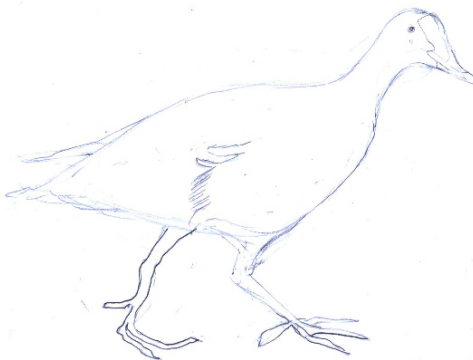
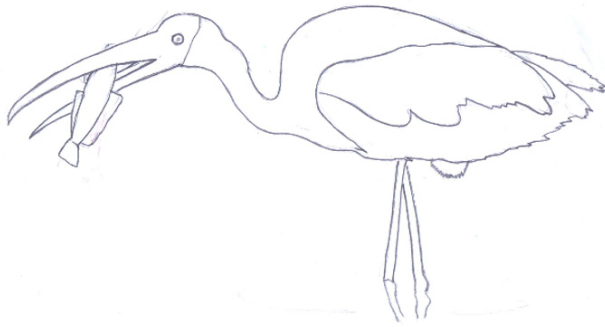
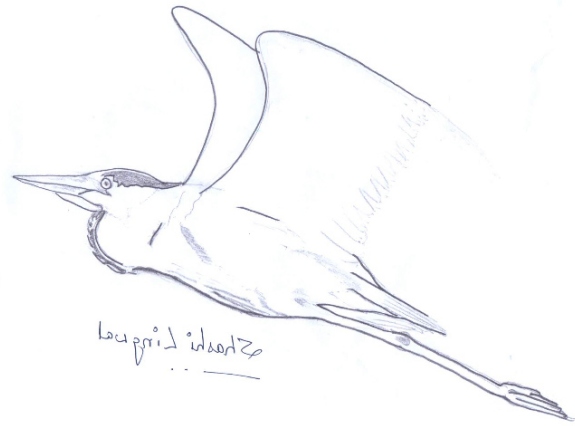
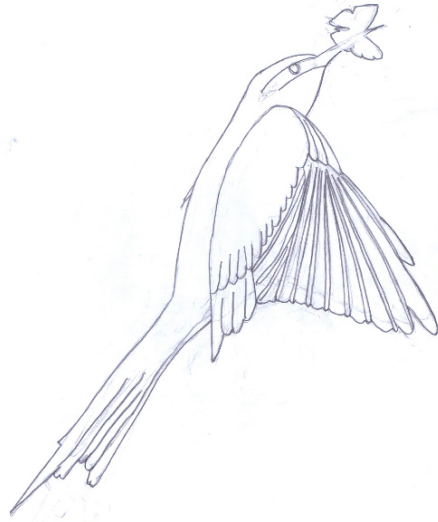
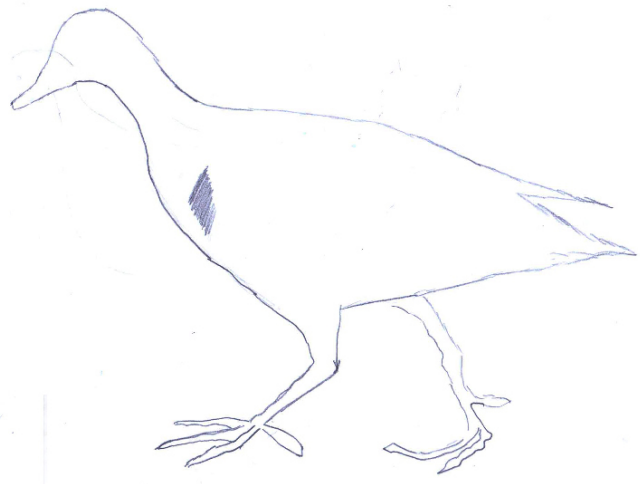




WINGS OF
SULTANPUR
PATTERNS WITH A PURPOSE

DRAFT 2



*W*INGS OF
SULTANPUR
PATTERNS WITH A PURPOSE

Preface

Disha India Education Foundation held its 12th chapter of *Courage to Lead*, a program meant for educators to explore, experience and understand *Experiential Education*. Teachers from all over India got together to attend the first module of this program held in Gurgaon from the 2nd to the 7th of October.

In a first *Disha India Education Foundation* ran two parallel programs - one on Science and one on History and the participants were allowed to choose the expedition they liked. This book which is a product of the educators who chose to do ‘*Nature our Teacher*’, is a culmination of their engagement and learning from the six days of the first module. It is written to cater to the students of a middle program in schools across the country.

The expedition was done in the Sultanpur National Park, a fascinating home to both migrant and resident birds. The broad truths that were kept as the main ideas of focus were that different species in nature are unique yet interdependent. They also realized through their expedition that the more bio-diverse an ecosystem, the healthier and more sustainable it is.

Focusing on birds in the sanctuary our participants saw how different birds live in, and adapt to their habitat. They also saw how the form of a particular feature in a bird enables its function and how function in turn determines the form of various features in a bird.

They looked at beaks and claws in great detail and understood why beaks and claws were shaped and structured in different birds as adaptations to their habitats and their needs.

The journey was a very intense immersion, with participants looking very closely at their specific bird to understand the relationship between Form and Function especially of beaks and claws. They followed their every step for considerable periods of time, a task most challenging as most birds do not sit still!! But at the end of the time they took to do their really keen observation and focused research, each participant's bird was more than just another bird. Colours, features, shape, size and habits of their bird had them mesmerized. They 'experienced' their bird in its natural habitat and I am sure this will stay with them for a long time to come.

The participants also experienced and appreciated the value of craftsmanship where they made at least two drafts of both their work in writing and drawings bettering their output each time.

Nature has its own intelligence and its own strength, its own struggles and its own relevance. Being immersed in it by having to study just one bird in detail helped the participants connect with Nature's wonderful stillness, energy, rhythm and strength.

But of more relevance, it made them realize as educators how essential it is to make opportunities for a real engagement which is probably the most important aspect of meaningful learning. Life around us is full of these opportunities and we owe it to our children to make the process of learning dynamic and real.

Acknowledgement

TEAM: Courage to Lead – Nature our Teacher

Creating a resource book on nature and its diverse species is not easy and this acknowledgement is for all the people who were involved and supported us without which it would not have been possible to create this book.

We would sincerely like to thank the Facilitators' Team of Disha India Education Foundation who designed such a real world and experiential journey resulting in the design of this book.

Foremost is **Mr. Parminder S. Raparia**, for his passionate and patient approach to instilling the tenets of *Experiential Education* and for his thought process with the design of '*Courage to Lead – Nature our Teacher Expedition*'.

The structure and flow of events took us through many profound experiences, creating meaningful insights in relating to an understanding of adaptation and biodiversity in nature and helping us to infer meaning from direct observation of the different species.

We would like to thank all the following facilitators who supported us in the journey and had put in so much of their time and energy along with patience and helpful guidance at each and every step.

The team of naturalists **Mr. Sameer Gautam** and **Mr. Pranjal** for taking us through *Sultanpur National Park* who made us experience and relate to the different flora and fauna. They shared their knowledge and expertise, by asking reflective questions, and answering our plethora of questions with

patience and care. They worked with us tirelessly in the one on one expert sessions, giving suggestions and making sure our observations are factual and correct.

Ms. Hema Biswas for facilitating our journey of the many experiences we had during visits to *Sultanpur National Park*. Her constant care especially during solo time and during reflection circles with asking profound questions helped us touch many things within ourselves. Further, her constant support and guidance through the Reading and Writing Workshops and drafting of different chapters has helped us sharpen our craftsmanship and English language skills. We managed to come up with better versions of our chapters.

We appreciate **Ms. Namrata** from **Heritage Xperiential School** and her team **Mr. Ikrar, Ms. Anjum** and **Ms. Urvashi** who helped us not only believe that we can draw by making us experience drawing from scratch but constantly supported us to come up with better versions of the illustrations.

We thank the **Administration** at *Sultanpur National Park* for the upkeep of the place and for allowing us to carry out the learning research without any hindrance.

We also thank **Mr. Anurag Kumar** and the *staff* at **Disha** for arranging all the logistics and helping us with day to day needs during our learning journey. Our energies were kept high by their ensuring that we had delicious and energetic food each day.

We the authors would also like to acknowledge all the co-participants and the different teams that took up responsibility for each chapter of this book and for supporting each other in the journey of '*Nature our Teacher Expedition*'.



The Authors

BHARAT MAMGAIN

Aasraa Trust | Dehradun

RASHMI S. PANDIT

Aksharnandan School | Pune

VINODINI VADIRAJ KALAGI

Anand Niketan | Nashik

PARUL DAWER

Delhi Public School | Surat

VINIT MISHRA

Sunbeam School | Varuna, Varanasi

ADWAIT DESHPANDE

Anand Niketan | Sevagram, Wardha

DIYANAT ALI

Outlife Outbound Training | Hyderabad

SHASHI LINGWAL

*Delhi Public School, Ghaziabad |
Palam Vihar, Gurgaon*

MAHENDRA GUPTA

*Sarvodaya Inter College |
Gazipur, Uttar Pradesh*

PRASHANT DESHMUKH

Akanksha Foundation | Pune

ANAMIKA SINGH

Delhi Public School | Lava, Nagpur

BHARATI CHANDRAKANT PATNE

Delhi Public School | Surat

RUGMINI PRIYA NAIR

Delhi Public School | Surat

MONIKA KAPOOR

Sunbeam School | Lahartara, Varanasi

SHWETA JOSHI

Azim Premji Foundation | Uttarakhand

POTHODI CHACKARA K VINOD

Khamir | Kutch, Gujarat

USHA RANI

*Delhi Public School, Ghaziabad |
Sushant Lok, Gurgaon*

MADHURA RAJVANSHI

*Pragat Shikshan Sanstha's Kamala
Nimbkar Balbhavan | Maharashtra*

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Ashy Prinia

*The Babblers are often together.
They are also known as 'Seven Sisters'.*



The Bubbly Jungle Babbler

BHARATI & SHWETA



Sultanpur National Park is located in the Gurgaon district of the state of Haryana. This park is famous for migratory as well as resident birds.

On a pleasant morning of 4th October, we observed a resident bird, the **Jungle Babbler** (गायंगा), which was approximately 15-20 cm in length and 10-12 in height. We observed this bird in the forest area near the wetland. It flies below the canopy among the woods in the forest so that during any danger it can hide itself in the leaves.

It is a gregarious bird that forages in small groups of six to ten. Because of being together they are often known as 'Seven Sisters'. They generally spread across an area of approximately 7-10 meters' radius.

Babbler is a noisy bird and produces a kee kee kee sound. It is an oval shaped bird with a round head. The dusty brown colour of this bird, enables it to camouflage with its surroundings, specially among dry leaves.



Its tail is furry and approximately equivalent to its body size. It keeps its tail straight to balance its body while flying. It takes short flights and hops while walking.

Babbler has furry arch shaped wings. It takes short flights. It flaps its wings continuously while flying in order to help in smooth flight.

A busy Babbler has beautiful yellow coloured eyes with black eyeballs.

Babbler has a curved, dull yellow coloured beak which is approximately 2-3 cm long. It feeds mainly on insects, but also eats grains, nectar and berries. This indicates that the Jungle Babbler is omnivorous, exploiting both plants and animal resources available to them. However, insects are what it consumes in larger proportions. It flips leaves with the help of its beak to hunt for insects and worms. It usually swallows its prey, whole.

Babbler is categorized as a

passerine bird by the arrangement of its toes, which facilitates perching and locking. Its feet are strong and dull yellow in colour with sharp nails. These sharp nails help the babbler in locking its claws, which enables it to remain straight on any vertical support.

Generally at a time the entire group does not come on the ground from the trees. They prefer to come one by one to ensure the group security and protection from the predators. It also shows a unique preening behaviour in which the preening of one Babbler is done by another!

The usefulness of staying and functioning together as was observed in our time spent with the babblers made us wish we could be like that too!



GLOSSARY

Camouflage: A type of pattern that helps an animal blend in with its surroundings | **Gregarious:** Living in flocks | **Migratory bird:** A bird that travels from one place to another at regular times often over long distance | **Omnivorous:** An animal that eats both plants and animals for their main food | **Passerine:** An arrangement of toes, three toes pointing forward and one at back | **Preening:** Preening is a bird's way of grooming its feathers to keep them in the best condition. While preening, birds remove dust, dirt, and parasites from their feathers.



कुल मालवरी

*Its small sized light body
helps it to move rapidly.*

The 'Bee'autiful Butcher

Encounter with a Green Bee-eater

VINIT & MADHURA



The bees, butterflies and dragon flies in Sultanpur National Park are not yet up. A hint of cold is still in the morning air. As the sun rises up and the air becomes warmer, the insects start buzzing in the grass standing in the marshy land.

A **Green Bee-Eater** patiently waits on its favorite dry twig hanging over the water, moving its pointed, long beautiful tail back and forth. It is hard to spot it at the first attempt as its green-brown color has merged with the leaves and grass around. This must be giving a hard time, not only to its prey but also to its predators like shikra and falcon.

As the binocular focuses on it we see how smart this bird looks with the black mask on its crimson eyes and the collar-like black band called 'gorget' on its bluish green throat. We also notice two long black thread-like extensions at the centre of its tail. These extensions known as streamers make it look even more graceful.

The Green Bee-Eater is a small insectivorous bird found in wetland, woodland and grassland, basically wherever it can find insects! It is 16-18 centimeters long and weighs only around 15 to 20 grams. Its small sized light body helps it to move rapidly.



It has an amazing ability to catch flying insects. For that it has to fly faster than the insects. Its wings with the span of about 30 centimeters are shaped to provide it this rapid short flight. When catching its prey the Bee-Eater brings its wings close to its body which makes its body dart-like. This allows it to swoop at a great speed towards the insect. The feathers on its tail open while taking a flight and are used as rudders to quickly change direction. Its tail and the streamers help it to change direction while flying and also help it to maintain balance.

Its claws being very small and hidden under its feathery legs are not easily visible through the binoculars. It is a known fact however that the green bee-eater is a passerine bird. That means each of its claws has a hind toe behind its three main toes, functioning like the thumb on a human palm. This aids it in gripping the surface it perches on, very firmly.

We are still observing the Bee-Eater who is very focused and alert. Suddenly with its brilliant eyesight

it spots a red, juicy dragonfly. In a flash it swoops down into the grass. Using its long sharp beak like a pair of forceps it catches the flying dragonfly and returns to its twig. The slight curve at the tip of its beak ensures there is no escape for the insect. Then challenging all our perceptions of birds being soft, delicate little creatures, this butcher brutally knocks and smashes its prey held in its beak on a hard surface of the twig before gulping it in no time. It is said to do this to remove dust, stinger or venom from the insect's body.

Life at the Sultanpur National Park goes on. The moor hens, egrets, kingfishers, herons, storks and many other living beings around are busy with finding their own food and shelter. The small hunting event of the Green Bee-Eater that we just witnessed is vital for the sustainability of the ecosystem. Mesmerized by this experience we continue walking on the dusty path in search of newer learnings.



GLOSSARY

Buzzing: Making a continuous humming sound | **Marshy Land:** Wet, muddy land near a water body | **Prey:** An animal that is hunted for food | **Predator:** An animal that hunts for food | **Crimson:** Deep red colour | **Insectivorous:** Insect eater | **Dart:** A small pointed arrow | **Swoop:** Move rapidly downwards through the air | **Rudder:** Rowing device | **Forceps:** Tool used for holding small objects | **Gulp:** Swallow quickly | **Sting:** A small pointed organ of an insect | **Venom:** Animal poison | **Vital:** Very important | **Sustainability:** Maintaining the world we live in | **Ecosystem:** Living beings in an area interacting with each other and with nonliving things

*The Grey Heron is a
solitary bird by nature*



The Serene Grey Heron

Qausar Bak

SHASHI & PARUL

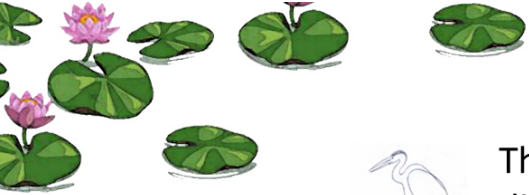


Crows, parrots, sparrows and eagles were all the birds we ever knew. Until, we went to The Sultanpur National Park where the beautiful and mesmerizing **Grey Heron** caught our attention.

It was a silver grey bird with a long greyish white neck, about 1 meter in height. The adult had a white head with long black feathers extending from the eyes to the neck in the form of a large impressive crest. The feathers were predominantly grey with deeper grey flanks. We saw it taking a short flight and the grey feathers glistened. We felt that it was one of the most charismatic birds. Its colours helped it to camouflage with the surroundings, thus saving it from its predators.

Being solitary birds by nature, four of them were observed standing far apart from each other, in the wetlands. Each of them was standing still among the stalks of grass, on the edge of wetlands. They fed alone and defended their feeding areas. However, this bird is generally seen in groups during the breeding season to ensure it finds a good mate. Nesting sites can be found on trees along wetlands.



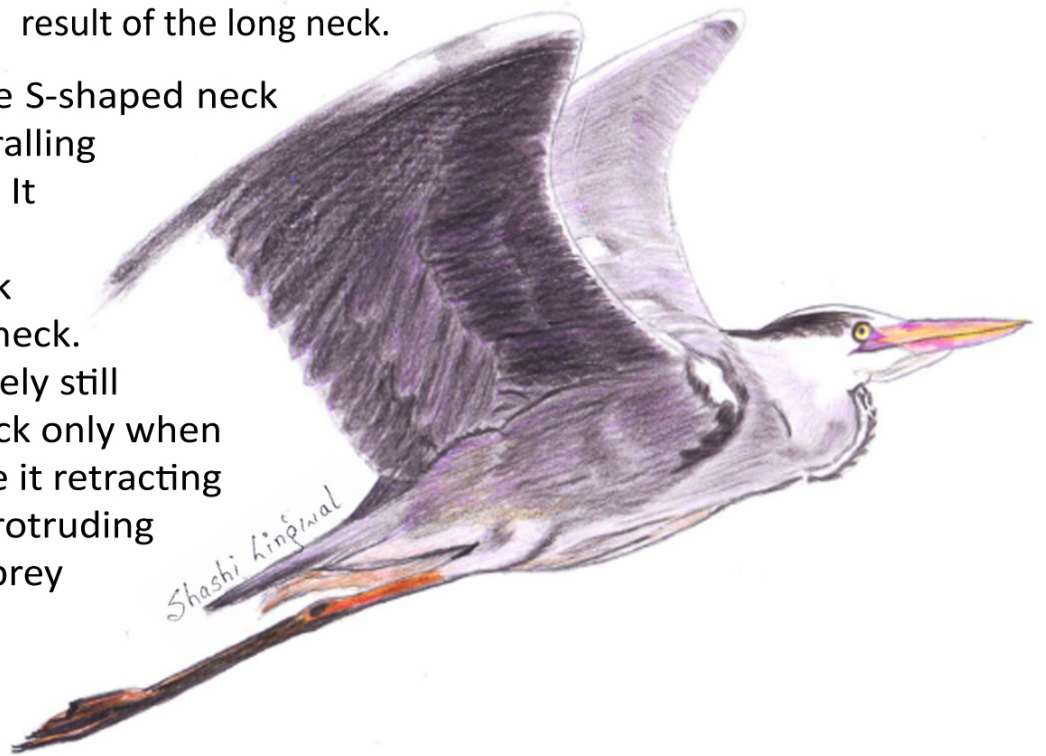


This bird lives in marshes and wetlands and nests on different levels of branches. Other associated birds seen with it were the Cattle Egrets, the Common Teal Ducks, a Purple Heron, the Red-wattled Lapwings, the Little Cormorants and the Painted Storks. The shrill and loud croaking sound heard from the Grey Heron could be the result of the long neck.

The elasticity of the S-shaped neck was the most enthralling feature of this bird. It was preening its feathers at the back by just twisting its neck. It was seen absolutely still but it moved its neck only when it fed. We could see it retracting its neck and only protruding it out to catch the prey from the shallow waters at the edge of the wetland. When we observed it on the first day, it was as still as a statue for about twenty minutes. On the second day, it was seen moving very slowly and cautiously. It was careful enough to move just the neck, thus ensuring a fruitful attempt to catch its prey.

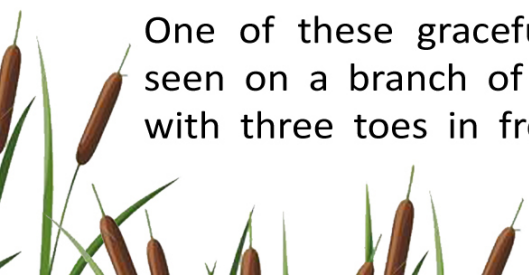
It is mostly seen eating small fish, amphibians, aquatic animals, mollusks, reptiles and rodents. This bird seems to strongly believe that the only prudence in life is focus and concentration.

One of these graceful birds was seen on a branch of a thick tree with three toes in front and one



hind toe at the back. The toes are widely spread and the claws are broad to give stability while walking in the wet and muddy marshy lands. The long, black, twig-like legs which are about 1 to 1.5 feet long, helped it to walk in the shallow waters. It took about half a minute to put one step forward. The long legs help the bird to walk comfortably in wetlands as well as the grasses.

It has a long and strong beak which is about three times the size of the head. The adult male has a yellow bill. The beak is white and had shades of grey, which is the characteristic of a juvenile. It uses





its long beak to catch its prey from the waters. It chews the prey a little and then swallows it down. It also uses its beak to build nests, save itself from the predators and dig the ground to eat various insects, small fish, etc.

During flight it retracts its neck bringing the head closer to its body and stretches the long legs out straight behind it. The legs provide the push and the neck provides the pull for flight. The wide wing-span which is around 6 feet, gives lift to the body and aids in flying.

We were awestruck seeing the magnificent bird with its ability to focus and concentrate even in the presence of other creatures. Its tranquility and serenity can be an aspiration for many of us whose lives are an almost meaningless mad rush.

GLOSSARY

Breeding: The mating and production of off springs by animals | **Camouflage:** Hide or disguise the presence of a person, animal or object | **Crest:** A comb or tuft of feathers, fur, or skin on the head of a bird or other animal | **Flanks:** On each or one side of | **Juvenile:** For or relating to young people | **Predators:** An animal that naturally preys on others | **Wetlands:** Land consisting of marshes or swamps





*The Kingfisher is a territorial
bird. It prefers to be alone.*

The White Throated Kingfisher

God's Masterpiece

BHARAT & MONICA



It was a beautiful pleasant day due to heavy rains the previous night. Seemed like a perfect day for bird watching in Sultanpur National Park, Gurgaon. My colleague and I were walking through this park and suddenly a beautiful bright blue bird flew across our path and perched on a branch. We were so mesmerized by its beauty that we just couldn't resist observing it through our binoculars. It turned out to be a **White Throated Kingfisher**. We couldn't believe our luck!

The White Throated Kingfisher is perhaps one of the most colorful birds in the park. It has a bright reddish maroon beak, blue wings, a white throat and chest, a maroon belly and head. The tail is blue. Some white feathers can be seen under the wings. It is around 20cms in length. Its claws are thin and short. Overall, it has an impressive appearance which just catches your attention. Its call is 'ke-ke-ke-ke-ke...'



It was mostly seen perching on the middle branches of trees hanging over water bodies. This is a strategy to escape predators because sitting on a middle branch, the leaves and branches above and below provide adequate protection. On a few occasions though, we did see it perching on the topmost branches of trees. Twice or thrice it was seen sitting on mud mounds. Since we saw it near a wetland, we can say that it is a wetland bird. However my colleague has also seen it many times in the Himalayan

regions of Uttarakhand and Himachal Pradesh, for example, in Mussourie and Dhanaulti which are almost 6000 feet above mean sea level. Kingfishers can also be spotted in grasslands, forests and in urban areas with enough trees. Some species of birds that we saw around the Kingfisher were moorhens, lapwings, green bee-eaters and egrets. They seemed to be in harmony with each other. We did not notice other Kingfishers in its territory which means the Kingfisher is a territorial bird. Also, it prefers to be alone.

Its beak is bright red and shiny. The beak resembles a long, thin, pointed bullet. It is the most dominant feature of its body. On closer observation we saw that the beak is quite large in proportion to its body. This clearly indicates that its beak has tremendous importance in daily activities. The beak is very strong and can be used to catch a variety of prey with pinpoint precision. A White Throated Kingfisher feeds on fish, insects,

rodents, other chicks, snakes, earthworms and other similar organisms.

The wings have pointed ends and feathers. They enable it to fly fast, slow, hover and dive. That is why a Kingfisher has a versatile flight pattern. It can fly straight as well as change direction instantly. While diving the wings are swept backwards, sticking to its body. This along with its pointed beak gives it a highly aerodynamic structure, somewhat like a dart or arrow entering water. Its flapping is rapid. It flies within its territory and mostly when it decides to attack its prey. You will be amazed to know that a Kingfisher needs to consume food that is equal to 60% of its body weight. This means it must eat regularly and hence must fly regularly to hunt.

The claws are thin, red and short. The nails are black. It can perch successfully on thin as well as thick branches and when needed on the ground too. We noticed that its



enable this bird to perch with a very high degree of stability. Basically the design of the claws creates a superb grip. After sitting firmly on a branch, it just sits still and surveys the area for prey.

Its wings' and beak design make it a top predator. This bird is a highly skilled and agile flier. It is very rare that a prey escapes the attack of a Kingfisher. A primary reason is that within its territory there are hardly any birds that can fly with so much agility. Insects succumb to the superior accuracy of its beak. The dive of a Kingfisher is too quick and too accurate for a fish or tadpole to escape. In our opinion its bright colors make it look like a poisonous prey for other predators.



In the end, we would recommend observing this bird whenever one can. It will not disappoint you at all and you would want to observe it again and again. For both of us the White Throated Kingfisher is truly God's masterpiece!

*It is the webbed feet that
enable it to swim under water.*



Usha S. Paragkar

Little Cormorant

USHA & RASHMI



Have you ever been to a wetland bird sanctuary? If you do go, you will surely spot a bird probably perched on a mound or a dried up tree in the middle of a lake, with a glistening all-black plumage and a slender neck. This is how we were introduced to the *Little Cormorant* when we visited Sultanpur Bird Sanctuary.

As we saw it, the Little Cormorant is about 50 cm (half a meter) long. It has a narrow bill with a prominent hooked tip. It was swimming in the water with its neck and head above the water using its tail as a rudder. In a flash of a second, it dived under the water. All we could see were the ripples that hid it from our sight. A few seconds and lo! It came up with a small fish struggling in its beak. The open beak showed saw-like indentations near the tip. It flew right in front of us to a rock nearby and flipped the fish pushing it down its slender neck.

The fish struggled a little in the Cormorant's gular pouch near the beak. This gular pouch, as we later found out, is a bare expandable patch of skin right next to its mouth. When the Cormorant swallows a fish the pouch expands a little to make a space for the ingested food before it enters the cormorant's slender neck. The cormorant raised its beak to straighten its neck, and this in turn pushed the fish down its neck.



But, how could this bird which had perched on the rock have swum in the water? A close look with binoculars showed us that its claws were webbed. It is the webbed feet that enabled it to swim under water. Unlike ducks the webs stopped in the middle of the claws leaving the tips of the toes free. It is this combination which helped it both to perch on the rock or swim. The claws were curved at the end, so it could latch on to the uneven surface of the rock.

It subsequently sat on a mound for the next 15 to 20 minutes with its wings spread out to dry in the sun. Unlike ducks, the wings of the cormorant get wet in the water as they are only partially waterproof. Oil glands make the wings waterproof but since the cormorant has less oil glands, its wings get wet. The wet heavy wings would hamper its flight. The cormorant then appeared to run on

the water surface like a plane on a runway before taking flight. It gracefully used its webbed feet and tail to push itself against the water surface and took off in the direction of its nest.

The nest was on a babul tree which lined the bank of the lake. It shared the tree for nesting along with painted storks and herons just like we would live on the floors in a building. Pond herons nested on the top, with little egrets. The cormorant lived one storey below in the middle of the tree. We tried to focus our binoculars on the nest but it was not an easy task with painted storks and egrets flying around and blocking our view.

We learnt however that cormorants breed between July and September and lay 2 -6 eggs in a clutch. The eggs hatch after 15-21 days. The young ones leave their nest after about a month and this new generation begins a new life cycle. The wetlands would continue to fascinate bird lovers and perhaps these visitors would return to their homes with a



resolve to do their might in conserving such havens for birds. This is what we had in mind when we were called back to the bus. We could hear the” kokkokkok” call of the cormorant bidding us good bye.



GLOSSARY

Wet land: An area of very wet muddy land with wild plants growing in it | **Sanctuary:** A safe place for someone or something that is being chased or hunted | **Glistening:** Shining with sparkling light | **Plumage:** Bird’s feathers collectively | **Perch:** Sit on something high or narrow | **Mound:** A large pile of something | **Prominent:** Particularly noticeable | **Subsequently:** Afterwards | **Haven:** Shelter

इस अनोखे पंछी की पूँछ उसके
शरीर जितनी ही होती है।



छुपा खिलाड़ी

पैराकीट

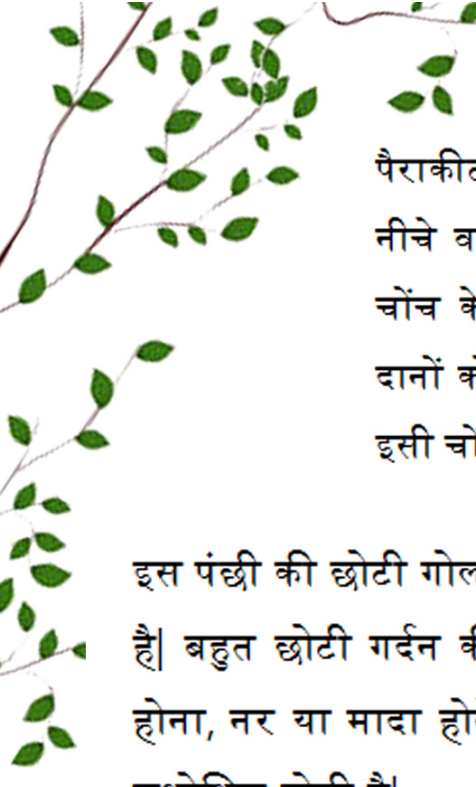
MAHENDRA & ADWAIT



बुधवार के सुबह ७:३० बजे हम दोनो एक नीम के पेड़ के नीचे दूरबीन लिए ध्यानमग्न देख रहे थे। तभी एक लाल फल को हिलता देखकर हम दोनों को ताजुब हुआ। नीम के पेड़ पर लाल फल कैसे हो सकता है? जब हमने और गौर से देखा तब पता लगा, की यह कोई फल नहीं बल्कि पैराकीट की लाल चोंच है।

सामान्यतः बहुत जगह पाया जाने वाला पैराकीट की लम्बाई ३५-४० सेमी होती है। इसका रंग हरा, चोंच लाल नुकीली और पूँछ लम्बी होती हैं। तीव्र ध्वनि में "चीव चीव चीव..." ऐसी आवाज़ निकालकर उड़ने वाले इस पंछी से सदियों से हमारी कहानियों में, घरों में मुलाकात होते रहती है। हर बच्चे को इसके बारे में जिज्ञासा होती है। इस पंछी का गौर से निरीक्षण करने के बाद, उसकी शारीरिक रचना के विवरण और स्पष्ट हुए। इसकी कहानी में छुपे राज प्रकट हुए।





पैराकीट की लाल नुकीली चोंच आगे से नीचे की तरफ झुकी होती है। इसका नीचे वाला जबड़ा छोटा होने के कारण एक हुक जैसी रचना बनती है। इस चोंच के सहारे पैराकीट फल के छिलके को सहजता से फाड़ते हैं। अनाज के दानों को और फूल-फलों के तोड़ने का काम भी आसानी से होता। कभी कभी इसी चोंच से लटकर यह पंछी एक टहनी से दूसरी टहनी पर जाता है।

इस पंछी की छोटी गोलाकार आँखें होती हैं जिसके ठीक बीच में काली पुतली पायी जाती है। बहुत छोटी गर्दन की दिखाई ही ना दें। उसपर गुलाबी-काले रंग का घेरा होना ना होना, नर या मादा होने का संकेत देती है। नर की गर्दन सुंदर गुलाबी और काले घेरे से सुशोभित होती है।

पैराकीट एक नौसीखिए को केवल हरा दिखेगा लेकिन उसके हरे पन में बहुत विशेषताएँ हैं। सिर पर इसी हरे रंग में पिली छटा मिलजाती है। नीचे की ओर, पूँछ तक, एक गहरा हरा रंग दिखता है। पंखों पर काली धारीदार रेखा होती है जो इसकी सुंदरता को बढ़ा देता है। इसकी पूँछ के जो सबसे लम्बे दो पंख होते हैं, वह हरे-नीले रंग के होते हैं।

इस पंछी की इस रंग योजना का महत्व तब पता लगता है जब हम इसे किसी हरे पेड़ के बीच में डूबने का प्रयास करते हैं। इसके हरे रंग से होने वाले छलावरण के कारण कोई शिकारी प्राणी इसकी आसानी से शिकार नहीं कर सकता।

इस अनोखे पंछी की पूँछ उसके शरीर जितनी ही होती है। इसी लम्बी पूँछ के कारण पैराकीट को शीघ्र दिशा परिवर्तन में तथा टहनियों पर संतुलन बनाने में मदद मिलती है।

इनके पंजे चार उँगलियों के होते हैं – तीन आगे ओर एक पीछे की ओर। ऐसे पंजे को पँसाराइन पंजा कहते हैं। यह पंजा टहनी को मजबूती से पकड़ता है। इतनी मजबूती से, की ज़रूरत पड़ने पर वह पेड़ के सीधा खड़ा टहनी पर भी जकड़कर ठहर सकता है। इतना ही नहीं, इस पंजे की मदद से, पैराकीट लटके हुए फलों को खाने के लिए उलटा भी लटक सकता है। कभी कभी यह पंछी अपने पंजे में फल को ऐसे पकड़ता है जैसे कोई बचा हाथ में

अमरूद पकड़ के खा रहा हो।

पैराकीट ज़्यादातर ग्रामीण क्षेत्र, खेत और फलदार वृक्षों पर पाए जाते हैं। वृक्षों के बीच वाले टहनियो पर ये पंछी बैठना पसंद करते हैं। पैराकीट पेड़ों के अलग अलग दराजों में अपना घर बनाते हैं। लेकिन वे ६-१० के समूह में रहते, उड़ते हैं।



यह पंछी शुद्ध शाकाहारी है। इसका प्रिय भोजन अनाज के दाने (जैसे मक्का, जवार), फल (जैसे आम, बबूल, अमरूद) आदि है। कई बार वह कलियाँ, फूल और पत्ते भी खाते हैं।

यह प्यारा पक्षी प्रकृति का धरोहर है। हमने अपने निरीक्षण में महसूस किया की ये अक्सर "चिटुतचिटुत" के द्वारा अपनी उपस्थिति दर्ज करते हैं। यह जानते हुए भी की कोई शिकारी प्राणी उसका शिकार कर सकता है, तथा पिवहयह आवाज़ करके हमें एक संदेश देता है। वह कहता है की प्रकृति से प्राप्त गुणों का सही इस्तेमाल से एक खुशहाल जीवन बिना किसी भय का जिया जा सकता है। पैराकीट को अपने रंग, और शरीर पर इतना भरोसा है, की वह अपने आप को बचाने के कई तरीके अपना सकता है।

इससे हमें संदेश मिलता है की यदि हम भी अपने सभी अँगो समेत मस्तिष्क का सही इस्तेमाल कर सफलता प्राप्त कर सकते हैं।

मुरहेन एक पेटू प्राणी है। हमेशा
खाना खाने में व्यस्त रहता है।



मुरहेन

KHYATI & PRASHANT



बचपन से सोचा था कि पानी में तैरता पंछी बत्तख होता है । आज पानी में कुछ परिचित,अपरिचित पंछी से परिचय हुआ । माथे पर तिलक लगाए मुरहेन को गहराई से जानने का मौका मिला । मुरहेन को हिंदी में ‘जलमुर्गी’कहा जाता है ।

शरीर काले रंग का है पर पंख और पूँछ का निचला हिस्सा सफ़ेद है। गले और छाती के बीच काले रंग की आभा है ।इस विपरीतता से सुंदरता में चार चाँद लग जाते हैं । नर मुरहेन के माथे पर तिलक होता है और मादा के नहीं । जब बच्चें छोटे होते हैं ,तब यह फ़र्क नहीं होता। बढ़ती उम्र के साथ नर और मादा में अंतर उभरकर आता है। नर सुंदर होता है ।

चोंच का आकार ढाई से तीन इंच है ।चोंच का रंग लाल से शुरू होकर नोक तक आते-आते हल्के पीले रंग की हो जाता है ।चोंच छोटी नोकदार होने से कीड़ों और वनस्पति को निगलने के लिए बनी है ।



गर्दन लचीली है। गर्दन को छोटी, बड़ी, लम्बी कर सकती है और 270° में घूमती है। इस लचीली विशेषता से पानी में खाना ढूँढने में आसानी होती है। पूरा शरीर ऊपर रख कर गर्दन को पानी में डुबो देती है। घास में खाना ढूँढने के लिए गर्दन को सीधा लम्बा करती है। गर्दन आगे झुकाकर चलने और तैरने से गती भी प्राप्त होती है। पूँछ ऊपर उठाने से भी तैरना आसान हो जाता है।



शरीर हल्का और अंडाकार होता है। पानी में बोट की तरह तैरने और शिकारी से घास में छुपने में आसानी हो जाती है। पैर मुर्गी की तरह होते हैं, इस कारण बत्तक-सी अच्छी तैराक नहीं है। केवल छिछले पानी में धीरे-धीरे तैरती रहती है। पैसेराइन पंजा दलदल में चलने और घास में चलने के लिए ही बना है।

मुरहेन एक पेटू प्राणी है। हमेशा खाना खाने में व्यस्त रहता है। खाने का चुनाव अवसरवादी तरीके से करता है। मतलब जो मिल जाता है, उसे ही खाता है। शिकार नहीं ढूँढता। उस का प्रमुख खाना है- कीड़े, पानी की वनस्पति, घास के बीज, फूल और फल।

मुरहेन का शिकारी मार्श हेरॉन है। अपने शत्रु से बचने के लिए अन्य पंछी पर निर्भर है। हमेशा खाना ढूँढने में व्यस्त यह पंछी जब अन्य पंछी द्वारा निकाले सतर्क आवाज़ पर निर्भर होता। जब सतर्कता भरी आवाज सुनता है तो पेड़ की छाया में छुपकर अपने आप को

बचा लेता है। अपने अंडों को भी साँप से बचाने के लिए घोंसला पेड़ पर बनाता है। वह पंछी सतर्कता के लिए चिक-चिक आवाज़ निकालता है और कुक-चिक नर मादा को आकर्षित करने के लिए।



नर का अपना अधिकार क्षेत्र होता है। नर और मादा उस अधिकार क्षेत्र में निवास करते हैं। मादा सक्षम नर का ही प्रजनन के लिए चुनाव करती है।

यह पंछी दुनिया के कई देशों और प्रतिकूल वातावरण में भी पाया जाता है। भारत में हिमालय की 4500 मी ऊँची झील से पठारी झील में पाया जाता है। वह अपने आप को उस माहोल में ढाल लेता है। इस अनुकूलन से यह सुंदर पंछी अपने आप को स्थापित करता है।

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*Its wings are big and strong
and help it to balance its
weight and size*



Painted Stork

Nature's Paint Brush

DIYANAT & ANAMIKA

One day during a walk in Sultanpur National Park, the mesmerizing forest got us engrossed with the sounds of insects, the rustling of leaves, and a variety of birds flying by. In that immersion, a sound of a double headed pellet drum caught our attention and fascinated us a lot. We started walking in the direction of the sound and to our excitement and astonishment, we saw a flock of birds on a tree. Each bird looked like a hue of paint on a white canvas. These were **Painted Storks** in their full royal glory perched on a babul tree.

The Painted Stork has an 'S' shaped neck with a large curved body full of feathers. It is 93 to 102 cm tall and weighs 2 to 5 kgs. Its legs are long. The beak is yellow, about a foot long, tong- shaped and slightly curved at the end.

What fascinated us further was knowing that the Painted Stork catches its prey with a touch sensation of its beak. It senses movement of the prey on its open beak which it moves from side to side in marshy land and clamps it shut when it has to catch its prey. This function of its beak is known as tactile foraging. It is a carnivore and survives on insects, fishes, reptiles, crustaceans and amphibians.



Every time it catches a prey it raises its head to gulp the prey down its long beak and slender neck. The beak is also used for pruning its big body and feathers.

Painted Storks display white feathers in the center, rose-colored feathers near the tail and black feathers on the sides of the wings which are fully visible when it is in a flight or when it spreads its wings.

Its wings are big and strong and help it to balance its weight and size while maneuvering on the trees or when it lands on the ground. Before it takes off, it extends its wings fully and releases its legs' hold on the branches. It flies by flapping its wings to gain height and glides along its path. While landing on the ground or the tree the wings are flapped repeatedly for support and balance. On a sunny day moistened wings are used for providing shade and cooling nests. During the cold season it uses its wings for giving warmth to its chicks.

What intrigued us more was noticing its thin and long legs measuring about 1.5 feet. They are positioned at the middle to give balance to the big body. The long legs keep its body safe from the thorns of the trees. It also uses its legs to wade through the shallow waters searching for prey without its body getting muddy. We observed that the only disadvantage of the long legs is when its excreta falls on them,

making them look white. We wondered if this was of any discomfort to them! Its claws have three front toes and a small toe at the back. The claws are spread, which allows it to both wade through muddy stretches and helps it to perch on the treetops.

Painted storks are generally found around shallow waters, marshy lands and flooded agricultural fields. They live and build their nests on the canopy of the Babul (*Prosopis Juliflora*) tree and nest in colonies. Their nests are made in a secure place on the canopy of trees and away from easy access of predators and are constructed with plant matter on branches that extend over the water

Painted Storks lay 3-4 eggs with an incubation period of about 30 days. The young chicks are born without feathers and eyes closed. The chicks develop a whitish plumage which later becomes pale brown as they age. Each parent takes turns feeding the young ones until they turn juvenile and are ready to leave the nest.



It shares the habitat with other water birds like cormorants, egrets and herons who find safety and security from predators due to the painted stork's huge size and presence. Among all the birds that we saw, it was the Painted Stork that made us reflect on the behavior of trust, loyalty, kindness, protection and care. This we witnessed in our observation of the habitat that they share among their own species and other species of birds.

If humans were to practice these behaviors, they can create a kind and loving world, where all species are included, respected and live in harmony.



GLOSSARY

Mesmerizing: Capture the complete attention of | **Immersion:** Deep and complete involvement in something | **Double headed pellet drum:** A class of drum that has two heads joined together with the heads facing outward with two pellets, each connected by a cord to the drum (known as 'damroo') | **Perched:** Sit on something high usually trees or wires | **Carnivore:** An animal that gets food by killing and eating other animals | **Foraging:** Obtain by searching in nature | **Crustaceans:** Shelled animals like crabs, lobsters, crayfish | **Amphibians:** Animals living on land and water | **Maneuvering:** Move skillfully or carefully | **Incubation:** The process of incubating eggs till they hatch | **Colonial:** Relating to or characteristic of a colony or colonies | **Predator:** An animal that naturally preys on others | **Plumage:** A bird's feathers collectively | **Babul:** a tropical acacia tree introduced from Africa





*Ashy Prinias generally
do not group together*

Vinodini Kalagi

Ashy Prinia

The Restless Warbler

RUGMINI & VINODINI



If you are a bird lover, you may have come across this beautiful, delicate bird - the *Ashy Prinia* in your own backyard. At the least, you may have come across its song, a nasal 'tee- tee- tee'.

We are bird lovers. On our visit to Sultanpur National Park in Haryana, this elusive song bird led us a merry dance. For two days it tantalized us with its song and fleeting glimpses. On the third day, it finally ended its hide and seek, and revealed its delicate self to us. By then, it had become so dear to our heart, we will now refer to it as our own Ashy Prinia.

For those who are not sure how to identify an Ashy Prinia, let us give you some pointers. Ashy Prinia is a small song bird, smaller than a sparrow. The body is small and rounded, with short and elliptical wings. The eyes are red and feet orange in colour. The long grey graduated tail tipped with black, always held vertically while perching, is an identifying feature of this bird.

Initially, we felt that this bird had a nondescript coloration, but a closer observation revealed the various hues and tones of colours blended together beautifully. The white underbelly tinged with yellow, the graded ashy coloured upper body and the fanned out long tail held us rooted to the spot.



Just in front of us, our prinia fluttered into the air and like an acrobat caught a flying insect. Oh yes! This little darling is an insectivore, feeding on insects and larvae both from the air as well as by digging them out from the ground. The pointed, slightly curved black beak picks up flying insects with ease like a pair of forceps. It also helps to dig out insects from the ground.

For one whole hour, we sat down and patiently observed our Prinia. The Prinias generally do not group together. Our prinia was very restless. It did not sit at one place even for a few seconds. Even for those few seconds it was perpetually moving its neck and twitching its tail. Every other moment it took off into the air and landed at some other place. In fact its restlessness has earned it the name '*fudki*' in the local language.

The Prinia has short rounded wings. It takes off with a rapid, jerky and fluttery flight for very short distances. Perhaps since it is an inhabitant of grass land, it does not need to make long flights. You know, the rapid wing movements do consume a lot of energy.

We mostly observed our Prinia, perching on slender delicate blades of grass with great ease. What makes this possible? The strong legs of course... Each leg has four toes. One pointed backward and three pointed forward. The toes end in

end in slightly curved claws which are used to hold the grass blades tightly while perching. The feet also help it to clamber up the grass or even hop among grasses.

We were surprised to see our little bird not only perching atop thin branches of the surrounding shrubbery, but also clinging vertically to grass blades. How was the bird able to maintain its balance?





It was possible because of the upright tail. The tail held upright helps to balance the body. The graduated tail, tipped with black is longer as compared to the body. This helps the bird to maintain its balance while perching. It is generally observed that the bird fans out its tail while perching.

So, now the question is, 'How does this little grassland bird, exposed to predators both on sky and ground, protect itself and its chicks from predators?' Surely its physical features suggest that it is not equipped to fight against or escape from its predators. So then, what strategy has it developed for survival? Survival necessitates safe environment for capturing food, protecting young ones and escape from predators. Let us take a look at how its adaptive features justify the functions.


The nondescript colouration helps it to camouflage with the surrounding vegetation. The small rounded body ensures its escape into spaces where no predator, be it a reptile, raptor or any other small mammal can reach it.

The Ashy Prinia generally stitches its nest with webs among grasses or small shrubs and lay eggs in it, so that even the nest is nicely camouflaged.

It is amazing how nature has designed separate niches for each and every living organism by equipping them with different forms. Let us use our intelligence to ensure a safe environment for every creature on earth. Let us hope that our little bird continues to sing freely and live a joyful life forever.

GLOSSARY

Camouflage: Colours or features that helps an organism to blend with its surroundings | **Elusive:** Difficult to find | **Fleeting:** Lasting for a very short time | **Graduated Of:** a tail having successively longer feathers towards the middle | **Hues:** A colour or shade | **Jerky:** Characterised by abrupt stops and starts | **Niche:** A space within a habitat in which a particular species can thrive | **Nondescript:** Undistinguished | **Perching:** To sit on or near the edge of something | **Perpetually:** Occurring repeatedly | **Predator:** An animal that hunts, kills and eats other animals | **Raptor:** A bird such as eagle or hawk that kills and eats small birds and animals | **Tantalise:** To tease with the sight of something desired but out of reach | **Twitching:** Short, sudden jerking movement

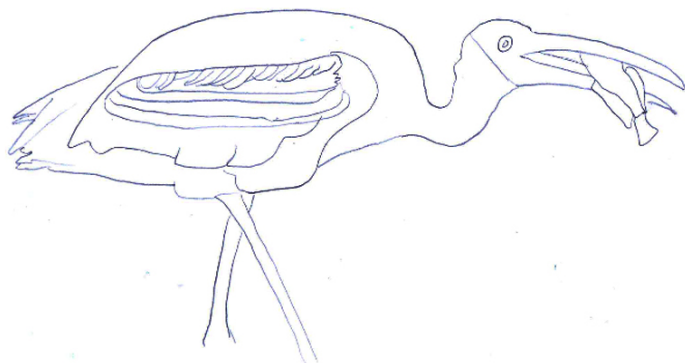
A group of people, including men and women, are standing on a rocky path overlooking a valley. One man in the foreground is pointing towards the distance. The landscape features green hills and a river or stream. The image has a soft, painterly quality.

“
Never doubt that a small group of thoughtful,
committed citizens can change the world.
Indeed, it is the only thing that ever has... ”

— Margaret Mead



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Book Design: AMIRA HUSAIN



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