



# Behavioral and Habitat study Of Kingfisher bird (*Halcyon smyrnensis*).

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**Abstract :** This study has been undertaken to investigate the social behavior in *Halcyon smyrnensis* (White Throated Kingfisher bird). The small size, Red long pointed beak, white patch on throat and blue colored feathers these are the special features to recognize the *Halcyon smyrnensis*. The study carried out at near about places of water reservoir in Solapur city (Maharashtra). Solapur city is rich in bird diversity. Many birds are seen in city area in search of food and in search of places for their nests. The area surrounding water reservoirs is the main habitat of all birds. The *Halcyon Smyrnensis* live in burrows near water bodies and seen sitting on trees or on wire in search of food. During survey repetitively it found that the bird seen at one specific place at fixed time. So it suggests that the every Kingfisher bird has its fixed territory. The bird eat fishes, worms, dragonflies, grasshopper, beetles etc. The type of hunting is sit and wait. Bird take care of its juveniles till they mature and become able to fly. White Throated Kingfisher always seen alone, but during mating time they seen in pairs; they never live in group or community. They never take part in any group activity. The male birds make the specific mating calls to attract females. Area surrounding water bodies is the main habitat of White Throated Kingfisher.

**Index Terms –** *Halcyon Smyrnensis*/White Throated Kingfisher, Habitat, Social behavior, Alone, Parenting, Lakes, Capture.

**INTRODUCTION –** Birds are the beautiful creation of nature. They distributed everywhere with their diverse ecological functions in different types of ecosystems, their important role in controlling pest in agriculture and forests, rodent control, pollination in plant's, seed dispersal activities etc. Birds are indicators of any changes in environment. Any change in bird habitat directly affects on their number. Natural habitat of birds have rich bird diversity but due to pollution, deforestation, construction natural habitat is in danger. Due to which bird number is reducing day by day.

India rank among 9 in world bird diversity ranking. In India 1364 bird species are found. Kingfisher bird species are distributed all over the India. Three species are found in India are Tree Kingfisher, Water Kingfisher and River Kingfisher. In Solapur city mostly tree kingfisher that is White Throated Kingfisher (*Halcyon symymensis*) is found everywhere. The study is done in Solapur city(Maharashtra). Solapur district is rich in bird diversity, every year during winter season many migratory birds visits the city. Solapur city geographic coordinates are 17.68°N, 75.92°E. Solapur district falls under grassland area and climate is dry. In summer temperature ranges from 35 to 45°C. City receive an average rainfall of 545 mm per year. Due to urbanization grassland area, area surrounding water bodies is getting occupied by humans. 20/30 years ago the area surrounding the Sambhaji lake is covered with plants, but now the whole lake is surrounded by buildings.

The survey is done at Siddheshwar lake, Sambhaji lake, Hipparga lake, Smruti udyan and Siddheshwar forest. Birds are more active in morning and evening time so the survey done at morning time. The White Throated Kingfisher bird is seen everywhere but easily found near the water bodies. During study I observed many different activities of bird and noted it's special behavioural characteristics.

## RESEARCH METHODOLOGY –

**Study area -** Study is done at the

1.Siddheshwar lake – Is situated at the center of city, at the center of lake Siddheshwar temple is present and lake is surrounded by large number of trees, Bhuikot fort and residential area. Lake geographic coordinates is 17°40'30 N & 75°54'28.05 E.

2.Sambhaji lake – Is present north to the city. Geographic coordinates of the lake is 17°38'52°N & 75°54'14°E. In the past the lake is present outside the city but due to increasing population and urbanization now the lake is surrounded by the residential area. Lake distance from city center is 4 km.

3.Smruti udyan – Is present near to the Sambhaji lake. It is spread in 52-acre area. Geographic coordinates 17.6431571 N 75.9079702 E. In this area different trees are planted. There is rich diversity of trees and birds.

4.Siddheshwar forest – It is dry tropical forest type. Forest geographic coordinates is 17°37'43" N & 75°53'2" E. The forest area is spread over 200-acre area. Different bird species are present in this area.

5.Hipparga Lake – Geographic coordinates is 17°44'02.1" N & 75°55'03" E. It is the second largest irrigation project in the entire region of Deccan. It is rich in different bird diversity and different migratory birds visit the lake each year.

**Methodology** - The study was conducted by visiting the all-study areas at different times (at morning & evening time) and noted the observations regarding its habitat places, nests and it's behavior. The survey was carried (for one month), mid of April (2022) to end of May (2022) this period is most active because this is a breeding period of Kingfisher. Kingfisher birds photographs are taken by Canon EOS 1300D camera. Kingfisher's different activities are observed and captured in camera.

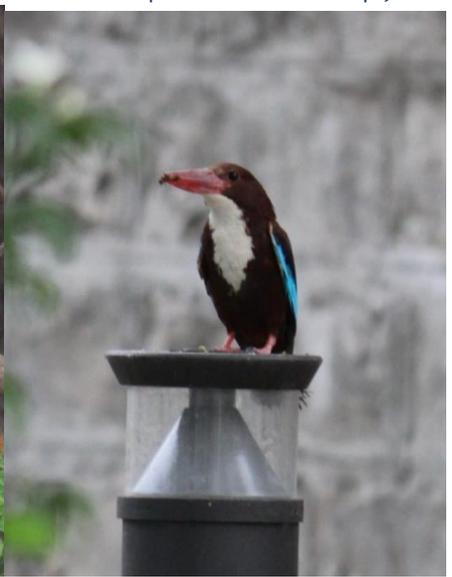
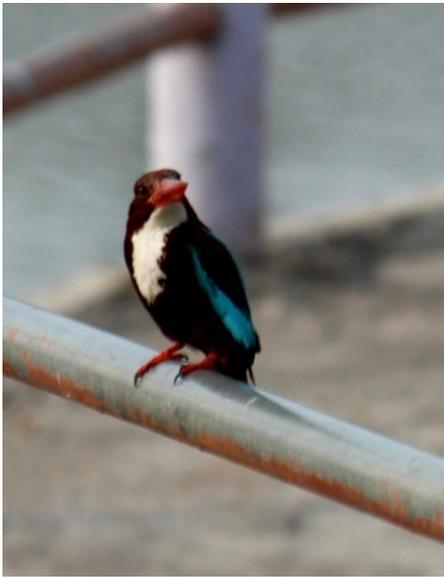


Study area (Google map).



Bird siting on pole in search of food





Swallowing fish

Nest

Photography by – Shreya Paramshetti

**RESULTS AND DISCUSSION -**

White throated kingfisher is seen everywhere in the city. It mostly seen in city area in the morning and evening time sitting on tree branches or on street light pole or on wires in search of food. The bird is small in size. It has bright orange-red colored beak and legs. Beak is long and pointed at front. White patch is seen on throat part. Red long pointed beak and white patch on throat is the distinguishing characteristic of bird. Tail and feathers are bright blue in color and white patches are seen on wings. Both sexes appear similar. It observed that White throated kingfisher lives in pair. They form their nest near the water bodies as they find food there easily. They form burrows or live in the holes of old buildings. It found that in these birds both male and female equally take care of their juveniles. When their juveniles are very small they can't fly then the both male and female birds feed them, it also seen that the parent birds always sit near their nest area to protect their juveniles from predators. They are vocal birds their call includes a repetition of high pitched KRICH-KRICH tones, produces 1 note in one second. When bird produce sound, its tail is moving in front and back direction. The male bird produces the mating calls to attract female bird and it shows its colorful feathers to female by spreading its wings.

The bird eat fish, ant, dragonfly, frog, lizard, earthworm, grasshopper, centipedes, cricket, beetles, termites and many other small insects. They are mostly seen eating insects. During preying bird quietly sit on tree branches or on poles or on wires and wait for right time to catch the prey. During survey it seen that the every bird has its own territory, the bird always seen at fix place on same time. Their type of hunting is sit-and-wait. Sometimes it seen that they sit at one place for 20-25 minutes in search of prey. Kingfisher catch the prey alone, they never seen in groups during preying. The process of catching prey is very fast, in the fraction of seconds they catch the prey. To catch the prey, they dive into water or in grass, they also catch the flying insects. When kingfisher catch the prey in beak, then they kill the prey by bashing it on hard place and then it swallows the prey. It also seen that the birds have fixed places and time for searching food. During study it seen repeatedly that the bird always sit on its fixed place at same time in search of food. The bird capture the fishes, it can see the fishes from long distance. Their eyes form very clear image of prey in air and water from long distance, it helps them in preying. White Throated Kingfisher does not live in group it doesn't show any special social behavior. The bird never seen doing any group activity.

**CONCLUSION –**

From the study I conclude that the main habitat of White Throated Kingfisher is places near water bodies. And richness of bird diversity in Solapur City is only due to the water reservoirs. So to preserve the diversity we have to take care of water bodies. But due to urbanization, increasing population, increasing pollution and temperature and decreasing plantation the bird diversity is under danger. In City area many exotic plants are grown because of their fast growth, easy establishment and to get many byproducts of trees because of this natural habitat of birds is degrading.

The eutrophication ( uncontrolled growth of water hyacinth) in Sambhaji lake , Siddheshwar lake is the another cause for decreasing water quality which directly affects the number of fishes, insects and other small aquatic animals. Because of this insectivorous and omnivorous bird species get affected. So if we take major actions now to preserve water bodies then only we are able to preserve our cities bird diversity.

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**REFERENCES –**

- Rhett A. Butler (July 1, 2019) Total number of bird species by country. Encyclopedia.com  
70247333- Survey of avifauna of Bahula dam fit near about areas of Panchora Jalgaon Maharashtra India.  
M.S. Nilange, V.J. Kharade and A.C. Kumbhar Seasonal diversity of birds in Siddheshwar lake, Solapur.

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