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Short Notes on Traditional Vegetables Consumed by Jahai Tribe in Klewang Village, Royal Belum State Park, Malaysia

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Abstract. Indigenous people are known for their lives blended with the environment. The resource for their survival was procured from their surrounding nature, including the traditional vegetables. Not much is known about the traditional vegetables species that they consumed and the ones they don't. A simple survey was conducted among the Jahai aboriginal community in Klewang Village, Royal Belum State Park, on 5th March 2020. The study was conducted randomly using face-to-face interviews and surveys to identify the traditional vegetables found and consumed in the villages. The habitats of these traditional vegetables were recorded and the plants were collected and photographed for identification and live specimens were planted at Agro Techno Park, Universiti Malaysia Kelantan, Jeli Campus. All species were identified using spot characters such as inflorescence and leaf morphology. Survey results showed that there were seven species of traditional vegetables including planted and wild grown, namely, sweet potato (*Ipomoea batatas*), cassava (*Manihot esculenta*), purple milletia (*Morus atropurpurea*), torch ginger (*Etilingera elatior*), pigweed (*Amaranthus viridis*), Indian mulberry (*Morus citrifolia*) and wild eggplant (*Solanum torvum*). Out of these seven traditional vegetables, there are only three vegetable species that are not consumed by this tribe: pigweed (*A. viridis*), Indian mulberry shoots (*M. citrifolia*) and purple milletia shoots (*M. atropurpurea*).

1. Introduction

The Royal Belum State Park is a state park that surrounding by Lake Temenggor with 152 km² of water volume of about 6,000 million m³ and its main role as conservation park which allows limited activities to be carried out such as biodiversity research, conservation and nature tourism. The Royal Belum forests have been around for 130 million years, and is believe to be older than the Amazon forests of Brazil. The Klewang village is located on one of the islands and is inhabited by a group of indigenous people of Jahai tribe from the Negrito ethnic group. In fact, in the islands within the Royal Belum State Park, there are more than 1,600 indigenous peoples of various tribes with Jahai being the most populous. The size of Klewang village is approximately 0.25 acres. Klewang village is a home



to 130 indigenous peoples from 24 families. Most of these indigenous peoples still depend on nature resources to eat, build house and treat disease.

According to [1], traditional vegetables are wild vegetables that can be foraged from forests or plants grown for other purposes but their shoots and flowers are used as a side dish. Examples of traditional vegetables grown in the wild are neem tree shoots (*Azadirachta indica*), greenfingers shoots (*Emilia sonchifolia*), purple milletia shoots (*Milletia atropurpurea*), torch ginger (*Etilingera elatior*), pigweed (*Amaranthus viridis*), Indian mulberry shoots (*Morinda citrifolia*) and wild eggplant (*Solanum torvum*) and others [1, 2]. Meanwhile, traditional vegetables which commonly grown are sweet potato shoots (*Ipomoea batatas*), cassava shoots (*Manihot esculenta*), greater galangal (*Alpinia galangal*), 'temulawak' (*Curcuma xanthorrhiza*), turmeric (*Curcuma longa*) and others [1,2]

Recently [2] was published a report on 45 plants species that commonly uses by the Siamese community in Kelantan either as traditional vegetables or as herbal plants for medicinal purposes. Some species of wild gingers are also consumed by this community as traditional vegetables as well as herbal products [3]. There are three traditional vegetables that has a potential species for health benefits such as *Anacardium occidentale*, *Pluchea indica*, *Eugenia polyanthia* and *Ardisia crispa* [4]. The traditional vegetables which are leafy contain high mineral contents [5]. [1] listed 50 traditional vegetables species found and consumed by Siamese community in Kelantan with benefit explanation. This list was used as a basis to identify traditional vegetables species found in Klawang Village, Royal Belum State Park. Based on the previous studies and available published materials, traditional vegetables have huge health benefits [6], however the consumption rate among the locals including indigenous people still low. This was believed due to a number of reason, among them are the availability of traditional vegetables [7]. This short report focuses on the record of the traditional vegetables found and consumed by Jahai tribe at Klawang Village, Royal Belum State Park.

2. Methodology

This survey was conducted on 5th March 2020 on Jahai tribe settlement at Klawang Village, Royal Belum State Park. The surveys were carried out by active foraging and observation for the traditional vegetables and interviews with the Jahai tribe to obtain information on their consumption of those vegetables. The vegetables consumption observation and foraging is only focused to the vegetables which are normally consumed by Malay and Siamese Communities in Kelantan as stated in the book published by [1]. Photographs of plant were kept in the photograph collections in the Faculty of Earth Science database and live plants were re-planted at the Agro Park, Universiti Malaysia Kelantan, Jeli Campus. Plants were identified using morphology identification key, existing photographs comparison method and internet database research [1, 8, 9].

3. Results and Discussion

This survey managed to collect seven species of traditional vegetables which are sweet potato, cassava, purple milletia, torch ginger, pigweed, Indian mulberry and wild eggplant. Out of seven, four are planted and three are wild growing. Sweet potato shoots (*I. batatas*), cassava shoots (*M. esculenta*), torch ginger (*E. elatior*) and wild eggplant (*S. torvum*) are planted and the rest are grown in wild. Based on unstructured face to face interview with some of the Jahai community members, it was found that, out of the seven traditional vegetables, they do not consume only three vegetables species, namely pigweed shoots (*A. viridis*), Indian mulberry shoots (*M. citrifolia*) and purple milletia shoots (*M. atropurpurea*) and these three are basically wild grown. Nevertheless, some of the traditional vegetables which they planted also originated from the wild previously, example, torch ginger (*E. elatior*) and wild eggplant (*S. torvum*) which now they consume through years of domestication of these plants.

The most common planted traditional vegetables by the Jahai tribe was cassava and used as staple food and young shoots as side dish. Two houses were planted torch ginger (*E. elatior*), five houses

planted sweet potato (*I. batatas*) and only one house planted wild eggplant (*S. torvum*). The villagers informed that sweet potato tuber sometimes was used as a substitute for cassava for main dish. Wild eggplant and torch ginger flower were used as side dishes when consumed with white rice or boiled cassava tubers. On the other hand, Jahai people was identified the three edible plant (*A. viridis*, *M. citrifolia* and *M. atropurpurea*) as weeds and removed them from garden.

4. Conclusion

Out of seven traditional vegetables collected, four were planted, i.e., Casava, sweet potato and wild eggplant; and three species, i.e., pigweed, Indian mulberry and purple milletia were found growing in the wild. Out of seven traditional vegetable species collected, the Jahai tribe do not consume only three species namely the pigweed shoots (*A. viridis*), Indian mulberry shoots (*M. citrifolia*) and purple milletia shoots (*M. atropurpurea*). It can be concluded that the Jahai tribe in Klewang Village, Royal Belum consume only traditional vegetables which was planted and domesticated but do not consume those which are wildly growing. Thus, more researches and studies must be conducted in this area or in other Jahai tribe settlement areas to update and record the types of traditional vegetables which were unconsumed and consumed by Jahai tribe as well as to document the traditional knowledge surrounding these plants which are practiced by the Jahai tribe.

References

- [1] Aweng E R 2019 *Traditional Vegetable and Salad in Kelantan Siamese: Food, Heritage & Culture* Kota Bharu. *UMK Publisher*: 69-140
- [2] Aweng E R, Karunakaran T, Zakia K, Sharifah Aisyah S O and Suganthi A 2019 Diversity of Plants Species Abundantly Consumed in Traditional Practice of Siamese Community of Kelantan, Malaysia. *Proceedings of the 2nd International Conference on Advance and Scientific Innovation 18th July Banda Aceh Indonesia*
- [3] Suganthi A, Nivaarani A, Boon J G and Aweng E R 2019 A Short Note on Wild Gingers (Zingiberaceae) In Pulau Pangkor, Perak, Peninsular Malaysia *The Malaysian Forester* **82** (1):159 – 162.
- [4] Mohd Shukri M A, Mirfat A H S, Erny Sabrina M N, Razali M and Salma I 2013 Nutritional value and potential of Malaysian Underutilised Fruits and Traditional Vegetables *Acta Horticulturae* **979** :173-185.
- [5] Noorasmah S 2016 Mineral content of five indigenous leafy vegetables from Bintulu market, Sarawak, Malaysia *Journal of Medicinal Herbs and Ethnomedicine* **2** 26-35
- [6] Karunakaran T and Aweng E R 2018 Local Herbs Used in Concoction for Herbal Rice Preparation by Kelantan Siamese Community in Malaysia *VNU Journal of Science: Earth and Environmental Sciences* **34** 2:1-11
- [7] Nur Filzah A and Emmy Hainida K I 2017 Indigenous and Produce Vegetable Consumption in Selangor, Malaysia *Proceedings of the 2nd International Conference on the Future of ASEAN*.
- [8] Larsen K., Ibrahim H, Khaw S H and Saw L G 1999 Gingers of Peninsular Malaysia and Singapore Kota Kinabalu: *Natural History Publications (Borneo)* 135

[9] Lamb A, Gobilik J, Ardiyana M and Dalberg-Poulsen A 2013 A guide to gingers of Borneo. *Natural History Publications (Borneo)*