Special Report: Hornbill Conservation in Malaysia

Kinabatangan's Ringo the Oriental Pied-Hornbill
Helson Hassan & Ravinder Kaur

Years ago, in Sukau village, Kinabatangan, Sabah, we received information from a village resident about an Oriental Pied-Hornbill *Anthracoceros albirostris* that would come every morning to a resident's window, tapping on the glass because it mistook its own reflection for a rival bird. Affectionately, he was named Ringo by the resident. The resident also mentioned that there was a tree next to their house that Ringo and his mate frequently visited, leading them to believe it was their nest tree.

We immediately inspected the tree and it did indeed have a cavity, but upon closer examination, we found that the cavity entrance faced the rising sun, which made it warmer and less suitable for nesting. Additionally, the cavity was quite a small space. A more concerning issue was that the floor of the cavity had collapsed all the way to the bottom. The cavity wasn't too high - only about 6 to 7 meters - so we assumed it would be easy to repair.

However, it turned out to be more challenging than expected due to several factors!

Firstly, our teammate Helson expanded the interior of the cavity, using only a chisel and hammer. He had to take several breaks because his hands grew tired. After that, he filled the floor with soil to raise it to the level of the cavity's entrance. Since the cavity was about 6 to 7 meters high, he had to go up and down the ladder repeatedly to gather the soil. It took him nearly two hours to completely fill the cavity's floor. Out of the blue, Ringo appeared and perched close to Helson. "*Don't worry, I'm fixing your nest so you can use it soon*", Helson remarked to the bird. Village kids gathered and watched in fascination as we worked on the cavity.

After monitoring the cavity for several months, we noticed that Ringo and his mate frequently visited, but they appeared to be dissatisfied. We discussed as a team the possible reasons, suspecting that the main problem might be the cavity's entrance and its direction facing the rising sun, making it warmer inside. We decided to place a wild fern at the entrance to provide some natural shade. A few weeks later, our fern was dying and losing all its leaves. To our surprise, the female finally entered the cavity and started sealing it up. We then realized that the real issue wasn't the sunlight or the cavity's direction—it was the lack of a proper perch for the male to perch comfortably and feed his mate (Plate 1). Even in its demise, the wild ferns we placed at the entrance provided the perfect spot for Ringo to perch and feed her. This experience taught us that one of the many factors in choosing a nesting site is having a suitable place for the male to perch.

After nearly four months of monitoring, the female and their first chick finally emerged from the cavity we had restored. This experience sparked a fire in us, to restore tree cavities for birds, ensuring that other hornbills facing similar problems could be helped. After all, this method was proposed and has been implemented successfully by the Thailand Hornbill Project team for decades.



Plate1: Ringo the male Oriental Pied-Hornbill with food for the nesting mate. Image credit Sanjitpaal Singh/jitspics.com©

However, Ringo's story didn't end there. After successfully nesting for two seasons, the landowner decided to cut down the tree where their nest was located. The tree was slanting and threatening the resident's house. It was a Tarap fruit tree *Artocarpus odoratissimus* and it did belong to the resident. And just like that, Ringo lost his nest. As the tree laid on the ground in pieces, Ringo still made visits to the cavity. It was heart-breaking to see.

A few years later, we received reports that Ringo continued to visit the area. They said Ringo seemed to be trying to enter their ceiling so he would even damage the plywood. The residents asked for a solution to stop Ringo from destroying their ceiling. We suggested installing an artificial nest box nearby, as it seemed Ringo was desperate for a nesting site. Since his nest tree had been cut down, he had no choice but to search elsewhere - even inside a person's house!

The landowner agreed to allow Gaia to install a nest box near his home, and to our surprise, Ringo immediately used it. But misfortune struck poor Ringo again. Before the nesting season was over and while the female was still inside with her chicks, there was a food stall that popped up near the tree. People running the food stall requested that the nest box be moved elsewhere, complaining that bird droppings attracted too many flies to the stall. We had to plead with the stall owner to wait just a few more weeks until Ringo and his family finished their nesting season. Then, we promised that we would relocate the nest box. Thankfully, he agreed and allowed the nest box to be placed not too far away.

At first, we doubted whether Ringo would reuse the nest box, thinking it might take two to three years for him to adapt. After all, it was now in a lower position near a food stall. But to our astonishment, during the same nesting season, Ringo resumed using the nest box without any hesitation, seemingly unbothered by his new surroundings. We were relieved and overjoyed to see him nesting again, ensuring the continuation of his species. With Gaia's intervention, Ringo has had at least four chicks with his mate from 2018 to 2025. There would

be more, but the team had missed several moments when they fledged. In the world of conservation, simple human interventions can make big differences.

Acknowledgment

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Gaia – Hornbill Conservation



Gaia, is a multi-award winning social enterprise dedicated to wildlife conservation in Malaysia, focusing on protecting endangered hornbill species through various initiatives. It was founded by husband-and-wife team, Ravinder Kaur and Sanjitpaal Singh in 2015.

Recognizing the scarcity of natural nesting sites due to historical logging, the team of six aims to identify and restore natural tree cavities to make them suitable for hornbills to nest in. In collaboration with local communities in Terengganu and in Sabah, they have geotagged numerous potential nesting sites and performed carpentry work to make these cavities viable for hornbills. Over the years, nine Oriental Pied chicks have fledged from restored tree cavities. Gaia also constructs and installs artificial nests in areas frequented by hornbills. They have joined forces with the pioneers of the hornbill artificial nest project in Sabah, HUTAN-KOCP. HUTAN has much success with artificial nests, especially with Rhinoceros hornbills using these structures and having up to six chicks. These artificial nests provide alternative nesting options and are more suitable for large-bodied hornbills in previously logged forests, where large trees with larger cavities have become scarce.

Gaia also engages in reforestation projects, cultivating and planting hornbill-preferred food plants, such as fig trees, to enhance food availability and habitat quality. Through metagenomics, Gaia works with Sunway University to uncover the diet of the elusive hornbills, by using their fecal samples.

Partnering with local communities, Gaia involves indigenous villagers as 'hornbill guardians' to locate and monitor nests in Terengganu. To encourage love and appreciation towards hornbills in Malaysia, Gaia also conducts educational outreach programs to raise awareness about hornbill conservation in villages by organising talks and fun activities such as colouring sessions with kids. In 2024, Gaia together with Yayasan Sime Darby and Minister of Environment, Nik Nazmi, have established the first National Hornbill Day in Malaysia. In addition, Sanjitpaal Singh's captivating hornbill photographs have been featured in a special stamp series by POS Malaysia, commemorating the inaugural National Hornbill Day.

More details about Gaia and the work they do can be found in their website: https://xploregaia.com/

gaia
Wildlife Conservation Malaysia