

HORNBILL
NEST
ADOPTION
PROGRAM

Annual Report 2023



Photo: Budhiram Tai

Saving hornbill homes with communities

The Hornbill Nest Adoption Program (HNAP) is a conservation initiative that was launched in 2012. This community-based conservation for hornbills is running for the 12th year and incorporates an inclusive approach towards conservation.

The HNAP has protected hornbills and their homes, supported livelihoods of local community members, sparked interest and awareness among local people towards hornbill conservation and brought together a community of people and institutions worldwide to support and celebrate hornbills.

The eleven Nest Protectors who are at the forefront of this programme belong to the *Nyishi* tribe, a dominant tribe in Arunachal Pradesh. The nest protectors belong to different villages spread across the Papum Reserved Forest which is adjacent to the Pakke Tiger Reserve. The RF is an important hornbill habitat which is used by hornbills for nesting and for roosting. The Nest Protectors monitor and protect these sites and contribute towards the long-term understanding of hornbill ecology.

Under the careful vigilance of the nest protectors, 206 hornbill chicks of three hornbill species – Great hornbill, Wreathed hornbill, and Oriental Pied hornbill, were raised from 2012-2023.



An Oriental Pied hornbill chick after fledging from the OPHD4 nest tree which was monitored by Budhiram Tai. Photo: Budhiram Tai

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The Great hornbill male of WH/GHB1 during a feeding visit at the nest tree
Photo: Taring Tachang

The Hornbill Nest Adoption Program (HNAP)

The HNAP officially launched in 2012 to protect three species of hornbills (Great, Wreathed and Oriental Pied hornbill) and their habitats in the Reserved Forest that lies adjacent to the Pakke Tiger Reserve in Arunachal Pradesh.

Eleven community members who belong to the *Nyishi* tribe are trained to monitor and protect hornbill nests, roost sites and to conduct transect surveys to understand trends in the hornbill population in the Reserved Forest.

The HNAP is supported by donations received from individual donors, institutions and zoos and runs on the model of “shared parenting”.

HNAP

2012 onwards

- 21 Nest Protectors employed and trained
- Monitored over 40 hornbill nests of three species
- Monitored ~20 hornbill roost sites
- Documented successful fledging of ~ 206 chicks of three hornbill species



Nest monitoring in Papum Reserved Forest

This year, the nest protectors monitored 32 hornbill nests from January onwards. Out of 32 nests, 16 nests (50%) were used by hornbills for nesting in this year's breeding season. Two new Oriental Pied hornbill nests were found this year by the nest protectors Prem Tok and Budhiram Tai.

Table 1a: Hornbill nest entry dates for the Papum RF in 2023

Female entry	Great hornbill (n=3)	Oriental Pied hornbill (n= 9)	Wreathed hornbill (n= 2)
Range	28 March – 11 April	1 April – 13 April	11 March – 19 March
Mean	3 April	8 April	15 March

In an unfortunate incident, we lost three nest trees this year in the beginning of the breeding season. These were cut down by residents of the area. In previous years, we have made several attempts to engage in dialogue with people to refrain from cutting down trees, especially those that are used by hornbills for nesting. However, this year, the trees were cut before our nest protectors could obtain any prior information regarding this.

Among the three nest trees that were cut down, two trees (OPHG2 and OPHG3) were used by the Oriental Pied hornbill in the past but had remained inactive and was not used for nesting for several years (both were last active in 2016). The third tree used to be occupied by Great and Wreathed hornbill (GH/WHG1) but from 2016-2021, the nest used to be abandoned mid-season (May) every year with no successful chick fledging. We could not determine the reason why nesting was abandoned mid-way in this tree as the tree was an isolated one in the middle of stream bed and impossible to climb to check the cavity condition. In 2022, this nest was not occupied by any hornbill pair for nesting, possibly because of unsuitability of the cavity for nesting.

The overall nest occupancy (total nests occupied out of the total nests that were monitored) was 50% at the RF this year. The nesting success which is the total number of nests that were successful was 75%. Two of the Great hornbill nests and 1 Oriental Pied hornbill nest was abandoned mid-season. We were unable to ascertain the reasons for abandonment of these nests. One Great hornbill nest was active for 97 days after

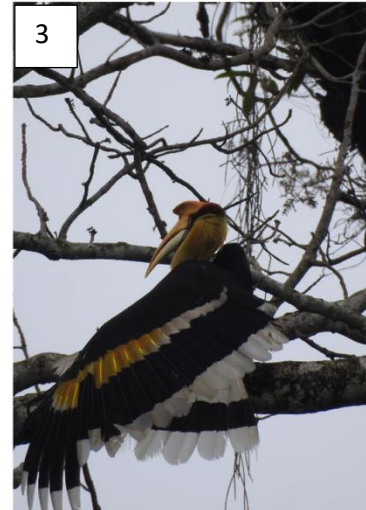
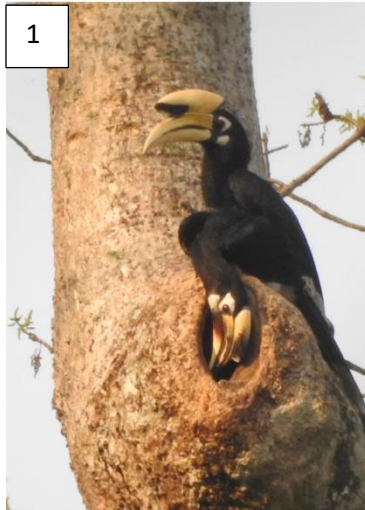
which the female emerged out of the cavity and the cavity was later occupied by a hill myna pair.

Table 1b: Nesting summary of hornbill nests in the Papum Reserved Forest, Arunachal Pradesh

Hornbill species	Active nests	Successful	Unsuccessful	Average nesting duration
Great hornbill	4	1	3	NA
Oriental Pied hornbill	10	9	1	88 days (n=8)
Wreathed hornbill	2	2	0	116.5 days (n= 2)
Total	16	12	4	-

Table 1c: Summary of the active nests in the Papum Reserved Forest, Arunachal Pradesh

	Nest ID	Location	Length of nesting cycle						Success	Nest protectors	
			Mar	Apr	May	June	Jul	Aug			Sept
GREAT HORNBILL											
1	GHL1	Lanka top		2-Apr 30-Apr						Abandoned	Sako Waru
2	GHA/M1	Pakke Jungle camp	28-Mar	6-Apr						Abandoned	Vijay Tachang, NikjeTayem
3	GHJ3	Birap					26-Jul			Yes	Kaja Keyang
4	WH/GHB1	Bali nala		11-Apr			17-Jul			Unsuccessful	Taring Tachang
WREATHED HORNBILL											
1	WHA/M9	Taraso	11- Mar		122 days		11- Jul			Yes	Prem Tok
2	OPH/WHJ8	Tamoso nala	19- Mar		111 days		8- Jul			Yes	Kaja Keyang
ORIENTAL PIED HORNBILL											
1	OPHJ6	Jolly-palling		13-Apr	90 days		12-Jul			Yes	Naga Kino, Tajek Wage
2	OPHUS1	Sukanaala - Upper Seijiusa		7-Apr	90 days		6-Jul			Yes	Rikum Gyadi
3	OPHUS2	Sukanaala - Upper Seijiusa		1-Apr	94 days		4-Jul			Yes	Rikum Gyadi
4	OPHA/M3	A3		7-Apr	91 days		7-Jul			Yes	Vijay Tachang, NikjeTayem
5	OPHA/M8	Tanki Nala		10-Apr	85 days		4-Jul			Yes	Vijay Tachang, NikjeTayem
6	OPHA/M7	Para Hapa/Doimukh		11-Apr- 20-Apr						Abandoned	Prem Tok
7	OPHA/M10	Para Hapa/Doimukh		11-Apr	84 days		4-Jul			Yes	Prem Tok
8	OPH Ma1	Margasso		10-Apr	78 days	27- Jun				Yes	Tajik Tachang
9	OPHA/M11	Taraso		6-Apr	92 days		7-Jul			Yes	Prem Tok
10	OPHD4	Monai					15 Jul			Yes	Budhiram Tai



These photographs are from this year's breeding season taken by the nest protectors. 1 and 2) OPHA/M3 by Vijay; 3) GH/AM1 by Vijay; 4) WH/GHB1 by Taring; 5 and 8) OPHA/M8 by Vijay; 6) GH/WHD1 by Budhiram and 7) OPHD4 by Budhiram

Long-term monitoring of hornbill roost sites

The nest protectors monitored 20 roost sites from September 2022 to August 2023. The hornbill breeding season at Pakke largely falls between March to August with some variation between the three species.

In the non-breeding season (September to February), four sites were used by the Oriental Pied hornbill, of which only one site (Jolly Top) was used more frequently compared to the other three. At this site, hornbills were sighted 12 days out of the 28 days, that the site was monitored in the non-breeding season. The number of Oriental Pied individuals arriving at this site ranged from 1 – 6 individuals.

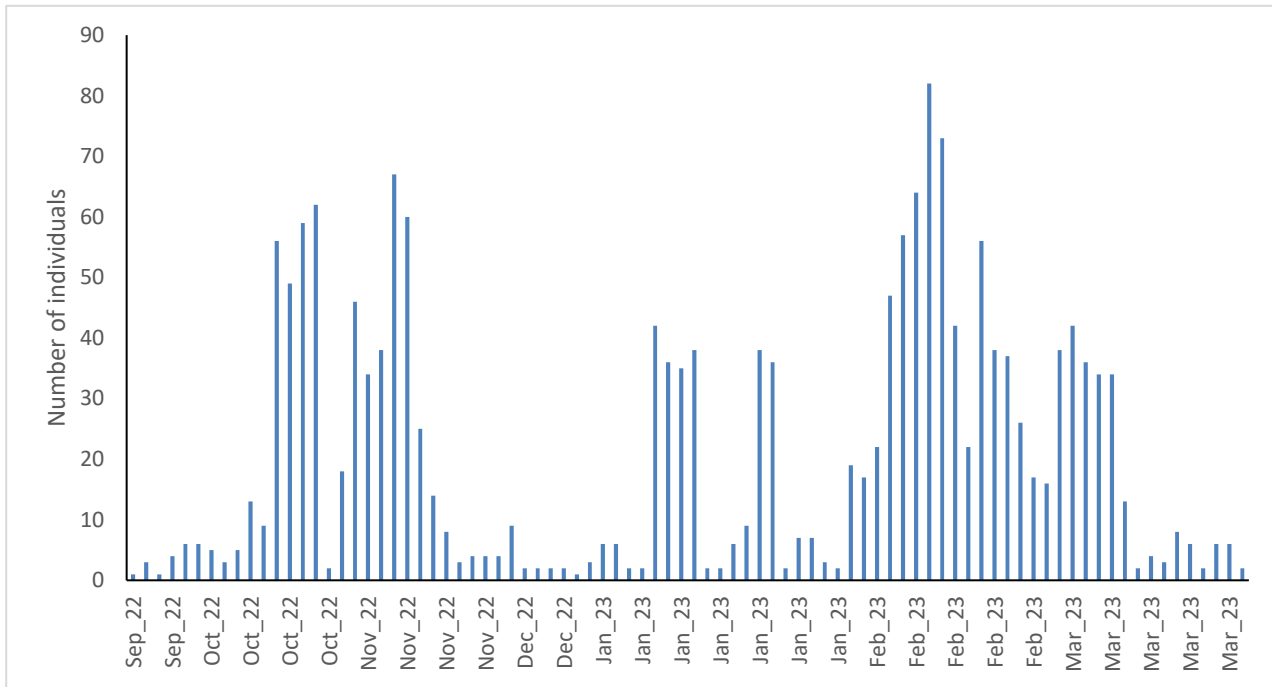
Eight other sites were used by the Wreathed hornbill during this non-breeding period. The number of individuals visiting these sites varied, but the highest count was at the Darlong village roost site with 82 individuals recorded on one evening in February, 2023.

Table 2: Summary of roost site monitoring in the non-breeding period (Sep 2022 – Feb 2023)

	Roost site	Hornbill species	No. of days monitored	No. of days hornbills seen	Range	Maximum numbers
1	A2 (Dibru-Pakke)	None	1	0	NA	NA
2	A2 Pani Tanki	None	32	0	NA	NA
3	A3	WH	2	1	13	13
4	Base Camp	WH	104	71	1 - 82	82
5	Dibru	WH	94	6	6	6
6	Dibru 2	None	1	0	NA	NA
7	Dibru Nala	None	38	0	NA	NA
8	Firing Nala	WH	72	19	1 -16	16
9	Goloso	WH	50	3	6 -7	7
10	Jolly 1	OPH	60	5	2-5	5
11	Jolly 2	OPH	42	1	4	4
12	Jolly River	OPH	59	1	2	2
13	Jolly Top	OPH	28	12	1 -6	6
14	Jolly-Palling	None	50	0	NA	NA
15	Lanka 4KM	None	45	0	NA	NA
16	Lanka Plantation	None	2	0	NA	NA
17	Malu Pahar	WH	65	61	2-26	26
18	Singterso Nala 1	None	39	0	NA	NA
19	Singterso Nala 2	WH	34	13	2	2
20	Tanda Pahad	WH	43	33	2-28	28

WH – Wreathed hornbill; OPH – Oriental Pied hornbill

Fig 1: Roosting of Wreathed hornbill at Darlong from September 2022 – March 2023



The above figure shows the number of Wreathed hornbills using the roost site at Darlong from September 2022 to March 2023. The numbers were relatively high in October-November with 50-60 birds using the site, numbers dipped in December, with more birds starting to roost here again in January. The number of birds using the roost site increased again in February with 70-80 birds observed during this month and declined in March at the start of the breeding season.

Hornbill encounter rates and trends in the Papum RF

The nest protectors have been conducting surveys along established transects in the Papum RF during the non-breeding season (August to February). Transects of varying length (0.91 to 3 km) were walked in the morning by 2-3 observers from August 2016 to January 2023.

Eighteen transects were walked over the seven years, with ten transects walked more regularly. Parameters recorded are date, start and end time, weather, species, flock size, time of detection, activity, perpendicular distance. Detections (sightings and calls) were used to calculate encounter rates – detections per km walked. We also calculated encounter rates separately only for direct sightings - numbers seen per km walked.



Fig 1: Map of the Papum RF adjacent to the Pakke Tiger Reserve and the transect trails in the Papum RF

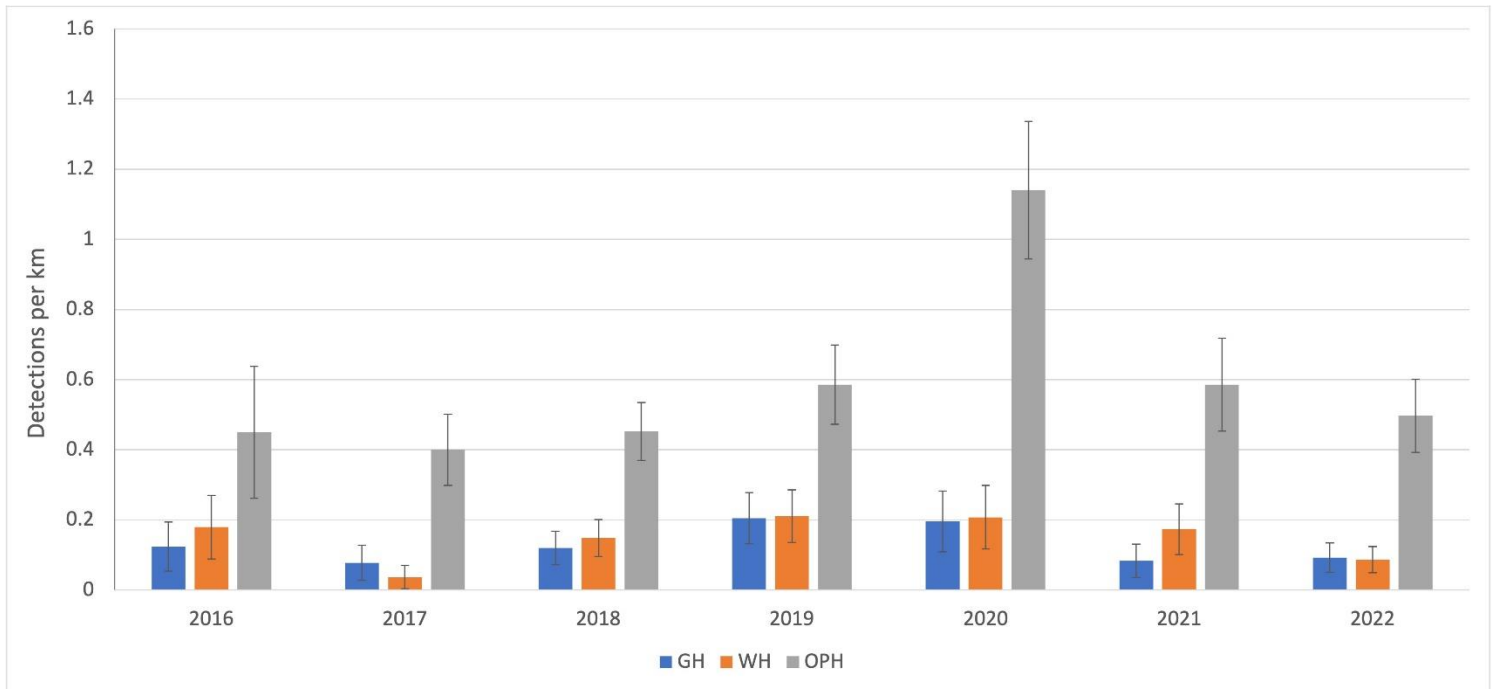
Great hornbill (GH) encounter rates ranged from 0.08 detections per km in 2017 to 0.20 detections per km in 2019. Wreathed hornbill (WH) encounter rates ranged from 0.03 detections per km in 2017 to 0.21 detections per km in 2019. For both species, encounter rates peaked in 2019 but declined in 2021 and 2022. In terms of numbers/km, lowest ER was in 2021 and highest in 2019.

Oriental Pied hornbill (OPH) encounter rates ranged from 0.4 detections per km in 2017 to 1.14 detections per km in 2020.

Overall, the encounter rates appear to have remained stable for the GH and WH, although some years have shown a decline, with a small increase in 2019, 2020. OPH encounters have been more than double that compared to the two large hornbill species, while encounter rates were 5 times higher in 2020 than other years.

This effort has been presented as a case study of systematic monitoring in the State of India Birds, Report, 2023 which can be found [here](#).

Fig 2: Encounter rates (detections per km with 95% CI) of three species of hornbills from 2016 to 2022



Nest monitoring in Pakke Tiger Reserve



Great hornbill nesting male visiting the nest in Pakke TR. This nest has been monitored since 1998.
Photo: Khem Thapa

At the Pakke Tiger Reserve, hornbill nests have been monitored for over two decades. This is the only long-term data collected on hornbill nesting from the Indian Eastern Himalaya region. Such long-term data allows us to better understand their breeding ecology, changes observed in nesting patterns and inter and intra species competition for nests.

This year, 27 nests were monitored by our field research team led by Khem Thapa and Turuk Brah. Out of these nests, 19 were active this year and used for nesting by three species of hornbills – Great, Oriental Pied and Wreathed.

One of the new Great hornbill nests that was found only in May was active until September 6th, 2023. All the 13 nests that our team was able to monitor until the end of the nesting season had successful chick fledging. We could not determine the outcome in 6 nests as the nest locations were difficult to access during the monsoon season which also coincides with the chick exit period.

Table 3a: Hornbill nest entry dates for Pakke TR in 2023

Female entry	Great hornbill (n=5)	Oriental Pied hornbill (n=3)	Wreathed hornbill (n=4)
Range	March 3 – March 13	April 2– April 15	Feb 24 – April 11
Mean	March 8	April 10	March 21



A Great hornbill chick after fledging from the GH2 nest at Sukan nala inside Pakke Tiger Reserve.
 Photo: Khem Thapa

Table 3b: Nesting summary of hornbill nests in the Pakke Tiger Reserve, Arunachal Pradesh

Hornbill species	Active nests	Successful	Unsuccessful	Outcome unknown	Average nesting duration
Great hornbill	12	6	0	6	126 days (n=4)
Oriental Pied hornbill	3	3	0	0	78 days (n=3)
Wreathed hornbill	4	4	0	0	128.5 days (n= 4)
Total	19	13	0	6	-



A Wreathed hornbill male during a feeding visit at the 24OPH/WH nest at Dhuna nala, Pakke Tiger Reserve. Photo: Khem Thapa

Nest Protectors assist in the Nature Education Programme

Some of the nest protectors have been trained in imparting nature education and over the years have assisted in the Nature Education Programme (NEP). Our long-term NEP was initiated for schools outside Pakke Tiger Reserve in 2017 with an aim to connect local school children to their natural heritage. We have 11 schools from two ranges of Pakke, registered with us. The year-long activities with these schools are led by Saniya Chaplod with help from our field research team and the nest protectors.



Tajik Tachang, the HNAP local coordinator, sharing stories about hornbill breeding to school students



Children being introduced to birds, their behaviour and habitat by Saniya Chaplod during the nature camps inside Pakke Tiger Reserve conducted for school students



Tajik narrating the folktale of the *Nyishi* man and his tiger brother where he also shares about taboos/rules around hunting and protection of wild animals that is an intricate part of the *Nyishi* culture.

Felicitation of the Nest Protectors

During the Pakke Paga Hornbill Festival from January 18th-20th 2023, the nest protectors of the Hornbill Nest Adoption Programme (HNAP) were felicitated for their contribution towards hornbill conservation and disseminating awareness in the local communities.

Tajik Tachang, the local coordinator, was invited to receive the felicitation on behalf of the HNAP team from Shri. Mama Natung, Honorable Forest Minister of Arunachal Pradesh.



In search of the Rufous-necked hornbill

A team of five nest protectors went for a short survey to the higher elevation forest of Papum R.F from May 13 – 15th, 2023. This survey was done primarily to look for any nesting activity of the Rufous-necked hornbill, a species that prefers higher elevation forests.

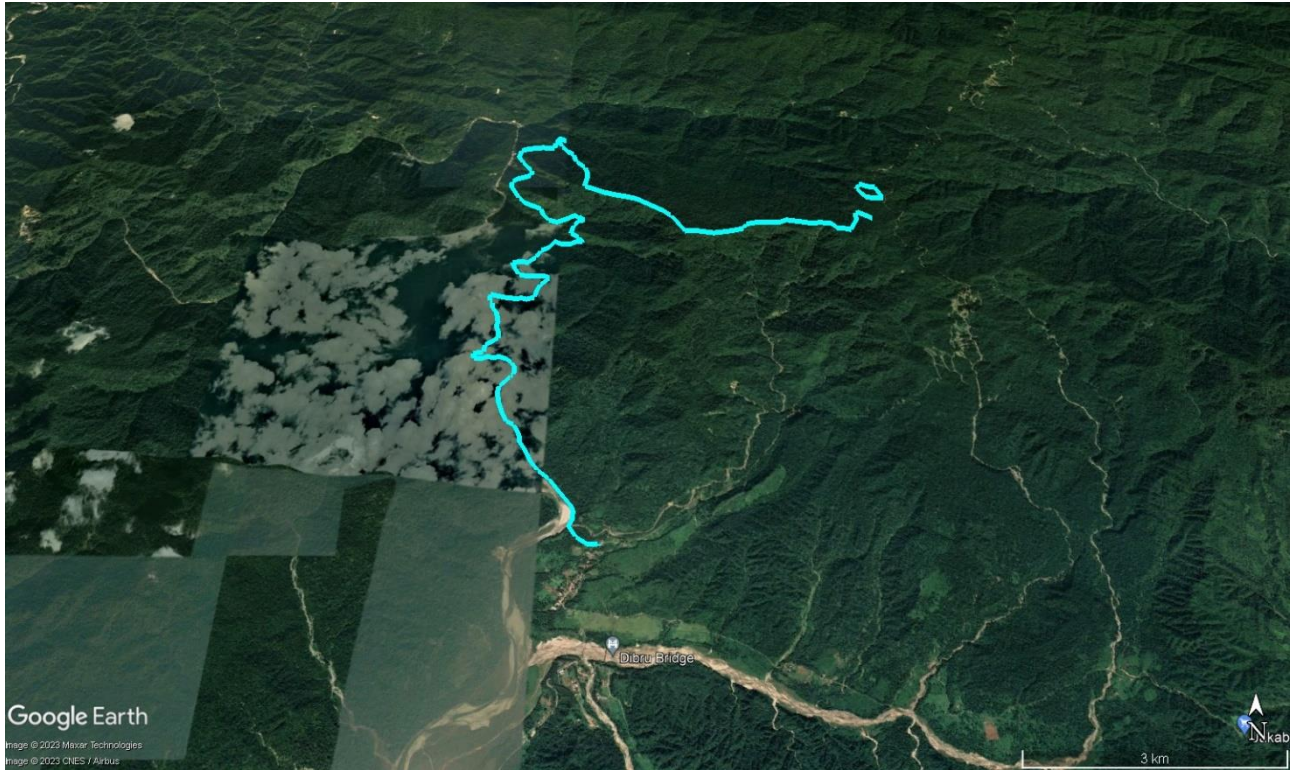
A total survey covered 22 km along some parts of the new and old NIC road. The team did not obtain any direct or indirect detections of the Rufous-necked hornbill. There were some old feathers of the Rufous-necked hornbill that were found by the nest protectors. There were some cavities that looked like potential hornbill cavities which may have been used in the past, but were not active this year.

The nest protectors extensively searched some parts of these forests for three days and were able to only hear calls of the Great hornbill. There was no sign of the Rufous-necked hornbill.

The forest has also been disturbed due to many human activities and the quality of the forest has degraded.



Nest protectors Vijay, Taring, Prem, Kaja and Rikum were part of the exploratory survey to look for the Rufous-necked hornbills in the higher elevation forests of Papum RF



The first image shows the area covered by the nest protectors for the survey and in the second image Prem Tok is seen carefully observing his surrounding for any hornbill activity

8th International Hornbill Conference

The 8th International Hornbill Conference was held from 22nd -24th May 2023 in Bangkok, Thailand. Several of us presented results of the hornbill research and conservation work that we have been involved in across different sites in the Eastern Himalaya.

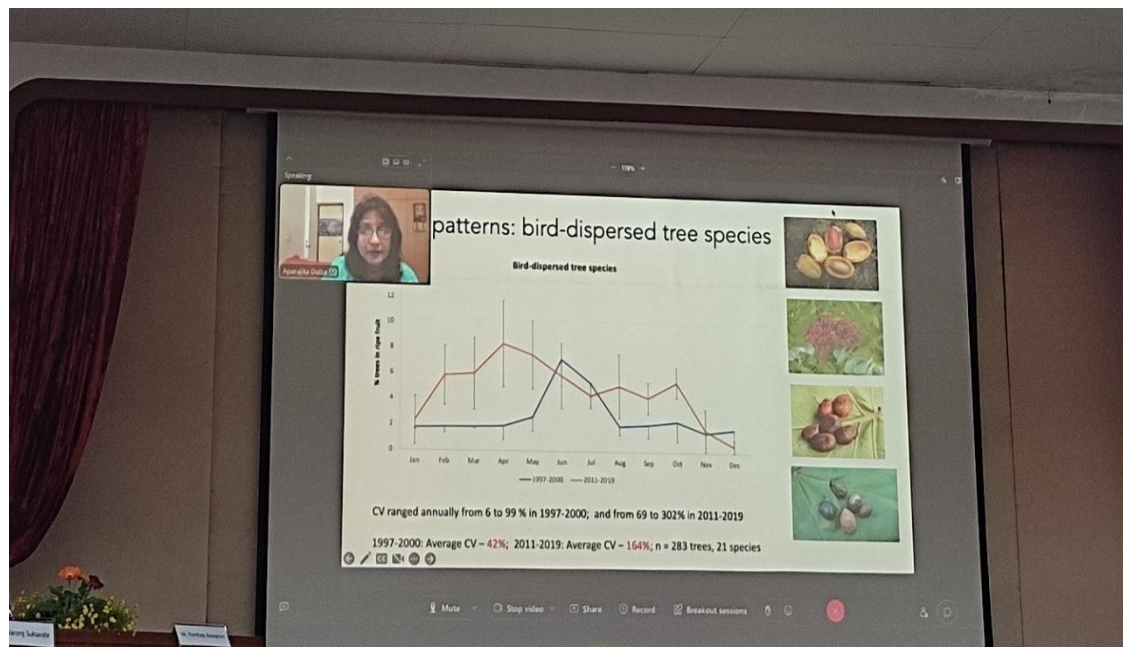


Top image: NCF researchers along with Dr. Pilai Poonswad and the team from Bhutan.

Bottom image: Our team – Karishma Pradhan, Shilpita Mandal, Khem Thapa and Saniya Chaplod.

Keynote presentation on long-term monitoring of hornbills in Arunachal

Dr. Aparajita Datta was invited to present a keynote talk during the Hornbill Conference. In her talk titled, “The future for hornbills in the face of local and global change: insights from long-term ecological monitoring and conservation action in the Eastern Himalaya”, Aparajita shared key findings from our long-term ecological research on hornbills and the possible threats to the hornbill population in the face of climate change.



Presentation on the Hornbill Nest Adoption Programme (HNAP)

Tajik Tachang, HNAP field co-ordinator was going to make a presentation titled “Becoming protectors of hornbills: the story of the Nyishi tribe” for the 8th International Hornbill Conference. Tajik was all set to deliver a talk about his journey as a nest protector and highlight some of the key milestones of the Hornbill Nest Adoption Programme (HNAP). However, Tajik’s passport did not arrive in time and unfortunately, he was unable to make it to the conference.

Karishma Pradhan, project coordinator of HNAP, gave the talk on his behalf in the conference and showed a video of the nest protectors speaking about their work.



Presentation on the Nature Education Programme

Saniya Chaplod presented a talk on “Connecting Children to Hornbills and their forests”. In her talk she spoke about the motivation behind starting the nature education programme for schools outside the Pakke Tiger Reserve and shared some of the key highlights of the programme that is running in its 7th year currently.



Poster presentation on hornbill roosting in Buxa Tiger Reserve, West Bengal

Shilpita Mandal, a researcher with Nature-Mates Nature Club, our collaborating partner NGO in north Bengal, presented a poster on the “Roosting patterns of two hornbill species in Buxa Tiger Reserve in the Indian Eastern Himalaya”. She presented the key findings of seasonal and annual roosting patterns from 2018-2022 in roost sites used by Great and Wreathed hornbills in Buxa TR.



Presentation on the Rufous-necked hornbill population in Latpanchar, West Bengal

Karishma Pradhan shared the preliminary findings of our research in Latpanchar, a fringe village of the Mahananda Wildlife Sanctuary in her presentation titled, “The Rufous-necked hornbill population in Latpanchar: realities and perception”. In her talk, she spoke about the social surveys conducted across four villages in Latpanchar to understand people’s perception towards hornbills and the changes observed in their population over the years. She also presented findings of our year-long transect effort to understand the current status of the Rufous-necked hornbill population in Latpanchar.

Publications

A research paper on the breeding biology of the White-throated Brown Hornbill in Assam was recently published in the Hornbill Natural History and Conservation (HNHC), the journal published by the IUCN SSC Hornbill Specialist Group.

Bora, B., Sonowal, D., Khakhlari, N., & Datta, A. (2023). *The breeding biology of the cooperatively breeding White-throated Brown Hornbill (Anorrhinus austeni)*.

The full paper can be sourced from this [link](#).



Breeding male with a sub-adult juvenile at one of the nests that was being monitored in Assam.
Photo: Bhaskar Bora

Hornbills need our support now more than ever

Adopt a hornbill nest

To help us continue this conservation initiative, please continue to support the Hornbill Nest Adoption Program (HNAP).

The bank account details for Indian nationals to transfer the funds are:

For Salaried employees

Section - 80 G (Exemption 50%)
Name: Nature Conservation Foundation
A/C No: 912010039076365
A/C type: Savings
IFSC code: UTIB0000151
Bank Name: Axis Bank Ltd
Branch: VV Mohalla, Mysore

For Professionals

Section - 35 (Exemption 150%)
Account Name: Nature Conservation Foundation
A/C No: 912010067967491
RTGS/NEFT/IFSC code: UTIB0000151
Bank Name: Axis Bank Ltd
Branch : VV Mohalla, Mysore

OR

You can also donate on our NCF link [here](#).

OR

You can send us a cheque in the name of '**Nature Conservation Foundation**'

The address is:

Smita Prabhakar
1311 12th Main Vijayanagar 1st Stage
Opp Kodava Samaj
Mysore 570 017.

Note: We cannot accept cash donations or cash deposits.

If you do transfer the funds, please do send us an e-mail with PAN number, name and address of the person to whom the receipt must be issued for IT exemption.

For foreign donations, kindly write to us at – karishma@ncf-india.org, chaithra@ncf-india.org or hnap@ncf-india.org

The journey of one of our youngest HNAP donors

- Maitreya Sukumar

I have always been fascinated by hornbills. From the way they look, the way they fly, to the way they are critical to the health of tropical rainforests through seed dispersal, and their unique nesting strategy, there are many unique and quirky things one sees with hornbills. My interest in hornbills began a long while back during my school years. It was in 2008 that I got my hands on the book “Walk the Rainforest with Niwupah”, written by Dr Aparajita Datta of the Nature Conservation Foundation. I still remember flipping through the pages of the book, learning about hornbill nesting behaviour, the kind of fruits they feed on, the threats that they face, and even about the communal roosting behaviour of the Wreathed Hornbill, something that I was fortunate to witness several years later. Little did I realise that this book was just the start of an incredible journey of learning about hornbills on which NCF would play a big part in the years to come.

Cut to 2015, I was already in 7th grade, and my interest in wildlife had grown deeper. In May that year, while birding in the Mishmi Hills of Eastern Arunachal, I noticed one day that my driver, was wearing a shirt with the logo of NCF’s famous Hornbill Nest Adoption Programme on it with the line” I keep the forests alive, help me live”. After that, I read up more on how the HNAP operates in the Pakke Tiger Reserve, and of how I could contribute. Through this, I got to learn of the incredible story of the Nyishis, who initially used to hunt the hornbills, but since then have become their protectors, protecting their nests and roost sites from any disturbances. I also learnt that one could raise money to sponsor the nests, and thus indirectly help the nest protectors. In September that year, I decided to bring up this issue in school so that I could raise money to sponsor hornbill nests, which were being protected by the locals around Pakke Tiger Reserve. That year, I managed to raise an amount sufficient to sponsor a total of 3 nests.

Five years later, in 2020, I managed to visit Pakke Tiger Reserve in Arunachal to assist nest protectors with monitoring the nests of Great and Wreathed Hornbills. I was looking forward to it a lot and had great fun monitoring and observing the activities of the male hornbills as they fed the females at the nests. However, as much as I was enjoying myself there, disaster struck. The COVID-19 pandemic had just started making inroads into Arunachal and the lockdown was about to be

imposed on the entire country. As a result, my stay there was cut short. However, as disappointed as I was of not being there for longer, I knew that there would be another opportunity to work with hornbills again later.

Then, in 2023, I got the opportunity to visit Latpanchar, a quaint hamlet in the hills near Kurseong, West Bengal to carry out a short internship with NCF. This time, I got to spend an entire month there, monitoring birds along transects, as well as monitoring the nest of a Rufous-necked Hornbill. It was a first-hand experience in collecting data related to hornbill nesting behaviour, such as visits of the male hornbill to the nest, the duration of feeding cycles, and the number and species of fruit he regurgitates for the incarcerated female and chicks. In contrast to Pakke, I was involved in a lot more activities, such as tree phenology studies, doing night birding, and training local people with eBird, an app that is used to make checklists which are then used by scientists to assess trends of bird populations all over the world.

The more one learns about hornbills, the more one thirsts to know more about these magnificent “farmers of the forest”.

They've caught us young

We continue to receive support from young students who are keen to contribute towards wildlife conservation.

Over the last one year, we have been touched by two fund-raisers that were organized by school students to support the HNAP.

Members of the “Eco-saviours” - Aryan Mago - 13 years; Fateh Jahaan Dhaliwal - 13 years; Saanvi Sehgal - 10 years; Daneya Chaudhari - 13 years and Ayaan Mago - 8 years organized a bake-sale and raised funds for the HNAP.



Vibhav Peri, 15-year-old watercolor artist, painted profiles of 12 keystone wildlife species of India. He used these paintings to design calendars by himself and raised funds which he chose to donate to the HNAP.



Additionally, we have another 11-year-old who was keen to support our work and adopt a nest after reading about the HNAP.

It was also heartwarming when the Class 8 students of the Govt. Upper Primary School, in Seijosa wanted to raise money and adopt a hornbill nest to support our work. They expressed this at the end of our 3-day nature camp during which our team including the nest protectors shared stories about hornbill breeding and spoke about their role in protecting these hornbill nests.

We are truly grateful for all the support that we have received from individual donors, our young friends, institutions, and the zoos for helping us protect hornbills and their homes.

Hornbill nesting updates from West Bengal



An Oriental Pied hornbill female enters the cavity at the beginning of the nesting season
Photo: Sitaram Mahato

Buxa Tiger Reserve, West Bengal

Our hornbill research and conservation work at north Bengal started in 2017. Since 2018, we started monitoring hornbill nests of four species in Buxa Tiger Reserve.

In 2023, 34 nests of Great, Wreathed, Oriental Pied and Rufous-necked hornbills were monitored from February onwards at Buxa. Out of the 34 nests, 27 nests were used by hornbills for nesting this year with nest occupancy at 79.4%. We were able to determine the outcome for the nesting in 20 nests, out of which 17 nests had successful chick fledging and one other OPH nest was only partially successful.

Table 4a: Hornbill nest entry dates for Buxa Tiger Reserve in 2023

Female entry dates	Great hornbill (n=5)	Oriental Pied hornbill (n=8)	Rufous-necked hornbill (n=1)	Wreathed hornbill (n=1)
Mean	February 25	March 26	March 29	March 16
Range	Feb 15 – March 2	March 17– April 4	NA	NA

Table 4b: Nesting summary of hornbill nests in the Buxa Tiger Reserve, West Bengal

Hornbill species	Active nests	Successful	Unsuccessful	Outcome unknown	Average nesting duration
Great hornbill	8	5	1	2	117.3 days (n = 3)
Oriental Pied hornbill	15	10	2*	3	88.9 days (n = 7)
Rufous-necked hornbill	2	1	0	1	117 days (n = 1)
Wreathed hornbill	2	1	0	1	134 days (n = 1)
Total	27	17	3	7	-

* One nest was partly successful

Mahananda Wildlife Sanctuary, West Bengal

In December 2021, we expanded our hornbill research to Mahananda Wildlife Sanctuary and surrounding forests of Latpanchar.

We know of six hornbill nests in and around Latpanchar, a fringe village of the Mahananda Wildlife Sanctuary and one nest inside the sanctuary area.

Out of the total nests known, two nests of the Rufous-necked Hornbill (RNH) were active in 2023, one of which was found in the middle of the breeding season. One other nest of the Great Hornbill (GH) was also active. We recorded chick fledging in one Rufous-necked Hornbill and one Great hornbill nest, but, we were unable to determine the outcome of the other RNH nest as it was difficult to access this nest due to the weather conditions.

Table 5a: Hornbill nest entry dates for Buxa Tiger Reserve in 2023

Species	Female entry	Chick exit	Nesting duration
Great hornbill	Between March 9 - March 23	4 July	NA
Rufous-necked hornbill	April 5	August 2	119 days
Rufous-necked hornbill	NA	NA	Found in the middle of the breeding season but was monitored only once as it is difficult to access during monsoons



The Rufous-necked hornbill is the iconic species of Latpanchar and is deeply linked with people's lives
Photo: Sikander Dewan



A Great hornbill male during a feeding visit at the nest
Photo: Sikander Dewan

Hornbill Watch – a citizen science initiative to create a hornbill database

Hornbill Watch (HW), launched in 2014, is an online platform created specifically to record public sightings of hornbills from anywhere in India. The idea of this citizen science project is to encourage birders, nature enthusiasts, and photographers to share information on hornbill presence, behaviour, and conservation-related issues. So far, we have received 1352 records from 617 contributors across India.

The information you share here is a valuable contribution to the hornbill conservation efforts.

How can you do it?

Go visit our website [Hornbill Watch - Home \(hornbills.in\)](http://hornbills.in). Click on ‘Report your sightings’ on the top. Fill in all the details and submit. You can share with or without an image. It's that easy!

You can also learn more about all the nine species, their behaviour, ecology, distribution and conservation.

The screenshot displays the 'REPORT YOUR SIGHTING' form on the Hornbill Watch website. The form is organized into several sections:

- REPORT YOUR SIGHTING:** A introductory text explaining the value of user contributions.
- YOUR DETAILS:** Includes input fields for 'Your Name*', 'Email*', and 'Phone'.
- UPLOAD IMAGE:** Features a 'Choose File' button, a note that no file is selected, and instructions regarding file size (300KB) and image dimensions (1024 pixels).
- SPECIFY LOCATION:** Contains dropdown menus for 'Where was this sighting?' (with 'Inside a protected area' selected), 'Specify the state' (with 'Choose one' selected), and 'Specify the protected area' (with 'Choose a state first' selected).
- SIGHTING DETAILS:** Includes dropdowns for 'Species*' (with 'Choose one' selected), 'Type of Sighting' (with 'Choose one' selected), and a text input for 'Numbers Seen'.
- SIGHTING DETAILS CONTINUED:** Features dropdowns for 'Date' (Day, Month, Year), 'Time' (with 'Choose One' selected), 'Age/Sex of Birds' (with 'Choose One' selected), 'Habitat Type' (with 'Choose One' selected), and 'Behaviour' (with 'Choose one' selected).
- SIGHTING DESCRIPTION:** A text area for 'Tell us more about the sighting (optional)' and a 'Submit' button.
- Consent:** A checked checkbox for 'I am happy to share this information to populate the database as part of a global database sharing project. I am the owner of the image and own the copyrights for the same.'

The Hornbill Watch website interface

Annual expense statement

Receipts and Expenses for HNAP for October 2022-August 2023

	Total Amount	Domestic	FCRA	Sec 35
Opening Balance	9,14,367	3,49,708	12,286	5,52,372
Donations Received	16,59,845	4,80,650	10,88,195	91,000
Total Receipts	25,74,212	8,30,358	11,00,481	6,43,372
Expenses				
Salaries (Nest Protectors)	9,19,007	6,16,788	3,02,219	-
Staff Insurance	46,700	46,700	-	-
Travelling Expenses	48,812	2,650	23,081	23,081
Fuel Expenses	5,909	5,909	-	-
Medical Expenses	1,977	-	1,977	-
Bank Charges, Rates & Taxes	21,204	9,950	10,950	303
Conference, Events & Meetings	16,000	16,000	-	-
Consumables - Field Supplies	214	214	-	-
Food and Accommodation	5,563	2,280	3,283	-
Printing & Stationery	940	940	-	-
Total Expenses	10,66,326	7,01,431	3,41,510	23,384
Available Balance	15,07,886	1,28,927	7,58,971	6,19,988

Acknowledgements

We are very thankful to all the hornbill parents and zoos for the financial contribution and support that helps us sustain this long-term, community-based hornbill conservation programme. We thank the Arunachal Pradesh Forest Department for their support towards our work. We thank the Serenity Trust, Arvind Datar and MM Muthaiah Foundation for supporting many of our on-ground research and conservation activities.

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We thank our colleagues in NCF's Eastern Himalaya program who have supported the HNAP in many ways and contribute to discussions.

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Hornbill parents and support from zoos (October 2022-August 2023)

Listed below are all donors who have adopted hornbill nests from **October 2022 - August 2023**. We thank you for your support towards protecting hornbills. If you wish to adopt a hornbill nest again, you can do so online using this link <http://ncf-india.org/pages/donate>. Donations by Indian donors are eligible for tax exemption **under Sec. 80(G) (50% exemption) or Sec. 35 (150% exemption)** of the Income Tax Act. Please send us an email to let us know after you have donated.

Foreign nationals can write to hnap@ncf-india.org, karishma@ncf-india.org or chaithra@ncf-india.org for details to donate under the FCRA.

List of hornbill parents from **October 2022 - August 2023**

1. Aasheesh Pittie
2. Aditya Bhupendra Maru
3. Amber Verkade-Jansen and Evert Verkade
4. Amod Inamdar
5. Anand Matthur
6. Anne Pinto Rodrigues
7. Arindam Ray
8. Arjan Basu Roy
9. Aryan Mago
10. Astha Gautam
11. Ayaan Mago
12. Balakrishnan Chandra Shekar
13. Daneya Chaudhari
14. Dr. S. Subramanya
15. Eashwar Raghuraman
16. Fateh Jahaan Dhaliwal
17. Gopa Marayil
18. Hummingbird Digital Private Limited
19. Jaideep Goswami
20. Janhvi Vyas
21. Jayananda A Kotri
22. Jyotsana Nirula
23. Kanthimathi Nathan. S.
24. Kaushal Singh
25. Laurige Boyer
26. Margaret Kinnaird & Tim O'Brien
27. Nirupa Anila Rao

- 28.Praveen Manivannan
- 29.Rachna Mago
- 30.Ram Gopalakrishnan
- 31.Rama Lakshmi Peri
- 32.Rohit Varma
- 33.Saanvi Sehgal
- 34.Shanthi. G
- 35.Sharan Venuturapalli
- 36.Shomita Mukherjee
- 37.Olak Borang Nabum
- 38.Sudip Datta
- 39.Supratim Deb
- 40.T. R. Shankar Raman
- 41.Thandav Kailash
- 42.Tushita Patel
- 43.Udain Singh Tomar
- 44.Uday Kumar
- 45.Ulhas Anand
- 46.Urmila Pingle
- 47.Usha Ramakrishnan
- 48.Vamsi Rao
- 49.Vibhav Peri
- 50.Vijayalakshmi Ravindran
- 51.Vivekanandan Seetharaman

Zoos that donated towards the Hornbill Nest Adoption Program in the period from October 2022 - August 2023

1. Amiens Zoo (Tresorerie Du Grand)
2. Boissiere Mervent Conservation, France
3. Rotterdam Zoo
4. St. Augustine Alligator Farm Zoological Park
5. Toronto Zoo (via St. Augustine Alligator Farm Zoological Park)
6. Warsaw Zoo
7. Zoo Antwerp



Hornbill Nest Adoption Program

Annual report 2023

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