

# *Birds I view*

An illustrated field guide to  
the **Birds of IIT Bombay**

*Submitted By*  
Abhijith K S  
18U130002

*Project Guide*  
Prof. Aditi Chitre



*Indian Golden Oriole*

## Approval sheet

This project report entitled '**Birds I View, *An illustrated field guide to the birds of IIT Bombay***' by Abhijith K S, 18U130002, is approved for partial fulfillment of the requirements for Master of Design Degree in IDC, IIT Bombay.

Project Guide: 

Chairperson:

Internal Examiner:

External Examiner:



## **Declaration**

I declare that this written submission represents my ideas in my own words and where others' opinions or words have been included, I have adequately cited and referenced the sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been appropriately cited or from whom proper permission has not been taken when needed.

Name: Abhijith K S

Roll no: 18U130002

Date: 18/11/2022

Place: IDC, IIT Bombay



*Indian Paradise Flycatcher*

## Acknowledgements

Firstly I would like to thank my family for showing me and telling me stories about plants, animals, and birds around me. Thank you, Pragya Parihar, for taking me along for bird-watching sessions and introducing me to the world of flora and fauna on campus.

I am grateful to my guide, Prof. Aditi Chitre, for helping me with the entire process of writing, illustrating, and bringing the project together.

I extend my gratitude to Mrs. Maitreyi M R, Prof. Krishnan S, Prof. Prosenjit Ganguly, Prof. Sumant Rao, Prof. G V Prabhu, and my panel members Prof. Alka Hingorani, Prof. Shilpa Ranade, and Prof. Sudesh Balan.

I also want to thank my peers who helped me stay focused and helped me through the project during the length of the project and for the last five years.

## Abstract

“*Birds I View*” is an illustrated field guide to Birds of IIT Bombay campus. The book acts as an interactive storybook for an audience new to the field of birdwatching by explaining the birds' characteristics, behavior, and how to spot them. It also acts as a quick field guide and reference book for birdwatching.





*Siberian Stonechat*

## Contents

1. Introduction.....	7
2. Objective.....	8
3. Research.....	9
4. Selecting birds.....	10
5. Ideation.....	(11-12)
5.1 Initial ideation.....	11
5.2 Storyline exploration.....	11
5.3 Story.....	12
5.4 Final list of birds.....	12
6. Art.....	(13-23)
6.1 Moodboards.....	13
6.2 Visual exploration.....	17
7. Final book.....	(24-27)
7.1 Final visual style.....	24
7.2 Book layout.....	24
8. Reference.....	28
9. Appendix.....	(29-34)
9.1 Texts from the book.....	29



*House Sparrow*

## 1. Introduction

I grew up in Kerala and was surrounded by a wide variety of flora and fauna at home. Growing up, I was always fascinated to see new birds and animals and the plants which my mom brought after her evening walks. Even though my childhood consisted of interactions with a lot of varieties of birds seen commonly around Kerala, I never took this seriously and never bothered to observe and learn more about these species.

After joining college, my friend introduced me to the world of birdwatching on a weekend walk through the lakeside road. I was still boasting about my childhood and growing up with many of these species.

But spotting an Indian paradise flycatcher changed everything. I was mind blown. It was magical. I had seen nothing yet, and a whole new world opened up. After that day, I started looking out for these cute creatures, which teach us a lot through their interactions with nature. I knew nothing about the birds I had seen as a child.

More people should know about these fantastic creatures. This project was started on this idea. This is a collection of my experiences and learnings from the IIT Bombay campus.



*Parakeet*

## 2. Objective

This project began as a field guide that would help newcomers in the birdwatching field to identify the variety of birds that the IIT Bombay campus offers and learn about nature through which we learn more about ourselves. Like Prof. Prasonjit Ganguly said in one of my conversations with him, “By observing nature, we are discovering more about ourselves.”

When I started, there was a lack of materials to help identify these birds, and I wanted this project to solve this problem. Another reason for this project was the urge to share the information I learned through conversations with experienced birdwatchers, ecologists, and photographers.

With research and ideation, the project went through multiple iterations. Right now, at the final stage, it is an interactive narrative field guide targeting a younger audience and newbies in this field.

### 3. Research

I started by creating a list of birds I spotted on the IIT Bombay campus. This contained 32 birds, and the list grew during the course of the project whenever I spotted one new species on my evening walks.

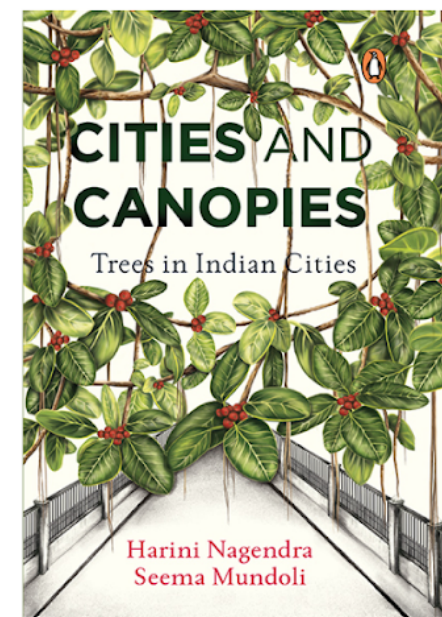
My research started with finding books in the field of nature documentation and birdwatching. *Gray hornbills at dusk: Nature rambles through Delhi* by Bulbul Sharma<sup>1</sup> was the starting point. Through the book, the author takes the readers through different seasons in Delhi and how flora and fauna, especially the birds, behave through them all. This book gave me the push I needed to start writing. I started noting down the observations around my home as I was visiting the home at that point.

I also went through books like *Cities and Canopies: Trees in Indian cities* by Harini Nagendra<sup>2</sup>, *WWF India birds in your backyard and beyond*<sup>3</sup>, and *The Field Guide to Dumb Birds of North America* by Matt Kracht<sup>4</sup>.

The second part of my research was conversations with experts in the field. I had informative chats with multiple experts. Mrs. Maithreyi M R, a consulting editor with BNHS, is among them. Maithreyi helped me understand the behavior and the locations where different birds are spotted based on the list of birds I have spotted on campus.

I had conversations with prof. Dr. Krishnan Sivasubramanian from the Mathematics department, Prof. Prosenjit Ganguly and Prof. Sumant Rao from IDC IIT Bombay who all are expert birdwatchers, about their experiences and observations of birds from the list I presented to them.

Websites like *Xeno canto*<sup>5</sup>, *Macaulay Library*<sup>6</sup>, *Ebird*<sup>7</sup>, *BNHS*<sup>8</sup>, and *Cornell lab of ornithology*<sup>9</sup> also helped me collect data about all the birds that I had spotted on campus.



## 4. Selecting Birds

The selection of birds was an important decision to make. It would decide how much information will be there for each bird in the book. I figured choosing the birds I have personally seen and observed would be the right choice for the book. After discussing with my guide and peers, I created a list of thirty-two birds I spotted on the IIT Bombay campus. While making a list, I also noted down the first impressions and small behavioral characteristics these birds have along with it.

Here is the list of birds selected initially for the project.

1. Indian Paradise Flycatcher - Male white - Royal, magical, Indian Paradise
2. flycatcher Morpys Cinnamon - Royal, magical
3. Rock Pigeons - Lot, Stupid, Annoying
4. House Crows - Lot, smart, Nice, Poop attack
5. Jungle Crows
6. Common Mynas - walk like old uncles
7. Jungle Babblers - Talk a lot, Meetings
8. Oriental Magpie Robins - Hops around
9. Spot Breasted Fantails - Fashion, quick
10. Black Kites - Campus Rowdies, Owns the ground
11. Shikra - Rare sighted
12. Cattle Egrets - Friends with the cows
13. White Breasted Waterhens - Shy, Runs away
14. Asian Koel

15. Rose Ringed Parakeets - high on the top, highest branch
16. Gray Hornbills - My destiny, always wanted to see a hornbill
17. Red Whiskered Bulbuls - Cool gang, Spiky hairstyle
18. Spotted Dove - fashion
19. Spotted Owlets - tiny, hard to see, looks like a baby
20. Greater Coucal - Walks around, Wears a brown cloak
21. Pond Heron - Silent
22. Little Black Cormorants - Yoga pose
23. Black Drongo - Queen of crows
24. Common Kingfisher
25. White Throated Kingfisher
26. Black-Rumped Flameback Woodpeckers - Carpenters
27. Rufous Woodpecker
28. Large Cuckooshrike
29. Green Bee-eaters
30. Oriole, Indian Golden
31. Asian Pied Starlings - myna doppelgangers, bathing in the water canal
32. Red Naped Ibis

After the list was made, I noted my observations and stories about each of these birds. This was when I discovered there was a lack of exciting observations or personal connections with some birds on the list. This problem was solved by having conversations with other birdwatchers on campus. I could collect stories about those specific species from them and add them to the notes.



## 5. Ideation

### 5.1 Initial ideation:

There were multiple ideas for the project in the beginning.

Some initial ideas included -

1. A field guide about birds or plants on campus
2. collaborating with the campus birdwatching community
3. A field guide of birds I have personally encountered on campus as a story
4. A field guide about flora and fauna with Indian stories or mythologies about them
5. Find stories about these birds or plants and illustrate them as described in those in comparison with their real-life forms

I had discussions with my guide and mentors from this list of brainstormed ideas. I decided to focus on a narrative-style field guide that would tell stories from a birdwatcher's perspective and help identify them by giving them scientific information.

A narrative style used by Bulbul Sharma in her book Grey hornbills at dusk was the initial way I started writing the book. However, this faced multiple challenges.

Firstly there needed to be a more proper thread for the story.

The initial plan was to go with the flow and write it as a continuous story. Since this was a roadblock, I returned to the drawing board and brainstormed more ideas.

### 5.2 Storyline explorations:

Multiple storylines were ideated with the help of discussions with my peers. These include -

1. Zones in the campus where birds are found - Soneri baug, Kol dongri, Sameer hill, Peru baug
2. Seasons on campus - Monsoon, winter, summer, and spring
3. Two semesters on campus
4. Type of birds - Resident, seasonal, and migratory,
5. Family of birds - Monarchidae, Cuckoo, Starling, etc.

The medium was also reconsidered. I ideated on it being a digital medium like an ebook or web app, which would open up more possibilities like motion comics, and searchability for easy use. This was later pushed away because of the size restriction of a phone screen. Finally, an A5 book format was decided where each bird will get its section and still follow a narrative format.

### 5.3 Story:

The book will follow the first-person perspective of the author, where one paragraph will be about observations and behaviors of the bird from personal experiences and information collected from other birdwatchers. The second section will be about how to identify it with scientific information. This will be accompanied by two pages of illustrations, one on a transparent sheet that comes over the main illustration. The illustrations will be based on the first paragraph of the text, that is, the bird's interaction with the environment.

The content page will act as an index, a quick field guide with all major information.

### 5.4 The final list of birds:

After finalizing the narrative style and layout of the book, I revisited the list of birds to work on. Considering the time constraint, I went through the list and selected a final list of Twenty birds with exciting stories and observations to be told in the book.

Here is the final list of birds for the book:

1. Indian Paradise Flycatcher
2. Jungle and House crows
3. Common Mynas
4. Jungle Babblers
5. Oriental Magpie Robins
6. Spot Breasted Fantails
7. Black Kites
8. Cattle Egrets

9. White Breasted Waterhens
10. Asian Koel
11. Rose Ringed, Plum Headed, and Alexandrine Parakeets
12. Gray Hornbill
13. Red Whiskered Bulbuls
14. Spotted Owlets
15. Greater Coucal
16. Little Black Cormorants
17. Black and Ashy Drongo
18. Spotted Dove
19. Flameback and Rufous Woodpecker
20. Indian Golden Oriole



*White Breasted Waterhen*

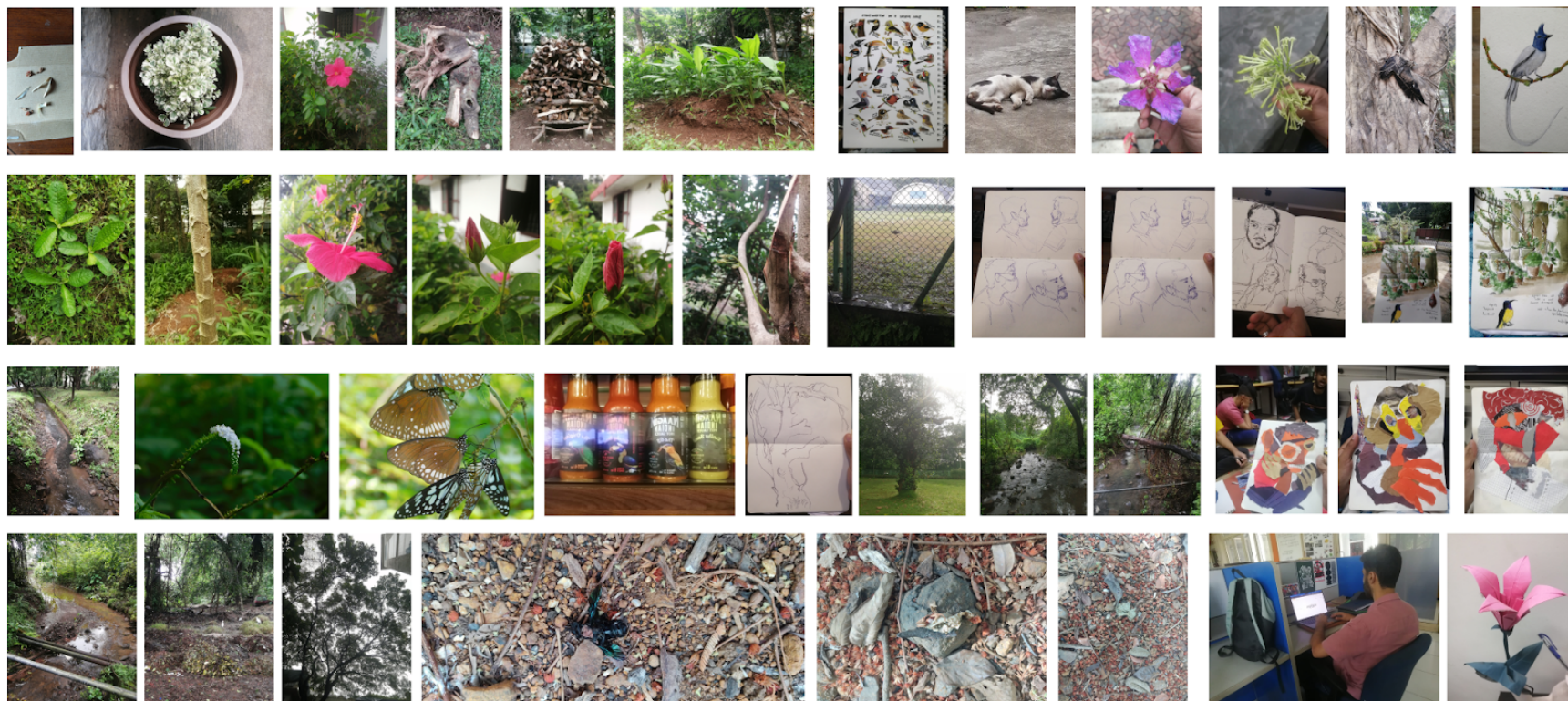
## **6. Art**

### **6.1 Moodboards:**

I started the visual design process parallelly while working on the story. A total of three different mood boards were created, one with images I collected from the internet, one with images I captured from my surroundings and my walks through campus, and one with reference images of all thirty-two birds from the initial list. These helped me come up with various visual styles for the background as well as the birds.







*Red Whiskered Bulbul*



*Spotted Dove*



*Spotted Owlet*

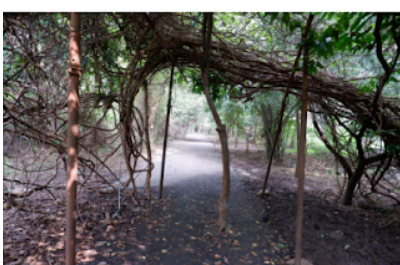


## **6.2 Visual explorations:**

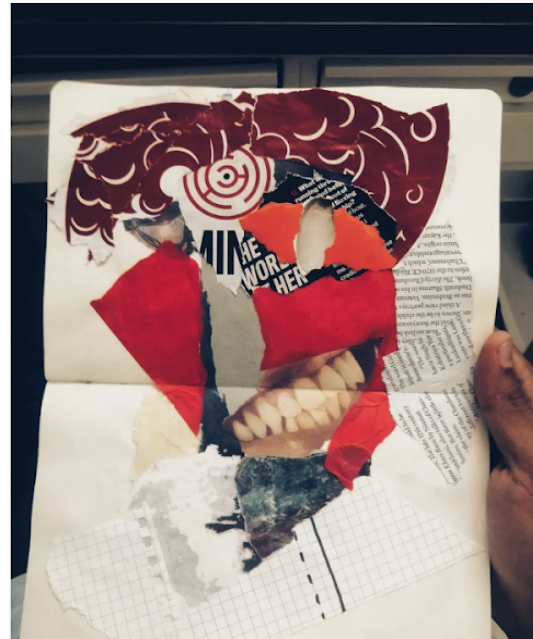
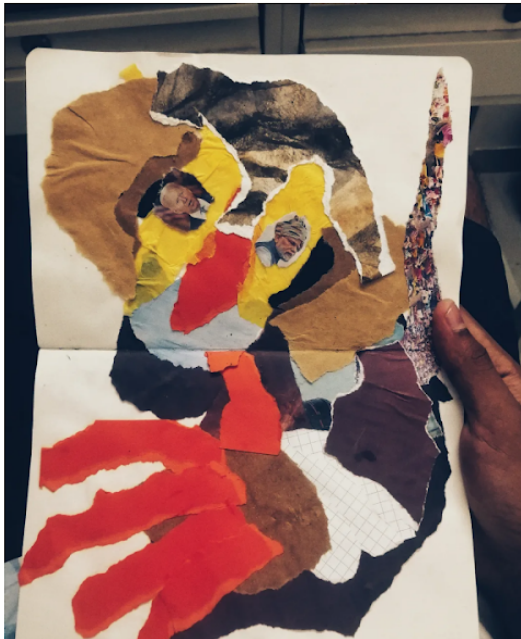
During Prof. Aditi Chitre's course, I got the opportunity to explore different visual styles for my project. I explored mediums like paper and cloth collages, Ink, acrylic, and graphite. I also tried printing leaves on paper using acrylic color with the help of my friend Prafulla.

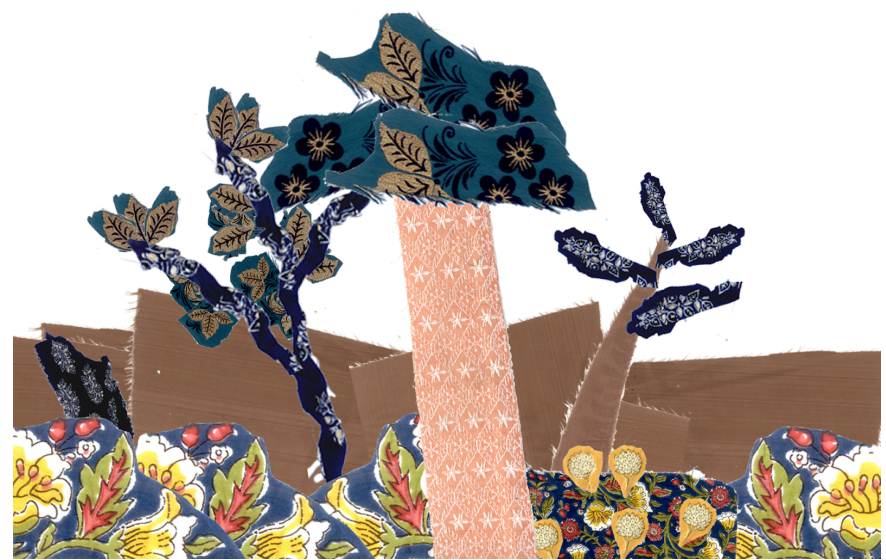
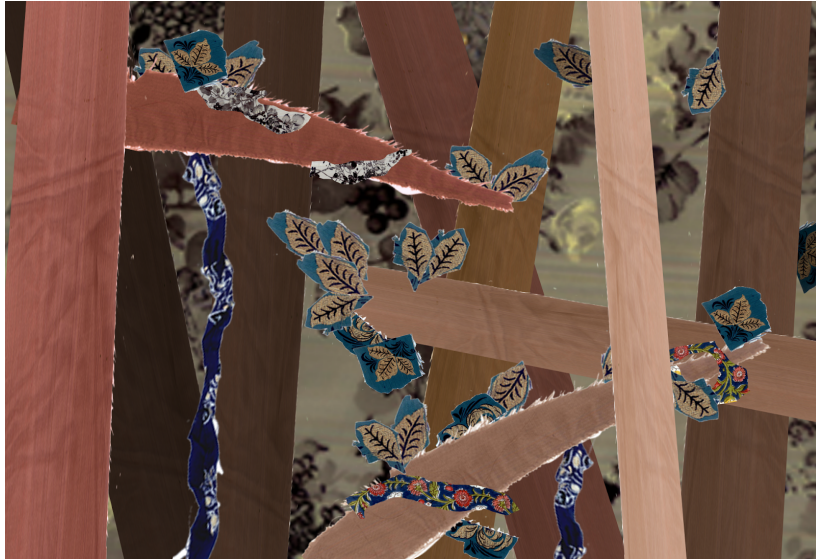
From my interviews with birdwatchers, I could collect information about locations on campus that are hotspots for many birds. This helped me create a list of locations and capture photographs of these places. These explorations and photographs later helped me compose the background for the final illustrations.



















## 7. Final book

### 7.1 Final visual style

While creating my mood board, I came across the french artist *Henri Rousseau*<sup>10</sup>. His works attracted my attention and helped me come up with a visual style that stood out from the others.

Two illustrated books introduced to me by my guide *When Crows are White* by Jerry Pinto and Garima Gupta<sup>11</sup> and *My Godri Anthology* by Merle Almeida and Nina Sabnani<sup>12</sup>, also helped me in the exploration stages.

Blackburn brush in Procreate was used to create the final illustrations. All the final illustrations were created in the procreate app on Apple Ipad. The book was arranged in Adobe Illustrator and Photoshop and printed on 300 gsm textured paper in A5 size.

### 7.2 Book layout

The final book consists of Twenty birds listed according to their size, from the smallest to the largest. The book starts with an introduction page which explains the book's purpose and context. It is followed by a content section which is also a quick-access field guide. This contains the name, illustration, color, areas usually spotted, and a QR code that will take the readers to more information.

Next is the narrative part. Each bird is in a different section. Each bird has a text part on the left side with one paragraph about the bird's behavior and stories collected from personal

stories or birdwatchers. The following paragraph is about how to identify sections with scientific information. The illustration is divided into two parts. One illustration on a transparent paper will cover the main illustration based on the first paragraph on the left. The main illustration will have the bird in the background, where it is usually spotted doing daily activities.

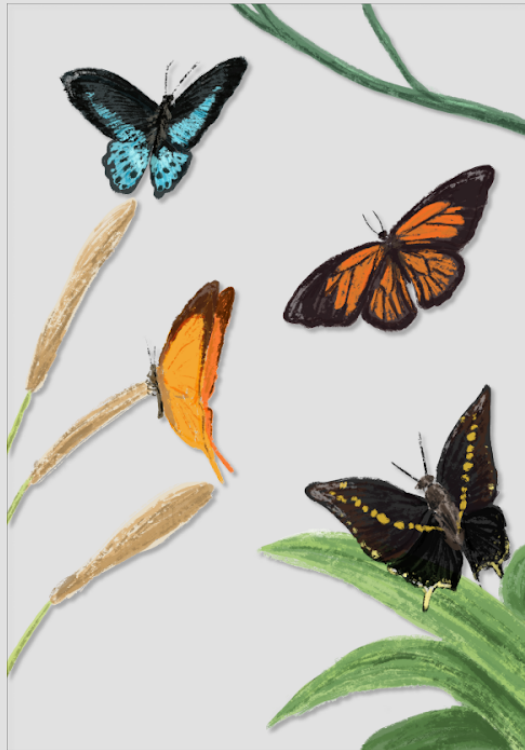
*(The complete text for all twenty birds is added in the appendix)*



### *Red-Whiskered Bulbul*

These teenagers with cool hairstyles think they are the rowdies of the region. Bulbuls have very strong senses because whenever there are fruits ripe on a tree, they will be attacked first by a bunch of Bulbuls.

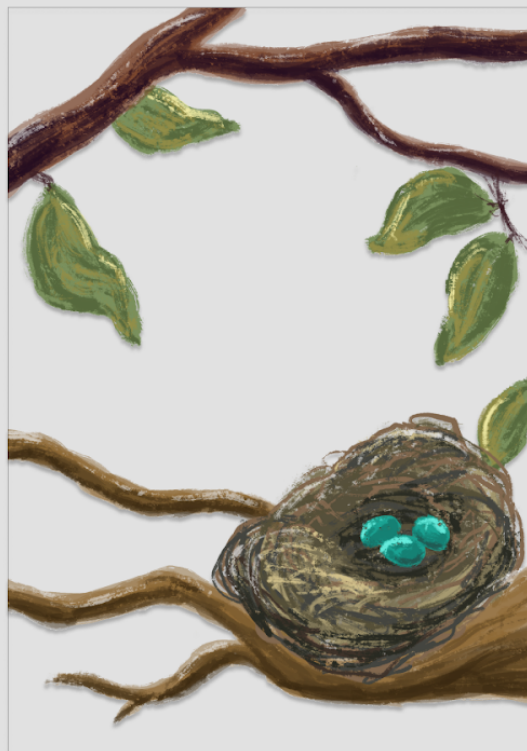
There are three types of Bulbuls on campus - The Red-Vented, Red-Whiskered, and White-Browed. You can identify a Red-Whiskered with a red patch on its cheeks and on its tiny bum. They have brown wings above and white underneath, with a black head and a spike. They are omnivores, and their favorite food is butterflies.



### *Jungle Babbler*

They have a secret party on campus, and no one knows what they are planning next. You can spot them as a group having daily meetings or chasing away Jacobin cuckoos who come to lay eggs in their nests. If you are out for a walk in the early morning, you can spot juveniles huddling together and they look so vulnerable and tender.

Jungle Babblers are gray and brown in color with a darker upper body and spots on the breast. They have short rounded wings, and because of this, they have weak flight and like to hop around. They like to stay in groups of six and more and chat. They are omnivores, and their diet includes insects, nectar, and berries. They nest on trees concealed with dense foliage and have greenish-blue eggs.









## 8. References

1. *Gray hornbills at dusk: Nature rambles through Delhi* by Bulbul Sharma -  
<https://www.goodreads.com/en/book/show/23702462-gray-hornbills-at-dusk>
2. *Cities and Canopies: Trees in Indian cities* by Harini Nagendra -  
<https://www.goodreads.com/en/book/show/45839260-cities-and-canopies>
3. *WWF India birds in your backyard and beyond* -  
<https://www.goodreads.com/book/show/52065400-birds-in-your-backyard-and-beyond>
4. *The Field Guide to Dumb Birds of North America* by Matt Kracht -  
<https://www.goodreads.com/book/show/41188319-the-field-guide-to-dumb-birds-of-north-america>
5. *Xeno canto* - <https://xeno-canto.org/>
6. *Macaulay Library* - <https://www.macaulaylibrary.org/>
7. *Ebird* - <https://ebird.org/home>
8. *BNHS* - <https://www.bnhs.org/>
9. *Cornell lab of ornithology* -  
<https://www.birds.cornell.edu/home/>
10. *Henri Rousseau* -  
<https://artsandculture.google.com/entity/henri-rousseau/m02rdf6?hl=en>
11. *When Crows are White* by Jerry Pinto and Garima Gupta -  
<https://www.goodreads.com/en/book/show/17256060-when-crows-are-white>
12. *My Godri Anthology* by Merle Almeida and Nina Sabnani -  
<https://www.bookwormgoa.in/bookworm-publishing/my-godri-anthology/>

## 9. Appendix

### 9.1 Texts from the book

#### *Common Myna*

You cannot not spot a Myna. They are everywhere on campus. They can be seen taking morning and evening walks across all the roads and lawns on campus. They walk with their hands at the back and heads moving back and forth like they are having a critical discussion.

You can identify them with their yellow beak and patch around their eyes. When they open their wings, you can see a beautiful set of white feathers underneath. They are from the starling family and love to stay with their group.

Mynas are omnivores and eat everything that they find tasty.

Always spot two mynas since it is believed that spotting just one brings bad luck.

#### *White-breasted Waterhen*

Guess who are the shyest birds on campus. Whenever I am walking through the Soneri Baug and spot one of them immediately, they run and hide in the bushes. Many live in the Soneri Baug, Kol Dongri, and even Sameer hill, where there is no water.

They have a dark gray upper body and white from face to belly. Waterhens are omnivores who love eating insects, frogs, and mollusks. They like to roam around alone and are survivors. They make their nest on marshes, but it was surprising to see a pair living in the Sameer hill area with their nests in the trees.

#### *Red-whiskered bulbul*

These teenagers with cool hairstyles think they are the rowdies of the region. Bulbuls have powerful senses because whenever there are fruits ripe on a tree, they will be attacked first by a bunch of Bulbuls.

There are three types of Bulbuls on campus - the red-vented, red-whiskered, and white-browed.

You can identify a red-whiskered with a red patch on its cheeks and on its tiny bum. They have brown wings above and white underneath, with a black head and a spike.

They are omnivores, and their favorite food is butterflies.

#### *Jungle babblers*

They have a private party on campus, and no one knows what they are planning next. You can spot them as a group having daily meetings or chasing away Jacobin cuckoos who come to lay eggs in their nests. Suppose you are out for a walk in the early morning. In that case, you can spot juveniles huddling together and they look so vulnerable and tender.

Jungle Babblers are gray and brown, with a darker upper body and spots on the breast. They have short rounded wings, and

because of this, they have weak flight and like to hop around. They like to stay in groups of six and more and chat. They are omnivores, and their diet includes insects, nectar, and berries. They nest on trees concealed with dense foliage and have greenish-blue eggs.

### ***Parakeets***

You can hear their chirp all around campus when they fly around with their groups or camouflage in the canopies. They remind me of kids who like to fly around shouting and screaming, having fun with their friends. I love going to the roofs of buildings around campus and seeing them fly past you really close, left and right.

There are three types of parakeets on campus, Rose Ringed, Alexandrine, and Plum-headed parakeets. Plum-headed is the smallest in size, with males having pinkish purple heads and females gray heads. They also have a small red patch on the wings and are spotted more in the Sameer hill area. The rose-ringed parakeets have a black and rose ring around their neck and are the largest in number on campus. Alexandrine is the largest among the three and can be spotted with its ringed neck and red patch on the wings. They can be seen around the hostel 8 areas on the lakeside road.

### ***Oriental magpie robin***

They can be seen hopping around with their tails upright and singing their beautiful melodies all around campus. Oh, and

their tail movements are often in sync with their songs. OMR, as it is called in short form, is also an excellent mimic. They like to have fun by copying the sounds of other birds and confusing the birdwatchers.

Oriental magpie robins are around 20 cm in length. They have a black upper body, white underneath, and a broad white line running from the shoulder to the tip of the wing. Females are grayish instead of the black upper body. OMRs belong to the Old World flycatcher family and are carnivores.

### ***Greater Coucal***

Sometimes I wonder why some of these birds have wings. The list of birds that like to walk more than fly goes on with the addition of The greater coucal, also called the crow pheasant. They can be seen walking around the campus wearing copper cloaks-looking wings.

Don't mistake them for crows or pheasants because of the name. They belong to the cuckoo family and are not parasitic like their cousins. They build their own nests, and the males raise the young ones. They can be spotted by their black color body and rusty wings walking around gardens and flying onto a branch only when they sense danger. They are omnivores and like feeding on insects and lizards.

Sighting greater coucal or hearing their call on departure is considered to bring good luck in many parts of India.

### ***Indian paradise flycatcher***

Oh, you are lucky if you have spotted an Indian paradise flycatcher male white morph. Its bluish-black crest and the way it flies around waving long white tails make it a campus celebrity. This is the bird that made me take up bird watching seriously. Watching them fly around waving their white ribbon-like tail through the wise old mango tree branches was a jaw-dropping experience.

Indian paradise flycatchers can be spotted along the Soneri baug and Sameer hill areas on the IIT Bombay campus. There are two color variations for these glam kings, Rufous and white. Males below 4 years of age are rufous, and some morph to white later as they grow. The females are all rufous and lack the long ribbon-like tail. These long tails attract the females during the mating season, during which these birds migrate to other locations with suitable conditions. They are carnivores and love to feed on a variety of insects.

Oh, also, don't mistake them for Bulbuls because of their crest.

### ***Crows***

Who does not love crows? They are everywhere and, along with us, helping us keep our campus clean. Crows are one of the most intelligent birds. Birdwatchers have seen them hide food among bushes, collect it later, and also signal other crows from their murder about resources. You can also see them chasing away outsiders in the group and other rare visitors like monkeys, barn owls, and peacocks.

But do you know there are two types of crows among them?

In the campus habitat, there are House crows and Jungle crows. House crows are the ones we usually see with gray bodies and black heads and wings. On the other hand, Jungle crows are larger in size, with a more prominent beak and an entirely black body. Both these birds are seen all over campus, with jungle crows more in the Sameer hill area.

Just look out for the differences next time you spot a crow.

It is believed that you will have guests over if u hear a crow cawing continuously near your kitchen.

### ***Black Kites***

Take care of your head when you go close to a black kite or its nest. Even a hat won't save you; they will grab it and fly away, said a senior birdwatcher who experienced it on his usual lakeside walk. I, too, have had an experience where a protective pair came and scratched my head while saving a kite stuck on a tree. Black kites are the largest in the population of birds of prey at IIT Bombay.

You can spot them all around campus, gliding in circles with their long forked tails and angled wings. From a distance, they appear almost black, but they are actually dark brown in color, with light brown scattered all over the body. Their nests can be spotted on tall rain trees and copper pods even near buildings on campus. They feed on small birds, lizards, small mammals, and insects by hunting or scavenging.

### ***Spot breasted Fantails***

They are quick and restless, so you must carefully look for them while walking along the lakeside road and the Sameer hill area. Even though they are tiny, they have been seen chasing away giant birds like crows and kites from coming close to their nests. Seeing them move their tails quickly like a fan is pretty.

They have a brownish-gray upper part, a dark head with a white throat, and white eyebrows. They have a melodious call that can be heard repeating whenever they are nearby. They have been seen nesting near human habitats on the campus. Fantails love feeding on insects which include dragonflies, beetles, crickets, grasshoppers, and ants.

### ***Cattle egrets***

As their name says they are like cattle walking around on grassland feeding on whatever they find. They can be seen accompanying cows grazing in the Soneri baug. A cattle egret in flight is a beautiful sight to look out for.

On campus, cattle egrets can be seen walking around the Gymkhana grounds and lakeside road. Cattle egrets are beautiful birds with white plumage and peach color change during the breeding season. The color change also happens on their bills, eyes, and legs, which turn orange and red during this period. They follow cattle to feed on the insects, which are moved out of the grass with their hooves.

### ***Asian Koel***

Some may find it annoying, but I find it beautiful and try to sing along when I hear a koel's call. Koo, Kooo. Only the male makes this beautiful call while the females do shrill. They are the romantic couples on campus. Whenever I am out for a walk around the lakeside, I see them sitting on tall branches, calling out loud for their love.

Asian koels belong to the cuckoo family and are brood parasites. They love to lay eggs in crow nests, and crows are too nice to raise their young ones even though the babies are distinctly not crow-like. The males are bluish-black, and the females' have dark brown plumage with white spots all over them. Both the male and female have beautiful red eyes. Koels are omnivores and love eating fruits.

### ***Grey Hornbill***

The great Indian hornbill is the one bird I really want to see. When I saw a gray hornbill on a tall raintree near the gymkhana grounds I kept looking at them for a long time. They kept flying from one branch to another, looking for fruits to feed. There was once a nest near the central library, which the campus birdwatching community saved from being cut down.

Gray hornbills have light gray plumage, with the area near the bill darker in color. They have a smaller crown that is pointed. They nest on tall tree holes, and once the female is inside the nest, they cover it entirely, leaving just a tiny gap for feeding.

Males collect food and feed them through the hole, and during this period, they become omnivores.

They are also intelligent and clean the nests by pooping on leaves and tree barks and throwing them outside.

### ***Spotted Owlets***

Adult spotted owlets look like babies, and that's what I thought when I first saw one peeping out of a tree hole. I thought they were baby owls sitting, scared and vulnerable, waiting for their parents to come with food. But no they just look cute but they are fighters. They are haunted away by mynas and crows, and they fight back by scaring them away by rotating their head. Once they choose a place to nest, they love to stay there for a long time or till it gets dangerous for them to stay.

Spotted owlets have grayish-brown upper bodies and white spots all over. They have big round yellow eyes and keep staring at you whenever you are nearby. They are usually seen in groups roosting in a tree or rock holes and building cavities. Spotted owlets are nocturnal creatures and hunt insects and small vertebrates.

### ***Drongo***

Kakkathamburatti, which means queen of crows, is what drongos are called in Malayalam, an apt name for these beautiful blackbirds. They are also called watchmen of birds because they help other birds by warning them about predators and other possible dangers. Drongos are also great mimicry

artists and give birdwatchers a hard time by imitating other birds and even man-made sounds.

IIT Bombay campus is home to two types of drongos, Black and ashy. Black drongo has a white patch under their eyes on a whole black body. While ashy drongos lack the white patch but have deep red eyes and full glossy black plumage. Both birds have fork-shaped tails. Drongos are insectivores and can be seen having fights with other flycatchers for food.

### ***Flameback Woodpeckers and rufous Woodpeckers***

There are two types of woodpeckers on campus, Black-rumped Flameback, and Rufous. Flameback are commonly sighted on campus, while the latter are more exotic. These carpenters have been spotted having fights with mynas near the Kshitiz park.

The Black-rumped Flameback Woodpeckers have a really cool drip. They have a golden yellow wing with a black rump and white underneath. Their heads are whitish with black napes and throats. The males have a red crown, while the females have a black one. Coming to rufous woodpeckers, they have reddish-brown plumage, dark spots throughout the body, and a tiny crest. Woodpeckers have a long sticky tongue using which they catch termites from holes in tree bark.

### ***Indian Golden Oriole***

Indian golden orioles are so pretty they will win the beauty contest of campus birds. The Golden orioles can be seen standing majestically like they do in Mughal miniature

paintings around campus during the winter months, from September to October. They move to the north before the monsoon and come back every year by the end of the rains.

Golden orioles have a deep yellow all over the body, black eye stripes extending behind the eyes, and black wings and spots on the underside. They have a sharp whistle-like call and are community birds. Orioles are omnivores and feed on fruits, nectars, and insects.

### ***Little black cormorant***

Look for a blackbird doing stretches and yoga near the lakeside or guesthouse pond. These are the little black cormorants. They like to stand with their wings wide open to let them dry before going into the water again for a swim.

They have a full black plumage and a glossy greenish color change with white spots here and there during mating season. They can also be seen flying around in groups in v shapes. Cormorants are carnivores and hunt underwater by diving for fish. They can be spotted along the Soneri baug and also near the Jalavihar pond.

### ***Spotted dove***

Spotted doves are one of the most elegant birds on campus. They are very well kept and can be seen on their walks alone on the roadside along the Soneri baug. I haven't seen them interacting with other birds; maybe they are introverts.

A fellow birdwatcher shared a story where spotted doves could not eat grains from a bird feeder because of tiny beaks. They found a way of waiting below it for a parakeet or squirrel to land on the feeder and shake it to make the grains fall down.

Spotted doves are light brown above with black and white spotted back and wings. They have a gray head and neck with a pinkish underbody. They are commonly seen around the Soneri baug and Sameer hill area and have a softer and rhythmic call. They are herbivores and love to feed on grains and seeds.

---