



# The 8th International Hornbill Conference

22<sup>nd</sup> to 24<sup>th</sup> May 2023

Faculty of Forestry, Kasetsart University,  
Bangkok, Thailand

---

**Happy Hornbills,**  
Healthy Forests



# 8<sup>th</sup> INTERNATIONAL HORNBILL CONFERENCE

<hybrid conference>



22<sup>nd</sup> to 24<sup>th</sup> May 2023

at

Faculty of Forestry, Kasetsart University,  
Bangkok, Thailand



Hornbill  
Specialist  
Group





## Citation:

Faculty of Forestry and Thailand Hornbill Research Foundation. 2023. **Abstract Proceedings of the 8<sup>th</sup> International Hornbill Conference, Happy Hornbills-Healthy Forests.** 22-24 May 2023 Hybrid Conference. Kasetsart University, Bangkok in Thailand.

## Published by:

Faculty of Forestry, Kasetsart University  
Bangkok 10900, THAILAND

&

Thailand Hornbill Research Foundation  
Faculty of Science, Mahidol University  
Bangkok 10400, THAILAND

Email: fforuyt@ku.ac.th



# Sessional Programs

## Impacts of Climate Change on Hornbills (Part 1/2)

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Monday, 22<sup>nd</sup> May 2023 / 11:00 – 12:00

Time	Presentation	Page
11:00 – 11:20	<b>Great Hornbill and the Tropical Rainforest Dynamics of the Western Ghats in the Era of Climate Change</b> <i>Amitha Bachan KH</i> ✓	21
11:20 – 12:40	<b>Perception of the current and future distribution of hornbills in Sri Lanka through ecological niche modeling</b> <i>Iresha Lakmali Wijerathne</i> ✓	22
12:40 – 12:00	<b>From captivity to release: The conservation of the endangered Visayan Tarictic Hornbills in Negros Island, Philippines</b> <i>Monica Marie Atienza</i> ✓	23

## Threats and Impacts of Climate Change on Hornbills (Part 2/2)

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Monday, 22<sup>nd</sup> May 2023 / 13:00 – 15:20

Time	Presentation	Page
13:00 – 13:20	<b>Hot Thunderbirds - implications of year-round warming for Southern ground-hornbills (<i>Bucorvus leadbeateri</i>)</b> <i>Carrie Hickman</i>	24
13:20 – 13:40	<b>Relationship of ripe fruit tree availability to nesting attempt and flocking size of large-sized hornbills in Khao Yai National Park, Thailand</b> <i>Narong Jirawatkavi</i> ✓	25
13:40 – 14:00	<b>Impact of Climate change on Helmeted Hornbill's remaining habitat</b> <i>Tiwa Ong-in</i> ✓	26
14:00 – 14:20	<b>Hot-dry weather is associated with poorer reproductive outcomes regardless of group composition in the cooperatively breeding southern ground-hornbill</b> <i>Kyle-Mark Middleton</i>	27



# Sessional Programs

## Threats and Impacts of Climate Change on Hornbills (Part 2/2) cont.

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building  
Time: Monday, 22<sup>nd</sup> May 2023 / 13:00 – 15:20

Time	Presentation	Page
14:20 – 14:40	<b>Niche specificity of the Malabar Pied Hornbill and Conservation of Endangered Low Elevation Riparian Forest Ecosystems in the Western Ghats</b>  <i>Devika M. Anilkumar</i>	28
14:40 – 15:00	<b>Land-use change to agroforestry plantations affects three hornbill species in Northern Western Ghats</b>  <i>Siddharth Biniwale</i>	29
15:00 – 15:20	<b>The Casque Crisis – the Past and Present situation</b>  <i>Jessica Lee</i>	30

## Applied Hornbill Conservation (Part 1/4)

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building  
Time: Tuesday, 23<sup>rd</sup> May 2023 / 10:20 – 12:00

Time	Presentation	Page
10:20 – 10:40	<b>Successful Breeding of Wrinkled hornbills (<i>Rhabdotorrhinus corrugatus</i>) at the Phoenix Zoo</b>  <i>Marisa Boyd</i>	32
10:40 – 11:00	<b>A comparison of traditional and passive acoustic monitoring techniques in a tropical semi-inundated forest patch for hornbill research in Sabah</b>  <i>Ashraft Syazwan Ahmady Yusni</i>	33
11:00 – 11:20	<b>Important Hornbill Landscapes in Sarawak</b>  <i>Shelby Wee Qi Wei</i>	34
11:20 – 11:40	<b>Securing a safe haven for the Helmeted Hornbill in Usun Apau National Park, Sarawak, Malaysia</b>  <i>Reeve Mark Maya Sagan</i>	35
11:40 – 12:00	<b>The Development of a Helmeted Hornbill Education Kit for Enforcement and Courts (HEKEC) in Hong Kong SAR</b>  <i>Chloe Hatten</i>	36



# Sessional Programs

## Applied Hornbill Conservation (Part 2/4)

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Tuesday, 23<sup>rd</sup> May 2023 / 14:20 – 16:20

Time	Presentation	Page
14:20 – 14:40	<b>From the sky to ground: Lesson and learn of Helmeted hornbill conservation in Kho Sok Klang Saeng forest complex, Thailand</b> <i>Kunsuree Yimsaree</i>	37
14:40 – 15:00	<b>The Bateks and Hornbills: Documenting Local and Traditional Ecological Knowledge from the Batek Indigenous Group from Kuala Koh, Malaysia for Hornbill Research and Conservation</b> <i>Zikry Adib Kurnia Bin Zaiful Zukry</i>	38
15:00 – 15:20	<b>Habitat Protection and Management Conserves Hornbill Population in Mt. Banahaw, Philippines</b> <i>Melvin C. Rada</i>	39
15:20 – 15:40	<b>How well are the artificial nest boxes performing?</b> <b>A comparative study between the microclimate conditions of artificial nest boxes and natural nests of Oriental Pied Hornbill (<i>Anthracoceros albirostris</i>) in Kinabatangan, Malaysia</b> <i>Ravinder Kaur</i>	40
15:40 – 16:00	<b>Captive Breeding for Oriental Pied Hornbills in Nagaland, India</b> <i>Lansothung Lotha</i>	41
16:00 – 16:20	<b>Exploring Local Community Perceptions on Hornbill Conservation in West Kalimantan, Indonesia</b> <i>Firman Heru Kurniawan</i>	42

## Applied Hornbill Conservation (Part 3/4)

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Wednesday, 24<sup>th</sup> May 2023 / 10:20 – 12:00

Time	Presentation	Page
10:20 – 10:40	<b>Hornbill conservation; the views of local communities in North Central Province, Sri Lanka</b> <i>Sriyani Wickramasinghe</i>	43



# Sessional Programs

## Applied Hornbill Conservation (Part 3/4) cont.

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Wednesday, 24<sup>th</sup> May 2023 / 10:20 – 12:00

Time	Presentation	Page
10:40 – 11:00	<b>Becoming protectors of hornbills: the story of the Nyishi tribe</b> <i>Tajik Tachang</i>	44
11:00 – 11:20	<b>Lessons learned from recent hornbill field surveys and conservation work across Southeast Asia</b> <i>Anuj Jain</i>	45
11:20 – 11:40	<b>Understanding the Impacts of a Community-led Integrated Landscape Initiative in Indonesia</b> <i>Abrar Ahmad</i>	46
11:40 – 12:00	<b>Some human dimensions and success factors of community-based hornbill conservation at Budo Mountain, Thailand</b> <i>Jiraporn Teampanpong</i>	47

## Applied Hornbill Conservation (Part 4/4)

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Wednesday, 24<sup>th</sup> May 2023 / 13:00 – 15:00

Time	Presentation	Page
13:00 – 13:20	<b>Connecting Children to Hornbills and their forests</b> <i>Saniya Chaplod</i>	48
13:20 – 13:40	<b>The study of nesting tree preference of hornbills and nesting cavity restoration in Bala forest, Narathiwat</b> <i>Sunate Karapan</i>	49
13:40 – 14:00	<b>Conserving the Rufous-headed Hornbill in the northern parts of Central Panay Mountains Key Biodiversity Area in Panay Island, Philippines</b> <i>Josiah David Gacura Quimpo</i>	50
14:00 – 14:20	<b>Elucidating the seed dispersal potential of hornbills to maintain forest health in Sabah, Malaysia</b> <i>Hemaharshni Nagarajan</i>	51



# Sessional Programs

## Applied Hornbill Conservation (Part 4/4) cont.

Room: Sa-nga Suppasri, 3<sup>rd</sup> Floor, 60 Years Building

Time: Wednesday, 24<sup>th</sup> May 2023 / 13:00 – 15:00

Time	Presentation	Page
14:20 – 14:40	<b>Home Range and Habitat Selection by Breeding Rufous-necked Hornbill in Bhutan</b>  <i>Rinchen Wangchuk</i>	52
14:40 – 15:00	<b>Conservation modalities in saving the critically endangered Sulu Hornbill (<i>Anthracoceros montani</i>) in the Philippines</b>  <i>Lisa J. Paguntalan</i>	53

## Hornbill Ecology (Part 1/3)

Room: FORTROP, 3<sup>rd</sup> Floor, 60 Years Building

Time: Tuesday, 23<sup>rd</sup> May 2023 / 10:20 – 12:00

Time	Presentation	Page
10:20 – 10:40	<b>Diet composition and food preference of Malabar Pied Hornbill, <i>Anthracoceros coronatus</i> in Pench Tiger Reserve, Madhya Pradesh, India</b>  <i>Nikhil Arvind Borode</i>	55
10:40 – 11:00	<b>Southern ground-hornbills boom to their own beat – vocal signatures and the role of chorus vocalisations in territorial defence</b>  <i>Kyle-Mark Middleton</i>	56
11:00 – 11:20	<b>RIMBA Sarawak Hornbill Conservation Project in Lanjak Entimau Wildlife Sanctuary (LEWS)</b>  <i>Lily anak Sir</i>	57
11:20 – 11:40	<b>Breeding Ecology of the Luzon Hornbill (<i>Penelopides manillae manillae</i>) in Luzon Island, Philippines</b>  <i>Vince Angelo Gicaraya</i>	58
11:40 – 12:00	<b>Population Density of Hornbills in Non-Breeding Season at the Core Area of Khao Yai National Park, Thailand</b>  <i>Naphatsorn Monchaithanaphat</i>	59



# Niche specificity of the Malabar Pied Hornbill and the conservation of Endangered low elevation riparian forest ecosystems in the Western Ghats

Devika M. Anilkumar <sup>1</sup>, and Amitha Bachan K.H. <sup>1</sup>

Low elevation tropical moist forests have been the most degraded and diverted tropical moist forest biome. These areas represent important human habituated zones where the remnants of primary vegetation occur in severely fragmented patches where humans have traditional access. Large areas are converted either for large scale Agro-forestry plantations or for developmental purposes. The scattered and patchy distribution of the Malabar Pied Hornbill, *Anthracoceros coronatus* from the Satpuda Hills of Maharashtra in Central India to the low elevation areas of Northern to Southern Western Ghats were niche-modelled to understand the bioclimatic suitability and also to predict the potential habitats across the range. The study indicates the Malabar Pied Hornbills are distributed in eight ecoregions where most of the areas are associated with river valleys and riparian habitats of very low elevation. The Maxent-based niche-modelling provided predictions for potential areas of suitable habitat. Eleven of the 19 bioclimatic variables considered contributed to the bioclimate of Malabar Pied Hornbills, with the most significant being: "precipitation during the driest and wettest months" (positive), "Temperature seasonality", and "minimum temperature of coldest month" (negative). The model showed significant overlap with actual and potential distribution of the Endangered low elevation Tropical Riparian moist forest habitats and other riparian forest types. The Maxent-based niche-modelling and the contributing bioclimatic parameters of the World Clim database defines the Grinnellian niche of the Malabar Pied Hornbill. The correlation with riparian forest and similarity in the riparian forest composition and Malabar Pied Hornbill nesting habitats throws light on Eltonian niche factors where the linear riparian low elevation habitat less in extent are significant and vulnerable. Malabar Pied Hornbills can be considered flagship species of the low elevation riparian or valley forests habitats, which need conscious conservation and restoration efforts. This can be used for the conservation and restoration of Malabar Pied Hornbills and their threatened habitat.

**Keywords:** Niche modelling, Bioclimate, Maxent, Riparian

<sup>1</sup> Western Ghats Hornbill Foundation & Research Department of Botany MES Asmabi College, P. Vemballur, Kerala, India  
\*Corresponding author E-mail: devikamadathil99@gmail.com





Hornbill  
Specialist  
Group



**Hornbill Research Foundation**  
272 Rama 6 Road, Ratchathewi District,  
Bangkok 10400, THAILAND  
Email: [info@hornbill.or.th](mailto:info@hornbill.or.th)