

KAZI NAZRUL UNIVERSITY



SESSION : 2022 - 2023

RANIGANJ GIRLS' COLLEGE DEPARTMENT OF MICROBIOLOGY

B.SC HONOURS 1ST SEMESTER

**TOPIC :- QUALITATIVE STUDY OF
MEDICAL PLANT (THANKUNI)**

PAPER :- AECC CORE - 1

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Raniganj Girls' College

Course Name: Environment Studies

Course Code: AEE101

Topic of the project: QUALITATIVE STUDY OF MEDICINAL PLANTS

A Project Report

Submitted by Semester-I students

(Academic Year 2021-22)

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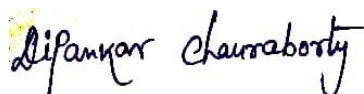
CERTIFICATE

This is to certify that this project titled “QUALITATIVE STUDY OF MEDICINAL PLANTS” submitted by the students for the award of degree of B.A. Honours/ Program is a bonafide record of work carried out under my guidance and supervision.

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Place: Raniganj

Date: 07.03.2022



State Aided College Teacher-II, Department of Geography

Signature of the supervisor with designation and department

Thanks for submitting your Application
Form 5843 which can be used for all
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Kazi Nazrul University
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Academic Enrollment Form

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Academic Details

College Code : 113 College Name : Raniganj Girls' College
Award Name : BSc Honours
Program Name : Bachelor of Science
(Honours) in Microbiology

Regular Subject Details

Sr. No.	Group Type	Subject Type	Subject Discipline	Subject Name	Subject Code
1	Core Course	CC-1	MICROBIOLOGY	Microbial World and Principles of Microbiology	BSCHMCBC101
2	Core Course	CC-2	MICROBIOLOGY	Bacteriology and Systematics	BSCHMCBC102
3	Generic Elective Course	GE-1	CHEMISTRY	Basics in Organic and Inorganic Chemistry	BSHCCEMGE101
4	Ability Enhancement Compulsory Course	AECC-1	ENVIRONMENT STUDIES	Environment Studies	AEE101

Declaration

All the subject selected by me is correct and I will complete the exam enrollment for appearing the examination. I undertake that I am furnishing true statements. If any of this information provided is found false/incorrect, my candidature/examination will be cancelled, and I shall be liable to any disciplinary action to be initiated by the University.

Version 14 03 01



Name :- Somashee Naidu
Roll No :- 082
Microbiology
Semester :- 1st Semester
Date :-
Honours
Acce (course - 1)
Qualitative Study of Medical Pla
Name :- Thankuni (Centella asiatica)

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Acknowledgement

I would like to express my special thanks of gratitude to our ~~my~~ respectful teacher Mr. Dipankar Chakraborty —
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Environmental studies (AECC - core - 1)

Date: - 07.03.2022

Somasree Nandi

Student's signature

Introduction

Plants that possess therapeutic properties or exert beneficial pharmacological effects on the human body are generately designated as medicinal plants. The medicinal plants have been used for treatment for illness and diseases since the dawn of time. The earliest historical records of medicinal plants are found from the Sumerian civilisation, where hundreds of medicinal plants are listed on clay tablets.

The compounds found in plants are of many kinds like alkaloids, glycosides, polyphenols etc.

Ethnobotany is the study of a region's plants and their practical uses through the traditional knowledge of a local culture and people.

Richard Evans Schultes is referred to as the "father of ethnobotany" although the idea of ethnobotany was first proposed by the early 20th century botanist John William Harshberger.

Thankuni

Binomial name:- *Centella asiatica*

English name:- Asiatic pennywort

Kingdom:- Plantae

Order:- Apiaceae

Genus:- *Centella*

Species:- *C. asiatica*

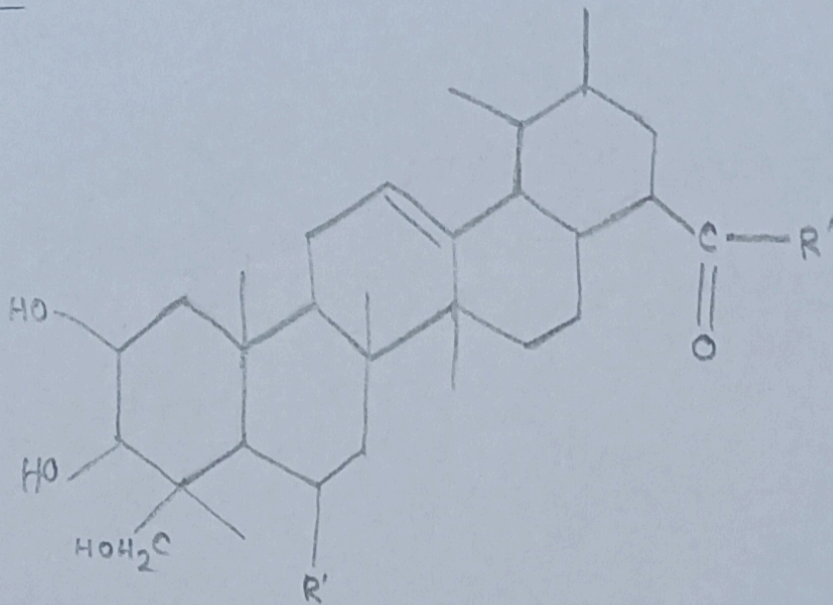
Description:- It grows in temperate and tropical swampy areas in many regions of the world. The stems are slender, creeping stolons, green to reddish-green in colour, connecting plants to each other. It has long stalked, green, rounded apices which have smooth texture with palmately netted veins. The leaves are borne on petioles, around 2 cm (0.79 in). The rootstock consists of rhizomes, growing vertically down. They are creamish in colour and covered with root hairs.

The flowers are white or crimson in colour, born in small, rounded bunches (umbels) near the surface of the soil. Each flower is partly enclosed in two green bracts. The hermaphrodite flowers are minute in size, less than 3 mm (0.12 in), with five to six corolla lobes per flower. Each flower bears five stamens and two styles. The fruit are densely reticulate, distinguishing it from species of *Hydrocotyle* which have smooth,

ribbed or warty fruit. The crop matures in three months, and the whole plant, including the roots, is harvest manually. It is a highly invasive plant, rated as "high risk". Thankuni has numerous common names in its regions of distribution.

Habitat:- Thankuni is indigenous to the Indian subcontinent, Southeast Asia, and wetland regions of the Southeastern US. Because the plant is aquatic, it is especially sensitive to biological and chemical pollutants in the water, which may be absorbed into the plant. It can be cultivated in drier soils as long as they are watered regularly enough (such as in a home garden arrangement).

Chemistry:-



It contains pentacyclic triterpenoids, including asiaticoside, brahmoside, asiatic acid, and brahmie acid (madeassic acid). Other constituents include centellose, centelloside and madeassocoside.

Culinary Use:- In Burmese cuisine, saw pennywort is used as the main constituent in a salad mixed with onions, crushed peanuts, bean powder and seasoned with lime juice and fish sauce. Centella is used as a leafy green in Sri Lanka cuisine, being the predominantly locally available leafy green, where it is called gotu kola. It is most often prepared as malluma, a traditional accompaniment to rice and vegetarian dishes, such as dal, and jackfruit or pumpkin curry. It is considered nutritious. In addition to finely chopped gotu kola plants, the gotu kola malluma may be eaten with grated coconut, diced shallots, lime (or lemon) juice, and sea salt. Additional ingredients are finely chopped green chills, chilli powder, turmeric powder, or chopped carrots. The Thankuni fruit-bearing structures are discarded from the gotu kola malluma due to their intense bitter taste. A variation of porridge known as kola kenda is also made with gotu kola in Sri Lanka. Gotu kola kenda is made with well-boiled red rice with some extra liquid, coconut milk first extract, and gotu kola purée. The porridge is accompanied with jaggery for sweetness. Thankuni leaves are also used in modern sweet pennywort drinks and herbal teas. In addition the leaves are served stir-fried whole in coconut oil, or cooked in coconut milk with garlic or dhal.

In Indonesia, the leaves are used for sambai'oi peuga-ga, an Aceh type of salad, and is also mixed into asinan in Bogor. In Cambodia, Vietnam and Thailand, this leaf is used for preparing a drink or can be eaten in saw form in salads or cold rolls. In Bangkok, vendors in the Chatuchak weekend Market sell it alongside coconut, roselle, chrysanthemum, orange and other

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health drinks. In Malay cuisine it is known as pegage, and the leaves of this plant are used for ulam, a type of vegetable salad. *C. asiatica* is widely used in various Indian regional cuisines. In Bangladesh and India (specifically in West Bengal), Thankuni is called Thankuni Pata and used in various dishes, one of the most appetizing of which is the pakora-like snack called Thankuni Patai Boria; made of mashed thankuni, lentils, julienned onion and green chilli.

Agriculture:- In the context of phytoremediation, *C. asiatica* is a potential phytoextraction tool owing to its ability to take up and translocate metals from root to shoot when grown in soils.

Traditional Medicine:- 1. The leaf juice is used as a good health tonic.

2. It gives relief from hypertension.

3. It cures gastrointestinal disease.

It has been used to treat various disorders and minor wounds, although clinical efficacy and safety have not been scientifically confirmed. Contact dermatitis and skin irritation can result from topical application. Drowsiness may occur after consuming it. The herb may have adverse effects on liver function when used over many months.

Conclusion

Medical plants are considered as a rich resources of ingredients which can be used in drug development either pharmacopoeial, non-pharmacopoeial or synthetic drugs. Apart from that these plants play a critical role in the development of human cultures around the whole world.

So, steps must be taken for the conservation of these medicinal plants. Conservation of medicinal plants can be accomplish by the ex-situ or in-situ cultivation.

Bibliography

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