

A Bird and schoolchildren: Knowledge sharing about *Kenyalang* (Rhinoceros Hornbill) by schoolchildren in Sarawak via social media

Dency Flenny Gawin

Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak
agdfleddy@unimas.my

Terry Justin Dit

Curtin University Malaysia, 98009 Miri, Sarawak
terry.j@curtin.edu.my

Abstract:

Kenyalang, also known as Rhinoceros Hornbill in English and Enggang Badak in Bahasa Melayu, is the state bird of Sarawak. However, many Malaysians including Sarawakians are confused between Kenyalang and other hornbill species. Therefore, this study observes how knowledge sharing via social media by schoolchildren can educate the communities to know about Kenyalang. Students, teachers from five schools as well as parents were involved in creating a short video about Kenyalang. The video was uploaded into the the Kenyalang Lab YouTube Channel, and made it public for many people to watch, learn and share using other social media platforms. Data such as number of views, likes, shares as well as comments were collected within one week. Selected respondents were interviewed virtually via Zoom, or the respondents recorded their interviewed videos and sent via Telegram, WhatsApp and e-mail. The video received good responses from viewers, teachers, students and parents. It is also suitable for public whom want to know more about Kenyalang. By continuously adding informative and interesting videos, the Kenyalang YouTube Channel can be accepted as an educational channel for locals and people outside of Sarawak who want to know more about birds of Sarawak.

Keywords: Kenyalang, schoolchildren, social media, you tube, community

Introduction

Why do so many indigenous cultures place so much cultural and religious significance on avifauna? Probably the natural qualities and abilities of birds made them ideal candidates to be deified as gods. Birds have the ability to fly and soar high above the treetops, over natural and man made barriers, disappear for long periods of time on mysterious migratory routes and produce sounds which to human ears are hard to mimic. The distinct sound that each bird species produce therefore play an important role in augury, especially amongst the Dayaks of Borneo (Figure 1). John James Audubon, an renown American ornithologist, said that “when an individual [bird] is seen gliding through the woods and close to the observer, it passes like

a thought ... trying to see it again the eye searches in vain; the bird is gone.” The *Kenyalang* is a sacred bird to the Dayaks of Sarawak, particularly the Ibans and figures prominently in Orang Ulu tattoos and carvings.



Figure 1: Orang Ulu “The Tree of Life” mural at the Sarawak Museum (Old building). The *Kenyalang* figures prominently at the top of the Tree of Life. Pipiens, R. (Photographer). (2009, September 1st). *Orang Ulu' Tree of Life in Kuching, Sarawak, Malaysia*

[digitalimage]. <https://www.flickr.com/photos/87453322@N00/3877832454>

Kenyalang refers to the Rhinoceros Hornbill (*Buceros rhinoceros*) (Smythies, 1999), is an official bird state of Sarawak. The bird is one of the largest hornbill species in Asia, measuring from 90 to 110 cm long. The bird species lives in tropical rainforests in Borneo, Java, Sumatra, Singapore, Peninsular Malaysia and southern part of Thailand (Birdlife International, 2021). The global population of this bird species is decreasing; hence the hornbill species is listed as vulnerable on the International Union for Conservation of Nature (IUCN). In Sarawak, the bird species is categorized as one of the totally protected animal species (Sarawak Government Gazette, 1998).

Kenyalang has a yellow-reddish, large rhino-shaped casque on its yellow creamy, upper bill. The upper and under-wings as well as its neck and breast are in black, while its tummy is white. The tail feathers of this bird are in black and white. The male *Kenyalang* has orange-reddish eye-rings while the female has white eye-rings. This bird species is monogamous and pairs for life (Birdlife International, 2021; Smythies, 1999). They have a unique nesting strategy. A pair of *Kenyalang* nests in a natural cavity in a tree, where the female seals herself in for 80-90 days with an egg, and later the chick. During that period, the male feeds them through a small hole in the nest. When the young chick is about 45 days old after hatching, the female leaves the nest. Both parents then reseal the nest with mud leaving the chick inside safely. The parents feed the young chick through a small hole nest, until it reaches 80 days old.

As the mascot bird of Sarawak, all Sarawakians should be able to recognize the *Kenyalang* as the Rhinoceros Hornbill. As the mascot bird or a Coat of Arms of Sarawak, all Sarawakians should be able to recognize the *Kenyalang* as the Rhinoceros Hornbill. A Coat of Arms is like a flag, a symbol. Symbols such as flags, emblems and coat of arms like other examples of group symbols (football club emblems, political symbols, company logos etc) are intangible representations of perceived group membership. If we were to examine a nation's flag for example, the stitched pieces of cloth are not only the representations or the symbol that represents the country but also its ideals, values, history and memories, which are strongly related to that nation. Such is the power of the symbolism of a flag that it invokes a feeling of pride when one's fellow citizen were to win the highest achievement like a Gold medal in the Olympic Games, or a sense of deep shame if the flag was associated with negative events like. For example if a member of the country's armed forces were to be involved in war crimes in a conflict zone. Before the existence of the modern state system, there also exists some semblance of what later would be called a national attachment or a sense of loyalty towards the tribe, a powerful chieftains and kingdoms. Having a symbol or flag to rally to, probably fulfils a basic human desire to feel as part of a large family, for being alienated is a psychologically terrifying.

However, present scenario shows that many Sarawakians are still confused and linked *Kenyalang* with Great Hornbill, all hornbill species in Malaysia or toucan species from South America (Gawin & Dit, 2021). Misidentification of *Kenyalang* with other bird species are rampant in mass and social media. For example, a school exercise for Primary one (elementary level) schoolchildren extracted from the internet (Figure 2) showed the Great Hornbill (*Buceros bicornis*) as the *Kenyalang*.

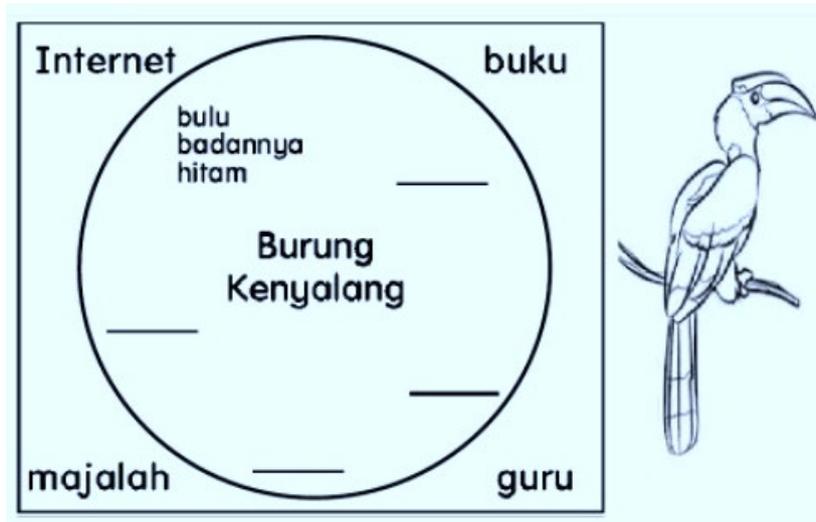


Figure 2: A schoolteacher mistook the Great Hornbill as the *Kenyalang*.

The main objective of this project was to observe how knowledge sharing via social media by schoolchildren could educate the communities to know more about *Kenyalang*. The knowledge include biological and cultural-historical perspectives. Besides, through this project, students were exposed to the experiences of collaborating with their teachers (and schools) and professional researchers from local universities in Sarawak.

Materials and methodology

Pre-video production

Six schools (SK Tringus, Bau; SJK Chung Hua Buso, Bau; SM Tunku Putra, Kuching; SK Kampung Bakong/ Terus Dalat, Mukah; SK Nanga Gerenjang, Saratok; SK Ba Kelalan, Lawas) were selected for this project. Students were selected based on their short essay writing, pictorial essay and art assignments. Their teachers were in-charge to give assignments to them. Due to the Covid-19 Pandemic, the assignments were given via social media platforms, such as WhatsApp, Telegram and any compatible platforms. Students' responses in rural areas were lukewarm due to limitations in electronic devices and internet connectivity, in comparison with SM Tunku Putra, whereby 75% students responded.

After checking the students' assignments, 4 students from SK Kampung Bakong/ Terus, 3 students from SM Tunku Putra, 3 from SK Tringus Bau, 2 from SK Ba Kelalan, and 1 each from SK Nanga Gerenjang and SJK Chung Hua Buso were selected to be a part of a short video production.

Video production

The video production took about 3 weeks to be completed. A script was written beforehand and checked by a Bahasa Melayu teacher from SM Tunku Putra. The script was given to all five teachers and sent to the students' parents or students themselves via the social media platforms. The teachers would guide parents to train their children to act, to read while the parents would do the recording using smartphones. Only teachers from SM Tunku Putra directly trained their own students.

After obtaining all videos from all the selected schoolchildren from their teachers, the next step would be audio and video editing. Audacity version 2.4.2 (Audacity Team, 2021) and

Wondershare Filmora version 7.8.9 (Wondershare, 2021) were used for the audio and video editing process. An 11 minutes and 30 second long video was produced. It was divided into few parts: 1). Introduction of *Kenyalang*; 2) *Kenyalang* and its conservation status in Sarawak; 3) *Kenyalang* external features; 4) *Kenyalang* and its other names; 5) *Kenyalang* and its roles in Dayak communities in Sarawak; and 6) *Kenyalang* as the Sarawak's coat of arms. The whole recording and editing processes took 3 weeks to be done. The video entitled as “*Kenyalang*” was published in the *Kenyalang* Lab YouTube Channel (Figure 3). The video link was shared in Facebook page and other social media platforms such as WhatsApp or Telegram.



Figure 3: The QR code of the “*Kenyalang*” video. The video link <https://youtu.be/gMATgomayrw>.

Post video production

Data such as number of views, likes, age etc were gathered from the video analytics, starting from 23th July to 29th July 2021. All data would be analysed in Excel (Microsoft Corporation, 2018). Any comments from the *Kenyalang* Lab YouTube Channel, Facebook page as well as in WhatsApp were also gathered. In addition, a few teachers, students and members of the public were selected for interview sessions. Their knowledge about the *Kenyalang* and opinions after watching the You Tube video were also gathered.

Findings and Discussion

Schoolchildren and Kenyalang

It was believed that children from developing countries are usually more knowledgeable about nature and acquired better ecological understanding than children from developed countries (Patrick & Tunnicliffe, 2011). However, the assertion did not parallel with the results in this project which revealed that less 1% of the 51 participated schoolchildren, only know “*Kenyalang* is the state bird of Sarawak” (n=4), “*Kenyalang* is the Rhinoceros Hornbill” (n=5) and “*Kenyalang* is the Rhinoceros Hornbill and the state bird of Sarawak” (n=2). By analyzing answers from the students, majority of them extracted the knowledge from the internet. The issue here is if they extracted information from the wrong websites, pages or posts in the social media such as Facebook, they would end up holding the false

beliefs. It is believed that the schoolchildrens' limited knowledge on *Kenyalang* could be due to a general *ornithoapatheia* (i.e. to passion to know further of certain items) observed in adults, whom children trusted to acquire knowledge (Pam et al., 2018). Acquiring false knowledge can be avoided if adults who hold strong and true knowledge of *Kenyalang* can guide them.

***Kenyalang* Lab YouTube Channel**

Within a week, 668 viewers from Malaysia have watched the “*Kenyalang*” video via the *Kenyalang* Lab’s You Tube channel. Not subscribed viewers who do not have YouTube account (n=662) watched more than subscribed viewers who have YouTube account (n=46). By looking at the Figure 4, the highest number of viewers (n=350) was recorded on the Day 1, and the number of viewers decreased to Day 2 and increased a bit again on Day 4, and finally less than 5 viewers on day 6 and 7. It is interesting also, to note that 64.05% from the 668 viewers are female, and 35.95% are males; and 78.26% viewers are from 35 to 44 years old and 21.54% are from 45 to 54 years old. In addition, majority of the viewers used mobile phone (n=612) to watch the video, followed by computer (n=52) and finally TV (n=4). During the whole one week, 15 subscribers subscribed the *Kenyalang* Lab.

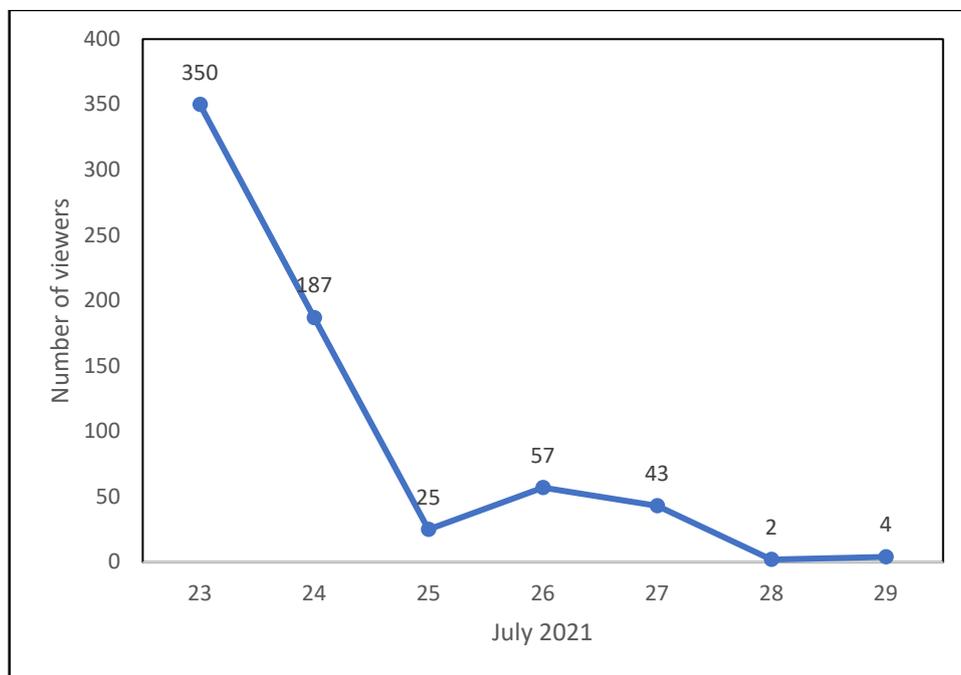


Figure 4: Number of viewers for every day within one week.

The total number of 668 viewers is still small probably because the video was promoted amongst a small circle of friends and family members of students, teachers and people who were involved in this video production. A few of them shared the video in their own personal Facebook account. In addition, the *Kenyalang* Lab’s You Tube is still a new channel, which was created on 21st July 2021 with the conjunction of the Sarawak Independence Day. The increment number of viewers and subscribers will take times parallel with the increment number of new, interactive and informative videos about *Kenyalang* and other Bornean bird species in Sarawak. This is a normal process for any You Tube content creators. It takes a certain period to gain more viewers, subscribers and fans. For examples, at the time this article was wrote, Cornell Lab of Ornithology (Link: <https://tinyurl.com/mxdj2a56>) that was establish in June 2, 2008, with has garnered 101M viewers and 387K subscribers. Another example is the famous science channel, AsapSCIENCE (Link: <https://tinyurl.com/zkycb9er>) that was established in May 2012, with only 374 videos, the channel managed to attract 1.5 viewers with 9.72 subscribers. Using these two channels as examples, the *Kenyalang* Lab probably can reach many viewers within and outside of Sarawak, by keep uploading interesting and likable videos.

YouTube as a sharing platform

YouTube.com that was founded by Chad Hurley, Steve Chen and Jawed Karim in 2005, is the world's most famous video-sharing platform where people can share music, knowledge, news etc (Chowdhury, 2019; Wattenhofer et al., 2012). The *Kenyalang* Lab You Tube is an educational channel that focuses on educating and giving knowledge about birds in Sarawak to the locals and people outside of Sarawak. Academicians, researchers, graduate and undergraduate students can use this video-platform to introduce their researches and share educational contents about birds of Sarawak to communities outside of universities. Indirectly, it is another way for universities to engage with the communities using social media.

Making and distributing videos in You Tube can help introduce researchers to locals and the world. By adding first-person narratives, reshaping science-news information to be more understandable by non-experts, and the videos are readily available to any viewers, the researchers can reach people who are interested in science but cannot read original manuscripts in a journal for few reasons (Smith, 2018). In fact, one of the reasons is the usage of jargon scientific languages, which put off non-experts or "lay audiences" to be interested to read any scientific papers even though they were made public (Smith, 2018). In this project, the "*Kenyalang*" video was produced together with schoolchildren and their teachers. Information about this hornbill species which retrieved from few sources (Bird Life International, 2018; Birdlife International, 2021; Freeman, 1961; King, 1977; Kitamura et al., 2011; Sarawak Government, 2021; Sarawak Government Gazette, 1998; Smythies, 1999) were reconstructed to be more understandable and easily accepted by schoolchildren as well as public. The whole processes in producing the video content have creating a partnership between universities and public communities.

The outcomes from this partnership positively received from the teachers, students and parents who involved in the production. Few of them stated that their knowledge on *Kenyalang* have increased before participating this project. They only knew one or three information about *Kenyalang*, and majority only know "*Kenyalang* is the bird state of Sarawak". After watching the video, they acquired more information about *Kenyalang*. For example, a student from SM Tunku Putra who participated in the video production mentioned, "My knowledge about *Kenyalang* increases..." Besides, one of the teachers said "I feel this video is suitable for students to watch, especially for primary and secondary schoolchildren... the dialog is in Malay language and the video also includes English subtitle, hence viewers can choose to listen or read in order to know more about *Kenyalang*. I'm not bored to watch the video, as the schoolchildren themselves tell what *Kenyalang* is" Based on these two opinions, the video was considered suitable to be watched by students and teachers to learn about *Kenyalang*.

Students who did not participate in the video production also shared the same opinions. They agreed the video did educate them to know more about *Kenyalang*. One of the students stated, "I was thought *Kenyalang* is a herbivore, but after watching the video, I get to know *Kenyalang* likes to eat animals (small animals) like snakes and frogs. Also I get to know *Kenyalang* is a scared bird for Iban and Orang Ulu community in the past." Another student also mentioned, "I learn many things about the bird." The interviews did include a parent and other viewers, and their opinions are similar to the students. The parent mentioned, "The video tells us the history of the bird, especially *Kenyalang*, from beginning till the end." Kulleh Grasi represents one of the public members and a poet writer of *Tell Me Kenyalang* expressed, "I feel this initiative shall be supported and continued on in giving accurate information about this species, so that we are called to look after their habitat...and this video is suitable to for public." In addition, the video received comments from few viewers, and they commented "Very nice. Good job. Loves the involvements of the children. So refreshing. Keep up the good work." and "Very nice. Good for MP (syllabus) Science in my district."

Based on the positive reviews or comments from participants and viewers, the "*Kenyalang*" video did create positive impacts to the local communities. In this digital era, teaching and learning had drastically changed from a passive into a more interactive form. By using multimedia in the process of teaching

and learning, this integration created an interactive culture on the internet (Jenkins, 2006). In other words, a social link can be created between people who have never met face to face via social media platforms. Through this project also, students, teachers and parents as well as the researcher formally and informally; this included skills in technology and content creation. In addition, technologies have changed the way researchers and educators distribute or share their knowledge. With You Tube and other social media platforms, many people can access the knowledge instantly regardless where they are (Wattenhofer et al., 2012).

Conclusion

Many schoolchildren, teachers and parents have accepted the video of “*Kenyalang*”. The collaboration between teachers, schoolchildren and researchers in creating educational contents shall be continued on, since it gives benefits to local communities. By constantly adding informative and interactive educational videos on birds in Sarawak, the number of viewers and subscribers will be increased. Eventually the *Kenyalang* Lab YouTube will gain its reputation as a channel viewed and subscribed by many people inside and outside of Malaysia. In addition, this study involved only a small number of participants. Hence, further study on children’s knowledge and perceptions of birds in Sarawak shall be conducted in order to understanding factors for them to have limited knowledge of Sarawak birds. Besides, it will be interesting how much children in rural areas know about birds compared to the children in urban areas.

Acknowledgements

We are grateful to students and their parents as well as their teachers, Miss Zuraina Mohammad Jahar (SM Tunku Putra-HELP, Kuching), Madam Maclaine Nawis (SK Tringgus, Bau), Madam Chin Suk Mei (SJK Chung Hua, Buso-Bau), Madam Diana James and her husband Mr Bugak Aban (SK Nanga Grenjang, Saratok), Miss Cassandra Bedlia (SK Kampung Bakong/ Terus) and Mr Leoforster Ruben (SK Ba Kelalan), for helping in the production of the YouTube “*Kenyalang*” video. We would like to thank you to all the headmasters of all the involved schools for giving their supports for allowing their students and teachers to participate in the TEK+STEM program organized by the Animal Resources Sciences and Management (ARSM), UNIMAS.

References

- Audacity Team. (2021). *Audacity recording and editing* (2.4.2).
- Bird Life International. (2018). *Buceros rhinoceros*. The IUCN Red List of Threatened Species.
- Birdlife International. (2021). *Species factsheet: Buceros rhinoceros*.
<http://datazone.birdlife.org/species/factsheet/rhinoceros-hornbill-buceros-rhinoceros>
- Chowdhury, N. (2019). a Study on the User Behavior and Impact of Youtube Videos on College Students From East Bangalore. *International Journal of Multidisciplinary Research Review*, 07(July), 1148.
https://www.researchgate.net/publication/334491492_A_STUDY_ON_THE_USER_BEHAVIOR_AND_IMPACT_OF_YOUTUBE_VIDEOS_ON_COLLEGE_STUDENTS_FROM_EAST_BANGALORE/citation/download
- Freeman, J. (1961). *IBAN AUGURY* *. 117, 141–167.
- Gawin, D. F., & Dit, T. J. (2021). No Title. *Manuscript in Preparation*.
- Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. University Press: New York.
- King, V. T. (1977). Problems Unity , Formalism and Structure : Comments on Iban Augury and.

Bijdragen Tot De Taal-, Land- En Volkenkunde, 133(1), 63–87.

- Kitamura, S., Thong-Aree, S., Madsri, S., & Poonswad, P. (2011). Characteristics of Hornbill-Dispersed Fruits in Lowland Dipterocarp Forests of Southern Thailand. *Raffles Bulletin Of Zoology*, 24, 137–147.
- Microsoft Corporation. (2018). *Microsoft Excel*. <https://office.microsoft.com/excel>
- Pam, G., Zeitlyn, D., & Gosler, A. (2018). Ethno-ornithology of the mushere of Nigeria: Children's knowledge and perceptons of birds. *Ethnobiology Letters*, 9(2), 48–64. <https://doi.org/10.14237/ebl.9.2.2018.931>
- Patrick, P., & Tunnicliffe, S. D. (2011). What Plants and Animals Do Early Childhood and Primary Students' Name? Where Do They See Them? *Journal of Science Education and Technology*, 20(5), 630–642. <https://doi.org/10.1007/s10956-011-9290-7>
- Sarawak Goverment. (2021). *Sarawak State Crest*. https://sarawak.gov.my/web/home/article_view/155/187/
- Sarawak Government Gazette. (1998). *Laws of Sarawak: Wild Life Protection Ordinance, 1998 (Chapter 26)*. VI, 1–45.
- Smith, A. A. (2018). YouTube your science. *Nature*, 556(7701), 397–398. <https://doi.org/10.1038/d41586-018-04606-2>
- Smythies, B. (1999). *Birds of Borneo* (G. W. Davison (ed.); Fourth Edi). Natural History Publications (Borneo).
- Wattenhofer, M., Wattenhofer, R., & Zhu, Z. (2012). The you tube social network. *ICWSM 2012 - Proceedings of the 6th International AAAI Conference on Weblogs and Social Media*, 354–361.
- Wondershare. (2021). *Wondershare Filmora* (7.8.9). Wondershare Technology Co.