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## Conservation of Hornbills in Thailand



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The study of breeding biology and ecology of hornbills started since 1978. Study was conducted initially in the monsoon evergreen forest of Khao Yai National Park (2,168 km<sup>2</sup>) in northeastern Thailand. Four species of hornbills occurred sympatrically in 60 km<sup>2</sup> study area in Khao Yai National Park, namely Great (*Buceros bicornis*), Wreathed (*Aceros undulatus*), White-throated Brown (*Anorrhinus austeni*) and Oriental Pied Hornbills (*Anthracoceros albirostris*). In 1990, the research has been extended to Huai Kha Khaeng Wildlife Sanctuary (2,809 km<sup>2</sup>) in the west. Four species of hornbills occurred sympatrically in a hill evergreen forest namely Rufous-necked (*Aceros nipalensis*), Tickell's Brown (*Anorrhinus tickelli*) and Great Hornbills. Research on Plain-pouched Hornbill (*Aceros subruficollis*) and sympatric species Oriental Pied and Great has also been conducted in a mixed deciduous forest of Huai Kha Khaeng Wildlife Sanctuary. To cover all 13 hornbill species in Thailand, in 1994, we have extended the study into Budo-Sungai Padi National Park (341 km<sup>2</sup>) in the south. This park supports six species of hornbills, Great, Wreathed, Helmeted (*Rhinoplax vigil*), Rhinoceros (*Buceros rhinoceros*), Bushy-crested (*Anorrhinus galeritus*) and White-crowned Hornbills (*Berenicornis comatus*). We collected data on nests and nest trees, breeding cycle, nest site characteristics, food, flocking and home range. We identified the causes of nests damage and monitored intra and inter-specific competition. At Khao Yai, competition for nest cavities was 40% reflected shortage of suitable nest cavities whereas at Budo Mt., the competition was 26% indicating the effect of poaching. We also investigated the threats to the breeding of hornbills. Subsequently, we increase breeding success and conservation awareness through nest cavities improvements, ceased poaching of hornbill chicks and getting community involvement in hornbill conservation. Currently supported by BIOTEC, we are investigating the characteristics of Phylogenetic of Thai hornbills and genetic variations of hornbills in fragmented forest landscapes and determining their population and habitat status throughout Thailand.

*Dr Pilai Poonswad began studying hornbills in Thailand after she became fascinated by them while acting as a guide to a BBC film crew in Khao Yai National Park. They were then working on a documentary film entitled Fig Feast in Khao Yai. With Atsuo Tsuji, she started to document the life of these birds and together they have spent more than 20 years studying this unique family. At first, very little was known about hornbills and Dr Poonswad began her research by observing a Great Hornbill feeding in a fig tree and then, with the help of an assistant, tracing it back to its nest site. Now, hundreds of hornbill nests have been recorded and research sites have been set up to study the life history of these wonderful birds. Many important topics of research presently underway have been initiated by the project for the study of the ecology of Hornbills with the Faculty of Science (Mahidol University), the Royal Forest Department and the Faculty of Forestry, (Kasetsart University). Dr Poonswad has started three Hornbill studies in the Huai Kha Khaeng Wildlife Sanctuary, West Thailand, since 1990, and intensively since 1992. In addition, she has also taken initiated a Woodpecker Study Project in Nong Ma, focusing on the importance of woodpeckers in generating suitable nest holes for hornbills. Population studies are also being carried out in Budo and Hala-Bala as the local Hornbills are severely threatened due to the poaching of the chicks by the local villagers for food or for the pet trade.*