

FOREWORD

THE 5th INTERNATIONAL HORNBILL CONFERENCE, SINGAPORE 22nd–25th MARCH 2009

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The ornithological community has previously organized four international conferences on hornbills, in Thailand and South Africa. The 5th International Hornbill conference was held in Singapore, from 22–25 March 2009. This introduction is written on behalf of the organizing committee.

The organizing committee was set up in 2008, chaired by Lena Chan (National Parks Board) and including Ng Bee Choo (secretary), Chong Pik Wah (treasurer), Ng Soon Chye (Singapore Avian Conservation Project), Wang Luan Keng (National University of Singapore), Shawn Lum (Nature Society Singapore), Biswajit Guha and John Sha Chih Mun (Wildlife Reserves Singapore), Robert Teo, Alan Tan Hong Yong, Geoffrey Davison and Lin Yangchen (NParks). Pilai Poonswad (Mahidol University, Thailand) acted as advisor. The co-hosts for the conference were the National Parks Board (NParks, Singapore), and the Hornbill Research Foundation (Thailand). Funding and other support to carry out the conference was generously provided by the ASEAN Centre for Biodiversity based in Manila, Philippines, with the support of the European Commission and the ASEAN Secretariat; by the Cheng Kim Loke Foundation; by the Wildlife Conservation Society; by Wildlife Reserves Singapore; and by the Bird Ecology Study Group of the Nature Society (Singapore). A great deal of help and advice was provided by Pilai Poonswad and her team of researchers in the Hornbill Research Foundation.

The conference was attended by 126 participants from 20 countries, mainly from South and South-east Asia but with some from North America and Europe, and just three from the hornbill-rich continent of Africa. They presented three keynote papers, 45 papers as verbal presentations, and 12 posters. Vilma d’Rozario of the non-governmental organization Cicada Eco Tree conducted a field activity with children, as part of the conference, and participants were taken on a field excursion to view the breeding and conservation programme for Oriental Pied Hornbills at Pulau Ubin, Singapore.

Some important contributions to the conference are not published in this supplement. It would be useful to cite three examples here, based on the abstracts provided. All three were the basis for stimulating keynote presentations that participants found highly motivating.

Alan Kemp and Meg Kemp gave a keynote presentation on the radiation of diversity of hornbills – when, where and why might it have occurred. Considerable new evidence supports the assumption that hoopoes + woodhoopoes are the sister clade to hornbills, both clades being well defined by apomorphies. Fossil hoopoes from the Palaearctic approximately 49 million years ago are the earliest evidence bearing on the site and date for an origin of hornbills. Cladistic and genetic analyses so far indicate carnivorous African ground-hornbills and *Tockus* hornbills as the earliest independent lineages within the family. All Asian hornbills (31–34 species) are primarily frugivorous and all but one occupy forest habitats. An inability to confirm relationships between hornbill genera due to their rapid radiation shown by genetic studies, especially for Asian genera, suggests some factor(s) that stimulated a rapid initial radiation of frugivorous genera. Tectonic and palaeo-botanical developments across Asia seem involved in these radiations, even within genera as species extended across Wallace’s Line into the Philippines, Indonesia and even Australasia. Terrestrial or arboreal ancestors, origins in Europe, Africa or Asia, emergence of frugivory only in Asia, and increases in body size are the principal features still in need of explanation.

Kinnaird & O’Brien presented a review of the literature on Asian and African hornbills from the earliest publications in the 1800s through 2008, so as to chart the past and future directions of hornbill research. They classified all available literature from books to edited volumes, journal articles, popular articles and unpublished reports. They sorted the literature into various geographic levels within the broader contexts of Asia and Africa (e.g. insular vs. continental studies; forest vs. savanna studies) and grouped studies into those carried out in the wild or in captivity. This enabled

them to examine the topics covered (including reproduction, population biology, movements, feeding ecology, seed dispersal, conservation, and genetics) and create a time line to chart the development of research generally and in particular topics. In addition, they summarised studies by target species and by IUCN status. The analyses were used to identify gaps in our knowledge about hornbills and to highlight where future efforts should be directed.

Poonswad reviewed the implementation of basic research to secure the survival of hornbills in Thailand, including the management of nest cavities in different forest habitats. Hornbills are secondary-cavity nesters, and in Thailand, they inhabit various types of tropical forest, including dry dipterocarp, mixed deciduous, moist evergreen, hill evergreen and lowland evergreen rain forest. Availability of suitable nests is one of the most important factors to enable hornbill breeding. Over at least 26 years of study at Khao Yai, Huai Kha Kheng and Budo Mountain, Poonswad and her team have located at least 578 nest trees, and have been able to assess percentage of sites used each year, and nesting success and

productivity in different tree species, in the different forest types, at different sites. The main causes of unsuitability of nest sites were sunken nest floors and narrowed or closed entrances. It is possible to combat deterioration of nest site quality by artificial repairs, and these can extend the usable period for four years or more. Repairs can be effected more than once, with positive impacts on the conservation of the various species.

Supplement 24 of the Raffles Bulletin of Zoology contains 23 papers from the conference, across a range of topics from conservation to ecology and human use of hornbills. The co-hosts and the organizing committee would like to thank the various sponsors of the meeting for their support. We would also like to thank the senior management of NParks, Ng Lang, Leong Chee Chiew and Wong Tuan Wah. In particular, we are most grateful to the participants for making the conference such a success, the authors of papers published here, and the referees for the papers. Editing of the manuscripts was assisted by Cheryl Chia, Oh Mei Kian and Jerelyn Chan.