# ETHNOBOTANICAL SURVEY OF DIURETIC MEDICINAL PLANTS USED BY RESIDENTS IN CANTILAN SURIGAO DEL SUR

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***ABSTRACT:*** *Utilization of natural plant medication is a vivacious and precious aspect of ethnobotany. The art of herbal healing has been a part of one generation to the next generation. The present study documented claims of residents about the diuretic activity of some herbal plants in the study area. Results showed twelve possible plants that are reported to be impressive for their diuretic property that belong to varied families. Most of the plant parts used were leaves and were prepared through the decoction process. Among the type of habit, herbs prevail most. Many of these herbs were commonly seen in the backyards of barangay and homes, but now they are on the boundary of extinction. The result of the present work calls for the conservation of these herbal plants.*

**Keywords:** Diuretic, Medicinal plants, Habit, Plant family

## 1. INTRODUCTION

Natural plants when utilized as remedies have created global awareness of information about medicinal plant uses and its properties. Medicinal plants have been noted for thousands of years as rich sources of therapeutic agents that can be used to prevent disease, and their health benefits have rapidly increased in recent times. One of the fields of utilization of botanicals is their diuretic effect since more and more plants have this effect. A diuretic drug is any substance that elevates urine excretion, they are widely used for the treatment of oedema, congestive heart failure, hypertension, and liver and kidney diseases [1]. Now, a day's numerous commercial diuretic drugs available in the marketplace are a class of thiazide (chlorothiazide, hydrochlorothiazide etc), loop (furosemide, bumetanide etc), K+ sparing (amioloride, eplerenone etc) and CA inhibitors (acetazolamide, dichlorphenamideetc). These commercial diuretic drugs have a mixture of side effects such as hypokalemia, metabolic alkalosis, and dehydration (hypovolemia), leading to hypotension, fever, cough, unusual bleeding, excessive weight loss, nausea, and vomiting[2]. Diuretic drugs of medicinal plant lineage are a better alternative to commercial diuretic drugs. Hundreds of medicinal plants [2] and their extracts were successfully investigated for their diuretic property. Traditional healing knowledge has been handed down from generation to generation and continues to be used for the treatment of a range of illnesses and diseases [3]. However, the introduction of modern medicine in remote areas has undoubtedly led to

a decline in traditional healing knowledge in the younger generations [4]. In the present study, there is an urgent

.need for documentation and conservation is amplified by the rapid land use conversion in rural areas, which leads to habitat loss, a decrease in plant population, or even species extinction.

## 2. OBJECTIVES OF THE STUDY

The purpose of this study is to:

1. Identify Medicinal Plants used by residents in Cantilan as Diuretics.
2. Distinguish what Plant parts were usually used, the type of habit and the mode of preparation.
3. Documentation of the herbal plants used as diuretics and publish the output.

## 3. MATERIAL AND METHODS

### A. Study area

Cantilan is the second northernmost municipality of CarCanMadCarLan and so also the second northernmost municipality of the province. The town is situated within the north latitude of 09°20' and east longitudes of 125°59'. It has 17 barangays as shown in Figure 1. *Cantilan* has a tropical rainforest climate with heavy to very heavy rainfall year-round and extremely heavy rainfall from December to February. The municipality had 12.6 kha of natural forest, extending over 82% of its land area. The tropical region has vast timberlands mainly of coconut trees with over six thousand hectares of government-irrigated lands, it also harbours mangrove forests, shrubs, and evergreens.

### B. Methodology

To record the folk knowledge of diuretic medicinal plants, frequent visits were made to seven identified barangays far from health facilities in Cantilan during the survey period. Data were collected according to the methodology suggested [5] with slight modification. Information about medicinal plants was collected from the residents and experienced persons who practice phytomedicines using an unstructured interview. Details of medicinal plants, such as vernacular name of plants, parts used, and mode of preparation were sought from them with the help of a questionnaire. Their claims were compared and then confirmed with available the literature on the use of diuretics. Further, experienced elderly knowledgeable men and women in the barangays were also consulted. Field trips were accompanied by local informants for the identification and collection of plant species used in the study area. The voucher specimens of medicinal plants were collected with the

help of farmers and other local people. The plant species mentioned by the informants were taxonomically carried by referring to various works of literature [6]. The correctly identified voucher specimens are deposited at the Institute of Biological Sciences, University of the Philippines Diliman.


**Fig. 1: Location Map of the Study Area**

## RESULT AND DISCUSSION

Medicinal plants used as diuretics by residents in Cantilan are listed in Table 1. The plants are arranged in alphabetical order of their scientific names, common name, family, habit, parts used and mode of preparation. In this study, 12 plant species, belonging to 12 families have been recorded to have diuretic activity. Out of the total plants as shown in figure 2, 34% herbs, 33% shrubs, 25% trees and 8% rhizomes were identified. Percentage analysis of plant parts used is shown in figure 3 as follows, leaves (64%), stem (15%), roots (7%), rhizomes (7%) and juice (7%). This figure indicates that most of the plants used as diuretics were obtained from leaves followed by stems.

Based on the result it revealed that medicinal plant species were distributed across 12 families. This varied family distribution indicates that the diuretic activity of plants has

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**Table 1: Diuretic Medicinal Plants**

| SI no. | Scientific name | Common Name | Family | Habit | Parts Used | Mode of Preparation |
|---|---|---|---|---|---|---|
| 1 | Annona muricata L. | Guyabano | Anonaceae | Tree | leaves | Decoction of the leaves |
| 2 | Blumea balsamifera Linn | Sagbong | Asteraceae | shrubs | Leaves | Decoction of the leaves |
| 3 | Centellaasiatica | Gotukola | Apiaceae | herbs | leaves | Infusion in hot water |
| 4 | Cocos nucifera L | Butong | Arecaceae | Tree | juice | Early morning juice, drink |
| 5 | Lagerstroemia speciosa (l.) Pers | Banaba | Lythraceae | Tree | Leaves | Decoction of the leaves |
| 6 | Mimosa pudica Linn. | Makahiya | Mimosaceae | shrubs | Roots, leaves | Decoction of the roots or leaves |
| 7 | Moringa oleifer | Malunggay | Moringaceae | Shrubs | Leaves | Decoction of the leaves |
| 8 | Pandanus absonus H. St. Jhon | Pandan | Pandanaceae | shrubs | roots | Decoction of the roots |
| 9 | Peperomia pellucida (L.) Kunth | Sinawsinaw | Piperaceae | herbs | Leaves and stem | Infusion of the leaves and stem |
| 10 | .Phyllanthusniruri | Likod-likod | Phyllanthaceae | herbs | Leaves | Decoction of the leaves |
| 11 | .Rauvolfiaserpentina L | Maravelosa | Apocynaceae | herbs | Leaves | Infusion of leaves |
| 12 | Zingiber officinale | Luya | Zingiberaceae | rhizomes | rhizomes | Decoction of the rhizomes |

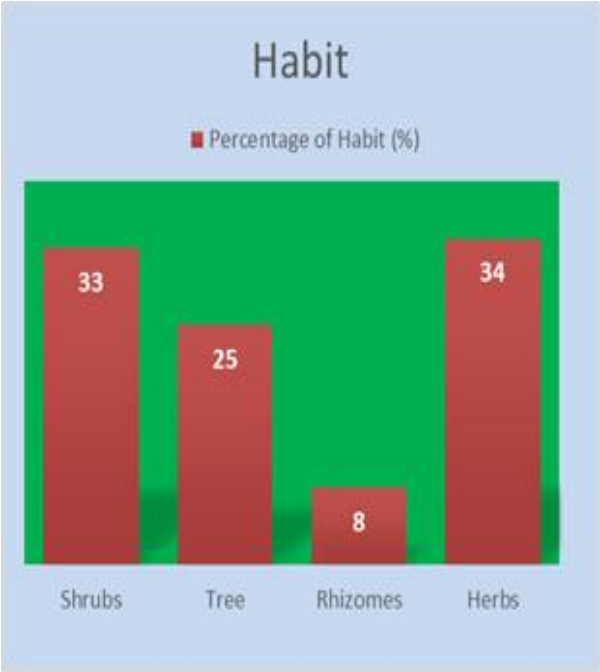


**Figure 2: Percentage distribution of plant habit**

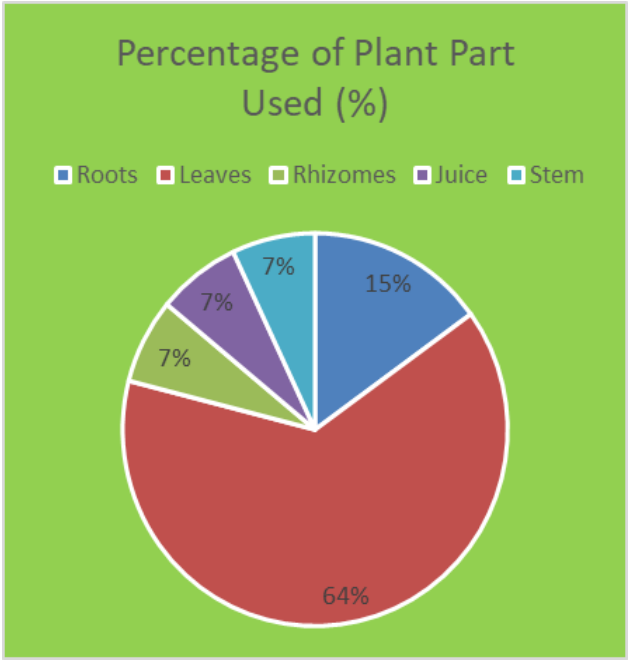


**Figure 3: Percentage of Plant parts used as Diuretic**

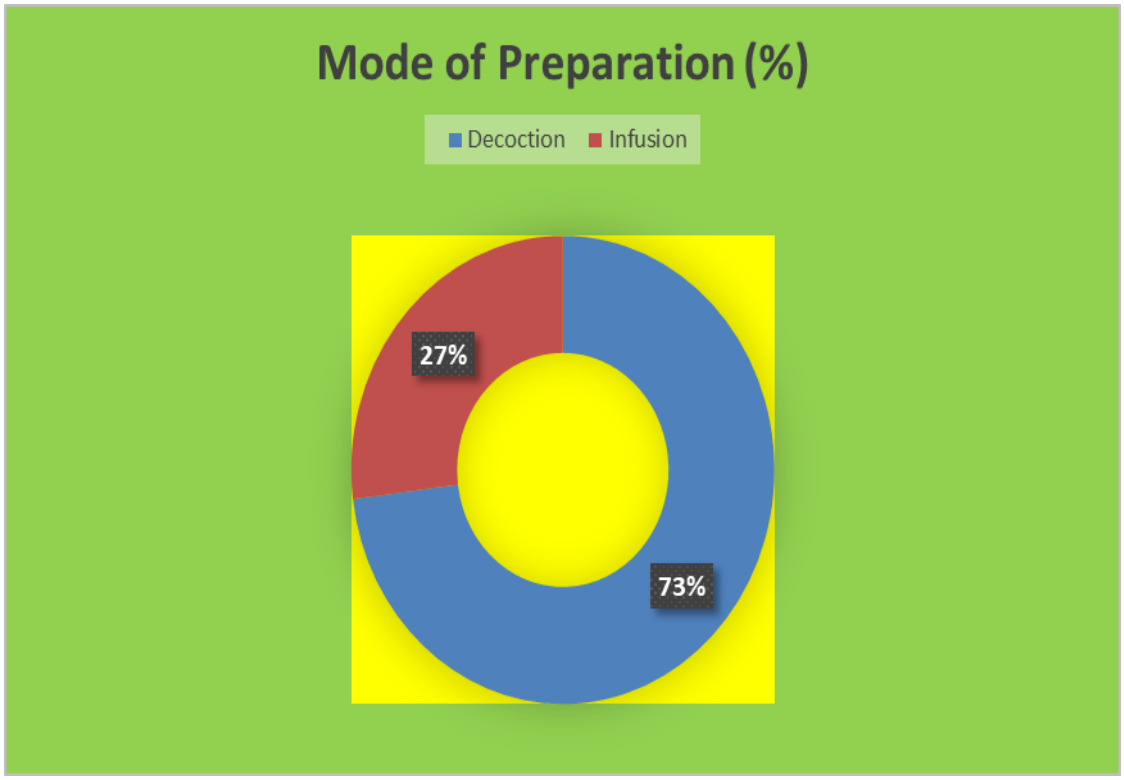


**Figure 4: Percentage of residents on their mode of preparation**

bioactive compounds present widely in the flora of the study area. In addition, [7] many species of plants produce diuretic effects. These effects are not restricted to a particular family or group of plants. For example, *plants* with *diuretic* effects were found in the Asteraceae, Brassicaceae, Erythroxaceae, Flacourtaceae, and Graminaceae which is also true in the present study the family Asteraceae was used as diuretics. It

is also confirmed in the study of [8] that *M. pudica* has the effect of this extract not only aquaretic but also diuretic.

For habit-wise distribution of medicinal plants, it indicates that most of the remedies are obtained from herbs. Most of the reported plants are used as single. Only a few medicinal plants are used in combination to induce more urine. Most of their preparation was decoction of the medicinal plants as part of their treatment to induce more urine excretion. Methods of preparation vary slightly for each resident

## CONCLUSION

The present study reveals information about the treasure trove of medicinal plants with diuretic properties used by the residents in Cantilan, Surigao del Sur. These herbal medicines are claimed to be more effective than other available treatments, with lesser side effects, economic nature, and no risk of reoccurrence. However further research is needed to identify active secondary metabolites from these medicinal plants to asses their dosage and quality control, their interactions, and adverse effects.

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