



A typical large nest tree of the Malabar Pied Hornbill near a temple in a remote village. The male hornbill is seen on the nest which is a natural tree hollow.



Ficus fig.



Seed of *Strychnos nux vomica*. Reptile - *Callotes* sp.



The pulp of guava.

The nuts of the Fish-tail Palm *Caryota urens* or *Surmaad* are relished by the hornbill.

● **Distribution:** Peninsular India and Sri Lanka.

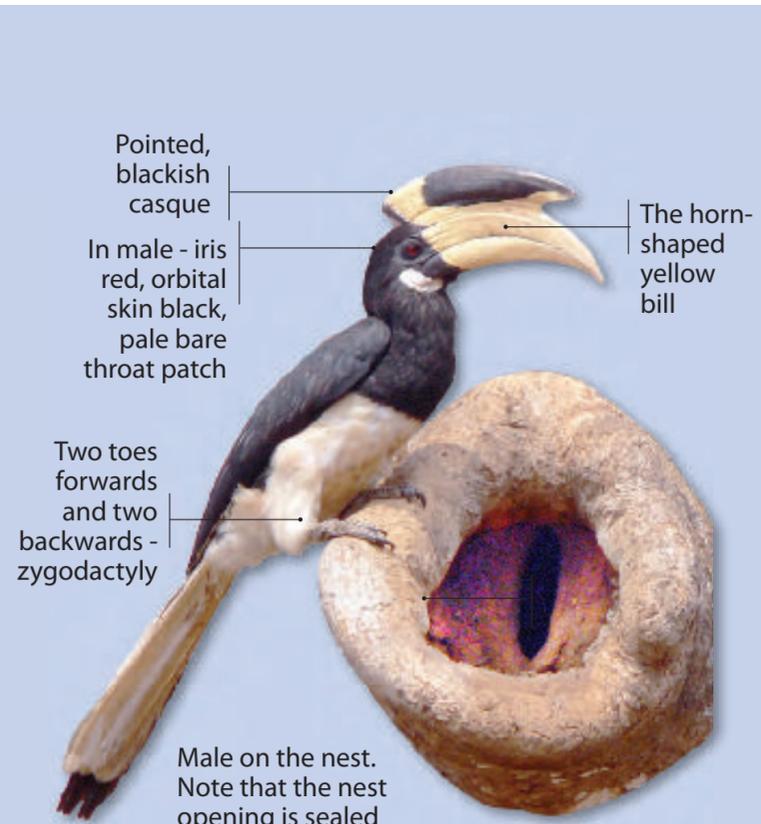
● **Habit:** Arboreal.

● **Habitat:** Evergreen and moist deciduous forests. Groves of mango, peepal, banyan and other fig trees, often near village outskirts. Avoid open country.

● **Behaviour:** These noisy birds are seen in pairs, family parties or flocks on fruiting trees. They come to the ground to eat small reptiles and fallen fruits and sweet gourd from farms. The flapping of their wings can be heard from far.

● **Food:** Fruits, small mammals (bats, rats, mice, shrews), birds and eggs, small reptiles, insects, etc. Fruits are picked from the trees or gleaned from the ground. Prey is killed and swallowed whole. During breeding, the male brings food for the female and nestlings, that are harboured inside the nest, after swallowing various items, later regurgitating them one by one, and passing them to the female from beak to beak, through the narrow slit-like opening of the nest cavity. To watch this phenomenon is a treat for the birdwatcher!

Various food items brought by the male for the female and the young. The male regurgitates 10 to 40 food items per visit!!



Pointed, blackish casque

In male - iris red, orbital skin black, pale bare throat patch

The horn-shaped yellow bill

Two toes forwards and two backwards - zygodactyly

Male on the nest. Note that the nest opening is sealed and only a slit is kept open.



Female has white orbital skin.



Male lacks the white orbital skin.



A bird-egg is passed by the male to the female as the yolk spills from the puncture.



Ground under the active nest is littered with seeds, prey remains and fecal droppings.



Male and female in courtship.



The female is inspecting the nest hollow.



Rare glimpse of the female entering the nest.



The male with a mud ball for sealing the nest



Female plastering the nest hole from inside.



Female coming out of the nest after the hatchlings are about six weeks old.

Some Other Indian Hornbills



Endemic Malabar Grey Hornbill *Ocyroceros griseus*



Brown Hornbill *Ptilolaemus austeni*



Great Pied Hornbill *Buceros bicornis*



Indian Grey Hornbill *Ocyroceros birostris*



Oriental Pied Hornbill *Anthraccoceros albirostris*



Wreathed Hornbill *Aceros nipalensis*



Endemic Narcondam Hornbill *Aceros narcondami*

● **Etymology:** *Anthraccoceros*: Greek *anthrax*, *anthracos* - coal; *keros* - a horn. Latin *coronatus* - crowned. The black coloured casque on the horn-like beak appears like a crown. (Pande, Satish (2009). Latin Names of Indian Birds Explained. BNHS, OUP)

● **Cultural aspects:** The upper mandible of the beak of the Great Pied Hornbill is traditionally worn as decorative head wear by the Nishi tribe from Arunachal Pradesh in North East India. This has led to a reduction in the hornbill populations. Today some tribes have agreed to use artificial beaks instead of true beaks that are obtained by hunting the hornbills.

In Sushrutsamhita (200 AD) the hornbill is called *Matrun-indak* (Sanskrit *matru*-mother; *ninda*-to ill treat) because of the imprisonment of the breeding female within the nest. The male feeds the female and young and usurps the duties of the mother.

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Mother Hornbill's Prison of Care !!



The female imprisons herself in the nest cavity from the time of laying of eggs till the eggs hatch and squabs become about six weeks old. Here, the beaks of the mother and chick are seen through the slit. Female molts feathers in the nest and throws them out of the nest.

The male feeds the occupants of the nest. The opening of the nest is sealed with mud, excreta, wood shavings, fruit pulp and saliva and a slit is left open. To maintain nest toilet, the fecal matter is 'machine gunned' from the dilated cloaca by approximating it to the nest opening. The hornbills probably use their large casque for thermoregulation in the natural tree hollow.



The wing pattern of the male hornbill is seen well as he approaches the nest with food.

FACT FILE : Malabar Pied Hornbill

Anthracoceros coronatus (Boddaert, 1783)

Garud, Kakner, (Marathi, Kokani), Dhanesh (UP), Irattai chondu kuruvi (Tamil); Vezhambal (Malayalam).

- **Type Locality:** Malabar.
- **Race:** *Anthracoceros coronatus coronata* in peninsular India and Sri Lanka.
- **Length:** Male - 92 cm. Female - Little smaller.
- **Wing:** 315-342 cm (M) 295-328 cm (F)
- **Weight:** About 1000 g.



- **Sexual Maturity:** Probably after 2 years.
- **Breeding Season:** March to April in India. April to July in Sri Lanka.
- **Clutch:** Probably 1 to 3 per year as indicated by number of

fledglings. No replacement clutch is laid.

- **Eggs:** 55 x 38 mm. White, smooth.
- **Incubation:** Only by female. about 31 - 33 days.
- **Life span:** Not known.



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Male hornbill approaching the nest as the female watches through the nest opening. Male with berry - inset.



Malabar Pied Hornbill

- **Order:** Coraciiformes ● **Family:** Bucerotidae
- **Status:** Near Threatened and Endemic to the Indian subcontinent.

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Conservation Through Education & Research

Juvenile lacks the beak casque !!



The juvenile hornbill (left) lacks the casque which is prominent in the adult (right).

- **Threats:** Hornbills, being large birds, need roomy natural tree hollows for nesting, to accommodate the female and young. Such hollows can be found only in large and old trees. Several such nest sites are traditional and are protected by caring people. However, as the breeding progresses much litter gathers under the active nest trees, from defecation and prey remains, and this annoys people, if such trees are located in their gardens. Unhygienic litter induces them to seal the natural tree hollows thereby driving the hornbills away. So also, large trees are fell for timber and firewood. Finding another suitable tree hollow for nesting is not easy. If new nest sites are not found again, the hornbills, even if capable of breeding, are effectively sterilized for want of nests.

- **Protection:** Identification of nest trees and protecting them is the most important requirement for hornbill conservation. Many nest trees are in private ownership and taking such owners into confidence and educating them about the globally declining populations of the hornbills will go a long way in assuring future breeding of hornbills. Fortunately, the hornbills also accept large sized, appropriately deployed artificial nest boxes, and in absence of nest trees in occupied territories, these can become useful conservation measures. Abundance of fruiting trees and availability of prey are basic requirements. Planting ficus and other large trees are a few conservation measures.

- **Anecdote:** An incidence was recorded where a person compassionately axed an active occupied nest of the hornbill to release the bird, thinking that the hornbill was trapped inside !! This stresses the need for education.

Variety in Nests !!



Narrow inconspicuous natural tree hollow with vertical opening. Inset - Stamp of Great Pied Hornbill.



Wide natural tree hollow in vertical and oblique tree trunks .



Curved and narrow nest opening.



Horizontal nest disposition on a horizontal branch.

Original and unpublished photographs and data in this file are based on field research by Ram Mone, Satish Pande and Niranjana Sant in Ratnagiri district, Maharashtra, India. The contents of this document are based on more than a decade of field work.