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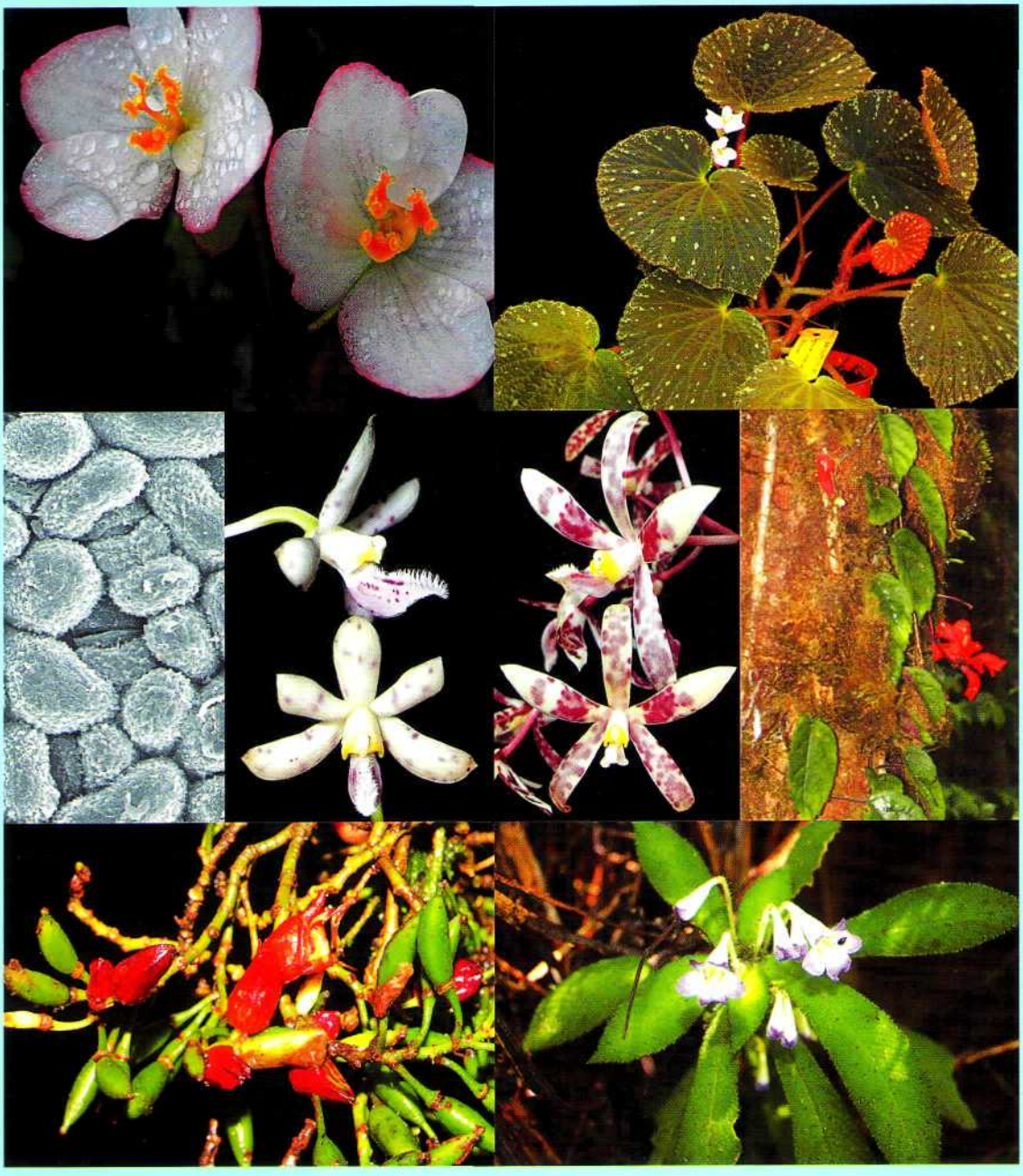

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THE ETHNOBOTANY OF DUSUN PEOPLE IN TIKOLOD VILLAGE, TAMBUNAN DISTRICT, SABAH, MALAYSIA

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ABSTRACT
KULIP, J. 2014. The ethnobotany of the Dusun people in Tikolod village, Tambunan district, Sabah, Malaysia. *Reinwardtia* 14 (1): 101 – 121. — The ethnobotanical studies of the Dusun people in Tikolod village, Tambunan district, Sabah, Malaysia were conducted from July 25th to 30th, 2011 and from March 9th to 10th, 2012. The result shows that there were 160 species in 62 families of plants used. Among them, there were 83 species (in 36 families) of edible plants, 75 species (in 44 families) were medicines, 12 species (in nine families) were used for constructions and handicraft and eight species (in six families) were used for musical instruments and animal traps. There were 24 species of plants that have two or more uses. Of the total, 87 species or 54% were native or collected from the natural forest nearby and 73 species or 45% of these plants were exotic (introduced plants). The most commonly used of plant families were Poaceae (Gramineae) with 14 species, followed by Moraceae and Zingiberaceae, with eight species each and Arecaceae (Palmae), Cucurbitaceae, Euphorbiaceae, Rutaceae and Solanaceae, with seven species each.

Keywords: Dusun people, ethnobotany, Sabah, Malaysia, Tambunan, Tikolod.

ABSTRAK
KULIP, J. 2014. Studi etnobotani masyarakat Dusun di desa Tikolod, distrik Tambunan, Sabah, Malaysia. *Reinwardtia* 14 (1): 101 – 121. — Studi etnobotani masyarakat Dusun di desa Tikolod, Distrik Tambunan, Sabah, Malaysia dilakukan dari tanggal 25 - 30 Juli 2011 dan pada tanggal 9 - 10 Maret 2012. Hasil studi menunjukkan terdapat 160 jenis tumbuhan dari 62 suku yang digunakan oleh masyarakat Dusun. Terdapat 83 jenis tumbuhan (dari 36 suku) yang dapat dimakan, 75 jenis (dari 44 suku) digunakan sebagai tumbuhan obat, 12 jenis (dari sembilan suku) untuk bahan bangunan dan kerajinan tangan serta delapan jenis (dari enam suku) yang digunakan sebagai alat musik dan perangkap binatang. Terdapat 24 jenis tumbuhan yang mempunyai dua atau lebih kegunaan. Dari total tumbuhan yang didata, sebanyak 87 jenis atau 54% adalah tumbuhan asli atau yang dikumpulkan dari hutan alam yang terdapat di sekitar tempat tinggal masyrakat Dusun serta terdapat 73 jenis atau 45% dari tumbuhan yang dikumpulkan adalah tumbuhan eksotik atau introduksi. Tumbuhan yang paling banyak dimanfaatkan adalah dari suku Poaceae (Gramineae) dengan 14 jenis, diikuti Moraceae dan Zingiberaceae, dengan masing-masing delapan jenis dan Arecaceae (Palmae), Cucurbitaceae, Euphorbiaceae, Rutaceae dan Solanaceae, masing-masing sebanyak tujuh jenis.

Kata kunci: Etnobotani, masyarakat Dusun, Malaysia, Sabah, Tambunan, Tikolod.

INTRODUCTION

Ethnobotany means the study of the people who are native to an area and how they used plants as resources (Martin, 1995). Plants have been very important to human survival from ancient time. Plants provide food to human and animals as well but most importantly produce oxygen. Nowadays, ethnobotany is getting more popular when more and more scientific investigations are done in order to satisfy the curiosity and the desire to understand the plants in their surroundings. In countries where modern medicines are very expensive and difficult to get, plants are their source as primary healthcare. There are several reasons on why people still depend on plants for survival, one of them is because they are easy to get and cheaper (Ahmad & Raji, 1991). Besides, plants are main source of medicine as World Health Organism, WHO, reported that 80% of the world population is using medicinal herbs for treating diseases as well as healthcare.

There are several cases whereby useful plants to communities in Sabah were preserved and also cultivated for their survival. For example, 'Parai' (in Dusun Tambunan language) or *Oryza sativa* (Poaceae) is a staple food for the Dusun people in Tambunan, Sabah, Malaysia. They believed that the plant has special spirit called 'Bambarayon' (Dusun Tambunan). They cultivate this plant every year and at the end of harvesting period, they will celebrate to give thanks to God the creator ('Kinorohingan' in Dusun Tambunan language) for the abundant harvest and they call it 'Tadau Kaamatan' festival or Harvest Festival. A powerful medicinal plant called 'Komburongoh' (in

Dusun Tambunan language) or *Acorus calamus* (Araceae) is highly regarded as 'Rusap Tagayo' among the Dusuns people in Tambunan. When modern medicines had not reached Tambunan in early days, they cultivated this plant and used it to cure sick persons in the village. They even make it as necklace and wear them every day to protect from falling sick and bad spirits.

Malaysia is one of the 12 mega-diversity countries of the world that together make up about 60% of the world's known species (Latiff, 2005). Out of 500.000 identified plants found in the world, more than 20.000 plant species are found in the wild in the roughly 19.12 million hectares of rainforest covering 58.1% of Malaysia's total land area (Md. Bakri, 2005). The biodiversity of Malaysia's rainforest is very rich because the forest is a unique natural which has been evolving for over 130 million years.

Sabah, 28.417 sq mi (73.600 sq km), is a state in the easternmost part of Malaysia and the northernmost part of Borneo Island, *ca*. 287.000 sq mi (743.330 sq km), largest of the Malay Archipelago and third largest island in the world, South West of the Philippines and North of Java. Being the second largest state in the Federation of Malaysia after Sarawak, Sabah has a total land area of about 7.4 million hectares whereby more than half of the land or 4.7 million hectares are forested area that is rich in biodiversity (Kulip, 2004). A total of 3.21 million of people was found in Sabah as the result of Census 2010 by Department of Statistics, Malaysia.

Fig. 1. Map of Sabah showing Tambunan district. (Source: Map Land and Survey Kota Kinabalu).

Sabah has 36 groups of native people. Out of these 36 groups, Dusun and Kadazan are the largest groups comprising 555.647 people or 24.7%, and are followed by Bajau and Murut with 436.672 people or 19.4% and 100.631 people or 5.3%, respectively (Dept. Statistics, 2010).

With the presence of various indigenous people and the large area of forest in Sabah, the interaction of human beings and plants definitely occurs as humans always rely on the environment for survival. It also means that there will be lots of traditional knowledge which is possessed by them. The trees and herbaceous plants have been contributing immensely to the livelihood of the native people in Sabah and always have a connection with the different cultures of the people. Plants are used as food, clothing, shelter materials, flavor and fragrance, health care preparations, musical instruments, handicraft, spiritual ceremony and so on. In Sabah only, about 1.300 medicinal plants have been recorded (Kulip, 2004).

Tambunan District

Tambunan is located in the interior district of Sabah, Malaysian Borneo. It is about 90 km from Kota Kinabalu city by road towards east of Sabah. Geographically, it is a valley. It is surrounded by mountain ranges *i.e.* Crocker Ranges on the western side and Trus Madi Ranges on the eastern side. The distance from Kota Kinabalu city to Tambunan township is about 90 km by road to the east of Sabah (Fig. 1). The elevation of Tambunan is between 500-700 meter above sea level. Most of the vegetations can be described as either Upper Mix Dipterocarps forest or Lower Montane forest.

There are several published reports on ethnobotanical studies which were conducted in

Fig. 2. Map of Tambunan District showing locality of study in Tikolod Village (in red circle).

Tambunan district previously namely, Kulip & Matunjau (1992) on bamboos utilizations, Kulip *et. al.* (2005) on the medicinal plants in Kaingaran village and Kulip (1996) on medicinal plants and other useful plants in Tambunan.

The objectives of this study were to document all traditional useful plants that are or have been used by the Dusun people in Tikolod village, Tambunan and to name them scientifically.

MATERIAL AND METHODS

Locality of study

The studies were conducted in Tikolod village which is in the district of Tambunan, Sabah, Malaysia. It is about 10 km towards southern part of Tambunan town ship.

The name, Tambunan, is a combination of two different group of people who arrived Tambunan plain early, namely Gombunan and Tamadon after Gombunan group won over Tosundung group which killed Gombunan's leader with the help of Tamadon group people. The 'tam' is taken from Tamadon and 'bunan' from Gombunan to form 'Tambunan' (Laman Web Rasmi Pejabat Daerah Tambunan).

According to a census carried out in 2010 by Malaysia Department Statistics, Tambunan population was about 30,529 people, of which the Tambunan Dusun tribe is the majority. There were seven sub-tribes, namely Tuwawon, Tagahas, Tibabar, Bunduh, Gunnah, Palupuh and Kohub, in the early 20th century but only three sub-tribes, Tuwawon, Tagahas and Tibabar, are left now (Low, 2006). They cultivate mostly wet padi rice on the plain and some hill padi rice on hilly and mountainous areas. The people of Tambunan have used a lot of bamboo resources especially 'Poring' bamboo or *Gigantochloa levis,* in their daily lives since the 1800s. This can be seen by the fact that most of the old houses that are still exist are constructed by bamboo materials and the western part of Tambunan valley is mostly covered by 'Poring' bamboo vegetation, which is the largest area of 'Poring' bamboos plantation in Sabah.

Fig. 3. View of Tikolod village. Cultivated land with padi, banana and other vegetables. Far behind is secondary forest and newly opened land for planting hill padi (Photo by Julius Kulip 2013).

Tikolod village (study site)

Tikolod village is located in the southern part of Tambunan district, at 05°46'30"N; 116°21'02"E and is about 500 meters above sea level (Fig. 2).

Tikolod village is almost entirely inhabited by Dusun people. The majority of them are Christians (Catholic) but some of the elders are pagan. According to the Chairman of the Village Security and Development (JKKK), Mr. Waidi Siwil, the number of inhabitants was about 600 in 2012. There were about 83 households in the village and the average size of the households was 5-8 persons.

People first arrived in the village of Tikolod in the 1500s (Waidi, pers. comm., 2012). They were mainly from Kionob, a village in the Penampang district. Their reason for moving to Tikolod then was to seek a better livelihood by settling in an area closer to a market, which is about 10 km from the village and with access to more land and better infrastructure (the main asphalt road linking Tambunan town ship to Keningau town ship), which was just three kilometers from the village. There are two explainations for the origin of the name of this village. Firstly from a tree named 'Tikalod' in Dusun or a tree species of *Lithocarpus* sp. (Fagaceae). This tree produced nuts which were eaten by wild boars at that time. The villagers hunt the wild boars for their meat. Secondly from a situation whereby one day the village was affected by a long dry season and the river was dried out. There was only one source of water left and the villagers were grabbing or 'mogisosolod' with each other to get the water. Both stories lead to the name of this village as Tikolod.

Tikolod village (Fig. 3) stretches about 4km along a narrow valley and is surrounded by rather large areas of secondary and primary forests and

Fig. 4. Semi-structured interview with the plant informant (Mr. Paulus Dandan) in the field (Photo by Julius Kulip 2013).

scattered cultivated fields. Some households have official native titles to their lands but most have applied for them and yet to receive them. The villagers rely mainly on subsistence farming for their livelihood and most grow wet paddy rice combined with some cash crop production like vegetables and ginger. The villagers also practice shifting cultivation on slopes to plant hill padi rice around the village where forested areas have been cut, burned and cultivated for a few years. There is an official State's jungle trekking trail named as 'Salt Trail' started from this village to Inobong, Penampang. The trail is about 35 km and will take about 3-day and 2-night journey. This trail was established around 1930s where by the villagers in Tambunan walked to Inobong to get salt in exchange of their forests' products from Tambunan.

Fallow periods are usually between February and June. The forest around the village is characterized by many different stages of succession. Near the village, most forests are secondary, but farther away the forests are less disturbed and some have reached a climax stage akin to that of a primary forest. The northern most part of the village is located within the Crocker Range National Park (CRNP). Most of the households are situated within 60-minute walking distance from the CRNP.

Data and specimen collections

A Prior Inform Consent (PIC) letter was firstly sent to the Village Head of Tikolod via People Development Officer of Tambunan before entering the village, asking for permission and agreement of this study to be conducted in Tikolod. Surveys were conducted to investigate the diversity of resources being used. There were 13 plant informants interviewed during this survey or about 15% from the total head of household but only two persons who are still actively using the plants, there are namely Mr. Paulus bin Dandan (76 years), who is a 'Bobolian' or a Dusun Medicine Man and Mr. Thadius bin Yongut (66 years), who is producer of 'Sompoton' or a bamboo mouth organ.

For each informant, a semi-structured interview (See Appendix I) at their house compound was conducted in Bahasa Malaysia (Malaysian language) and sometimes was translated into Dusun language, followed by a forest walk and interview. The forest walks provided information on forest products used by the villagers as well as their gathering sites. During the forest walks, locally used plants pointed out by the informant but not known or unidentified were collected, pictured and made into voucher specimen. Common and easily identified plants on the field were recorded but not collected. For each specimen, its local name, locality (GPS reading), use and application were recorded. The plant specimens were identified by the author and some by referring to herbarium specimens at the Sandakan Herbarium (SAN), Forest Research Centre, Sepilok, Sabah Forestry Department, Sandakan. The specimens are now kept at the Institute for Tropical Biology and Conservation, Borneensis Herbarium (BORH), Universiti Malaysia Sabah.

RESULTS

The result shows that there were 160 species in 62 families of plants used by the Dusun in Tikolod in their everyday life activities. Among them, there were 83 species of edible plants in 36 families (Table 1), 75 species were medicines in 44 families (Table 2) with 37 types of illness documented (Table 3), 12 species in 9 families were used for constructions and handicraft (Table 4), and eight species in six families were used for musical instruments and animal traps (Table 5). There were 24 species of plants which have two or more uses. About 87 species or 54% of them were natives or found from the natural forests nearby and 73 species or 45% of these plants were exotics (introduced plants). The most commonly used plant families were from the Poaceae (Gramineae) family with a total of fourteen species followed by Moraceae and Zingiberaceae with eight species each and Arecaceae (Palmae), Cucurbitaceae, Euphorbiaceae, Rutaceae and Solanaceae with seven species each. Photographs of some of the plants are shown in Appendix II.

DISCUSSION

The Dusun in Tikolod recognized 83 species in 36 families of edible plants (Table 1). The term 'edible plants' used here refers to any plant that is consumed whether as vegetables or fruits. But sometimes there is no clear botanical distinction between vegetables and fruits when a fruit is also consumed as vegetables *eg*. Unripe fruit of 'Timadang' or *Artocarpus odoratissimus* (Moraceae) traditionally cooked with chicken and served during dinner or it is consumed as vegetable, but eaten as fruit when it is ripe. The most commonly consumed families were from the Cucurbitaceae family followed by Zingiberaceae, Rutaceae, Poaceae, Solanaceae, Moraceae, Araceae, Leguminosae and Anacardiaceae. The main categories consumed were fruits, leaves, tendrils and piths. There were 25 species found in the forest whereby 16 species of them were domesticated.

There were 75 species of medicinal plants in 44

families (Table 2), among the common plants that were commonly used to treat illnesses were *Justicia gendarrussa, Blumea balsamifera, Cymbopogon citratus, Etlingera elatior, Eupathorium odoratum, Ageratum conyzoides, Psidium guajava* and *Piper betle.* Most of them were exotics. There were 37 types of illnesses cured by plants in Tikolod (Table 3). Common illnesses were flatulence, cuts and stomachache. There were two species planted in large scale, namely *Curcuma domestica* or 'Kunyit' and *Zingiber officinale* or 'Layo', which were high in economic value. This village is famous for producing top quality of these plants for domestic use as well as for export. Roots and stems were the most plant parts used. Shrubs and herbs were the two common habit of plants which were used for medicines. A question was asked to the Shaman (Mr. Paulus bin Dandan) on how the Dusun people know that a plant is medicinal. According to him, it was 'trial and error' method. According to Mr. Paulus bin Dandan, usually a plant that is containing medicinal properties will shows some of these features, for example, the plant is rare (or found in deep far forest), possess an aromatic or bad smell, with a unique morphological feature and showing a bright color. Usually domestic animals such as dog, cat or chicken will be used to try the plant first. If the animal is not dead, this means that the plant is safe and with medicinal value.

Twelve species in nine families were used for handicraft & construction (Table 5). The most used species was 'Tuai' or *Calamus levis* (Arecaceae) and 'Poring' or *Gigantochloa levis*' (Poaceae). Frequent plant's parts used were stem, bark and leaves.

Table 2 shows a list of plants used for making musical instruments and animal traps. There were eight species of plants used frequently when making a musical instruments in this village. Whereby the most frequently used plant is 'Poring' or *Gigantochloa levis* (Bambusoideae). Tikolod village is famous of being the producer of 'Sompoton' musical instrument in Sabah. It is solely made and tuned by Mr. Thaedius bin Yungot. To make a 'Sompoton', it took five species of plants. Four of which were forest plants. This means that if the forest is cleared or gone, the 'Sompoton' will also be gone as well! According to Mr. Thaedius Yungot, it was hard to make a 'Sompoton' nowadays because the plant resources were getting rare and the forests were getting further away.

CONCLUSION

The ethnobotanical studies of the Dusun people in Tikolod village, Tambunan District, Sabah, shows that there were 160 species in 62 families of plants used. Among them, there were 83 species (in 36 families) of edible plants, 75 species (in 44 families) were medicines, 12 species (in eight families) were used for constructions and handicraft and eight species (in six families) were used for musical instruments and animal traps. There were 24 species of plants that have two or more uses. Of the total, 87 species or 54% were native or collected from the natural forest nearby and 73 species or 45% of these plants were exotic (introduced plants). The most commonly used of plant families were Poaceae (Gramineae) with 14 species, followed by Moraceae and Zingiberaceae, with eight species each, and Arecaceae (Palmae), Cucurbitaceae, Euphorbiaceae, Rutaceae and Solanaceae, with seven species each.

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Table 4. List of plants species used to make handicraft & constructions.

No.	Species	Family	Dusun name	Uses
1.	*Artocarpus dadah*	Moraceae	Buruni	Handicraft
2.	*Artocarpus odoratissimus*	Moraceae	Timadang	Handicraft & construction
3.	*Calamus javensis*	Arecaceae	Tuai	Handicraft
4.	*Calamus levis*	Arecaceae	Tuai	Handicraft
5.	*Gigantochloa levis*	Poaceae	Poring	Handicraft & Construction
6.	*Gleichenia linearis*	Euphorbiaceae	NA	Handicraft
7.	*Glochidion* sp.	Euphorbiaceae	NA	Construction
8.	*Metroxylon sagu*	Arecaceae	Sagu	Handicraft & Construction
9.	*Morinda citrifolia*	Rubiaceae	NA	Handicraft
10.	*Spatholobus* sp.	Leguminosae	Bingol	Handicraft
11.	*Symplocos* sp.	Sympocaceae	NA	Construction
12.	*Trema orientalis*	Verbenaceae	Ludai	Handicraft

Table 5. List of plants for making musical instrument and animal's trap.

No.	Dusun Name	Botanical Name	Musical Product	Animal Trap
1.	Polod	*Arenga undulatifolia*	Sompoton Bungkau	-
2.	Tuai (Wakau)	*Calamus laevis*	Sompoton Tongkungon	Bubu Tambong Kasip Sopuk Tuil
3.	Tambirog	*Alstonia angustiloba*	Sundatang Kulintangan	Tuil
4.	Tou	*Lagenaria siceraria*	Sompoton	-
5.	Loputung	*Gleichenia lineris*	Sompoton	-
6.	Lias	*Donax canniformis*	-	Lias
7.	Poring	*Gigantochloa levis*	Tokubong Togungak Tongkungon Kulintangan	Bubu Tambong Kasip Sopuk
8.	Lampaki	*Schizostachyum pilosum*	Sompoton Turali Bungkau	Tuil

Table 3. List of symptoms of illness cured by medicinal plants from Tikolod village.

No.	Type of Illness (Malay/Dusun)	Type of illness (English)
1.	Ampus	Asthma
2.	Batuk	Cough
3.	Bernanah	Boils
4.	Biri-biri	Beri-beri
5.	Buang angin dalam badan	Flatulence
6.	Buang Kurias	Anti-dandruff
7.	Cirit-birit	Diarrhea
8.	Deman	Fever
9.	Dugal	Gastritis
10.	Gatal di badan	Itchy on body
11.	Ibu selepas bersalin	New mother after gave birth
12.	Kanak-kanak tidak dapat tidur	Difficult to sleep (Child)
13.	Kegagalan buah pinggang	Kidney failure
14.	Kekejangan otot	Muscle cramp
15.	Kurangkan padas badan	Reducing heat inside body
16.	Kurap	Ring worm
17.	Luka	Wound
18.	Melancarkan peredaran darah	Smooth blood flows
19.	Memulihkan tenaga bagi ibu yang baru bersalin	To recover energy after gave birth.
20.	Mengurangkan lemak	Reducing fat
21.	Merangsang penggeluaran peluh	Induce sweating
22.	Penawar racun	Antidote
23.	Penstabil rahim ibu selepas melahirkan anak	Womb stabilizer for new mother after gave birth.
24.	Penyakit kuning	Jaundice
25.	Radang	Inflammation
26.	Sakit gigi	Toothache
27.	Sakit kepala	Headache
28.	Sakit mata	Eyesore
29.	Sakit perut	Stomachache
30.	Sakit tulang	Bone illness
31.	Sakit tulang belakang	Back bone illness
32.	Selesma	Influenza
33.	Sariawan mulut	Sprue/Thrush
34.	Tekanan darah tinggi	High blood pressure

Table 1. List of edible plants in Tikolod village, Tambunan, Sabah, Malaysia.

NO	SCIENTIFIC NAME		DUSUN NAME	EDIBLE PART(S)	PREPARATION	HABIT	VOUCHER SPECIMEN NO. (BORH)
	FAMILY	SPECIES					
1.	Amaranthaceae	*Amaranthus gangeticus* L.	Sansam	Leaves and young stem	Boil to make soup or stir fry	Herb	1958
2.	Amaranthaceae	*Amaranthus sessils* (L.) R.Br. ex DC	Lalambi	Young shoot	Boil to make soup or stir fry	Herb	1959
3.	Amaryllidaceae	*Allium tuberosum* Rottler ex Spreng.	Losun	Tuber, leaves and stem	Boil to make soup or stir fry	Herb	1960
4.	Anacardiaceae	*Mangifera foetida* Lour.	Pahu	Fruits	Unripe fruit cook as vegetables while ripen fruit eaten raw.	Large Tree	1961
5.	Anacardiaceae	*Mangifera indica* L.	Mangga	Fruits	Eaten ripe	Large Tree	1962
6.	Anacardiaceae	*Mangifera odorata* Griff.	Wani	Fruits	Eaten ripe	Large Tree	1963
7.	Anacardiaceae	*Mangifera pajang* Kosterm.	Bambangan	Fruits	Unripe fruit use to make pickles while ripe fruit eaten raw.	Tree	1964
8.	Annonaceae	*Annona muricata* L.	Lampun belanda	Fruits	Unripe fruit cooked as vegetables while ripe fruit eaten raw.	Medium-Tree	1965
9.	Annonaceae	*Rollinia deliciosa* Saff.	-	Fruits	Eaten ripe	Medium Tree	1966
10.	Apiaceae	*Apium graveolens* L.	-	Leaves and stem	Added in soup as flavour	Herb	1967
11.	Apiaceae	*Eryngium foetidum* L.	Rumput tabug	Leaves near root	Boil and eat with chili or stir fry	Herb	1968
12.	Araceae	*Alocasia esculenta* (L.) Schott.	*Guol*	Petiole, pith and tuber	Boil or stir fry	Herb	1969
13.	Araceae	*Alocacia odara* K. Koch.	Dar	Tendril	Boil or stir fry	Herb	1971
14.	Araceae	*Homalomena* sp.	Buntui	Stem and petiole	Boil or stir fry	Herb	1972

Table 1. List of edible plants in Tikolod village, Tambunan, Sabah, Malaysia (continued).

15.	Araceae	*Schismatoglottis ahmadii* A. Hay	Dukaruk	Stem and petiole	Boil or stir fry	Herb	1973
16.	Arecaceae	*Areca catechu* L.	Lugus	Fruits	Slice into smaller pieces and wrap with *Piper* (Daing) leaves.	Palm tree	1974
17.	Arecaceae	*Cocos nucifera* L.	Piasau	Fruits, pith and flower buds.	Pith is boil, water inside the fruit can be drink as well as the water in flower bud can be use to make Coconut wine or 'tuak'	Palm tree	1975
18.	Asteraceae	*Cosmos caudatus* Kunth.	-	Leaves	Eaten raw with chili mixture (Sambal).	Herb	1976
19.	Asteraceae	*Crassosephalum crepidioides* (Benth.) S. Moore.	Koyundou	Young shoot	Eaten raw with chili mixture (Sambal) or stir fry.	Herb	1977
20.	Basellaceae	*Basella rubra* L.	Gemputa	Leaves	Eaten raw with chili mixture (Sambal) or stir fry.	Herb	1978
21.	Blechnaceae	*Stenochlaena palustris* (Burm. f.) Bedd.	Lembiding	Young shoot	Boil to make soup or stir fry	Herb	1979
22.	Bombacaceae	*Durio zibenthinus* Murray	Ratu	Fruits	Eaten ripe.	Large Tree	1980
23.	Brasicaceae	*Brasica juncea* L. Czern.	Sayur pahit	Leaves, stem & flower	Boil to make soup or stir fry	Herb	1981
24.	Brasicaceae	*Nasturtium officinale* R.Br.	Sayur Hongkong	Stem and leaves	Boil to make soup or stir fry	Herb	1982
25.	Bromeliaceae	*Ananas comosus* L. Merr.	Puntibangai	Fruits	Unripe fruit is cooked as vegetables while ripe fruit is eaten raw.	Herb	1983
26.	Butomaceae	*Limnocharis flava* (L.) Buchenau	Tayaan Sanda-kan	Petiole, stem, young leaves and inflores-cence	Boil and eat with chili mixture or stir fry	Herb	1984

Table 1. List of edible plants in Tikolod village, Tambunan, Sabah, Malaysia (continued).

27.	Caricaceae	*Carica papaya* L.	Tapayas	Fruits and leaves	Leaves cook as vegetables while ripe is fruit eaten raw.	Shrub	1985
28.	Convolvulaceae	*Ipomoea aquatica* Forssk.	Kangkung	Leaves and stem	Boil to make soup or stir fry	Herb	1986
29.	Convolvulaceae	*Ipomoea batatas* L. Lam.	Kasou	Tuber and leaves	Tuber is boiled while leaves can be cook as vegetables.	Herb	1987
30.	Cucurbitaceae	*Benincasa hispida* Thunb.	Tonsomon	Leaves and fruits	Boil as soup or stir fry	Herb	1988
31.	Cucurbitaceae	*Cucurbita maxima* Duch.	Tawadak	Leaves, fruits and young stem	Unripe fruits cook as vegetables and also use to make cake while leaves and young stem cook as vegetables	Climber	1989
32.	Cucurbitaceae	*Lagenaria siceraria* (Molina) Standl.	Tou	Fruits	Boil or fry	Climber	1990
33.	Cucurbitaceae	*Cucumis sativus* L.	Sangop	Fruits and leaves	Boil or stir fry	Climber	1991
34.	Cucurbitaceae	*Luffa cylindrical* M. Roem	Kosula	Fruits	Boil or stir fry	Climber	1992
35.	Cucurbitaceae	*Momordica charantia* L.	Kuinsung	Fruits and leaves	Boil or stir fry	Climber	1993
36.	Cucurbitaceae	*Sechium edule* (Jacq.) Sw.	Sangop Jepun	Fruits, young leaves and shoot	Boil or stir fry	Climber	1994
37.	Dracaenaceae	*Dracaena* sp.	Lempayau var. green leaves	Stem	Boil or stir fry	Shrub	1995
38.	Drypteridaceae	*Diplazium esculantum* (Retz. Sw.)	Pakis	Leaves and stem	Boil or stir fry	Fern	1996
39.	Euphorbiaceae	*Manihot esculanta* Crantz.	Mundok	Leaves and tubers	Leaves are boil and eat as salad while tubers are boil and eaten directly.	Shrub	1997
40.	Euphorbiaceae	*Sauropus androgynus* Merr.	Sayur manis	Leaves and stem	Boil or stir fry	Herb	1998

Table 1. List of edible plants in Tikolod village, Tambunan, Sabah, Malaysia (continued).

41.	Fabaceae	*Arachis hypogaea* L.	Kasang	Legume	Fry with sand to get rid of soil on its outer part and eaten directly
42.	Fabaceae	*Phaseolus vulgaris* L.	Kasang pindik	Fruits	Fry or cook with other dishes
43.	Fabaceae	*Psophocarpus tetragonolobus* DC.	Nambaril	Fruits	Eaten raw with chili mixture
44.	Fabaceae	*Vigna sesquipedalis* (L.) Fruw.	Balatung	Fruits and leaves	Boil or fry
45.	Lamiaceae	*Ocimum basilicum* L.	Siwot	Leaves	Cook together with meat
46.	Lauraceae	*Cinnamomum iners* Reinw. ex. Blume	Keningau	Bark	Food flavour
47.	Lauraceae	*Persea Americana* Mill.	Buah lemak	Fruits	Eaten ripe
48.	Liliaceae	*Allium ampeloprassum* L.	Ding Bawang	Shoots, bulb and stem	Boil or stir fry
49.	Meliaceae	*Lansium domesticum* Correa	Lansat	Fruits	Eaten raw when come to its season
50.	Moraceae	*Artocarpus elasticus* Reinw. ex Blume	Togop	Fruits	Unripe fruits cooked as vegetables while ripe one eaten raw
51.	Moraceae	*Artocarpus heterophyllus* Lam.	Nangko	Fruits	Unripe fruits cooked as vegetables while ripen one eaten raw
52.	Moraceae	*Artocarpus integer* Spreng.	Pulutan	Fruits	Unripe fruits cooked as vegetables while ripe one eaten raw
53.	Moraceae	*Artocarpus odoratissimus* Blanco.	Timadang	Fruits	Unripe fruits cooked as vegetables while ripe one eaten raw
54.	Musaceae	*Musa* sp.	Puntiruk	Fruits, pith, unopened inflorescence	Unripe fruits cooked as vegetables while ripen one eaten raw. Unopened inflorescence also cooked with chili mixture. Pith is boiled as soup.

Table 1. List of edible plants in Tikolod village, Tambunan, Sabah, Malaysia (continued).

55.	Myrtaceae	*Psidium guajava* L.	Kaliabas	Fruits	Eaten ripe	Tree	2015
56.	Oxalidaceae	*Averrhoa bilimbi* L.	Burilan	Fruits	Eaten ripe or used to make chili mixture.	Tree	2016
57.	Piperaceae	*Piper betle* L.	Daing	Leaves	Wrap the betle nut.	Climber	2017
58.	Piperaceae	*Piper umbellatum* L.	Kuyoh	Leaves	Cook with fish or wrap the fish then roast	Climber	2018
59.	Poaceae	*Bambusa vulgaris* Schrad. ex. J.C. Wendl.	Sokoh	Pith	Slice and boil or add with salted fish or others	Shrub	2019
60.	Poaceae	*Cymbopogon citratus* Stapf.	Segumau	Stem	Slice or mash the basal stem and then added in dishes as flavor.	Herb	2020
61.	Poaceae	*Oryza sativa* L.	Parai	Fruits	Fruits are dried until the outer part open by itself	Herb	2021
62.	Poaceae	*Saccharum officinarum* L.	Tobu	Stem	Get rid of its outer skin and the juice of the inner stem is drink raw.	Shrub	2022
63.	Poaceae	*Zea mays* L.	Loang / tawaran	Fruits	Boiled and eaten, make cake and the young one cook as vegetables.	Shrub	2023
64.	Polygonaceae	*Polygonum odoratum* Lour.	Daun Kesum	Leaves	Added in dishes as flavor.	Herb	2024
65.	Pontederiaceae	*Eichhornia crassipes* (Mart.) Solms	Tayaan	Stem and flower	Boil or fry.	Herb	2025
66.	Rutaceae	*Citrus aurantifolia* (Christm.) Swingle	Kolopis	fruits	Flavour	Tree	2026
67.	Rutaceae	*Citrus limon* (L.) Osbeck	Lemon	fruits	Squeeze in dishes or chili mixture.	Tree	2027
68.	Rutaceae	*Citrus limon var. ponderosa*	Limau bubudan	fruits	Squeeze in dishes or chili mixture.	Tree	2028
69.	Rutaceae	*Citrus maxima* (Burm.) Merr.	Worung	fruits	Eaten ripe	Tree	2029

Table 1. List of edible plants in Tikolod village, Tambunan, Sabah, Malaysia (continued).

70.	Rutaceae	*Citrus reticulata* Blanco.	Limau manis	fruits	Squeeze in dishes or chili mixture.	Tree	2031
71.	Rutaceae	*Citrus microcarpa* Bunge.	Limau manis	fruits	Eaten ripe	Tree	2032
72.	Sapindaceae	*Nephelium lappaceum* L.	Rangalau	fruits	Eaten ripe when come to its season	Tree	2033
73.	Solanaceae	*Capsicum* sp.	Lalangangon	Fruits	Mixed with other dishes	Shrub	2034
74.	Solanaceae	*Capsicum annuum* L.	Penderoi	Fruits	Mixed with other dishes	Shrub	2035
75.	Solanaceae	*Lycopersicon esculentum* Mill.	Tambatus	Fruits	Boil, stir fry or added with other dishes	Shrub	2036
76.	Solanaceae	*Solanum melongena* L.	Binterung	Fruits	Boil or stir fry	Shrub	2037
77.	Solanaceae	*Solanum nigrum* L.	Tutan	Leaves and stem	Boil or stir fry	Shrub	2038
78.	Zingiberaceae	*Alpinia galanga* Willd.	Lengkuas	Rhizome	Added in dishes	Shrub	2039
79.	Zingiberaceae	*Etlingera coccinea* (Blume.) S.Sakai & Ngam.	Tuhau	Pith	Slice / crunch, mix with chili & eaten raw as salad.	Shrub	2040
80.	Zingiberaceae	*Etlingera elatior* (Jack.) R.M. Smith.	Topu	Flower and fruits	Flower is boiled to make soup while fruit used to make chili mixture.	Shrub	2041
81.	Zingiberaceae	*Hornstedtia scyphifera* Steud.	Tolidus	Fruits	Eaten raw	Shrub	2042
82.	Zingiberaceae	*Zingiber officinale* Roscoe	Layo	Rhizome	Mix with other dishes	Herb	2043
83.	Zingiberaceae	*Zingiber officinale* var. *rubrum* Theilade	Layo aragang	Rhizome	Mix with other dishes	Herb	2044

Table 2. List of Medicinal plants in Tikolod village, Tambunan, Sabah, Malaysia.

No.	Scientific Name		Dusun Name	Symptoms Of Illness	Part used	Preparation	Voucher specimens No. (BORH)
	Family	Species					
1.	Acanthaceae	*Justicia gendarussa* Burm.f.	Tembiau Tara-gang	Flatulence	Leaves	Boil 2 branches of leaves and mix with 'Tawawoh', 'Kaliabas', 'Limau', 'Kebong', 'Segumau' and use for bath twice a day	1828
2.	Acanthaceae/ Labiate	*Orthosiphon aristatus* (Blume) Miq.	Misai kucing	Reduce fats and kidney failure	Leaves	Boil to make tea. 20g or 7 leaves (under 1 year old) or 20- 25 leaves (1 year and above old)	1829
3.	Actinidiaceae	*Saurauia* sp.	Longugan tara-gang	New swell ulcer	Stem	Scrap and crush to get the sap and apply	1830
4.	Actinidiaceae	*Saurauia* sp.	Kebong	Biri- biri	Entire plant	2 plants per boil and use for bath 2x a day	1831
5.	Anacardiaceae	*Pegia sarmentosa* (Lecomte) Hand.-Mazz.	Ampan	Cuts	Shoot	Crush 4 shoots and mix with 'Daing' and apply	1861
6.	Annonaceae	*Uvaria* sp.	Kalawit	Cough	Stem	Sap from stem is mixed with 'Lipoi', 'Babas' and 'Lias' then drink	1832
7.	Apocynaceae	*Alstonia spathulata* Blume	Tembirog	Cuts (human or animal)	Stem	Cut the stem and apply the latex until cover the cut	1833
8.	Araliaceae	*Schefflera nervosa* (King) R.Vig.	Miang palat	Paralyze (baby)	Young leaves	Boil 7 branches of young leaves and mix with 'Sileu' and 'Pako dita' then use for bath 2- 3x a day	1834
9.	Arecaceae/ Palmae	*Calamus* sp.	Lamba	Cooling body (children)	Root	Crush and apply on body once a day	1835
10.	Arecaceae/ Palmae	*Caryota mitis* Lour.	Botu	Post partum	Pith	Boil 200g to make porridge and eat twice a day or boil with 'Segumau' and 'Tembiau tara-gang' then use for bath twice a day	1836

Table 2. List of Medicinal plants in Tikolod village, Tambunan, Sabah, Malaysia.

11.	Asteraceae/ Compositae	*Blumea balsamifera* (L.) DC.	Tawawoh	Cooling body (mother after childbirth) and Flatulence (awingkat)	Root	Boil 200g and mix with 'Wallng', Salinatat, Talinting, Pako dita and Dalai then use for bath twice a day.	1837
12.	Asteraceae/ Compositae	*Elephantopus mollis* Kunth	Saraman	Diarrhea (1 year above)	Root	Boil to make tea, 1 spoon twice a day	1838
				Toothache	Inner stem	Heat and apply	
13.	Asteraceae / Composite	*Chromolaena odorata* (L.) R.M.King & H.Rob.	Rumput Malaysia	Cuts and old wounds	Young stem	Crush and apply as decoction	1839
14.	Blechnaceae	*Blechnum orientale* L.	Dudugau	Ulcer	Shoot	Crush and apply as decoction	1840
15.	Caricaceae	*Carica papaya* L.	Tapayas	Flatulence (awingkat)	Root	Mix 2 roots with 'Gapas' and 'Tawadak' then crush and boil to make tea	1841
16.	Connaraceae	*Cnetis* sp.	Lingem	Cough & Stomachache	Stem	Drink 1-2 spoons the sap from stem that mix with Tambar twice a day	1956
17.	Convovulaceae	*Merremia peltata* (L.) Merr.	Babas	Stomachache and Flatulence (awingkat)	Stem	Sap from stem mix with 'Lipoi' then drink	1842
18.	Costaceae	*Cheilocostus speciosus* (J.Koenig) C.D.Specht	Tongkur- ongkur	Stabilizing uterus after childbirth	Flower	Crush and low heat then apply on abdomen 3x a day	1843
19.	Cucurbitaceae	*Cucurbita pepo* L.	Tawadak (labu)	Flatulence (awingkat)	Root	Mix with 'Tapayas' and 'Gapas' then crush and boil to make tea	1844
20.	Cyperaceae	*Cyperus* sp.	Wallang	Jaundice (3 month child)	Root	Boil and mix with Tong gilupang and use for bath twice a day	1845
21.	Dilleniaceae	*Tetracera scandens* (L.) Merr.	Tambar	Cough	Stem	Drink the sap from stem	1846
22.	Euphorbiaceae	*Homalanthus populneus* (Geiseler) Pax	Dayang mato	Muscle cramp (karas)	Root	Boil 200g to make tea	1847
23.	Euphorbiaceae	*Jatropha curcas* L.	Jarak	Cuts	Young leaves and latex from bark	Crush and apply and rub the latex on the cuts	1848
24.	Euphorbiaceae	*Mallotus paniculatus* (Lam.) Müll.Arg.	Dauk	Cuts and scabies	Young leaves	Crush and apply	1849
25.	Euphorbiaceae	*Phyllanthus urinaria* L.	Piasau-piasau	High blood pressure and no energy	Entire plant	Boil 5 plants to make tea. Drink 2- 4 spoons (adult) or 1 spoon (child), 3x a day	1850

Table 2. List of Medicinal plants in Tikolod village, Tambunan, Sabah, Malaysia.

26.	Flacourtiaceae	*Bischofia javanica* Blume	Tungo	Blood circulation	Bark	Boil to make tea or use for bath	1852
				Stomachache and Diarrhea	Shoot	Adult: crush and eat Child: crush, filter and drink	
27.	Gleicheniaceae	*Gleichenia truncate* (Willd.) Spreng.	Laputong	Eyesore	Stem	Break to get the sap and apply on morning and evening, 4 stem per use	1853
28.	Hypoxidaceae	*Molineria latifolia* (Dryand. ex W.T.Aiton) Herb. ex Kurz.	Tambaka	Cough	Root	Boil 100g to make tea and drink twice a day	1854
29.	Lamiaceae	*Ageratum conyzoides* (L.) L.	Kambing-kambing	Cuts	Leaves	Crushed 100g and apply	1855
30.	Lauraceae	*Litsea* sp.1	Lamou-lamou	Cuts and scabies	Stem	Scrap the stem and apply	1856
31.	Lauraceae	*Litsea* sp.2	Sileu	Flatulence (awingkat)	Shoot	Boil 4 shoots and mix with 'Segumau', 'Tawawoh' and 'Limau' and use for bath twice a day	1857
32.	Lauraceae	*Litsea* sp.3	Sesulang kupes	New boils	Shoot	Crush & apply	1957
33.	Leguminosae	*Senna alexandrina* Mill.	Gombirong	Ringworm	Young leaves	Crush 100g and apply only on evening	1858
34.	Leguminosae	*Dismodium* sp.	Rupe-rupet	Flu	Young leaves	Crush 4-7 leaves (child) or 7-10 leaves (adult), filter and drink 3x a day	1859
35.	Leguminosae	*Spatholobus* sp.	Belohu	Cough and Diarrhea	Stem	Mix the sap with 'Kalawit' then drink	1860
36.	Leguminosae	*Urena lobata* L.	Tong gilupang	Jaundice (3 month child)	Root	Boil and mix with Wallang and use for bath twice a day	1862
37.	Leguminosae	*Vigna unguiculata* (L.) Walp.	Balatong (kacang panjang)	Fever (child) and Headache (adult)	Shoot	Crush 2g and apply twice a day	1863
38.	Liliaceae	*Dianella ensifolia* (L.) DC.	Lepi-lepi	Headache	Younf leaves	Crush 6-12 leaves and apply 2-3 a day	1875
39.	Loganiaceae	*Fagraea cuspidate* Blume	Todopon puwok	Fever	Root	Crush 500g and boil then use for bath twice a day	1864
40.	Marantaceae	*Donax canniformis* (G.Forst.) K.Schum.	Lias	Cough	Stem	Drink the sap from stem that mix with Tambar and drink 10 ml or 1 spoon 2-3x a day	1865
41.	Malvaceae	*Gossypium* sp.	Gapas	Flatulence (awingkat)	Root	Mix with 'Tapayas' and 'Tawadak' then crush and boil to make tea	1866

Table 2. List of Medicinal plants in Tikolod village, Tambunan, Sabah, Malaysia.

42.	Menispermaceae	*Fibraurea tinctoria* Lour.	Tapa buawang	Fever and Headache	Stem	Crush 5g and boil with 'Wallang', 'Kalipapa' and 'Dauk' and use for bath	1867
43.	Moraceae	*Ficus* sp.	Togungkorup	Cuts	Stem	Crush and apply with the stem sap	1868
44.	Moraceae	*Ficus septica* Burm.f.	Lintotobou tara-gang	Stomachache (gastric), Flatulence (awingkat) and no energy	Root	Boil to make tea. Drink 4 spoon (minimum) or 1 bottle/ 100g (maximum)	1869
45.	Myrsinaceae	*Embelia* sp.	Sowolikan	Stomachache	Young leaves	Adult: crush and eat Child: crush, filter and drink	1870
46.	Myrsinaceae	*Maesa* sp.	Sumping-sumping	Headache	Young leaves	Crush 6-12 leaves and apply 2-3 a day	1894
47.	Myrtaceae	*Psidium guajava* L.	Kaliabas	Diarrhea	Root	Boil 100g to make tea	1871
				Diarrhea and stom-achache	Young leaves	Crush 2-3 leaves, filter and drink	
48.	Phyllanthaceae	*Sauropus androgynous* (L.) Merr.	Totopus teropuk	Cuts (bleeding)	Young leaves	Crush and apply on the cut.	1851
49.	Piperaceae	*Piper umbellatum* L.	Kuyoh	Boils inside ear	Fruit	Break the fruit to produce the latex and apply twice a day for 4 days	1872
50.	Piperaceae	*Piper betle* L.	Daing (sirih)	Stomachache and bones pain (knee)	Leaves	Crush and mix with 'Layo tapo-rak' and apply once a day	1873
51.	Pittosporaceae	*Pittosporum ferrugenium* W.T.Aiton	Mensaipang	Bones pain and Back pain	Root	Boil 200g and use for bath twice a day	1874
52.	Poaceae	*Cymbopogon citratus* (DC.) Stapf	Segumau	Flatulence (awingkat) and fever	Root and stem	Boil the plant about 20g. Inhale the vapour ("Bertangas") until sweating once a day	1876
53.	Poaceae	*Dinochloa sublaevigata* S. Dransf.	Wadan	Stomachache and Flatulence (awingkat)	Stem	Drink 1 spoon sap from the stem twice a day	1877
54.	Poaceae	*Imperata cylindrical* (L.) Raeusch.	Paka (lalang)	Mouth thrush (kabangan) for 10 year above	Rhizomes	Crush and drink 2 small spoons.	1878
55.	Poaceae	*Paspalum conjugatum* P. J. Bergius	Talinting	Bones pain	Root	Boil 50g and mix with 'Kalipapa' and 'Tangilagot' then used for bath 2-3 a day	1879

Table 2. List of Medicinal plants in Tikolod village, Tambunan, Sabah, Malaysia.

56.	Poaceae	*Thysanolaena latifolia* (Roxb. ex Hornem.) Honda	Togiung	Flu (tobat logoun)	Stem	Eat 4 stems 3x a day before or after eat	1880
57.	Polygalaceae	*Polygala paniculata* L.	Bunga tali-tali	Flatulence (awingkat)	Entire plant	Boil and use for bath twice a day	1881
58.	Poaceae	*Miscanthus floridulus* (Labill.) Warb. ex K. Schum. & Lauterb.	Bidau	Cooling body and Flatulence (awingkat)	Root	Boil 100g and use for bath twice a day	1882
59.	Rubiaceae	*Neonauclea gigantean* (Valeton) Merr.	Mahitap	Diarrhea and Stom-achache	Bark	Crush 400g and add water and drink	1883
				Mouth thrush	Young leaves	Eat the gum	
60.	Rutaceae	*Citrus limon* (L.) Osbeck	Limau	Cannot give out sweat	Leaves	Boil 2 branches and mix with 'Segumau', 'Tawawoh', 'Kebong' and 'Kalipapa' and use for bath 2-3 a day	1884
61.	Rutaceae	*Micromelum* sp.	Paw	Flatulence	Root	Boil 2-4 plant roots and mix with 'Tawawoh', 'Gasing' and 'Wallang'	1885
62.	Scorphulariaceae	*Scrophularia* sp.	Mata-mata	Asthma	Entire plant	Boil the plant 2-4 plants. Inhale the vapour ("Bertangas") until sweating twice a day	1886
63.	Simaroubaceae	*Eurycoma longifolia* Jack	Timuh	Gastric	Root	Boil to make tree. Drink 1 spoon 3x a day	1887
64.	Smilaceae	*Smilax* sp.	Tunda	Waist or back pains	Young shoot	Boil and eat as vegetable 3x a day	1888
65.	Solanaceae	*Capsicum annuum* L.	Lado	Burns and hot water	Shoot	Crush and mix with water then apply	1889
66.	Solanaceae	*Solanum nigrum* L.	Tutan	Anorexia for child	Root	Boil 1 inch or 50g to make tea and drink twice a day	1890
67.	Solanaceae	*Solanum torvum* Sw.	Bintorung talun	Fever	Root	Boil 100g and mix with 'Tawawoh' and use for bath2-3 a day	1891
68.	Urticaceae	*Urtica* sp.	Mandahasi	Cough	Stem	Drink 1 spoon (10 ml) of the sap 2-3 a day	1892
69.	Verbenaceae	*Alphitonia* sp.	Pako dita	Itchy	Young leaves	Boil 4 leaves and mix with 'Sileu' and use for bath	1893
					Stem	Scrap the bark and apply	

Table 2. List of Medicinal plants in Tikolod village, Tambunan, Sabah, Malaysia.

70.	Verbenaceae	*Stachytarpheta jamaicensis* (L.) Vahl	Sugandap	Antidote	Entire plant	Crush to make tea and drink 2 spoons once a day	1895
71.	Verbenaceae	*Vitex pinnata* L.	Kalipapa	Bloody Diarrhea	Root	Boil 300g to make tea and drink 3x a day after eat	1896
72.	Vitaceae	*Tetrastigma* sp.	Torumun-dakon	Toothache	Young stem	Crush and apply on teeth	1897
				Anti dandruff and boils on head		Crush and apply on head	
73.	Zingiberaceae	*Curcuma longa* L.	Kunyit	Jaundice	Stem	Boil 200g and use for bath	1898
					Rhizomes	Apply on head	
74.	Zingiberaceae	*Etlingera brevilabrum* (Valeton) R. M. Sm.	Sibu	Cuts (bleeding)	Root	Crush and apply	1899
75.	Zingiberaceae	*Etlingera elatior* (Jack) R. M. Sm.	Topu (bunga kantan)	Flatulence	Young leaves	Boil 2-4 leaves and mix with 'Tawawoh', 'Kaliabas', 'Limau', 'Kebong', 'Segumau' and 'Tembiau taragang' use for bath twice a day	1954
76.	Zingiberaceae	*Zingiber officianale* Roscoe	Layo taporak (halia putih)	Cooling body and post partum	Rhizomes	Boil 100g and mix with chicken and drink twice a day	1955

Appendix 1. Some photographs of the ethnobotanical plants in Tikolod village.

1. Medicinal plants

(a). Raw materials *eg.* leaves of (A) Topu or *Etlingera elatior*, (B) Kaliabas or *Psidium guava*, (C) Segumau or *Cymbopogon citratus*, (D) Kebong or *Saurauia* sp., (E) Limau or *Citrus aurintifolia*, (F) Tawaweh or *Blumea balsamifera* and (G) Tembiau Taragang or *Justicia gendarussa*.

(b) Extracted *eg.* tea prepared (A) "Tubat Onginan" for flatulence and fever (for bathing), (B) "Tubat Dayang Mato" for muscle cramp (for drinking), (C) "Tubat Tawak" for back pain (for drinking), (D) "Tubat Totud" for knee (for plastering), (E) "Tubat Kupes" for boils (for plastering) and (F) "Tubat Owingkat" for newly mothers (for drinking).

2. Edible plants

(a). Forest vegetables/greens (A) Mangga or *Mangifera indica*, (B) Toonsomon or Cucurbitaceae, (C) Tayaan or *Limnocharis flava*, (D) Polod or *Arenga undulatifolia,* (E) Kangkung or *Ipomea aquatica,* (F) Lemiding or *Stenochalena palustris,* (G) Sokoh Tombotuon or *Schizostachyum lima* and (H) Wongian or *Macaranga* sp. (This is not a vegetable but is used to warp cooked rice).

(b) Forest fruit *eg*. Takob or *Garcinia* sp. (Guttiferae)

3. Musical instruments and traps

Various type of traps and local musical instruments.
(A) "Bubu" or Fish trap; (B) "Sodik" or small mammals trap; (C) "Tongkungon" or Bamboo guitar; (D) "Tongkubong" or Bamboo Xylophone; (E) "Turali" or Nose flute; (F & (H) "Suling" or mouth flute; (G) "Bungkau" ; (I) "Babanggu", (J) "Sompoton or mouth organ; (K) "Togunggak".

(b) A 'Sompoton' musical instrument play by Mr. Thaedius Yungot.

4. Constructions

A bamboo house.

4. Handycraft

"Sirung" or Hat and "Wakid" or backpack made by rattan and bamboos.

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