Atlas). Resident throughout.

Knob-billed Duck *Sarkidiornis melanotos* (Atlas). Resident and intra-African migrant throughout.

African Pygmy Goose *Nettapus auritus* (Benson 1937). Afrotropical vagrant to Lake Kazuni (May 1935): 1133B1.

Yellow-billed Duck *Anas undulata* (Atlas). Resident throughout.

Red-billed Teal *Anas erythrorhyncha* (Atlas). Resident: 1133A2 & B1.

Hottentot Teal *Anas hottentota* (Atlas). Resident or visitor: 1133B1.

Garganey *Anas querquedula* (Benson 1949). Palaearctic migrant (wintering): 1133B1.

Southern Pochard *Netta erythrophthalma* (Atlas). Resident or visitor: 1133B1.

European Honey Buzzard *Pernis apivorus* (Atlas). Palaearctic migrant (wintering): 1133A2 & B1.

Black-shouldered Kite *Elanus caeruleus* (Atlas). Resident throughout.

Yellow-billed Kite *Milvus migrans* (Atlas). Intra-African (breeding) migrant (race *parasiticus*) throughout. Also a sight record of a Palaearctic migrant (race *migrans*) in 1133A2 (Engel *et al.* 2012).

African Fish Eagle *Haliaeetus vocifer* (Atlas). Resident throughout.

Palm-nut Vulture *Gypohierax angolensis* (Atlas). Resident or visitor: 1133A2 & B1.

Hooded Vulture *Necrosyrtes monachus* (Atlas). Resident throughout.

African White-backed Vulture *Gyps africanus* (Atlas). Resident throughout.

Lappet-faced Vulture *Torgos tracheliotus* (Atlas). Resident or visitor throughout.

White-headed Vulture *Trigonoceps occipitalis* (Atlas). Resident throughout (incl. 1033D3).

Black-breasted Snake Eagle *Circaetus pectoralis* (Atlas). Resident throughout.

Brown Snake Eagle *Circaetus cinereus* (Atlas). Resident throughout (incl. 1033D3).

Western Banded Snake Eagle *Circaetus cinerascens* (Atlas). Resident throughout.

Bateleur *Terathopius ecaudatus* (Atlas). Resident throughout (incl. 1033D3).

Gymnogene (African Harrier Hawk) *Polyboroides typus* (Atlas). Resident throughout.

Eurasian (Western) Marsh Harrier *Circus aeruginosus* (Atlas). Palaearctic migrant (wintering): 1033C4, 1133B1.

African Marsh Harrier *Circus ranivorus* (Atlas). Resident throughout.

Montagu's Harrier *Circus macrourus* (Atlas). Palaearctic migrant (wintering): 1033C4.

Dark Chanting Goshawk *Melierax metabates* (Atlas). Resident throughout.

Gabar Goshawk *Melierax gabar* (Atlas). Resident throughout.

Black Goshawk (Great Sparrowhawk) *Accipiter melanoleucus* (Atlas). Resident: 1033C4, 1133A2.

Ovambo Sparrowhawk *Accipiter ovampensis* (Atlas). Resident throughout (incl. 1033D3).

Little Sparrowhawk *Accipiter minullus* (Atlas). Resident: 1033D3, 1133B1.

African Goshawk *Accipiter tachiro* (Atlas). Resident: 1033C4, 1133B1.

Shikra *Accipiter badius* (Atlas). Resident: 1033C4 & D3, 1133B1.

Lizard Buzzard *Kaupifalco monogrammicus* (Atlas). Resident throughout.

Common (Steppe) Buzzard *Buteo buteo* (Atlas). Palaearctic migrant (wintering) throughout.

Augur Buzzard *Buteo augur* (Atlas). Resident: 1033C4.

Wahlberg's Eagle *Aquila wahlbergi* (Atlas). Intra-African (breeding) migrant throughout (incl. 1033D3).

Lesser Spotted Eagle *Aquila pomarina* (Engel *et al.* 2012). Palaearctic migrant (on passage): 1033C4 (seen only).

Tawny Eagle *Aquila rapax* (Atlas). Resident: 1133B1.

Steppe Eagle *Aquila nipalensis* (Atlas). Palaearctic migrant (wintering) throughout.

Black Eagle *Aquila verreauxii* (McShane & McShane-Caluzi 1988). Resident: 1033D3.

African Hawk Eagle *Hieraaetus spilogaster* (Atlas). Resident throughout.

Booted Eagle *Hieraaetus pennatus* (Engel *et al.* 2012). Palaearctic migrant (on passage or wintering): 1033C4 (seen only).

Long-crested Eagle *Lophaetus occipitalis* (Atlas). Resident throughout.

Crowned Eagle *Stephanoaetus coronatus* (Atlas). Resident: 1033C4, 1133B1.

Martial Eagle *Polemaetus bellicosus* (Atlas). Resident throughout (incl. 1033D3).

Osprey *Pandion haliaetus* (Atlas). Palaearctic migrant (wintering): 1133B1.

Lesser Kestrel *Falco naumanni* (Atlas). Palaearctic migrant (wintering): 1033C4.

Dickinson's Kestrel *Falco dickinsoni* (Atlas). Resident: 1133A2 & B1.

Eastern Red-footed (Amur) Falcon *Falco amurensis* (Atlas). Palaearctic migrant (wintering): 1033C4 & 1133B1.

Red-necked Falcon *Falco chicquera* (Atlas). Resident: 1133B1.

Eurasian Hobby *Falco subbuteo* (Atlas). Palaearctic migrant (wintering) throughout.

Lanner Falcon *Falco biarmicus* (Atlas). Resident: 1133A2 & B1.

Peregrine Falcon *Falco peregrinus* (Benson 1940-41). Palaearctic vagrant to Lake Kazuni (race *calidus* collected December in 1133B1). Also a sight record, race undetermined, in 1033C4 (Engel *et al.* 2012).

Coqui Francolin *Francolinus coqui* (Atlas). Resident throughout.

Shelley's Francolin *Francolinus shelleyi* (Atlas). Resident: 1033C4.

Hildebrandt's Francolin *Francolinus hildebrandti* (Msowoya 1996). Resident: 1133B1.

Red-necked Francolin *Francolinus afer* (Atlas). Resident throughout.

Swainson's Francolin *Francolinus swainsonii* (Benson & Benson 1975, McShane & McShane-Caluzi 1988). Resident: 1133A2.

Harlequin Quail *Coturnix delegorguei* (Atlas). Intra-African (breeding) migrant: 1033C4, 1133B1.

Helmeted Guineafowl *Numida meleagris* (Atlas). Resident throughout.

Kurrihane (Common) Buttonquail *Turnix sylvaticus* (Atlas). Resident 1133A2 & B1.

Red-chested Flufftail *Sarothrura rufa* (Engel *et al.* 2012). Resident: collected in 1033C4.

African Water Rail *Rallus caerulescens* (Benson 1940-41; Engel *et al.* 2012). Resident: 1033C4 & 1133B1.

African Crake *Crexopsis egregia* (Benson 1940-41). Intra-African (breeding) migrant: 1133B1.

Black Crake *Amaurornis flavirostra* (Atlas). Resident: 1133B1.

Common Moorhen *Gallinula chloropus* (Atlas). Resident: 1133A2 & B1.

Red-knobbed Coot *Fulica cristata* (Atlas). Resident: 1133A2 & B1.

Wattled Crane *Grus carunculatus* (Atlas). Past resident or visitor throughout; perhaps now extinct.

Southern (Grey) Crowned Crane *Balearica regulorum* (Atlas). Past resident or visitor throughout.

African Finfoot *Podica senegalensis* (Atlas). Resident: 1033C4, 1133A2.

Black-bellied Bustard *Eupodotis melanogaster* (Atlas). Resident throughout.

African Jacana *Actophilornis africanus* (Atlas). Resident throughout.

Lesser Jacana *Microparra capensis* (Atlas). Resident 1133A2 & B1.

Painted Snipe (Greater Painted-snipe) *Rostratula benghalensis* (Atlas). ?Resident: 1133B1.

Black-winged Stilt *Himantopus himantopus* (Atlas). Resident: 1133A2 & B1.

Avocet *Recurvirostra avosetta* (Atlas; Msowoya 1996). Afrotropical vagrant to Lake Kazuni (June 1992, September 1994): 1133B1.

Water Dikkop (Thick-knee) *Burhinus vermiculatus* (Atlas). Resident: 1133A2 & B1.

Spotted Dikkop (Thick-knee) *Burhinus capensis* (Atlas). Resident: 1033C4, 1133A2.

Bronze-winged Courser *Rhinoptilus chalcopterus* (Atlas). Intra-African (breeding) migrant: 1033D3, 1133A2 & B1.

Temminck's Courser *Cursorius temminckii* (Atlas). Resident/partial intra-African migrant: 1133B1.

Common (Collared) Pratincole *Glareola pratincola* (Atlas). Resident: 1133A2 & B1.

Rock Pratincole *Glareola nuchalis* (Dowsett-Lemaire 2006). Afrotropical vagrant to Lake Kazuni (perched on the back of a Hippopotamus, September 1992): 1133B1.

(Common) Ringer Plover *Charadrius hiaticula* (Atlas). Palaeartic migrant (wintering): 1133A2 & B1.

Kittlitz's Plover *Charadrius pecuarius* (Atlas). ?Resident: 1133A2 & B1.

Three-banded Plover *Charadrius tricollaris* (Atlas). Resident: 1133A2 & B1.

Caspian Plover *Charadrius asiaticus* (Atlas). Palaeartic migrant (passage): 1133B1.

Grey Plover *Pluvialis squatarola* (Atlas). Palaeartic migrant (passage): 1133B1.

Senegal (African) Wattled Plover *Vanellus senegallus* (Atlas). Resident throughout.

White-crowned Plover *Vanellus albiceps* (Dowsett-Lemaire 2006). Afrotropical vagrant to the South Rukuru river (October 1990): 1133B1.

Blacksmith Plover *Vanellus armatus* (Atlas). Resident: 1133A2 & B1.

Lesser Black-winged Plover *Vanellus lugubris* (Atlas). Resident throughout.

Long-toed Plover *Vanellus crassirostris* (Atlas). Resident: 1133B1.

Ethiopian Snipe *Gallinago nigripennis* (Atlas). Resident: 1033C4, 1133B1.

Marsh Sandpiper *Tringa stagnatilis* (Atlas). Palaeartic migrant (wintering) throughout.

(Common) Greenshank *Tringa nebularia* (Atlas). Palaeartic migrant (wintering): 1133A2 & B1.

Green Sandpiper *Tringa ochropus* (Atlas). Palaeartic migrant (wintering): 1133B1.

Wood Sandpiper *Tringa glareola* (Atlas). Palaeartic migrant (wintering) throughout.

Common Sandpiper *Actitis hypoleucos* (Atlas). Palaeartic migrant (wintering): 1133A2 & B1.

Turnstone *Arenaria interpres* (Atlas). Palaeartic vagrant to Lake Kazuni (November 1990): 1133B1.

Little Stint *Calidris minuta* (Atlas). Palaeartic migrant (wintering): 1133A2 & B1.

Ruff *Philomachus pugnax* (Atlas). Palaeartic migrant (wintering): 1133A2 & B1.

Grey-headed Gull *Larus cirrocephalus* (Atlas). Regular visitor: 1133B1.

Whiskered Tern *Chlidonias hybrida* (Atlas; Engel *et al.* 2012). Afrotropical vagrant to Lake Kazuni (July 1995, October or November 2009): 1133B1.

White-winged Black Tern *Chlidonias leucopterus* (Atlas). Palaeartic migrant (wintering): 1133A2 & B1.

African Skimmer *Rynchops flavirostris* (Atlas). Afrotropical visitor, probably from the Luangwa Valley in Zambia (McShane undated, August 1987, March 1992, August 1993): 1133B1.

Laughing Dove *Streptopelia senegalensis* (Atlas). Resident: 1033C4, 1133B1.

Cape Turtle (Ring-necked) Dove *Streptopelia capicola* (Atlas). Resident throughout (incl. 1033D3).

Red-eyed Dove *Streptopelia semitorquata* (Atlas). Resident throughout.

Emerald-spotted Wood Dove *Turtur chalcospilos* (Atlas). Resident throughout (incl. 1033D3).

Namaqua Dove *Oena capensis* (Atlas). Resident: 1133A2 & B1.

African Green Pigeon *Treron calvus* (Atlas). Resident throughout.

Brown-necked Parrot *Poicephalus robustus* (Atlas). Resident throughout.

Meyer's Parrot *Poicephalus meyeri* (Atlas). Resident throughout (incl. 1033D3).

Schalow's Turaco *Tauraco schalowi* (Atlas). Resident throughout.

Purple-crested Turaco *Tauraco porphyreolophus* (Atlas). Resident throughout (incl. 1033D3).

Grey Lourie *Corythaixoides concolor* (Atlas). Resident throughout.

Great Spotted Cuckoo *Clamator glandarius* (Atlas). Intra-African (breeding) migrant or vagrant (recorded 1993): 1133B1.

Jacobin Cuckoo *Clamator jacobinus* (Atlas). Intra-African (breeding) migrant: 1133B1.

Striped Crested (Levaillant's) Cuckoo *Clamator levaillantii* (Atlas). Intra-African (breeding) migrant throughout.

Thick-billed Cuckoo *Pachyococyx audeberti* (Atlas). Resident: 1033C4, 1133A2.

Red-chested Cuckoo *Cuculus solitarius* (Atlas). Intra-African (breeding) migrant: 1033C4 & D3, 1133B1.

Black Cuckoo *Cuculus clamosus* (Atlas). Intra-African (breeding) migrant throughout.

African Grey Cuckoo *Cuculus gularis* (Atlas). Intra-African (breeding) migrant throughout.

Emerald Cuckoo *Chrysococcyx cupreus* (Atlas). Resident and intra-African migrant: 1133B1.

Klaas's Cuckoo *Chrysococcyx klaas* (Atlas). Resident throughout.

Didric Cuckoo *Chrysococcyx caprius* (Atlas). Intra-African (breeding) migrant: 1033C4, 1133B1.

Green Coucal (Yellowbill) *Ceuthmochares aereus* (Dowsett-Lemaire 2006). Afrotropical vagrant (January 1995): 1133B1.

African Black Coucal *Centropus grillii* (Atlas). Intra-African (breeding) migrant throughout.

Senegal Coucal *Centropus senegalensis* (Atlas). Resident throughout.

Burchell's (White-browed) Coucal *Centropus superciliosus* (Atlas). Resident throughout.

Barn Owl *Tyto alba* (Atlas). Resident: 1033C4, 1133A2.

African Scops Owl *Otus senegalensis* (Atlas). Resident throughout.

White-faced Owl *Otus (Ptilopsis) leucotis* (Atlas). Resident throughout.

Spotted Eagle Owl *Bubo africanus* (Atlas). Resident throughout.

Giant Eagle Owl *Bubo lacteus* (Atlas). Resident throughout.

Pel's Fishing Owl *Scotopelia peli* (Atlas). Resident 1133B1.

Pearl-spotted Owlet *Glaucidium perlatum* (Atlas). Resident throughout (incl. 1033D3).

African Barred Owlet *Glaucidium capense* (Atlas). Resident throughout (incl. 1033D3).

Wood Owl *Strix woodfordii* (Atlas). Resident throughout.

Marsh Owl *Asio capensis* (McShane & McShane-Caluzi 1988). Resident: 1033C4.

Freckled Rock Nightjar *Caprimulgus tristigma* (Atlas). Resident: 1033C4.

Fiery-necked Nightjar *Caprimulgus pectoralis* (Atlas). Resident throughout (incl. 1033D3).

Gaboon (Mozambique) Nightjar *Caprimulgus fossii* (Atlas). Resident throughout.

Pennant-winged Nightjar *Macrodipteryx vexillarius* (Atlas). Intra-African (breeding) migrant throughout.

African Palm Swift *Cypsiurus parvus* (Atlas). Resident throughout (incl. 1033D3).

Eurasian (Common) Swift *Apus apus* (Atlas). Palaearctic migrant (wintering) throughout.

Speckled Mousebird *Colius striatus* (Engel *et al.* 2012). Resident: 1033C4 (collected).

Narina's Trogon *Apaloderma narina* (Atlas). Resident: 1133B1.

Half-collared Kingfisher *Alcedo semitorquata* (Atlas). Resident: 1133A2 & B1.

Malachite Kingfisher *Alcedo cristata* (Atlas). Resident: 1033C4, 1133B1.

African Pygmy Kingfisher *Ceyx pictus* (Atlas). Intra-African (breeding) migrant throughout.

Brown-hooded Kingfisher *Halcyon albiventris* (Atlas). Resident throughout.

Chestnut-bellied (Grey-headed) Kingfisher *Halcyon leucocephala* (Atlas). Intra-African (breeding) migrant throughout.

Senegal (Woodland) Kingfisher *Halcyon senegalensis* (Atlas). Intra-African (breeding) migrant throughout.

Striped Kingfisher *Halcyon chelicuti* (Atlas). Resident throughout (incl. 1033D3).

Giant Kingfisher *Megaceryle maxima* (Atlas). Resident throughout.

Pied Kingfisher *Ceryle rudis* (Atlas). Resident throughout.

Little Bee-eater *Merops pusillus* (Atlas). Resident throughout (incl. 1033D3).

Swallow-tailed Bee-eater *Merops hirundineus* (Atlas). Intra-African (breeding) migrant: 1033C4, 1133A2.

White-fronted Bee-eater *Merops bullockoides* (Atlas). Resident: 1033C4, 1133B1.

Madagascar (Olive) Bee-eater *Merops superciliosus* (Atlas). Intra-African (non-breeding) migrant throughout.

Eurasian Bee-eater *Merops apiaster* (Atlas). Palaearctic migrant (wintering) throughout (incl. 1033D3).

Southern Carmine Bee-eater *Merops nubicoides* (Atlas). Intra-African (non-breeding) migrant: 1133B1.

Eurasian Roller *Coracias garrulus* (Atlas). Palaearctic migrant (wintering): 1133A2 & B1.

Lilac-breasted Roller *Coracias caudatus* (Atlas). Resident throughout.

Racket-tailed Roller *Coracias spatulatus* (Atlas). Resident throughout (incl. 1033D3).

Purple (Rufous-crowned) Roller *Coracias naevius* (Atlas). Afrotropical vagrant (undated): 1133B1.

Broad-billed Roller *Eurystomus glaucurus* (Atlas). Intra-African (breeding) migrant (race *suaehelicus*) throughout (incl. 1033D3). Also a non-breeding migrant from Madagascar (nominate race) collected 15 October in 1033C4 (Engel *et al.* 2012).

Red-billed (Green) Wood Hoopoe *Phoeniculus purpureus* (Atlas). Resident throughout (incl. 1033D3).

(Common) Scimitarbill *Phoeniculus cyanomelas* (Atlas). Resident throughout.

Hoopoe *Upupa epops* (Atlas). Resident throughout (incl. 1033D3).

Red-billed Hornbill *Tockus erythrorhynchus* (Atlas). Resident throughout.

Crowned Hornbill *Tockus alboterminatus* (Atlas). Resident throughout.

Pale-billed Hornbill *Tockus pallidirostris* (Msowoya 1996; Engel *et al.* 2012). Resident: 1033C4, 1133B1.

African Grey Hornbill *Tockus nasutus* (Atlas). Resident throughout (incl. 1033D3).

Trumpeter Hornbill *Bycanistes bucinator* (Atlas). Resident throughout (incl. 1033D3).

Southern Ground Hornbill *Bucorvus leadbeateri* (Atlas). Resident throughout

Yellow-fronted Tinkerbird *Pogoniulus chrysoconus* (Atlas). Resident throughout (incl. 1033D3).

Miombo Pied Barbet *Tricholaema frontata* (Atlas). Resident: 1033C4, 1133A2.

Black-collared Barbet *Lybius torquatus* (Atlas). Resident throughout (incl. 1033D3).

Crested Barbet *Trachyphonus vaillantii* (Atlas). Resident throughout (incl. 1033D3).

Greater Honeyguide *Indicator indicator* (Atlas). Resident throughout.

Lesser Honeyguide *Indicator minor* (Atlas). Resident throughout.

Bennett's Woodpecker *Campethera bennettii* (Atlas). Resident: 1033C4, 1133B1.

Golden-tailed Woodpecker *Campethera abingoni* (Atlas). Resident throughout (incl. 1033D3).

Little Spotted Woodpecker *Campethera cailliautii* (Atlas). Resident: 1033C4, 1133B1.

Cardinal Woodpecker *Dendropicos fuscescens* (Atlas). Resident throughout.

Bearded Woodpecker *Thripias namaquus* (Atlas). Resident throughout.

African Broadbill *Smithornis capensis* (Engel *et al.* 2012). Resident: 1033D3 (seen only).

African Pitta *Pitta angolensis* (Engel *et al.* 2012). Intra-African (breeding) migrant: 1133B1 (collected).

Flappet Lark *Mirafra rufocinnamomea* (Atlas). Resident throughout.

Fischer's Sparrow Lark *Eremopterix leucopareia* (Atlas). Resident (first recorded July 2002): 1133B1.

Black Saw-wing *Psalidoprocne pristoptera* (Atlas). Resident and intra-African migrant: 1133A2 & B1.

African Sand (Plain) Martin *Riparia paludicola* (Atlas). Resident: 1133A2.

Grey-rumped Swallow *Pseudhirundo griseopyga* (Atlas). Intra-African (breeding) migrant throughout.

Red-breasted (Rufous-chested) Swallow *Hirundo semirufa* (Atlas). Intra-African (breeding) migrant: 1033C4, 1133B1.

Mosque Swallow *Hirundo senegalensis* (Atlas). Resident: 1033C4, 1133B1.

Lesser Striped Swallow *Hirundo abyssinica* (Atlas). Resident: 1033D3, 1133B1.

Wire-tailed Swallow *Hirundo smithii* (Atlas). Resident: 1133A2 & B1.

Eurasian (Barn) Swallow *Hirundo rustica* (Atlas). Palearctic migrant (wintering) throughout (incl. 1033D3).

Eurasian (Common) House Martin *Delichon urbicum* (Engel *et al.* 2012). Palearctic migrant (wintering): 1033C4 (collected) & D3.

Yellow Wagtail *Motacilla flava* (Atlas). Palearctic migrant (wintering): 1133B1.

African Pied Wagtail *Motacilla aguimp* (Atlas). Resident: 1133A2 & B1.

Richard's (Grassland) Pipit *Anthus richardi* (Atlas). Resident throughout.

Long-billed Pipit *Anthus similis* (Atlas). Resident: 1133B1.

Plain-backed Pipit *Anthus leucophrys* (Atlas). Resident 1133B1.

Buffy Pipit *Anthus vaalensis* (Atlas). Intra-African (breeding) migrant: 1133B1.

Striped Pipit *Anthus lineiventris* (McShane & McShane-Caluzi 1988). Resident: 1033D3.

Yellow-throated Longclaw *Macronyx croceus* (Atlas). Resident throughout.

Black Cuckoo-shrike *Campephaga flava* (Atlas). Resident and intra-African migrant throughout (incl. 1033D3).

White-breasted Cuckoo-shrike *Coracina pectoralis* (Atlas). Resident throughout (incl. 1033D3).

Yellow-bellied Greenbul *Chlorocichla flaviventris* (Atlas). Resident throughout.

Terrestrial Bulbul (Brownbul) *Phyllastrephus terrestris* (Atlas). Resident throughout.

Grey-olive Greenbul *Phyllastrephus cerviniventris* (Engel *et al.* 2012). Resident: 1133B1 (seen only).

Black-eyed (Common) Bulbul *Pycnonotus barbatus* (Atlas). Resident throughout (incl. 1033D3).

Kurrichane Thrush *Turdus libonyana* (Atlas). Resident throughout (incl. 1033D3).

Heuglin's (White-browed) Robin *Cossypha heuglini* (Atlas). Resident throughout (incl. 1033D3).

Collared Palm Thrush *Cichladusa arquata* (Atlas). Resident: 1133A2 & B1.

Central Bearded (Miombo) Scrub Robin *Erythropygia barbata* (Atlas). Resident throughout.

White-browed Scrub Robin *Erythropygia leucophrys* (Atlas). Resident throughout (incl. 1033D3).

(Common) Stonechat *Saxicola torquatus* (Atlas). Resident: 1033C4, 1133B1.

Northern Wheatear *Oenanthe oenanthe* (Atlas). Palearctic migrant (wintering): 1133B1.

Capped Wheatear *Oenanthe pileata* (Atlas). Intra-African (breeding) migrant: 1033C4, 1133A2.

Familiar Chat *Cercomela familiaris* (Atlas). Resident: 1133A2 & B1.

Arnot's Chat *Myrmecocichla arnotti* (Atlas). Resident throughout (incl. 1033D3).

Mocking Chat *Myrmecocichla cinnamomeiventris* (McShane & McShane-Caluzi 1988). Resident: 1033D3.

Broad-tailed Warbler *Schoenicola platyurus* (Atlas). Resident: 1033C4, 1133B1.

Little Rush Warbler *Bradypterus baboecala* (Atlas). Resident: 1033C4, 1133B1.

African Moustached Warbler *Melocichla mentalis* (Atlas). Resident throughout.

Sedge Warbler *Acrocephalus schoenobaenus* (Benson 1940-41). Palearctic migrant (wintering): 1133B1.

African Reed Warbler *Acrocephalus scirpaceus (baeticatus)* (Engel *et al.* 2012). Resident: 1033C4 (collected).

Great Reed Warbler *Acrocephalus arundinaceus* (Atlas). Palearctic migrant (wintering): 1133A2 & B1.

Lesser Swamp Warbler *Acrocephalus gracilirostris* (Atlas). Resident: 1133B1.

Icterine Warbler *Hippolais icterina* (Atlas). Palearctic migrant (wintering): 1133B1.

African (Dark-capped) Yellow Warbler *Chloropeta natalensis* (Engel *et al.* 2012). Resident: 1033C4 (collected).

Green-capped Eremomela *Eremomela scotops* (Atlas). Resident throughout.

Yellow-bellied Eremomela *Eremomela icteropygialis* (Atlas). Resident throughout.

Red-capped Crombec *Sylvietta ruficapilla* (Atlas). Resident: 1033C4.

Long-billed Crombec *Sylvietta rufescens* (Atlas). Resident throughout.

Willow Warbler *Phylloscopus trochilus* (Atlas). Palearctic migrant (wintering) throughout (incl. 1033D3).

Garden Warbler *Sylvia borin* (Atlas). Palearctic migrant (wintering): 1033C4, 1133A2.

Common Whitethroat *Sylvia communis* (Atlas). Palearctic migrant (wintering): 1133B1.

Fan-tailed (Zitting) Cisticola *Cisticola juncidis* (Atlas). Resident throughout.

Croaking Cisticola *Cisticola natalensis* (Atlas). Resident: 1033C4.

Rattling Cisticola *Cisticola chiniana* (Atlas). Resident throughout.

Short-winged Cisticola *Cisticola brachypterus* (Atlas). Resident throughout.

Neddicky *Cisticola fulvicapilla* (Atlas). Resident throughout.

Red-faced Cisticola *Cisticola erythrops* (Atlas). Resident throughout (incl. 1033D3).

Greater Black-backed (Winding) Cisticola *Cisticola galactotes* (Atlas). Resident: 1133B1.

Tawny-flanked Prinia *Prinia subflava* (Atlas). Resident throughout.

Red-winged Warbler *Heliolais erythroptera* (Engel *et al.* 2012). Resident: 1033C4 (collected).

Yellow-breasted Apalis *Apalis flavida* (Atlas). Resident throughout.

Bleating Bush Warbler (Grey-backed Camaroptera) *Camaroptera brachyura* (Atlas). Resident throughout (incl. 1033D3).

Miombo Barred Warbler *Camaroptera undosa* (Atlas). Resident throughout (incl. 1033D3).

Pallid (Pale) Flycatcher *Bradornis pallidus* (Atlas). Resident: 1133A2.

Southern Black Flycatcher *Melaenornis pammelaina* (Atlas). Resident throughout.

Collared Flycatcher *Ficedula albicollis* (Atlas). Palearctic migrant (wintering): 1033C4.

Spotted Flycatcher *Muscicapa striata* (Atlas). Palearctic migrant (wintering) throughout.

Dusky Flycatcher *Muscicapa adusta* (Atlas). Resident: 1133B1.

Ashy Flycatcher *Muscicapa caerulescens* (Atlas). Resident throughout.

Böhm's Flycatcher *Muscicapa boehmi* (Atlas). Resident: 1033C4 & D3, 1133A2.

Lead-coloured Flycatcher *Myioparus plumbeus* (Atlas). Resident: 1033D3, 1133A2 & B1.

Chinspot Batis *Batis molitor* (Atlas). Resident throughout (incl. 1033D3).

African Paradise Flycatcher *Terpsiphone viridis* (Atlas). Intra-African (breeding) migrant throughout (incl. 1033D3).

Arrow-marked Babbler *Turdoides jardineii* (Atlas). Resident throughout (incl. 1033D3).

Southern Black Tit *Parus niger* (Atlas). Resident throughout (incl. 1033D3).

White-winged Black Tit *Parus leucomelas* (Atlas). Resident: 1133B1.

Miombo Grey Tit *Parus griseiventris* (Atlas). Resident: 1033C4 & D3, 1133B1.

Rufous-bellied Tit *Parus rufiventris* (Atlas). Resident throughout (incl. 1033D3).

Grey Penduline Tit *Anthoscopus caroli* (Atlas). Resident: 1033C4 & D3, 1133B1.

Spotted Creeper *Salpornis pilonotus* (Atlas). Resident: 1033C4, 1133A2.

(Western) Violet-backed Sunbird *Anthreptes longuemarei* (Msowoya 1996; Engel *et al.* 2012). Resident: 1033D3, 1133B1.

Collared Sunbird *Anthreptes collaris* (Atlas). Resident: 1133A2 & B1.

Black (Amethyst) Sunbird *Nectarinia amethystina* (Atlas). Resident: 1033C4 & D3.

Scarlet-chested Sunbird *Nectarinia senegalensis* (Atlas). Resident throughout (incl. 1033D3).

Yellow-bellied (Variable) Sunbird *Nectarinia venusta* (Atlas). Resident throughout.

Miombo Double-collared Sunbird *Nectarinia manoensis* (Atlas). Resident: 1033C4, 1133A2.

Shelley's Sunbird *Nectarinia shelleyi* (Dowsett-Lemaire 2006). Resident or vagrant (single record October 1989): 1133B1.

Yellow White-eye *Zosterops senegalensis* (Atlas). Resident throughout.

African Golden Oriole *Oriolus auratus* (Atlas). Resident throughout.

Eastern Black-headed Oriole *Oriolus larvatus* (Atlas). Resident throughout (incl. 1033D3).

Sousa's Shrike *Lanius souzae* (Atlas). Resident: 1133B1.

Red-backed Shrike *Lanius collurio* (Atlas). Palaearctic migrant (wintering): 1133A2 & B1.

Fiscal Shrike *Lanius collaris* (Atlas). Resident throughout.

Brubru *Nilaus afer* (Atlas). Resident throughout.

Southern Puffback *Dryoscopus cubla* (Atlas). Resident throughout (incl. 1033D3).

Marsh Tchagra *Tchagra minutus* (Engel *et al.* 2012). Resident: 1033C4 (collected).

Brown-headed Tchagra *Tchagra australis* (Atlas). Resident throughout.

Black-crowned Tchagra *Tchagra senegalus* (Atlas). Resident throughout (incl. 1033D3).

Tropical Boubou *Laniarius aethiopicus* (Atlas). Resident throughout (incl. 1033D3).

Orange-breasted Bush Shrike *Malaconotus sulfureopectus* (Atlas). Resident throughout (incl. 1033D3).

Grey-headed Bush Shrike *Malaconotus blanchoti* (Atlas). Resident throughout (incl. 1033D3).

White Helmet Shrike *Prionops plumatus* (Atlas). Resident throughout (incl. 1033D3).

Retz's Red-billed Helmet Shrike *Prionops retzii* (Atlas). Resident throughout (incl. 1033D3).

Fork-tailed Drongo *Dicrurus adsimilis* (Atlas). Resident throughout (incl. 1033D3).

Pied Crow *Corvus albus* (Atlas). Resident: 1033C4, 1133B1.

White-necked Raven *Corvus albicollis* (Atlas). Resident: 1133B1.

African Red-winged Starling *Onychognathus morio* (Atlas). Resident: 1033D3, 1133B1.

Greater Blue-eared Starling *Lamprotornis chalybaeus* (Atlas). Resident throughout (incl. 1033D3).

Lesser Blue-eared Starling *Lamprotornis chloropterus* (Atlas). Resident throughout (incl. 1033D3).

Amethyst (Violet-backed, Plum-coloured) Starling *Cinnyricinclus leucogaster* (Atlas). Intra-African (breeding) migrant throughout (incl. 1033D3).

White-winged (Babbling) Starling *Neocichla gutturalis* (Atlas). Resident throughout (incl. 1033D3).

Wattled Starling *Creatophora cinerea* (Atlas). Intra-African (non-breeding) migrant: 1133B1.

Yellow-billed Oxpecker *Buphagus africanus* (Atlas). Resident throughout.

Red-billed Oxpecker *Buphagus erythrorhynchus* (Atlas). Resident throughout.

Northern Grey-headed Sparrow *Passer griseus* (Atlas). Resident: 1033C4, 1133B1.

Yellow-throated Petronia *Petronia superciliaris* (Atlas). Resident throughout (incl. 1033D3).

Chestnut-mantled Sparrow-weaver *Plocepasser rufoscapulatus* (Atlas). Resident throughout.

Spectacled Weaver *Ploceus ocularis* (Atlas). Resident throughout.

Large Golden Weaver *Ploceus xanthops* (Atlas). Resident: 1033C4, 1133B1.

Lesser Masked Weaver *Ploceus intermedius* (Atlas). Resident: 1133B1.

African Masked Weaver *Ploceus velatus* (Atlas). Resident throughout.

Spotted-backed (Village) Weaver *Ploceus cucullatus* (Atlas). Resident throughout.

Red-headed Weaver *Anaplectes melanotis* (Atlas). Resident throughout (incl. 1033D3).

Red-billed Quelea *Quelea quelea* (Atlas). Intra-African (non-breeding) migrant: 1033C4, 1133B1.

Black-winged Bishop *Euplectes hordeaceus* (Atlas). Resident throughout.

(Southern) Red Bishop *Euplectes orix* (Atlas). Resident throughout.

Yellow-rumped (Yellow) Bishop *Euplectes capensis* (Atlas). Resident throughout.

Yellow-mantled Whydah (Widowbird) *Euplectes macroura* (Atlas). Resident: 1033C4 & D3.

White-winged Whydah (Widowbird) *Euplectes albonotatus* (Atlas). Resident: 1033C4, 1133B1.

Red-collared Whydah (Widowbird) *Euplectes ardens* (Atlas). Resident: 1033C4 & D3, 1133A2.

Green-winged Pytilia *Pytilia melba* (Atlas). Resident throughout.

Orange-winged Pytilia *Pytilia afra* (Atlas). Resident: 1033C4, 1133B1.

Red-throated Twinspot *Hypargos niveoguttatus* (Atlas). Resident throughout.

Red-billed Firefinch *Lagonosticta senegala* (Atlas). Resident: 1133A2 & B1.

Blue-billed (African) Firefinch *Lagonosticta rubricata* (Atlas). Resident throughout.

Jameson's Firefinch *Lagonosticta rhodopareia* (Atlas). Resident: 1133B1.

Common Waxbill *Estrilda astrild* (Atlas). Resident: 1133A2 & B1.

Blue Waxbill *Uraeginthus angolensis* (Atlas). Resident throughout (incl. 1033D3).

Zebra (Orange) Waxbill *Amandava subflava* (Atlas). Resident throughout.

Bronze Mannikin *Spermestes cucullata* (Atlas). Resident throughout.

Village Indigobird *Vidua chalybeata* (Atlas). Resident: 1133A2 & B1.

Dusky (Purple) Indigobird *Vidua purpurascens* (Atlas and R.B. Payne in Dowsett-Lemaire 2006). Resident: 1133B1.

Variable Indigobird *Vidua funerea* (Atlas). Resident: 1133A2 & B1.

Pin-tailed Widow (Whydah) *Vidua macroura* (Atlas). Resident throughout.

Long-tailed Paradise Widow (Whydah) *Vidua paradisaea* (Atlas). Resident throughout.

Broad-tailed Paradise Widow (Whydah) *Vidua obtusa* (Atlas). Resident: 1033C4, 1133B1.

Yellow-eyed (Yellow-fronted) Canary *Serinus mozambicus* (Atlas). Resident throughout (incl. 1033D3).

Stripe-breasted Seedeater *Serinus reichardi* (Engel *et al.* 2012). Resident: 1033C4 (collected).

Black-eared Seedeater *Serinus mennelli* (Engel *et al.* 2012). Resident: 1033C4 (seen only).

Cinnamon-breasted Rock Bunting *Emberiza tahapisi* (Atlas). Intra-African (breeding) migrant: 1033C4, 1133A2.

Golden-breasted Bunting *Emberiza flaviventris* (Atlas). Resident throughout.

Cabanis's Bunting *Emberiza cabanisi* (Atlas). Resident throughout.

Species unconfirmed or to be deleted:

Common Quail *Coturnix coturnix* – listed for reserve based on a sight record from just outside (Engel *et al.* 2012), but perhaps misidentified, this species being strictly montane.

Curlew Sandpiper *Calidris ferruginea* – rare Palearctic migrant recorded once at Lake Nderendere in 1133B1 (Benson 1953, undated), not within Vwaza Marsh, thus listed in error by Engel *et al.* (2012).

African Mourning Dove *Streptopelia decipiens* – recorded in 1133B1 in Nkhamanga Plain (Benson 1940-41, pers. obs.) outside the reserve, thus listed in error by Engel *et al.* (2012); not yet confirmed from within reserve.

Lady Ross's Turaco *Musophaga rossae* – a possible sight record near Zambian border at Mowa (1033C4), 26 June 1975, but still unrecorded from eastern side of Luangwa Rift in Zambia and considered unconfirmed (Dowsett-Lemaire & Dowsett 2006).

Common (European Grey) Cuckoo *Cuculus canorus* – listed by McShane & McShane-Caluzi (1988, reference repeated by Engel *et al.* 2012), but apparently confused with the common sibling African Grey Cuckoo (missing from their list).

Eurasian (Common) Sand Martin *Riparia riparia* – listed in error by Engel *et al.* (2012) for African Sand (Plain) Martin.

Purple-banded Sunbird *Nectarinia bifasciatus* – listed by Engel *et al.* (2012) based on a sight record in 1033C4, but given the ecology and general distribution (including altitudinal range) of this species it is best considered unconfirmed.

The following were listed by Engel *et al.* (2012), apparently on the basis of their presence in 1033D3 (in Dowsett-Lemaire & Dowsett 2006). However, they were recorded on the lower (SW) slopes of the Nyika Plateau, not in Vwaza Marsh:

Bat Hawk *Macheiramphus alcinus*
 Western Red-footed Falcon *Falco vespertinus*
 White-rumped Swift *Apus caffer*
 Green-backed Honeyguide (Honeybird) *Prodotiscus zambesiae*
 Brown-backed Honeyguide *Prodotiscus regulus*
 Scaly-throated Honeyguide *Indicator variegatus*
 Tree Pipit *Anthus trivialis*
 Miombo Rock Thrush *Monticola angolensis*
 Yellow-bellied Hyliota *Hyliota flavigaster*
 Singing Cisticola *Cisticola cantans*
 Eurasian Golden Oriole *Oriolus oriolus*
 Lesser Grey Shrike *Lanius minor*
 Bully (Brimstone) Canary *Serinus sulphuratus*

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