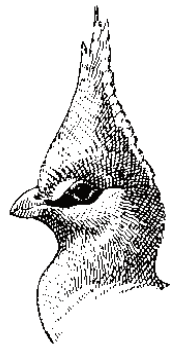


# The birds of Shai Hills Resource Reserve, Ghana

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# The birds of Shai Hills Resource Reserve, Ghana

by Françoise Dowsett-Lemaire & Robert J. Dowsett

## 1. Introduction

The Shai Hills Resource Reserve (some 49 km<sup>2</sup>) is located in the north-east sector of the Accra Plains. It includes an extensive system of inselbergs, surrounded by sparsely-wooded grassland. The granite hills rise 100-200 m above the plain and are forested with a patchwork of dry, mostly deciduous, thicket or forest. The reserve is entirely fenced, although the fence is broken in places. The reserve suffers from an invasion by exotic Neem *Azadirachta indica*, which forms thickets around the base of the hills, spreading into the grassland as well. A drivable track provides access in the form of a loop around the main range of hills.

We first visited the reserve on 30 March-1 April and 3 April 2005, at the start of the rains. Since our initial report on the avifauna produced in 2005, a number of modifications (many additions and a few deletions) can be made to the checklist of the birds. We revisited the area in 2008 on 28-29 February-1 March (camping near the Bat Cave, 5°56'N, 0°04'E), 19-20 March (camping in the southern thickets, 5°53'N, 0°03'E) and 5-6 April (western side), then briefly on 11-12 January 2010 (northern camp). Additional records also came from William Apraku, technical assistant based at Shai up to January 2010, Andrew Hester (based in Accra 2004-08) and a number of ecotourists.

Previous information on the avifauna of Shai came from occasional mentions in Grimes (1972, 1987, 2005), including the unpublished collections of D.W. Lamm (American consul in the 1950s). There is a draft checklist of *c.* 150 species (Rice n.d. = 1976), produced without any supporting details. It contains errors and a number of doubtful records. Ntiamoa-Baidu *et al.* (2001) include Shai Hills as an Important Bird Area: they mention 10 Sudanian biome species, one of which (Lavender Waxbill *Estrilda caerulea*) is considered erroneous, and they have overlooked a few others. Moyer (1996) lists 20 species for Shai in a short paper on "Birding in Ghana", and a few species are also mentioned by Wink (1976, Palaearctic species only), Macdonald (1979, in the form of breeding records) and Helsen (1996).

This report includes a full checklist in Appendix, following a brief description of the vegetation, notes on selected bird species, biome-restricted species, globally-threatened species, breeding records and ecological considerations.

## 2. Habitat classification

**Dry forest and thicket clumps.** The dry forests and thickets of Shai are part of the "south-east outlier" of Hall & Swaine (1976). This is in the drier section of the forest/savanna transition zone (or Guineo-Congolian/Sudanian transition zone of White 1983). Most large trees are deciduous (e.g. Baobab *Adansonia digitata*, *Millettia thonningii*); *Diospyros abyssinica*, *D. mespiliformis* are nearly evergreen, as also several understorey species (e.g. *Clausena anisata*, *Vepris heterophylla*). Lianes normally invade clearings. Unfortunately the foothills are everywhere taken over by the exotic Neem *Azadirachta indica*, itself forming very dense thickets that preclude the regeneration of native species. These Neem clumps are also growing outward towards the plain and into the (normally) sparsely-wooded grassland. Neem grows back vigorously after bush fires and faster than native species. Incidentally the "cassia groves" mentioned several times by Moyer (1996) in his chapter on Shai must have been confused with Neem. In recent years (since 2009) the local manager has applied a policy of clearing Neem thickets, making inroads into the natural forest too.

**Wooded grassland.** The surrounding grasslands are dotted about with a low density of small trees, the dominant species being *Combretum fragrans*. *Vitex doniana* also occurs, and of the fig trees at the foothills *Ficus platyphylla* is the commonest.

**Rocky hills and dams.** The large granite boulders are home to a specialized avifauna. Water is provided locally by small dams, of which only one has water most of the time (Adwuku dam on the southern boundary, named after a nearby hill).

Rice (n.d.) includes a long list of plants, apparently based on work done by J.B. Hall. There are typing errors and the order of presentation is somewhat disjunct.

### 3. The avifauna

The species total comes to some 221 species, but several have become extinct. Scientific names are given in Appendix. Our first report (Dowsett-Lemaire & Dowsett 2005) excluded a number of species considered erroneous. From further surveys, the following also have to be deleted from the Shai list: White-throated Francolin *Peliperdix albogularis* (mentioned by Moyer 1996, but certainly absent from the reserve, and considered extinct on Accra Plains); Little Greenbul *Andropadus virens* (listed by Rice only), Red-faced Cisticola *Cisticola erythrops* (cf. Macdonald 1979, but remains unconfirmed), Northern (Common) Fiscal *Lanius collaris* (no records from the reserve, although occurs a few km outside) and Vitelline Masked Weaver *Ploceus vitellinus*. The last, however, has been found once to the south of the reserve, nesting by a rain pool (Aug 2006, D. Hoddinott) and was also seen in the vicinity of Tema (17 Mar 2012, P. Gregory). Yellow-throated Leaflove *Chlorocichla flavicollis* has sometimes been mentioned under Shai in trip reports but occurs outside only, as on the edge of Afienya lagoon to the south.

#### 3.1. Notes on selected species

Black Stork. Exceptional migrant this far south: three birds in Feb 2006 (W. Apraku).

White Stork. One in Jan 2007 (W. Apraku) is the only record of a bird that has become very rare in Ghana.

European Honey Buzzard. Occasional on passage, 21 Nov 2008 (three birds, I. Pienaar), 21 and 24 Nov 2009 (D. Hoddinott and R. Summers respectively), and 29 Nov 2011 (D. Hoddinott).

Hooded Vulture. Frequent around cliffs. This commensal species appears to breed locally: on 5 Apr 2008 several were resting on trees by a cliff, including a pair next to a big nest in the fork of a *Ceiba pentandra*.

African White-backed Vulture. Extinct. Up to 20-30 individuals could be seen until at least 1973 (Grimes 1987). One pair was still present in 2005 (pers. obs.), but more than 60 recent trip reports fail to mention it from here and it has not been recorded since c. 2007 (W. Apraku).

Short-toed and Beaudouin's Snake Eagles. The former (Palearctic) species was reportedly seen in the past (no date or details, Grimes 2005); one was noted by A. Hester on 16 Oct 2004 and there have been other recent mentions (e.g. Dec 2009, G. Valentine). A pair of the very similar Beaudouin's Snake Eagle was confirmed to occur in 2012 (Apr, N. Borrow, and Nov, J. Lidster) and 2013 (Feb and Apr, N. Borrow). Considered conspecific in the past (under the name of Short-toed Snake Eagle): it is possible that most records in fact should refer to Beaudouin's.

Brown Snake Eagle. There are old records from 1973 (Grimes 2005), but also a few recent ones (e.g. in 2011-12, N. Borrow).

Bateleur. Very few recent reports of this large raptor, but a pair with one immature was noted in Apr 2013 (N. Borrow).

Montagu's Harrier. One record of a female on 3 Jan 1986, by E. Dunn and R.E. Scott (in Grimes 1987).

Grasshopper Buzzard. A dry-season visitor from the north: two seen on 29 Feb 2008 (pers. obs.) seems to be the only record.

Ovambo Sparrowhawk. A report of a singleton in Nov 2008 (J. Pienaar); an extreme vagrant.

Wahlberg's Eagle. This rare migrant was reported twice, in Feb 2007 (K. Valentine) and Apr 2011 (N. Borrow). There was one unconfirmed record, 8 Sep 1973 (Grimes 2005).

Tawny Eagle. Extinct. Some old records in the area, Feb-Mar (no details, Grimes 1972) and once Jan (Grimes 2005), but no definite observations since the 1970s. The species survives in Kalakpa Resource Reserve.

Booted Eagle. One (pale phase) chased by a Shikra, 29 Feb 2008 (pers. obs.). Reported late Dec 2010 (M. Mills, no details) and one 5 Dec 2012 (D. Hoddinott).

African Hawk Eagle. A vagrant observed in Dec 2009 (P. Gregory) and two on 18 Feb 2010 (E Krabbe *et al.*).

Of exceptional occurrence in southern Ghana.

Long-crested Eagle. Seen regularly in recent years, all seasons (W. Apraku *et al.*).

Martial Eagle. Extinct? The home range of this large raptor is probably bigger than the size of the reserve, and it was perhaps always an irregular visitor. Still seen occasionally in 2005 (A. Hester), but no reports since 2007.

Secretary Bird. A vagrant on 23 Mar 1974 (K. Rice in Grimes 1987) is the only record in the far south of Ghana.

African Hobby. Several records (including pers. obs. 2008).

Eurasian Hobby. One record of a singleton, 26 Nov 2013 (D. Hoddinott).

Peregrine Falcon. Listed as a vagrant by Grimes (2005), without details. There are only two recent reports: two in Mar 2011 (P. Gregory) and two in Dec 2012 (D. Hoddinott).

Crested Guineafowl. Extinct. The last definite records were in the early 1970s (Grimes 2005).

African Crake. A rains visitor: e.g. Aug-Sep 2007 (W. Apraku and A. Hester), Apr 2012 (N. Borrow).

Black-bellied Bustard. Several reports in recent years (including 2013). Occasionally heard singing in the rains and one was killed by a poacher *c.* 2007 (W. Apraku). Likely survives also outside the reserve, and may take shelter in Neem thickets.

African Wattled Lapwing. A pair is usually present in moist grassland in the north in the rains (W. Apraku); subject to local wandering.

Lesser Black-winged Lapwing. There are some old records (Grimes 1987). Present in burnt grass in the dry season (W. Apraku) and breeds locally (three large juveniles 19 Mar 1996, B. Piot).

Red-headed Lovebird. A pair occasionally recorded in the north, visiting a fruiting *Ficus platyphylla* (from 2007-09, W. Apraku).

Levaillant's Cuckoo. Vocal in the rains, from Mar-Apr. Perhaps largely absent in the dry season, but there are records year-round at Legon, Accra (Grimes 1972).

Black Cuckoo. There is just one record of a singing bird, 19 Jun 1973 (L.G. Grimes *in litt.*). It has not been heard in recent years, but a silent bird was seen once in five years (2006-10, W. Apraku).

African Cuckoo. The odd one singing in the dry season (at least Feb-Mar), but uncommon. Could be resident, as there are records almost all year near Accra (Grimes 1987). [Wink (1976) thought he heard the European Common Cuckoo sing in Mar, but this was no doubt a misidentification of African Cuckoo.]

African Wood Owl. Present in dry forest near the Bat Cave, and in the southern thickets (pers. obs., W. Apraku).

African Barred Owlet. First discovered on 31 Mar-1 Apr 2005, in the dry forest at Bat Cave (pers. obs.). This is often where ecotourists see the species, with the help of tape playback. Also heard on the northern side of the hills (2008).

Other owl species present are African Scops Owl (common), Spotted (Greyish) Eagle Owl and Barn Owl. [Pearl-spotted Owlet and Northern White-faced Owl, listed by Rice (n.d.), have never been confirmed to occur.]

Black-shouldered (Fiery-necked) Nightjar. First located in Mar 2005, in the southern thickets.

Freckled Nightjar. Common, with several singing around rocks (at least in Feb-Mar); in 2008 had shut up by 6 Apr, when it was already raining heavily. Discovered in 2005, this is one of several species largely overlooked in the past.

Long-tailed and Swamp Nightjars are both common in open grassland.

Standard-winged Nightjar. This migrant was seen near the main gate in the dry season (W. Apraku).

Grey-headed Kingfisher. An irregular non-breeding visitor, recorded in Feb (W. Apraku) and late Nov 2009 (R. Summers).

Striped Kingfisher. Uncommon in wooded grassland.

Swallow-tailed Bee-eater. Localized but resident: one pair can usually be found on the edge of the southern thickets; also in the north and north-west (W. Apraku, pers. obs. *et al.*).

Little Bee-eater. Apparently no more than an irregular visitor: a pair in rank grass on 19 Mar 2008, no longer present two weeks later.

White-throated Bee-eater. Probably mainly on passage, but small numbers may feed locally after the rains have started in Mar (as in 2005).

European Bee-eater. Several reports of flocks in the months of Dec-Feb (pers. obs. *et al.*) suggest that some

- winter locally. In Accra Plains recorded overall from late Oct to late Mar.
- Rosy Bee-eater. Observed in the dry season in varying numbers until late Mar or early Apr (latest record 5 Apr 2009, W. Apraku). In 2006 the first returned or passed through on 11 Sep and in 2008 on 26 Aug (W. Apraku).
- Blue-throated Roller. A vagrant of this rain forest species was seen in Dec 2012 (W. Apraku).
- Black Scimitarbill. There are some old records by D.W. Lamm (Grimes 1972); more recently, only an irregular wanderer, once in 2009 (W. Apraku), in Dec 2012 (D. Hoddinott) and Apr 2013 (N. Borrow). May be less uncommon on Krobo Hill to the north (A. Hester).
- Red-billed Hornbill. Irregular wanderer. The first record of this northern bird was of a pair duetting on 1 Apr 2005, and a pair (the same?) was seen in another area on 3 Apr. Was also recorded by a staff member in 2008 (*per* W. Apraku), then at least one seen in Apr 2013 (N. Borrow *et al.*).
- African Pied Hornbill. Irregular visitor, essentially in the rains (W. Apraku).
- Abyssinian Ground Hornbill. Extinct. This species has not been recorded since at least the late 1980s. Completely gone from southern Ghana.
- Hairy-breasted Barbet. Probably just a wanderer from the Aburi Plateau or the Togo range: a couple of records of one singing in dry forest, no date (*c.* 2006-07, A. Hester).
- Bearded and Double-toothed Barbets. Both occur, although the latter is the more widespread. Bearded tends to be seen on the northern side of the hills, occasionally coming to a large fig tree (*Ficus platyphylla*, W. Apraku) and also seen feeding on fruit of *Lannea barteri* and Neem *Azadirachta indica* (pers. obs. 29 Feb & 1 Mar 2008). Bearded Barbet is also known from Kalakpa, but Grimes (1987) had no records from the south of Ghana.
- Eurasian Wryneck. One well seen by Craig Pearman (*per* Theo van der Sluis in 2008), date unfortunately not noted.
- Fine-spotted Woodpecker. Present in the north (W. Apraku).
- Buff-spotted Woodpecker. Seen in dry forest near the Bat Cave, and even venturing into a clump of *Diospyros mespiliformis* outside (pers. obs. 2008, also A. Hester and W. Apraku).
- Green-backed or Little Green Woodpecker. One of either form of *Campethera maculosa/cailliautii* was seen by K. Valentine (Sep 2006) and C. Goblet (Apr 2008) in thickets.
- Common Sand Martin. Rare migrant: one on 16 Apr 2009 (N. Borrow).
- Ethiopian Swallow. A few pairs breed around staff buildings.
- Plain-backed Pipit. Irregular visitor, present in burnt grass from about Dec-Mar (e.g. Dec 2006, W. Apraku). [Tawny Pipit has been claimed in Mar 2012, but the identification is in question as this Palearctic pipit normally winters in the Sahel].
- Red-throated Pipit. One flushed from short grassland, calling, 1 Apr 2005 (pers. obs.).
- Yellow-throated Longclaw. Listed by Moyer (1996), no details. Rather local: one or a few pairs usually settle in moist grassland in the rains (W. Apraku).
- Red-shouldered Cuckoo-shrike. Recorded year-round near Accra (Grimes 1987), and similarly there are records in all months at Shai. One male with orange shoulders, 14 Feb 2012 (C. Townend).
- Grey-headed Bristlebill. Rather local, mainly in southern thickets (pers. obs. 2008).
- Common Redstart. Vagrant: one male on 29 Nov 1973 (Grimes 2005).
- Whinchat. Winters in small numbers: one as early as 16 Oct (2004, A. Hester), and up to at least 1 Apr (2005, pers. obs.).
- Wood Warbler. Passage migrant, recorded at least on northward passage (Mar-Apr), with a very late date on 8 May 2011 (D. Fisher).
- Garden Warbler. Rare Palearctic migrant: apparently heard late Mar and early Apr (1972) in the vicinity of Accra, including Shai Hills (Wink 1976).
- Yellow-bellied Hyliota. A pair was collected by D.W. Lamm on 20 May 1956 (Grimes 1972). No more than an irregular wanderer in recent years: W. Apraku saw a pair on the western side once (*c.* 2008). In southern Ghana survives in Kalakpa, but deforestation around Accra must have brought this species to near-extinction on Accra Plains.
- Spotted Flycatcher. Small numbers winter in thickets, with records from at least mid-Oct (16 Oct 2004, A.

Hester) to early Apr (6 Apr 2008, pers. obs.). Recorded up to mid-Apr in Accra Plains generally (Grimes 1972).

Pied Flycatcher appears much rarer: an early one on 16 Oct 2004 (A. Hester), a Nov (1970) record in Grimes (1972) under Collared Flycatcher (a misidentification).

African Blue Flycatcher. Extinct. It was recorded by D.W. Lamm in the mid-1950s and at nearby Mampong Quarry in 1972 (Grimes 1972). It was also collected at Elmina in the 19th century (Hartlaub 1857) and seen at Cape Coast in 1872 (Shelley & Buckley 1872). Has become extinct in the coastal belt, for no clear reasons.

Puvel's Illadopsis. Common throughout the dry forest and thickets. Birds of dry forest or thickets on Accra Plains were previously confused with Rufous-winged Illadopsis (Grimes 1972, 1987).

Scarlet-chested Sunbird. No more than an irregular visitor, e.g. one on 31 Mar 2005 (pers. obs.) and 18 Apr 2013 (N. Borrow). (A male was in the hotel garden near Shai on 16 Apr 2009, N. Borrow).

Variable Sunbird. Surprisingly not listed by Grimes (1972) for Accra Plains. The first record was in Nov 2012 (W. Apraku), then Dec 2013 (D. Hoddinott). Is common elsewhere in south-east Ghana, especially in Volta Region.

Yellow White-eye. Only one record of this species, in Feb 2010 (C. Townend). Generally rare in Accra Plains (Grimes 1972).

Eurasian Golden Oriole. One record in Apr 2009 (W. Apraku). Rarely recorded in Ghana, mainly on spring, northward passage.

African Golden Oriole. No more than an irregular wanderer, one in Nov 2009 (R. Summers).

Red-backed Shrike. Exceptional migrant: one bird in its first year, 4 Dec 2011 (Hulme *et al.* 2012).

Brubru. Irregular visitor, with one record in five years by W. Apraku (Oct 2008); also one in Nov 2012 (J. Lidster).

Splendid Glossy Starling. Irregular visitor (W. Apraku).

Northern Red Bishop and Yellow-mantled Widowbird (Whydah) are present mainly in the rains, and the latter likely breeds (W. Apraku).

Green Twinspot. Present in dry forest near the Bat Cave (A. Hester, pers. obs. and W. Apraku in Feb 2008) and there have been subsequent records (*per* M. Williams).

Yellow-winged Pytilia. There are a few records (W. Apraku *et al.*), mainly near the dam.

Bar-breasted Firefinch. In riparian thickets on the edge of the dam, and occasionally elsewhere. Its nest parasite, Wilson's Indigobird, has also been recorded (W. Apraku, Aug 2008, rains of 2009).

Red-billed Firefinch. No more than a wanderer: one record in Oct 2008 (W. Apraku).

Cinnamon-breasted Rock Bunting. This species does not breed in the southern half of Ghana, but single wanderers have turned up, as in Dec 2009 and Jan 2013 (W. Apraku).

### 3.2. Biome-restricted species

The main biome is **Sudanian** (Sudan-Guinea), with 17 species: Beaudouin's Snake Eagle, Senegal Parrot, Violet Turaco, Blue-bellied Roller, Bearded Barbet, Green-backed (Senegal) Eremomela, Oriole Warbler, Blackcap Babbler, Splendid Sunbird, Yellow-billed Shrike, Piapiac, Purple Glossy Starling, Heuglin's Masked Weaver, Yellow-winged Pytilia, Bar-breasted Firefinch, Black-rumped Waxbill, Wilson's Indigobird. (Beaudouin's Snake Eagle was not considered a Sudanian endemic in the past (cf. Fishpool & Evans 2001), but its main breeding range is indeed Sudanian).

A very few **Guineo-Congolian** near-endemic species also occur: Ahanta Francolin, Green Turaco, Black-throated Coucal, Simple Leaflove, Grey-headed Bristlebill, Puvel's Illadopsis, with Rosy Bee-eater and African Pied Hornbill as visitors only. Hairy-breasted Barbet is a mere wanderer.

### 3.3. Globally-threatened species

By 2005, none of the species occurring at Shai were in this category (Dowsett-Lemaire & Dowsett 2005). By 2013 however, some vultures and other large raptors in Africa had been admitted to the IUCN/BirdLife Red List: African White-backed Vulture (Endangered), Hooded Vulture (Endangered), Beaudouin's Snake Eagle

(Vulnerable), Bateleur (Near Threatened), Martial Eagle (Near Threatened) and Secretary Bird (Vulnerable). The last was never more than an exceptional vagrant. White-backed Vulture has become extinct, and also apparently Martial Eagle. Bateleur is now irregularly recorded but may have bred in 2013. Hooded Vulture, a commensal carrion-feeder, remains abundant in coastal towns and elsewhere and is not yet of any concern in Ghana. The small reserve of Shai Hills is under increased pressure from urbanization of the land all around it. The largest raptors had to hunt outside the reserve to survive and their demise is probably the result of the degradation of the land and small game outside its boundaries.

### 3.4. Breeding records

Barn Owl: family with recently-fledged young (at least three, barely flying), 5 Apr 2008, western cliff (from eggs probably laid Jan).

African Grey Hornbill: one feeding at nest at short intervals, 6 Apr 2008.

Double-toothed Barbet: pair feeding at nest hole 6 m high in the leaning trunk of an *Albizia glaberrima*, southern thickets, 19 Mar 2008 (eggs Feb).

Vieillot's Barbet: nest with chicks, 29 May 1976 (Macdonald 1979; thus eggs laid Apr or May).

Snowy-crowned Robin Chat: nest (in an *Elaeis* palm) with chicks, in the rains (no other details, W. Apraku).

Green-backed Eremomela: with dependent fledglings, 29 May 1977 (Macdonald 1979; eggs Apr); ditto on 15 Jun (Grimes 1987); nest with chicks 1 Aug 2007 (D. Shackelford; eggs probably Jul).

Northern Crombec: dependent fledglings in Mar (Grimes 2005; eggs Jan or Feb).

Short-winged Cisticola: "nestlings" in Jan (Grimes 1987) is at an unexpected time.

Rock-loving Cisticola: female collected with egg in ovary, 7 Oct (D.W. Lamm in Grimes 1987); courtship feeding on 29 May 1977 (Macdonald 1979).

Red-winged Warbler: with dependent fledglings, 13 Jun 1976 (Macdonald 1979; eggs probably Apr).

Pale Flycatcher: female with eggs in ovary on 29 Apr (D.W. Lamm in Grimes 1987).

Northern Black Flycatcher: dependent fledglings on 28 Aug (Grimes 1987).

Lead-coloured Flycatcher: nest-building in a snag on 11 Apr 2011 (N. Borrow).

Senegal Batis: pair with female begging from male (incubating), 29 Feb 2008 (eggs Feb); pair at nest 9 Mar 2004 (D. Hoddinott); brooding at nest 11 Mar 2012 (R. Coomber).

Common Wattle-eye: female incubating (begging from male), 1 Mar 2008 (eggs Feb).

Grey-headed Bush-shrike: nest-building in Neem thicket, 1 Mar 2008.

Fork-tailed Drongo: nest with nestlings, 5 Jan 1974 (Grimes 1987; eggs Nor or Dec).

Purple Glossy Starling: nest-building 29 May 1977 (Macdonald 1979).

### 3.5. Ecological considerations

The dry thickets and forests of Shai have a rather mixed avifauna, with species typical of dry gallery forest in the savannas of northern Ghana, alongside a few Guineo-Congolian near-endemic forest species which extend into the forest/savanna transition zone. Examples of the former category are Violet Turaco, Oriole Warbler, Blackcap Babbler, Common Wattle-eye and Yellow-crowned Gonolek. Examples of the second category are Ahanta Francolin, Green Turaco, Black-throated Coucal, Simple Leaflove and Grey-headed Bristlebill. African Barred Owlet, Yellow-rumped Tinkerbird and Square-tailed Drongo are typical of dry forest on the outskirts of the Guineo-Congolian forest zone, with a wide distribution in Africa. Puvel's Illadopsis is a Guineo-Congolian near-endemic species found mainly in the drier types of rain forest and in the transition zone. Blue-breasted Kingfisher is both in Guineo-Congolian rain forest and in dry riparian forests of the Sudanian region. Double-toothed Barbet is a forest-edge species which coexists here with the Sudanian endemic Bearded Barbet.

Granite outcrops and cliffs are home to a specialized avifauna, including Freckled Nightjar, Rock Martin, Cliff Chat and Rock-loving Cisticola, and offer breeding sites to several raptors. The combination of rocks and thickets represents optimal habitat for the Stone Partridge, which is very common.

The sparsely-wooded savanna is poor in birds, although rollers (Blue-bellied and Rufous-crowned) are fairly conspicuous. Most typical woodland birds (e.g. Senegal Batis, White-shouldered Black Tit) are found on the edge of thickets in the foothills. Black-bellied Bustard is typical of open grassland but is uncommon (it is



also hunted by poachers). Swamp Nightjar, Flappet Lark, Zitting and Croaking Cisticolas and Black-faced Quailfinch are other characteristic grassland species.

Neem groves are not empty of birds, far from it. Not only do Neem trees offer abundant fruit to a wide range of frugivorous and granivorous species, but even insectivorous birds are found in them (e.g. Blackcap Babbler, Puvel's Illadopsis and Snowy-crowned Robin Chat). It remains to be seen how much food they can find in this exotic habitat, or whether Neem merely serves as shelter, with most feeding taking place in the remaining native trees.

The recent removal of Neem groves has made inroads into the natural forest as well, to the detriment of a number of thicket birds, and also of several mammals (e.g. Spot-nosed Monkey *Cercopithecus petaurista*).

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**APPENDIX. CHECKLIST OF THE BIRDS OF SHAI HILLS RESOURCE RESERVE  
(updated to end of 2013)**

English names usually follow those of the field guide by Borrow & Demey (2010). Abbreviations used: Res. = Resident; Irreg. = irregular visitor; PM = Palearctic (Eurasian) migrant; AM = intra-African migrant.

Species .....	Status .....
Black-crowned Night Heron <i>Nycticorax nycticorax</i> .....	PM .....
Cattle Egret <i>Bubulcus ibis</i> .....	AM/Res .....
Green-backed Heron <i>Butorides striata</i> .....	Irreg .....
Grey Heron <i>Ardea cinerea</i> .....	Irreg .....
Black Stork <i>Ciconia nigra</i> .....	PM (vagrant) .....
White Stork <i>Ciconia ciconia</i> .....	PM (vagrant) .....
African Cuckoo Hawk <i>Aviceda cuculoides</i> .....	Res .....
European Honey Buzzard <i>Pernis apivorus</i> .....	PM .....
Bat Hawk <i>Macheiramphus alcinus</i> .....	Res .....
Black-shouldered Kite <i>Elanus caeruleus</i> .....	Res .....
Yellow-billed Kite <i>Milvus migrans</i> .....	AM .....
Palm-nut Vulture <i>Gypohierax angolensis</i> .....	Res .....
Hooded Vulture <i>Necrosyrtes monachus</i> .....	Res .....
African White-backed Vulture <i>Gyps africanus</i> .....	Res, recently Extinct .....
Short-toed Snake Eagle <i>Circaetus gallicus</i> .....	PM .....
Beaudouin's Snake Eagle <i>Circaetus beaudouini</i> .....	Res/AM? .....
Brown Snake Eagle <i>Circaetus cinereus</i> .....	Res .....
Bateleur <i>Terathopius ecaudatus</i> .....	Res .....
African Harrier Hawk (Gymnogene) <i>Polyboroides typus</i> .....	Res .....
Western (Eurasian) Marsh Harrier <i>Circus aeruginosus</i> .....	PM .....
Montagu's Harrier <i>Circus pygargus</i> .....	PM (rare) .....
Gabar Goshawk <i>Melierax gabar</i> .....	Res .....
Shikra <i>Accipiter badius</i> .....	Res .....
Ovambo Sparrowhawk <i>Accipiter ovampensis</i> .....	Vagrant .....
Grasshopper Buzzard <i>Butastur rufipennis</i> .....	AM (rare) .....
Lizard Buzzard <i>Kaupifalco monogrammicus</i> .....	Res .....
Red-necked Buzzard <i>Buteo auguralis</i> .....	AM .....
Booted Eagle <i>Hieraaetus pennatus</i> .....	PM (rare) .....
African Hawk Eagle <i>Hieraaetus spilogaster</i> .....	Vagrant .....
Long-crested Eagle <i>Lophaetus occipitalis</i> .....	Res .....
Wahlberg's Eagle <i>Aquila wahlbergi</i> .....	AM (rare) .....
Tawny Eagle <i>Aquila rapax</i> .....	Extinct .....
Martial Eagle <i>Polemaetus bellicosus</i> .....	Res, recently Extinct .....
Secretary Bird <i>Sagittarius serpentarius</i> .....	Vagrant .....
Grey Kestrel <i>Falco ardosiaceus</i> .....	Res .....
African Hobby <i>Falco cuvierii</i> .....	Res .....
Eurasian Hobby <i>Falco subbuteo</i> .....	PM (rare) .....
Lanner Falcon <i>Falco biarmicus</i> .....	Res .....
Peregrine Falcon <i>Falco peregrinus</i> .....	Vagrant .....
Double-spurred Francolin <i>Francolinus bicalcaratus</i> .....	Res .....
Ahanta Francolin <i>Francolinus achantensis</i> .....	Res .....
Stone Partridge <i>Ptilopachus petrosus</i> .....	Res .....
Crested Guineafowl <i>Guttera pucherani</i> .....	Extinct .....
Helmeted Guineafowl <i>Numida meleagris</i> .....	Res .....
Little Buttonquail <i>Turnix sylvaticus</i> .....	Res .....
African Crake <i>Crecopsis egregia</i> .....	AM .....
Black-bellied Bustard <i>Eupodotis melanogaster</i> .....	Res .....
African Jacana <i>Actophilornis africanus</i> .....	Irreg .....

Species .....	Status .....
African Wattled Lapwing <i>Vanellus senegallus</i> .....	Rains .....
Lesser Black-winged Lapwing <i>Vanellus lugubris</i> .....	Dry season .....
Green Sandpiper <i>Tringa ochropus</i> .....	PM .....
Wood Sandpiper <i>Tringa glareola</i> .....	PM .....
Common Sandpiper <i>Actitis hypoleucos</i> .....	PM .....
Laughing Dove <i>Streptopelia senegalensis</i> .....	Res .....
Vinaceous Dove <i>Streptopelia vinacea</i> .....	Res .....
Red-eyed Dove <i>Streptopelia semitorquata</i> .....	Res .....
Black-billed Wood Dove <i>Turtur abyssinicus</i> .....	Res .....
Blue-spotted Wood Dove <i>Turtur afer</i> .....	Res .....
Tambourine Dove <i>Turtur tympanistris</i> .....	Res .....
African Green Pigeon <i>Treron calvus</i> .....	Res .....
Senegal Parrot <i>Poicephalus senegalus</i> .....	Res .....
Red-headed Lovebird <i>Agapornis pullarius</i> .....	Res .....
Rose-ringed Parakeet <i>Psittacula krameri</i> .....	Res .....
Green Turaco <i>Tauraco persa</i> .....	Res .....
Violet Turaco <i>Musophaga violacea</i> .....	Res .....
Western Grey Plantain-eater <i>Crinifer piscator</i> .....	Res .....
Levaillant's Cuckoo <i>Clamator levaillantii</i> .....	AM/Res .....
Black Cuckoo <i>Cuculus clamosus</i> .....	Vagrant .....
African Cuckoo <i>Cuculus gularis</i> .....	Res (rare) .....
Klaas's Cuckoo <i>Chrysococcyx klaas</i> .....	Res .....
Didric Cuckoo <i>Chrysococcyx caprius</i> .....	AM/Res? .....
Yellowbill (Green Coucal) <i>Ceuthmochares aereus</i> .....	Res .....
Black-throated Coucal <i>Centropus leucogaster</i> .....	Res .....
Senegal Coucal <i>Centropus senegalensis</i> .....	Res .....
Barn Owl <i>Tyto alba</i> .....	Res .....
African Scops Owl <i>Otus senegalensis</i> .....	Res .....
Spotted (Greyish) Eagle Owl <i>Bubo africanus cinerascens</i> .....	Res .....
African Barred Owlet <i>Glaucidium capense</i> .....	Res .....
African Wood Owl <i>Strix woodfordii</i> .....	Res .....
Black-shouldered Nightjar <i>Caprimulgus pectoralis nigriscapularis</i> .....	Res .....
Swamp Nightjar <i>Caprimulgus natalensis</i> .....	Res .....
Freckled Nightjar <i>Caprimulgus tristigma</i> .....	Res .....
Long-tailed Nightjar <i>Caprimulgus climacurus</i> .....	Res .....
Standard-winged Nightjar <i>Macrodipteryx longipennis</i> .....	AM .....
Mottled Spinetail <i>Telacanthura ussheri</i> .....	Res .....
African Palm Swift <i>Cypsiurus parvus</i> .....	Res .....
Common (European) Swift <i>Apus apus</i> .....	PM .....
Little Swift <i>Apus affinis</i> .....	Res .....
African Pygmy Kingfisher <i>Ceyx pictus</i> .....	Res? .....
Grey-headed Kingfisher <i>Halcyon leucocephala</i> .....	AM (rare) .....
Blue-breasted Kingfisher <i>Halcyon malimbica</i> .....	Res .....
Woodland Kingfisher <i>Halcyon senegalensis</i> .....	AM .....
Striped Kingfisher <i>Halcyon chelicuti</i> .....	Res .....
Little Bee-eater <i>Merops pusillus</i> .....	Irreg .....
Swallow-tailed Bee-eater <i>Merops hirundineus</i> .....	Res .....
White-throated Bee-eater <i>Merops albicollis</i> .....	AM .....
European Bee-eater <i>Merops apiaster</i> .....	PM .....
Rosy Bee-eater <i>Merops malimbicus</i> .....	AM .....
Rufous-crowned Roller <i>Coracias naevius</i> .....	Res .....
Blue-bellied Roller <i>Coracias cyanogaster</i> .....	Res .....
Broad-billed Roller <i>Eurystomus glaucurus</i> .....	AM/Res? .....
Blue-throated Roller <i>Eurystomus gularis</i> .....	Vagrant .....

Species .....	Status .....
Green (Red-billed) Wood Hoopoe <i>Phoeniculus purpureus</i> .....	Res .....
Black Scimitarbill <i>Rhinopomastus aterrimus</i> .....	Irreg .....
Red-billed Hornbill <i>Tockus erythrorhynchus</i> .....	Irreg .....
African Pied Hornbill <i>Tockus fasciatus</i> .....	Irreg (rains) .....
African Grey Hornbill <i>Tockus nasutus</i> .....	Res/AM .....
Abyssinian Ground Hornbill <i>Bucorvus abyssinicus</i> .....	Extinct .....
Yellow-fronted Tinkerbird <i>Pogoniulus chrysoconus</i> .....	Res .....
Yellow-rumped Tinkerbird <i>Pogoniulus bilineatus</i> .....	Res .....
Hairy-breasted Barbet <i>Tricholaema hirsuta</i> .....	Irreg./Vagrant .....
Vieillot's Barbet <i>Lybius vieillotii</i> .....	Res .....
Double-toothed Barbet <i>Lybius bidentatus</i> .....	Res .....
Bearded Barbet <i>Lybius dubius</i> .....	Res .....
Greater Honeyguide <i>Indicator indicator</i> .....	Res .....
Lesser Honeyguide <i>Indicator minor</i> .....	Res .....
Eurasian Wryneck <i>Jynx torquilla</i> .....	PM .....
Fine-spotted Woodpecker <i>Campethera punctuligera</i> .....	Res .....
Buff-spotted Woodpecker <i>Campethera nivosa</i> .....	Res .....
Little Green/Green-backed Woodpecker <i>Campethera cailliautii</i> .....	Res? (rare) .....
Cardinal Woodpecker <i>Dendropicos fuscescens</i> .....	Res .....
Grey Woodpecker <i>Dendropicos goertae</i> .....	Res .....
Flappet Lark <i>Mirafra rufocinnamomea</i> .....	Res .....
Common Sand Martin <i>Riparia riparia</i> .....	PM (rare) .....
Mosque Swallow <i>Hirundo senegalensis</i> .....	Res .....
Lesser Striped Swallow <i>Hirundo abyssinica</i> .....	Res .....
Rock Martin <i>Hirundo fuligula</i> .....	Res .....
Ethiopian Swallow <i>Hirundo aethiopica</i> .....	Res .....
Barn (Eurasian) Swallow <i>Hirundo rustica</i> .....	PM .....
Common House Martin <i>Delichon urbicum</i> .....	PM .....
Plain-backed Pipit <i>Anthus leucophrys</i> .....	Irreg .....
Tree Pipit <i>Anthus trivialis</i> .....	PM .....
Red-throated Pipit <i>Anthus cervinus</i> .....	PM .....
Yellow-throated Longclaw <i>Macronyx croceus</i> .....	Rains .....
Red-shouldered Cuckoo-shrike <i>Campephaga phoenicea</i> .....	Res/AM? .....
Simple Leaflove <i>Chlorocichla simplex</i> .....	Res .....
Grey-headed Bristlebill <i>Bleda canicapillus</i> .....	Res .....
Common Bulbul <i>Pycnonotus barbatus</i> .....	Res .....
African Thrush <i>Turdus pelios</i> .....	Res .....
Snowy-crowned Robin Chat <i>Cossypha niveicapilla</i> .....	Res .....
Common Redstart <i>Phoenicurus phoenicurus</i> .....	PM (vagrant) .....
Whinchat <i>Saxicola rubetra</i> .....	PM .....
Common Nightingale <i>Luscinia megarhynchos</i> .....	PM .....
Cliff (Mocking) Chat <i>Myrmecocichla cinnamomeiventris</i> .....	Res .....
African Moustached Warbler <i>Melocichla mentalis</i> .....	Res .....
Melodious Warbler <i>Hippolais polyglotta</i> .....	PM .....
Green-backed (Senegal) Eremomela <i>Eremomela pusilla</i> .....	Res .....
Northern Crombec <i>Sylvietta brachyura</i> .....	Res .....
Willow Warbler <i>Phylloscopus trochilus</i> .....	PM .....
Wood Warbler <i>Phylloscopus sibilatrix</i> .....	PM .....
Garden Warbler <i>Sylvia borin</i> .....	PM .....
Yellow-bellied Hyliota <i>Hyliota flavigaster</i> .....	Irreg .....
Zitting Cisticola <i>Cisticola juncidis</i> .....	Res .....
Croaking Cisticola <i>Cisticola natalensis</i> .....	Res .....
Short-winged Cisticola <i>Cisticola brachypterus</i> .....	Res .....
Rock-loving Cisticola <i>Cisticola aberrans</i> .....	Res .....

Species .....	Status .....
Whistling Cisticola <i>Cisticola lateralis</i> .....	Res .....
Singing Cisticola <i>Cisticola cantans</i> .....	Res .....
Tawny-flanked Prinia <i>Prinia subflava</i> .....	Res .....
Red-winged Warbler <i>Heliolais erythropterus</i> .....	Res .....
Grey-backed Camaroptera <i>Camaroptera brachyura</i> .....	Res .....
Oriole-Warbler <i>Hypergerus atriceps</i> .....	Res .....
Pale (Pallid) Flycatcher <i>Bradornis pallidus</i> .....	Res .....
Northern Black Flycatcher <i>Melaenornis edolioides</i> .....	Res .....
Pied Flycatcher <i>Ficedula hypoleuca</i> .....	PM .....
Spotted Flycatcher <i>Muscicapa striata</i> .....	PM .....
Lead-coloured Flycatcher <i>Myioparus plumbeus</i> .....	Res .....
Senegal Batis <i>Batis senegalensis</i> .....	Res .....
Common Wattle-eye <i>Platysteira cyanea</i> .....	Res .....
African Blue Flycatcher <i>Elmina longicauda</i> .....	Extinct .....
African Paradise Flycatcher <i>Terpsiphone viridis</i> .....	Res/AM .....
Puvel's Illadopsis <i>Illadopsis puveli</i> .....	Res .....
Brown Babbler <i>Turdoides plebejus</i> .....	Res .....
Blackcap Babbler <i>Turdoides reinwardtii</i> .....	Res .....
White-shouldered Black Tit <i>Parus leucomelas guineensis</i> .....	Res .....
Collared Sunbird <i>Anthreptes collaris</i> .....	Res .....
Green-headed Sunbird <i>Nectarinia verticalis</i> .....	Res .....
Scarlet-chested Sunbird <i>Nectarinia senegalensis</i> .....	Irreg .....
Variable Sunbird <i>Nectarinia venusta</i> .....	Irreg .....
Olive-bellied Sunbird <i>Nectarinia chloropygia</i> .....	Res .....
Copper Sunbird <i>Nectarinia cuprea</i> .....	Res .....
Splendid Sunbird <i>Nectarinia coccinigastra</i> .....	Res .....
Yellow White-eye <i>Zosterops senegalensis</i> .....	Irreg .....
Eurasian Golden Oriole <i>Oriolus oriolus</i> .....	PM (rare) .....
African Golden Oriole <i>Oriolus auratus</i> .....	Vagrant .....
Red-backed Shrike <i>Lanius collurio</i> .....	PM (vagrant) .....
Yellow-billed Shrike <i>Corvinella corvina</i> .....	Res .....
Brubru <i>Nilaus afer</i> .....	Irreg .....
Northern Puffback <i>Dryoscopus gambensis</i> .....	Res .....
Brown-crowned Tchagra <i>Tchagra australis</i> .....	Res .....
Black-crowned Tchagra <i>Tchagra senegalus</i> .....	Res .....
Yellow-crowned Gonolek <i>Laniarius barbarus</i> .....	Res .....
Sulphur-breasted Bush Shrike <i>Malaconotus sulfureopectus</i> .....	Res .....
Grey-headed Bush Shrike <i>Malaconotus blanchoti</i> .....	Res .....
White Helmet Shrike <i>Prionops plumatus</i> .....	Res .....
Square-tailed Drongo <i>Dicrurus ludwigii</i> .....	Res .....
Fork-tailed Drongo <i>Dicrurus adsimilis</i> .....	Res .....
Piapiac <i>Ptilostomus afer</i> .....	Res .....
Pied Crow <i>Corvus albus</i> .....	Res .....
Purple Glossy Starling <i>Lamprotornis purpureus</i> .....	Res .....
Lesser Blue-eared Starling <i>Lamprotornis chloropterus</i> .....	Irreg .....
Splendid Glossy Starling <i>Lamprotornis splendidus</i> .....	Irreg .....
Violet-backed Starling <i>Cinnyricinclus leucogaster</i> .....	AM .....
Northern Grey-headed Sparrow <i>Passer griseus</i> .....	Res .....
Black-necked Weaver <i>Ploceus nigricollis</i> .....	Res .....
Heuglin's Masked Weaver <i>Ploceus heuglini</i> .....	Res .....
Village Weaver <i>Ploceus cucullatus</i> .....	Res .....
Northern Red Bishop <i>Euplectes franciscanus</i> .....	Res (rains) .....
Yellow-mantled Widowbird (Whydah) <i>Euplectes macroura</i> .....	Res (rains) .....
Yellow-winged Pytilia <i>Pytilia hypogrammica</i> .....	Res .....

