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IDENTIFICATION OF PALMITIC ACID COMPOUNDS IN LEAVES OF DRAGON TAIL LEAVES (RAHPIDOPHORAPINNATASCHOOL)

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ABSTRACT

Dragon Tail Plant (*Rahpidophora pinnata* School) is an herbal crop that has a recording system so that it can glue to other trees. This plant is an herbal plant, empifit, climbing, climbing with a height of up to 5 to 10 meters. Plant trunks Dragon tails are round, pointed leaves, lanceolate longitudinal and finger-shaped, and have dead bones with parallel veins Plant *Rahpidophora pinnata* School, through the process of research and using advanced technology, these plants can produce medicines which can cure diseases such as; Cancer, anti-bacterial. Virus and Sprue Mushrooms. This study aims to analyze and determine the presence of any compounds contained in Dragon Tail leaf plants using Gas-Mas Chromatography Spectrometer (GC-MS). The type of research carried out is experimental research conducted at the Integrated Laboratory of Pharmacy Study Programs at Halmahera Health Sciences College. From the results of the identification of chemical compounds carried out using the GC-MS (Gass Cromotography Mass Spectrometry) method of the dragon tail leaf (*Rahpidohorapinnata* school) Halmahera, using the GC-MS method there is a compound of Palmitic acid with a content of (2.06%). Then it can be concluded that the dragon tail leaf (*Rahpidohorapinnata* school) Halmahera contains the highest compound 3-Dihydro-3,5-Dihydroxy-6-methyl-4-pyranran-4-ONE with

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a compound content of 41% and the lowest is Methyl 17-methyl-octadecanoate with a compound content of 1.38%.

INTRODUCTION

Indonesia is one country that biodiversity abundant with natural resources were adequate. Natural Resources availability of adequate indirectly can be said has contributed a million potential which is useful for both human life. Especially for the health sector. Indonesia is very rich in plant species which can be utilized for the purposes of medical research, disease prevention, and treatment of various diseases.¹

Indonesian society already know and use herbs to treat various infections caused by bacteria. Chairman Dr Arend Laurence Halmahera STIKES Mapanawang Sp.PD. have investigated, even published in international journals.

Plant *Rahpidophora School pinnata*, through the research process and using the tools of money advanced technology, this plant can produce medicines that can cure diseases such as; Cancer, anti-bacteria. function Virus and Sprue. This plant is one of the herbs that have proliferated with glue system, roots and other tree trunks creeping in. Herbal plant whose height may reach 5 to 20 meters, also known as plant vines and climbing on trees. The stem leaves are round and tapered, lancet-shaped elongated and fingers - the middle finger bones and veins parallel, making it easily tears when blown by the wind, as well as roots, rhizomes can make it freely circular various other trees. Among the people of this plant is very easy to find, because it's a central plant can be grown anywhere. Plants which lay a line of thought that can inhibit plant to other plants (eg palm).²

Pentacyclic triterpenoids most widespread. Generally present in seed plants, either in free form or as glycosides. Triterpenoids carbon skeleton is a compound derived from six units of isoprene, wherein the carbon skeleton built of two or more. Compounds steroids / triterpenoids contained in the extract n-hexane to isolate by means of chromatography. In clinical trials, mechanism or compound which is used to treat the disease with antioxidant capabilities are utilized as a preventative supplement the progress of disease or the patient's illness effective.⁷

Efficacy Dragon Tail plants as herbs that can cure cancer and anti-bacterial properties have gone through the process of research has also been tested through clinical laboratories. From a health perspective, Dragon Tail plant growth is very good for human health,

in a sense, from the leaves of Dragon Tail human that can be detached from the cage disease cancer or bakteri.⁸

Based on the data of the Dragon Tail plant use, the authors are interested in identifying chemical compounds contained in extracts of plant leaves in Halmahera Dragon Tail.

Formulation of the problem

From the description above background, the authors establish a formula the problem as follows: How does mengidentifikasi compounds contained in plant leaf extracts Dragon Tail.

Research purposes

To analyze and determine the presence of the compound - any compound contained in the leaves of plants Dragon Tail.

Benefits of research

After of doing research, the author describes some of the benefits of plant leaf Dragon Tail (*Rahpidophora Pinnata School*)

Theoretical benefits

In scientific perspective, this research is expected to contribute ideas that are useful for enhancing the knowledge in science, both academically and individually. The authors hope, presumably leaves of Dragon Tail which is the object of research studies can provide information useful in formulating and identifying compounds - compounds contained in plant leaf Dragon Tail. Likewise, this research would be a reference when doing research The next similar.

Practical benefits

1. For researchers, it is expected that a lot of information in order to expand The idea for the research on the use of herbal remedies.
2. For the community are expected to gain an insight in recognizing herbs that contain medicinal and useful for treatment.

LITERATURE REVIEW

PLANT TAIL DRAGON (RAHPIDHOPORA pinnata SCHOOL)

Classification and morphology (Dragon Tail Plant L)

Based on the taxonomy, plants in the Dragon Tail clarify as follows:

Kingdom: Plante (plants)

Division: Spermatophyta

Class: Monocotyledoneae

Family: Araceae
Genus: *Rahpidhopora*
Sepsis: *Rahpidhopora pinnata* (LF) Schott)

Dragon Tail plant is a herb that has perekataan system so that it can glue on another tree. This plant is an herb plant, empifit, vines, climbing to the height can reach 5 to 10 meters. The tail of the dragon plant stem leaves are round tapered, elongated oblong shaped and radius, and has a central spine with parallel veins. Makes it easy to tears when the wind, Dragon Tail plant roots are usually attached to a pedestal like a wall or a tree, and also had to be hanged. These plants do not thrive well without the other plants but it does not berartri that plants can be referred to as the Dragon Tail plants "parasite" because nevertheless Dragon Tail plant can produce their own food through fotosintesis.⁹

Plant Dragon Tail (*Rahpidhoppora Pinnata* School) is one of the herbal plants from the tribe Araceae which has been researched and qualify research as one of the plants that contain drugs. From direct observation; especially for North Maluku Dragon Tail plant is so much that can be found easily as it can grow attached to the various trees, such as: Coconut, Mango, almond, jackfruit, and so forth. This plant contains the active substance in the form of Alkanoid, flavonoids, saponins, tannins, and Triterpenoid / steroid that is thought to contain fitoestrogen.¹⁰



Figure 1. Plant Dragon Tail (*Rahpidhopora pinnata* School).

In Singapore plant leaves are usually used as a traditional medicine to treat cancer. Indonesian society has also been using Dragon Tail leaves as a traditional medicine to treat the disease of cancer and anti bakteri.¹⁰

METHODS

Types of research

This type of research is research experiments and research done in the laboratory of integrated high school course of study pharmaceutical sciences healthy Halmahera.¹⁴

Research time

The study lasted for one month starting on 20 June - 20 July 2018

The research sample

Samples were taken from the leaves of Dragon Tail (*Rahpidhopora Pinnata* School L) leaves are taken is fresh and old as well as in the capture that receive sunlight. The leaves are taken in accordance with the count of fifth from bottom to atas.¹⁴

Tools and Materials Research

a. Tool

1. Oven
2. rod stirrer
3. Beaker
4. Measuring cup
5. Bunsen
6. Erlenmeyer
7. rotavator
8. Tripod
9. aluminum foil
10. Filter Paper
11. Blender
12. The mesh sieves
13. Tool GC-MS

b. material

1. Dragon Tail plant leaves (*Rahpidhopora pinnata* School)
2. methanol
3. Spirites

Work procedures

Making the Dragon Tail Leaf Extract (*Rahpidhopora pinnata* School)

Steps are plant leaf extract manufacture Dragon Tail namely:¹⁴

1. Dragon's tail leaves that are old, taken and collected, then washed with running water.
2. After washing in small scissors
3. Then dried without being exposed to sunlight
4. After dried mashed.
5. After that in the sieve and weigh than inserted in the container and labeled
6. When inserted into the container and then pour the liquid filter maceration methanol

7. Cover and let stand for 5 days shielded from sunlight to do complaints every day.
8. After 5 days, filtered residue, and squeezed
9. Dragon Tail simplisa leaf residue in add fluid filter again to taste and find it again.
10. The container lid and left for 2 days and shielded from sunlight.
11. After two days, separated by strap.
12. Dragon Tail leaf evaporated over a water bath or with a rotavator to obtain a thick extract
13. Dragon Tail thick leaf extract obtained is weighed and labeled.

How it Works Identifikasi Compound Using GC-MS

Condensed extract methanol in vaccination in a beaker, then be identified using GC instrument that serves to test the purity of a particular substance, or separating the various components of a mixture that can assist in identifying compounds that complex. Then proceed using the MS tool that serves as a compound modifier samples into positive ions and ions negatif.¹⁴

Table 1. Workflow Identification Dragon Tail Leaves compound (Rahpidhopora pinnata Schoot)

Dragon Tail Leaves
Dry powder Plant Leaves Dragon Tail
Maceration process with methanol
Condensed methanol extract
GC-MS

RESULTS AND DISCUSSION

Identification Of Compounds Dragon Tail Leaves (Rahpidhopora Pinnata Schoot)

To identify the compounds of **Dragon Tail Leaves**, Methanol extract in fractionated first in a beaker and then methanol in steam with Rotary evaporator thus obtained methanol fraction do next in compound identification using GC-MS.¹⁴

Samples that have been shaped steam input in the sample entry system or the end of the column to the gas komotografi room ionization, will sample molecules in the ionization room ionizing then the ions in sorting the subsequent mass analyzer ions in the detection of the electronic detector with signal processors and recording (records) sprektum mass in the form of fragments. The resulting fragments will identify the compounds.¹⁴

Table 2. Compound Dragon Tail Leaves (Rahpidhopora Pinnata Schoot).

Sample Type	Compound	Contents (%)
	2,3-Dihydro-3,5-dihydroxy-6-methyl-4H- Pyrans-4-ONE	41%
	Neophytadine	2.34%
	palmitic acid	2.06%
	Phytol	27.64%
Dragon Tail Leaves	Ethyl linoleate	1.91%
	Linolenic acid, ethyl ester	5.32%
	linolenic acid	2.04%
	Methyl 17-methyl-octadecanoate	1.38%
	3-Vinyl-1-cyclooctene	3.26%
	gamma-Tocopherol	1.51%
	vitamin E	1.64%
	Campesterin	1.66%
	stigmasterol	2.54%
	gamma-sitosterol	6.98%

DISCUSSION

Dragon Tail plant is a herb that has saying system so that it can glue on another tree. This plant is an herb plant, empifit, vines, climbing to the height can reach 5 to 10 meters. The tail of the dragon plant stems are round, leaves tapered, elongated oblong shaped and radius, as well as having bone premises middle parallel veins. Makes it easy to tears when the wind, Dragon Tail plant roots are usually attached to a pedestal like a wall or a tree, and also had to be hanged. These plants do not thrive well without the other plants but it does not berartri that plants can be referred to as the Dragon Tail plants "parasite" because nevertheless Dragon Tail plant can produce their own food through fotosintesis.¹⁵

In general, for generations, humans have utilized the Dragon Tail plant leaves as traditional medicine (drug while) prior to medical treatment. Dragon Tail plant leaves benefits for the health potential, as it contains very valuable medicine for human health. Dragon Tail plant's leaves can cope with diseases such as bacteria, fungus, and viruses and can treat cancer and contains antioxidants. In addition, Dragon Tail plant leaves also can be used also to reduce fat collapsed, anti-hypertension, rheumatism, whiplash (sprains), cough and therapy stroke.¹⁵

The study conducted by Syarfridah (2016) showed that the content of essential minerals in plant leaf Dragon Tail (Rahpidhopora Pinnata Schoot) consisting of: potassium (K), sodium (N), calcium (Ca),

iron (Fe), and Magnesium (Mg). Thereby significantly can say that, Dragon Tail plant leaf is very useful for human health, because these plants can handle patients who have diseases that have been mentioned in atas.¹⁵

Based on test compound identification of leaf dragons (*Rahpidohorapinnata* school) Halmahera, using GC-MS method are Palmitic acid compound with a content of (2.06%).

The same study ever in do it by Renda G Mansa 2016 in methanol extract globe fruit are Palmitic acid compounds with a content of (1.22%).

CONCLUSION

From the results of the identification of chemical compounds were calculated using GC-MS (Gas Chromatography Mass Spectrometry) can be concluded that the leaves of a dragon's tail (***Rahpidohorapinnata school***) Halmahera compounds containing the highest 3-Dihydro-3,5-dihydroxy-6-methyl-4H- Pyrans-4-ONE to the compound by 41% and the lowest 17-methyl compound Methyl-octadecanoate with compound 1.38%.

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