iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 8 **Issue:** VI **Month of publication:** June 2020

DOI: http://doi.org/10.22214/ijraset.2020.6213

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 8 Issue VI June 2020- Available at www.ijraset.com

Bryophyllum Pinnatum a Life Saving Plant for Kidney Stone

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Abstract: ***The bryophyllum pinnatum plant was called as the lifesaving plant. Most important use of the plant is its curing property against kidney stones. For this one has to consume 4-5 leaves with a glass of water first thing in the morning for about two month. This plant was a gift to mankind but in many countries they use it as an ornamental plant. The miracle plant ranakalli can also reduce blood sugar level in diabetic patients.it is an one of the important plant in India as it was used mainly in Ayurveda and siddha medicine to treat many ailments. It is useful for preventing alcoholic, viral and toxic liver damages. An herbal tea made from this herb is useful to treat conditions such as shortness of breath, kidney failure, menstrual problems, asthma, coughs, bronchitis, as well as chest cold. Fresh leaves of leaf of life can also be eaten raw as a medicinal remedy for asthma, bronchitis and intestinal problems. In these studies totally eleven chemicals present in the plant was found using plant database out of eleven plant chemical only four have chemical structure. Drug compounds and drug indication were found for the four plant chemicals in that the chemical plantagoside and plantagis +ONABOTULINUMTOXINA when combined shows good result in treating kidney stone so it is confirmed that the plant chemical plantagoside can be used to treat kidney ailment.***

Keywords: Bryophyllum pinnatum, plantagoside, plantagis, Nitrogen fixing bacteria

I. INTRODUCTION

Ranakalli plant was the lifesaving plant used to treat kidney disease and leaf present in the plant have many good medicinal properties. The leaves of this plant are edible and have mild pleasant flavour they can be put raw in salads or cooked. Bryophyllum pinnatum also known as life plant, miracle plant, cathedral bells, and air plant. Native Hawaiian plant. Easy to grow just from one leaf set on top of moist soil. Very fast growing, drought tolerant small shrub. Tolerates almost any conditions. Spectacular bloomer. Air Plant grows to about 3-6 feet tall. The erect, thick, succulent stems bear large, fleshy leaves, each with 3 or 5 oval leaflets with round-toothed edges. The ranakalli was cultivated as an ornamental plant but he leaf of the plant was used to treat many diseases like kidney stone, diabetes, scar, wounds ,sting and urinary insufficiency.

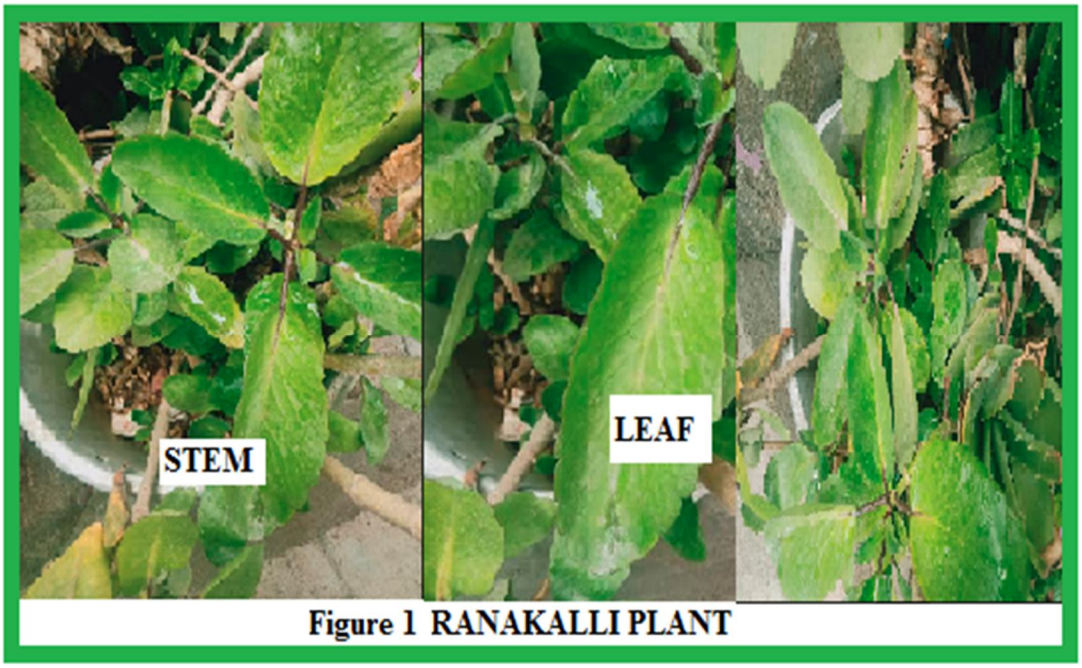


Figure 1 RANAKALLI PLANT

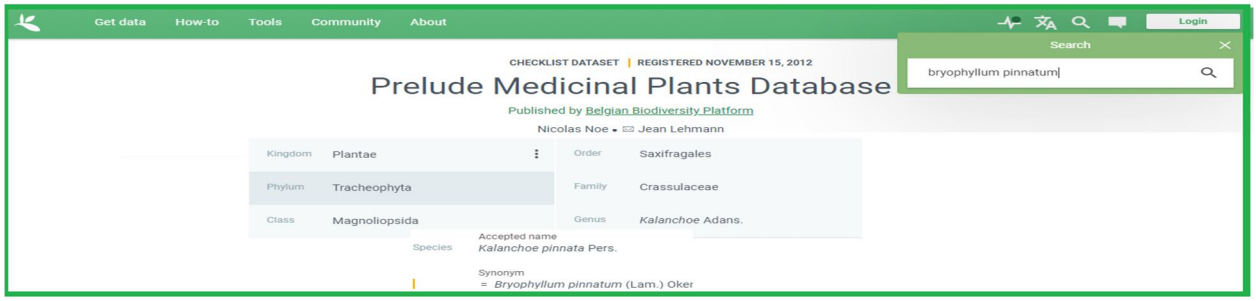


Figure2 Taxonomy

The leaves of this plant are best eaten in early spring or winter, when they have a fairly pleasant mild flavor. The leaves are used medicinally and have mild pain relieving properties and can be put on scratches too in order to stop the stinging pain and they are also used to put on minor burns and scalds. Figure 1and 2 represents the ranakalli plant structure and taxonomy.

A. Dry Leaves Powder Used To Treat Kidney Stone

1) Place a small bowl of water in the microwave for safety.
2) Place leaves in a folded paper towel or between two sheets of white felt.
3) Weigh down with a microwave-able plate.
4) Microwave on high for 30 seconds and continue in 15 second intervals until the leaves are dry and crisp.
5) The dried leaves are made into fine powder.
6) The prepared powder was taken daily early morning in an empty stomach.

B. Ranakalli Plant Juice For Kidney Stone

1) Fresh leaf from the plant was taken and washed thoroughly in the running water
2) Washed leaves are grinded using morter and pestle
3) Grinded leaf extract was filtered using filter
4) The filtered leaf extract is taken daily for seven days in an empty stomach.
5) The kidney stone will be expelled out from the body.

C. Kidney Stone

Kidney stone is a small stone like hard deposit that forms in the kidneys and it is painful when passed. Kidney stones are hard deposits of minerals and acid salts that stick together in concentrated urine. They will be painful when urine is passed through the urinary tract, but they don't cause permanent damage.

D. Symptom

Severe pain, usually in the side of the abdomen, associated with nausea and vommiting

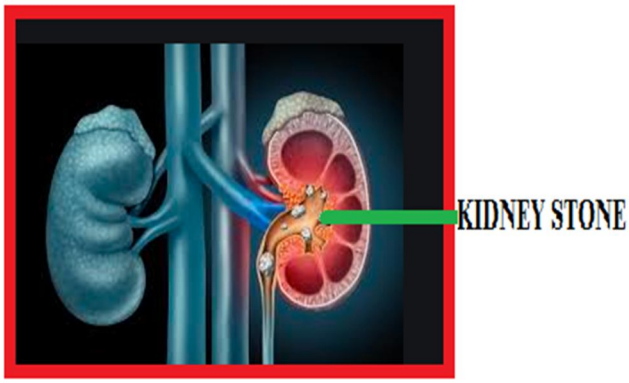
E. Treatment

1) The treatment are pain relievers and drinking lots of water to help pass the stone.

2) Medical procedures and an operation may be required to remove or break up larger stones.

3) Drinking ranakalli plant extract regularly in an empty stomach will expel the stone through urine

Kidney stones form when your urine contains more crystal-forming substances — such as calcium, oxalate and uric acid — than the fluid in your urine can dilute. At the same time, urine may lack substances that prevent crystals from sticking together, creating an ideal environment for kidney stones to form. Sometimes kidney stone pain starts as a dull ache, but it can quickly escalate to severe cramping or sharp, wincing pain .usually one will feel the pain in back or side, underneath your rib cage. The pain can radiate into the lower abdomen or groin.



II. MATERIALS AND METHODS

A. NCBI

The National Centre for Biotechnology Information (NCBI) which is a part of National Institute of health (NIH) a federal agency of the US government. It was established on November 4, 1988 as a national resource for molecular biology information. NCBI creates public databases, conduct research in computational biology, develops software tools for analyzing genome data and disseminates biomedical information. The search and retrieval system used in NCBI is Entrez.

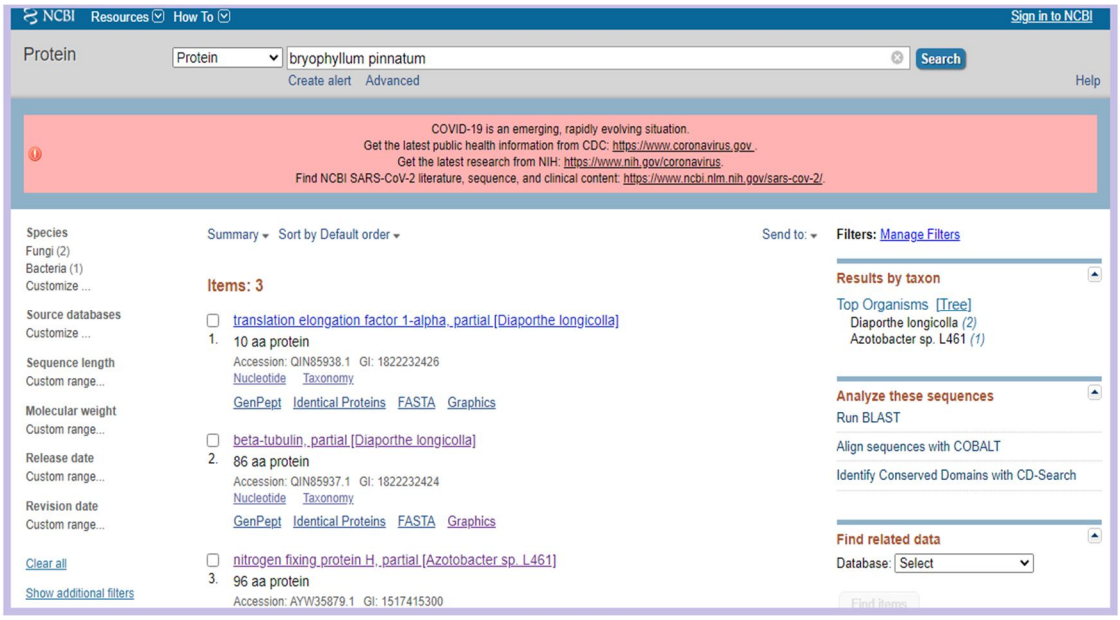


Figure 1 Protein related to Bryophyllum pinnatum

Figure 1 shows three different protein related to ranakalli plant.

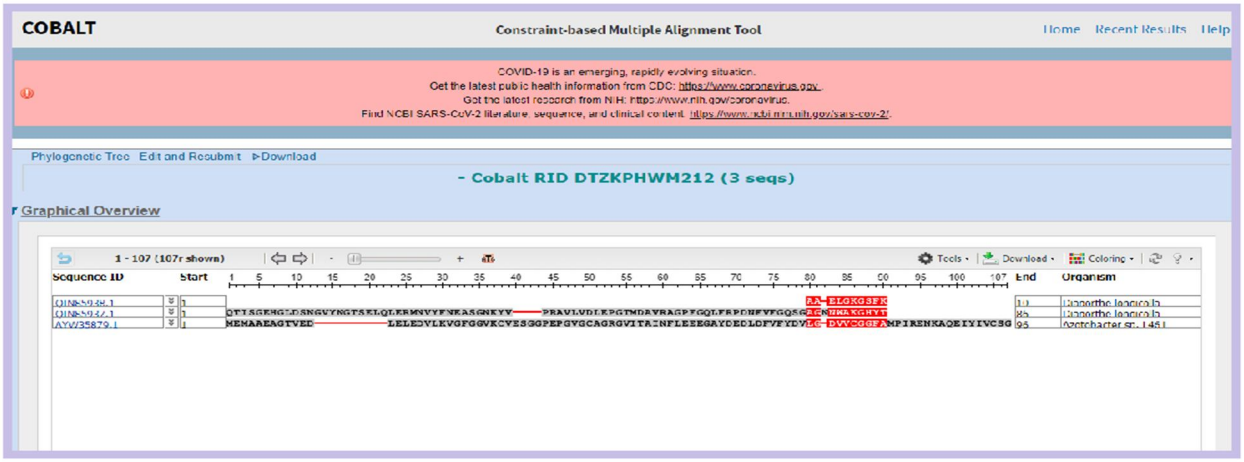


Figure 2 Multiple Alignment for three protein

Using COBALT three protein sequence present in the plant was selected and based on that sequence alignment was done and sequence was analyzed.

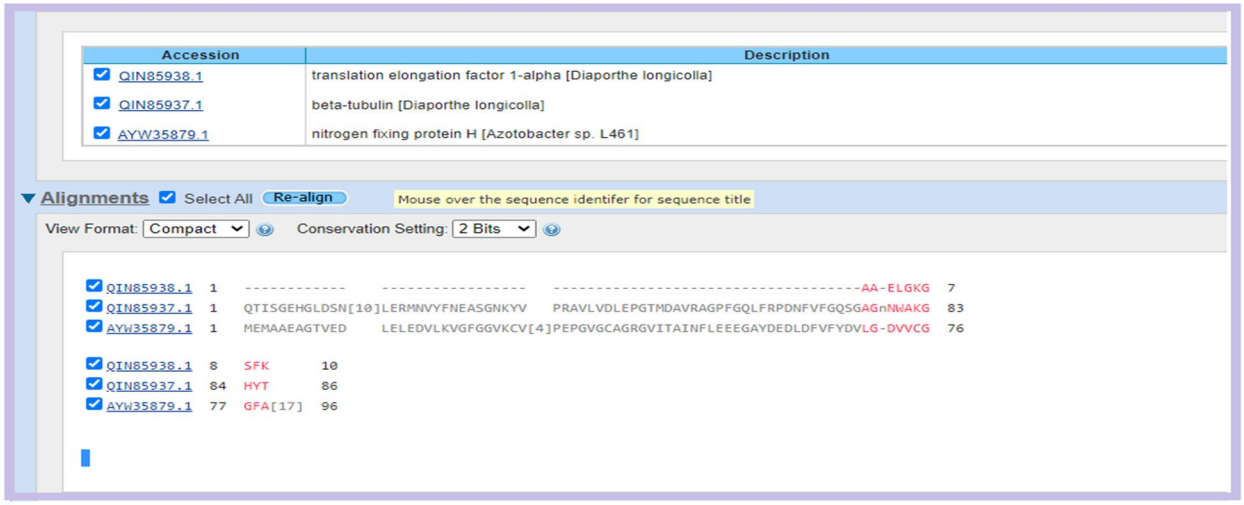


Figure 3 Aligned sequence with position.

Bryophyllum pinnatum plant totally have only three proteins in that nitrogen fixing bacterial protein was selected because it was the only protein which have identical sequence similar to its function.

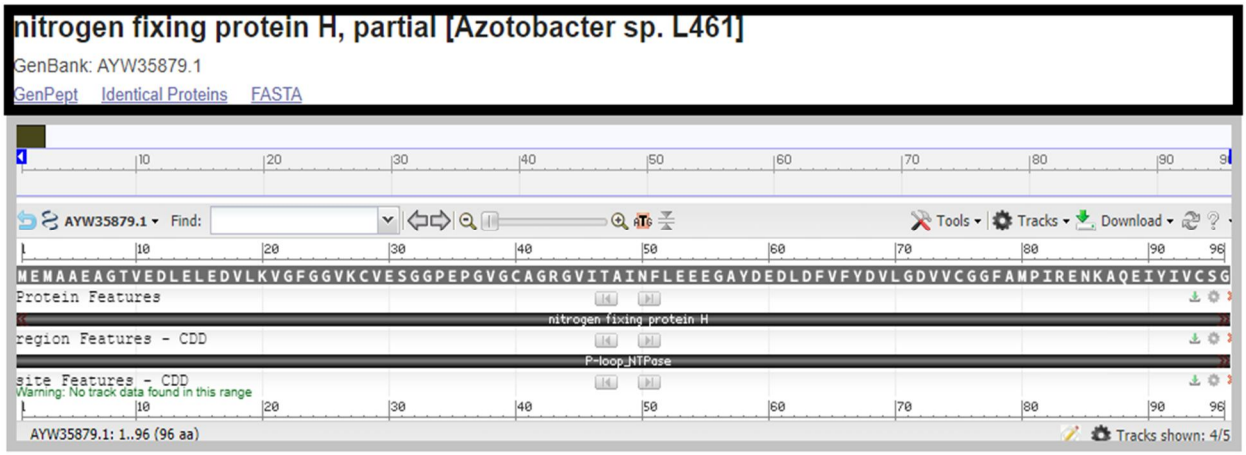


Figure 4 Nitrogen fixing protein (Azobacter) Features

B. Nitrogen Fixing Bacteria

Nitrogen-fixing bacteria are microorganisms present in the plant roots or soil which will change the atmospheric nitrogen present in the air into solid nitrogen for the plant to use in the soil. Nitrogen fixation is a process in which the bacteria present in the soil convert atmospheric nitrogen (N2 gas) into a solid nitrogen so that the plant can use for their growth. The reason this process is so important is that animals and plants cannot use atmospheric nitrogen directly. Bacteria convert it into ammonium (NH4+), which then plants can absorb.

In figure 4 nitrogen fixing protein azobacter present in ranakalli plant have good features and identity because of this protein the plant can grow well only with very less amount of water.

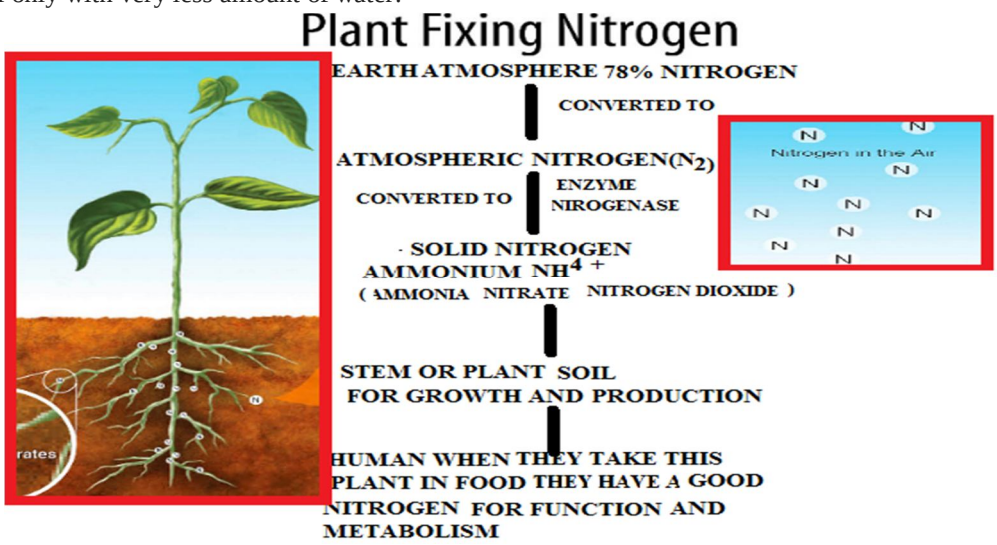


Figure 5 Plant fixing nitogen.

C. AZOBACTER

Azotobacter is a genus of free-living diastrophic bacteria whose resting stage is a cyst. It is primarily **found** in neutral to alkaline soils, in aquatic environments, and on some plants. It has several metabolic capabilities, including atmospheric nitrogen fixation by conversion to ammonia.

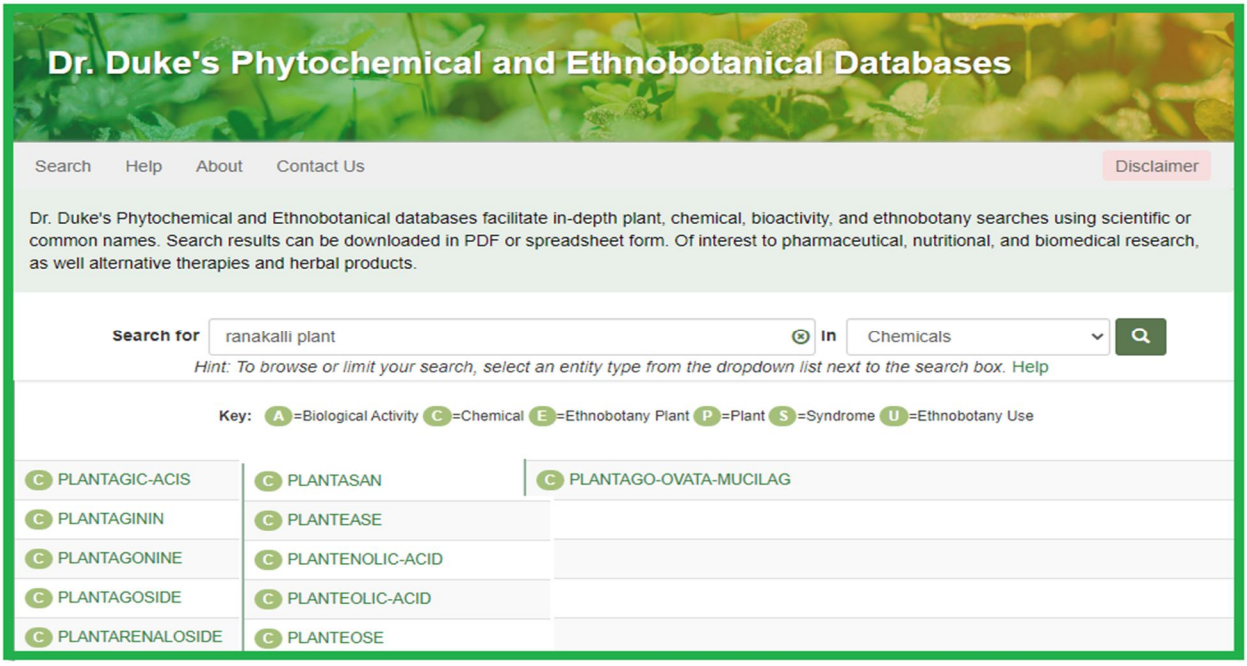


Figure 6 Chemical compounds present in ranakalli plant

D. Plantagonine

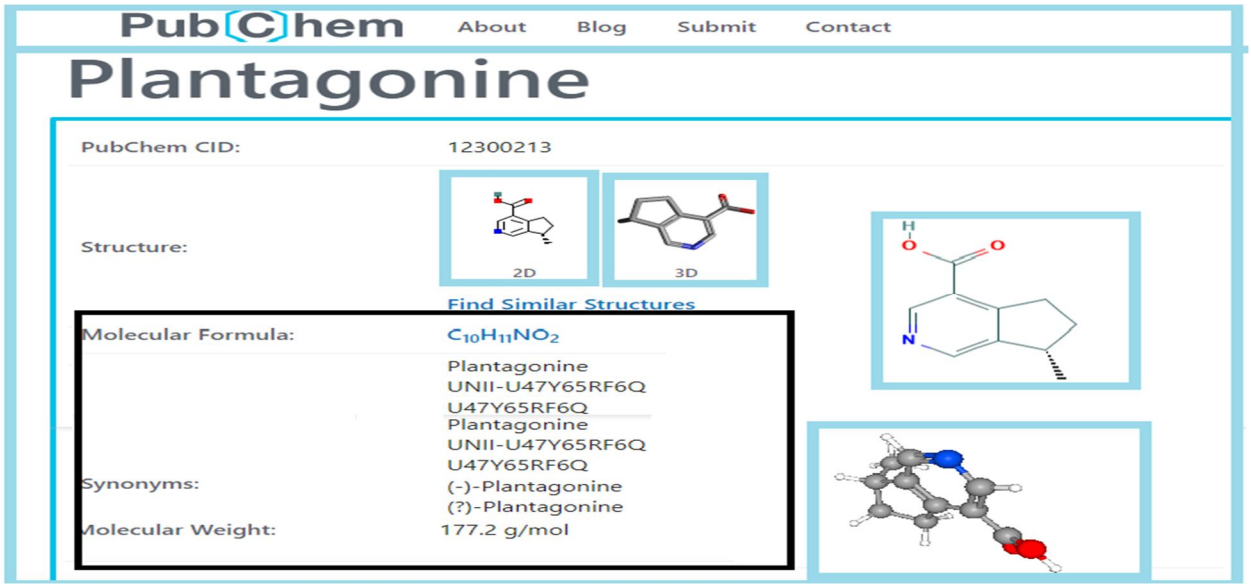


Figure 7 Plantagonine chemical compound Structure

E. Plantagoside

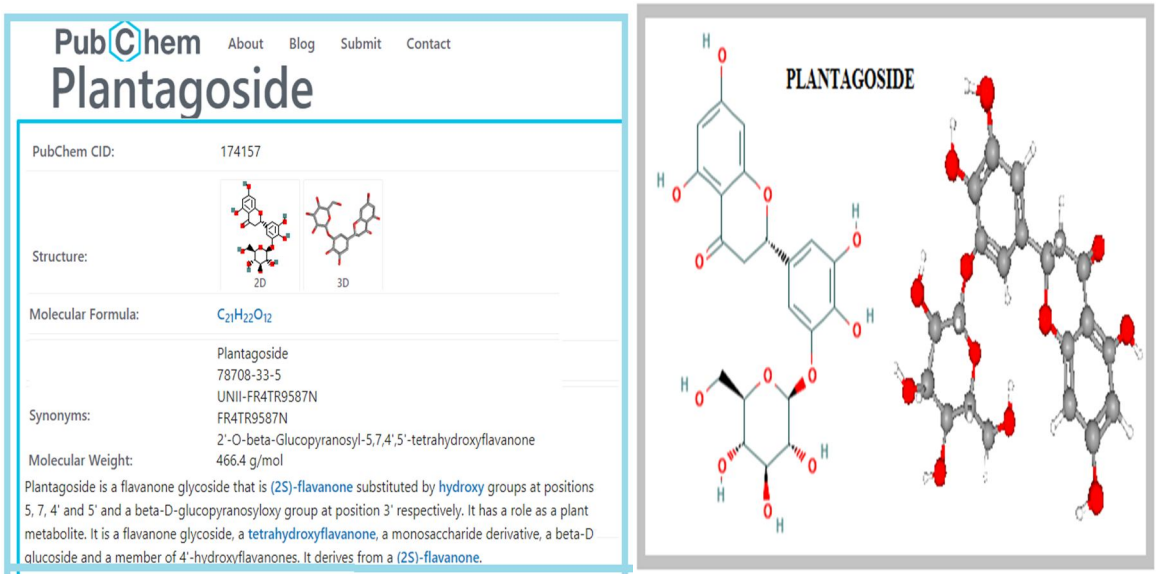


Figure 8 Plantagoside chemical compound

Figure 9 Plantagoside compound indication in curing disease

F. Plantagis

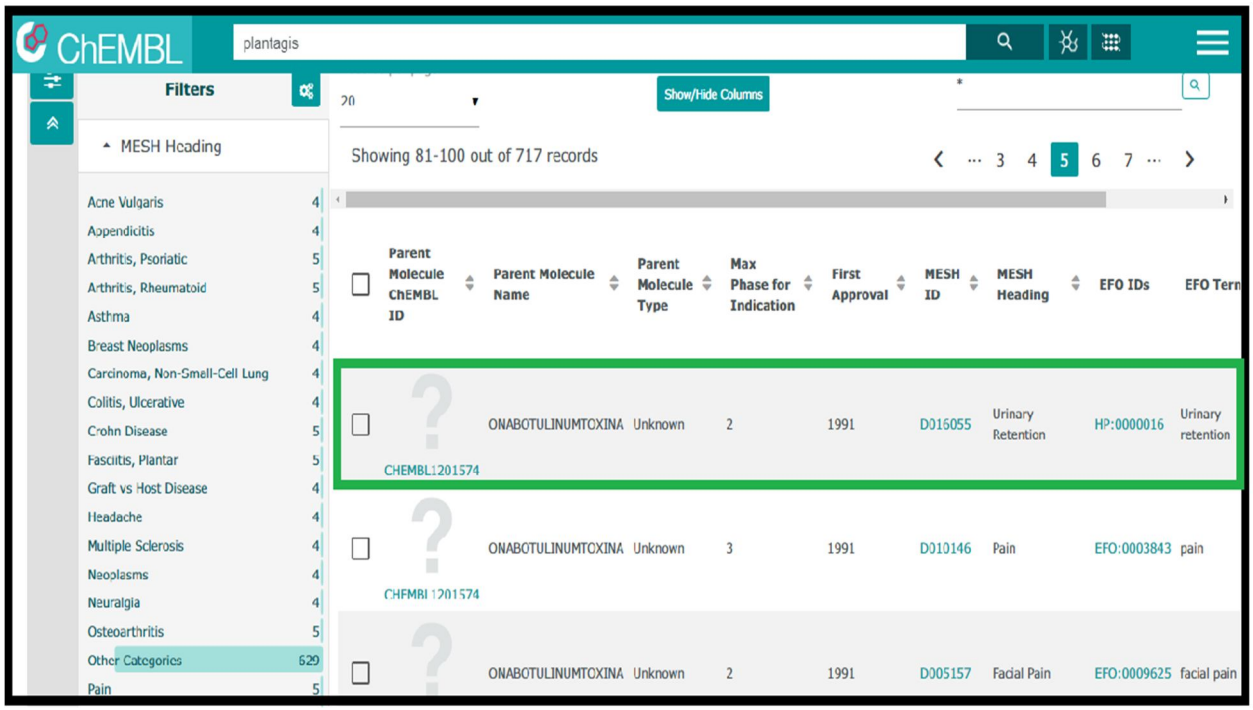
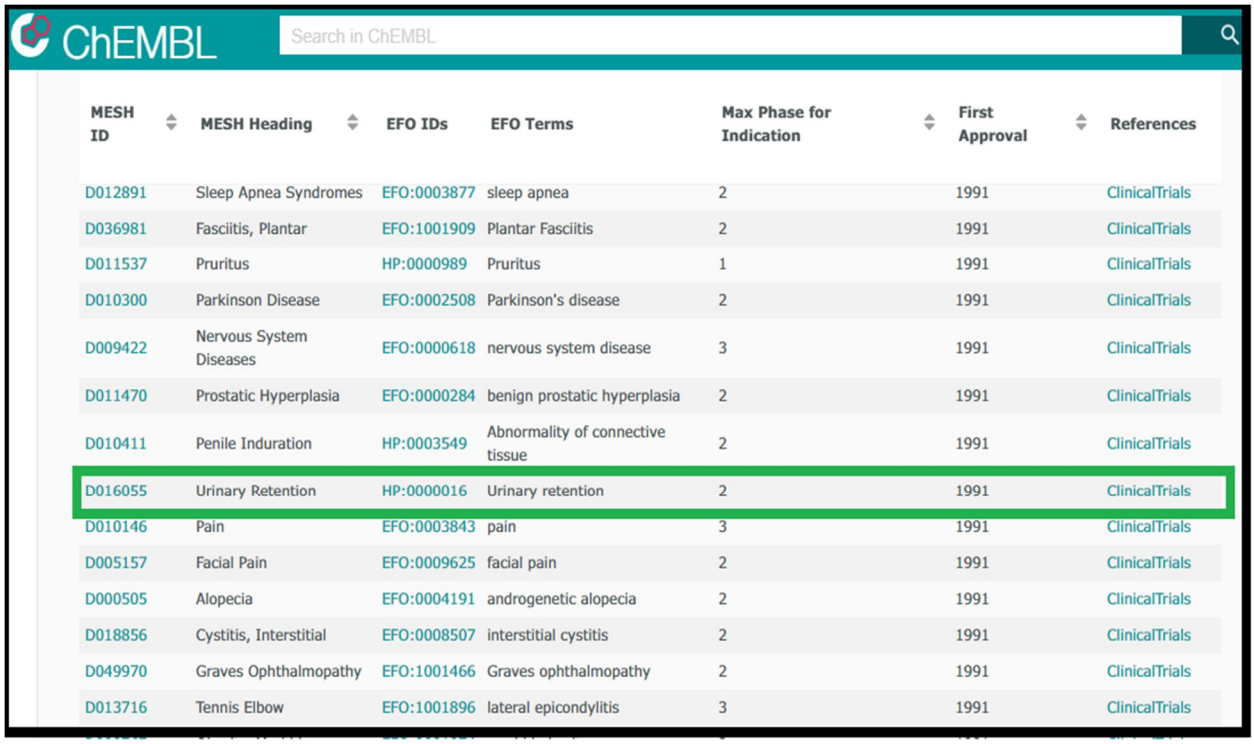


Figure 10 plantagis(ONABOTULINUMTOXINA)drug compound will cure kidney stone

G. Urinary Retention

The main cause of urinary retention was an obstruction in the urinary tract such as an enlarged prostate or bladder stones, infections that cause swelling or irritation, nerve problems that interfere with signals between the brain and the bladder, medications, constipation, urethral stricture, or a weak bladder muscle.Figure 11 shows that the chemical compound plantagis present in the rankalli plant can be used to treat kidney stone but the chemical structure was unknown.



MESH ID	MESH Heading	EFO IDs	EFO Terms	Max Phase for Indication	First Approval	References
D012891	Sleep Apnea Syndromes	EFO:0003877	sleep apnea	2	1991	ClinicalTrials
D036981	Fasciitis, Plantar	EFO:1001909	Plantar Fasciitis	2	1991	ClinicalTrials
D011537	Pruritus	HP:0000989	Pruritus	1	1991	ClinicalTrials
D010300	Parkinson Disease	EFO:0002508	Parkinson's disease	2	1991	ClinicalTrials
D009422	Nervous System Diseases	EFO:0000618	nervous system disease	3	1991	ClinicalTrials
D011470	Prostatic Hyperplasia	EFO:0000284	benign prostatic hyperplasia	2	1991	ClinicalTrials
D010411	Penile Induration	HP:0003549	Abnormality of connective tissue	2	1991	ClinicalTrials
D016055	Urinary Retention	HP:0000016	Urinary retention	2	1991	ClinicalTrials
D010146	Pain	EFO:0003843	pain	3	1991	ClinicalTrials
D005157	Facial Pain	EFO:0009625	facial pain	2	1991	ClinicalTrials
D000505	Alopecia	EFO:0004191	androgenetic alopecia	2	1991	ClinicalTrials
D018856	Cystitis, Interstitial	EFO:0008507	interstitial cystitis	2	1991	ClinicalTrials
D049970	Graves Ophthalmopathy	EFO:1001466	Graves ophthalmopathy	2	1991	ClinicalTrials
D013716	Tennis Elbow	EFO:1001896	lateral epicondylitis	3	1991	ClinicalTrials

Figure11 Drug indication.

H. Drug Indication

In medical terminology, an "indication" for a drug refers to the use of that drug for treating a particular disease. For example, diabetes is an indication for insulin. Another way of stating this relationship is that insulin is indicated for the treatment of diabetes.(.com)www.medicinenet.com)

I. Plantarenaloside

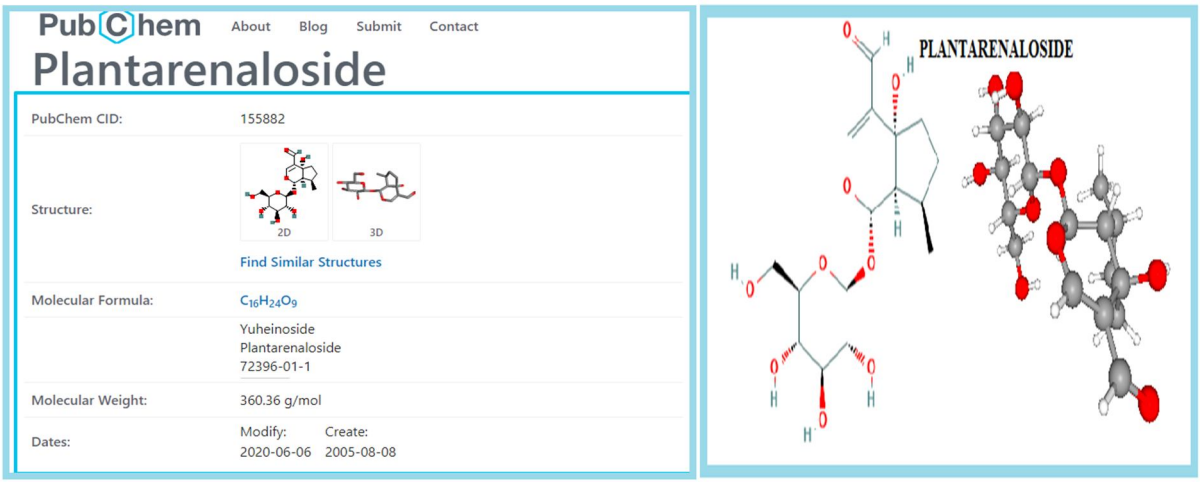


Figure 12 Plantarenaloside Structure

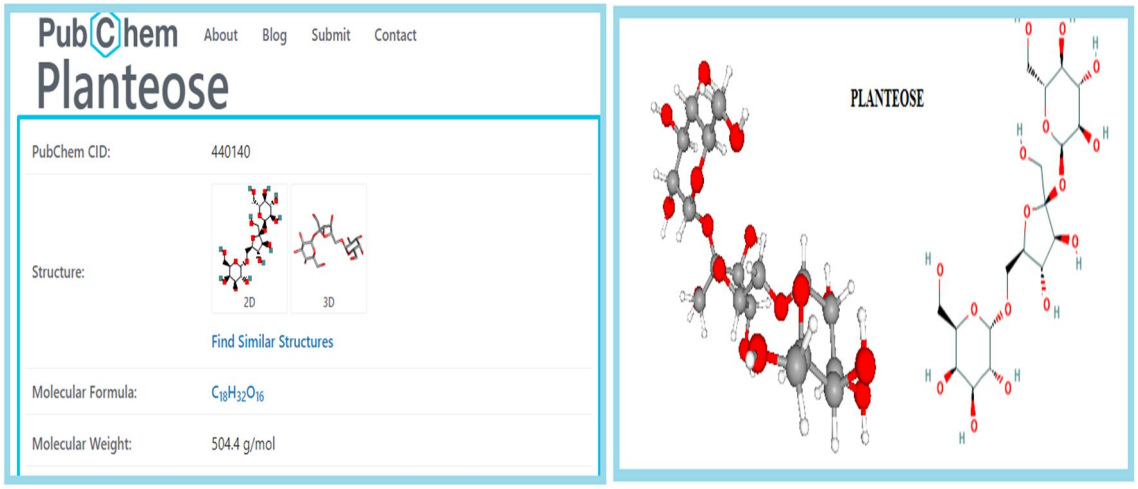


Figure 13 Planteose Structure.

III. RESULTS AND DISCUSSION

Ranakalli plant was the lifesaving plant used to treat kidney disease and leaf present in the plant have many good medicinal properties. The leaves of this plant are edible and have mild pleasant flavor they can be put raw in salads or cooked. Bryophyllum pinnatum also known as life plant, miracle plant, cathedral bells, and air plant. Native Hawaiian plant. Easy to grow just from one leaf set on top of moist soil. Eleven chemical substance were found from the plant Bryophyllum pinnatum out of eleven substance only four have structure and function. Drug compounds and drug indication were found for the four plant chemicals in that the chemical plantagoside and plantagis+ **ONABOTULINUMTOXINA** when combined shows good result in treating kidney stone so it is confirmed that the plant chemical plantagoside can be used to treat kidney ailment.

REFERENCE

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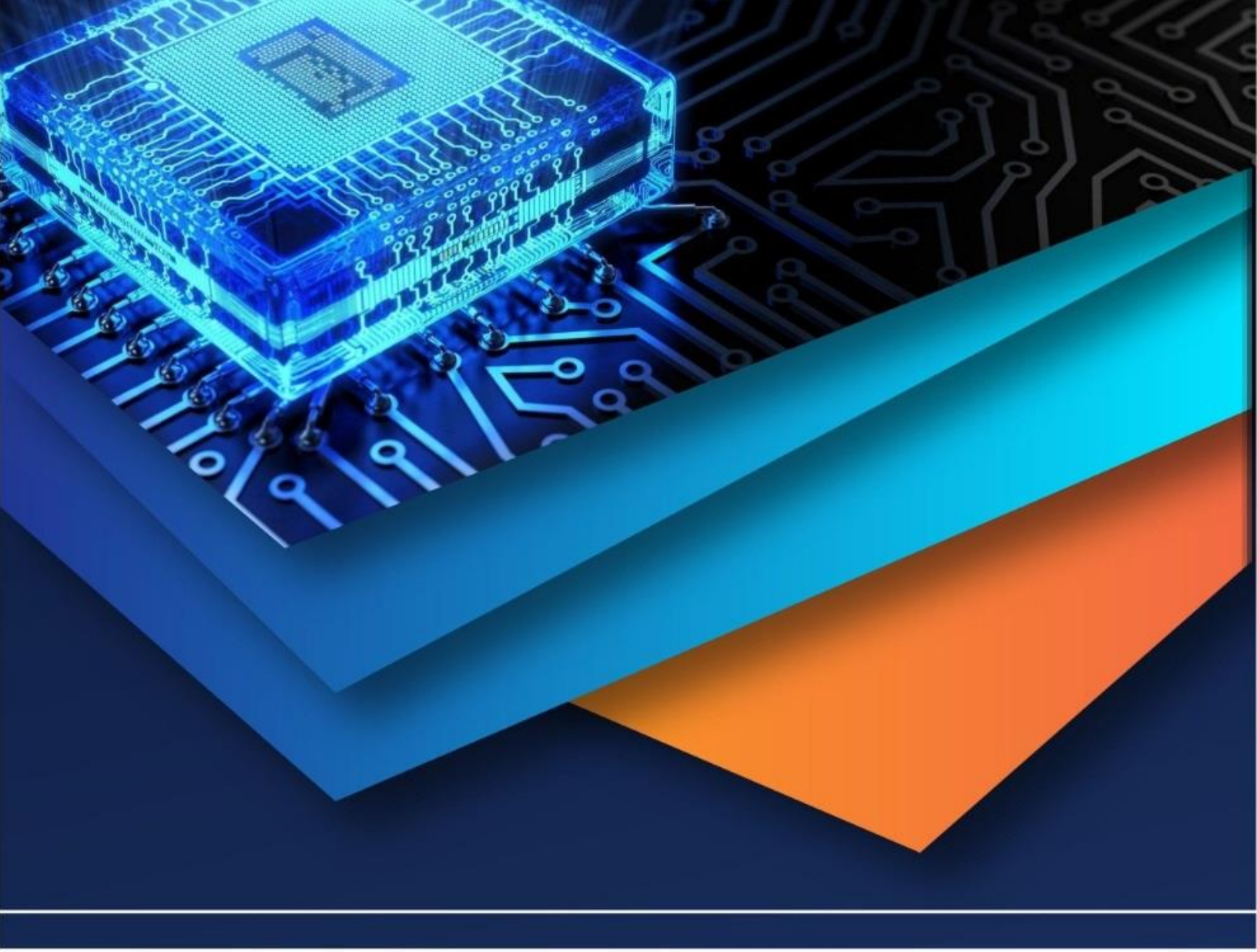
[2] www.wikipedia.com
[3] www.medicinenet.com



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