Journal of Tropical Forest Science 12(4):810–816 (2000)

MEDICINAL AND OTHER USEFUL PLANTS OF THE LUNDAYEH COMMUNITY OF SIPITANG, SABAH, MALAYSIA

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More than 60% of the world's population and 80% in developing countries (Raven 1992, 1993) depend directly on plants for their medicines. In the United States, one-fourth of all prescriptions dispensed contain active ingredients extracted from plants and medicinal plants are now considered within the global biodiversity strategy (Raven 1992).

In Sabah, enthnobotanical surveys on medicinal plants have been carried out by Ahmad and Raji (1991), Guntavid (1992) and Kulip (1999). A total of about 200 plant species which are used by Kadazandusun and Murut ethnic communities in treating various ailments are reported. As the information of indigenous traditional knowledge is being lost at a faster rate than species and habitat (Prance & Blick 1990), we felt that it is timely to do this study to preserve the medicinal and other useful plant biodiversity of the Lundayeh people. The study aims to record and discuss as much as possible the existing indigenous traditional knowledge of the Lundayeh community in order to ensure its continuity.

The data were collected during three visits by the authors to the Lundayeh villages in Sipitang district, Sabah, in April 1996, January 1997 and April 1997. A team of four carried out the interviews, with one researcher taking notes, two others collecting plants, while another one kept the conversation flowing with the interviewees. Interviews were conducted primarily in Malay and in Lundayeh with the help of a translator. Collection of specimens and primary data was carried out in the forest. Voucher herbarium specimens were indentified by the first author following Mabberley (1993) and deposited in the herbarium of the Forestry Department Sabah, Sandakan. Since ethnomedicine is considered to be a profession by some members of the Lundayeh community, practitioners were paid RM 20–40 per day per person, depending on the number of specimens they provided. Nevertheless, we paid the same amount to those who helped us. Ailments recorded were referred to Roper (1992), and Pescar and Nelson (1996) guidelines.

This study was conducted at 13 different Lundayeh villages distributed within the district of Sipitang. The selected villages included Kg. Ranau-Ranau, Kg. Bahagia, Kg. Seri Menanti, Kg. Kaban, Kg. Ulau, Kg. Samin, Kg. Kawang Lama and Baru, Kg. Bamban, Kg. Mendulong, Kg. Solob, Kg. Long Mio and Kg. Long Pa Sia. Lundayeh if translated literally means hill people. The inhabitants of these selected villagers are mostly of the Lundayeh community who once originated from Kalimantan, Indonesia, then migrated to Sipitang, Sabah. They first settled at Kg. Long Pa Sia and eventually spread to other villages in Sipitang. The distances of the selected villages from Sipitang town ranged from 11 to 120 km. Agriculture is the main activity in most villages with hill padi and wet padi planted as their staple food.

Data obtained from field surveys are summarised in Tables 1 (A), (B) and (C). There are 45 complaints recognised, ranging from pain in abdomen to wounds. Plants utilised by the Lundayeh community represent a wide range of families and genera: 33 families of medicinal plants (50 species), 13 families of food plants (20 species) and 3 families of other uses (3 species). There are two species found to have more than one use, i.e. *Helminthostachys zeylanica* (used for medicine and vegetable) and *Donax canniformis* (the fruit is edible and the outer part of its bark is used for handicraft). This great diversity of species appears to be an adaptation that helps to ensure a year-round supply of food and medicine. Most of the Lundayeh food comes from their agricultural fields, nearby forests and supplemented by dooryard gardens. Dooryard gardens represent places of enthno-botanical training for the young ensuring the transfer of at least some ethnobotanical information from one generation to the next.

Not much are left of the Lundayeh traditional medicinal plants as the present generation depends very much on modern medicine though food and other economic plants are still very popular. This has come about through the eradication of plants during the opening of land for agriculture and many no longer pay attention to those plants as the majority of the tribe have embraced various religions and have adopted other religious traditions as their own. The elders are still practising and know the curative aspects of the community's plant lore. Depending on the type and severity of illness, they will access either one or both of these two treatment systems. Traditional medicines are usually the first to be used if the hospital is very far and inaccessible or the treatment is expensive. Modern medicine is popular among those villages near Sipitang township. The mobile clinic usually visits Kg. Mendulung and Kg. Solob once a week, whereas the flying doctor usually visits Kg. Long Pa Sia and Kg. Long Mio once a month. These two health systems have been able to coexist despite their different views and approaches in curing illness.

Some of the medicinal plants described in this study are still very popular among the community, for example *Hydnophytum formicarium* (Rubiaceae) or popularly known as angang for curing cancer, *Blumea balsamifera* (Compositae) or ipong for flatulence and post-partum treatment and *Garnotia acutigluma* (Gramineae) or udu bulu for the treatment of venereal diseases. Patients preferred to be cured of these diseases by traditional methods rather than going to the hospital. Continued Lundayeh's reliance on ethnomedicine is likely due to traditional values, culture, successful use of herbal remedies and isolation from major health care centres.

There are three medicinal plants identified in this study that are a new record for Sabah in terms of herbarium collection and no similar medicinal use has been described by major sources. The plants are *Hydnophytum formicarium*, *Garnotia acutigluma* and *Lophatherum gracile*.

Forest logging in Sipitang district has had a negative impact not only on the forest ecosystem but also on the way of life of the Lundayeh who depend on the forest for livelihood. Forest logging has caused many species used as traditional medicines, food plants and other uses to become scarce and thus difficult to obtain. Consequently, people are forced to find other sources in other areas as far as Lawas (Sarawak), or other species as a substitute. The migration of the Lundayeh people out of their villages is now greater than ever. The increase in migration of young Lundayeh people to the outside world will undoubtedly exacerbate the loss of traditional Lundayeh plant knowledge, especially in this case of medicinal plants. Studies like this are important and timely because they provide a written record of plant-use practices of ethnic groups whose plant lore is fast disappearing.

Acknowledgements

We thank all the village people involved especially the informants for generously imparting their traditional knowledge of plant uses without which this documentation would not have been produced. We are also grateful to our dedicated colleagues, especially Daring Lasong (Sipitang Forestry Office) who was our translator, and Lajiman Wasai, Ubaldus Majawal and Samor Kulali from the Forestry Research Centre for their assistance in conducting the fieldwork.

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Table 1 (A). Medicinal plants of the Lundayeh community in Sipitang

Botanical name	Lundayeh name	Ailment	Part used	Method
ANISOPHYLLEACEAE				
Anisophyllea disichia	Lapad tulang	Joints	Root	Soaked into water and massage
ANNONACEAE				
Polyalthia bullata	Lapad ruai	Epileptic seizures	Leaves	Bath
ARISTOLOCHIACEAE				
Aristolochia minutiflora	Lapad talang	Diarrhoea and vomiting	Root	Ingestion of infusion

Table 1(a) - continued

Table 1(a) - continued

ARACEAE				
Rhaphidophora korthalsii	Ubat ugut	Gout	Leaves	Warmed and applied as poultice
Amydrium medium	Lapad bara	Swollen leg	Leaves	External application of hot leaves
ARALIACEAE				
Polyscias scutellaria	Polibas	Anorexia	Leaves	Washing (bath)
COMMELINACEAE				
Commelina communis	Obat batu	Bladder stone	Leaves	Ingestion of infusion
COMPOSITE				
Ageratum conyzoides	Udu amek	1. Skin injury 2. Venereal diseases	Leaves Root	Washing with decoction External washing
Blumea balsamifera	Ipong	1. Flatulence 2. Post-partum treatment	Leaves	Ingestion of infusion Bath
COSTACEAE				
Costus speciosus	Silok	Respiratory problems	New stem	Warmed on fire, squeezed to get the sap and drink
EBENACEAE				
Diospyros wallichii	Lapad perurut	Yellow skin and skinny	Leaves and shoots	External washing with decoction
EUPHORBIACEAE				
Mallotus miquellianus	Pelubod	Jaundice with enlargement of the abdomen	Stem	Burnt, to smoke the affected body
Phyllanthus niruri	Kararu	Diarrhoea and fever	Whole plant	Ingestion of infusion
Sapium discolor	Simbobolou	Itchiness	Leaves	External washing with decoction
GRAMINEAE (POACEAE)				
Garnotia acutigluma	Udu bulu	Venereal diseases	Root	Ingestion of infusion
Lophatherum gracile	Udu bulu	Pancreas	Rhizome	- ditto -
HANGUANACEAE				
Hanguana malayana	Bunga	Fungal skin infections	Fruit	Crushed fruits applied on the affected part
HYPOXIDACEAE				
Curculigo latifolia	Tambaka	Abdomen pain	Rhizome	Warmed for external application
LAMIACEAE (LABIATAE)				
Ocimum basilicum	Bawing	High temperature	Young leaves	Ingestion of decoction
Orthosiphon aristatus	Kumis kucing	Diabetes and hypertension	Leaves	Ingestion of infusion
LAURACEAE				
Lindera pipericarpa	Tanom	Gastrointestinal colic	Root	Ingestion of infusion
MALVACEAE				
Hibiscus rosa-sinensis	Bunga raya	Headache	Leaves	External applicaton
Sida rhombifolia	Tahong	Snake bites	Root	Poultice of crushed roots
MENISPERMACEAE				
Fibraurea tinctoria	Babas	Malaria	Sap	Ingestion of infusion

Table 1(a) - continued

Pycnarrhena tumefacta	Fatagah	Pimples	Young leaves	Poultice of crushed young leaves
Tinospora crispa	Ubat it mato	Eye pains	Sap	Washing with decoction
MYRTACEAE				
Psidium guajava	Giabas	Diarrhoea	Young leaves	Ingestion of infusion
NEPENTHACEAE				
Nepenthes ampullaria	Telungau becuk	Respiratory problems	Unopened leaf-water	Ingestion
OLEACEAE				
Jasminum bifarium	Bunga melor	Eye pains	Flowers	Washing
OPHIOGLOSSACEAE				
Helminthostachys zeylanica	Pajerok	Cancer	Leaves	Ingestion of infusion
PASSIFLORACEAE				
Adenia macrophylla	War ruai	Epileptic seizure	Fruit	Ingestion of infusion of burnt fruit
Passiflora foetida	Timun belanda	Febrifuge	Fruit skin	Ingestion of infusion
POLYGALACEAE				
Xanthophyllum excelsum	Lapad atag	Gastritis	Root	Ingestion of decoction
POLYPODIACEAE				
Pyrrosia lanceolata	Ubat alib	Pancreas swelling	Leaves	Ingestion of infusion
PLANTAGINACEAE				
Plantago major	Bunga	Digestive problems, diabetes, cancer and anemia	Whole plant	Ingestion of infusion
RUBIACEAE				
Hedyotis congesta	Tapis apiris	Wounds	Leaves	External washing with decoction
Hedyotis rigida	Udu lomut	-ditto-	-ditto-	-ditto-
Hydnophytum formicarium	Angang	Cancer	Whole plant	Ingestion of infusion
Ixora blumei	Lapad bala	Hydrocele and swollen penis	Stem	Burnt. Poultice
Ixora fucosa	Lapad lontong	Anorexia	Stem without the bark	Ingestion of infusion
Ixora javanica	Busak wudan	Anorexia	Flower	External washing with decoction
Morinda citrifolia	Babas	Antidote	Root	Ingestion of infusion
RUTACEAE				
Clausena excavata	Alab layat	Venereal diseases	Leaves and root	Poultice (leaves) applied on stomach. Ingestion of infusion (root) mixed with *Garnotia acutigluma*
SCHISANDRACEAE				
Kadsura borneensis	Putut urat	Muscular pains	Root	Poultice
SCHIZAEACEAE				
Lygodium circinnatum	Waratang	Venereal diseases	Root	Ingestion of infusion mixed with roots of *Garnotia acutigluma* and *Clausena excavata*

Table 1(a) - continued

Lygodium salicifolium	Ubat amur	Prevention of small-pox and chicken-pox	Whole plant	Washing or bath
SMILACACEAE				
Smilax odoratissima	Lapad makar	Throat pains	Root	Ingestion of infusion
SYMPLOCACEAE				
Symplocos odoratissima	Lobo	Malaria and fever	Leaves	Ingestion of infusion
UMBELLIFERAE				
Centella asiatica	Pegago	Fatigue	Whole plant	Ingestion of infusion
VERBENACEAE				
Clerodendron laevifolium	Lipapo	Diarrhoea	Young leaves	Ingestion of infusion

Table 1(B). Edible forest vegetables and fruits

Botanical name	Lundayeh name	Part eaten
ACANTHACEAE		
Acanthus illicifolius	Daun sop	Leaves
DILLENIACEA		
Tetracera scandens	Riyop	Young leaves
FAGACEAE		
Castanopsis oligeura	Buah abok	Nut
GNETACEAE		
Gentum gnemon	Cangkuk fulung	Young leaves
MARANTACEAE		
Donax canniformis	Babalit	Fruit
MORACEAE		
Artocarpus anisophyllus	Tahun	Fruit
Artocarpus dadah	Kaledang	Fruit
Ficus beccarii	Uduman	Fruit
Ficus uncinata	Buah amol	Fruit
Ficus fulva	Buah ayang	Fruit
OPHIOGLOSSACEAE		
Helminthostachys zeylanica	Pajerok	Leaves
OXALIDACEAE		
Averrhoa belimbi	Belimbing pucung	Fruit
PASSIFLORACEAE		
Passiflora quadrangularis	Timum belanda	Fruit
SAURAUIACEAE		
Saurauia ferox	Tabarajak	Fruit
SOLANACEAE		
Solanum torvum	Ulom	Young fruit
URTICACEAE		
Pouzolzia hirta	Tangayon	Young leaves
ZINGIBERACEAE		
Etlingera punicea	Buku tubuh	Young shoot
Globba pendula	Tarabak	Fruit
Hornstedtia havilandii	Buah teladau	Fruit
Plagiostachys albiflora	Tubu bachit	Fruit

Table 1(C). Plants with other uses

Botanical name	Lundayeh name	Part used and uses
LEGUMINOSAE		
Fordia splendidisima	Gering parang	Sap used as fish poison
MARANTHACEAE		
Donax canniformis	Babalit	Young stem used for making mat and the old one for making fish trap
MELASTOMATACEAE		
Sonerila crassinscule	Bubuk kato	Biological pest (insect) control in padi field. The presence of this plant will keep pests away.