



Bird Species of Conservation Concern along the Brahmaputra River in Assam, Northeast India

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Abstract

The Brahmaputra is one of the significant river ecosystems of Assam. A brief avifaunal survey was conducted along the Brahmaputra River, Assam, during February and March 2012. A total of 220 species belonging to 47 families were recorded. Twenty species were globally threatened (4 Critically Endangered, 2 Endangered, 6 Vulnerable and 8 Near Threatened) including Slender-billed Vulture *Gyps tenuirostris*, White-backed Vulture *Gyps bengalensis*, White-winged Duck *Asarcornis scutulata*, Baer's Pochard *Aythya abaeri*, Lesser White-fronted Goose *Anser erythropus*, Bengal Florican *Houbaropsis bengalensis*, Greater Adjutant-Stork *Leptoptilos dubius*, Spot-billed Pelican *Pelecanus philippensis*, Black-headed Ibis *Threskiornis melanocephalus*, Lesser Kestrel *Falco naumanni*, Black-necked Stork *Ephippiorhynchus asiaticus*, Oriental Darter *Anhinga melanogaster* and Grey-headed Fish-Eagle *Ichthyophaga ichhyaetus*. All species of birds observed during the survey were recorded and some significant records are discussed. Nine of the 47 families were represented by more than seven species (8 to 30), 21 by three to six species and 17 by one or two species. Suggestions are made for the introduction of control measures to regulate the intensive fishing activities and agricultural practices of local people on islets in the river. Providing them with alternative sustainable livelihoods may help to sustain the river ecosystem.

1. Introduction

Birds are facing several threats such as deforestation, hunting, habitat loss and climatic changes (Parsons 1935). Birds are ideal bio-indicators and useful models for studying a variety of environmental problems, and the importance of local landscapes for avian conservation can only be understood by knowing the structure of the bird community in the region concerned (Kattan & Franco 2004). India has more than 1,200 species of birds which is over

13 percent of the world's avifauna. Of these 1,200 species, 922 have been reported from northeastern India including many threatened species (Choudhury 1991, 1997).

The Brahmaputra River flows through several protected areas and reservoirs in Assam, namely Dibru-Saikhowa National Park, Kaziranga National Park, Orang National Park, Dihing Wildlife Sanctuary and Deepor Beel Ramsar Site. Apparently many of bird populations in India have been dwindling due to direct or indirect impacts of the increase in the human

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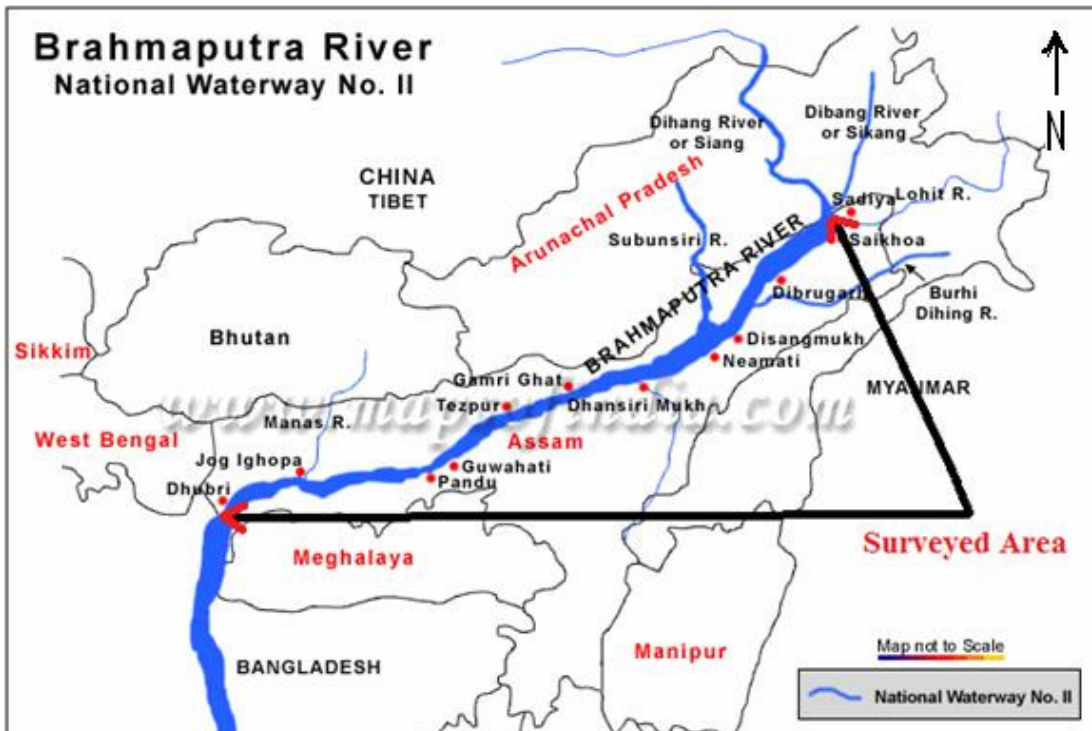


Fig. 1. Map showing the section of the Brahmaputra River where avifaunal diversity was documented during February and March 2012.

population and poaching (Das 2006). Because of the many threats to bird populations including habitat loss, fragmentation and severe anthropogenic pressures, there is a need to study the current composition and status of bird species as a basis for future monitoring and implementation of appropriate conservation measures (Choudhury 1991, Chandra & Singh 2004).

The Brahmaputra is the second largest river in India. This mighty river originates in Tibet in China and then flows through Arunachal Pradesh and Assam in northeast India and Bangladesh. It finally joins the Bay of Bengal in the Sundarbans in Bangladesh (Choudhury 1993). The Brahmaputra River flows through two northeastern states of India, namely Arunachal Pradesh and Assam. The river and its immense islands support rich biodiversity and are of considerable socio-ecological importance. Northeastern India has a tropical climate, receiving high rainfall of 4,800 mm from the northeast monsoons (Choudhury 1997). The river contains an immense archipelago of islands

and sandbars; some of the islands are vast, including ‘Majuli’, the second largest freshwater island in the world. This river is home to several threatened species such as the Ganges River Dolphin *Platanista gangetica*, Bengal Florican *Houbaropsis bengalensis*, and several vultures and waterbirds (Birdlife International 2013). Mammalian species occurring in nearby protected areas include the Royal Bengal Tiger *Panthera tigris*, One-horned Rhinoceros *Rhinoceros unicornis*, Water Buffalo *Bubalus bubalis*, Wild Dog *Cuon alpinus* and Swamp Deer *Rucervus duvaucelii*. However, the avifauna of the entire Brahmaputra valley has been poorly studied in the past decades (Choudhury 1994). In order to fulfill conservation concerns, we conducted a short-term survey to document the avifaunal diversity along the Brahmaputra River.

2. Methods

A total of 760 km were surveyed; opportunistic sightings of birds were made along the Brahmaputra River, in nearby protected areas

and in other microhabitats (Johnson *et al.* 2012) during February and March 2012, as part of the “Survey on Conservation of Endangered Gangetic River Dolphin in Brahmaputra River System” (Fig. 1). We used a moving vessel with a constant speed of 10 kph for data collection. Observations were made from dawn to dusk with the help of Bushnell 8x42 binoculars; the standard field guides were used for bird identification (Ali & Ripley 1987, Grimmett *et al.* 1998, Rasmussen & Anderton 2005). The status of the birds observed was assessed on the basis of the standard method outlined by Khan (1980). The birds were ranked in three categories based on their frequency of occurrence during the survey period: Common– bird species recorded on 50–100% of days during the survey period; Occasional– species observed on 25–50% of days; Rare– species sighted on less than 25% of days (Baker 1921).

3. Results

A total of 220 bird species belonging to 47 families were recorded along the Brahmaputra River during the entire survey period. Including opportunistic sightings near protected areas and in other microhabitats added 55 terrestrial birds and thirteen individuals of seven species (six families) were only recorded during opportunistic searches near protected areas (Appendix I). The family with the largest number of bird species was the Anatidae (27 species), followed by Ardeidae (13 species), Scolopacidae (12 species), Accipitridae (11 species) and Charadriidae (10 species). There were eight species represented by Motacillidae, Columbidae and Cuculidae families. Rallidae was representing 7 species in the checklist. Twenty-one families added between three and six species to the checklist, and 17 other families were represented by one or two species (Table 2).

3.1. Some significant records

A flock of 18 Slender-billed Vultures *Gyps tenuirostris* (CE) was recorded near the Panpoor Reserve Forest on the west bank of the Brahmaputra (26°38'56.7"N, 93°02'23.2"E, 54

m asl), and six Long-billed Vultures *Gyps indicus* (CE) were also seen feeding on a buffalo carcass. A female Bengal Florican *Houbaropsis bengalensis* (E) was seen near Dhola Ghat on 7 February 2012. The habitat in which the florican was sighted was not pure *Imperata cylindrical* but was grassland mixed with reeds, with *Arundo donax* as the dominant species. Two White-winged Ducks *Asacornis scutulata* (E) were seen on the water near Dibru-Saikhowa National Park on 11 February 2012. Twenty four Spot-billed Pelicans *Pelecanus philippensis* (V) were seen twice during the survey period (Fig. 1). Six Greater Adjutant-Storks *Leptoptilos dubius* (E) were seen near Bera Chapori (27°47'00.8"N; 95°17'58.5"E) on 13 February 2012. Interestingly two noteworthy species, Lesser White-fronted Goose (VU) and Baer's Pochard (CR) were recorded in the same day on 13.02.12 near Dibru-Saikhowa National Park. During the observation, we noted that the Lesser White-fronted Goose had a very conspicuous white face, broad black bars which cross the belly and most importantly we noticed that the eye had a yellow ring. The head of Baer's Pochard was dark black with clearly shine the white iris which clearly noticed by us during the observation.

4. Discussion

This was the first systematic survey of birds along the Brahmaputra River. This survey revealed that the river is an important area for many threatened bird species. Of the total species observed, nine families were represented by more than seven species, 21 families by 3–7 species and 17 families by one or two species. Among the species observed, 20 species were globally threatened (4 Critically Endangered, 2 Endangered, 6 Vulnerable and 8 Near Threatened; Table 1). Most of the threatened species were recorded in small numbers (rare sightings) during the survey period.

The Indian Vulture and the White-rumped Vulture have suffered a 97%–99% population decrease in Pakistan and India, and the annual decline of these species and the Slender-billed Vulture averaged over 16% between 2000 and

2007 (Prakash *et al.* 2012). The cause of this decrease has been identified as poisoning through the veterinary drug, diclofenac (Green *et al.* 2004). Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) and it causes kidney failure in vultures. The Bengal Florican faces a serious threat from habitat loss and the threatened waterbirds, such as pelicans, fish eagles, White-winged Duck and storks face a serious threat from intensive fishing in the Brahmaputra River. Choudhury (1997), Das (2006) and Chandra & Singh (2004) stated that Brahmaputra valley has severe anthropogenic pressures and periodical avifaunal studies required for their long term conservation. Heavy grazing has resulted in the degradation of grassland. Annual floods with periodic high-level flooding and erosion by river channels are major natural problem to the area (Myers *et al.* 2000) and it surely help to maintain the rich biodiversity in the region. Intensive fishing is a direct threat to waterbirds; semi-nomadic cattle camps, encroachment, habitat degradation and soil erosion are the immediate threats to the Brahmaputra River ecosystem (Islam & Rahmani 2004).

Implication for conservation

The presence of several villages on islets, habitat destruction through expansion of agricultural practices and unrestricted fishing activities are major threats to the Brahmaputra River. Many of the villagers are also engaged in tree felling and timber smuggling along this river (pers. obs.). Because of the higher flow through the Brahmaputra River in recent years, some of the narrow channels now resemble rivers and some good forest and grassland have been eroded away by them (Choudhury 1997). It now seems necessary to regulate or stop timber extraction and fishing by gill nets and lift nets. Uncontrolled fishing in the Brahmaputra may be having a direct influence on waterbirds and their survival. Suggestions are made for the introduction of control measures to regulate the intensive fishing activities and agricultural practices by local people on islets in the river. Providing them with alternative sustainable livelihoods may help to sustain the river ecosystem. Awareness campaigns are also recommended in the villages along the river.

Table 1. Globally threatened species recorded along the Brahmaputra River in Assam.

CR-Critically Endangered; E- Endangered; VU- Vulnerable; NT- Near Threatened; IW(P)A, 1972- Indian Wildlife Protection Act-1972

Species/ Scientific Names	Observation Date & No	IW(P)A, 1972 Status	IUCN (2013/14)	Status
Baer's Pochard <i>Aythya baeri</i>	13.02.12 2	Schedule IV		CR
Bengal Florican <i>Houbaropsis bengalensis</i>	07.02.12 1	Schedule I		E
Black-bellied Tern <i>Sterna acuticauda</i>	07.02.12 1, 3	Schedule IV		NT
Black-headed Ibis <i>Threskiornis melanocephalus</i>	23.02.12 5	Schedule IV		NT
Black-necked Stork <i>Ephippiorhynchus asiaticus</i>	24.02.12 4	Schedule IV		NT
Blyth's Kingfisher <i>Alcedo hercules</i>	17.02.12 3	Schedule IV		NT
Ferruginous Pochard <i>Aythya nyroca</i>	19.02.12 2	Schedule IV		NT
Greater Adjutant-Stork <i>Leptoptilos dubius</i>	13.02.12 6	Schedule IV		E
Grey-headed Fish-Eagle <i>Ichthyophaga ichthyaetus</i>	22.02.12 1	Schedule I		NT
Indian Vulture <i>Gyps indicus</i>	09.02.12 6	Schedule I		CR
Lesser Adjutant-Stork <i>Leptoptilos javanicus</i>	22.02.12 13	Schedule IV		VU
Lesser Kestrel <i>Falco naumanni</i>	22.02.12 1	Schedule IV		VU
Lesser White-fronted Goose <i>Anser erythropus</i>	13.02.12 5	Schedule IV		VU
Mandarin Duck <i>Aix galericulata</i>	15.02.12 3	Schedule IV		NT
Oriental Darter <i>Anhinga melanogaster</i>	10.02.12 2, 3	Schedule IV		NT
Purple Wood-Pigeon <i>Columba punicea</i>	22.02.12 10	Schedule IV		VU
Slender-billed Vulture <i>Gyps tenuirostris</i>	09.02.12 18	Schedule I		CR
Spot-billed Pelican <i>Pelecanus philippensis</i>	22.02.12 24	Schedule IV		VU
White-rumped Vulture <i>Gyps bengalensis</i>	24.02.12 6	Schedule I		CR
White-winged Duck <i>Asarcornis scutulata</i>	11.02.12 2	Schedule I		E

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Appendix I. Checklist of birds recorded along the Brahmaputra River (including nearby Protected Areas and microhabitats) during February and March 2012. C- Common; O- Occasional; X- Rare; R- Resident; W- Winter visitor; V- Vagrant; LM- Local migrant.

Family/ Common/ Scientific names/ Status**Podicipedidae**

Black-necked Grebe *Podiceps nigricollis* W,O

Great Crested Grebe *Podiceps cristatus* W,O

Horned Grebe *Podiceps auritus* W,O

Red-necked Grebe *Podiceps grisegena* W,X

Little Grebe *Tachybaptus ruficollis* R,C

Pelecanidae

Great White Pelican *Pelecanus onocrotalus* W,X

Family/ Common/ Scientific names/ Status

Spot-billed Pelican *Pelecanus philippensis* VU,L,X

Phalacrocoracidae

Great Cormorant *Phalacrocorax carbo* W,C

Indian Cormorant *Phalacrocorax fuscicollis* W,X

Little Cormorant *Phalacrocorax niger* R,C

Anhingidae

Oriental Darter *Anhinga melanogaster* NT,R,C

Ardeidae

Black Bittern *Ixobrychus flavicollis* R,X

Chestnut Bittern *Ixobrychus cinnamomeus* R,C

Yellow Bittern *Ixobrychus sinensis* R,X

Large Egret *Casmerodius albus* R,X

Eastern Cattle Egret *Bubulcus ibis coromandus* R,C

Great Bittern *Botaurus stellaris* R,X

Bird species of conservation concern in Brahmaputra- *Narasimmarajan et al.*

Family/ Common/ Scientific names/ Status

Grey Heron *Ardea cinerea* R,C
 Purple Heron *Ardea purpurea* R,X
 Indian Pond-Heron *Ardeola grayii* R,C
 Intermediate Egret *Egretta intermedia* R,C
 Little Egret *Egretta garzetta* R,C
 Little Green Heron *Butorides striatus* R,C
 Black-crowned Night-Heron *Nycticorax nycticorax* R,C
Ciconiidae
 Black Stork *Ciconia nigra* R,O
 White Stork *Ciconia ciconia* LM,V,X
 Woolly-necked Stork *Ciconia episcopus* R,X
 Black-necked Stork *Ephippiorhynchus asiaticus* NT,R,X
 Greater Adjutant *Leptoptilos dubius* EN, LM, X
 Lesser Adjutant *Leptoptilos javanicus* VU, LM, X
Threskiornithidae
 Black Ibis *Pseudibis papillosa* LM,X
 Black-headed Ibis *Threskiornis melanocephalus* NT,V,X
 Eurasian Spoonbill *Platalea leucorodia* W,X
 Glossy Ibis *Plegadis falcinellus* LM,V
Anatidae
 Chinese Spot-billed Duck *Anas zonorhyncha* W,X
 Common Teal *Anas crecca* W,U
 Falcated Duck *Anas falcata* W,X
 Gadwall *Anas strepera* W,C
 Garganey *Anas querquedula* W,X
 Northern Pintail *Anas acuta* W,C
 Northern Shoveller *Anas clypeata* W,O
 Mallard *Anas platyrhynchos* R,C
 Indian Spot-billed Duck *Anas poecilorhyncha* R,W,C
 Bar-headed Goose *Anser indicus* W,X
 Bean Goose *Anser fabalis* W,X
 Grey lag Goose *Anser anser* W,C
 Greater White-fronted Goose *Anser albifrons* W,X
 Lesser White-fronted Goose *Anser erythropus* W,X
 Baer's Pochard *Aythya baeri* CR,W,X
 Common Pochard *Aythya ferina* W,X
 Ferruginous Pochard *Aythya nyroca* NT,W,X
 Tufted Duck *Aythya fuligula* W,X
 Fulvous Whistling Duck *Dendrocygna bicolor* R,X
 Lesser Whistling Duck *Dendrocygna javanica* R,X
 Mandarin Duck *Aix galericulata* NT,W,X
 White-winged Duck *Asarcornis scutulata* EN,R,X
 Cotton Pygmy-Goose *Nettapus coromandelianus* W,X
 Red-crested Pochard *Netta rufina* W,O
 Ruddy Shelduck *Tadorna ferruginea* W,C
 Common Shelduck *Tadorna tadorna* W,O
 Common Merganser *Mergus merganser* W,X
Accipitridae
 Black Kite *Milvus migrans* R,C
 Crested Serpent Eagle *Spilornis cheela* R,C
 Grey-headed Fish Eagle *Ichthyophaga ichthyaetus* NT,R,O
 Hen Harrier *Circus cyaneus* W,O
 Oriental Honey-Buzzard *Pernis ptilorhynchus* R,X
 Brahminy Kite *Haliastur indus* R,C
 Pallas's Fish-eagle *Haliaeetus leucoryphus* VU,W,X
 Shikra *Accipiter badius* R,C
 Long-billed Vulture *Gyps indicus* CR,R,X
 Slender-billed Vulture *Gyps tenuirostris* CR,R,LM,X
 White-rumped Vulture *Gyps bengalensis* CR,R,X
Falconidae
 Lesser Kestrel *Falco naumanni* NT,V,X
 Pied Falconet *Microhierax melanoleucos* R,U
Phasianidae
 Red Jungle Fowl *Gallus gallus* R,X
Turnicidae
 Common Buttonquail *Turnix sylvaticus* R,X

Family/ Common/ Scientific names/ Status

Yellow-legged Buttonquail *Turnix tanki* R,W,X
Gruidae
 Common Crane *Grus grus* W,O
 Demoiselle Crane *Anthropoides virgo* W,X
Rallidae
 Brown Crake *Amauornis akool* R,X
 White-breasted waterhen *Amauornis phoenicurus* R,C
 Common Moorhen *Gallinula chloropus* R,C
 Water-cock *Gallicrex cinerea* R,X
 Common Coot *Fulica atra* W,O
 Purple Moorhen *Porphyrio porphyrio* R,C
 Ruddy-breasted Crake *Porzana fusca* R,X
 Spotted Crake *Porzana porzana* R,X
Jacaniidae
 Bronze-winged Jacana *Metopidius indicus* R,O
 Pheasant-tailed Jacana *Hydrophasianus chirurgus* R,C
Rostratulidae
 Greater Painted Snipe *Rostratula benghalensis* R,X
Recurvirostridae
 Black-winged Stilt *Himantopus himantopus* R,O
 Pied Avocet *Recurvirostra avosetta* W,O
Charadriidae
 Greater Sand Plover *Charadrius leschenaultii* W,X
 Little Ringed Plover *Charadrius dubius* R,W,O
 Long-billed Plover *Charadrius placidus* W,X
 Kentish Plover *Charadrius alexandrinus* W,O
 Grey Plover *Pluvialis squatarola* R,X
 Grey-headed Lapwing *Vanellus cinereus* W,X
 Northern Lapwing *Vanellus vanellus* W,O
 Red-wattled Lapwing *Vanellus indicus* R,C
 River Lapwing *Vanellus duvaucelii* R,C
 Yellow-wattled Lapwing *Vanellus malabaricus* W,X
Scolopacidae
 Common Sandpiper *Actitis hypoleucos* W,C
 Common Greenshank *Tringa nebularia* W,C
 Common Redshank *Tringa totanus* W,O
 Green Sandpiper *Tringa ochropus* W,C
 Marsh Sandpiper *Tringa stagnatilis* W,C
 Spotted Redshank *Tringa erythropus* W,X
 Wood Sandpiper *Tringa glareola* W,O
 Eurasian Curlew *Numenius arquata* W,X
 Little Stint *Calidris minuta* W,X
 Pintail Snipe *Gallinago stenura* W,X
 Common Snipe *Gallinago gallinago* W,C
 Temminck's Stint *Calidris temminckii* W,O
Laridae
 Black-headed Gull *Larus ridibundus* W,C
 Pallas's Gull *Larus ichthyaetus* W,X
Otididae
 Bengal Florican *Houbaropsis bengalensis* EN,R,X
Sternidae
 Black-bellied Tern *Sterna acuticauda* NT,R,X
 Common Tern *Sterna hirundo* W,LM,O
 River Tern *Sterna aurantia* W,O
 Whiskered Tern *Chlidonias hybridus* W,V,X
Columbidae
 Emerald Dove *Chalcophaps indica* R,C
 Purple Wood-Pigeon *Columba punicea* VU,R,X
 Rock Pigeon *Columba livia* R,C
 Eurasian Collared-Dove *Streptopelia decaocto* R,C
 Oriental Turtle Dove *Streptopelia orientalis* R,O
 Red Collared-Dove *Streptopelia tranquebarica* R,C
 Spotted Dove *Streptopelia chinensis* R,C
 Yellow-footed Green Pigeon *Treron phoenicopterus* R,X
Psittacidae
 Alexandrine Parakeet *Psittacula alexandri* R,X

Family/ Common/ Scientific names/ StatusBlossom-headed Parakeet *Psittacula roseata* R,ORose-ringed Parakeet *Psittacula krameri* R,O**Cuculidae**Asian Drongo-Cuckoo *Surniculus lugubris* R,OAsian Koel *Eudynamys scolopaceus* R,CBrain fever Bird *Hierococcyx vairus* R,OGreater Coucal *Centropus sinensis* R,CLesser Coucal *Centropus bengalensis* R,CIndian Cuckoo *Cuculus micropterus* R,CLesser Cuckoo *Cuculus poliocephalus* R,LM,OOriental Cuckoo *Cuculus saturatus* R,X**Strigidae**Spotted Owlet *Athene brama* R,O**Apodidae**Asian Palm-Swift *Cypsiurus balasiensis* R,CHouse Swift *Apus affinis* R,C**Hemiprocnidae**Crested Tree-Swift *Hemiprocne coronata* R,O**Alcedinidae**Black-capped Kingfisher *Halcyon pileata* R,OWhite-breasted Kingfisher *Halcyon smyrnensis* R,CBlyth's Kingfisher *Alcedo hercules* NT,R,UCommon Kingfisher *Alcedo atthis* R,CPied Kingfisher *Ceryle rudis* R,CStork-billed Kingfisher *Pelargopsis capensis* R,C**Meropidae**Blue-bearded Bee-eater *Nyctornis athertoni* R,OBlue-tailed Bee-eater *Merops philippinus* LM,OChestnut-headed Bee-eater *Merops leschenaultia* R,CGreen Bee-eater *Merops orientalis* R,C**Coraciidae**Dollarbird *Eurystomus orientalis* R,XIndian Roller *Coracias benghalensis* R,O**Upupidae**Hoopoe *Upupa epops* R,C**Capitonidae**Blue-throated Barbet *Megalaima asiatica* R,CCoppersmith Barbet *Megalaima haemacephala* R,OLineated Barbet *Megalaima lineata* R,X**Picidae**Common Flameback *Dinopium javanense* R,XGreater Goldenback *Dinopium benghalense* R,CFulvous-breasted Woodpecker *Dendrocopos macei* R,OLesser Yellownape *Picus chlorolophus* R,CRufous Woodpecker *Micropternus brachyurus* R,O**Eurylaimidae**Silver-breasted Broadbill *Serilophus rubropygius* NT,R,X**Alaudidae**Bengal Bush-lark *Mirafra assamica* R,CEastern Skylark *Alauda gulgula* R,CIndian Short-toed Lark *Calandrella raytal* R,OLesser Short-toed Lark *Calandrella rufescens* R,X**Hirundinidae**Barn Swallow *Hirundo rustica* R,W,CWire-tailed Swallow *Hirundo smithii* R,LM,OHouse Martin *Delichon urbicum* R,LM,OPlain Martin *Riparia paludicola* R,C**Family/ Common/ Scientific names/ Status**Sand Martin *Riparia riparia* R,ORed-rumped Swallow *Cecropis daurica* R,LM,X**Motacillidae**Citrine Wagtail *Motacilla citreola* W,OWhite Wagtail *Motacilla alba* W,CGrey Wagtail *Motacilla cinerea* W,CWhite-browed Wagtail *Motacilla maderaspatensis* W,XYellow Wagtail *Motacilla flava* W,COlive-backed Pipit *Anthus hodgsoni* W,XRosy Pipit *Anthus roseatus* W,OForest Wagtail *Dendronanthus indicus* W,O**Campephagidae**Common Iora *Aegithina nigrolutea* R,CLarge Cuckoo-shrike *Coracina macei* R,CLong-tailed Minivet *Pericrocotus ethologus* R,XScarlet Minivet *Pericrocotus speciosus* R,O**Pycnonotidae**Black Bulbul *Hypsipetes leucocephalus* W,CRed-vented Bulbul *Pycnonotus cafer* R,CRed-whiskered Bulbul *Pycnonotus jocosus* R,C**Laniidae**Bay-backed Shrike *Lanius vittatus* W,CGrey-backed Shrike *Lanius tephronotus* W,CLong-tailed Shrike *Lanius schach* W,CNorthern Shrike *Lanius excubitor* W,XRufous Shrike *Lanius phoenicuroides* W,CRufous-tailed Shrike *Lanius isabellinus* W,O**Turdidae**Chestnut Thrush *Turdus rubrocanus* W,CLong-billed Thrush *Zoothera monticola* W,XLong-tailed Thrush *Zoothera dixonii* W,XOrange-headed Thrush *Zoothera citrina* LM,OScaly Thrush *Zoothera dauma* W,OOriental Magpie-Robin *Copsychus saularis* R,C**Oriolidae**Black-naped Oriole *Oriolus chinensis* R,OBlack-headed Oriole *Oriolus xanthornus* R,CMaroon Oriole *Oriolus traillii* R,C**Dicruridae**Black Drongo *Dicrurus macrocercus* R,CGreater Racket-tailed Drongo *Dicrurus paradiseus* R,CLesser Racket-tailed Drongo *Dicrurus remifer* R,OSpangled Drongo *Drongo hottentottus* R,C**Corvidae**House Crow *Corvus splendens* R,CJungle Crow *Corvus macrorhynchos* R,CRufous Treepie *Dendrocitta vagabunda* R,C**Sturnidae**Asian Pied Starling *Gracupica contra* R,CBrahminy Starling *Sturnia pagodarum* R,XCommon Hill Myna *Gracula religiosa* R,CCommon Myna *Acridotheres tristis* R,CJungle Myna *Acridotheres fuscus* R,O**Estrildidae**Black-headed Munia *Lonchura malacca* R,CWhite-rumped Munia *Lonchura striata* R,O