

## ABERRANT BEHAVIOUR OF A FEMALE GREAT HORNBILL AND A FEMALE RHINOCEROS HORNBILL

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### INTRODUCTION

Between Feb. and May 2006, a female great hornbill (*Buceros bicornis*) and a female rhinoceros hornbill (*Buceros rhinoceros*), were observed regularly at a patch of secondary forest in Eng Neo Avenue, Singapore (Wee & Subaraj, 2006). Both are escapees from captivity and the only individuals of their species in Singapore. From observations, the great hornbill plays the role of a male while the rhinoceros hornbill that of a female. They were observed prospecting a cavity along the trunk of an old albizia tree (*Falcataria moluccana* = *Paraserianthes falcataria*) at this locality. The great hornbill regularly fed the rhinoceros hornbill as in courtship feeding as well as inserted regurgitated food, probably fruits, into the cavity. The rhinoceros hornbill was observed to fly over to check the cavity, occasionally poking its head inside. This article describes their behaviour at the Eng Neo Avenue site from Jan.2007 to Aug.2008, and presents the first photographic evidence of the great hornbill's occupation of that cavity.

### OBSERVATIONS AND DISCUSSION

In 2007, at the Eng Neo Avenue site, both hornbills were observed to usually fly in at about 0900 hours, spend some time together and then fly off. They sometimes returned at around 1030 hours. At times they even visited in the evenings at approximately 1700 hours. The arrival of the pair was usually announced by their characteristically loud honking.

The pair still continued with their courtship feeding around the nearby shorter trees, with the great hornbill feeding the rhinoceros hornbill with regurgitated food. On and off, the great hornbill would still fly to the cavity of the albizia tree, poke its head in and pick up some fruits or it would fly over and place some fruits inside. Invariably the rhinoceros hornbill would also fly over (Figs. 1–2). After checking the cavity, the pair would usually indulge in preening for some time before flying off. Should one remain, the other would call to it and there would be loud duetting until both were together, to fly off to another destination.



Figs. 1–2. The female rhinoceros hornbill (top) and the female great hornbill (bottom) inspecting the albizia tree cavity.



Figs. 3–11. Stages in the emergence of the great hornbill from the albizia tree cavity.



Figs. 12–13. With the great hornbill inside the cavity and its bill projecting outwards, the rhinoceros hornbill stood by the entrance to subsequently lock bills with the former.

The entrance to the cavity was enlarged by the birds pecking around its periphery. Entry was by slipping in sideways, firstly with one wing, then the body as the hole was narrow. Emerging was equally tedious and this is serially-documented in the case of the great hornbill (Figs. 3–11). The first sign of the bird emerging was the tip of the bill poking out of the cavity. This was immediately followed by the large and prominent yellow casque. As the head slipped out, the body followed and the right wing abruptly unfolded upwards as if ready to fly off. The bird then lunged downwards as the right wing made a downward flap to facilitate the left wing's emergence as the bird left the cavity.

On one occasion when the great hornbill was inside the cavity, the rhinoceros hornbill flew over from a nearby tree and from the outside interlocked its bill with that of the great hornbill's (Figs. 12–13). There was also an instance when the great hornbill was about to emerge from the cavity when the rhinoceros hornbill suddenly flew by from a nearby perch. The former withdrew its head but left its bill projecting slightly. There was a loud "quack" when bill contact was made.

Under normal circumstances, a male hornbill induces a female bird to enter a cavity during the breeding season. Once the female bird approves of the cavity, it will begin to seal itself inside with mud. It will then lay its eggs and the male will regularly feed it until the chicks fledge (Kemp, 1993; Tsuji, 1996).

The birds were regularly observed at the nearby Bukit Timah Nature Reserve. In Jan.2007, when a large fig tree was fruiting, both hornbills visited daily and indulged in courtship feeding.

At night the birds were observed to roost elsewhere. The great hornbill was spotted for months spending nights alone in a rain tree (*Samanea saman*) near a condominium along Adam Road. It would arrive at around 1900 hours and stay all night. At around 0645 hours or so, it would start stretching its wings and preening before flying off towards Eng Neo Avenue. Toward the second half of 2006, the great hornbill moved elsewhere to roost and so far, has not returned to its previous roosting site. Thus the two hornbills would spend the night separately, meeting only during the day. The roosting location of the rhinoceros hornbill is still unknown.

From Jan. to Aug.2008, both hornbills were observed visiting the site at Eng Neo Avenue irregularly. The albizia tree has now died, leaving only the trunk standing. Soon the hornbills will have to seek out another tree with a suitable cavity for their courtship rituals because this rotting trunk will soon collapse. The birds continue to visit the nearby Bukit Timah Nature Reserve whenever the fig trees are fruiting.

These birds have been a pair for some years now and their aberrant antics are worth monitoring further.

### ACKNOWLEDGEMENTS

We would like to thank Brian Ng for alerting us on the roosting site of the great hornbill and for providing details of its behaviour. All images are by Chan Yoke Meng.

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