
GREAT HORNBILL 98 Fact Sheet (8/1/98)

Greater Hornbill (*Buceros bicornis*)

Description: The great hornbill is the most widely kept and largest Asian hornbill in zoos in North America. Like all hornbills, the great hornbill has fused axis and atlas vertebrae. They have long, heavy bills with a light, hollow casque on the upper mandible. The casque is rectangular in cross section, double-pointed in front, round in back, and concave or convex on top. Great hornbills have bristles around the eyes that resemble eyelashes. Their toes are syndactylous. Their flight is often noisy as air rushes through the bases of the flight feathers which are not covered with stiff coverts (Kemp, 1970). The plumage is black with patches of white on the neck, abdomen, wings, and tail; the tail has a subterminal black bar. Preen-gland oil provides a yellow stain for the bill and some of the white areas.

The great hornbills are sexually dimorphic. In the female the iris is pearly white, and the bare circumorbital skin is pink to bright red whereas in the male the iris is deep red and the skin surrounding the eye is black. Males are slightly larger than females. It has been noted that the posterior surface of the casque on the female is red and on the male it is black (Riley, 1938).

Immature animals of both sexes can have the male coloration for as long as four years; although changes may be noted earlier in the iris color and the color on the back of the casques. Casque does not begin to develop until about six months of age.

Range: Great hornbills are found in India, Southwestern China, Bangladesh, Western Ghats of India, Thailand, Mainland Southeast Asia, Malaya, and Sumatra (King et al 1975).

Habitat: Great hornbills inhabit the canopy of tall evergreen diptocarp and moist deciduous forests, ranging from 600 to 2000 meters.

Diet: Great hornbills feed primarily on fruits, especially figs. They also hunt actively for small animals, snakes, lizards, bird nestlings, beetles, and insects. It is interesting to note that they have never been recorded drinking water.

Social Organization: Great hornbills are monogamous and are without helpers at the nest. When breeding they are territorial, but non-breeding

birds form flocks of between 6 and 21; these flocks probably include immature animals from previous years. Mated pairs may return to the same nest-site year after year. They have, as do all hornbills, an unusual breeding biology, for example, the female seals herself behind a wall that she, and in some cases, her mate, builds at the entrance to their tree cavity nesting site.

Conservation Status: Great hornbills are listed as Appendix II of CITES, and as "vulnerable" in the Red Data book. Sizes of extant free-ranging populations are not known, however CBSG has designated Asian hornbills as a priority taxon for worldwide concern, and more surveys are being initiated. Although actual numbers can not be given, the decrease in their habitat is well-documented and the indication is that the populations are similarly decreasing.

Threats to Survival: Great hornbills have been hunted traditionally in India and Indonesia for both food and medicine. Deforestation is the main threat to their survival as it eliminates sites for nesting as well as territory for foraging.

Zoo Programs - SSP: Great hornbills are the most widely kept Asian hornbills in zoological institutions. Poor nesting success makes it imperative that more effective methods of propagation be developed. A North American studbook exists for the Genus *Buceros*.

Conservation: Hornbills are of significant interest to field conservationists, as they

can be used to indicate the health of a community and because they are seed dispersers, important for forest regeneration. The number of field projects involving Hornbills has increased substantially in recent years.

The Hornbill Specialist Group, the AZA Hornbill TAG, the EEP Hornbill TAG and the Asian Hornbill Network jointly publish a newsletter, including reports of efforts in the field and in zoo collections. Zoo conservation efforts are directed at developing artificial nest sites, recording life history data impossible to obtain in the field and developing support for field conservation through exhibition and publication.

Education: Education will be an important tool for conservation of Hornbill species.

Work in India, for example, reduced use of key Hornbill food trees as elephant browse. The role of Hornbills in the health of forests is a useful concept here.

Reintroduction: It is not possible to consider reintroduction for any Hornbill species at the present time. Knowledge of husbandry and propagation techniques is

insufficient to develop self-sustaining captive populations. More importantly, wild populations and their habitats continue to be under pressure -- there is no habitat where Hornbills could be released.

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