

# Characterization of the Ethnobotany of Riau Province Mascot Flora (*Oncosperma tigillarum* (Jack) Ridl.)

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**Keywords:** Ethnobotany, *Oncosperma Tigillarum*, Plant Use, Riau's Mascot Flora.

**Abstract:** Nibung (*Oncosperma tigillarum*) is the identity of Riau flora's mascot. This research aims to characterize the ethnobotany of that flora. The survey method used in this research. The research method used included field observations, discussions and deeply personal interview with local community. Data collection techniques were carried out directly with questionnaire assisted communication. Ethnobotanical information was gathered from the local community through interviews of the respondents. Data collection were conducted at Bukitbatu, Bengkalis District, Riau Province, Indonesia. Data collected from the informants were selected randomly. We found that all of the parts of nibung plant have high economic value that support the local community lives, hence used much as construction materials, for example: buildings, furniture, and shipyards. Therefore, nibung has an ideal plant to support its wide use in the community.

## 1 INTRODUCTION

Nibung is a member of Arecaceae. The members of this family of plants are the oldest species that have been found since the time of Cretaceous period, approximately 120 million years ago. The Aracaceae in the world is estimated to have 200 - 300 genus even more and about 2000 - 3000 species spread in tropical and sub-tropical regions (A., 2000). Aracaceae, which is a group of monocot plants, is the only family in the Arcales order that is very interesting in terms of botany, its beauty shape, diversity of species and its usefulness (Anderson, ).

Nibung tree is one of the important germplasm in Riau Province. In addition, yet the abundance of information on characters of nibung in Riau Province causing the plant not known by people. Therefore, it is expected that with the characterization of the ethnobotanical study can be a reference in the socialization and exploration efforts nibung plants as the Riau mascot flora.

Our previous research showed the characterization of morphological of nibung plant was observed by using of the instrument to observe of sample of nibung plants in the Bengkalis District, Riau Province. It is accordance with Dransfield, et al. (2008), Shengji, et al. (2009), and Baba, et al. (2013) that nibung as one of the Plamae family has those characteristic as a

coastal plants (P et al., 2009; J et al., ; S et al., 2013).

More than 25 characters are used to describe the characteristic of morphological nibung plants. The result shows that nibung in Riau have a compound life habit. Vegetative organ that has been observed is composed of parts of the roots, stems, and leaves.

Furthermore, morphological observation in the field can provide useful information for determining the character of a plant that wants to be developed or be a special identifier in distinguishing a plant. Morphological characters of the identifier is important can be the identity of the plants. Morphological marker is the first step of the observed directly based on the nature of the morphological characteristics among others are secondary (Jamsari, ). It can be assumed that the characterization of nibung as a mascot flora of Riau is importance aspects.

On the other hand, characterization of the ethnobotany study of nibung (*O. tigillarum*) is expected to provide information about all the characters. So that it can help in the effort of development and conservation of plants nibung for the future. The information on the characterization of nibung in Riau Province is still not there. The less of the information about how the utilization of nibung plants in Riau Province support importance of this study. Therefore, the activities of the characterization in Riau Province nibung is very important to observed. The aim of this study was to char-

acterize ethnobotany aspect of nibung (*Oncosperma tigillarum*).

## 2 MATERIALS AND METHODS

Data collection were conducted at Bukitbatu, Bengkalis District, Riau Province, Indonesia (Figure 1). Samples collected from the field were then examined for the ethnobotanical study of nibung (Figure 2).

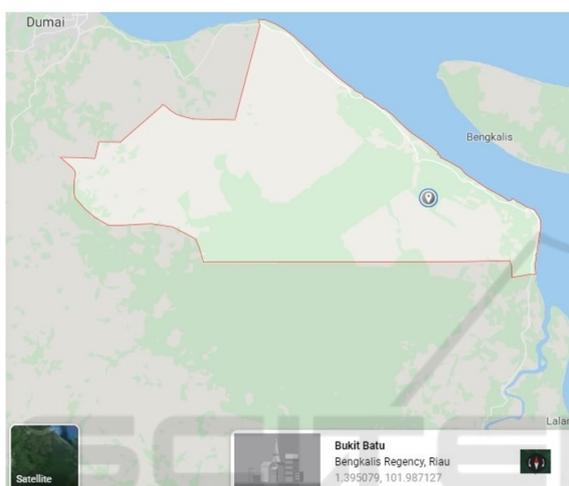


Figure 1: Map of the location of the research.



Figure 2: Nibung plants in the field of the research.

The research method used in conducting this research is to use a survey method with interview techniques. Data collection techniques were carried out directly with questionnaire assisted communication (Singarimbun and Effendi, 1989).

The research method used included field observations, discussions and deeply personal interview with local community. Data collected from the informants were selected randomly. Interviews were conducted involving 24 respondents. Information was obtain by open-ended interviewing, free, direct observations at community location, sample collection, literature and its analyses.

Data collected from the respondents about the uses of nibung plants for type of plants, parts of plants, the preparation and applications of plants, and the kind of the use of parts of plants of nibung. Those data were compiled and presented descriptively.

## 3 RESULTS AND DISCUSSION

Based on the results of interviews that have been made known that in general the community has known about the nibung plants. This is because these plants are often found in the environment around their home. However, local people do not know that nibung was a plant that has been used as a mascot flora Riau Province.

It was found approximately more than five kind of useful of nibung plants in Bengkalis district, Riau (usefulness of parts of nibung plants in Riau Province shown in Table 1) were used by the communities.

Table 1: Usefulness of parts of nibung plants in Riau.

Parts of nibung	Usefulness	Description
Root	Herbal medicine	Water immersion root nibung plant used by the community as an abdominal pain medication
Stem	Building materials, shipyards, furniture, and traditional Malay weapons	Utilized as the main material of wood substitute, the material of "spear" for catching the fish in the river"
The Bark	Materials for roofing of houses and walls of houses	Used as materials for building materials
Leaves	Roofing materials and baskets	The leaves of nibung used for wicker materials
Flos	As a fragrance of rice	Used as food ingredients
Shoot of flower ("umbut")	As a source of food	"umbut" used by the community as a source of food with high nutritional value

In Riau Province, nibung's stem are used for water pipes, floors of houses on stilts, or simple bridges. The bark can be woven into the roof or wall of the house. The leaves can be woven for the roof of the

house or basket. Flower buds (“umbut”) can be made for vegetables.

Furthermore, part of the young shoots of plants nibung rated to have a better taste compared to bamboo shoots of bamboo. From the inflorescence can be used as a fragrance of rice. And while the fruit, can serve as a substitute of peanut to eat. In addition, nibung has also been used by the people of Riau both for carpentry materials, bridge poles and for weapons in the form of swords and spears, in the independence of the fighters in Riau who are in the coastal areas using nibung as a “spear”. It is linked to anatomical structure of nibung’s stem as same as the other palm plant such as *Bactris* (TM et al., ).

In the traditional life of the Malay people of Riau, nibung was known hundreds of years ago. Closely linked nibung with the people of Riau, among others, reflected from the name of this flora used for the name of a village or a particular place in Riau. In addition, many traditional expressions and rhymes link it to those plant. Nibung as a one of the characteristic of mangrove habitat have a potency for educotourism and to protected areas. It was been studied by the others researchers in Pahang, Malaysia (ZS et al., 2015).

Nibung plant has a uniqueness that is on the fiber that is famous for its strength until. The fibers in the tangential section (Figure 1) is different from the fibers in the radial section and this is what makes nibung a perfect wood substitute for the furniture industry. That fact is accordance with the other research that has been conducted by Ernawati (2009) and Nurlia, et al. (2013) that nibung used by the communities in the pattern of utilization of marketing nibung from the habitat of that plant (Ernawati, 2009; A et al., ).

The identity of the nibung plant that has been used as the flora mascot of Riau Province is related to the strength of the stem that symbolizes the character of Riau Malay people who have persistence, have high fighting power, strong holds the customs of Malay culture. Therefore, nibung plant is also used as a symbol of the fraternal community of Riau Malay properties, especially for Riau community.

Type of nibung plant rooting is root-shaped fibers. The stem and leaves are protected by spines hard long black. Its leaves are arranged pinnatus with compound leaves type. Generative organs observed is composed of organs of the flowers and fruit. Flowers plants nibung arrayed in yellow. While the fruit is round-shaped, dark green to dark purple. Types of flowering and fruit plants observed nibung pertained type compound interest. Pollen of nibung has single type. It can be used to character palino on some place. It is accordance with Winantris, et al. (2012)

that pollen of nibung flowers are can be used to identify a part of delta plain character in Delta Mahakam, Kalimantan, Indonesia (I and Syafri, ).

Some parts of nibung plants used by the local people for traditional herbal medicines and wood substitute for the construction, fishery and furniture industry. Nibung leaves is also used for herbal medicine. The results of this study are in accordance with the results of previous research conducted by Heyne (1987). It shows that it was one of the economic plant in Indonesia that used to medical usefull. It has the potential as vary utilization (BE and G Hardiansyah, ; K., 1987).

## 4 CONCLUSIONS

Based on the results of the research that has been conducted, it can be conclude that nibung has an ideal plant to support its wide use in the community. Nibung’s stem are used for water pipes, floors of houses on stilts, or simple bridges. The bark can be woven into the roof or wall of the house. The leaves can be woven for the roof of the house or basket. Flower buds can be made vegetables by the community.

Nibung has also been used by the people of Riau both for carpentry materials, bridge poles and for weapons in the form of swords and spears. All of the parts of nibung plant have high economic value that support the local community lives, hence used much as construction materials, for example: buildings, furniture, and shipyards.

## ACKNOWLEDGEMENTS

Directorate of Research and Public Service, Directorate-General of Research and Development for the Strengthening of the Ministry of Research, Technology and Higher Education, According to the Research Contract Number: 284/KONTRAK/LPPM/4-2019 through Researchand Services Institutes of Universitas Islam Riau (LPPM UIR).

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