Ethnobotany of Medical Plants by Rejang Selupu Ethnic

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Abstract. Ethnobotany approach is their effort to prevent loss of medical plants knowledge because it's had an important role in maintaining public health. Research purposes are identified medical plant species, habitat and habitus medical plants by Rejang Selupu Ethnic in Rindu Hati Village. Research has held on Mei 2016. Data collection method in a semistructured interview, Field survey, herbarium and literature study. The results of studies there are 99 species of 42 the family that is occupied the Rejang Selupu Ethnic in Rindu Hati Village as medicinal plants. The highest medical plants derived from the Zingiberaceae at 9 species and there are 11 part from medicinal plants. The use of part medical plants the most often used the fruit and leaves. Medicinal plants can be found on 5 type habitats, Successively from the most to little the garden, forest, home-lots, scrub and the side of the river consists of 68, 35, 34, 18 and 13. Besides, identified 6 habitus medical plants is occupied the highest on tree level (37 species). Respectively consisting of Herba (24 species), Shrub (18 species), Bush (11 species), Liana (7 species) and Effit (2 species). Keywords : Ethnobotany, Medical plant, Respectively consisting and Public Health

1. Introduction
Ethnobotany is the study of the interaction between plants and people, with a particular emphasis on traditional tribal cultures[1]. According to the World Health Organization (WHO) about 65-80% of the world’s population in developing countries depends essentially on plants for their primary healthcare due to poverty and lack of access to modern medicine [2]. About 80% of the total population of Ethiopia is depending on traditional medicine to treat different types of human ailments [3]. They use their perceptions and experiences to categorize plant species indigenously and local people over the past period take traditional medicine[4].

Ethnobotany comes from the word ethnology, the science that studies the ethnic and culture that exist in the ethnic and botany is the science of plants. Ethnobotany knowledge is commonly found in traditional ethnic in Indonesia and has long been inherited from the generation of generation. The importance of this ethnobotany study helps the community to record and record local wisdom possessed for the foreseeable future [5]. Medicinal plants is plants that one, several, or all parts of
these plants contain substances or active ingredients that are useful for the health of the body, the healing of diseases and cosmetic ingredients [6]. To ensure the benefits of these medicinal plants need to be tested through a number of benchmarking processes so that clearly obtained benefits are obtained[7] [8]. One method that can be used in this quality benchmarking process is the DEA method[9]. In addition, the extracting of medicinal plant knowledge becomes the most important part of pharmacology development. Example research in Batang Gadis National Park (BGNP) located in Bukit Barisan Mountains, Sumatera Utara. A Mandailing tribe who lives around the BGNP, has the unique local knowledge, such as processing young stem of rattan (Calamus manan) into pakkat (traditional food) and use rimbang (Solanum torvum) to neutralize toxins[10].

Rejang ethnic is the oldest with almost equal distribution in the province of Bengkulu. Siddik [11] explained that the Marga Selupu Rejang ethnic is domiciled in Taba Penanjung (Taba Penanjung) and Karang Tinggi Village, including Rindu Hati Village. People in Rindu Hati Village coexist with Hutan Lindung Rindu Hati and the surrounding environment. Public health in Rindu Hati Village is maintained and maintained by utilizing various plant diversity especially medicinal plants. Knowledge of the use of medicinal plants is dominated by shamans (“Tukang Langia”) and elder (“Tuei kutei”). The position of “Tukang Langia” and “Tuei Kutei” is very important in treating the disease suffered by the people of Rindu Hati Village.

Knowledge of medicinal plants is inherited through lineage in the kinship arrangement. Generally, the information is delivered directly through oral without being documented so it is very susceptible to loss of such knowledge. According to Sumartono[12] In addition, the process production does not escape the technical cultivation of some farmers who are still diverse. Various factors that can influence it such as the magnitude of the influence of the use of modern medicine, age is not productive (elderly) and negative views of the younger generation of traditional knowledge. Inhabitants of the remote areas have discovered the therapeutic activity of medicinal plants against certain diseases through their indigenous experiences [13]. Sumartono [14] says that qualitative character is needed as the main characteristic of a variety. One effort that can be done to prevent the loss of the main founders knowledge is to inventory the diversity of medicinal plants through ethnobotany approach because medicinal plants play an important role in maintaining and maintaining public health. The purpose of this research is to identify species of medicinal plants, habitat and habitat of medicinal plants of Rejang Selupu people in Rindu Hati Village.

2. Methods
The studied was conducted in May 2017. Methods of data collection through semi-structured interviews, field surveys, herbaria and literature study. The technique of taking data by snowball sampling to key informant which become the object of research. Semi-structured interviews are directed to five people who are considered to know all the traditional treatments (handyman) and elder (Tuei kutei). The sampling of medicinal plants used as herbaria through field surveys or field exploration. Collecting data includes field species, use of medicinal plants, parts used, habitat and habitus. Identification of medicinal plants using the reference of Useful Plants of Indonesia [15], Nusantara Medicinal Plants [16] and literature studies relevant to the study. Similar research on ethnobotany of medical plants such as in Karangwangi [17]; in New South Wales [18]; of the Meinit ethnic group of Ethiopia [19]; for women’s healthcare in southeast Asia[20] [21]; in Kabanjahe Traditional Market [22]; Rindu Hati, Bengkulu Province [23] and etc.

3. Result and Discussion
3.1. Data Description
The results of the study identified 99 species from 41 families utilized by the community of Rejang Selupu ethnic in Rindu Hati Village as a medicinal plant (Table 1). The highest utilization of medicinal plants derived from the Zingiberaceae tribe consists of 9 species. Zingiberaceae tribe used an abdominal pain, stomach ulcers, dirty blood wash, colds, fever, toothache, flatulence, increased
appetite, warms the body, relieve throat and body aches. For example, *Etlingera elatior* is used to treat the body that feels sore. Based on the results of Wijekoon et al [24] "*Etlingera elatior*" consist of protein (12.6%), fat (17.6%), and fiber content (17.6%). "*Etlingera elatior*" is used in the form of processed foods through the stew and vegetables. In general, the Zingiberaceae tribe is easy to grow and is found on the land belonging to the people of the Rejang Ethnic because its propagation is considered very easy ie vegetatively by planting roots live on the land.

The utilization of medicinal plants by the Rejang Ethnic in Rindu Hati Village has been handed down from generation to generation. That medicinal plants play an important role in maintaining health and curing people's diseases independently, especially in people who live medicinal plants not only as a healer of a disease but have 'magic' value. Identified as many as 2 species believed to have the value of 'magic' namely "*Laportea sinuata*" and "*Belamcamda Chinensis*". The species is used to reduce heat (kesapo) and cough due to spirits disorders.

Identification of data to explains the illness suffered by the community of Rejang Tribe in Rindu Hati Village is not classified as a chronic disease. Nugent's [25] research report describes the most common chronic illnesses currently in heart disease, stroke, diabetes and cancer. This shows that the Tribe Rejang pay attention to his health. Identified based on the results of Taba Teret Puskesmas Data Report [26] says, a disease that often affects the people of Rejang ethnic in Rindu Hati ie attack of ISPA, fibrosis, dermatitis, diarrhea, rheumatism, skin infection and toothache sequentially 56, 15, 8, 8, 8, and 7 people. Medicinal plants used to cure respiratory infection based on local knowledge of Rejang, *Tamarindus indica*, *Calamus Manan*, *Sandoricum koetjape*, *Syzygium aromatic*, *Laportea sinuata*, *Coriandrum sativum*, *Loranthus parasiticus*, *Citrus hystrix* and *Metroxylon sago*. *Tamarindus indica* leaves can inhibit the growth of bacterial activity in the body[27], leaf dekokta is used to reduce cough and fever [19].

### Table 1. The diversity of medicinal plants utilized by the people of Rejang Selupu Ethnic

| No | Genus            | Sections Used       | Habitus          | Type Habitat                  |
|----|------------------|---------------------|------------------|--------------------------------|
| 1  | Acanthaceae      | Leaf and stem       | Herbs and Shrubs | Bushes, Gardens and yards     |
| 2  | Amaranthaceae    | Leaf                | Herbs            | Gardens                       |
| 3  | Anacardiaceae    | Fruit               | Tree             | Forests                       |
| 4  | Apiaceae         | Fruit               | Herbs            | Garden                        |
| 5  | Apocynaceae      | Sap                 | Tree             | Gardens and yards             |
| 6  | Areceaceae       | Flowers, Fruits, Roots, Stem and Young stem | Tree | Bushed, Forests, gardens, and riverbank |
| 7  | Asteraceae       | Leaf                | Herbs            | Gardens                       |
| 8  | Campanuaceae     | Leaf                | Herbs            | Bushes and Forests            |
| 9  | Caricaceae       | Fruit, Flowers, and Leaf | Tree | Gardens                      |
| 10 | Cibotiaceae      | Young Stem          | Tree             | Groves and forests            |
| 11 | Compositae       | Leaf                | Shrubs           | Bushes, forests and riverbanks |
| 12 | Cucurbitaceae    | Fruit, Leaf and Root | Liana and Herbs | Bushes, Forests, Garden, and Yards |
| 13 | Euphorbiaceae    | Leaf, Fruit, Stem, Sap and Root | Efilter, Herbs and Shrubs | Bushes, Groves, Forest, Garden and Yard |
| 14 | Fabaceae         | Fruit, Leaf, Stem and Root | Bush and Tree | Forest, Garden and Yard       |
| 15 | Genetaceae       | Leaf and fruit      | Tree             | Gardens                       |
| 16 | Iridaceae        | Flower and Leaf     | Herbs            | Gardens and yards             |
| 17 | Labiatae         | Leaf, stem, and root | Shrubs           | Gardens and yards             |
| 18 | Lauraceae        | Stem                | Tree             | Garden                        |
| 19 | Liliaceae        | Tubers and Leaf     | Bush             | Gardens and Riverbank         |
| 20 | Loranthaceae     | Leaf, Stem, and Root | Efilter | Forests and Gardens          |
| 21 | MANISPERMAECEAE  | Leaf                | Shrubs           | Gardens                       |
| 22 | Maranthaceae     | Tubers              | Herbs            | Forests                       |
| 23 | Melastomaceae    | Fruit               | Shrubs           | Bushes, Forests and Riverbanks |
| 24 | Meliaceae        | Fruit, Leaf and Stem | Tree | Gardens and Forest           |
3.2. Utilization of Medicinal Plant Section
The identification of plant parts utilized as medicaments contained 11 major parts utilized (Figure 1). Utilization of the most commonly used plant parts is fruits and leaves. As an example of medicinal plants used in fruit and leaves are Ficus glomerata, Cucumis melo, Citrus aurantifolia, Averrhoa bilimbi, Psidium guajava, Carica papaya, Free Persea and Hibiscus rosasinensi. Pei et al [28] explain that if a plant species has several parts that can be utilized it can guarantee the species survive and remain in good condition so that its existence will be sustainable. Consumption of fruit by the community of Rejang Ethnic done directly by first cleaning it. Key et al [29] describes the fruits consumed directly can maintain the content of vitamins and minerals contained in it so as to maintain antioxidants that can prevent the onset of free radical disease. Fruit is a reservoir of food and photosynthesis of plants in the form of starch, sugar, water, vitamins and minerals, so the fruit becomes a very useful part for human consumption [30].

In addition to the fruit, the leaves are also used as medicine. However, prior to use requires processing before use such as boiled, crushed and heated. Leaves are a vital part of plants that play a role in the process of photosynthesis that produces complex compounds (secondary metabolites) as an active component that is antitoxic so widely used in the field of medicine [31]. One of them is Carica papaya containing alkaloid karpain, karpain, psedocarpain, vitamin c and e, choline, karposit, mineral, potassium, magnesium, copper, iron, zinc, manganese, saponin, violaxanthin, flavonoid, and tannin.

3.3. Habitat
Based on the traditional knowledge held by the Rejang community, the medicinal plants are grown in 5 habitat types, complete in Table 1. The sequences are most commonly found, ie, garden, forest, yard, shrub and riverbed consisting of 68, 35, 34, 18 and 13 species. The gardens are processed by the Rejang Ethnic community utilizing the agrisilvikultur system. The mixed garden pattern that is commonly developed in Sumatra is fruit trees with coffee. Based on the results of field exploration,
people plant medicinal plants intended when sick when planted, will directly process it without having to return to the settlement. Furthermore, the total number of medicinal plants found in the forest and yard are almost the same. This indicates that the community has cultivated medicinal plants. The yard becomes the solution to overcome the scarcity of medicinal plants in the forest, the yard can be processed into a "small forest" that serves as a source of live pharmacies ie every inch of the area in it can accommodate various flora from the climbing to climb [32].

3.4. Habitus
The results of data identification indicate there is 6 habitat of medicinal plants utilized by Rejang Tribe in Rindu Hati Village. The highest habitus is found at tree level (37 species), herbs (24 species), shrubs (18 species), bush (11 species), liana (7 species) and eeffit (2 species). Traditional knowledge about the use of habitus is based on trial and error that lasted for a long time. The most herbaceous levels used by the Rejang Ethnic community originated from the genus Zingiberaceae. In addition to the Rejang Ethnic community utilizing Zingiberaceae as a medicine, Banjar Baru Society utilizes as many as 9 Zingiberaceae species to overcome various diseases such as ISPA, internal diseases, blood cleansers, and indigestion [33].

4. Conclusion
The diversity of medicinal plants utilized by the Rejang Selupu Tribe community identified 99 species from 41 families. There are 11 parts of plants that are used as medicine with the most frequently used fruit and leaves. Medicinal plants grow in several habitat types, respectively is gardens, forests, yards, bushes and riverbanks comprising 68, 35, 34, 18 and 13 species. In addition, there is 6 habitus of medicinal plants that utilized Rejang Tribe in Rindu Hati Village. The highest habitus is found at tree level (37 species), herbs (24 species), shrubs (18 species), bush (11 species), lianas (7 species) and eeffit (2 species). Traditional knowledge is based on trial and error that lasted for a long time.

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