

Shamukh Khol: The Snail Eating Stork



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Introduction

Our Earth is blessed with many creatures living in their natural habitat, such as fishes living under the water, mammals and other terrestrial beings on land, while birds roam the skies. One such bird is the Asian openbill stork, and a rather unusual one at that. Instead of the typical, carnivorous stork diet of fishes, small mammals and amphibians, its beak is adapted for feeding on snails and other mollusks. A small gap is present in between the arched upper mandible and the recurved lower mandible of the bird. This gap is essential (and also their most distinctive feature), as it helps their beaks to pry open the shells and crack them open. As its name would suggest, it is commonly found in the Indian subcontinent and Southeast Asia. Despite the fact they reside within their range, they would make long distance travels for better food availability and satisfactory weather conditions, to specific places during breeding purposes.

Characteristics, Behavior, Life and Diet

They are identified as medium-sized storks, having 68 to 81 cm average body length, with a wingspan ranging from 147 to 149, and weighing about 1.3 kg to 8.9 kg. Their plumage have a greyish or pale color, with a forked black tail and black tails. They also have pinkish to grey legs. Their distinct open bills are yellow grey in color. Their aforementioned bills have structure similar that of a brush, which gives them a better edge on the shell of snails. Male and female storks are sexually monomorphic, meaning that they only show slight variations in morphology. Young birds are differentiated from adults, as they have brown traces in their plumage.



Asian Openbill Stork- *Anastomus oscitans*
(Source:Chandan Kumar Ghosh)

The bird has a gray plumage in the non-breeding season and a white-black plumage during the breeding season. During the non-breeding season they lose their glossy black wings and the green-purple sheen. These birds are migratory and are active during the daytime (diurnal) rather than at night (nocturnal). Their long flights are supported by moving between the thermals of hot air. They create large nesting colonies in trees with other waterbirds and storks, like herons, meaning they are highly social. Therefore, they build their nests closer to their colonies so as to defend them from possible predators. Their vocalization is minimum due to their absence of syrinx muscles (syrinx is the vocal organs of the birds). So, rather than calling, they would utilize bill-clattering as their primary means of communication, most importantly, during the breeding season.

Asian Openbills take flight with their neck outstretched like most storks. These birds arrive in flocks of two to three dozens and occupy wetlands or semi aquatic habitats. They prefer shallow aquatic habitats rather than deep ponds or lakes. The breeding season for Openbills in the Indian Subcontinent is November to March, and they might stop breeding in drought years. The birds breed colonially, and build a rough platform using leaves, grasses, branches, twigs and sticks, and typically lay two to four eggs.

The male bird show their nest-building skills, luring the female to possible nest-building sites and manipulating materials for nest-building. The females choose capable nest-builders so that they can save their energy and maintain a good physique for supporting the reproductive costs. The males may also have a polygynous association, with two females who might lay their eggs in the same nest. The nesting is shared by egrets, cormorants, or darters. Both the male and the female take equal responsibility in hatching, fledging, protection and they even take turns for incubation, with the egg hatching after about 25 days. The chicks emerge with cream color and are shaded by the loosely outstretched and loose wings of the parent. As nestlings, they are completely dependent on the parents through fledgling at 35 to 36 days and continue to remain dependent on their parents until they mature sexually at day 60. Asian Openbills live for 20-30 years, with one of them reportedly surviving in captivity for 18 years.

As they are carnivorous, their primary diet consists of invertebrates such crabs, worms, frogs, fish, and golden apple snails. They usually feed alone, but they form flocks in area with large quantities of food. They wade in water and spot their prey, using sight and touch to sense the environment around them. Asian Openbills swallow their prey whole, but they use their sharp and unique bills to crush and pry open preys with hard-shells like crabs to extract their flesh, and like most storks, they walk steadily and slowly on the ground while feeding on their prey. Since their primary diet are mollusks, they can also be identified as molloscovore.

Scientific Classification:-**Kingdom:** Animalia**Phylum:** Chordata**Class:** Aves**Order:** Ciconiiformes**Family:** Ciconiidae**Genus:** Anastomus**Species:** *A. oscitans*

Their genus ‘Anastomus’ name comes from the Ancient Greek ‘anastomoo’, meaning “wide-open mouth”. The species name ‘oscitans’ comes from the Latin word for yawning; ‘oscitare’.

Distribution

Asian Openbills are found in the Southeast Asia and in the Indian Subcontinent. They are also found in Sri Lanka and parts of Indochina, including Thailand and Myanmar. In India then, these birds are a resident breeder there, most prominently in the northern plains from Gujarat to Assam Valley, and also in West Bengal, where the Raiganj Bird Sanctuary, in Uttar Dinajpur, is identified to be a known breeding site for Asian Openbills. Thus, it is referred to as “Shamukh Khol”, where Shamukh means ‘snail’ and ‘khol’ meaning “to open” in Bengali. However, there is been recent reports stating that the species have expanding its range southward in peninsular Malaysia, Singapore and Sumatra. However, these reports are yet to be established.

Contribution to ecosystem:

There are many, many ways the Asian Openbills contribute to the ecosystems:

Biological Control: They consume a large amount of golden apple snails, which are a significant pest in rice paddies, thus acting as a natural pest control.

Wetland Health: Since their habitat is in the wetlands, their presence indicates as the overall health of the ecosystem, as they rely on a lot of wetland habitats for breeding and foraging. They are an excellent tool to check an ecosystem’s health, and their decline leads to environmental decline.

Nutrient Cycling: Openbill dropping are rich in nitrogen and phosphorus, acting as the natural fertilizer for wetland plants.

Food Web Link: The droppings lead to more plant health, leading to more planting growth, which gives rise to more population of fish and crabs, which are consumed by then consumed by the Openbill itself, which creates a food web.



Source: Chandan Kumar Ghosh

Conclusion

The Asian Openbill, is classified by the IUCN Red List as “Least Concern”, which means that the species is not facing a high risk of extinction. However, it faces significant threats from poachers, as they are seen as delicacies and are thus sold for high prices. Invasive weed species can choke wetlands, leading to reduced water flow and causes drying of wetland habitat. Buffaloes tend to destroy wetland habitat. Fishing reduces the food source of Asian Openbills. Pesticides used by farmers increases the mortality rate among the species. They also use rockets, polythene bags, etc, to scare storks away. Furthermore, the wetlands are getting acquired by governments for developmental purposes. However, in the recent times, several measure are taken by the government to conserve Asian Openbills.

Strict laws are put in place to reduce the poaching of Openbills and fishing in wetland habitats. The government as has also strived to increase awareness by offering educational classes and transforming wetland reserves into eco-tourism sites. Interestingly, various conservation sites are set up by former poachers, who in turn, are also successful in recruiting other poachers, assuring them of an alternate source of income. All these measures inspire and aware the general populace about the Asian Openbills, and in turn motivating us to conserve many other important species of animals, and conserve our ecosystem.

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