

## Primate sightings in Sangkulirang-Mangkalihat Karst, East Kalimantan, Indonesia

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### **SUMMARY**

The Sangkulirang-Mangkalihat Karst is an area in Kutai Timur and Berau regencies of East Kalimantan province, Indonesia, on the island of Borneo. The peninsula is dominated by limestone geology, and it covers an area of over 18,000 square kilometres.

Brief primate surveys were conducted in karst areas in seven locations spanning from Sangkulirang to Mangkalihat. A total of nine primate species were found. Diurnal surveys were made in Suaran (5 days), Karang Dalam (5 days), Tepian Langsung (Marang) (5 days), Biatan Ulu (4 days), Lobang Kelatak (5 days), Lobang Belanda (Teluk Sulaiman) (3 days) and Danau Sigending (Teluk Sulaiman) (2 days). Night surveys were also carried out to observe nocturnal primates. This activity was part of the TFCA Kalimantan Project, led and managed by the Karst Research Group of the Faculty of Geography, Gadjah Mada University. A total of nine species of primate were seen: *Nycticebus* sp., *Cephalopachus bancanus*, *Macaca fascicularis*, *Macaca nemestrina*, *Presbytis canicrus*, *Presbytis rubicunda*, *Nasalis larvatus*, *Hylobates funereus* and *Pongo pygmaeus*.

### **1. Slow Loris**

**Identity of subjects:** *Nycticebus* sp. (Mammalia: Primates: Lorisidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photographs by:** Nur Rachman (Fig. 1), Burhanudin (Fig. 2).

**Subjects identified by:** Wirdateti, Arif Setiawan.

**Location:** Lobang Kelatak, Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 01 November 2016, 20:09 hrs (Fig. 1), 02 November 2016, 20:20 hrs (Fig. 2).

**Description of records:** A slow loris was seen on a tree adjacent to a logging road, moving slowly on branches around 4 meters from the ground (Fig. 1). The next day two slow loris were sighted inside the karst forest sitting on a tree, around 0.5 kilometers from the logging road, one of which was photographed (Fig. 2). A total of three individuals of slow loris were seen in Lobang Kelatak, and we also saw one captive slow loris kept as a pet in the nearby village of Biatan Ulu.

**Remarks:** The slow lorises are tentatively identified as *Nycticebus kayan*, based on their dark and highly contrasting face mask, and their eyes which are surrounded with dark patches (Munds et al., 2013). There is still no information about the protection status of *Nycticebus kayan* in IUCN nor CITES, and the range distribution for this species is also not mapped and studied (Widarteti, pers. comm., July 9, 2019).



Fig. 1.



Fig. 2.

## **2. Western Tarsier / Horsfield's Tarsier**

**Identity of subject:** *Cephalopachus bancanus* (Mammalia: Primates: Tarsiidae).

**Observers:** Ika Y. Agustin, Nur Rachman.

**Photograph by:** Ika Y. Agustin.

**Subject identified by:** Ika Y. Agustin, Nur Rachman.

**Location:** Suaran, Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 07 August 2016, 21:11 hrs.

**Description of record:** *Cephalopachus bancanus* was documented during a night survey: two were seen while they caught insects, one of which was about 7 meters from our observation point on a tree around 1.5 meters from the ground (Fig. 3).

**Remarks:** This nocturnal primate was identified based on its small body size, big eyes and the long tail with hairs on the tip. IUCN categorise this species as Vulnerable. Habitat loss is the main threat for this primate.

Our local guide in Suaran explained that this primate can be found in rocky hills and sometimes in caves in the Suaran forest. The guide also said that the tarsiers usually prey on cockroaches, grasshoppers or other insects in caves. Based on the information from our local guide in Biatan Ulu, this primate also exists in the Biatan Ulu forest. The guide also told us that sometimes dead tarsiers are found in oil palm plantations, having died because they digested insects contaminated with pesticides or fertilizers from the oil palm plantation. This species is commonly seen in lowland areas, but in 1998 it was recorded at a high elevation (1200 metres) in West Kalimantan (Gorog & Sinaga, 2008).



Fig. 3.

### **3. Long-tailed Macaque**

**Identity of subjects:** *Macaca fascicularis* (Mammalia: Primates: Cercopithecidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photograph by:** A. Syarif.

**Subjects identified by:** Ika Y. Agustin, Nur Rachman, Betty Miliyanawati.

**Location:** Biatan Ulu, Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 21 October 2016, 14:31 hrs.

**Description of record:** A group of around 20 Long-tailed Macaque was observed in karst forest adjacent to farmland. Other individuals were observed eating cassava and banana in the farmland. Images were taken of an infant clinging to its mother, and another female (Fig. 4).

**Remarks:** This primate was present in all seven study sites. During the survey, groups of macaques were found in karst forest, riverine areas, mangrove forest and lowland forest.

Meijaard & Nijman (2003) stated that the habitat of Long-tailed Macaque is more varied than the Pig-tailed Macaque: they can be found in peat swamp forest, mangrove forest, freshwater swamp, tropical evergreen forest as well as riverine forest.



Fig. 4

### **4. Southern Pig-tailed Macaque**

**Identity of subjects:** *Macaca nemestrina* (Mammalia: Primates: Cercopithecidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photograph by:** Ika Y. Agustin.

**Subject identified by:** Ika Y. Agustin, Betty Miliyanawati.

**Location:** Lobang Kelatak, Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 31 October 2016, 05:41 hrs.

**Description of record:** Two adult Southern Pig-tailed Macaque were documented foraging in a tree, at a height of around 10 meters, and around 20 meters from the observers. One was photographed (Fig. 5).

**Remarks:** The Southern Pig-tailed Macaque was identified based on its yellow-brown fur and its short tail. The macaques were spotted in Biatan Ulu and Lobang Kelatak. The observers also found the monkey being kept as pets by villagers in the nearby village of Suaran. The observers did not find this species in karst forest. Commonly, this macaque can be found in lowlands and hills of Borneo in various habitats such as peat swamp forest, tropical wet evergreen forest and tropical mountain evergreen forest (Meijaard & Nijman, 2003).



Fig. 5.

## **5. Miller's Grizzled Langur (or Kutai Grey Langur)**

**Identity of subjects:** *Presbytis canicrus* (Mammalia: Primates: Cercopithecidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif Burhanudin.

**Photographs by:** Nur Rachman.

**Subjects identified by:** Ika Y. Agustin, Nur Rachman, Arif Setiawan.

**Location:** Lobang Kelatak, Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 01 November 2016, 09:16 hrs.

**Description of record:** The observers were walking along a logging road when suddenly around 15 individuals of Miller's Grizzled Langur, which were active in the trees, fled deeper into the forest. One individual was photographed on the branch of a tree, around 15 metres away, and at a height of around 15 meters, eating a fruit (Figs. 6 and 7): it was observed for 7 minutes before it too fled deeper into the forest.

**Remarks:** This least known Bornean leaf-eating monkey was identified based on the distinctive darker fur on its head compared with its body. Its frontal colour is white, while the dorsal fur is grey. IUCN categorise this primate as Endangered: habitat loss and hunting are the main threats to this species. Their precise geographical range is still uncertain.

During a survey of the species in East Kalimantan, conducted by Setiawan et al. (2009), the team only found one group on the banks of Baai River, and they concluded that this primate is facing local extinction in Kutai National Park. Lhota et al. (2012) discovered 11 individuals in Wehea forest, East Kutai. The local guide informed the observers that the species, whose local name is Buhangat/Berangat, also exists in Karangan Dalam forest but is very rare. Furthermore, the guide informed the observers that the langur is valuable for Chinese medicine.

*P. canicrus* was formerly considered to be a subspecies of *P. hosei* but is now widely treated as a distinct species (Roos et al, 2014).



Fig. 6.



Fig. 7.

## **6. Maroon Langur**

**Identity of subjects:** *Presbytis rubicunda* (Mammalia: Primates: Cercopithecidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photographs by:** Ika Y. Agustin.

**Subject identified by:** Ika Y. Agustin, Nur Rachman, Betty Miliyanawati.

**Location:** Lobang Kelatak, Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 31 October 2016, 06:57 hrs.

**Description of record:** A group of 8 Maroon Langur were observed foraging in a tree with dense canopy around 20 meters from the ground. Clear pictures were taken of one individual (Figs. 8 and 9).

**Remarks:** The Maroon Langur was identified based on its maroon fur colour. The common threat faced by this species is hunting for meat and traditional medicine. In addition, habitat loss due to deforestation also threatens the species. IUCN categorise the species as Least Concern.

We encountered this primate in Suaran, Karangan Dalam, Marang, Lobang Kelatak and Teluk Sulaiman, but we did not locate it in Biatan Ulu possibly due to persistent heavy rain in the area at the time of the survey (based on our local guides' explanation, however, the primate does occur in the Biatan Ulu forest). This langur has the widest distribution range on Borneo. It occurs in a wide range of habitat types such as peat swamp forest, tropical wet evergreen forest, tropical montane evergreen forest and riverine forest (Meijaard & Nijman, 2003). According to IUCN (2019) the primate is found in at least 10 protected areas including Kutai National Park and Sungai Wain Protection Forest in East Kalimantan. There is still little information about the primate's distribution in other areas, including in karst forest in East Kalimantan.



Fig. 8.



Fig. 9.

## **7. Bekantan / Proboscis Monkey**

**Identity of subjects:** *Nasalis larvatus* (Mammalia: Primates: Cercopithecidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photographs by:** Ika Y. Agustin.

**Subjects identified by:** Ika Y. Agustin, Nur Rachman, A. Syarif.

**Location:** Danau Sigending, Teluk Sulaiman, East Kalimantan, Indonesia.

**Habitat:** Coastal karst forest.

**Date and time:** 12 November 2016, 11:36-12:00 hrs.

**Description of record:** Two groups of Bekantan were seen. The first group was spotted on a logging road, clearly intending to go to the mangrove forest across the road. One juvenile in the group was photographed (Fig. 10), and also an adult male (Fig. 11). We encountered a second group around 500 metres from the first group: they also intended to cross the road as some individuals were still on the ground and some were hiding behind the tree canopy.

**Remarks:** The Bekantan were identified based on their distinctive long nose and orange fur. The presence of the species in Danau Sigending area is known by the local people and tourists (the monkeys' activities in the mangrove forest is one of the tourist attractions there). A review of species distribution showed that this Bornean endemic occurs throughout coastal Kalimantan, and up to the headwaters of probably all major rivers. In East Kalimantan, its distribution includes Sangkulirang (Meijaard & Nijman, 2000).



Fig. 10.



Fig. 11.

## **8. Northern Gray Gibbon (or 'North Borneo Gibbon')**

**Identity of subjects:** *Hylobates funereus* (Mammalia: Primates: Hylobatidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photographs by:** Ika Y. Agustin.

**Subjects identified by:** Quentin Phillipps, Arif Setiawan.

**Locations:** Karangam Dalam, Berau, Lobang Kelatak and Berau, East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 16 August 2016, 14:00 hrs (Fig. 12), 11 November 2016, 08:30 hrs (Fig. 13).

**Description of record:** An adult female and a juvenile *Hylobates funereus* were sighted on a tree near Karangam Dalam: once they were aware of the observers' presence they fled to another tree (Fig. 12). In a separate sighting at Lobang Kelatak, an adult *Hylobates funereus* was seen hanging by its arms from a tree, at a distance of around 12 meters from our observation point (Fig. 13).

**Remarks:** The gibbon was identified as *Hylobates funereus* based on their locality. This gibbon is distributed in Kalimantan (North), Sabah, Sarawak and Brunei (Cheyne et al, 2016). It was spotted in 5 study locations (i.e. Suaran, Karangam Dalam, Biatan Ulu, Lobang Kelatak and Teluk Sulaiman) through direct sighting and by hearing their loud call. It was not recorded in Marang: a massive forest fire had previously occurred in the karst forest and now the forest is dominated by *Macaranga* spp. that have relatively low height and smaller canopy cover. Cheyne et al. (2016) revealed that gibbon density is strongly correlated with canopy cover and tree height.

The presence of *Hylobates funereus* in the forest around the karst in East Kalimantan has been recorded during a biodiversity survey in the Sangkulirang Peninsula by Salas et al. (2005). Setiawan et al (2009) reported it from Sakulirang river, Baai River and northeast of Mt. Beriunit. It was also found in Beriun forest during a biodiversity survey in 2011 (Kusrini & Bukhori, 2011).

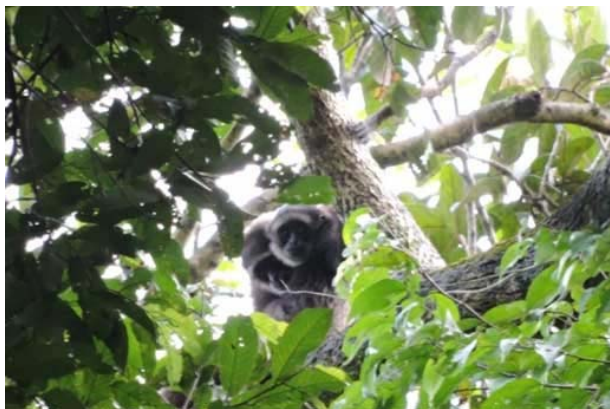


Fig. 12.



Fig. 13.

## 9. Northeast Bornean Orangutan

**Identity of subject:** *Pongo pygmaeus morio* (Mammalia: Primates: Hominidae).

**Observers:** Ika Y. Agustin, Nur Rachman, Nuhoni Prastya, Betty Miliyanawati, A. Syarif, Burhanudin.

**Photographs by:** Burhanudin (Fig.14), Ika Y. Agustin (Fig.15).

**Subjects identified by:** Ika Y. Agustin, Nur Rachman, Betty Miliyanawati, Arif Setiawan.

**Locations:** Karangam Dalam, Berau and Tepian Langsung (Marang), East Kalimantan, Indonesia.

**Habitat:** Karst forest.

**Date and time:** 15 August 2016, 14:00 hrs (Fig. 14), 23 August 2016, 07:16 hrs (Fig. 15).

**Description of record:** At Karangam Dalam an adult male Northeast Bornean Orangutan (*Pongo pygmaeus morio*) was sighted sitting on his nest up in a tree around 6 meters from the ground (Fig.14). At Tepian Langsung an adult was seen eating tree bark of *Melicope* sp. around 9 metres up in a tree (Fig, 15): once aware of the observers' presence it tried to conceal itself behind the tree trunk. After a photograph was taken, the observers left the orangutan to avoid further disturbing it.

**Remarks:** There are three subspecies of orangutan in Borneo: *Pongo pygmaeus morio*, *Pongo pygmaeus pygmaeus* and *Pongo pygmaeus wurmbii*. We categorise these 2 individuals as Northeast Bornean Orangutan (*Pongo pygmaeus morio*) based on the range description in IUCN red list (IUCN, 2019). The Northeast Bornean Orangutan occur in Sabah, Sarawak, North Kalimantan and East Kalimantan (IUCN, 2019). The species is listed as Critically Endangered by IUCN.

The two individuals of orangutan were found in disturbed forest near ex-logging roads. In both areas, the observers also spotted more than 25 orangutans' nests up in the trees. In Marang their leftovers, such as bark and lianas, were also found scattered on the forest floor. The occurrence of this species in Marang karst forest has been reported before by Marshall et al. (2007) through an orangutan nest survey. The existence of this ape in other karst forest in East Kalimantan, such as in Beriun, has been reported in previous surveys by Kusriani & Bukhori (2011).



Fig. 14.



Fig. 15.

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