Bird Fauna of Jabel El Dayer National Park, Kordofan - Sudan

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Abstract

Two hundred and seventy-four species of birds belonging to 52 families and 16 orders were recorded at Jabel El Dayer National Park during 2014-2016. The listed birds represented about 29 “%” of the 938 bird species in the old Sudan. The resident, African migrants and Palearctic migrant's species were 186, 27, 61, respectively. Eighty-three species were recorded breeding during the study period e.g., all species of Weavers and Sparrows, *Ciconia abdimii*, *Columba guinea*, *Urocolius macrourus*, *Apus affinis*, *Coracias abyssinica*, *Tockus nasutus*, *Pycnonotus barbatus*, *Oena capensis*, *Vanellus tectus* and *Passer domesticus*, Species of Columbidae as; *Streptopelia capicola*, *Streptopelia semitorquata*, *Streptopelia decipiens* were very common near human activities especially *Columba guinea* where build their nest on roofs of their houses. Species of Ploceidae were usually associated with agricultural fields and springs of water. Order Passeriformes has highly diverse and abundant with 25 families and 161 species were Passerines, and 113 species were Non-passerines. According to IUCN Red List, one species recorded Endangered, five species were Near Threatened, three species were Critically Endangered. The possibility of recording more species was discussed.

Keywords: Bird Fauna, Jabel El Dayer National Park, Kordofan, Identification.

1. Introduction

Bird fauna, the master of air, are the most prominent and widespread species of terrestrial and aquatic vertebrate fauna and occupy most of the global environments (Pomeroy, 1992 and Bibby et al., 1998). The bird fauna of Sudan had varied numbers among different authors. Nickolaus (1987) recorded 938 species of birds. According to Wikipedia (2015), 1013 species of birds are listed in Sudan. Some species of birds may adapt to human habitation and mining environment as they provide easy food and habitat (Martin, 1987 and Smith et al., 2005).

Sudan is located on the main routes used by migratory birds from the three continents Europe, Asia and Africa (Hamed, 1998). Sudan is characterized by diverse climate conditions (Nickolaus, 1987 and UNEP, 2007). A lot of studies in different countries have been carried out on bird fauna in various natural and semi natural ecosystems. Some examples included the countries of India (Guptha et al., 2015), Jordan (Evans et al. 2005), Palestine (Abd Rabou, 2019).

The patchy information available on the birds of the Jabel El Dayer, which is located in North Kordofan State of the Sudan, were due to Cave and Macdonald (1955) and Nickolaus (1987). The study of the area has become a basic necessity after Jabel El Dayer was declared as a National Park. Hence, the aim of the current study is to introduce basic data on the bird fauna of the Park as this will help in any managerial plan of the Park.

2. Material and Methods

The Study Area

The Jabel El Dayer is mostly a massive volcanic rock mountain with a lot of different height peaks (Whiteman, 1971 and IFAD and Police of Protected Wildlife, 2008). It is located on south of North Kordofan State, at El-Rahad Abu Dakana locality (Figure.1). It lies between $12^{\circ} 28''$ and $30^{\circ} 30''$ N and $13^{\circ} 12''$, and $42^{\circ} 30''$ E, covering about 315 "km²". Jabel El Dayer extends about 238 kilometers, 14 kilometers in length, 14 kilometers in width, and about 1413 meters above sea level. It covers poor Savannah climate and environment of high mountain. Such features provided scenery of the geological formations and diversity of plants of unique aesthetic value (IFAD and Police of Protected Wildlife, 2008). Agricultural land stretches flat in all directions around the mountain. Jabel El Dayer

is easily accessible by motor tracks from the nearby towns. In Jabel El Dayer, three distinct ecological systems: Summits, creeks and water streams and flatland water bodies systems were recognized (Figure. 2,3,4).

Figure (1): Jabel El Dayer National Park ([Http:// www.google.com/earth/](http://www.google.com/earth/)).

Figure(2): Jabel El Dayer Study area, note the peaks.

Figure (3): Flatland between peaks.

Figure .4. A water spring (Ain Talpas).

Methods

The study covered both dry and wet seasons. A total count of birds was conducted twice a day morning and evening. Observations were made in early morning to late afternoon. Many visits were carried out the survey period covered three years from February to December 2014 and from August (2015) to April 2016. Data on breeding activities and nesting habits were collected. The birds were recognized directly and/or with a Pentax (12x50, 5.500) binocular. Photographs of birds whenever possible were taken using digital cameras. The Identification of birds was made easy using available guidebooks (Stevenson and Fanshawe, 2002, Scott, 2007 and Sinclair and Ryan, 2010). In spite of all these, some species might have been missed, in view of difficult access, hiding or shyness.

3. Results and Discussion:

The bird species recorded in both seasons in Jabel El Dayer National Park were given in Table (1). Their status information (B = Breeding record confirmed; M = Migrant including on passage through Sudan; P = Breeds in Palearctic; R = Resident and W = Winters non-breeding season) followed Dowsett et al. (2014). The study recorded 274 species belonging to 52 families and 16 orders. During the first season 263 species and 202 species during the second season were recorded at the Park. Some species were recorded breeding during the study period e.g. *Ciconia abdimii*, *Columba guinea*, *Apus affinis*, *Coracias abyssinica* (Figure 4). The *Ptilostomus afer*, *Corvus capensis*, *Passer domesticus*, *Euodice cantans* (Figure 5) were very common near human activities. Members of families Ploceidae and Columbidae (Figure 6) were usually associated with agricultural fields and springs of water while *Gyps rueppellii*, *Circus pygargus* and *Ptilopachus petrosus* were seen in clefts at top of mountain only (Figure 7).

Figure (4): A. Abdim's Stork (*Ciconia abdimii*), B. Speckled Pigeon (*Columba guinea*), C. Abyssinian Roller (*Coracias abyssinica*), D. Red-billed Horn bill (*Tockus erythrorhynchus*), E. Vieillot's Barbet (*Lybius vieilloti*), F. Northern Red Bishop (*Euplectes franciscanus*).

Figure (5): A. Little Bee-eater (*Merops pusillus*), B. Pipiac (*Ptilostomus afer*), C. African Silver bill (*Euodice cantans*).

Table (1): The Status (ST) of Birds of Jabel El Dayer National Park.

Common name	Scientific name	2014	2015/2016	ST
Order Ciconiiformes: 1- Family: Ardeidae				
Cattle Egret*	<i>Bubulcus ibis</i>	+	+	M+B+P

Little Egret	<i>Egretta garzetta</i>	+	-	R+B+P
Grey Heron	<i>Ardea cinerea</i>	+	-	R+B+P
Order Ciconiiformes: 2- Family: Ciconiidae				
Abdim's Stork*	<i>Ciconia abdimii</i>	+	+	M+B
White Stork	<i>Ciconia ciconia</i>	+	-	P+W
Order Falconiformes: 1- Family: Accipiteridae				
Black Kite	<i>Milvus migrans</i>	+	+	M+B+P+W
African White-backed Vulture*	<i>Gyps africanus</i>	+	+	R+B
Ruppell's Griffon Vulture*	<i>Gyps rueppellii</i>	-	+	R+B
Hooded Vulture	<i>Necrosyrtes monachus</i>	+	-	R+B
Short-toed Snake-Eagle	<i>Circaetus gallicus</i>	+	-	P+W+M+B
Brown Snake-Eagle	<i>Circaetus cinereus</i>	+	-	R+B
African Marsh Harrier	<i>Circus ranivorus</i>	+	+	R+M
Eurasian Marsh Harrier	<i>Circus aeruginosus</i>	+	-	P+W
Montagu's Harrier	<i>Circus pygargus</i>	+	+	P+W
Pallid Harrier	<i>Circus macrourus</i>	+	+	P+W
Dark Chanting-Goshawk	<i>Melierax metabates</i>	+	+	R+B
Gabar Goshawk*	<i>Melierax gabar</i>	+	+	R+B
Shikra	<i>Accipiter badius</i>	+	+	R+B
Little Sparrow Hawk	<i>Accipiter minullus</i>	+	+	R
Great Sparrow Hawk	<i>Accipiter melanoleucus</i>	+	-	R
Bat Hawk	<i>Macheiramphus alcinus</i>	+	-	R
African Harrier Hawk	<i>Polyboroides typus</i>	+	-	R+B
Long-tailed Hawk	<i>Urotriorchis macrourus</i>	+	-	R+M
Lizard Buzzard	<i>Kaupifalcomonogrammicus</i>	+	+	R+B
Grasshopper Buzzard	<i>Butastur rufipennis</i>	+	-	M+B
Mountain Buzzard	<i>Buteo oreophilus</i>	+	+	R
Common Buzzard	<i>Buteo buteo</i>	+	+	P+M
Long-legged Buzzard	<i>Buteo rufinus</i>	+	+	P+W+R
Tawny Eagle	<i>Aquila rapax</i>	+	+	M+B
Steppe Eagle	<i>Aquila nipalensis</i>	+	-	P
Order Falconiformes: 2- Family: Falconidae				
Common Kestrel	<i>Falco tinnunculus</i>	+	+	R+B+P+W
Lesser Kestrel	<i>Falco naumanni</i>	+	+	P
Fox Kestrel	<i>Falco alopex</i>	+	+	R+B
Grey Kestrel	<i>Falco ardosiaceus</i>	-	+	R+B
African Hobby	<i>Falco cuvieri</i>	+	+	R
Sooty Falcon	<i>Falco concolor</i>	+	+	P
Lanner Falcon	<i>Falco biarmicus</i>	+	+	M+B+P
Red-footed Falcon	<i>Falco vespertinus</i>	+	-	P
Peregrine Falcon	<i>Falco peregrinus</i>	+	+	R+B+P
Pygmy Falcon	<i>Polihierax semitorquatus</i>	+	-	R+M
Order Galliformes: 1- Family: Numididae				
Helmeted Guinea fowl	<i>Numida meleagris</i>	+	+	R+B
Order Galliformes: 2- Family: Phasianidae				
Clapperton's Francolin	<i>Francolinus clappertoni</i>	+	-	R+B
Common Quail	<i>Coturnix coturnix</i>	+	+	P+W
Stone Partridge	<i>Ptilopachus petrosus</i>	+	+	R+B
Order Gruiformes: Family: Otidae				
White-billed Bustard	<i>Eupodotis senegalensis</i>	+	-	R+B
Buff-crested Bustard	<i>Eupodotis gindiana</i>	+	-	R+B
Order Charadiiformes: 1- Family: Burhinidae				
Spotted Thick-knee	<i>Burhinus capensis</i>	+	+	R+B

Senegal Thick-knee	<i>Burhinus senegalensis</i>	-	+	R+B
Order Charadiiformes: 2- Family: Charadriidae				
Black-headed Plover*	<i>Vanellus tectus</i>	+	+	R+B
Spur-winged Plover	<i>Vanellus spinosus</i>	+	-	R+B
Order Pteroclidiformes : Family: Pteroclididae				
Chestnut-bellied Sand Grouse	<i>Pterocles exustus</i>	+	+	R+B
Order Columbiformes: Family: Columbidae				
Bruce's Green-pigeon	<i>Treron waalia</i>	+	+	R+B
Speckled Pigeon*	<i>Columba guinea</i>	+	+	R+B
Black-billed Wood Dove*	<i>Turtur abyssinicus</i>	+	+	R+B
Namaqua Dove*	<i>Oena capensis</i>	+	+	M+B
Laughing Dove*	<i>Streptopelia senegalensis</i>	+	+	R+B
Ring-necked Dove*	<i>Streptopelia capicola</i>	+	+	R
Red-eyed Dove*	<i>Streptopelia semitorquata</i>	+	+	R+B
Mourning Dove*	<i>Streptopelia decipiens</i>	+	+	R+B
Pink-headed Dove*	<i>Streptopelia roseogrisea</i>	+	+	R+B
Vinaceous Dove	<i>Streptopelia vinacea</i>	+	-	R+B
Order Psittaciformes: Family: Psittacidae				
Brown Parrot	<i>Poicephalus meyeri</i>	+	+	R+B
Rose-ringed Parakeet	<i>Psittacula krameri</i>	+	+	R+B
Order Cuculiformes: Family: Cuculidae				
Great Spotted Cuckoo	<i>Clamator glandarius</i>	+	-	M+B
African Cuckoo	<i>Cuculus gularis</i>	+	+	M+B
Eurasian Cuckoo	<i>Cuculus canorus</i>	-	+	P
Diederik cuckoo	<i>Chrysococcyx caprius</i>	+	+	M+B
Senegal Coucal	<i>Centropus senegalensis</i>	+	-	R+B
White-browed Coucal	<i>Centropus superciliosus</i>	+	+	R+B
Order Strigiformes: 1- Family: Tytonidae				
Spotted Eagle Owl	<i>Bubo africanus</i>	+	-	R+B
Verreaux's Eagle Owl	<i>Bubo lacteus</i>	+	-	R+B
Barn Owl	<i>Tyto alba</i>	+	+	R+B
Pearl-spotted Owlet	<i>Glaucidium perlatum</i>	+	-	R+B
Order Strigiformes: 2- Family: Strigidae				
White-faced Scops-Owl	<i>Otus leucotis</i>	+	+	R+B
Order Caprimulgiformes: Family: Caprimulgidae				
Long-tailed Nightjar	<i>Caprimulgus climacurus</i>	+	+	M+B
Nubian Nightjar	<i>Caprimulgus nubicus</i>	+	-	R
Golden Nightjar	<i>Caprimulgus eximius</i>	+	-	R+B
Standard-winged Nightjar	<i>Macrodipteryx longipennis</i>	+	-	M+B
Order Apodiformes: Family: Apodidae				
Little Swift*	<i>Apus affinis</i>	+	+	R+B
Mottled Swift*	<i>Tachymarptis aequatorialis</i>	+	+	R+B
Eurasian Swift	<i>Apus apus</i>	+	+	P
Horus Swift*	<i>Apus horus</i>	+	+	R+B
Scarce Swift	<i>Schoutedenapus myoptilus</i>	+	+	R+B
African Palm Swift*	<i>Cypsiurus parvus</i>	+	+	R+B
Order Colliformes: Family: Collidae				
Speckled Mouse bird*	<i>Colius striatus</i>	+	+	R+B
Blue-naped Mouse bird*	<i>Urocolius macrourus</i>	+	+	R+B
Order Coreciiformes: 1- Family: Alcedinidae				
Grey-headed Kingfisher	<i>Halcyon leucocephala</i>	+	+	M+B
Woodland Kingfisher	<i>Halcyon senegalensis</i>	+	+	M+B
Striped kingfisher	<i>Halcyon chelicuti</i>	+	-	R+B

Order Coreciiformes: 2- Family: Meropidae				
Little Bee-eater*	<i>Meropspusillus</i>	+	+	R+B
Little Green Bee-eater*	<i>Merops orientalis</i>	+	+	R+B
White-throated Bee-eater	<i>Merops albicollis</i>	+	+	M+B
European Bee-eater	<i>Merops apiaster</i>	+	-	P
Order Coreciiformes: 3- Family: Coraciidae				
Abyssinian Roller*	<i>Coracias abyssinica</i>	+	+	M+B
European Roller	<i>Coracias garrulous</i>	+	+	P
Rufous-crowned Roller*	<i>Coracias naevia</i>	+	+	M+B
Order Coreciiformes: 4- Family: Bucerotidae				
Grey Horn bill*	<i>Tockus nasutus</i>	+	+	R+B
Red-billed Horn bill*	<i>Tockus erythrorhynchus</i>	+	+	R+B
Order Coreciiformes: 5- Family: Upupidae				
African Hoopoe	<i>Upupa Africana</i>	+	-	R+B
Eurasian Hoopoe	<i>Upupa epops</i>	+	+	R+B+P+W
Order Coreciiformes: 6- Family: Phoeniculidae				
Green Wood-hoopoe*	<i>Phoeniculus purpureus</i>	+	+	R+B
Black Wood-hoopoe*	<i>Phoeniculus somaliensis</i>	+	+	R
Abyssinian Scimitarbill	<i>Rhiopomastus minor</i>	+	-	R+B
Order Piciformes: 1- Family: Capitonidae				
Vieillot's Barbet*	<i>Lybius vieilloti</i>	+	+	R+B
black-breasted Barbet	<i>Lybius rolleti</i>	+	-	R+B
Yellow- breasted Barbet*	<i>Trachyphonus margaritatus</i>	+	+	R+B
Order Piciformes: 2- Family: Indicatoridae				
Black-throated Honey guide	<i>Indicator indicator</i>	+	-	R
Lesser Honey guide	<i>Indicator minor</i>	+	+	R
Order Piciformes: 3- Family: Picidae				
Brown-backed Wood Pecker	<i>Picoides obsoletus</i>	+	-	R+B
Nubian Wood Pecker	<i>Campethera nubica</i>	+	+	R+B
Bearded wood Pecker	<i>Dendropicos namaquus</i>	+	+	R+B
Grey Wood Pecker	<i>Dendropicos goertae</i>	+	+	R+B
Little Grey Wood Pecker	<i>Dendropicos elachus</i>	+	-	R+B
Order Passeriformes: 1- Family: Alaudidae				
Red-winged Lark	<i>Mirafr hypermetra</i>	+	-	R
Flappet Lark	<i>Mirafr rufocinnamomea</i>	+	-	R+B
Singing Bush Lark	<i>Mirafr cantillans</i>	+	-	R+B
Sun Lark	<i>Galerida modesta</i>	+	-	R+B
Short-toed Lark	<i>Calandrella brachydactyla</i>	+	+	P+W
Chestnut-backed Sparrow Lark	<i>Eremopterix leucotis</i>	+	+	R+B
Chestnut-headed Sparrow Lark	<i>Eremopterix signata</i>	+	-	R+B
White- fronted Sparrow Lark	<i>Eremopterix nigriceps</i>	+	+	R+B
Order Passeriformes: 2- Family: Hirundinidae				
Common House Martin	<i>Delichon urbica</i>	+	-	P+W
African Sand Martin	<i>Riparia paludicola</i>	+	-	P+W
African Rock Martin	<i>Hirundo fuligula</i>	+	-	R+B+P+W
Eurasian Swallow*	<i>Hirundo rustica</i>	+	+	P
Wire-tailed Swallow*	<i>Hirundo smithii</i>	+	+	R+B
Ethiopian Swallow*	<i>Hirundo aethiopica</i>	+	+	R+B
Mosque Swallow	<i>Cecropis senegalensis</i>	+	-	R+B
Order Passeriformes: 3- Family: Motacillidae				
White wagtail	<i>Motacilla alba</i>	+	+	P+W
Grey Wagtail	<i>Motacilla cinerea</i>	+	+	P+W
African Pied Wagtail	<i>Motacilla aguimp</i>	+	-	R
Yellow Wagtail	<i>Motacilla flava</i>	+	+	P+W

Tree Pipit	<i>Anthus trivialis</i>	+	-	P+W
Long-billed Pipit	<i>Anthus similis</i>	+	-	R+B
Order Passeriformes: 4- Family: Pycnonotidae				
Common Bulbul	<i>Pycnonotus barbatus</i>	+	+	R+B
Yellow-vented Bulbul	<i>Pycnonotus tricolor</i>	+	+	R+B
Order Passeriformes: 5- Family: Turdidae				
Common Rock-thrush	<i>Monticola saxatilis</i>	+	+	P+W
Blue Rock-Thrush	<i>Monticola solitaries</i>	+	+	P+W
Northern Anteater Chat	<i>Myrmecocichla aethiops sudanensi</i>	+	+	R+B
Ant Chat	<i>Myrmecocichla aethiops</i>	+	+	R+B
White-crowned Cliff Chat	<i>Thamnolaea cinnamomeiventris</i>	+	+	R+B
Common Stone Chat	<i>Saxicola torquata</i>	+	+	R+B+P+W
Nightingale	<i>Lusciniamegarhynchos</i>	+	+	P+W
Common Red start	<i>Phoenicurus phoenicurus</i>	+	+	P+W
Brown-tailed Rock Chat	<i>Cercomela scotocerca</i>	+	+	R+B
Red -tailed chat	<i>Cercomela familiaris</i>	+	+	R
Black-tailed Rock Chat	<i>Cercomela melanura</i>	+	+	R+B
Rufous Bush Chat	<i>Cercotrichas galactotes</i>	+	+	R+B+P+W
Black Bush Robin*	<i>Cercotrichas podobe</i>	+	+	R+B
White-browed Robin-Chat	<i>Cossypha heuglini</i>	+	+	R+B
Snowy-headed Robin-Chat	<i>Cossypha niveicapilla</i>	+	+	R+B
Northern Wheatear	<i>Oenanthe oenanthe</i>	+	+	P+W
Isabelline Wheatear	<i>Oenanthe isabellina</i>	+	+	P+W
Pied Wheatear	<i>Oenanthe pleschanka</i>	+	+	P+W
Black -eared Wheatear	<i>Oenanthe hispanica</i>	+	+	P+W
Desert Wheatear	<i>Oenanthe deserti</i>	+	+	P+W
Red- breasted Wheatear	<i>Oenanthe heuglini</i>	+	-	R+B
Order Passeriformes: 6- Family: Sylviidae				
African Reed Warbler	<i>Acrocephalus baeticatus</i>	+	+	M+B
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	+	-	P+W
Reed Warbler	<i>Acrocephalus scirpaceus</i>	+	+	P+W+M+B
Willow Warbler	<i>Phylloscopus trochilus</i>	+	-	P
Wood Warbler	<i>Phylloscopus sibilatrix</i>	+	+	P+W
Acacia Warbler	<i>Phyllolais pulchellus</i>	+	+	
Upcher,s Warbler	<i>Hippolais languida</i>	+	-	P+V
Olivaceous Warbler	<i>Hippolais pallida</i>	+	+	R+B+P+W
Cricknet Warbler	<i>Spiloptila clamans</i>	-	+	R+B
Rufous Warbler	<i>Erythropygia rufus</i>	+	-	R
Garden Warbler	<i>Sylviaaborin</i>	+	-	P
Barred Warbler	<i>Sylvianisoria</i>	+	-	P
Ruppell,s Warbler	<i>Sylvia rueppelli</i>	+	-	P+W
Black Cap	<i>Sylvia atricapilla</i>	+	-	P+W
Common white Throat	<i>Sylvia communis</i>	+	-	P+W
Crombec*	<i>Sylvietta brachyura</i>	+	+	R+B
Green-backed Eremomela	<i>Eremomela pusilla</i>	+	+	R+B
Yellow-billed Eremomela*	<i>Eremomela icteropygialis</i>	+	+	R+B
Brown -backed Eremomela	<i>Eremomela griseoflava</i>	+	-	R+B
Order Passeriformes: 7- Family: Cisticolidae				
Red-fronted Apalis	<i>Apalis rufifrons</i>	+	-	R
Grey-backed Camaroptera*	<i>Camaroptera brachyura</i>	+	+	R+B
Desert Cisticola	<i>Cisticola aridulus</i>	+	+	R+B
Zitting Cisticola	<i>Cisticola juncidis</i>	+	+	R+B
Red-pate Cisticola	<i>Cisticola ruficeps</i>	+	+	R+B

Foxy Cisticola	<i>Cisticola troglodytes</i>	+	+	R+B
Croaking Cisticola	<i>Cisticola natalensis</i>	+	+	R
Tawny-flanked Prinia*	<i>Prinia subflava</i>	-	+	R+B
Order Passeriformes: 8- Family: Muscicapidae				
Pale Flycatcher	<i>Bradornis pallidus</i>	+	+	R+B
Spotted Flycatcher	<i>Muscicapa striata</i>	+	+	P
Order Passeriformes: 9- Family: Monarchidae				
African Paradise-Flycatcher*	<i>Terpsiphone viridis</i>	+	+	M+B
Order Passeriformes: 10- Family: Platysteiridae				
Black-headed Batis*	<i>Batis minor</i>	+	+	R+B
Grey-headed Batis*	<i>Batis orientalis</i>	+	+	R+B
Order Passeriformes: 11- Family: Paridae				
Black Tit	<i>Parus leucomelas</i>	+	+	R+B
Yellow White-eye	<i>Zosterops senegalensis</i>	+	-	R+B
Order Passeriformes: 12- Family: Remizidae				
Sennar Penduline Tit*	<i>Remiz punctifrons</i>	+	+	R+B
Cappoc Penduline Tit*	<i>Remiz punctiformis</i>	-	+	R+B
Mouse-coloured Penduline Tit	<i>Remiz musculus</i>	-	+	R
Yellow Penduline Tit	<i>Remiz parvulus</i>	-	+	R
Order Passeriformes: 13- Family: Nectariniidae				
Scarlet-chested Sunbird*	<i>Nectarinia senegalensis</i>	+	+	R+B
Beautiful Sun bird*	<i>Nectarinia pulchellus</i>	+	+	R+B
Copper Sunbird	<i>Nectarinia cupreus</i>	+	+	R+B
Variable Sunbird	<i>Nectarinia venustus</i>	+	+	R+B
Pygmy Sun bird*	<i>Anthreptes platura</i>	+	+	R+B
Eastern Pygmy Sun bird*	<i>Anthreptes metallica</i>	+	+	R+B
Order Passeriformes: 14- Family: Laniidae				
Grey-backed Fiscal	<i>Laniusexcubitoroides</i>	+	+	R+B
Great Grey Shrike	<i>Lanius excubitor</i>	+	-	P
Lesser Grey Shrike	<i>Lanius minor</i>	+	+	P
Wood Chat Shrike	<i>Lanius senator</i>	+	+	P+W
Masked Shrike	<i>Lanius nubicus</i>	+	+	P+W
Red-tailed Shrike	<i>Lanius isabellinus</i>	+	+	P+W
Red-backed Shrike	<i>Lanius collurio</i>	+	+	P
Yellow-billed Shrike	<i>Corvinella corvine</i>	+	+	R+B
Order Passeriformes: 15- Family: Malacontidae				
Black-headed Gonolek	<i>Laniarius erythrogaster</i>	+	-	R+B
Northern Brubru	<i>Nilais afer</i>	+	+	R+B
Northern Puffback	<i>Dryoscopus gambensis</i>	+	-	R+B
Black-headed Tchagra	<i>Tchagra senegala</i>	+	+	R+B
Rosy-patched Shrike	<i>Rhodophoneus cruentus</i>	+	+	R+B
Sulphur-breasted Bush-Shrike	<i>Malaconotus sulfureopectus</i>	+	-	R+B
Grey-headed Bush-Shrike	<i>Malaconotus blanchoti</i>	+	+	R+B
Order Passeriformes: 16- Family: Dicruridae				
Drongo	<i>Dicrurus adsimilis</i>	-	+	R+B
Order Passeriformes: 17- Family: Corvidae				
Piapiac	<i>Ptilostomus afer</i>	+	+	R+B
Cape Rook*	<i>Corvus capensis</i>	+	+	R+B
Fan-tailed Raven*	<i>Corvus rhipidurus</i>	+	+	R+B
Pied Crow	<i>Corvus albus</i>	+	+	R+B
Order Passeriformes: 18- Family: Oriolidae				
Eurasian Golden Oriole	<i>Oriolus oriolus</i>	+	-	P
African Golden Oriole	<i>Oriolus auratus</i>	+	-	M
Yellow-billed Oxpecker	<i>Buphagus africanus</i>	+	-	R+B

Order Passeriformes: 19- Family: Sturnidae				
Greater Blue-eared Starling*	<i>Lamprotornis chalybaeus</i>	+	+	R+B
Lesser Blue-eared Starling	<i>Lamprotornis chloropterus</i>	+	+	M
Bronze-tailed Starling	<i>Lamprotornis chalcurus</i>	+	-	M
Long-tailed Glossy Starling	<i>Lamprotornis caudatus</i>	+	+	R+B
Ruppell,s Long-tailed Starling	<i>Lamprotornis purpuropterus</i>	+	+	R+B
Purple Starling	<i>Lamprotornis purpureus</i>	+	+	R+B
Chestnut-billed Starling*	<i>lamprotornis pulcher</i>	+	+	R+B
Order Passeriformes: 20- Family: Passeridae				
House Sparrow*	<i>Passer domesticus</i>	+	+	R+B
Kordofan Rufous Sparrow*	<i>Passer cordofanicus</i>	+	+	R
Chestnut Sparrow	<i>Passer eminibey</i>	+	+	R+B
Sudan Golden Sparrow*	<i>Passer luteus</i>	+	+	R+B
Grey-headed Sparrow*	<i>Passer griseus</i>	+	+	R+B
Desert Sparrow	<i>Passer simplex</i>	+	+	R+B
Bush Petronia	<i>Petronia dentate</i>	+	+	R+B
Yellow-spotted Petronia	<i>Petronia pyrgita</i>	+	+	R
Chestnut-crowed Sparrow-weaver*	<i>Plocepasser superciliosus</i>	+	+	R+B
Order Passeriformes: 21- Family: Ploceidae				
Grey-headed Social-Weaver	<i>Pseudonigrita arnaudi</i>	+	+	R+B
White-billed Buffalo-Weaver*	<i>Bubalornis albirostris</i>	+	+	R+B
Speckle-fronted Weaver*	<i>Sporopipes frontalis</i>	-	+	R+B
Village Weaver*	<i>Ploceus cucullatus</i>	+	+	R+B
Abyssinian Masked Weaver*	<i>Ploceus intermedius</i>	+	+	R+B
Vitelline Masked Weaver*	<i>Ploceus vitellinus</i>	+	+	R+B
Northern Masked Weaver*	<i>Ploceus taeniopterus</i>	+	+	R+B
Speke,s Weaver*	<i>Ploceus spekei</i>	+	+	R+B
Little Weaver*	<i>Ploceus luteolus</i>	+	+	R+B
Cinnamon weaver	<i>Ploceus badius</i>	+	+	R+B
Red-billed Quelea	<i>Quelea quelea</i>	+	+	M+B
Northern Red Bishop*	<i>Euplectes franciscanus</i>	+	+	R+B
Black-winged Red Bishop	<i>Euplectes hordeaceus</i>	+	+	R+B
Yellow-crowned Bishop	<i>Euplectes afer</i>	+	-	R+B
Order Passeriformes: 22- Family: Estrididae				
Green-winged Pytilia*	<i>Pytilia melba</i>	+	+	R+B
Red-cheeked Cordon-bleu*	<i>Uraeginthus bengalus</i>	+	+	R+B
Black-faced Fire Finch	<i>Lagonosticta larvata</i>	+	-	R+B
Red-billed Fire Finch*	<i>Lagonosticta senegala</i>	+	+	R+B
Cut-throat Finch*	<i>Amadina fasciata</i>	+	+	R+B
Common Wax Bill	<i>Estrilda astrild</i>	+	+	R
Black-rumped Wax Bill*	<i>Estrilda troglodytes</i>	+	+	R+B
Crimson-rumped Waxbill	<i>Estrilda rhodopyga</i>	+	-	R
Silver bill*	<i>Euodice cantans</i>	+	+	R+B
Order Passeriformes:23-Family: Viduidae				
Sudan Broad-tailed Whydah*	<i>Vidua orientalis</i>	+	+	R+B
Pin-tailed Whydah*	<i>Vidua macroura</i>	+	+	R+B
Purple Indigo bird	<i>Vidua chalybeate</i>	+	+	R+B
Green Indigo bird	<i>Vidua nigeriae</i>	+	+	R
Order Passeriformes: 24- Family: Fringillidae				
Yellow-fronted Canary	<i>Serinus mozambicus</i>	+	+	R+B
Streaky-headed Seedeater	<i>Serinus gularis</i>	+	+	R
White-rumped Seedeater	<i>Serinus leucopygius</i>	+	+	R+B
Order Passeriformes:15-Family: Emberiziade				

House Bunting		<i>Emberiza striolata</i>	+	+	R+B
Cinnamon-breasted Bunting*	Rock	<i>Emberiza tahapisi</i>	+	+	R+B
African Bunting	Golden-breasted	<i>Emberiza flaviventris</i>	+	+	R+B
Cretzschmar,s Bunting		<i>Emberiza caesia</i>	+	+	P+W

On basis of IUCN Red List, the conservation status following www.iucnredlist.org (2016) recognized as follows:

1. "265" bird species as Least Concerned (LC). This comprised 97% of the recorded birds.
2. The following species *Circus macrourus*, *Buteo tachardus oreophilus*, *Falco concolor*, *Falco vespertinus*, *Erythropygia rufus* were recognized as Near Threatened (NT).
3. The following species *Gyps africanus*, *Gyps rueppellii*, *Neophron monachus* bird species as Critically Endangered (CR).
4. *Aquila nipalensis orientalis* was the only bird species recorded from the area as Endangered (EN).

Figure (7): A. Black Kite (*Milvus migrans*), B. Montagu's Harrier (*Circus pygargus*), C. Ruppell's Griffon Vulture (*Gyps rueppellii*), D. Fox Kestrel (*Falco alopex*), E. Common Kestrel (*Falco tinnunculus*), F. Lesser Kestrel (*Falco naumanni*).

Family Passeriformes has highly diverse and abundant with 25 families and 161 species. Psittacidae was represented by two species *Poicephalus meyeri* and *Psittacula krameri* (Figure.8).

Figure (8): A. Brown Parrot (*Poicephalus meyeri*), B. Rose-ringed Parakeet (*Psittacula krameri*), C. Northern Crombec (*Sylvietta brachyura*), D. Chestnut-headed Sparrow Lark (*Eremopterix signata*), E. Rufous Bush Chat (*Cercotrichas galactotes*), F. Chestnut-crowned Sparrow Weaver (*Plocepasser superciliosus*).

Determinant factors included predators and heat stress (Figure.9,10) and game shooting of *Eupodotis ruficrista* and *Ciconia ciconia*.

Figure (9): A dead *Burhinus senegalensis*, December 2015.

Figure (10): A dead *Milvus migrans* probably due to heat stroke, April 2016.

There were marked changes in the bird's fauna in the Jabel El Dayer National Park study area. Between 2014 and 2016 (August 2015 to April 2016). It is a little doubted that these were associated with the climate changes resulting from the onset of rains and subsequent changes in the habitats (Greig-Smith, 1980). The Park is an attractive site for some African (27) and Palearctic (61) migrant species. The African migrants were represented by *Clamator glandarius*, *Coracias naevius*, *Caprimulgus climacurus* and *Terpsiphone viridis* while the Palearctic were represented by *Circus aeruginosus*, *Falco naumanni*, *Merops apiaster* and *Oenanthe pleschanka*. This reflects seasonality of the birds in the park. A similar seasonal variation in birds was observed at Dinder National Park, Sudan (Hamed, 1998 and Ramzy, 2010), Shendi Area in the north (Sulieman et al., 2016) and El Ga'ab Depression (Mahmoud et al., 2015). A similar seasonal variation in birds was observed in Palestine by Abd Rabou (2011, 2019,). In fact, the Park in question provided food, resting, nesting, and camouflaging and protection sites for bird fauna. More regular field visits may enrich the bird list of Jabel El Dayer National Park. A birding unit should be established and bird watcher should be encouraged at the Park.

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