

## An incident of a hornbill that 'fell from the sky' in the Royal Belum State Park, Perak State, Peninsular Malaysia

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The Asian hornbill *Rhyticeros* spp. are generally strong fliers, enabling them to roam large parts of the forest landscape and even migrate long distances (Arthayukti 2015; Kemp 1995). Although incidences of hornbills falling to the ground or water bodies while flying are rare or perhaps go undocumented as far as our literature search goes, there have been occasional reports of other bird species (both passerines and non-passerines) "falling from the sky" (Choi 2011). These incidences have been attributed to a variety of reasons i.e. adverse weather conditions (wind, snow, hail, lightning, storm), disease (avian botulism, avian influenza), human-induced noises (e.g. fireworks), post-collision trauma with physical structures (e.g. powerlines) or even freak accidents (Choi 2011; Yeap and Roslan Carang 2013).

In this paper, verbatim an incident of a 'fallen hornbill' was narrated by two Orang Asli (indigenous people) of Kampung Sungai Tiang in the Royal Belum State Park. The photos were taken by a smartphone.

"On 7<sup>th</sup> July 2019, we decided to go to Banding jetty so we used my fiberglass boat. As we journeyed downstream Sungai (= river) Tiang and was about to reach the state park's base camp, we noticed something in the water. Curious, we



**Fig. 1:** Abie holding the juvenile hornbill after rescuing it from the water.

slowed the boat and approached the "thing". To our surprise, it was a hornbill trying to swim to shore. We rescued the hornbill and brought it onboard. The hornbill was quite feisty, tried to bite us with its beak, so Abie held it tight. From its behaviour and body condition, we assumed that the hornbill had fortunately not been too long in the water. We do not know how or why



**Fig. 2:** The juvenile hornbill was dropped off at the lake's edge.

*it fell from the sky. We brought the hornbill to shore and placed it on the lake shore. On the shore, the hornbill spread its wings with open beak while observing my movements as we boarded our boat. We left the bird by the shore and continued our journey. The incident probably happened between 0900 and 0930 hrs. (See Figs. 1–3)."*

Based on the photos taken, the rescued hornbill appeared to be a juvenile Plain-pouched Hornbill (PPH) *Rhyticeros subruficollis* judging from the absence of black markings, or faints ones, on its pouch (Kemp 1995; Poonswad et al. 2013). The location where it was rescued is a known flight path of the PPH within the Belum-Temengor Forest Complex (BTFC), where they have been observed heading upstream of Sungai Tiang after leaving its roost site(s) in another part of the forests at dawn. This incident also coincides with the early onset period of PPH arrivals to BTFC which is between May



**Fig. 3:** The juvenile hornbill with its open beak and spread wings posture, as the rescuers depart from it.

and July before peaking in August or September (Yeap et al. 2015). Annual monitoring of the PPH flocks in BTFC have revealed that the movements consist of both juvenile and adult birds. Recently fledged juveniles and their parent birds 'migrate' south together after the nesting season in Thailand.

During the time of the rescue, the morning weather was cloudy and hazy. We believed sudden wind change caught the juvenile off guard while in flight due to its inexperience. This conclusion was made based on previous experience on 11 September 2015 (1810-1850 hrs), while documenting the movements of PPHs to their roost site(s) upstream of Sungai Temin (Royal Belum State Park), the weather changed dramatically with sudden bursts of strong winds as heavy storm clouds gathered (Yeap et al. 2016). A group of at least 30 PPHs flew against strong headwinds that rendered them almost 'stationary' in mid-flight. It was clear that they were struggling to make headway but some individuals did experience a sudden drop in flight altitude but managed to regain balance and continue their flight, once the winds subsided. The actual reason for the downed juvenile PPH in the water may never be known and will remain as conjectures.

Incidences of downed hornbills, if/when it occurs, are likely to go unreported in mainstream scientific journals. Our literature search in journal publications via Google Scholar search engine did not yield results. Unsurprisingly, some reports were detected in grey/popular literature and YouTube between 2012 and 2019 for Malaysia. Six cases (two in Peninsular Malaysia, one each in Sabah and Sarawak respectively, and two unknown places) were reported and are summarized in Table 1. Cases involving the Rhinoceros Hornbills *Buceros rhinoceros* (four cases) were the most common while the rest involved Black *Anthracosceros malayanus* and White-crowned *Berenicornis comatus* Hornbills.

The exact reasons leading to the 'downed' hornbills, especially for the Rhinoceros Hornbills but the Sungai Kinabatangan (Sabah) incident offer possible clue. Rhinoceros Hornbill pairs are territorial (Kemp 1995; Poonswad et al. 2013) and would defend their territory against other *Buceros* hornbills (Yeap Chin Aik, pers. obs.). Physical altercations while in flight between different individuals (or pairs) could result in 'downed' bird(s) although such incidences are rare. The White-crowned Hornbill incident provided a glimpse into their spatial memory of their forest habitat in Bakun (Dagang et al. 2012). The hornbill group were rescued after they 'flew into the water' which perhaps indicated that the hornbills had yet to 'realise' that once-forested habitat was being impounded at that time. Birds have been shown to exhibit high levels of spatial learning and memory in search of food resources and movements within their habitat or territories (Healy and Hurly 2004). The near collision case between Black and Oriental Pied Hornbills was clearly a freak accident as witnessed by Yeap C.A. and Roslan Carang and has not recurred to date.

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**Table 1.** “Hornbill falling from the sky” cases in Malaysia (2012-2019).

Date of occurrence	Location/state	Species	Notes	Source
2010-2011 (No mention of actual day/month.)	Bakun Hydro Electric Project (HEP) Reservoir / Sarawak	White-crowned Hornbill <i>Berenicornis comatus</i> (one female and three undetermined sex)	Group were rescued from the lake during the impoundment process and released in a location identified by Sarawak Forestry.	Dagang et al. (2012)
7 April 2013 (0830 hrs)	Sungai Halong, (BTFC) / Perak	Black Hornbill <i>Anthracoceros malayanus</i>  (one male and two females)	A group in near collision while in flight with an Oriental Pied Hornbill. Two females fell into the lake. One managed to ‘swim’ to shore while the other was rescued and released on land.	Yeap and Roslan Carang (2013)
26 April 2015 (Evening)	Sungai Kinabatangan / Sabah	Rhinoceros Hornbill <i>Buceros rhinoceros</i>  (two adult male)	The Rhinoceros Hornbills collided in mid-air resulting in one falling into the river. The fallen hornbill was rescued and released.	Chong (2015)
13 March 2015*	Tasik Kenyir / Terengganu	Rhinoceros Hornbill <i>B. rhinoceros</i> (young adult)	Anglers reported it in the water and released it on land by anglers without footage of individual in the water.	Aizudin1 (2015)
11 June 2019*	Malaysia?	Rhinoceros Hornbill <i>B. rhinoceros</i> (adult male)	Anglers rescued a half-submerged individual in the lake and released on land. It is unclear if the location was in Malaysia. The first person in the video spoke in Bahasa Indonesia and the video title used the word “Temengang” while the others spoke Bahasa Melayu (Malaysia).	VidChan dimar (2019)

Date of occurrence	Location/state	Species	Notes	Source
2 August 2019	Tasik Temengor (BTFC) / Perak	Rhinoceros Hornbill <i>B. rhinoceros</i> (adult)	Nature guides rescued an individual in the lake at ca.18:30 near the jetty and passed it to the Gerik district wildlife officers. It died in captivity a day after and its carcass was transferred to the wildlife department's headquarters in Kuala Lumpur for post-mortem.	(Suhaimi Zainol and Hasdi Hassan, pers. comm.)

\*It is unclear if the date and month reflects the exact date of the incident or refers to the date of upload onto YouTube. The year is likely correct.



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