



Nidhi Semwal

FLIGHT NOTES

*Avian Encounters During On-the-Job
training in Nainital District of Uttarakhand.*

Photographs

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CENTRAL ACADEMY FOR STATE FOREST SERVICE
Coimbatore

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Foreword

It is with great pleasure that I introduce :*Flight Notes - Avian Encounters During On-the-Job training in National District of Uttarakhand* “by Ms. Nidhi Semwal, ACF, Uttarakhand (SFS Batch 2022-24). The Book presents an impressive collection of photographs showcasing the beauty of birds along with vital details about them. Photography is not merely the act of capturing images; it is a powerful tool that allows us to document, understand and project the biodiversity around us. For a forest officer, photography serves as a valuable asset in studying wildlife behaviours, monitoring populations and creating awareness among the public about the importance of conservation.

In this book, the author has not only documented birds but has beautifully captured moments that reveal the intricacies of avian life. Each photograph is a testament to the author’s keen observation skills and deep appreciation for nature’s wonders. Through these images, readers are invited to delve into the fascinating world of birds and gain a newfound respect for their role in our ecosystem.

As we turn the pages of “Flight Notes”, we are reminded of the delicate balance that exists in our natural environment and the responsibility we hold in preserving it for future generations. I commend the author for their dedication to their work and their ability to translate moments of awe into timeless images that inspire us all.



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APCCF & Principal,
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Preface

Meet me—the wide-eyed wanderer, the enthusiastic recruit stepping into the spellbinding realm of bird watching. With a pair of binoculars hanging awkwardly around my neck and a not-so-professional camera slung over my shoulder, I'm here to share the excitement of my early adventures in this enchanting world of feathers and flight. In the past few months, I've gone from casual observer to an eager participant in the dance of winged wonders. Bird watching is not just a hobby; it's a captivating journey where each bird becomes a character in the unfolding story.

For the last few months, I've been on a crash course in the art of identifying, appreciating, and, let's be honest, sometimes confusing one feathery friend for another. Birding, as it turns out, is not just about spotting a bird; it's about unravelling a whole universe of colors, calls, and quirky behaviours. Now, I won't pretend to know my prinia from my bush chats just yet, but that's the beauty of it, right? Every outing is a lesson, every glimpse through the lens is a revelation, and every misidentification is just a hilarious anecdote in the making.

During my 4 months OJT (On the job training), I was posted in Tarai East division, Haldwani. Haldwani is a vibrant town situated in the Nanital district of Uttarakhand, India, nestled in the foothills of Kumaon region. In these 4 months I got the opportunity to observe the avian diversity of the nearby regions. Popular places like bhimtal, sattal, nanital, pangot, Jim corbett national park are not very far from haldwani. Whenever I got time, I visited these places and i observed many birds but Bird watching, it turns out, is a delightful blend of patience, luck, and a touch of whimsy. The elusive grey wooded warbler flitting through the branches of Oak or the

majestic raptor soaring high above—their essence remains vivid in my memory, even if my camera failed to capture their fleeting beauty.

As I reflect on my four months of On-the-Job Training in the Tarai East division of Haldwani, I am filled with gratitude for the opportunity to witness the rich avian diversity of the region. Whether it's a perfectly framed shot or a bird that slipped away before I could press the shutter, each observation adds to the enchantment of this captivating pursuit. Welcome to my birding scrapbook—a collection of moments, some captured in pixels, and others etched in the canvas of memory. Here's to the birds that graced my lens and those that gracefully eluded it.

Acknowledgement

I extend my heartfelt gratitude to those who have inspired my fascination with birds and ignited my passion for bird watching. My sincere thanks to Shri V. Thirunavukarasu, IFS, Principal of CASFOS Coimbatore, Mr. Anisha Kalkoor, (Course Director), and all the faculty members of CASFOS Coimbatore, who have given me this opportunity to write this scrap book.

A special acknowledgment is owed to my friend Mr. Maneesh Joshi, whose encouragement and guidance have led me to discover enticing birding locations in Nanital district during my On the Job Training.

I also want to thank my elder brother, Mr. Ashwin Semwal, for his unwavering support and encouragement. It was his suggestion to invest in a camera that paved the way for my journey into photography. Without his guidance, I wouldn't have discovered this passion.

To all the fellow bird watchers and mentors whose shared experiences and insights have deepened my appreciation for the avian realm, I offer my heartfelt thanks and lastly, to the birds themselves, whose graceful presence and intriguing behaviours have captivated my imagination and inspired me to embark on this enchanting journey of discovery.

Thank you to all who have inspired and supported my interest in birds.

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Full forms and Symbols

Am	Altitudinal migrant
Ar	Arboreal
Ca	Carnivorous
Co	Congregatory
Fr	Frugivorous
In	Insectivorous
M	Migrant
Nw	Near water
R	Resident
So	Social
Te	Terrestrial
W	Wetland
♂	Male
♀	Female

Introduction

What are birds?

Birds are warm-blooded vertebrate animals that have wings, feathers, a beak, no teeth a skeleton in which many bones are fused together or are absent, and an extremely efficient, one-way breathing system.

What are birds classified as?

Birds are classified as members of the class Aves within the kingdom Animalia. In biological taxonomy, Aves belongs to the phylum Chordata and the subphylum Vertebrata.

They possess a distinctive set of features including:

- ▲ Wings and feathers
- ▲ Bipedal locomotion
- ▲ Egg-laying with hard shells
- ▲ The ability to swim, walk, and perch
- ▲ A specialized respiratory system
- ▲ A lightweight skeleton with fused bones

- ▲ A four-chambered heart
- ▲ A toothless beak
- ▲ A flattened breastbone

Avian diversity

Birds, representing approximately 10,906 species globally, exhibit a remarkable diversity in behaviour, size, and habitat preferences. Aves, or birds, engage in intricate activities such as nest-building, courtship rituals, territorial behaviour, and parental care. Ranging from the diminutive bee hummingbird to the towering ostrich, they occupy nearly every corner of the Earth. The Zoological Survey of India (ZSI) reports that India boasts a rich avian diversity, hosting 1,353 bird species, constituting 12.4% of the world's bird species. Impressively, 78 of these species are exclusive to India. However, the International Union for Conservation of Nature (IUCN) flags concerns as 25 out of these 78 unique bird species in India are categorized as 'threatened,' underscoring the need for conservation efforts to safeguard their existence.

In 2015, Uttarakhand's State Forest Department released the second revised edition of the Bird Checklist for Uttarakhand, a compilation attributed to the renowned ornithologists Dr. Dhanajay Mohan and Sanjay Sondhi. According to their findings, the checklist highlights India as the habitat for approximately 1303 bird species, with a notable 693 species identified within the borders of Uttarakhand.

LIST OF BIRDS IN AND AROUND HALDWANI

During my On-the-Job Training in the Tarai East Division of Haldwani, Nainital, my focus was on the avian residents of the region. I gathered information from different sources and added my own observations to create a list of around 172 bird species that are found in and around Tari East Forest division, Haldwani, Nainital. These avian inhabitants span across 17 orders and 57 families, with the dominant Passeriformes order prominently represented by 77 species, underscoring the prevalence of perching birds in this biodiverse haven. The avian community in and around Haldwani exhibits a dynamic mix of year-round residents, enhancing the local landscapes with their familiar charm, and seasonal visitors and migrants, introducing a constantly changing vibrancy to the birding experience.

Delving into the conservation significance, the checklist highlights the sobering reality of several species facing threats. The White-rumped Vulture stands critically endangered, while the Egyptian Vulture is labeled as endangered. Additionally, species like the Common Pochard, Indian Spotted Eagle, Great Hornbill, Northern Pintail, Woolly-necked Stork, River Tern, and River Lapwing fall under the vulnerable category. Seven species are classified as near-threatened, and seven species are classified as near - threatened and 59 species, are labeled as least concern, showcasing the resilient biodiversity that graces this captivating region. This compilation serves as a testament to the intricate interplay of nature and underscores the urgency of conservation efforts to safeguard the diverse avian wonders of Haldwani, Nainital.

LIST OF BIRDS IN AND AROUND HALDWANI, NANITAL.

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
1.	Alexandrine Parakeet	<i>Psittacula eupatria</i>	Psittacidae	R	NT
2.	Ashy prinia	<i>Prinia socialis</i>	Cisticolidae	R	LC
3.	Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	Muscicapidae	Sv	LC
4.	Asian Koel	<i>Eudynamys scolopacea</i>	Cuculidae	R	LC
5.	Asian openbill stork	<i>Anastomus oscitans</i>	Ciconiidae	R	LC
6.	Asian Pied Starling	<i>Sturnus contra</i>	Sturnidae	R	LC
7.	Bank Myna	<i>Acridotheres ginginianus</i>	Sturnidae	R	LC
8.	Bar bellied Cuckoo Shrike	<i>Coracina striata</i>	Campephagidae	Wv	LC
9.	Bar headed Goose	<i>Anser indicus</i>	Anatidae	Wv	LC
10.	Bar winged flycatcher shrike	<i>Hemipus picatus</i>	Campephagidae	R	LC
11.	Barn Owl	<i>Tyto alba</i>	Tytonidae	R	LC
12.	Barn Swallow	<i>Hirundo rustica</i>	Hirundinidae	R	LC
13.	Barred Buttonquail	<i>Turnix suscitator</i>	Turnicidae	R	LC
14.	Black Drongo	<i>Dicrurus macrocercus</i>	Corvidae	R	LC
15.	Black Headed Bunting	<i>Emberiza melanocephala</i>	Emberizidae	Wv	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
16.	Black headed Ibis	<i>Threskiornis melanocephalus</i>	Threskiornithidae	R	NT
17.	Black Headed Jay	<i>Garrulus glandarius</i>	Corvidae	R	LC
18.	Black headed oriole	<i>Oriolus xanthornus</i>	Oriolidae	R	LC
19.	Black Kite	<i>Milvus migrans</i>	Accipitridae	R, W	LC
20.	Black necked stork	<i>Ephippiorhynchus asiaticus</i>	Ciconiidae	R, W	NT
21.	Black Redstart	<i>Phoenicurus ochruros</i>	Muscicapidae	R,W	LC
22.	Black shouldered/ winged kite	<i>Elanus caeruleus</i>	Accipitridae	R	LC
23.	Black-crested Bulbul	<i>Rubigula flaviventris</i>	Pycnonotidae	R	LC
24.	Yellow cheeked tit	<i>Machlolophus spilonotus</i>	Paridae	R	LC
25.	Black-winged stilt	<i>Himantopus himantopus</i>	Recurvirostridae	R	LC
26.	Blue Rock-Thrush	<i>Monticola solitarius</i>	Muscicapidae	R,W	LC
27.	Blue Rock Pigeon	<i>Columba livia</i>	Columbidae	R	LC
28.	Blue Whistling thrush	<i>Myophonus caeruleus</i>	Muscicapidae	R	LC
29.	Blue-tailed Bee-eater	<i>Merops philippinus</i>	Meropidae	R	LC
30.	Bluethroat	<i>Luscinia svecica</i>	Muscicapidae	Sv	LC
31.	Blue-throated Barbet	<i>Psilopogon asiaticus</i>	Megalaimidae	R	LC
32.	Booted Eagle	<i>Hieraaetus pennatus</i>	Accipitridae	Wv	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
33.	Brahminy Starling	<i>Sturnia pagodarum</i>	Sturnidae	R	LC
34.	Brown Fish-Owl	<i>Ketupa zeylonensis</i>	Strigidae	R	LC
35.	Brown Rockchat	<i>Oenanthe fusca</i>	Muscicapidae	R	LC
36.	Chestnut-headed Bee-eater	<i>Merops leschenaulti</i>	Meropidae	R	LC
37.	Cinnamon Tree Sparrow	<i>Passer cinnamomeus</i>	Passeridae	R	LC
38.	Chestnut tailed Starling	<i>Sturnus malabarica</i>	Sturnidae	Pm	LC
39.	Common babbler	<i>Argya caudatus</i>	Muscicapidae	R	LC
40.	Common Cuckoo	<i>Cuculus micropterus</i>	Cuculidae	R	LC
41.	Common Flameback (golden backed woodpecker)	<i>Dinopium javanense</i>	Picidae	Sv	LC
42.	Common Hawk Cuckoo	<i>Hierococyx varius</i>	Cuculidae	R	LC
43.	Common hoopoe	<i>Upupa epops</i>	Upupidae	R	LC
44.	Common Iora	<i>Aegithina tiphia</i>	Aegithinidae	R	LC
45.	Common Kestrel	<i>Falco tinnunculus</i>	Falconidae	R,W	LC
46.	Common kingfisher	<i>Alcedo atthis</i>	Alcedinidae	R	LC
47.	Common Myna	<i>Acridotheres tristis</i>	Sturnidae	R	LC
48.	Common Pochard	<i>Aythya ferina</i>	Anatidae	Wv,W	VU

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
49.	Common Quail	<i>Coturnix coturnix</i>	Phasianidae	R	LC
50.	Common Rosefinch	<i>Carpodacus erythrurus</i>	Fringillidae	R,W	LC
51.	Common sandpiper	<i>Actitis hypoleucos</i>	Scolopacidae	W	LC
52.	Common Stone Chat	<i>Saxicola torquata</i>	Muscicapidae	Wv	LC
53.	Common Tailor bird	<i>Orthotomus sutorius</i>	Cisticolidae	am	LC
54.	Common Teal	<i>Anas crecca</i>	Anatidae	Wv,W	LC
55.	Common Tern	<i>Sterna hirundo</i>	Laridae	Wv,W	LC
56.	Common wood shrike	<i>Tephrodornis pondicerianus</i>	Vangidae	am	LC
57.	Coppersmith Barbet	<i>Megalaima haemacephala</i>	Megalaimidae	R	LC
58.	Crested Serpent-Eagle	<i>Spilornis cheela</i>	Accipitridae	R	LC
59.	Crimson Sunbird	<i>Aethopyga siparaja</i>	Nectarinidae	R	LC
60.	Crow Billed Drongo	<i>Dicrurus annectans</i>	Corvidae	Sv	LC
61.	Eurasian Skylark	<i>Alauda arvensis</i>	Alaudidae	Wv	LC
62.	Egyptian vulture	<i>Neophron percnopterus</i>	Accipitridae	R	EN
63.	Emerald Dove	<i>Chalcophaps indica</i>	Columbidae	R	LC
64.	Eurasian Collared Dove	<i>Streptopelia decaocto</i>	Columbidae	R	LC
65.	Eurasian Jay	<i>Garrulus glandarius</i>	Corvidae	R	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
66.	Eurasian Spoonbill	<i>Platalea leucorodia</i>	Threskiornithidae	R	LC
67.	Eurasian Skylark	<i>Alauda arvensis</i>	Alaudidae	Wv	LC
68.	Eurasian Thick Knee	<i>Burhinus oedicnemus</i>	Burhinidae	R	LC
69.	Eurasian tree Pipit	<i>Anthus trivialis</i>	Motacillidae	R	LC
70.	Fire - breasted Flowerpecker	<i>Dicaeum ignipectus</i>	Dicaeidae	R	LC
71.	Gadwall	<i>Anas strepera</i>	Anatidae	Wv, W	LC
72.	Garganey	<i>Anas querquedula</i>	Anatidae	Wv, W	LC
73.	Great Hornbill	<i>Buceros bicornis</i>	Bucerotidae	R	VU
74.	Great White Pelican	<i>Pelecanus onocrotalus</i>	Pelecanidae	Wv, W	LC
75.	Greater Coucal	<i>Centropus sinensis</i>	Centropodidae	R	LC
76.	Green Bee-eater	<i>Merops orientalis</i>	Meropidae	R	LC
77.	Grey Bush chat	<i>Saxicola ferreus</i>	Muscicapidae	R	LC
78.	Grey-backed Shrike	<i>Lanius tephronotus</i>	Laniidae	R,W	LC
79.	Grey-capped Pygmy Woodpecker	<i>Dendrocopos canicapillus</i>	Picidae	R	LC
80.	Grey Francolin	<i>Francolinus pondicerianus</i>	Phasianidae	R	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
81.	Grey-headed Canary-Flycatcher	<i>Culicicapa ceylonensis</i>	Muscicapidae	R	LC
82.	Grey-headed Fish-Eagle	<i>Ichthyophaga ichthyaetus</i>	Accipitridae	R	NT
83.	Grey lag goose	<i>Anser anser</i>	Anatidae	Wv	LC
84.	Grey Treepie	<i>Dendrocitta formosae</i>	Corvidae	R	LC
85.	Grey wagtail	<i>Motacilla cinerea</i>	Motacillidae	R, W	LC
86.	Goosander	<i>Mergus merganser</i>	Anatidae	Wv,W	LC
87.	Himalayan Bulbul	<i>Pycnonotus leucogenys</i>	Pycnonotidae	R	LC
88.	Himalayan Griffon	<i>Gyps himalayensis</i>	Accipitridae	R	NT
89.	House crow	<i>Corvus splendens</i>	Corvidae	R	LC
90.	House sparrow	<i>Passer domesticus</i>	Passeridae	R	LC
91.	Hume's leaf Warbler	<i>Phylloscopus humei</i>	Phylloscopidae	R	LC
92.	Himalayan pied woodpecker	<i>Dendrocopos himayensis</i>	Picidae	R	LC
93.	Indian Cuckoo	<i>Cuculus micropterus</i>	Cuculidae	R	LC
94.	Indian Grey-Hornbill	<i>Ocyrceros birostris</i>	Bucerotidae	R	LC
95.	Indian Nightjar	<i>Caprimulgus asiaticus</i>	Caprimulgidae	R	LC
96.	Indian Golden Oriole	<i>Oriolus Kundoo</i>	Oriolidae	R	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
97.	Indian peafowl	<i>Pavo cristatus</i>	Phasianidae	R	LC
98.	Indian Pond heron	<i>Ardeola grayii</i>	Ardeidae	R	LC
99.	Indian Roller	<i>Coracias benghalensis</i>	Coraciidae	R,W	LC
100.	Indian Spotted Eagle	<i>Aquila hastata</i>	Accipitridae	R	VU
101.	Indian whiskered tern	<i>Chlidonias hybrida</i>	Charadriidae	Wv, W	LC
102.	Jacobin Cuckoo	<i>Clamator jacobinus</i>	Cuculidae	R	LC
103.	Jungle babbler	<i>Turdoides striatus</i>	Leiothrichidae	R	LC
104.	Jungle Bush Quail	<i>Perdica asiatica</i>	Phasianidae	R	LC
105.	Jungle Myna	<i>Acrideres fuscus</i>	Sturnidae	R	LC
106.	Jungle Owlet	<i>Glaucidium radiatum</i>	Strigidae	R	LC
107.	Jungle Prinia	<i>Prinia sylvatica</i>	Cisticolidae	am	LC
108.	Knob – billed duck	<i>Sarkidiornis melanotos</i>	Anatidae	R, W	LC
109.	Large billed Crow	<i>Corvus macrorhynchos</i>	Corvidae	R	LC
110.	Large CucKoo Shrike	<i>Coracina macei</i>	Campephagidae	Wv	LC
111.	Large Grey Babbler	<i>Turdoides malcolmi</i>	Leiothrichidae	R	LC
112.	Laughing Dove	<i>Streptopelia senegalensis</i>	Columbidae	R	LC
113.	Lesser Coucal	<i>Centropus bengalensis</i>	Cuculidae	R	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
114.	Lesser Whistling-Duck	<i>Dendrocygna javanica</i>	Dendrocygnidae	R	LC
115.	Lesser Yellownappe	<i>Picus chlorolophus</i>	Picidae	R	LC
116.	Lineated Barbet	<i>Megalaima lineata</i>	Megalaimidae	R	LC
117.	Little cormorant	<i>Phalacrocorax niger</i>	Phalacrocoracidae	R	LC
118.	Little Egret	<i>Egretta garzetta</i>	Ardeidae	R	LC
119.	Little Grebe	<i>Tachybaptus ruficollis</i>	Podicipedidae	R	LC
120.	Long tailed shrike	<i>Lanius schach</i>	Laniidae	R	LC
121.	Mallard	<i>Anas platyrhynchos</i>	Anatidae	R, Wv	LC
122.	Northern Pintail	<i>Anas acuta</i> Anatidae	Wv, W	VU	
123.	Northern Shoveller	<i>Anas clypeata</i>	Anatidae	Wv, W	LC
124.	Oriental Darter	<i>Anhinga melanogaster</i>	Anhingidae	R	NT
125.	Oriental Magpie robin	<i>Copsychus saularis</i>	Muscicapidae	R	LC
126.	Oriental Pied-Hornbill	<i>Anthracoceros albirostris</i>	Bucerotidae	R	LC
127.	Oriental white-eye	<i>Zosterops palpebrosus</i>	Zosteropidae	R	LC
128.	Osprey	<i>Pandion haliaetus</i>	Accipitridae	R, Wv	LC
129.	Pied Bushchat	<i>Saxicola caprita</i>	Muscicapidae	R	LC
130.	Pied crested Cuckoo	<i>Clamator jacobinus</i>	Cuculidae	Sv	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
131.	Pied Kingfisher	<i>Ceryle rudis</i>	Alcedinidae	R	LC
132.	Plain Prinia	<i>Prinia inornata</i>	Cisticolidae	R	LC
133.	Plumbeous Water-Redstart	<i>Rhyacornis fuliginosus</i>	Muscicapidae	R	LC
134.	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	Psittacidae	R	LC
135.	Purple Heron	<i>Ardea purpurea</i>	Ardeidae	R,W	LC
136.	Purple Sunbird	<i>Nectarinia asiatica</i>	Nectariniidae	R	LC
137.	Purple swampphen	<i>Porphyrio porphyrio</i>	Rallidae	R	LC
138.	Red collard dove	<i>Streptopelia tranquebarica</i>	Columbidae	R	LC
139.	Red crested Pochard	<i>Netta rufina</i>	Anatidae	Pm, W	LC
140.	Red Junglefowl	<i>Gallus gallus</i>	Phasianidae	R	LC
141.	Redshank common	<i>Tringa totanus</i>	Scolopacidae	Wv, W	LC
142.	Red-vented bulbul	<i>Pycnonotus cafer</i>	Pycnonotidae	R	LC
143.	Red-wattled Lapwing	<i>Vanellus indicus</i>	Charadriidae	R	LC
144.	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	Pycnonotidae	R	LC
145.	River Lapwing	<i>Vanellus duvaucelii</i>	Charadriidae	R, W	NT
146.	River tern	<i>Sterna aurantia</i>	Laridae	R	VU
147.	Rose ringed Parakeet	<i>Psittacula krameri</i>	Psittacidae	R	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
148.	Ruddy Shelduck	<i>Tadorna ferruginea</i>	Anatidae	R, Wv	LC
149.	Rufous bellied pied wood pecker	<i>Dendrocopos hyperythrus</i>	Picidae	R	LC
150.	Scaly bellied Woodpecker	<i>Picus squamatus</i>	Picidae	R	LC
151.	Scaly-breasted Munia	<i>Lonchura punctulata</i>	Estrildidae	R	LC
152.	Scarlet minivet	<i>Pericrocotus flammeus</i>	Corvidae	R	LC
153.	Shikra	<i>Accipiter badius</i>	Accipitridae	R	LC
154.	Slaty-headed Parakeet	<i>Psittacula himalayana</i>	Psittacidae	R	LC
155.	Small minivet	<i>Pericrocotus cinnamomeus</i>	Corvidae	Wv	LC
156.	Spangled Drongo	<i>Dicrurus hottentottus</i>	Corvidae	R	LC
157.	Spotted Dove	<i>Streptopelia chinensis</i>	Columbidae	R	LC
158.	Spotted Owlet	<i>Athene brama</i>	Strigidae	R	LC
159.	Tufted Duck	<i>Aythya fuligula</i>	Anatidae	Wv, W	LC
160.	Verditer Flycatcher	<i>Eumyias thalassina</i>	Muscicapidae	R	LC
161.	White browed wagtail	<i>Motacilla maderaspartensis</i>	Motacillidae	R	LC
162.	White Rumped vulture	<i>Gyps bengalensis</i>	Accipitridae	R	CR
163.	White Throated Fan tail	<i>Rhipidura albicollis</i>	Rhipiduridae	R	LC

S.No	Common Name	Scientific Name	Family	Status	IUCN Criteria
164.	White Throated King Fisher	<i>Halcyon smyrnensis</i> fa	Alcedinidae	R	LC
165.	White wagtail	<i>Motacilla alba</i>	Motaicillidae	R,W	LC
166.	White-Breasted Waterhen	<i>Amaurornis phoenicurus</i>	Rallidae	R	LC
167.	White-capped Water-Redstart	<i>Chaimarrornis leucocephalus</i>	Muscicapidae	R	LC
168.	Wood sand piper	<i>Tringa glareola</i>	Scolopacidae	Wv, W	LC
169.	Woolly-necked Stork	<i>Ciconia episcopus</i>	Ciconiidae	R	VU
170.	Yellow-Footed Green-Pigeon	<i>Treron phoenicoptera</i>	Columbidae	R	LC
171.	Yellow wattled Lapwing	<i>Vanellus indicus</i>	Charadriidae	R, W	LC
172.	Upland Pipit	<i>Anthus sylvanus</i>	Motacillidae	R	LC

Explanation of status/Habitat categories:

W= Water areas, wet areas as swamps with also for vegetation near water, **s**= On shores, near water,

R = resident

M =Migratory, **PM**= Passage Migrant, **SV**= Summer visitor, **Wv** =Winter visitor,

NT= Near threatened, **LC**= Least Concern, **VU**= Vulnerable, **EN**= Endangered,

CR =Critically Endangered, **am**- Altitudinal migratory

Chapter 1

Order -Accipitriformes

Within this order, three distinct families collectively encompassing around 250 species stand out as the formidable birds of prey. These avian predators engage in hunting by either using their powerful feet to catch live prey or by scavenging on the flesh of deceased animals. Another synonymous term for these formidable hunters is "Raptors," derived from the Latin word "rapere," meaning "to seize." Equipped with sharp talons and hooked beaks, these birds seize and dispatch their prey efficiently. Often recognized as "Diurnal birds of prey," signifying their inclination towards daytime hunting, these avian predators showcase their predatory prowess during daylight hours. Their distinctive hunting techniques and adaptation to daylight make them a fascinating and integral part of the avian ecosystem. The distinctive characteristics of birds in the order Accipitriformes are as follows:

- ▲ Diurnal Behavior- Active during the daytime, these birds exhibit diurnal habits, preferring to hunt and engage in other activities during daylight hours.
- ▲ Medium to Large Size- Typically ranging from medium to large in size, Accipitriformes species vary in dimensions but generally possess a robust build.
- ▲ Sharp, Hooked Beak - Sporting a sharp, hooked beak with visible nostrils, Accipitriformes are equipped with specialized tools for grasping and tearing apart prey.
- ▲ Powerful Claws - Featuring firm legs with massive, sharp claws, these birds possess formidable appendages designed for grasping and immobilizing prey.

- ▲ Carnivorous Diet - Nearly all members of the order Accipitriformes are carnivorous, relying on the consumption of meat obtained from other animals for sustenance.
- ▲ Prominent Eyes - Accipitriformes typically have prominent, round eyes, which play a crucial role in their hunting strategy, aiding in visual detection of prey.
- ▲ Sight-Based Hunting - Predominantly relying on their keen eyesight, these birds primarily hunt by sight, scanning the environment for potential prey targets.
- ▲ Broad Wings - Equipped with powerful and broad wings, Accipitriformes are adept flyers, allowing them to soar gracefully through the air as they pursue prey or navigate their habitats.



Black Kite

Common name	Black kite
Order	Accipitriformes
Family	Accipitridae
Genus	<i>Milvus</i>
Species	<i>migrans</i>

R

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A moderately sized raptor, this unassuming bird features a predominantly dark plumage that, while nondescript, conceals subtle variations across its habitat range. Notably, its tail exhibits a distinctive fork, a characteristic trait that may vanish when fully extended. The creature's short head and neck contribute to its unremarkable appearance, with juveniles presenting a paler and more contrasting pattern. In flight, this raptor displays a buoyant and agile style, effortlessly gliding and manoeuvring through the air. Its foraging habits showcase versatility, as it can be found scouring urban areas, scavenging on rubbish dumps, and exploring aquatic habitats and grasslands. However, it tends to avoid densely forested regions. While sometimes observed in solitary pursuits, this bird is also known to form large flocks during migration or around abundant feeding grounds, adding a communal aspect to its behavior. In essence, this unpretentious yet adaptable raptor embodies a balance of inconspicuous charm and functional efficiency in its ecological niche.

Black shouldered Kite or Black winged kite

Common name	Black shouldered kite
Order	Accipitriformes
Family	Accipitridae
Genus	<i>Elanus</i>
Species	<i>Caeruleus</i>

R

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The black-shouldered kite is a diminutive and distinctive bird of prey, resembling a small falcon. Its underside is light, while the upper parts are a striking blue-gray, highlighted by prominent black shoulders created by its black wing coverts. Younger birds exhibit a scaly pattern on their back and a breast washed with brownish hues. This species inhabits open savannahs, semi-deserts, and agricultural areas dotted with patches of woodland, often perching conspicuously in these landscapes. Its flight patterns are diverse, ranging from hovering akin to a kestrel to gliding reminiscent of a harrier, characterized by deep wingbeats and raised wings.

Feeding primarily on small rodents, especially the introduced House Mouse, this elegant and graceful kite also preys on small birds, lizards, and sizable insects like grasshoppers.



Crested Serpent Eagle

Common name	Crested serpent eagle
Order	Accipitriformes
Family	Accipitridae
Genus	<i>Spilornis</i>
Species	<i>cheela</i>

R

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The Crested Serpent-Eagle, a formidable raptor, exhibits distinctive features that set it apart in the avian realm. Heavily built, this eagle boasts a dark plumage with a white-tipped bushy crest, imparting a large-headed appearance. Notably, their habit of laying eggs in old nests built by other raptors adds an intriguing dimension to their reproductive strategy. As carnivores, they earn their name by specializing in a diet of snakes, placing them in the subfamily Circaetinae alongside the Circaetus snake-eagles. In addition to snakes, their menu extends to include lizards. Often observed perched upright in well-wooded areas, the Crested Serpent-Eagle's broad white and black bars on the tail, along with its distinctive scream of 1-3 notes, make it a recognizable presence in forested habitats. The wingtips nearly cover the broad white sub-terminal band on the tail, contributing to their striking visual appeal in their natural surroundings.

Shikra

Common name	Shikra
Order	Accipitriformes
Family	Accipitridae
Genus	<i>Accipiter</i>
Species	<i>badius</i>

R

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The Shikra, scientifically known as *Accipiter badius*, once found itself under the wings of the genus *Falco* before its reclassification. In terms of physical allure, the Shikra stands as a diminutive avian marvel, measuring between 25 to 45 cm in length and weighing a mere 100 to 200 grams. The female, with her larger stature weighing between 130 to 260 grams, exhibits a captivating display of elegance. Sporting short, rounded wings and a slender, elongated tail, the Shikra's underside is adorned in white with delicate rufous bars, while the upper parts exude a graceful grey hue. The wings, tipped in black, and a dark terminal band on the central tail feathers contribute to its aesthetic allure. The male Shikra, distinguished by its red iris, and the female, graced with yellow-orange irises, collectively paint a picture of avian splendor. Emitting a distinctive 'pee-wee' call, complemented by sharper 'kik-ki' sounds, the. It feeds on bats, small birds, squirrels sometimes snakes an insect.

Chapter 2

Order Anseriformes

Anseriformes, consisting of three families, including screamers, geese, swans, ducks, and magpie geese, boasts a total of 48 genera and 161 species worldwide, excluding the Antarctic region. These medium to large birds, ranging from 30 to 180 cm and weighing between 230 g to 22.5 kg, predominantly inhabit aquatic environments such as lakes, ponds, rivers, and marshes.

Features

- ▲ Their plumage varies from gray or brown to black and white, with distinct features such as head and neck ornaments in screamers and brightly colored speculums in anatids. Anseriform birds are herbivorous, primarily feeding on aquatic vegetation while occasionally foraging for insects, plankton, mollusks, crustaceans, and small fish.
- ▲ Anseriformes comprises three families: Anhimidae (screamers), Anatidae (geese, swans, and ducks), and Anseranatidae (magpie goose).
- ▲ They inhabit aquatic environments globally except for Antarctica, with screamers found mainly in South America and magpie geese in Australia and New Guinea.
- ▲ These birds range in size from medium to large, with varied plumage colors and distinctive features such as head ornaments in screamers and brightly colored speculums in anatids.
- ▲ Anseriform birds are primarily herbivorous, feeding on aquatic vegetation, but may also forage for insects, plankton, mollusks, crustaceans, and small fish.



Tufted duck

Common name	Tufted duck
Order	Anseriformes
Family	Anatidae
Genus	<i>Aythya</i>
Species	<i>fuligula</i>

M

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Ca

The Tufted Duck, a moderate-sized diving waterfowl, presents a distinct appearance, notably smaller than its counterpart, the Mallard. Its striking features include a predominantly black plumage enveloping the head, neck, chest, and back, contrasting sharply with white coloring along the flanks. During flight, a conspicuous white streak adorns the wing's rear, adding to its distinctive charm, females exhibit a more subdued hue, with browner tones and a shorter, wispy tuft. This ubiquitous Eurasian avian species thrives in breeding habitats encompassing shallow freshwater lakes, leisurely flowing rivers, and tranquil park ponds. Employing brief dives, they forage for sustenance, predominantly feeding on mussels and clams. As winter descends, these ducks congregate in expansive flocks, gracing both coastal expanses and inland water bodies. This species' breeding grounds extend across a vast Eurasian expanse, while their wintering grounds stretch as far as central Africa, India, and Southeast Asia, epitomizing their adaptability and resilience across diverse environments.



Red crested pochard

Common name	Red Crested Pochard
Order	Anseriformes
Family	Anatidae
Genus	<i>Netta</i>
Specie	<i>Srefina</i>

M

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The red-crested pochard is a diving duck commonly found in larger lakes and reservoirs, particularly those with fringing reeds. The male of this species is easily recognizable by its large, rounded, rusty-orange head, long red bill, and black breast. In contrast, the female is more drab in appearance, typically displaying a dirty buff overall plumage with pale cheeks, a dark face, and a rounded brown cap. Both sexes exhibit a thick white wing stripe and whitish underwings during flight.

These ducks primarily feed by dabbling and upending, consuming mainly aquatic plants and algae during the breeding season, which include macrophytes and charophytes. Outside of the breeding season, their diet may also include sedges, tape-grasses, and rice.

Red-crested pochards are known to nest in eutrophic ponds and lakes bordered by emergent halophytes and beds of macrophytes, as well as near slow-current rivers with clearings of open water or islands featuring shrubs and grasses. They are monogamous breeders, often breeding in isolated pairs or loose colonies.

With a diverse representation of over 350 species, this avian order spans the entire globe, showcasing its ubiquity in all corners of the world. Primarily inhabiting areas in proximity to or directly on water, these birds exhibit a wide size range, from small to impressively large.

Common characteristics of birds in order Charadriiformes

- ▲ Charadriiformes, a diverse avian order, encompasses a size range from 0.006 to 4.4 pounds.
- ▲ These birds predominantly inhabit water-associated areas like wetlands, freshwater, and seawater shorelines, with some species exhibiting affinity towards ocean environments.
- ▲ Varied feeding habits include fish, insects, crustaceans, and algae for herbivorous species.
- ▲ Diverse feeding strategies such as diving, swimming, and utilizing a sense of smell aid in prey location in shallow water and sand.
- ▲ Migration patterns differ among species, with some remaining in the same area year-round and others undertaking long-distance migrations.
- ▲ Social behavior includes forming groups or large flocks, often engaging in colonial nesting.
- ▲ Breeding habits range from monogamy to alternative strategies like polyandria.

- ▲ Monogamous shorebirds involve both parents in nest and chick care.
- ▲ Nesting simplicity is characteristic, relying on holes in the ground or rocks.
- ▲ Tragically, 34 shorebird species face extinction threats due to historical mass hunting by humans.



Black Winged Stilt

Common name	Black winged stilt
Order	Charadriiformes
Family	Recurvirostridae
Genus	<i>Himantopus</i>
Species	<i>himantopus</i>

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The black-winged stilt (*Himantopus himantopus*), an elegant and unmistakable wader, graces wetlands across vast expanses, particularly in brackish habitats. Its slender, long-legged silhouette, standing at 35 to 40 cm, captivates observers with the stark beauty of its black and white plumage. The head and neck, adorned in a striking interplay of colors, vary from all-white to a captivating blend of blackish and white, with males showcasing a summer wardrobe of intensified black on the head. During winter, their heads transform into a pristine expanse of white. The males' blackish back boasts a green sheen, while females exhibit a subtle brown gloss. Legs are pink support their graceful stature, and a long, thin, pointed blackish bill aids in the delicate art of foraging. Their call, a rhythmic "kwik..kwik..kwik," of movement and adaptation.



Red wattled lapwing

Common name	Red wattled lapwing
Order	Charadriiformes
Family	Charadriidae
Genus	<i>Vanellus</i>
Species	<i>indicus</i>

R

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Presenting a lapwing of distinctive markings, this avian marvel boasts a striking black breast and throat, complemented by a red bill featuring a captivating black tip. Adding to its allure, vibrant red wattles grace the area in front of its eyes, while a notable white patch elegantly descends from its cheeks to the underparts. During flight, keen observers can appreciate the stark contrast of black flight feathers against a backdrop of a pristine white wing patch. Typically preferring the company of a few companions, these lapwings gracefully navigate diverse landscapes, favoring the vicinity of water bodies, agricultural fields, and dry land alike. Their dietary preferences align with a plover's classic foraging style, deftly running short distances to capture insects from the ground. Among their distinctive features, an unmistakably loud alarm call resonates, often likened to the peculiar phrase, "Did we do it?" This bird, with its captivating appearance and vocal signature, stands as a testament to nature's artistry and its own unique place in the avian symphony.



River lapwing

Common name	River lapwing
Order	Charadriiformes
Family	Charadriidae
Genus	<i>Vanellus</i>
Species	<i>duvaucelii</i>

R

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The River Lapwing, a medium-sized shorebird, commands attention with its striking black, white, and grey coloration, featuring a black crown and nape. Both males and females share similar plumage, with males being slightly larger. Inhabiting freshwater environments like riverbanks, lakeshores, and marshes, these lapwings exhibit a preference for areas with muddy or sandy substrates, facilitating their foraging for insects, worms, crustaceans, and molluscs. Their distinctive calls, a medley of shrill whistles and melodious trills, resonate across the wet grasslands and farmland they frequent. River lapwings are highly territorial and protective.

Chapter 4 Order Columbiformes

Columbiformes, found across all continents except Antarctica, face varied habitats, with certain island populations at risk of extinction. Notably, the dodo and passenger pigeon have succumbed to human-induced extinction. While pigeons and doves predominantly inhabit trees, some species exhibit cliff or ground-dwelling behaviors. Tropical fruit doves prefer treetops for feeding and nesting, contrasting with others nesting in trees but foraging on the ground. In urban settings, rock doves adapt to man-made structures like buildings and bridges for roosting and nesting. This diverse range of habitats underscores the adaptability of Columbiformes to various environments, though human activities pose a threat to certain populations.

Body Structure: Plump, stocky bodies with small heads and beaks. Short legs and necks. Anisodactyl feet (three toes forward, one backward).

Coloration and Gender- Typically grey or brown, with iridescence in some. Males generally larger; gender determination challenging without DNA or laparoscopic sexing.

Communication and Song- Simple song and a variety of soft calls and coos.

Physiological Features: Fleshy cere; beak not hard or powerful. Lack of sexual dimorphism in most species.

Reproductive Adaptations- Prominent crop involved in crop milk production. Hyperplasia of crop mucosa under prolactin influence. Vascular plexus in cervical skin with multiple functions during breeding.

Digestive System: Muscular gizzard in granivores, less so in frugivores. Rudimentary ceca; gall bladder absent in many genera. Long keel supports explosive flight during takeoff.

Feeding Habits

- ▲ Feed on a range of plant matter, seeds, fruits, and berries.
- ▲ Granivores eat seeds whole; fruit doves are arboreal.
- ▲ Active drinking by suction, not head-throwing.

Diet in Captivity

- ▲ Granivores fed avian crumble or pellets.
- ▲ Frugivores offered chopped fruits, berries, and nectar.
- ▲ Iron-sensitive species may need diets lower in iron.



Eurasian collared dove

Common name	Spotted dove
Order	Columbiformes
Family	Columbidae
Genus	<i>Streptopelia</i>
Species	<i>decaocto</i>

R

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The Eurasian collared dove displays a color palette of grey-buff to pinkish-grey, darker above than below, and features a distinctive blue-grey underwing patch. Notable for its red iris, which may appear black from a distance due to the large black pupil, this dove is further characterized by a black half-collar with white edges on its nape. With short red legs and a black bill, the bird's tail feathers exhibit grey-buff above and dark grey below, with white tips on the lower side. These diurnal doves are commonly observed in pairs, perched closely on branches or foraging on the ground. Highly social, they form groups ranging from 10 to several hundred individuals at preferred locations. Herbivorous and primarily granivorous and frugivorous, they feed on seeds from grasses and cereals, along with buds, berries, fruits, insects, and other invertebrates. In flight, they produce a rapid and nasal "kwourrr," particularly during landing or moments of excitement.



Laughing dove

Common name	Laughing dove
Order	Laughing dove
Family	Columbidae
Genus	<i>Spilopelia</i>
Species	<i>senegalensis</i>

R

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Om, Fr

The Laughing Dove is a petite pigeon, comparable in size to the European Turtle-Dove, with a strikingly long tail adorned with white corners and a grey center, while the underside is entirely white. Its body showcases delicate pastel hues of brown and pink, complemented by a distinctive spotted black collar. Commonly found in human-modified landscapes such as plantations, gardens, and urban areas, particularly where trees are present. Its call, a repetitive "coo-coo coo ru," echoed 5–8 times, is characteristic and easily recognizable.

It primarily consumes seeds, grains, cereals, fruits, and berries, showcasing an omnivorous palate.

The head, neck, and breast boast mauve-pink or vinous brown coloring, while the mantle, scapulars, tertials, and inner-wing coverts display light brown tones with pale rufous-edged feathers.



Spotted dove

Common name	Spotted dove
Order	Columbiformes
Family	Columbidae
Genus	<i>Spilopelia</i>
Species	<i>chinensis</i>

R

Te,Ar

Om, Fr

The Spotted Dove, a common and charming resident bird, is easily identified by its predominantly light beige or fawn plumage adorned with numerous small black spots on the wings and upper body. Sporting a long, slender tail with a distinctive white tip, dark eyes, and a relatively short and slender beak, it exudes an endearing presence. These doves, distinguishable by the chessboard patterns behind their necks, often found near human habitation, inhabit a diverse range of environments, including mountains, open woodlands, scrub, farmland, gardens, and urban areas, with a preference for moister regions in India. Frequently seen in pairs or small groups, Spotted Doves forage on the ground for seeds, grains, and small insects. Their characteristic flight, marked by quick flapping sounds of their wings, adds to the delight of observing them, especially in hilly regions. Altitudinal migration may be observed in some population.



Yellow footed green pigeon

Common name	Yellow footed green pigeon
Order	Columbiformes
Family	Columbidae
Genus	<i>Treron</i>
Species	<i>phoenicopterus</i>

Pm

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Yellow-footed Green Pigeon, a medium-sized pigeon, is renowned for its vibrant and striking appearance. Its predominantly green plumage, extending to the wings and back, contrasts with yellow lower back, legs, and rump, while the shoulders are gray. Both sexes share a similar appearance. Primarily frugivorous, these pigeons play a crucial role in seed dispersal as they consume fruits and disperse seeds in different locations. They are commonly found in diverse habitats, including wooded areas, forests, and cultivated regions with fruiting trees. The Yellow-footed Green Pigeon's association with areas rich in fruiting trees emphasizes their importance in maintaining ecosystem balance.

This avian order encompasses diminutive to medium-sized birds characterized by their prominent cranial features and petite, three-toed feet with partially fused digits. Known for their striking array of colors and unique beak structures, these birds prefer nesting in either tree hollows or ground burrows, sustaining themselves on a diverse diet that includes fruits, vertebrates, and invertebrates. Notably, many species within this order exhibit long-term monogamous mating behaviors, persisting beyond a single breeding season. Although primarily concentrated in Africa, Asia, Australia, and Europe, certain species also inhabit pockets of North and South America. Members of coraciiformes order-

1. Generally have large heads, short, hooked beaks, and weak, short legs. Exceptions to these characteristics exist, such as the sharp beaks of kingfishers or the delicate beaks of hoopoes and wood hoopoes. Some species within the order, like ground-rollers and ground hornbills, possess longer legs, allowing them to move confidently by striding rather than hopping like other members of the order.
2. There are five families within the Coraciiformes order:
 - ▲ Alcedinidae (Kingfishers), Brachypteraciidae (Ground Rollers), Coraciidae (Rollers), Meropidae (Bee-eaters), Momotidae (Motmots)
3. **Variety of Coloration:** This order boasts a vibrant array of hues, featuring species like kingfishers, bee-eaters, rollers, motmots, and todies, each adorned with unique and striking plumage patterns.

4. **Syndactylous Feet:** Most Coraciiformes exhibit syndactyly, where the front three toes are fused at the base, facilitating specialized perching and hunting behaviors.
5. **Short Legs and Weak Feet:** Characterized by short legs and feeble feet, these birds are adapted for perching rather than sustained ground locomotion.
6. **Long, Prominent Bills:** A distinguishing characteristic of Coraciiformes is their elongated, often robust bills, which aid in capturing prey and manipulating food items.
7. **Large Head:** Coraciiform birds typically possess disproportionately large heads, accommodating their well-developed brains and sensory organs.
8. **Short Neck:** These birds commonly feature short necks, contributing to their distinctive proportions and facilitating efficient movement within arboreal habitats.
9. **Arboreal Lifestyle:** Many species within this order predominantly inhabit trees, where they nest, forage, and roost, reflecting their arboreal adaptations.
10. **Global Distribution:** Coraciiformes are found across diverse habitats worldwide, with the exception of extremely cold regions like Antarctica, Greenland, or parts of Russia.



Asian Green bee – eater

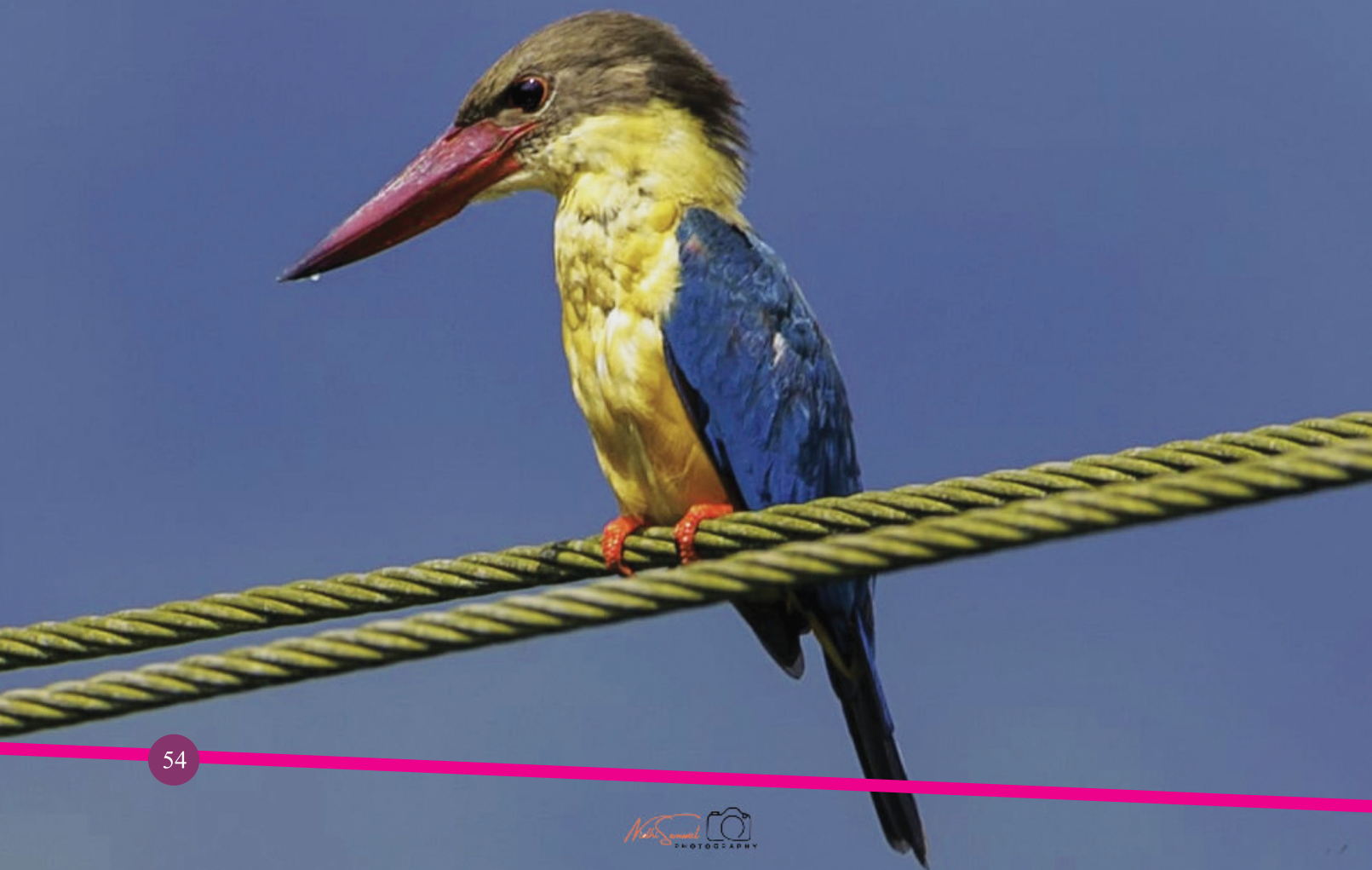
Common name	Asian Green Bee-eater
Order	Coraciiformes
Family	Meropidae
Genus	<i>Merops</i>
Species	<i>orientalis</i>

R

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Om

The Asian Green Bee-eater, a petite and vibrant bird, is characterized by its slim body and long, slightly curved beak. Cloaked in predominantly green plumage, it features a striking turquoise or bluish-green crown and a distinctive black eye stripe extending to the nape. The wings, adorned with black edges, and the elongated tail, with central feathers extending beyond the rest, create a distinctive "streamer" effect. Juveniles, though duller than adults, lack the long tail feathers. Named for their diet, Asian Green Bee-eaters exhibit remarkable skill in catching bees and other flying insects on the wing. Feeding on a diverse array of insects like bugs, beetles, termites, moths, butterflies, crickets, dragonflies, caterpillars, and spiders, these birds play a crucial role in pest control. Inhabiting lowland and dry ecosystems, including farmlands, pastures, plantations, rural gardens, and urban parks, they are often spotted perching on exposed branches or wires, diligently scanning the surroundings for flying insects.



Stork- billed Kingfisher

Common name	Stork billed kingfisher
Order	Coraciiformes
Family	Alcedinidae
Genus	<i>Pelargopsis</i>
Species	<i>capensis</i>

R

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Ca

The Stork-billed Kingfisher, with its vibrant plumage and distinctive features, is a captivating bird found in diverse wetland habitats. Rich in color, it boasts a deep blue crown, back, and wings, complemented by warm chestnut or rufous tones on the neck and underparts. The long, thick bill is brightly colored, displaying shades of red and yellow, making it a striking sight. Juveniles exhibit dusky edges to feathers on the breast and hindneck. Known for their prowess in fishing, Stork-billed Kingfishers primarily dine on fish, showcasing remarkable hunting skills by perching on vantage points and diving into the water to catch prey. Commonly found in wetland habitats such as mangroves, estuaries, rivers, ponds, and coastal areas, their unmistakable calls resonate in these environments. Interestingly, these kingfishers are known to nest in burrows dug into the banks of rivers or estuaries, demonstrating their adaptability to various nesting sites.



White throated Kingfisher

Common name	White throated kingfisher
Order	Coraciiformes
Family	Alcedinidae
Genus	<i>Halcyon</i>
Species	<i>smyrnensis</i>

R

Te,Ar,Nw

Ca

The White-throated Kingfisher, also known as the white-breasted kingfisher, is a charming avian resident often found in the plains near swamps, ponds, plantations, rice fields, and farmlands. Its presence is accompanied by the distinctive and calming trill, a repetitive 'ki...ki...ki...' that echoes in the surroundings. Easily identified by its electric bluish-green back, wings, and tail, coupled with a chestnut-brown body and a conspicuous white throat extending to the breast, this kingfisher boasts a regal appearance. Both males and females share these striking features, while the juveniles exhibit a muted version. Sporting a long, heavy, and pointed dark dull-red bill and bright red legs, it becomes a vibrant spectacle in urban and rural landscapes alike. A carnivorous enthusiast, the White-throated Kingfisher thrives on a diet that includes large crustaceans, insects, earthworms, rodents, snakes, fish, and frogs. Its ability to adapt to various habitats and its melodious trill make it a cherished inhabitant of both natural and urban ecosystems.

Chapter 6 Order Galliformes

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Galliformes, a diverse avian order, encompasses over 70 genera and exceeds 250 species, commonly known as 'gallinaceous birds' or game birds. The term "gallinaceous" denotes their chicken-like appearance, reflecting their small to large bodies and blunt wings. Plumage coloration varies widely, ranging from cryptic to vividly colorful. This order includes recognized families like Megapodiidae, Cracidae, Numididae, Odontophoridae, and Phasianidae. Gallinaceous birds exhibit diverse social structures, from solitary dwellers to mated pairs and gregarious flocks. Their mating systems span monogamy to polygyny and polygynandry. Notably, Megapodes, or mound builders, employ unique incubation methods, burying eggs to be warmed by decaying vegetation, sun-warmed sand, or geothermal sources. Some, like Cracids, play pivotal roles in forest ecosystems as seed predators and dispersers. Additionally, certain phasianoid galliforms have been domesticated for ornamental purposes or raised for human consumption, showcasing the multifaceted nature of this fascinating avian order.

- ▲ Appearance - Gallinaceous birds exhibit a chicken-like appearance characterized by small to large bodies and blunt wings. Elaborate head and neck ornamentation, including feathers, wattles, and casques, can be observed in some species. Tail length is diverse across species, with some appearing almost tailless, while others boast long tails with colorful and intricate patterns extending up to 1 meter.
- ▲ Strong legs are a common feature, often accompanied by one or more spurs on the tarsus.

- ▲ Plumage - Plumage coloration varies extensively, spanning from cryptic and dark tones to vivid and brightly colorful patterns.
- ▲ Weight - Weight among gallinaceous birds varies significantly, ranging from approximately 275 g to 9.5 kg.
- ▲ Sexual dimorphism is observed in some species, with differences in size and plumage coloration, while others are sexually monomorphic.



Grey Frankolin

Common name	Grey Frankolin
Order	Galliformes
Family	Phasianidae
Genus	<i>Francolinus</i>
Species	<i>pondicerianus</i>

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The Grey Francolin is a diminutive gamebird characterized by its distinctive orangish face and fine barring across its body. Notably, both males and females exhibit similar plumage. This species thrives in open grassy habitats, including dry grasslands, scrublands, and agricultural areas. Often congregating in groups, they emit a loud, repetitive call, often synchronized among several individuals, sounding like "kateetar-kateetar".

During the night, Grey Francolins roost together in low, thorny trees, demonstrating a communal behavior. Monogamous in nature, they form pairs and engage in breeding activities typically occurring between April and September. Grey Francolins exhibit a varied diet, encompassing both carnivorous and herbivorous tendencies. Their feeding habits include consuming seeds, grains, and insects, with a preference for termites and beetles. On occasion, they may even prey on larger organisms such as snakes.



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Indian Pea fowl

Common name	Indian Pea fowl
Order	Galliformes
Family	Phasianidae
Genus	<i>Pavo</i>
Species	<i>cristatus</i>

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Indian Peafowl, recognized for their captivating beauty, inhabit a vast expanse across the Indian mainland, spanning from the northern reaches of Jammu and Kashmir to the southern peninsular region and extending into the neighboring country of Sri Lanka.

The magnificent feathers that adorn the tails of peacocks are indeed remarkable. They can grow to be approximately 5 feet (1.5 meters) in length, which is longer than the bird's body itself. These feathers, often referred to as the "train" or "tail feathers," actually grow from the bird's back, not from the tail. When the peacock displays its feathers in a spectacular fan of brilliant colors, it elevates them by raising the much shorter tail feathers underneath, creating an awe-inspiring visual display. This elaborate plumage serves as a key feature in the peacock's courtship rituals, attracting potential mates with its vibrant hues and impressive size. Female peafowl, known as peahens, exhibit a more subdued appearance compared to their male counterparts. They typically have mostly brown plumage on their back with a white belly. Unlike the striking long tail feathers of

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peacocks, peahens lack such extravagant adornments. However, they do possess a crest on their head and may have green neck feathers, adding subtle accents to their appearance. This drabber plumage serves as camouflage, aiding in their protection and survival, especially during nesting and rearing of chicks.

Thriving in diverse environments, they predominantly favor scrub, semi-arid, and dry deciduous habitats, with agricultural lands serving as conducive breeding grounds due to the abundance of seeds and saplings. While their foraging and nesting activities occur on the ground, these birds exhibit a preference for roosting on tall trees like Eucalyptus, Amaltas, Peepal, Mango, and Banyan.

It can reach up to two meters in length and weigh as much as six kilograms. With an omnivorous diet, these birds showcase a diverse palate, feeding on a variety of sources such as plants, seeds, invertebrates, reptiles, and even amphibians. This adaptability in their dietary preferences contributes to the peafowl's ability to thrive in a range of environments, showcasing their versatility as omnivorous creatures. The breeding season of peafowl falls between March and September. Males are known to be polygamous; they mate with numerous females during the mating season.

Chapter 7 Order Passeriformes

Passeriformes, commonly known as passerines or perching birds, stand out as the largest order of birds, boasting a rich diversity of species. With approximately 64 families and over half of the 10,000 known bird species falling under this order, passerines are characterized by unique features and behaviors.

1. **Foot Structure:** Perching birds have a distinctive foot structure, featuring three unwebbed toes in the front and one robust, flexible toe in the back known as the Hallux. This specialized foot anatomy enables them to adeptly perch on tree branches.
2. **Tail Feathers:** Most species of perching birds within this order are identified by the presence of 12 tail feathers, contributing to their distinctive appearance.
3. **Variety in Appearance:** Passeriformes come in a remarkable array of colors, patterns, shapes, and sizes, adding to the visual diversity within this extensive bird order.
4. **Chick Characteristics:** The chicks of passerines are born in a particularly vulnerable state—completely featherless and helpless, highlighting the significance of parental care in their early stages of life.
5. **Suborders**
 - ▲ **Passeri:** Passeri, also known as songbirds, possess a unique ability to learn songs. This distinction arises from the complex set of four muscles in their voice box, known as the syrinx. Birds in this suborder can acquire songs by listening to other members of their species.

- ▲ **Tyranni:** The Tyranni suborder encompasses over 1000 species of tropical birds. While they also exhibit the characteristic of having songs, what sets them apart is that they are born with an innate knowledge of their songs; they do not learn them through observation.



Red Vented bulbul

Common name	Red vented bulbul
Order	Passeriformes
Family	Pycnonotidae
Genus	<i>Pycnonotus</i>
Species	<i>cafer</i>

The Red-vented Bulbul, a sleek and medium-sized songbird, graces various landscapes with its distinctive features. Easily identified by its dark brown body with a scaly pattern, complemented by a black crest that gives its head a squarish appearance, this bird exhibits a striking white rump and a vivid red vent. It measures 20 cm in size and weighing 30-40 grams. Both males and females share a similar appearance, while young birds appear duller than their adult counterparts. These social frugivores prefer scrubby edge habitats over dense forests, often perching high in trees or on wires and bushes. Their melodious calls fill the day as they forage in groups, displaying a versatile habitat range from gardens and housing societies to forests and semi-arid areas. Red-vented Bulbul engage in monogamous mating behavior, constructing nests with twigs held together by cobwebs in shrublands, gardens, and areas near human habitation. Their diet includes flower buds, petals, fruits, seeds, and insects.



Red whiskered bulbul

Common name	Red whiskered bulbul.
Order	Passeriformes
Family	Pycnonotidae
Genus	<i>Pycnonotus</i>
Species	<i>jocosus</i>

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The Red-whiskered Bulbul, a delightful medium-sized songbird, graces gardens and urban landscapes with its charming presence. Recognizable by its tall black crest, small red face patch, and thin black moustachial line, this slender bird measures about 20 cm. Its dark brown upper plumage contrasts elegantly with the white beneath, adorned with a conspicuous white cheek patch and a stylish black crest. Crimson tufts below the eyes and a red vent add a vibrant touch, complemented by a black beak and legs. The juveniles lack the distinctive red eye patch and boast a rufous-orange vent area. Often found in urban gardens, scrublands on the outskirts of cities, and even amidst human settlements, the Red-whiskered Bulbul is a common and adaptable species. Its melodious frugivorous calls contribute to the symphony of bird songs in its chosen habitats.



Himalayan bulbul

Common name	Himalayan bulbul or white cheeked bulbul
Order	Passeriformes
Family	Pycnonotidae
Genus	<i>Pycnonotus</i>
Species	<i>leucogenys</i>

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Recognizable by its yellow vent, forward-pointing brown crest, and black forehead and throat accentuated by a white cheek patch, this frugivorous bird showcases brown upper parts, a tail elegantly tipped in white, and whitish underparts. Both males and females share a cohesive appearance, featuring a black and white head, throat, and crest, while the pale yellow hue of the underside adds to their allure. Found in and near himalays. Beyond its native habitat, this adaptable species ventures into brush, gardens, and towns. Embracing a diverse diet that spans insects, small invertebrates, berries, fruits, seeds, buds, and nectar, the Himalayan Bulbul plays a crucial ecological role. Its melodic calls resonate through the mountainous regions, contributing to the symphony of the Himalayan biodiversity.



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PHOTOGRAPHY

House sparrow

Common name	House sparrow
Order	Passeriformes
Family	Passeridae
Genus	<i>Passer</i>
Species	<i>domesticus</i>

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The House Sparrow, a small and chunky bird measuring about 5.5 to 6.7 inches (14 to 17 cm), is a common sight in cities, neighbourhoods, and farms. Males exhibit more vibrant and distinctive plumage, while females and juveniles have subdued, streaked brown feathers and a pale eyebrow stripe. Both sexes feature a conical bill adapted for a seed-based diet. Opportunistic feeders, House Sparrows consume seeds, grains, and human food scraps, with an added preference for insects, particularly during the breeding season when they feed their young. Widespread and abundant, they thrive in urban and suburban settings but tend to avoid dense woods. Recognizable by their characteristic appearance and cheerful chirping, House Sparrows have adapted well to human-dominated landscapes, making them a familiar and often cherished part of the avian community.



Long tailed shrike

Common name	Grey backed shrike
Order	Passeriformes
Family	Laniidae
Genus	<i>Lanus</i>
Species	<i>schach</i>

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The long-tailed shrike, also known as the rufous-backed shrike. This bird typically inhabits dry, open habitats and can often be seen perched conspicuously on the top of bushes or on wires.

Characteristic features of the long-tailed shrike include a broad dark mask that extends through the eye, covering most of the forehead in many subspecies. The tail is narrow and graduated, with pale rufous coloring on the outer feathers.

When perched, the long-tailed shrike displays a characteristic upright "shrike" posture. It glides down at an angle to capture prey, which may include lizards, large insects, small birds, and rodents. These birds establish feeding territories and are typically found solitary or in well-spaced pairs. Notably, long-tailed shrikes are capable of vocal mimicry, incorporating calls from various species such as lapwings, cuckoos, puppies, and squirrels into their own song. This ability adds to their repertoire and may aid in territorial defense or attracting ma



Blue whistling thrush

Common name	Bluewhistling thrush.
Order	Passeriformes
Family	Muscicapidae
Genus	<i>Myophonus</i>
Species	<i>caeruleus</i>

The Blue Whistling Thrush, fondly known as 'Kalchunia' among schoolchildren, graces the Central Himalayan region with its captivating presence. Slightly smaller than the house crow, this bird dazzles with shades of dark violet-blue all over and a distinctive yellow beak. Recognizable by its dark purple plumage adorned with tiny silvery spots on the head, back, and wings, the Blue Whistling Thrush lives up to its name with a melodious whistle. True to its habitat preference, it thrives near water bodies, streams, and forested hills. In Bhimtal, the abundance of spring water and aqueducts attracts a sizable population of these thrushes. Their diet includes berries, fruits, earthworms, insects, crabs, and snails, and the unique habit of battering snails and crabs on rocks before consumption adds to their intriguing behavior. With a distinct warbling that marks both the dawn and dusk, the Blue Whistling Thrush stands as a charismatic emblem of the Himalayan landscape, effortlessly blending with the natural symphony of the hills.



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Grey Bush chat

Common name	Black shouldered kite
Order	Accipitriformes
Family	Accipitridae
Genus	<i>Elanus</i>
Species	<i>axillaris</i>

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The black-shouldered kite is a diminutive and distinctive bird of prey, resembling a small falcon. Its underside is light, while the upper parts are a striking blue-gray, highlighted by prominent black shoulders created by its black wing coverts. Younger birds exhibit a scaly pattern on their back and a breast washed with brownish hues. This species inhabits open savannahs, semi-deserts, and agricultural areas dotted with patches of woodland, often perching conspicuously in these landscapes. Its flight patterns are diverse, ranging from hovering akin to a kestrel to gliding reminiscent of a harrier, characterized by deep wingbeats and raised wings.

Feeding primarily on small rodents, especially the introduced House Mouse, this elegant and graceful kite also preys on small birds, lizards, and sizable insects like grasshoppers.



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Indian Robbin

Common name	Indian robbin
Order	Passeriformes
Family	Muscipidae
Genus	<i>Saxicoloides</i>
Species	<i>fulicatus</i>



The Indian robin exhibits sexual dimorphism in its plumage, with males predominantly black, featuring a white shoulder patch or stripe whose visibility may vary depending on posture. Northern populations tend to have brownish upper plumage, while southern populations are primarily black above. Male Indian robins also sport chestnut undertail coverts, visible as they typically hold their 6–8 cm long tail raised upright. In contrast, females are brownish above, lack the white shoulder stripe, and display a greyish underside, with the vent being a lighter shade of chestnut compared to males.

These birds thrive in open stony, grassy, and scrub forest habitats, favoring dry regions and typically avoiding dense forests and areas with high rainfall. Indian robins often inhabit areas near human settlements and can frequently be seen perching on rooftops. They primarily feed on insects but have been observed consuming frogs and lizards, particularly when provisioning their young at the nest. Additionally, they may forage late in the evening to capture insects attracted to artificial lights.



Oriental magpie Robbin

Common name	Oriental magpie robbin
Order	Passeriformes
Family	Muscipidae
Genus	<i>Copsychus</i>
Species	<i>sularis</i>

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The Oriental magpie-robin, measuring approximately 19 cm (7.5 in) in length, boasts a distinctive long tail often held upright while hopping on the ground. Resembling the smaller European robin in shape, it distinguishes itself with its longer tail. The male sports black upperparts, head, and throat, accented by a white shoulder patch, while its underparts and the sides of its long tail are white. Conversely, females exhibit a greyish-black upper body and a greyish-white underside. Juveniles feature scaly brown upperparts and heads.

These birds typically lead solitary lives or form pairs or small family groups. Occasionally, they indulge in bathing in rainwater collected on tree leaves. Their typical mobbing call is a harsh hissing sound represented as 'krshhh'. As carnivores, Oriental magpie-robins primarily feed on insects and other invertebrates. While insects form the bulk of their diet, they may also consume flower nectar, geckos, leeches, centipedes, and even fish on occasion.



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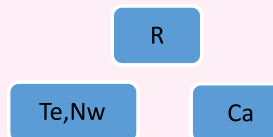
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Plumbeous Red Start

Common name	Plumbeousred start
Order	Passeriformes
Family	Muscicapidae
Genus	<i>Phoenicurus</i>
Species	<i>fuliginosus</i>



The Plumbeous Water Redstart, distinguished by its slaty-grey-blue plumage in males, featuring a fanable orange tail, contrasts with the paler appearance of females and juveniles, characterized by pale grey hues and a white rump. Adept at feeding on insects like mayflies, this bird is commonly found near fast-flowing streams, rivers, dams, and wetlands. In high elevations, particularly in the Himalayas between 2,000 meters and 4,100 meters, the Plumbeous Water Redstart descends to lower altitudes during winter. Notably, males showcase slaty-colored bodies with vibrant rufous tails, while females exhibit greyish tones with black tails, white outer feathers, and white rumps; both genders periodically fan their tails. Nesting in cavities or holes in rocks or bridges, these birds construct deep cup nests using rootlets, grasses, leaves, and moss. Breeding primarily from March to July, a pair typically produces two broods. Thriving in mountain streams and rivers, the Plumbeous Water Redstart extends its habitat beyond India to include Afghanistan, Nepal, Pakistan, Taiwan, Thailand, and Vietnam.



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Siberian stone chat

Common name	Common stone chat.
Order	Passeriformes
Family	Muscicapidae
Genus	<i>Saxicola</i>
Species	<i>maurus</i>

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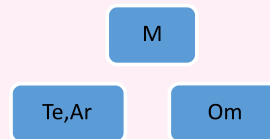
The Siberian Stonechat, also known as the Asian Stonechat (*Saxicola maurus*). This species breeds across the East Palearctic region, extending into the easternmost parts of Europe, and migrates to winter in the tropical regions of the Old World.

Closely resembling its nearest kin, the European Stonechat (*S. rubicola*), the Siberian Stonechat (*S. maurus*) typically showcases darker upperparts and lighter underparts, featuring a white rump and whiter underparts with reduced orange hues on the breast compared to its European counterpart. During the breeding season, the male Siberian Stonechat presents with black upperparts and head, devoid of the brownish tones seen in the European Stonechat. Notably, it displays a prominent white collar, scapular patch, and rump, along with a limited area of orange on the throat. In contrast, the female Siberian Stonechat sports pale brown upperparts and head, along with distinctive white neck patches that don't form a complete collar. Additionally, she flaunts a pale, unstreaked pinkish-yellow rump. Feeding primarily on insects, the Siberian Stonechat thrives in habitats characterized by open, rough scrubland or grassland dotted with scattered shrubs



Verditer Fly Catcher

Common name	Verditer flycatcher
Order	Passeriformes
Family	Muscipidae
Genus	<i>Eumyias</i>
Species	<i>thalassinus</i>



Residing in the breathtaking expanse from the Himalayas through Southeast Asia to Sumatra, the bird known as the Cu-sulphate Blue, distinguished by its striking blue plumage, this species derives its name from the distinctive shade reminiscent of copper sulfate.

The males, adorned in a darker hue of blue, showcase a regal elegance, while the females exude a slightly lighter charm. Notably, a captivating dark patch accentuates the area between the eyes and above the bill base, adding an extra touch of allure to their appearance. It thrives in open lowland and lower montane forests, as well as edges, clearings, and bushes along streams. It can also be found in cultivated areas, tall tree groves, parks, and gardens. During breeding, it prefers altitudes between 1200 and 3000 meters in the Himalayas.

It feeds primarily on small invertebrates and ripe berries. Its feeding behavior typically involves foraging alone or in pairs.



White capped Red Start

Common Name	White Caped Redstart
Order	Passeriformes
Family	Muscicapidae
Genus	<i>Phoenicurus</i>
Species	<i>leucocephalus</i>

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The White-capped Redstart, scientifically known as *Phoenicurus leucocephalus* and belonging to the Muscicapidae family, exhibits distinct sexual dimorphism. The male is characterized by a striking plumage, featuring a white cap on its head that contrasts with the predominantly black body adorned with orange-red patches on the wings and tail. In contrast, the female presents a more subdued appearance, with brownish-gray plumage devoid of the vibrant colors observed in males. Regarding its dietary habits, the White-capped Redstart feeds on insects, insect larvae, and small invertebrates, showcasing adept skills in catching prey on the wing. As for its habitat preference, this species is typically found in areas characterized by rocky terrain, moss-covered rocks, and boulders along stream banks, particularly in montane and subalpine forests.



White throated laughing thrush

Common name	White Throated Laughing Thrush
Order	Passeriformes
Family	Leiothrichidae
Genus	<i>Pterorhinus</i>
Species	<i>albogularis</i>

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The White-throated Laughingthrush exhibits a distinctive appearance, characterized by warm brown plumage, an ochre-colored belly, and a contrasting pure white throat. Its habitat spans the foothill forests along the Himalayas and central China, setting it apart from other laughingthrush species with its plain and unmarked upper plumage. Recognized for its high whistling calls, often emanating from concealed positions within dense vegetation, this bird is commonly observed in foothill forests and their peripheries. While its natural habitat predominantly comprises subtropical or tropical moist montane forests, the White-throated Laughingthrush occasionally ventures into more urban environments, including parks and gardens. The elegance of its coloration and unique characteristics make it a notable and well-adapted resident within the diverse ecosystems it inhabits.



Streaked laughing thrush

Common name	Streaked laughing thrush
Order	Passeriformes
Family	Leiothrichidae
Genus	<i>Trochalopteron</i>
Species	<i>lineatum</i>

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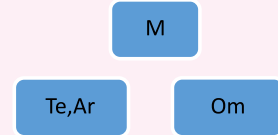
The Streaked Laughingthrush is characterized by its orangey-brown hue adorned with fine streaking all across its body. Typically inhabiting middle to upper elevations, this species may migrate to lower altitudes during the winter months. When foraging, it is often observed in pairs or small flocks scouring the ground. They make high call notes, including an elastic whistle described as "chittitititchééter-whééze!" It tends to favor bushes and scrubby vegetation along river slopes and forest edges, typically found at elevations ranging from 1,400 to 3,900 meters above sea level. Additionally, it may venture into cultivated areas, towns, and villages.

Feeding primarily on insects like moths, caterpillars, ants, and spiders, as well as berries, fruits, and seeds, this bird is predominantly ground-dwelling and often forages in groups of up to six individuals. They make untidy cup-shaped nests within dense bushes, laying clutches of 2 to 4 eggs.



Rufous sibia

Common name	Rufous sibia
Order	Passeriformes
Family	Leiothrichidae
Genus	<i>Heterophasia</i>
Species	<i>capistrata</i>



The Rufous Sibia, an enchanting arboreal bird, captivates with its vibrant orange hues, blue-tinged wingtips, and a distinctive weakly crested black head.

Common in foothill and montane forests, it gracefully forages in the treetops, often socializing in groups with its own kind and other species. Recognizable by its rufous-dominated coloration, black head, and frequently raised crest, the Rufous Sibia stands out as a vigorous and melodious singer.

Its unmistakable appearance and charming melodies echo through temperate and broadleaved forests, elevating the landscape with its presence at altitudes ranging from 1050 m to 2750 m. As it flits among the branches, the Rufous Sibia engages in foraging, primarily targeting berries and insects.



Grey wagtail

Common name	Grey wagtail
Order	Passeriformes
Family	Motacillidae
Genus	<i>Motacilla</i>
Species	<i>cinerea</i>

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The Grey Wagtail distinguished by its sleek and slender form, this wagtail exhibits distinctive grey plumage with subtle yellow accents, particularly visible on its belly. The vibrant yellow undertail coverts and a splash of yellow above its eyes contribute to its overall striking appearance.

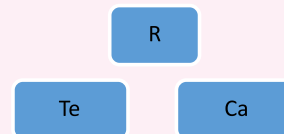
Found in a variety of environments, including riversides, streams, and ponds, the Grey Wagtail is a versatile bird with a penchant for habitats adorned with flowing water. Its feeding behavior is characterized by constant bobbing and tail-wagging, earning it its name. Small invertebrates, insects, and aquatic invertebrates constitute the primary diet of this agile forager.

During the breeding season, these birds construct cup-shaped nests in concealed locations, such as rock crevices or riverbanks. The female typically lays a clutch of pale-colored eggs, and both parents share the responsibilities of incubation and caring for the chicks.



Long billed pipit

Common name	Long billed pipit or brown rock pipit
Order	Passeriformes
Family	Motacillidae
Genus	<i>Anthus</i>
Species	<i>similis</i>



Long-billed Pipit is a medium-sized bird with a size ranging from 17 to 20 cm and a weight of 30–35 g for males and 28–31 g for females. This stout pipit exhibits variable streaking on the upperparts and breast, while the flanks are unstreaked. The nominate race has a prominent buff supercilium, buff-streaked brown lores and ear-coverts, and a distinct dark brown malar stripe. The crown and upperparts are dark grey-brown with blackish-brown streaks. The underparts are dark pinkish-rufous, with a clearly streaked grey-brown breast. The species is found in stony or rocky hillsides with sparse ground cover, often in scrub or open woodland, ranging from lowlands to 2600 m. Long-billed Pipits primarily feed on insects like grasshoppers, crickets, beetles etc. They forage mainly on the ground and often feed on recently burnt ground. Breeding occurs in various months across their range, and they are monogamous and territorial. The nest, a deep cup of dry grass lined with finer grasses and rootlets, is built on the ground, often in the shelter of rocks or grass tussock. The species may fall victim to nest parasitism by the Common Cuckoo.



White browed wagtail

Common name	White browed wagtail
Order	Passeriformes
Family	Motacillidae
Genus	<i>Motacilla</i>
Species	<i>maderaspatensis</i>



The White-browed Wagtail, a small to medium-sized bird, stands out with its distinctive black upperparts and a striking white eyebrow stripe extending from the base of the bill to the nape of the neck. The contrast between the predominantly black upperparts and the white underparts adds to its eye-catching appearance. These wagtails exhibit a unique foraging style, walking and hopping along the ground while picking prey items from the surface. Their diet primarily consists of insects, spiders, and other small invertebrates. White-browed wagtails are commonly found near water bodies, including rivers, lakes, ponds, and marshes. Their adaptability is evident in their presence in urban areas, particularly near water features. The melodic calls of these birds contribute to the ambient soundscape of their habitats. Additionally, during the breeding season, their calls become more pronounced as they establish and defend territories.



White wagtail

Common name	White wagtail
Order	Passeriformes
Family	Motacillidae
Genus	<i>Motacilla</i>
Species	<i>alba</i>

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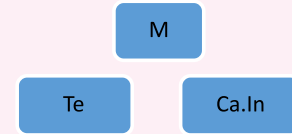
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The white wagtail is a striking bird distinguished by its bold combination of black, white, and gray plumage. Characterized by its slender build and the distinctive long, constantly wagging tail typical of its genus, this avian species thrives in a diverse range of open habitats, from wild grassy areas and wetlands to paved car parks and grassy lawns. Typically observed in solitary, pairs, or small groups, white wagtails engage in agile walking and running activities while rhythmically pumping their long, white-sided tails up and down. Recognizable in flight by its loud and distinctive “tsee-tsee” call, these birds are known to congregate in flocks during migration, particularly in optimal feeding areas or night time roosts. White wagtails primarily subsist on a carnivorous diet, feeding on terrestrial and aquatic insects, small invertebrates such as beetles, dragonflies, spiders, and worms, and even hovering over water to catch prey. Their diet also includes maggots found in carcasses, emphasizing the crucial role of flies in their nutrition.



Indian Paradise flycatcher

Common name	Indian paradise-flycatcher
Order	Passeriformes
Family	Monarchidae
Genus	<i>Terpsiphone</i>
Species	<i>paradisi</i>



The Paradise Flycatcher, the bird is renowned for its long, flowing tail feathers that extend far beyond its body, creating a mesmerizing spectacle during flight. The male paradise flycatcher often boasts elaborate plumage with vibrant colors, while the female exhibits more subdued tone. Two distinct color morphs: cinnamon and white. Regardless of morph, both male variants boast a glossy black head adorned with a striking blue ring encircling the eye. However, the distinction lies in the underparts – the white morph dons a pristine white plumage from head to tail, while the cinnamon morph displays a contrasting palette with cinnamon-hued upperparts and tail coupled with a dirty white underbelly. On the other hand, females exhibit a uniform cinnamon hue above, featuring a greyish throat and a shorter tail compared to their male counterparts. Notably, the female lacks the distinctive blue eye ring present in males. Their habitat preferences vary across tropical and subtropical regions, including forests, woodlands, and gardens, but mostly found in woodlands. These agile and acrobatic birds are adept at catching insects on the wing, showcasing their remarkable aerial skills.



Black Drongo

Common name	Indian paradise-flycatcher
Order	Passeriformes
Family	Dicruridae
Genus	<i>Dicrurus</i>
Species	<i>macrocerus</i>

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Thriving in diverse open landscapes such as farmlands, forest edges, meadows, wetlands, and fields, this highly adaptable songbird is a familiar sight, often seen as a dark silhouette perched on wires, fences, or snags. The bird's black plumage subtly reveals flashes of blue and green iridescence under favorable light conditions, although not as prominently as its counterparts, the Hair-crested or Bronzed Drongo. Black drongo bird fearlessly defends its territory, frequently engaging in aerial pursuits to chase away larger birds, accompanied by assertive chattering calls. Renowned for its versatility, this bird is a skilled mimic, replicating the calls of other species, and showcases its musical prowess with a diverse repertoire of pleasant fluty calls, harsh chattering, nasal notes, and high sharp whistles, making it a captivating presence in its varied habitats. They feed on insects mostly rarely on arthropods, fish, and on grains.



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Asiatic koel

Common name	Asiatic koel
Order	Passeriformes
Family	Corvidae
Genus	<i>Eudynamys</i>
Species	<i>scolopaceus</i>

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The Asian koel is a notable member of the cuckoo family, renowned for its brood parasitism behavior, wherein it lays its eggs in the nests of other bird species, notably crows, relying on them to raise its young. The term "koel" is believed to be onomatopoeic in origin, resonating across various languages.

Distinguishing features of the male Asian koel include its glossy bluish-black plumage, pale greenish-grey bill, crimson iris, and grey legs and feet. Conversely, the female displays brownish coloring on the crown with rufous streaks and dark brown upper plumage adorned with white and buff spots. Young birds resemble males in their plumage, sporting black beaks.

Vocalization is a prominent feature, especially during the breeding season, with the male's repeated 'koo-Ooo' song and the female's rhythmic 'wook-wook' and shrill 'kik-kik-kik...' calls. While omnivorous, Asian koels predominantly feed on fruits as adults, although they also consume insects, caterpillars, eggs, and small vertebrates.



Black headed jay

Common Name	Black Headed Jay
Order	Passeriformes
Family	Corvidae
Genus	<i>Garrulus</i>
Species	<i>lanceolatus</i>

The black-headed jay medium-sized bird with a largely gray plumage, featuring a black head, scruffy crest, white streaks on the throat, and a pale bill. Measuring 30 to 33 cm in length and weighing 80 to 100 grams, these jays are known for their bold behavior and frequent human habitation, where they may feed off garbage dumps. Their calls include raspy and nasal variants of a harsh “kraaa.”

They typically found in altitudes ranging from 1,500 to 3,000 meters inhabiting various ecosystems, including tropical and subtropical moist montane forests, pine-oak forests, and tropical and subtropical high-altitude shrublands. These birds are omnivorous, with a diet consisting mainly of invertebrates, seeds, and small vertebrates like lizards, birds, eggs, and hatchlings. They forage both on the ground and in trees, adapting to picking scraps from human settlements.

During the breeding season from April to June, black-headed jays are monogamous and territorial, nesting in trees and bushes. The loose cup nest is built by both parents, and the clutch typically contains 4-6 dirty white eggs. The juveniles fledge after 21–23 days.



Grey - treepie

Common name	Grey treepie
Order	Passeriformes
Family	Corvidae
Genus	<i>Dendrocitta</i>
Species	<i>formosae</i>

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The Grey treepie is a long-tailed corvid species commonly encountered in lowland to submontane forests, as well as parks and gardens. Adults display a distinct black face, gray nape, brown back, pale belly, and dark wings, with a noticeable white patch visible during flight. Their orange undertail coverts and long, black-tipped gray tail contribute to their striking appearance.

This species is known for its raucous calls, which include a diverse repertoire of squawks, loud chatter, and tuneful whistles. Social in nature, Grey treepies are often observed in pairs or flocks, sometimes even mingling with other bird species. While primarily arboreal, they occasionally forage on the ground, especially in cultivated areas.

Adaptable and widespread, the Grey treepie inhabits a variety of habitats, including forests, cultivated areas, and human settlements. Its diet is diverse, comprising insects, invertebrates, berries, nectar, grains, seeds, as well as small reptiles, eggs, and nestlings. This omnivorous feeding behavior enables the Grey treepie to thrive in a range of environments and exploit various food sources.



Rufous treepie

Common name	Rufous treepie
Order	Passeriformes
Family	Corvidae
Genus	<i>Dendrocitta</i>
Species	<i>vagabunda</i>

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Exhibiting typical corvid traits, it is incredibly versatile, omnivorous, and opportunistic in its feeding habits. Known locally as "kotri," derived from its distinctive call, or alternatively as Handi Chancha and taka chor, signifying "coin thief," the Rufous treepie sports a cinnamon-colored body with a contrasting black head. Its long, graduated tail features a bluish-grey hue with black tips, while a distinctive white patch adorns its wings. The bill, stout with a hooked tip, complements its appearance.

Distinguishing itself from similar species like the Grey treepie, the Rufous treepie boasts a vibrant rufous mantle. Warm tawny-brown to orange-brown hues adorn its underparts and lower back, further accentuated by white wing coverts and black primaries. Black bill, legs, and feet complete its striking profile. Both male and female Rufous treepies exhibit similar appearances.

Arboreal and diurnal by nature, Rufous treepies are often spotted in pairs or family groups, occasionally forming flocks in areas rich in food sources. Like many corvids, they exhibit food caching behavior, ensuring a steady food supply.

Chapter 8

Order Pelacaniformes

Typically dwelling near or on bodies of water, members of this order commonly possess elongated necks, bills, and legs, along with non-webbed feet. Their diet primarily consists of fish, amphibians, and crustaceans.

Families within this order include

- ▲ Pelecanidae (Pelicans)
- ▲ Ardeidae (Hérons and Egrets)
- ▲ Threskiornithidae (Ibises and Spoonbills)

Characteristics of Pelacaniformes

Typically, Pelacaniformes possess elongated necks, beaks, and non-webbed feet. Most members of this order are either large or medium-sized birds.

- ▲ Their bodies are characterized by a short and stocky build, complemented by large wings and short tails.
- ▲ While many species exhibit long bills, variations exist, ranging from slender dagger-like bills to adaptations for meat consumption with serrated edges, as seen in new world vultures.
- ▲ Plumage among Pelacaniformes is often comprised of uncomplicated colors such as grey, white, and black, though some, like herons, sport ornamental plumes during the breeding season.

- ▲ The majority of species inhabit tropical and subtropical regions, although herons can also be found in more temperate climates.
- ▲ Pelacaniiformes predominantly settle in wetlands, occasionally foraging along the shorelines of large bodies of water.
- ▲ Many species within this order form roosts in trees, returning to them annually. Both sedentary and migratory species exist.
- ▲ Communication among Pelacaniiformes is typically not vocal, with these birds relying less on sound for communication.
- ▲ Their diet primarily consists of fish and other aquatic creatures, although some species may occasionally consume small mammals, and very rarely, fruit and seeds.
- ▲ Nests are constructed from sticks and built in trees, and both parents participate in caring for the helpless, naked young.



Red Naped Ibis

Common name	Red naped Ibis
Order	Pelacaniiformes
Family	Threskiornithidae
Genus	<i>Pseudibis</i>
Species	<i>papillosa</i>

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The red-naped ibis, widely distributed across the plains of the Indian Subcontinent, thrives in diverse habitats such as lakes, marshes, riverbeds, and irrigated farmlands. Displaying a sociable nature, these birds typically forage in small groups along the edges of wetlands. Their omnivorous diet encompasses carrion, insects, frogs, and small vertebrates, along with grains. Foraging activities unfold in dry open land and stubby fields, occasionally alongside egrets and other birds, capitalizing on disturbed insects and exposed beetle grubs. Employing tactile-feeding methods, red-naped ibises traverse the soft ground, intermittently wading into water to locate frogs in crab holes. Adapting to various conditions, they incorporate carrion and insect larvae into their diet during droughts, while also demonstrating a proclivity for scavenging at garbage dumps. Historically valued by indigo planters in British India for controlling cricket populations in fields, these resourceful birds construct nests at heights of 6–12 meters on banyan or peepal trees, often in proximity to human settlements.



Cattle egret

Common name	Little cormorant
Order	Pelacaniformes
Family	Ardeidae
Genus	<i>Bubulcus</i>
Species	<i>ibis</i>

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The Cattle Egret, known for its adaptability to a wide range of terrestrial and aquatic environments, stands out as the most terrestrial member among herons. While not reliant solely on aquatic habitats for sustenance, it frequently utilizes them, even in the absence of livestock-grazing areas.

Medium in size, the Cattle Egret presents a distinctive hunched posture, even when standing erect. Compared to other egrets, it possesses shorter legs and a thicker neck. Typically measuring between 46 to 56 centimeters in length, with a wingspan averaging 88 to 96 centimeters, it features a basic plumage of pure white. Its bill tends toward a dull orange or yellow hue, while its legs exhibit a similar dull orange coloration. Cattle Egrets often nest in large colonies alongside other wading birds. Their diet consists primarily of insects, particularly beetles, dragonflies, mayflies, crickets, spiders, locusts, and grasshoppers, which are disturbed and flushed out by animal movements. Additionally, they consume ripe fruits, vegetable matter, fish, frogs, small reptiles, birds, and mammals.



Great egret

Common name	Great egret
Order	Pelacaniformes
Family	Ardeidae
Genus	<i>Ardea</i>
Species	<i>alba</i>

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The Great White Egret stands out as a large, slender, and long-necked heron with distinctive white plumage. Its size, coupled with its black legs, aids in distinguishing it from other egret species. This majestic bird is widely distributed and fairly common across the globe.

Variances in bill color exist across its range: notably yellow in the Americas and black during the breeding season elsewhere. Found in various shallow wetland habitats, including ponds, marshes, and tidal mudflats, the Great White Egret employs a slow stalking technique to capture prey in shallow waters.

While often observed singly, it may gather in large numbers in areas abundant with food. Breeding colonies, frequently interspersed with other egrets and herons, are common sights. Typically yellow throughout the year, the bill transitions to mostly black in breeding individuals. Additionally, breeding birds may exhibit yellowish upper legs, sometimes turning reddish, contrasting with their black lower legs and feet, distinguishing them from the Little Egret, which sports yellow feet.



Grey heron

Common name	Grey Heron
Order	Pelacaniformes
Family	Ardeidae
Genus	<i>Ardea</i>
Species	<i>alba</i>

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Grey Herons are often spotted standing motionless on their tall, slender legs amidst the shallow waters of ponds and lakes, patiently awaiting their next meal. These graceful birds, known for their solitary nature, primarily feed on fish, although they may occasionally indulge in other delicacies such as moles. When feeling particularly lazy, herons may visit gardens with ponds for a quick and effortless snack.

In flight, herons are truly remarkable to behold, with their slow-flapping wings and long legs trailing behind, making them unmistakable. Easily recognizable by their grey-backed appearance, herons feature long legs, a slender white neck, and a bright yellow bill. A distinguishing black eyestripe extends down their neck, adorned with long, drooping feathers.

As they soar through the sky, they display a distinctive flying style, with their long legs extended outward and their necks pulled in. This unique combination of features and behaviors makes herons fascinating and unforgettable creatures of the avian world.

Chapter 9 Order –Piciformes

Order Piciformes, encompassing six families of cavity-nesting birds: jacamars (Galbulidae), puffbirds (Bucconidae), barbets (Capitonidae), honeyguides (Indicatoridae), woodpeckers, wrynecks, and piculets (Picidae), and toucans (Ramphastidae). Despite their diverse appearances, most piciform birds share a notable adaptation: zygodactylous feet, with two toes pointing forward and two backward, facilitating adept movement along branches and tree trunks. Features of the birds in the order Piciformes-

- ▲ Absence of Down Feathers (Except for Jacamars): With the exception of jacamars, piciform birds lack down feathers.
- ▲ Skeletal Similarities: Piciforms exhibit skeletal similarities, particularly in vertebrae, sternum, and ribs.
- ▲ Variations in Bill Size and Shape: Bill size and shape vary widely among piciforms, ranging from pointed bills in jacamars to huge, colorful bills in toucans.
- ▲ Plumage Diversity: While plumage varies significantly, piciform birds often display combinations of black, white, red, and yellow.
- ▲ Gender Resemblance: Males and females of most piciform species typically resemble each other, differing only in minor details like nape color or the presence of "moustaches."
- ▲ Gender Differences in Neotropical Barbets: Neotropical barbets exhibit marked differences in plumage between genders.

- ▲ Unique Tail Feathers in Woodpeckers: Woodpeckers possess extra-stiff tail feathers used for bracing against tree trunks while climbing or hammering.
- ▲ Tail Bracing Behavior in Barbets: Barbets also use their tails for bracing, primarily during nest excavation.
- ▲ Size Variation: Piciform birds range in size from 3 to 22 inches in length and weigh between 0.3 and 20 ounces, showcasing a diverse array of sizes within the order Piciformes.



Lineated barbet

Common name	Lineated barbet
Order	Piciformes
Family	Megalaimidae
Genus	<i>Psilopogon</i>
Species	<i>lineatus</i>

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The Lineated Barbet, adorned in vibrant green with an olive-brown upper body, is a distinctive frugivorous bird characterized by a stout, slightly curved bill, common to barbets. A notable feature is the bare patch of orange skin around its eye, enhancing its unique appearance. Found in deciduous forests, edge areas, parks, and gardens, the Lineated Barbet showcases adaptability in its habitat preferences. Its resonant calls, which resemble repetitive, cackling laughter, echo through the wooded landscapes it inhabits. This barbet is known for its striking vocalizations during the breeding season, creating an audible presence in its surroundings. Nesting in tree holes, it demonstrates territorial behavior, defending its chosen site against potential intruders. The Lineated Barbet's role as a seed disperser contributes to the ecological balance of its habitat.



Greater Yellow Nape

Common Name	Greater Yellow Nape
Order	Piciformes
Family	Picidae
Genus	<i>Dendrocopos</i>
Species	<i>major</i>

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A vibrantly colored, medium-sized woodpecker, distinguished by its moss-green back, bright yellow nape, and a robust pale bill, characterizes this avian species. Notably, gray underparts set it apart from the Lesser Yellownape, a smaller counterpart. The males showcase a white throat or moustache stripe, while their female counterparts exhibit a dark red version. Emitting high-pitched yelps or "kee-ee!" notes, Foraging both individually and in pairs, as well as in mixed-species flocks, they traverse trunks and branches. The males feature an olive-green forehead and crown, with rufous-brown-tipped feathers, while the elongated hindcrown feathers and nape boast a brilliant golden-yellow hue. Notably absent from small parks and urban settings. Thriving in diverse forest types, including open evergreen and deciduous forests, oak and sal forests, mixed forests, and pine forests, they can be found at elevations up to 2750 meters. Their diet encompasses ants, termites, large insect larvae, wood-boring beetles, centipedes, frogs, nestlings of hole-nesting species, berries, and seeds.



Great Spotted Woodpecker

Common name	Greater Yellow Nape
Order	Piciformes
Family	Picidae
Genus	<i>Chrysophlegma</i>
Species	<i>flavinucha</i>

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The great spotted woodpecker is a medium-sized, typically measuring between 20 to 25 cm in length and weighing approximately 70 to 100 grams. Its bill, robust and adorned in a black-horn hue, contrasts with dark brown irises. Its legs and feet present a muted gray color, while its talons bear a blackish tint. Distinctive to its species, the call of the great spotted woodpecker consists of rapid, repeated sounds reminiscent of "kix" or "kic".

These woodpeckers exhibit a moderate reliance on forested habitats. Notably, males display a distinctive red patch on the nape, while juveniles of both sexes sport a red cap. Their habitat preferences span a wide altitudinal range from sea level to 2500 meters. Their natural habitats, includes tropical and subtropical moist lowland forests, broadleaved forests, montane forests, boreal forests, as well as areas with coniferous vegetation and temperate forests. Their dietary preferences lean heavily towards invertebrates, including wood-boring insects and their larvae, alongside a variety of other insects, crustaceans, molluscs, fruits, seeds, nuts, and buds.

Chapter 10 Order –Strigiformes

The order Strigiformes encompasses approximately 200 species of birds found across diverse habitats worldwide. Owls belong to this order and possess an almost human-like appearance characterized by upright posture, large rounded heads, and forward-facing large eyes, distinguishing them from most other birds which have eyes on the sides of their heads. There are two families that come under Strigiformes order – 1. Strigidae (typical owls) 2. Tytonidae (barn owls).

Some of the Characteristic features of owls are

- ▲ **Appearance:** Owls possess an almost human-like appearance characterized by upright posture, large rounded heads, and forward-facing large eyes, distinguishing them from most other birds which have eyes on the sides of their heads.
- ▲ **Diet:** All owls are carnivores, relying on a diet of meat for sustenance.
- ▲ **Adaptations for Hunting:** Several adaptations make owls effective hunters, including a hooked beak for tearing flesh and strong feet tipped with sharp talons or claws.
- ▲ **Foot Structure:** Owls' feet are particularly noteworthy, with the ability to arrange their toes in a two-forward, two-backward configuration, providing a secure grip on prey, unlike the typical three toes pointing forward and one pointing backward found in most birds.
- ▲ **Feathers:** Owls possess unusually soft feathers, enabling silent flight. This feature allows them to hear their prey and approach it without warning, enhancing their hunting capabilities.



Asian barred owlet

Common name	Asian barred owlet
Order	Strigiformes
Family	Strigidae
Genus	<i>Glaucidium</i>
Species	<i>cuculoides</i>

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The Asian Barred Owl, characterized by its small size and distinctive barred plumage, is a captivating bird of prey. With heavily barred brown feathers and darker markings, it presents a unique appearance, further emphasized by a pale facial disc bordered by a dark rim. This small owl's diet mainly consists of small mammals, birds, insects, and other prey items. Its hunting strategy involves perching on branches, keenly scanning the surroundings for potential prey. The Asian Barred Owllet is versatile in its habitat preferences, being found in various environments, including dense forests, open woodlands, and occasionally in urban settings. Its adaptability extends to elevations, ranging from lowland areas to higher mountain forests. The vocalizations of the Asian Barred Owllet, which include hoots and whistles, contribute to the nocturnal symphony of its habitat. Nesting in tree hollows or similar concealed sites, these owllets exhibit parental care by fiercely defending their nests.



Spotted Owllet

Common name	Spotted owl
Order	Strigiformes
Family	Strigidae
Genus	<i>Athene</i>
Species	<i>brama</i>

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The Spotted Owl, a charming and relatively small owl, stands out with its distinctive appearance characterized by a round head, large yellow eyes, and an absence of ear tufts. Measuring about 21 to 23 centimeters (8 to 9 inches) in length, it showcases a cinnamon-brown plumage adorned with white spots on the upperparts, contributing to its iconic "spotted" look. The underparts are generally lighter in color. Known for their versatile feeding habits, Spotted Owlets primarily consume insects, small mammals, and occasionally small birds. Their hunting technique involves perching on elevated spots, diligently scanning the surroundings for prey. Adaptable to various environments, these owls can be found in open grasslands, cultivated areas, and even urban settings. They display a preference for nesting in suitable sites like tree hollows, buildings, or other structures. The Spotted Owllet's melodic hooting adds to the nocturnal ambiance of its habitat. Remarkably, they are known to engage in mutual preening, a behavior that strengthens social bonds among mating pairs and family members.

Chapter 11

Suliformes

The order, previously regarded as a subset of Pelecaniformes, consists of four distinct families:

1. Fregatidae - Frigatebirds
2. Sulidae - Gannets, Boobies
3. Anhingidae - Anhingas
4. Phalacrocoracidae – Cormorants

Three types of cormorants found in Uttarakhand are

1. Indian cormorants
2. Little cormorant
3. Greater cormorant



Little Cormorant

Common name	Little cormorant
Order	Sulifor
Family	Phalacrocoracodae
Genus	<i>Microcarbo</i>
Species	<i>niger</i>

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Measuring approximately 50 centimeters (20 inches) in length, the Little Cormorant closely resembles the Indian Cormorant (*Phalacrocorax fuscicollis*), though slightly smaller in size. Distinguishing features include the Indian Cormorant's longer and narrower bill, which terminates in a prominent hooked tip, alongside a blue iris and a more pointed head profile. In contrast, the breeding adult

Little Cormorant exhibits a glossy, all-black plumage adorned with white spots and filoplumes on the facial region. They typically forage in small, scattered groups, although they are frequently observed foraging alone. Employing a hunting technique involving underwater swimming, they primarily target fish as their prey.

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*“To understand birds is to
glimpse the very soul of
nature”*

- Dr. Salim Ali

*Front cover picture - White throated
laughing thrush*

Back cover picture - Rufous Sibia

