

**A PRELIMINARY ASSESSMENT OF PLANT SPECIES
CONSUMED AS FOOD BY *Symphalangus syndactylus* (SIAMANG)
IN GENTING HIGHLANDS, PAHANG**

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Symphalangus syndactylus or locally known as “Siamang” is one of the wildlife species that can be found in the Genting Highlands tropical rainforest, Pahang. Belonging to Hylobatidae family in Primates order (Petter & Desbordes, 2013), this species is distributed around Peninsular Malaysia, Sumatra (Indonesia) (Nijman & Geissman, 2008) and southern Thailand (Treesucon, 1997). Siamangs inhabit tropical hill forest, lowland forests (Chivers, 1977) and primary sub-montane forests (Wilson & Wilson, 1976). According to Shepherd & Shepherd (2017), the morphology of siamangs includes a long, dense, shaggy, black hair on most of their body and greyish hair at lower face. The species also have a throat pouch for both male and female, which is visible when calling (Shepherd & Shepherd, 2017). The upper body part has long hair, and the species also has a broad chest (Mootnick, 2006). Siamangs have been listed as a Totally Protected Species under Malaysia’s Wildlife Conservation Act 2010 (Act 716) and classified as “Endangered” species by the International Union for

Conservation of Nature's (IUCN) in The Red List of Threatened Species (Nijman & Geissman, 2008).

Ecological studies and information on siamang in Genting Highlands has never been documented and published previously, hence this could be the first report on a diet of wild siamang in the Genting Highland rainforest. Through interviews with Mr. Eddie Chan, the Director of Treks Events Sdn. Bhd. (a consultancy agency that conducts nature-guide programmes and team-building activities around Genting Highland), and our random site visit observation, we have estimated about 20-40 family groups of siamang living in Genting Highlands rainforest areas. Each family group consists of two to five family members. These family groups are mainly distributed at the forest edges of the main roads in Genting Highlands.

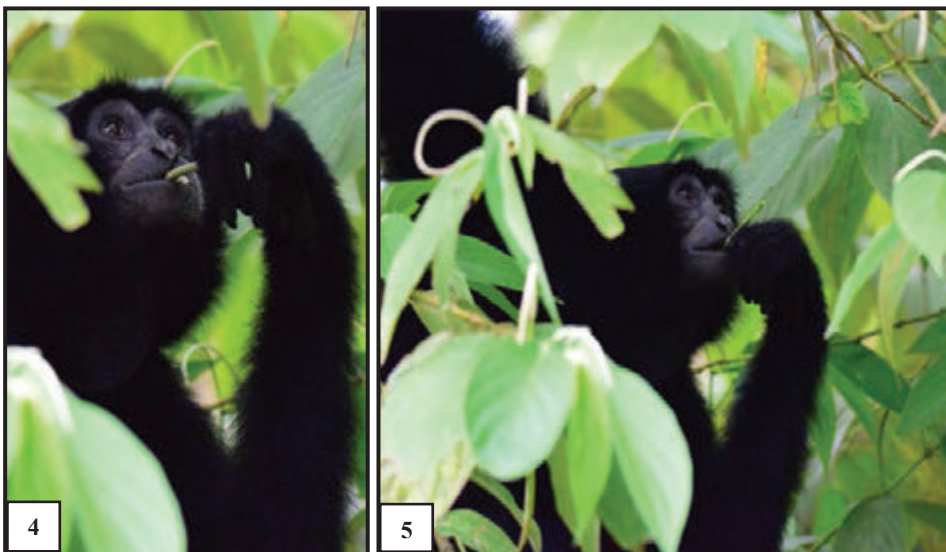
The Primate Unit of Wildlife Conservation Division of Department of Wildlife and National Parks (DWNP) has conducted several site visits between May-2018 and December-2019 to monitor the siamang population and collect data on the nature-plant species consumed by this species. The data were collected based on personal observations and interviews with the local residents. For personal observation, ad libitum sampling method with a total of 70 hours of random observation was used along the main road to the top of Genting Highlands and Awana Biopark. The plants species and their parts (e.g. fruits, leaves, buds, flowers, barks and stalks) which were consumed by siamang as their food was documented, collected and dried, prior to species identification. The plant species was identified using manual comparison methods guided by Wyatt-Smith & Kochummen (1999) and Rantai & Chai (2007), at the Institute of Tropical Forestry and Forest Products, Universiti Putra Malaysia.

Altogether, there are nine species of plants consumed by the siamang in Genting Highland, namely *Caryota mitis* (Figure 1, 2 & 3), *Ardisia crispa*, *Syzygium campanulatum*, *Piper aduncum* (Figure 4 & 5), *Ficus benjamina* (Figure 6 & 7), *Ficus racemosa* (Figure 8 & 9), *Duabanga grandiflora* (Figure 10), *Heritiera sumatrana* and *Ficus septica*. The detailed description of each plant species is shown in Table 1.

Siamangs prefer approximately 160 species of plants as their foods as per previously reported by O'Brien *et al.* (2003). The various parts of plants eaten by the siamang include fruits and leaves (Macdonald, 2004), young leaves (Nurcahyo, 2001), flowers and bark (Riley, 2008). Our observations recorded the leaves, fruits and seed stalks are the eatable parts of a plant by siamang in Genting Highland rainforest. The fruits from *Ficus* sp. was identified as the highest number of plant species (three species) consumed by siamangs. The identification and conservation of plant species consumed by siamangs are important for conservation measures of this species, especially in micro-habitat like the Genting Highlands rainforest.



Figures 1, 2 & 3 The family groups of siamang consume fruits from *Caryota mitis*.



Figures 4 & 5 Siamangs feeding on *Piper aduncum* seed stalk.



Figures 6 & 7 The family group feeding on fruits of *Ficus benjamina*.



Figures 8 & 9 The fruits of *Ficus racemosa*.



Figure 10 Siamangs feeding on *Duabanga grandiflora* leaves.

The findings only focus on the documentation of plant species that were consumed by siamangs at the time of several field-trip observations in Genting Highlands. Based on the findings; we recommend that comprehensive, systematic and long-term studies to be conducted for extensive identification of the plants species preferred by siamangs.

Table 1 List of plants species consumed by siamangs in Genting Highlands.

No.	Species	Common Name (Local name)	Description	Preferences based on observation
1.	<i>Duabanga grandiflora</i>	Duabanga (Berembang bukit)	Native plant of Southeast Asian countries. Family: Lythraceae	Leaves
2.	<i>Caryota mitis</i>	Fish tail palm (Palma ekor ikan)	Moist regionsf Burma, Malaysia and Java. Family: Lythraceae	Fruits
3.	<i>Ficus benjamina</i>	Weeping fig/Benjamin fig (Beringin)	Species of palm native to Southeast Asia from India to Java to southern China. Family: Moraceae	Fruits
4.	<i>Ardisia crispa</i>	Coral berry (Mata pelanduk)	Native to the tropics, they can be found in various regions worldwide. Family: Primulaceae	Leaves
5.	<i>Syzygium campanulatum</i>	Wild cinnamon (Kelat paya)	Origins to South East Asia. Family: Myrtaceae	Leaves
6.	<i>Piper aduncum</i>	Tree piper (Mensireh)	Native to Southern Mexico, the Caribbean, and much of tropical South America. It is grown in tropical Asia, Polynesia, and Melanesia Family: Piperaceae	Leaves Seed stalks
7.	<i>Ficus racemosa</i>	Cluster of fig trees, Indian fig tree or Goolar fig (Ara cedung)	Native to Australia, Malesia, Indo-China and the Indian subcontinent. Family: Moraceae	Fruits
8.	<i>Heritiera sumatrana</i>	Heritiera (Mengkulang jari bulu)	Native to Asia-Tropical Family: Malvaceae	Leaves
9.	<i>Ficus septica</i>	White-veined fig (Ara/Awar-awar)	Distributed from Northeast India to North Australia, and throughout Malesia Family: Moraceae	Fruits

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