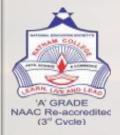
NES RATNAM COLLEGE OF ARTS, SCIENCE AND COMMERCE, MUMBAI.



# BHANDUP PUMPING STATION a.k.a. BIRDING PARADISE STATION

and the particular





### **NATIONAL EDUCATION SOCIETY'S**

Ratnam College of Arts, Science and Commerce Bhandup - (W), Mumbai - 400078



(Affiliated to University of Mumbai and accredited by NAAC with 'A' Grade )

### FOREWORD...

I have been teaching for three decades and a half and have taken students for nature trails umpteen times as part of the curriculum. But it was only in 2019 that I succeeded in igniting the spark of birding in a student. I feel blessed to have Kunal as my student and I consider this compilation as a gift for me in my retirement year. This collation reflects Kunal's photography skills and his avid interest in "Avian Fauna" and his attempt in going beyond the framework of the syllabus and make a memorable contribution of his own. He is "trigger happy to shoot" birds on camera in which they are frozen, with an eye for detail.

I appreciate Kunal's efforts at documenting the avian fauna of Bhandup Pumping Station for future generations of students who may enroll to study Zoology at his Alma Mater. He has also captured other species too especially insects, but this album is totally focused on birds.

> - Dr. Jayasree Sasangan Head of Department ( Zoology )





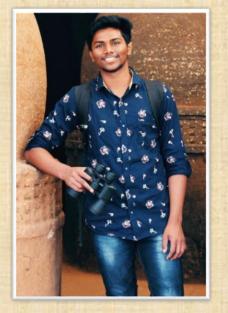
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- NES RATNAM COLLEGE OF ARTS SCIENCE AND COMMERCE.

#### Words From the Author.....

My name is Kunal Kadam and I am a Third Year BSc Zoology student. Before having a look at the album it would be great if you want to know about how I developed this interest for birding. My interest for birding developed in 1<sup>st</sup> Year of BSc (2019). We were taken for excursion at the nearest biodiversity hotspot named – Bhandup Pumping Station by our Head of Department of Zoology – Dr. Jayasree Sasangan. At first I had considered it as a great opportunity for a holiday but when I came to know that one of our ex-students with whom I had interacted before on a project, would be leading the excursion and will be the guide, I said, "yes" and filled the form. His name is Nitin Joil. On 2<sup>nd</sup> March 2019, morning 6.30 am we gathered at the meeting point decided near BPS Gate. It was still dark so I decided to just read about the birds found there. We were suggested to download an app and make a record of the birds that will be spotted. This was the first important thing I that one should follow on field. We started the trail, the sun was also rising along with our moving steps. When it was twilight ( period between dawn and sunrise), we could hear different calls of birds. I was amazed to hear such different sounds. I had never before experienced such thing. It was all new and I was very much curious and excited at the same time. I was expecting nothing but to see variety of birds. I was pointing out at every bird I saw and was hitting the guide with all sorts of questions I had about it. He also got irritated but then he understood my curiosity. Here we come to know that curiosity leads to interest in learning new things. After the trail, at night I was dreaming only about the beautiful birds I had spotted for the first time. I was very much curious to know more and wanted to spot more of bird species living there. After a few days I went again taking my friends camera and capturing the different birds on camera. The interest for birding was then initiated within me and it was developing very fast. From that day I used to go every weekend for birding, no matter what. Even without camera I used to go just for the pleasure of spotting birds. Often I was accompanied by my friends. I also started reading about birds, their identification, behaviour, courtship, migration, etc. So now you can imagine after 2 years of birding how much interest I might have developed! Jayasree madam played a great role along with Nitin. Madam used to allow me to go for birding even on college days. She used to say -"There exists a classroom even beyond the 4 walls" also - "Nature is the greatest teacher of all times". So this is how my world started revolving around wildlife. I would like to thank you for reading my short but detailed story of how I developed my interest for nature and wildlife. I hope when you will visit the nature, you will also encounter and later develop the same excitement and love for wildlife. Regards 😊

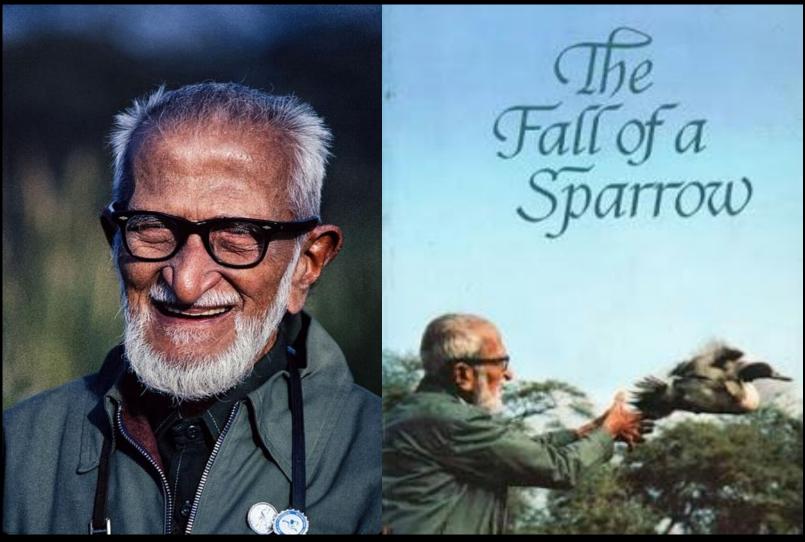
- KUNAL KADAM.

### **INTRODUCTION**

This is a small introduction to the album....

This album consists of some beautiful bird species spotted in Bhandup Pumping Station which is situated alongside Eastern Express Highway. It consists of commonly spotted species as well as not so common species / migratory species of birds spotted in the area. The album totally focuses on spreading knowledge about the species available in the region which is called as the biodiversity hotspot also birding paradise as it is the paradise for the birder's. The album provides you pictorial as well as descriptive literature of all the species mentioned. Index of English names is also provided which can be used to refer the page number of the bird species and read about it. The names are arranged alphabetically with respect to the common name / group if more bird species come under a single group, e.g. Bulbul consists of Red Vented / Whiskered and White Cheeked Bulbul . We found this to be the easiest way to find the species you want to reach to and read about. Information of every bird is provided on the left and the picture is on the right. Along with the basic information, Order of each species is mentioned and characteristics helpful for identification are mentioned below the Order at bottom left of each page. Hope you find the album helpful, informative and interesting. Happy Perusal! ③

# Dr. Salim Ali Sir



The all time greatest Ornithologist of India. For your contribution to the birds of Indian subcontinent you are also known as "Birdman of India". You were the first person who systematically surveyed the birds of India and abroad. Immense love for the wild and a person with great personality and knowledge. Sir you inspired many to become wildlife enthusiast and are still inspiring and will keep inspiring the future generations too. You will be always remembered Sir. We miss you.



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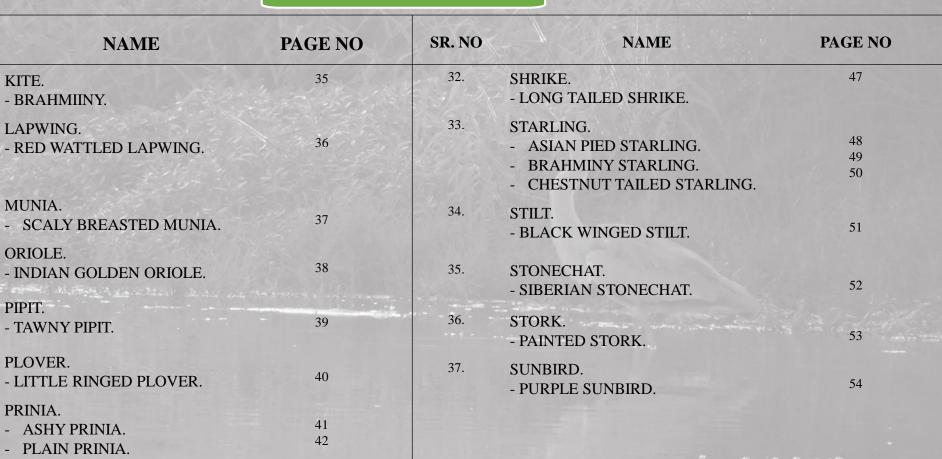
SANDPIPER.

SHIKRA.

- ORIENTAL MAGPIE ROBIN.

- COMMON SANDPIPER.

- WOOD SANDPIPER.



### **BAYA WEAVER**

Scientific name:- *Ploceus philippinus*. Type :- Passerine. Conservation status:- Least Concern Migratory status:- Resident Habitat:- Grassland, scrubs, farmlands Feeds on insects, small frogs, geckos, molluscs Nesting season:- June to September Sexual dimorphism:- Breeding males have yellow and black colour plumage on head, breast and throat, bill is dark

#### { ORDER : - PASSERIFORMES }

The breeding male has a bright yellow crown and breast. Its upperparts are dark brown streaked with yellow. The ear-coverts and throat are pale, and the underparts creamy buff. It has a stout conical bill, and a short square-cut tail. The female, and non-breeding male, is dark streaky brown above, plain whitish below. It can be seen in flocks (sometimes of considerable size) in tall grass in areas of open cultivation, and also in reed-beds where it roosts in large numbers.



### **COPPERSMITH BARBET**

Scientific name:- *Megalaima haemacephalus* Other names:- Crimson breasted barbet Conservation status:- Least Concern Migratory status:- Resident Habitat:- Gradens, groves, Woodlands Feeds on fruits, insects Nesting season:- February to April Sexual dimorphism:- Sexes alike

#### { **ORDER :- PICIFORMES** }

It has red forehead, yellow around the eye and throat, with a black eye stripe. It has red patch on upper chest. Female are generally duller than the male, with some yellow on a narrower red patch on neck. It makes a loud voice – kuk-kuk-kuk , which could be heard from long distance and we thus come to know of its presence and soo it becomes easier to spot it.



#### **BLUE TAILED BEE EATER**

Scientific name:- *Merops philippinus* Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- River valleys where they nest by tunnelling into sandy loamy banks Feeds on insects, bees, wasps, tornets Nesting season:- April to May Sexual dimorphism:- Sexes alike.

#### { ORDER :- CORACIIFORMES }

Adult green overall, with blue tail, thin black mask, and rufous throat; bright rufous underwings visible in flight. Juvenile similar but paler, with tannish throat and shorter tail, lacking the adult's elongated central tail feathers. Flying bird has distinctive shape, with broad, sharply pointed wings, long tail, and long bill. Nests colonially in sandbanks. Voice a sweet, clipped "cheer-it," sometimes given in series.



### **GREEN BEE EATER**

Scientific name:- *Merops orientalis* Other name:- Asian green bee-eater, little green bee-eater, small bee-eater Conservation status:- least concern Migratory status:- *resident* Habitat:- scrubland Feeds on:-insects Nesting season:- February to may Sexual dimorphism:- alike

#### { ORDER :- CORACIIFORMES }

Adult green overall, with blue tail, thin black mask, and rufous throat; bright rufous underwings visible in flight. Juvenile similar but paler, with tannish throat and shorter tail, lacking the adult's elongated central tail feathers. Flying bird has distinctive shape, with broad, sharply pointed wings, long tail, and long bill. Nests colonially in sandbanks. Voice a sweet, clipped "cheer-it," sometimes given in series.



### **RED VENTED BULBUL**

#### Scientific name:- Pycnonotus cafer Type:- Passeriformes Conservation status:- Least Concern Migratory status:- Resident Habitat:- Shrubs, open forests, plains Feeds on fruits, nectar, insects Nesting season:- June to September Sexual dimorphism:- Sexes alike

#### { ORDER : - PASSERIFORMES }

Earth-brown bird with a bright red vent. It has a black head with a partial crest. Its brown plumage has scale-like markings on the breast and back. The white rump is prominent in flight, which is quick and strong, but usually only for short distances. It is one of our most common birds often found near habitation, in lightly wooded country as well as gardens and also well adapted to the urban world. It is also very gregarious, and can be seen in pairs or small groups.



### **RED WHISKERED BULBUL**

Scientific name:- Pycnonotus jocosus Other names:- Crested bulbul Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Bushes, shrubs, farmlands Feeds on fruits, nectar and insects Nesting season:-North India - March to October South India - December to May Sexual dimorphism:- Sexes alike

#### { **ORDER : - PASSERIFORMES** }

Medium-sized songbird, brown above and whitish below with a tall black crest and dark "spur" on the side of the breast. Small red patch on ear and red under-tail coverts. White tips on tail feathers. Generally found in pairs or small groups in gardens, orchards, forest edge, and open forests.



### WHITE CHEEKED BULBUL

Scientific name:- Pycnonotus leucotis Other name:- White eared bulbul Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Scrubland, garden Feeds on fruits, insects Nesting season:- March to June Sexual dimorphism:- Sexes alike.

#### { **ORDER :- PASSERIFORMES** }

Dull gray-brown bulbul with a black head and bright white cheek patch. Also note yellow vent and white tail tip. A lowland species of dry forests, scrub, forest edge, parks, and gardens; can be quite common in cities and towns in parts of its range. Song brief but pleasant and fluid. Gives low raspy "chuk" as well as mellower call notes similar to components of its song.



### **PIED BUSHCHAT**

Scientific name:- Saxicola caprata Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Garden, grasslands Feeds on insects Nesting season:- February to August Sexual dimorphism:- Female has dark brown upperparts and rufous underparts. Males are black with white shoulder and vent patches

#### { ORDER :- PASSERIFORMES }

The males are black with white shoulder and vent patches whose extent varies among populations. Females are predominantly brownish while juveniles are speckled. The Pied Bush-chat is slightly smaller than the Siberian Stonechat; although it has a similar dumpy structure and upright stance. The male is black except for a white rump, wing patch and lower belly. The iris is dark brown, the bill and legs black. The female is drab brown and slightly streaked. Juveniles have a scaly appearance on the underside but dark above like the females.







FEMALE

#### **ORIENTAL HONEY BUZZARD**

Scientific name:- Pernis ptilorhynchus Other name:- Crested honey buzzard Type:- Raptor Conservation status:- Least Concern Migratory status:- Winter Migratory Habitat:- Woodland Feeds on larvae, pupae, nests, wasps, bees Nesting season:- March Sexual dimorphism:- Male has blue - grey head with black tail white band. Females have brown head and slightly larger than and darker than males.

### { ORDER :- ACCIPITRIFORMES }

The Oriental Honey Buzzard appears long-necked with a small head [resembling that of a pigeon], and soars on flat wings. The head lacks a strong supraciliary ridge giving it a very un-raptor-like facial appearance. It has a long tail and a short head crest. It is brown above, but not as dark as Honey Buzzard, and paler below. There is a dark throat stripe. Unusually for a large bird of prey, the sexes can be distinguished. The male has a blue-grey head, while the female's head is brown. She is slightly larger and darker than the male. The male has a black tail with a white band, whilst the female resembles female Honey Buzzard.



(DBT STAR STATUS SCHEME - 2021)

### **INDIAN CORMORANT**

Scientific name:- *Phalacrocorax fuscicollis* Other name:- Indian shag Type:- Water Bird. Conservation status:- Least Concern Migratory status:- Resident Habitat:- Inland waters, wetlands Feeds on fishes Nesting season:- July to February Sexual dimorphism:- Sexes alike.

### { ORDER :- GANNETS }

An all black duck-like water-bird with blue-green eyes, a rounded head, a sloping forehead, and a long and slender bill that is sharply hooked at the tip. Like all cormorants, frequently seen swimming with its body low in the water, head and neck pointing upward, and suddenly disappearing underwater to catch fish. Often perches upright on a rock, drying itself with outstretched wings. Seen in small groups, fishing communally in inland water bodies. Similar to Little Cormorant, but note the slightly larger size and shape of the head, flat on Little Cormorant and rounded on Indian Cormorant. Indian Cormorant is smaller and slimmer than Great Cormorant.



### **CROW PHEASANT**

Scientific name:- *Centropus sinensis* Other names:- Coucal Type:- Cuculiform Conservation status:- Least Concern Migratory status:- Resident Habitat:- Forest Feeds on insects, caterpillars, bird eggs, seeds, fruits, Saw scales vipers Nesting season:- June to September Sexual dimorphism:- Sexes alike. Females are slightly larger than males

### { ORDER :- CUCKOOS }

This is a large species of cuckoo at 50 cm. The head is black, upper mantle and underside are black glossed with purple. The back and wings are chestnut brown. The eyes are ruby red. Juveniles are duller black with spots on the crown and there are whitish bars on the underside and tail. Race of southern India has a black head and the underparts glossed blue and has the forehead, face and throat more brownish. The male and female are similar in plumage but females are slightly larger.



# **INDIAN CUCKOO**

#### Scientific name:- Cuculus micropterus. Type:- Cuculiform. Conservation status:- Least Concern Migratory status:- Winter Migratory. Habitat:- Forest, Open Woodlands, Garden lands,

thick scrubs.

Feeds on insects, hairy caterpillars

**Nesting season:-** It does not make nests as it is a brood parasite. The breeding season is around May to July in India. Then it lays its eggs into other bird's nest.

**Sexual dimorphism:-** Females are slightly pale in colour than males.

### { ORDER :- CUCKOOS }

The upperparts of **cuckoo** are slate-gray with brownish tinge. The underparts are whitish with broad black barring. Similar to common hawk-**cuckoo**, the eye-ring is grayish yellow. Favors forests, forest edges, and parklands. Lays its eggs in the nests of a wide range of birds, including magpies, shrikes, and drongos. The female cuckoo has slightly paler throat and more brown plumage. The juvenile has brown upperside with white bands and streaks. The underside in juvenile is whitish with brownish bands and streaks.



### **GARGANEY**

Scientific name:- Spatula querquedula Type:- Duck (Wader) Conservation status:- Least Concern Migratory status:- Migrant in winter Habitat:- Wetlands, meadows ditches Feeds on aquatic plants, roots, weeds, crustaceans, small fish, molluscs, frog Nesting season:- April to May Sexual dimorphism:- Male has thick white eyebrow, dark brown head and grey striking. Female have paler eyebrow, darker eyes tripe, white unstreak throat.

#### { ORDER :- ANSERIFORMES }

The adult male is unmistakable, with its brown head and breast with a broad white crescent over the eye. The rest of the plumage is grey, with loose grey scapular feathers It has a grey bill and legs. In flight it shows a pale blue speculum with a white border. When swimming it will show prominent white edges on its tertials. His crown is dark and face is reddish-brown.





(DBT STAR STATUS SCHEME - 2021)

# **NORTHERN SHOVELER**

Scientific name:- Spatula clypeata Conservation status:- Least Concern Migratory status:- Migrant from North Asia Habitat:- Wetlands, lakes, estuaries saltmarshes, waste water ponds Feeds on crustaceans, other aquatic invertebrates Nesting season:- December Sexual dimorphism:- Males have blue and green colours on upper side and beak. Females are brown and have powdery blue on wings.

### { ORDER :- ANSERIFORMES }

The breeding drake has an iridescent dark green head, white breast and chestnut belly and flanks. In flight, pale blue forewing feathers are revealed, separated from the green speculum by a white border. The female is a drab mottled brown, with plumage much like a female Mallard, but easily distinguished by the long broad bill, which is gray tinged with orange on cutting edge and lower mandible. Adults are typically 75 cm long and white-plumaged, with some greyer areas on the wings. The bald head, the neck and legs are black. The thick curved bill is dusky yellow. Sexes are similar, but juveniles have whiter necks and a black bill.



MALE

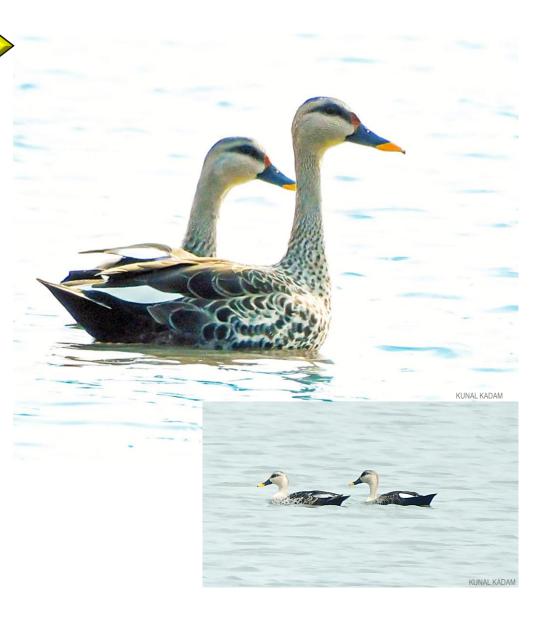
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# **SPOT BILLED DUCK**

Scientific name:- Anas poecilorhyncha Other name:- Indian spot billed duck Type:- Duck Conservation status:- Least Concern Migratory status:- Resident Habitat:- Freshwater, Marshes Feeds on plants , snails, crabs Nesting season:- July to September - North India, November to December - South India Sexual dimorphism:- Males have red spot on the base of the bill which is absent in Females

#### { ORDER :- ANSERIFORMES }

The Spot-billed Duck is a large duck with scaly pattern, with white and metallic green wing bars. Bright orange-red legs, yellow-tipped dark bill with 2 orange-red spots at the base (1 on either side of the forehead). In Marathi it is also known as "Haldi Kumkum Badak" because of the red spot on the base of the bill.



### **LAUGHING DOVE**

Scientific name:- Spilopelia senegalensis Other names:- Laughing turtle dove, palm dove, Senegal dove Conservation status:- Least Concern Migratory status:- Resident Habitat:- Scrub, dry farmland Feeds on seeds, grasses, vegetable matter, insects Nesting season:- April to July Sexual dimorphism:- Females are duller than males.

#### { ORDER :- COLUMBIFORMES }

The Laughing Dove is a long-tailed, slim pigeon, typically 25 cm in length. Its back, wings and tail are reddish-brown with blue-grey in the wings. In flight, the underwings are rich chestnut. The head and underparts are pinkish, shading to whitish on the lower abdomen. There is black spotting on the throat. The legs are red. Juveniles are more rufous than adults, and have reduced throat spotting.



### **SPOTTED DOVE**

Scientific name:- *Spilopelia chinensis* Other names:- Mountain dove, Spotted turtle dove

Conservation status:- Least Concern Migratory status:- Resident Habitat:- Woodland, shrubs, farmland's Feeds on fruits, grass seeds Nesting season:- September to December Sexual dimorphism:- Sexes alike

### { ORDER :- COLUMBIFORMES }

Spotted Dove is a long-tailed, slim pigeon, 32 cm in length. Its back, wings and tail are pale brown, heavily spotted with buff. In flight, it shows blackish flight feathers bordered on the inner edge with pale grey. Juveniles are duller than adults often lacking the patchy neckband when very immature. The head and underparts are pinkish, shading to pale grey on the face and lower belly. There is a black neck patch finely spotted with white. The legs are red.



### ASHY DRONGO

Scientific name:- Dicrurus leucophaeus Conservation status:- Least concern. Migratory status:- resident Habitat:- forest Feeds on :- insects Nesting season:- April to June Sexual dimorphism:-Alike

#### { ORDER :- PASSERIFORMES }

A slim, medium-sized drongo with bright red eyes and gray plumage that is almost black in the western parts of its range and quite pale in the eastern parts of its range; eastern birds also often have an oval-shaped pale facial patch. It has a long slim tail with a deep fork. Most birds migrate south every winter. It sallies for insects and aggressively chases other birds that may compete for food or nectar.



### **BLACK DRONGO**

Scientific name:- Dicrurus macrocercus Other name:- King crow Conservation status:- Least Concern Migratory status:- Resident Habitat:- Woodland , Scrubland Feeds on :- insects and nectar Nesting season:- August to April Sexual dimorphism:- Sexes Alike

#### { ORDER :- PASSERIFORMES }

Black drongo has glossy blue-black or green-black plumage, with semi-translucent primaries visible in flight. Adults usually have a small white spot at the base of the gape and the iris is dark brown in color. The tail is long and deeply forked, and curves out at the end of outer tail feathers. Head is black, with only very small white patch at bill's commissures. Bill is black. Eyes are reddish. Legs and feet are dark grey



### **GREATER SPOTTED EAGLE**

Scientific name:- *Clanga clanga*. Other name:- Spotted eagle, Indian spotted eagle. Type :- Raptor. Conservation status:- Vulnerable Migratory status:- migrant. Habitat:- near water bodies Feeds on:- carrion, rodents, mammals. Nesting season:- April to June Sexual dimorphism:- Sexes alike.

### { ORDER :- ACCIPITRIFORMES }

It is 70 cm in length and has a wingspan of 180 cm. Typical body mass of 2.5 kg with an occasional big female weighing up to 3.5 kg. Head and wing coverts are very dark brown and contrast with the generally medium brown plumage. The head is small for an eagle. There is often a less obvious white patch on the upperwings, but a light crescent on the primary remiges is a good field mark. The white V mark on the rump is less clear-cut in adults. The juvenile has white spots all over its wings.



### **PEREGRINE FALCON**

Scientific name:- Falco peregrinus Type:- Raptor Conservation status:- Least Concern Migratory status:- Resident Habitat:- Mountain ranges, river valleys, coast line Feeds on medium sized birds, small mammals, reptiles, insects Nesting season:- March to May Sexual dimorphism:- Females 30% larger than males

#### { ORDER :- FALCONIFORMES }

The peregrine falcon is a widespread bird of prey. It is a large, crow-sized falcon. It has a blue-grey back, barred white underparts, and a black head and moustache. As is typical of bird-eating raptors, peregrine falcons are sexually dimorphic, females being considerably larger than males. The peregrine is renowned for its speed, reaching over 389 km/h during its characteristic hunting stoop making it the fastest member of the animal kingdom.





# **<u>GREATER FLAMINGO</u>**

Scientific name:- Phoenicopterus roseus Type:- Wader Conservation status:- Least Concern Migratory status:- Winter Migratory. Habitat:- Mangroves, lagoons, lakes, muddy beaches. Feeds on algae, crustaceans, zooplankton, marine worms Nesting season:- Irregular Sexual dimorphism:- Males are larger

### ORDER - PHOENICOPTERIFORMES

The Greater Flamingo is the largest species of Flamingo. The plumage is pinkish white, primary and secondary flight feathers are black and wing coverts are red, the beak is pink with a restrictive black tip, pink skin from the eye to the beak, and the legs and webbed feet are pink.



### **LESSER FLAMINGO**

Scientific name:- Phoeniconaias minor Type:- Wader Conservation status:- Near Threatened Migratory status:- Winter Migratory. Habitat:- Saline lakes, mangroves, estuaries, salt pans Feeds on spirulina algae Nesting season:- October to February Sexual dimorphism:- Males larger than females

### ORDER - PHOENICOPTERIFORMES

Juveniles are grey brown ad darker than Greater Flamingos. They do inland migration to breed and eat blue green algae at various regions. It can also be considered that the movements are made in response to changing environmental conditions. Also the lesser flamingo after feeding on the algae gets pink colour and can be distinguished from the greater flamingo by its beak colour. The beak colour of greater flamingo is white with black tip and that of lesser flamingo is black beak with pink colour near the end and again black at the tip.



### **BLACK TAILED GODWIT**

Scientific name:- Limosa limosa, Type:- Wader Conservation status:- Near Threatened Migratory status:- Migrant Habitat:- Estuaries, mudflats, beaches, mangroves Feeds on worms, shellfish, coastal mudflat Nesting season:- May Sexual dimorphism:- Females are lighter in colour than males. Females have less black bars on tail.

### ORDER - CHARADRIIFORMES

The Black-tailed Godwit is a large wader with long bill (which is 12 cm long), neck and legs. During the breeding season, the bill has a yellowish or orange-pink base and dark tip; the base is pink in winter. The legs are dark grey, brown or black. In flight, its bold black and white wing-bar and white rump can be seen readily. When on the ground it can be difficult to separate from the similar Bar-tailed Godwit, but the Black-tailed Godwit's longer, straighter bill and longer legs are diagnostic. Black-tailed Godwits are similar in body size and shape to Bar-tailed, but stand taller.



### **MARSH HARRIER**

Scientific name:- *Circus aeruginosus* Other name:- Western Marsh Harrier / Eurasian Marsh Harrier

Type:- Raptor

**Conservation status:-** Least Concern. **Migratory status:-** Inland Migration during winter.

Habitat:- Freshwater, wetlands, grasslands Feeds on small mammals, birds, reptiles, frogs Nesting season:- Mid March to May Sexual dimorphism:- Males have darker head, brown belly and grayish tail. Females have brown and streaked chest.

### <u>ORDER</u> - ACCIPITRIFORMES

The male's plumage is mostly a cryptic reddish-brown with lighter yellowish streaks, which are particularly prominent on the breast. The head and shoulders are mostly pale grayish-yellowish. The female is almost entirely chocolate-brown. The top of the head, the throat and the shoulders have of a conspicuously lighter yellowish color; But the eye area of the female is always darker, making the light eye stand out, while the male's head is altogether not very contrastingly colored and the female lacks the grey wing-patch and tail. Juveniles are similar to females, but usually have less yellow, particularly on the shoulders.





MALE

FEMALE

# **GREY HERON**

Scientific name:- *Ardea cinerea* Conservation status:- Least Concern Migratory status:- Resident; Local movement from north to south in autumn. Habitat:- Wetlands, swamps, lakes, marshes, sea coast. Feeds on fishes, small amphibians, insects

**Nesting season:-** February to June **Sexual dimorphism:-** Sexes alike, males larger.

### <u>ORDER</u> - PELECANIFORMES

Grey heron as per their common name has back and wings colored gray, while the underparts of the body are white in color. It has long neck. The beak is yellow colored, hard and pointed. It has slender Sshaped neck, narrow head and pointed dagger bill. They have white head with a crest of long black color feather. They have long legs which helps them to wade into the shallow waters. Mostly found wading into the waters or perching onto the trees on the shore of water bodies.







# POND HERON

Scientific name:- Ardeola grayii Other name:- Paddy bird Type:- Wader Conservation status:- Least Concern Migratory status:- Resident Habitat:- Marsh land Feeds on fish, insects, crustaceans Nesting season:- May to September Sexual dimorphism:- Both have buff brown colour with streaked neck.

### <u>ORDER</u> - PELECANIFORMES

The nonbreeding adult Indian Pond-Heron has a head and neck streaked dark brown and buff. The bill is yellow horn with a long black tip. The lores are green and the irises are yellow. It has drab brown back feathers streaked with buff covering much of its upper wing. Its rump and tail also are pure white. Its under parts are white with heavy buff streaking on the breast. The legs and feet are dull green.



### **PURPLE HERON**

Scientific name:- Ardea pupurea Conservation status:- Least Concern Migratory status:- Migrant Habitat:- Freshwater, Mangroves, marshes, lagoons, lakes. Feeds on fish, rodents, frogs, insects Nesting season:-North India - June to October South India - November to March Sexual dimorphism:- Sexes alike

# <u>ORDER</u> - PELECANIFORMES

Wader with a slender body , with dark reddish brown plumage , grey back and yellow narrow bill. These birds inhibit shallow marshlands and swamps. The Asian bird population migrates south for wintering in south Asian countries. Purple herons are also found perching on trees as egrets and other herons



#### WESTERN REEF HERON

Scientific name :- *Egretta gularis* Other name :- Western reef egret Type :- Wader Conservation status :- Least Concern Migratory status :- Resident Habitat :- Shallow water, Marshland Feeds on fish, crustaceans, molluscs Nesting season :- April to September Sexual dimorphism :- Similar

# <u>ORDER</u> - PELECANIFORMES

Dull gray-brown bulbul with a black head and bright white cheek patch. Also note yellow vent and white tail tip. A lowland species of dry forests, scrub, forest edge, parks, and gardens; can be quite common in cities and towns in parts of its range. Song brief but pleasant and fluid.



# **HOOPOE**

Scientific name:- Upapa epops Other name:- Eurasian Hoopoe Conservation status:- Least Concern Migratory status:- Resident in India Habitat:- Farmlands, Grasslands Feeds on insects, small reptiles, seeds Nesting season:- January to August Sexual dimorphism:- Female plumage is dull with pale throat than male

#### <u>ORDER</u> - BUCEROTIFORMES

The common hoopoe measures 20 to 30 cm in length and weighs 45 to 90 grams. The wingspan is 45 to 50 cm. It has a distinctive crest having broad cinnamon feathers with black tips. The crest is erect only when the bird is alarmed or displaying. The overall plumage is pale cinnamon color. There are contrasting black and white stripes on its wings and tail. The mantle is grayish cinnamon. The wings are broad and rounded and the tail is square shaped. The gray, long and slender bill is slightly curved downward. The irises are dark brown. The legs and feet are gray.



# **BLACK HEADED IBIS**

Scientific name:- Threskiornis melanocephalus Other names:- Oriental white ibis, Indian White ibis Type:- Wader Conservation status:- Near Threatened Migratory status:- Resident Habitat:- Freshwater, saltwater marshes, rice fields, lakes, ponds, sewage Feeds on fish, frogs, insects Nesting season:- Rainy season Sexual dimorphism:- Sexes alike

#### <u>ORDER</u> - PELECANIFORMES

A large wader with a white body and bare black head and neck. Males and females look similar and both have grayish tail feathers. It probes into mud and shallow water with its long, down curved black bill, sometimes submerging its entire head. Tails of adults bear light grey ornamental feathers that turn jet black during the breeding season.



# **GLOSSY IBIS**

Scientific name:- *Plegadis falcinellus* Type:- Wader Conservation status:- Least Concern Migratory status:- Resident in Western India Habitat:- Brackish water, freshwater, lagoons Feeds on insects, flies, crustaceans, molluscs, amphibians Sexual dimorphism:- Similar

#### <u>ORDER</u> - PELECANIFORMES

It is 65cm long with an 100cm (35–41 in) wingspan. Breeding adults have reddish-brown bodies and shiny bottle-green wings. Non-breeders and juveniles have duller bodies. This species has a brownish bill, dark facial skin bordered above and below in blue-gray (non-breeding) to cobalt blue (breeding), and redbrown legs. Unlike herons, ibises fly with necks outstretched, their flight being graceful and often in Vformation.



#### SMALL BLUE KINGFISHER

Scientific name:- Alcedo atthis Other names:- Common Kingfisher , Little Blue Kingfisher. Conservation status:- Least Concern Migratory status:- Resident Habitat:- Freshwater, Brackish water, mangroves, etc. Feed on small fishes, tadpoles, insects Nesting season:- April to October Sexual dimorphism:- Sexes coloured or patterned differently.

# ORDER - CORACIIFORMES

Also called as Common kingfisher. The king of fishing. Dives into the water for catching its prey (fish) and comes out elegantly. It is found mostly along rivers, streams, lakes, and ponds—almost any fresh or brackish habitat with small fish. Often found perching quietly on trees over water. Takes a very fast low flight. Can be spotted by its whistle sound.



# WHITE THROATED KINGFISHER

Scientific name:- Halcyon smyrnensis Other names:- White breasted kingfisher. Conservation status:- Least Concern Migratory status:- Resident Habitat:- Freshwater, Mangroves, Swamps, ponds, lakes. Feeds on small reptiles, amphibians, crabs, etc. Nesting season:- January to August Sexual dimorphism:- Sexes alike

# <u>ORDER</u> - CORACIIFORMES

Also known as white breasted kingfisher, of the same order as common kingfisher. It has larger head than that of the common kingfisher. It has electric blue color on back and wings. The body is dark chocolate colored and the bill is bright reddish-orange. The name White Throated Kingfisher is as per the white patch on the neck region. Found on the shore of water body having its eyes onto the prey. Excellent divers. Mostly found perching on the Electric wires or on concrete poles in urban areas.









#### **BRAHMINY KITE**

Scientific name:- *Haliastur indus* Other name:- Red backed sea eagle Type:- Raptor. Conservation status:- Least Concern. Migratory status:- residential Habitat:- Coast wetlands, Forest Riverside Feeds on:- fish, frog, snake, bats. Nesting season:- December to April Sexual dimorphism:- Sexes alike

# <u>ORDER</u> - ACCIPITRIFORMES

The Brahminy Kite is an attractive bird, with chestnut plumage except for the white head and breast and black wing tips. The juveniles are browner, but can be distinguished from both the resident and migratory races of Black Kite in Asia by the paler appearance, shorter wings and rounded tail.



# **<u>RED WATTLED LAPWING</u>**

Scientific name:- Vanellus indicus. Type:- Wader. Conservation status:- Least Concern. Migratory status:- Resident. Habitat:- Riverside water bodies. Feeds on:- insects, snails and other invertebrates. Nesting season:- March to August. Sexual dimorphism:- alike.

# ORDER - CICONIIFORMES

The Red-wattled Lapwing is a long legged bird with light brown body, red fleshy wattle in front of each eye. The beak is red, with black point. A bird known for its characteristics loud alarm call



#### SCALY BREASTED MUNIA

Scientific name:- Lonchura punctulata Other names:- Spotted Munia, Spice Finch Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Grassland, paddy fields, mangrove Feeds on grass seeds, fruits, insects Nesting season:- June to August Sexual dimorphism:- Sexes alike, males have darker markings on underside and darker throat than females.

#### ORDER - PASSERIFORMES

It is a small bird which is attractive and listed under the songbirds. Typically the adults are dark chestnut – brown above , white underparts , with dark scaly pattern on belly region. Juvenile are plain brown with paler underparts. Also the bird has dark bill ( Adult ) They are specialized in eating grass seeds and have large conical beaks adapted for this purpose.



# **INDIAN GOLDEN ORIOLE**

Scientific name:- Oriolus kundoo Conservation status:- Least Concern Migratory status:- Resident Habitat:- Deciduous forest, mangroves, woodland, parks Feeds on fruits, nectar and insects Nesting season:- April to August Sexual dimorphism:- Males have black eyebrow and Females have streaks on underside.

# <u>ORDER</u> - PASSERIFORMES

The species was once considered to be a subspecies of the Eurasian Golden Oriole, but has been elevated to a full species on the basis of differences in morphology, plumage, calls and the fact that the two do not intergrade. Adult males can be told apart from the Eurasian Golden Oriole by the black of the eye stripe extending behind the eye. The Indian Golden Oriole is a partial migrant.



# TAWNY PIPIT

Scientific name:- Anthus campestris Type:- Passerine Conservation status:- Least Concern Migratory status:- Migrant in winter Habitat:- Bushes, dry meadows, sandy dunes, shores, mountains Feeds on insects Nesting season:- April to July Sexual dimorphism:- Sexes alike, males slightly larger than females.

# <u>ORDER</u> - PASSERIFORMES

Tawny pipit is slim, sandy-colored pipit with a long and broad eyebrow, a prominent dark area in front of the eye, sparsely streaked back and breast, and a long and pointed pinkish bill.



# LITTLE RINGED PLOVER

Scientific name:- Charadrius dubius Other name:- Little ringed Plover Type:- Wader Conservation status:- Least Concern Migratory status:- Resident in India Habitat:- River edges, freshwater, open gravel area Feeds on insects, worms. Nesting season:- March to May Sexual dimorphism:- Similar

# ORDER - CHARADRIIFORMES

Delicately built small plover with bright yellow eye rings. dull pinkish legs and large white forehead patch (in adults). Plumage much like bulkier Ringed Plover, but white eyebrow continues unbroken across forehead. In flight shows narrow, indistinct whitish wing stripe, migrants occur in wide variety of fresh and brackish wetland habitats



#### ASHY PRINIA

Scientific name:- Prinia socialis Other name:- Ashy wren warbler Type :- Warbler. Conservation status:- least concern Migratory status:- resident Habitat:- woodland and scrubland Feeds on :- Insects Nesting season:- March to September Sexual dimorphism:- Sexes alike.

#### <u>ORDER</u> - PASSERIFORMES

A common prinia that is likely to occur in all habitats except for woodlands with a thick canopy. All birds have a black bill, pale cinnamon underparts, a gray head, and a grayish-brown back. Nonbreeding birds acquire a short eyebrow and a longer tail. There is a marked variation in plumage tones in various parts of its range. It has a loud ringing song that is given yearround and a plain nasal call.



# PLAIN PRINIA

Scientific name:- Prinia inornata Other name:- Plain wren warbler / White browed wren warbler Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Wetland, grasslands, open woodland, shrubs Feeds on insects Nesting season:- March to September. Sexual dimorphism:- Sexes alike

#### ORDER - PASSERIFORMES

Plain prinia is a small warbler. These 15 cm long warblers have short rounded wings, a longish tail, strong legs and a short black bill. In breeding plumage, adults are grey-brown above, with a short white supercilium and rufous fringes on the closed wings. Underparts are whitish-buff. The sexes are identical. It is Common in various habitats, especially farms and wetlands, but avoids woodlands. The Plain Prinia builds its nest in a shrub or tall grass.



#### **ORIENTAL MAGPIE ROBIN**

Scientific name:- Copsychus saularis Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Open woodland, forests Feeds on insects, nectar, centipedes, geckos, fish Nesting season:- March to July Sexual dimorphism:- Male has black upper part, head and throat. Females are greyish black It is National Bird of Bangladesh.

# <u>ORDER</u> - PASSERIFORMES

They are distinctive black and white birds with a long tail that is held upright as they forage on the ground or perch. They are particularly well known for their songs The male has black upperparts, head and throat apart from a white shoulder patch. The underparts and the sides of the long tail are white. Females are greyish black above and greyish white. Young birds have scaly brown upperparts and head. Females may sing briefly in the presence of male. Apart from their song, they use a range of calls including territorial calls, emergence and roosting calls, threat calls, submissive calls, begging calls and distress calls.



#### **COMMON SANDPIPER**

Scientific name:- Actitis hypoleucos Type:- Wader Conservation status:- Least Concern Migratory status:- Winter Migratory. Habitat:- ponds, river, mangrove, estuaries, saltwater Feeds on seeds, grains, amphibians, fishes, insects, worms Nesting season:- May to June Sexual dimorphism:- Sexes alike. Females are larger.



Adult Common Sandpiper has grayish brown upper parts, white underparts, short yellowish legs and a bill with a pale base and dark tip. Juveniles are barred above and have buff edges to the wing feathers. It has a distinctive stiff-winged flight low over the water.



# WOOD SANDPIPER

Scientific name:- Tringa glareola Type:- Wader Conservation status:- Least Concern Migratory status:- Winter Migratory. Habitat:- Lakes, swamps, mangroves, marsh lands, paddy fields Feeds on fishes, arthropods, grains, algae, molluscs Nesting season:- May to August Sexual dimorphism:- Sexes alike.



Wood Sandpiper is the smallest of the shanks, which are mid-sized long-legged waders. In flight shows plain upper wings, square white rump patch. Legs greenish yellow. Bobs tail when nervous, but not habitually like Common Sandpiper.

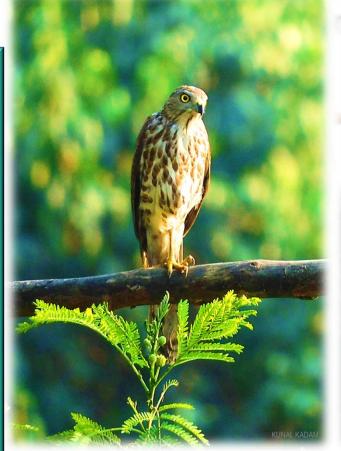


# **SHIKRA**

Scientific name:- Accipiter badius Other name:- Little banded goshawk **Type:-** Raptor Conservation status:- Least Concern Migratory status:- Resident Habitat:- forest, farmland, urban areas Feeds on rodents, squirrels, small birds, reptiles, insects Nesting season:- March to June Sexual dimorphism:- Males have ashy blue colour with red iris. Females are larger with brown colour and yellowish orange iris.

# **ORDER** - ACCIPITRIFORMES

Like most other Accipiter hawks, this species has short rounded wings and a narrow and somewhat long tail. Adults are whitish on the underside with fine rufous bars while the upperparts are grey. The lower belly is less barred and the thighs are whitish. Males have a red iris while the females have a less red (yellowish orange) iris and brownish upperparts apart from heavier barring on the underparts. The females are slightly larger.







# LONG TAILED SHRIKE

Scientific name:- Lanius schach Other name:- Rufous backed shrike Conservation status:- Least Concern Migratory status:- Resident Habitat:- Open Feeds on lizards, insects, small birds, rodents Nesting season:- June to July. Sexual dimorphism:- Sexes alike.

#### <u>ORDER</u> - PASSERIFORMES

Adults have a dark mask and a light gray upper back with a variable amount of orange on lower back and flanks. Shrike gives loud, screeching calls; also mimics other birds. The bill and legs are nearly black, strong and hooked at tip. Eyes are brown. Legs and feet are grey.



#### ASIAN PIED STARLING

Scientific name:- Gracupica contra Other name:- Pied myna Type:- Perching Bird. Conservation status:- Least Concern Migratory status:- Resident Habitat:- Plains. Feeds on grains, fruits, insects, molluscs, earthworm Nesting season:- March to September Sexual dimorphism:- Sexes alike

# <u>ORDER</u> - PASSERIFORMES

The Asian Pied Starling is a species of starling. The population is often seen within cities and villages although they are not as commonly spotted as the Common Myna.. This starling is strikingly marked in black and white and has a yellowish bill with a reddish bill base. The bare skin around the eye is reddish. The upper body, throat and breast are black while the cheek, lores, wing coverts and rump are contrastingly white.



#### **BRAHMINY STARLING**

Scientific name:- Sturnia pagodarum.
Type:- Passerine.
Conservation status:- Least Concern.
Migratory status:- Resident.
Habitat:- Dry forest, marshy lands.
Feeds on fruits and insects.
Nesting season:- March to September.
Sexual dimorphism:- Male has a more prominent crest than the female and also has longer neck hackles.

#### ORDER - PASSERIFORMES

They are usually seen in pairs or small flocks in open habitats on the plains of South Asia. This myna is pale buff creamy with a black cap and a loose crest. The bill is yellow with a bluish base. The iris is pale and there is a bluish patch of skin around the eye. The outer tail feathers have white and the black primaries of the wings do not have any white patches. The adult male has a more prominent crest than the female and also has longer neck hackles. Juveniles are duller and the cap is browner.



#### **CHESTNUT TAILED STARLING**

Scientific name:- Sturnia malabarica Type:- Passerine Conservation status:- Least Concern Migratory status:- Resident Habitat:- Woody areas Feeds on fruit, nectar, insects Nesting season:- March to June Sexual dimorphism:- Sexes similar with white iris, yellow bill and pale blue base.



Pale-headed starling with dark-tipped wings and an orangish belly and rump. Bill is distinctively colorful blue with a yellow tip. They have grey upperparts and blackish remiges. Juveniles have whitish underparts and just chestnut tips to the tail feathers.



#### **BLACK WINGED STILT**

Scientific name:- Himantopus himantopus. Type :- Wader. Conservation status:- Least Concern Migratory status:- Resident or short range vagrants Habitat:- Marshes, Lakes, ponds, wetlands Feeds on insects and crustaceans Nesting season:- April to August Sexual dimorphism:- Sexes alike.

#### ORDER - CHARADRIIFORMES

It is a slender body shaped wader. It feeds by wading in water, picking with its bill from the water surface. In flight, long pink legs stick out far beyond tail. It has red legs, white stomach and jet black wings. Northern populations of this species make longdistance migratory movements, travelling southwards to their wintering grounds between August and November and returning to their breeding areas between March and April.



#### **SIBERIAN STONECHAT**

Scientific name:- Saxicola maurus Other name:- Asian stonechat Conservation status:- Least Concern Migratory status:- Migratory Habitat:- Scrubland, grasslands, shrubs Feeds on insects Nesting season:- April to July Sexual dimorphism:- Female has pale brown upperparts and head, white neck patches. Male has black upperparts and head

#### ORDER - PASSERIFORMES

Chunky little bird of open landscapes; often sits on exposed perches. Breeding male has a black head, broad white half-collar, and rusty-red chest. Nonbreeding male is patchier, with a paler head and chest. Female is predominantly streaky brown above, with a weaker, less contrasting face and chest pattern.



# PAINTED STORK

Scientific name:- Mycteria leucocephala Type:- Wader Conservation status:- Near Threatened Migratory status:- Resident Habitat:- Mangroves, saltwater, freshwater wetlands Feeds on amphibians, reptiles, fishes, crustaceans Nesting season:-North India - August to October South India - November to March Sexual dimorphism:- Males are larger.

# ORDER - CICONIIFORMES

A large stork with a long yellow bill that curves down at the tip, like that of an Ibis. Adult is primarily white with black striped markings on the wings and bright pink on tertials. Also note the bright orange face, pinkish legs, and speckled band across the chest. Immatures are duller, with a brown wash, and lack the chest band. These storks typically fly with their head and neck drooping almost at or below the belly level.



# **PURPLE SUNBIRD**

Scientific name:- *Cinnyris asiaticus* Conservation status:- Least Concern Migratory status:- Resident Habitat:- Forests, garden Feeds on nectar, fruits and insects Nesting season:- April to June Sexual dimorphism:- Males are purplish black in colour and Females are olive brown with yellow underside

#### ORDER - PASSERIFORMES

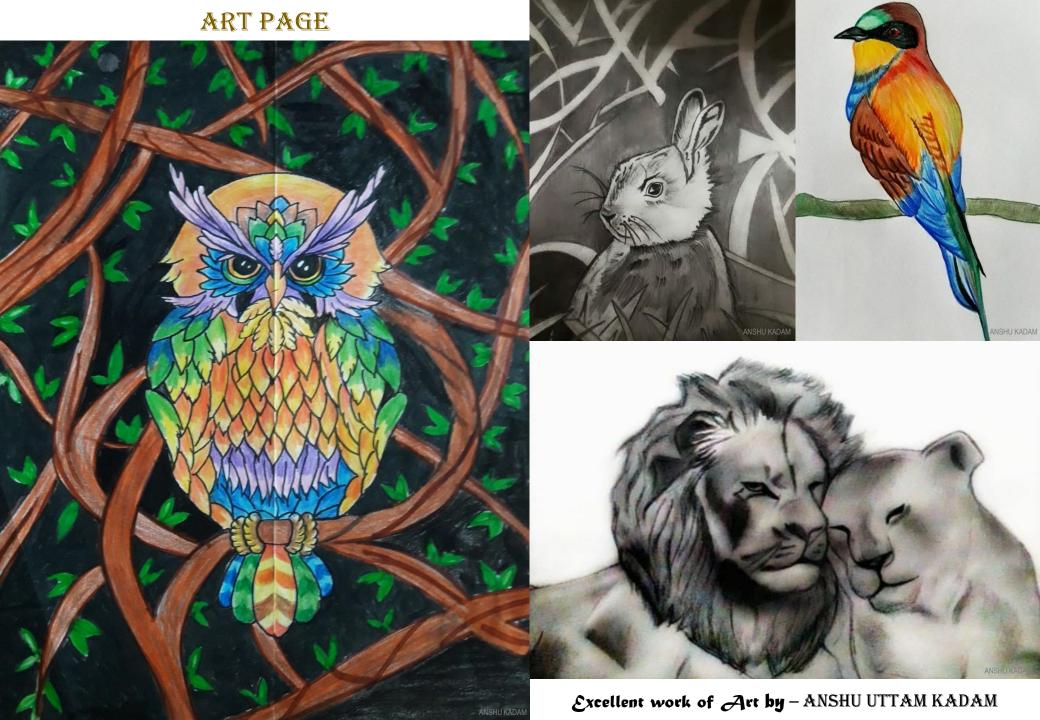
The Purple Sunbird has a relatively short bill, a dark and short square ended tail. they have a down-curve bill with brush-tipped tubular tongues that aid in nectar feeding. The male is glossy metallic purplish black on the upper parts with the wings appearing dark brown. The breeding male has the underparts also of the same purplish black, but non-breeding males may show a central streak of black on yellow underparts





#### NAME – **Booted Eagle**

Date – 30-03-2021 Place – Bhandup Pumping Station. Scientific name:- Heiraaetus pennatus Conservation status:- Least Concern Migratory status:- Winter Migration Habitat:- forest Feeds on mammals, reptiles and birds Nesting season:- April to May Sexual dimorphism:- Females are larger than males



#### Lets learn few facts ....



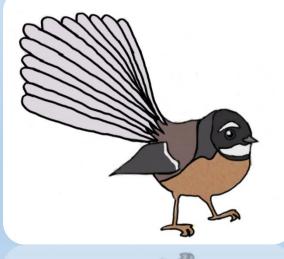
#### Flamingo

- Flamingo is the National Bird of Bahamas.
- Flamingoes are not born pink. It takes at least 3 years to become red or pink.
- Flamingo can eat only when its head is upside down.



#### Passerine

• Almost all Passerine birds have 12 feathers on their tail.





#### Ducks

- A duck's quack doesn't echo anywhere.
- The birds heart beats 400 times per minute while resting and upto 1000 times per minute while flying.



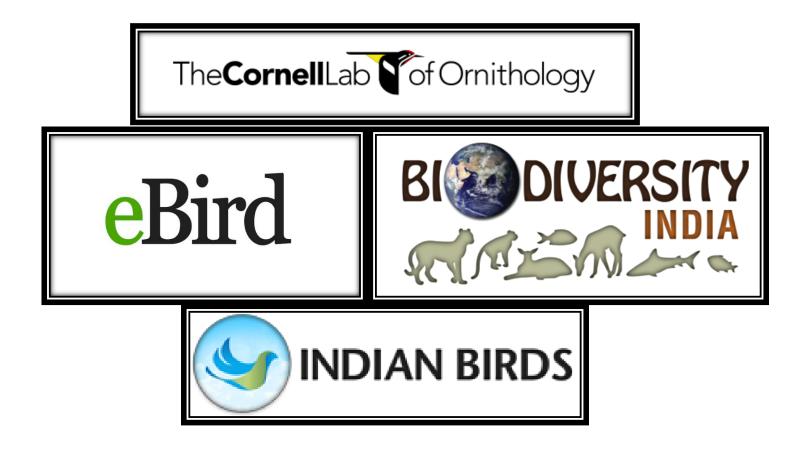
#### Crows

• Ravens are great at mimicking human speech and sounds.

• Crows are known to be the intelligent birds



- > THE INFORMATION ON BIRDS WRITTEN IN THE album IS A COMPILED FORM OF LITERATURE REFERRED FROM THE SOURCES MENTIONED BELOW.
- > INFORMATION SOURCES ARE AS FOLLOWS :- Cornell Lab of Ornithology, e-Bird , Biodiversity India , Indian Birds respectively.







Dr. R Varadarajan



**Dr. Mary Vimochana** 

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(DBT STAR STATUS SCHEME - 2021)

KUNAL KADAM



# NES RATNAM COLLEGE OF ARTS, SCIENCE AND COMMERCE, MUMBAI.

#### BHANDUP PUMPING STATION

# a.k.a. BIRDING PARADISE STATION

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