



# Welcome

C V A S U





**Hornbill**

ধানেশ

# Contents

**This presentation will give ideas about hornbill on their ----**

- **Taxonomy and distribution**
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# Taxonomy

Kingdom: Animalia

Phylum: Chordata

Class: Aves

Order: Bucerotiformes

**Family: Bucerotidae**



Bucerotidae family birds are called as hornbills. Here the bucerotidae word come from **greek word 'Buceros'** which means '**Cow horn**'

Under Bucerotidae family, there are **14 genera** with **54 species**.



# General description

- Slender body with long tail
- 12 inches (red-billed dwarf hornbill) – 39 inches (southern ground hornbill) body length
- Dark eyes with long eyelashes
- Broad wing with about 6 ft. wingspan
- Big curved bill with horn like structure above it, called as '**Casque**'
- White, black, brown or grey colored feather with brightly colored feather in neck, bill, face, and casque.
- **Life span:** 35-50 years.



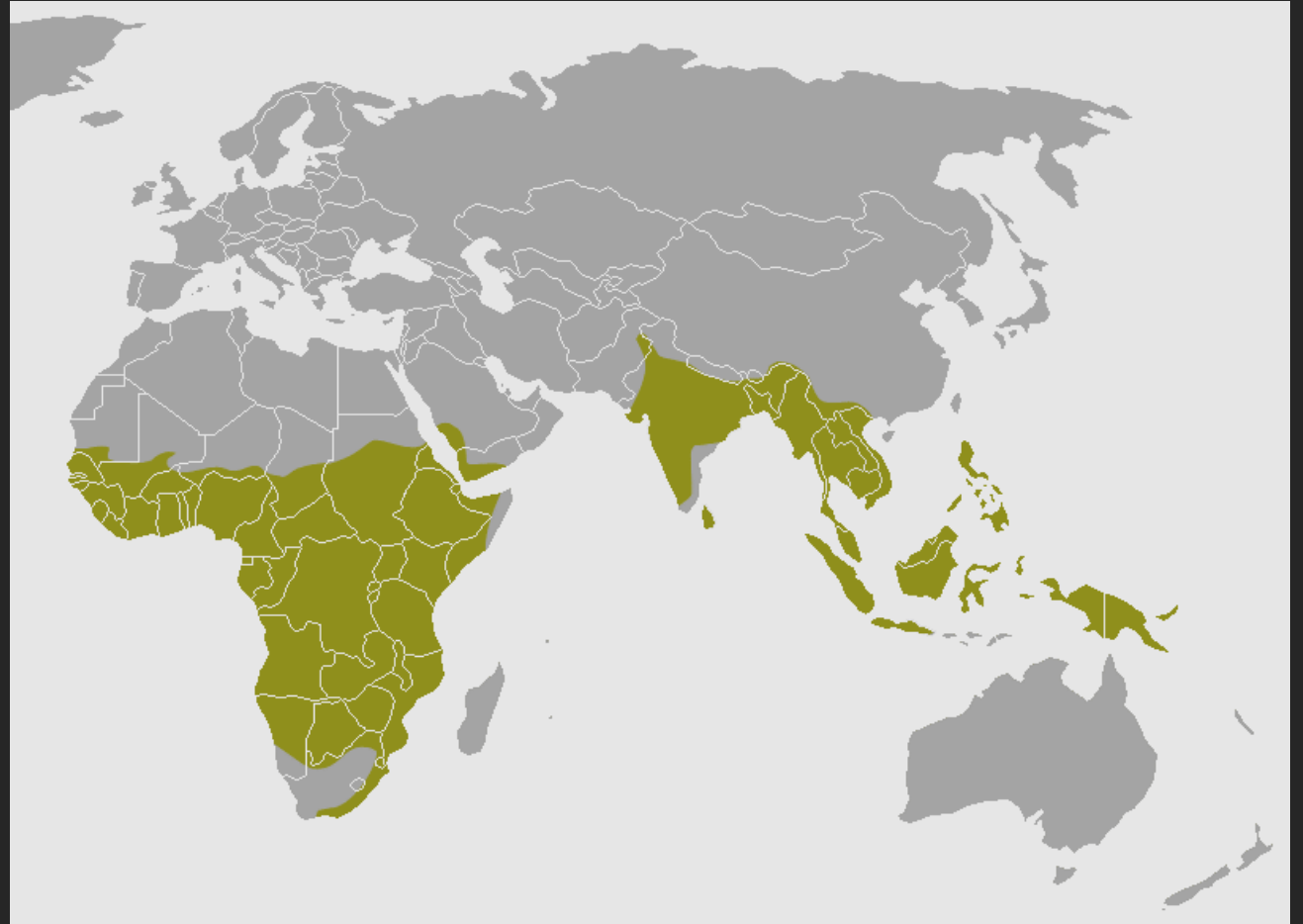
# Distribution of Hornbills

**Hornbills are found in -----**

Southeast Asia countries like India, Myanmar, Bangladesh, Butan, Nepal, Thailand etc., Africa with some in North America and South Europe.

In Bangladesh, 4 - 5 hornbills species are found in hilly areas like Chittagong hill tracts and Sylhet

**IUCN red list:** critically endangered (mostly)



*Fig: distribution of hornbills*

# Hornbills in Bangladesh

Hornbills	Scientific name	Characteristics
Rufous necked hornbill	<i>Aceros nipalensis</i>	size c. 120 cm; male with rufous neck, breast. Black above. Wings white tipped. Terminal half of tail white. Female all black except white wing tips and terminal half of tail.
Weathered hornbill পাতাটুটি ধানেশ	<i>Aceros undulatus</i>	size c. 100 cm; tail white. Male with naked throat with yellow patch in the middle. Female all black except white tail.
Oriental pied hornbill (indian pied hornbill) উদয়ী পাকরাধানেশ	<i>Anthracoceros albirostris</i>	size c. 90 cm. A black and white hornbill with massive yellow and black bill with a casque ending in a single point. Black outer tail feathers white tipped.
Great hornbill (great pied hornbill) রাজধানেশ	<i>Buceros bicornis</i>	size c. 130 cm. Bill large, horn shaped yellow and black with concave shaped casque. Wings black with two white bars, tail white with a black subterminal band
Indian grey hornbill (Grey hornbill) দেশি মেটে ধানেশ	<i>Ocyrceros birotis</i>	size c. 60 cm. Brownish grey with an enormous black and white curved bill surmounted by a casque.



**Rufous necked hornbill**



**Weathered hornbill**



**Oriental pied hornbill**



**Great hornbill  
(great pied hornbill)**

# 5 Hornbill Species in Bangladesh

**Indian grey hornbill  
(Grey hornbill)**





# Casque of hornbill

## Casque:

- A **hollow or spongy structure made out of keratin.**
- It is believed that this structure **acts as a vibrating chamber to make the hornbill's voice louder.**
- The calls made by the bird range from deep booming sounds as they begin foraging to brays, toots, bellows, and cackles.

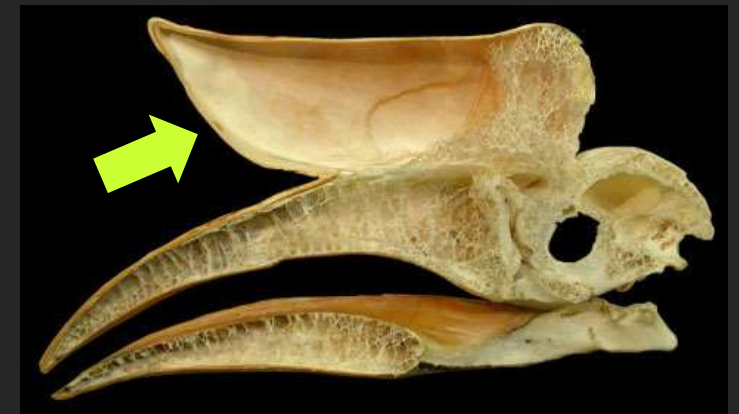


Fig: Rhinoceros hornbill casque anatomy

## Other special features

The weight of a hornbill's casque and bill are so heavy that **their first two neck vertebrae are fused** to support the weight.

Some hornbill species apply makeup! Their **bill is stained red-yellow and orange by preening oil from a gland at the base of their tail.**

**Southern ground hornbill** booms are so loud they are sometimes **mistaken for the roaring of lions.**



Fig: Southern ground hornbill

# Roosting and Social behavior

They are **diurnal** and fly with pair or in a small group but they roost in a large group for safety.

They mainly roost in the holes of the tree and **females are sealed up the hole entrance (with the regurgitated food, droppings and mud) remaining a small hole during egg lay and incubation.** At this time, male bring the food and feed the female through the hole upto chicks are half grownup.

But in case of **ground hornbill**, the don't seal the entrance and both parents incubate the eggs and feed the chicks.



*Fig: male hornbill feeding female one through hole*

# Feeding of Hornbill

Hornbills are **omnivorous** and live on tree fruits, insects and small animals.

**Northern hornbill and Southern ground hornbill are carnivorous** and eat mice, other rodents, frogs lizards and snakes.

The beak is longer than the tongue, so the they toss it back to throat with a jerk of head.

In feeding, they build a relationship with mongooses, monkey, elephant etc.

**Daily feed consumption:** 300-500 gm





# Reproduction

Most of the **hornbills are monogamous** and choose partner for life time. The male have to build trust by demonstrating his devotion by bringing foods.

**Sexual maturity:** 1year (small), 2-3 years (medium) and 3-6 years (large)

The females lay egg upto 2 (in larger species) – 8 (in smaller species)

**incubation period** is 23 (small)-64 days (large)

The chicks are born **naked and pink colored with closed eyes**. The they fledges after 2 months and separate from parents in 4 months



*Fig: chick of hornbill (grey HB)*

# Restraining

Mainly hornbill restrains with physical method. It is **like the parrot restraining** procedures. But ensure-

- ✓ Room entrances are closed
- ✓ **Blind the eyes**
- ✓ **Bills are closed with tap or elastic band**  
**(As they have serrated upper jaw)**
- ✓ Towel can be used

**Chemical restraining:** rarely done. It can be done by diazepam (0.5-2mg/kg) or xylazine (1-2.2mg/kg). And general anesthesia with ketamine (20-50mg/kg alone or 10-20mg/kg IM with diazepam/xylazin) or propofol IV.

**Anesthesia:** general anesthesia. Good with gaseous anesthesia (isoflurane) than injectable anesthesia

# Disease & Management



# Disease & Management

Viral diseases	Bacterial disease	Fungal disease
Newcastle disease Avian pox Avian influenza Circoviral infection	Salmonellosis Pseudotuberculosis Colibacillosis Avian botulism	Aspergillosis Candiadiosis
Mycoplasmal infection	Protozoal infection	Parasitic diseases
Mycoplasma conjunctivitis	Trichomoniasis	Gapeworm infection Ascariasis Trichostongyliodes
Nutritional diseases	Others	External parasites
Iron storage disease	Bill- casque injury Chick death due to starvation Squamous cell carcinoma in casque	Lice, mites



# Disease & Management

Diseases	Etiology	Clinical signs	Treatment
Newcastle disease	Paramyxo virus	Greenish white diarrhea Torticollis Respiratory sings	No effective treatment Vaccination Proper management.
Avian pox	Pox virus	Dry black nodular lesion on unfeathered areas	No specific treatment. Topical antiseptic use. Vaccination. Proper management.
Salmonellosis	Salmonella spp	Bacillary white diarrhea Pasty vent Severe depression	Antibiotics (*enrofloxacin) Proper management
Colibacillosis	Escherichia coli	Acute death, septicemia Diarrhea	Antibiotics Proper management

# Disease & Management

Diseases	Etiology	Clinical signs	Treatment
Aspergillosis	Aspergillus fumigatus	Severe respiratory signs Severe depression	Antifungal drugs (Itraconazole for 3-6 month)
Candidiasis	Candida albicans	Whitish focal lesion on buccal cavity and oesophagus	Antifungal drug (nystatin)
Trichomoniasis	Trichomonas gallinae	Anorexia Dyspnea and dysphagia	Metronidazole (15-30mg/kg BID PO 7 D)
Internal parasites	Nematode (mainly)	Anorexia Dullness	Anthelmintics (Fenbendazole)
External parasites	Feather louse, mites	Lice and mites present	Permethrin (spray form) Carbamates
Iron storage disease	Too much iron accumulation in visceral organs	Labored breathing abdominal swelling and ascites	Reduce iron feed 1% blood removal per week

# References

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THANK  
YOU!



ANY QUESTION