

# The status and conservation of hornbills in Cambodia

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## Summary

Internal security problems from the 1960s up until 1998 prevented any fieldwork in Cambodia. Since then, the situation has improved greatly and the Royal Government of Cambodia, in collaboration with international conservation NGOs, has been conducting general biological surveys across the country. Survey reports were used to investigate current occurrence of hornbills. Historically, three hornbill species — Great Hornbill *Buceros bicornis*, Wreathed Hornbill *Aceros undulatus* and Oriental Pied Hornbill *Anthracoceros albirostris* — were known from Cambodia. Recent surveys show that populations of Great and Wreathed Hornbills have declined significantly since the 1960s, while Oriental Pied is still common. A fourth hornbill species, Brown Hornbill *Anorrhinus tickelli*, was reported in 1998 in Kirirom National Park spanning the border of Koh Kong and Kompong Speu provinces in south-west Cambodia. Conservation priorities and priorities for future surveys are being developed.

## Introduction

Until recently, only three hornbill species were known to occur in Cambodia: Great Hornbill *Buceros bicornis*, Wreathed Hornbill *Aceros undulatus*, and Oriental Pied Hornbill *Anthracoceros albirostris* (Thomas 1964). Two recent records have added Brown Hornbill *Anorrhinus tickelli* (ssp. *austeni*). Chak (1998) erroneously stated that eight species had been recorded. It is very unlikely that more than four hornbill species occur in the country. Internal security problems from the 1960s up until 1998 prevented any fieldwork in the country. However, since then the situation has improved greatly and the Royal Government of Cambodia, in collaboration with international conservation NGOs, has been conducting biological surveys across the country. The map in Figure 1 shows the areas in Cambodia mentioned in the text.

BirdLife International (2001) recently upgraded the conservation status of Great Hornbill to Globally Near Threatened, partly because of declines in the South-East Asian parts of its range. Populations in Laos are considered to be At Risk (Duckworth *et al.* 1999), and populations in Thailand to be Near-threatened (Round 2000). In Cambodia, the Great Hornbill was formerly a widespread and common species, particularly in the south-west, extending north into Kompong Thom and north-west into Siem Reap provinces. Also, in Ratanakiri, it was reportedly common at any altitude (Delacour 1929, Delacour and Jabouille 1931, 1940, Thomas and Poole 2003).

Although not considered globally threatened, Wreathed Hornbill is considered regionally threatened, listed as At Risk in Laos (Duckworth *et al.* 1999), where

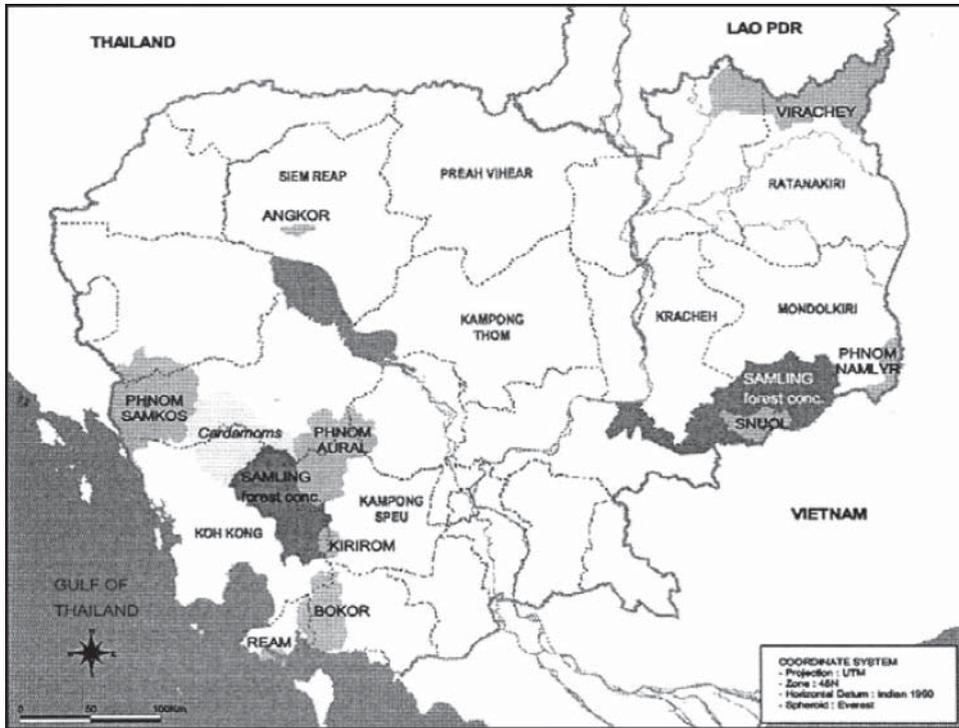


Figure 1. Map of Cambodia depicting study areas.

it has undergone a considerable decline, and Near-threatened in Thailand (Round 2000). Historically, it appears that this species was known only from south-west Cambodia (Engelbach 1936, Thomas and Poole 2003), where it was chiefly known from Bokor, at altitudes ranging from 200 to 1,100 m. However, it has now also been recorded from the north-east (Walston *et al.* 2001).

Oriental Pied Hornbill was historically common throughout much of Cambodia (Delacour 1929, Delacour and Jabouille 1931, 1940, Thomas 1964). It is not assigned a global or regional conservation threat status (BirdLife International 2001, Duckworth *et al.* 1999, Round 2000).

Brown Hornbill is considered Globally Near Threatened (BirdLife International 2001). It is considered At Risk in Laos (Duckworth *et al.* 1999), and Near-threatened in Thailand (Round 2000). There are no historical records of the species from Cambodia (Thomas and Poole 2003) and it was first recorded in Kirirom National Park in 1998 (Goes *et al.* 1998).

## Methods

Recent biological surveys in Cambodia have focused on collecting baseline information on status and distribution, chiefly of birds and mammals, in order to identify key areas of conservation importance (Seng *et al.* 2003). Researchers are now beginning to collect quantitative data on some threatened galliformes and breeding colonies of large waterbirds, but have yet to start doing this with

hornbills. This is planned for the near future. The information on Cambodian hornbills presented here is based on sightings made during general wildlife surveys.

## Results

Great Hornbill has undergone a widespread and steep decline in recent years. Encouragingly, it is relatively widespread in hills of the south-west that are still forested (Eames and Steinheimer 2000, Eames *et al.* 2002, Net 2001, Swan and Long 2002). In Bokor National Park, birds were seen almost daily during surveys in 1998–1999, with loose groups of 18–20 birds recorded on occasion (Goes *et al.* 1998). In the nearby Cardamom Mountains it is locally common in Phnom Samkos Wildlife Sanctuary (Eames *et al.* 2002). A survey by Walston *et al.* (2001) in southern Mondulhiri and eastern Kratie provinces, near the Vietnamese border, found the species still widespread, but at low densities. Day-maxima of at least six birds were found in logged stands of semi-evergreen forest, from 150–440 m, across much of the semi-evergreen forest mosaic in Coupes 2a and 3 of the Samling logging concession and adjacent Snoul Wildlife Sanctuary (Walston *et al.* 2001). An extensive tract of forested hills along the Cambodian–Vietnamese border extending at least 5 km into Vietnam appears to support the highest densities of large hornbills in this area. There are also several recent sightings from neighbouring areas of Mondulhiri province, including Phnom Nam Lyr Wildlife Sanctuary (Duckworth and Hedges 1998, Walston *et al.* 2001, Seng *et al.* 2003.). The only other recent records that we are currently aware of are from Preah Vihear province in the northern plains, where the species now appears to be rare and confined to the few larger remaining areas of evergreen forest (WCS Cambodia Program unpublished data).

Great Hornbill is now considered extinct in Ream National Park (Goes *et al.* 1998) and has not been recently recorded from Kirirom National Park, nor the Angkor area, where it was certainly present historically (Engelbach 1936, 1953). It appears therefore of particular conservation concern and Bokor and the Cardamom Mountains should be regarded as key areas for its conservation.

Wreathed Hornbill in Cambodia appears to be primarily associated with forested slopes, as in Laos (P. Davidson pers. comm.). Recent surveys have shown that the species is more widespread than Great Hornbill in the more extensively forested hills of the south-west (Akers 2000, Eames *et al.* 2002, Eames and Steinheimer 2000, Goes *et al.* 1998, Kong and Tan 2002, Net 2001, Swan and Long 2002). However, it is scarcer than Great Hornbill in Bokor National Park, although the two species are frequently seen together. Wreathed Hornbills were also recorded regularly in the south-western part of Kirirom National Park and the adjacent logging concession, both in southern Koh Kong province. They were recorded almost daily in semi-evergreen forest, with a day-maximum of 15 (Akers 2000, Kong and Tan 2002). In Kirirom one ranger mentioned that he saw a flock of around 50 birds in early 2000. Walston *et al.* (2001) have also found the species relatively widespread in eastern Cambodia, in the Samling forest concession in southern Mondulhiri. Apparently less numerous than Great Hornbill, it was not recorded at all in adjacent Snoul Wildlife Sanctuary, which is almost entirely level lowland semi-evergreen forest, although much of it is degraded.

Oriental Pied Hornbill remains locally common in many parts of Cambodia, and is of much less conservation concern than the other hornbill species. Found in most forested areas, including offshore islands, it is also frequently seen in degraded riverine forest strips (Thomas and Poole 2003, Timmins and Men 1998).

Brown Hornbill is known only from two records in Kirirom National Park spanning the border of Koh Kong and Kompong Speu provinces in south-west Cambodia. One bird was seen flying over evergreen forest on the plateau in January 1998 (Goes *et al.* 1998). Another single was also seen in flight over a small area of pine forest between two blocks of semi-evergreen forest in February 2000 (Akers 2000, Kong and Tan 2002). There are no other records from Cambodia. Relatively substantial survey effort has been expended by experienced ornithologists in areas to the south-west including Bokor to the south and parts of the Cardamom Mountains to the north-west but yielded no records (Eames *et al.* 2002, Goes *et al.* 1998, Net 2001). Indications are that this species is scarce and localized.

## Discussion

All hornbills, but especially the two largest species, Great and Wreathed Hornbills, are thought to have undergone significant declines in Cambodia in recent decades. This is chiefly due to two factors: logging and hunting. Logging, both legal and illegal, has affected areas of evergreen and semi-evergreen forest right across the country. This particularly affects hornbills, as they are highly dependent on large trees for nest-cavities and large-fruited figs for food. These trees are often those of the greatest commercial value, so the first to be targeted by forestry operations. The populations of the two larger species are therefore particularly vulnerable. It is more difficult to predict the extent to which the less conspicuous, smaller species, particularly the poorly known Brown Hornbill, have been affected by logging. Hunting is the most serious threat to wildlife across the country, and being large, Great and Wreathed Hornbills are especially easy targets for opportunist hunters with guns. This is accentuated by logging, as these activities bring with them improved access to remote areas (Robinson *et al.* 1999) and therefore increased hunting pressure. The reasons for hunting are many and varied. In many rural areas any large bird represents a potential source of protein. Occasionally, hornbill casques can be seen for sale in shops and markets, either for decoration or for local medicinal use. Thomas and Poole (2003) reported that Great Hornbill was a totem of one of the Phnong tribes in Ratanakiri. Hornbills, particularly Oriental Pied, are also targeted for the local pet trade. Young birds are taken from the nest before they can fly, and sold on to middlemen and/or market vendors.

## Conclusions

There is currently no specific conservation action plan for hornbills in Cambodia, nor any activities that specifically target hornbills. However, the needs of hornbills are accounted for in conservation activities being carried out by

Cambodian Government authorities in collaboration with international conservation NGOs. On-the-ground conservation initiatives are in progress in several parts of the country, notably the two evergreen forest areas that support the most important known populations of hornbills: the Cardamom Mountains and Bokor in the south-west, and southern Mondulkiri in the east.

In the south-west, within the Department of Forestry and Wildlife's (DFW) Central Cardamom Protected Forest, Conservation International is providing support for patrolling and enforcement, and WildAid is partnering with the Ministry of Environment (MoE) in Bokor National Park. Flora and Fauna International are also supporting the MoE to manage Phnom Samkos and Phnom Aural Wildlife Sanctuaries. In southern Mondulkiri province, DFW collaborating with WCS and Samling International (a forest concessionaire) have a continuing programme of biodiversity conservation in the Samling forest concession, the area where the vast majority of Mondulkiri's recent records of hornbills come from. This includes an order to all camp employees, contractors and security, banning all hunting and trade in wildlife or their parts. Non-residents and outsiders are also actively discouraged from hunting or trading, with the exception of local communities for subsistence purposes.

Although we are now gaining a much better understanding of the current status and distribution of hornbills across Cambodia, there is a need for further baseline work in previously unsurveyed parts of the country. One obvious priority is Virachey National Park in the north-eastern hills of Ratanakiri province, which could still support significant populations of Wreathed and Great Hornbills, and perhaps also Brown Hornbill, which occurs just across the international border with Laos to the north (Davidson *et al.* 1997). The rather elusive Brown Hornbill should be further searched for, particularly in the south-west, to help clarify its true status and distribution in Cambodia. Other potentially important areas for hornbills that need to be surveyed include remaining areas of evergreen forest in northern Cambodia, particularly in Kompong Thom province.

Quantitative surveys and monitoring of hornbill populations and trends should be initiated in the two areas currently identified as the most important for large hornbills in Cambodia: the Cardamom Mountains, and the Samling concession in southern Mondulkiri province. WCS is now planning a monitoring programme in the latter area, focusing on key bird and mammal species, including hornbills.

Currently, no environmental education or public awareness activities specifically target hornbill conservation in Cambodia. However, in Kirirom National Park *Mlup Baitong*, a local NGO, has used hornbills as part of their environmental education program. Hornbills are an excellent conservation "flagship" species in their role as indicators of habitat "quality", and as such should receive due attention in developing materials for extension work that will undoubtedly follow much of the baseline fieldwork that is currently being conducted in Cambodia.

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