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IDENTIFICATION COMPOUND HEXADECANOIC ACID CONTAINED INSIDE EXTRACT METHANOL TAIL DRAGON (RHAPHIDOPHORA SCHOTTII HOOK.F.)

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ABSTRACT

Introduction: Indonesia is known to be rich in biological resources that have the potential to be used as medicinal raw materials. Based on the benefits that already exist, both empirically and clinically tested, the potential sources of natural materials contained in the earth in Indonesia need to be explored with as much as possible, utilized in the implementation of public health efforts. Dragon (*Rhaphidophora schottii* Hook.f.) using Gas-Mas Chromatography Spectrometer (GC-MS).

Type of Research: It is experimental research, which takes the Dragon Tail Leaves that are still fresh not young and not too old and then washed with running water, then dried by direct sunlight (from 7-10 am), after being dried then made into fine powder macerated using methanol liquid for 7 days after it was filtered and then applied until thick extract was obtained then GC-MS test.

Results: obtained that Dragon Tail Leaves contain compound Hexadecanoic acid 2.06%.

Conclusion: From the results of GC-MS Dragon Tail Leaves obtained Hexadecanoic Acid compounds containing in Dragon Tail Leaves of 2.06% this compound serves as an anti-bacterial and antioxidant.

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INTRODUCTION

Indonesia is known as a source of raw materials for medicines that can be used to overcome various diseases. Similarly, Indonesia is one of the largest users of medicinal plants in the world along with other countries in Asia, such as

China, and India. The use of plants as medicines has taken place thousands of years ago. But its use has not been well documented¹.

Indonesia is known to be rich in biological resources that have the potential to be used as medicinal raw materials. Based on existing benefits, both empirically and clinically tested, the potential of natural resources contained in the earth in Indonesia needs to be explored to the maximum extent possible, utilized in the implementation of public health efforts².

According to the World Health Organization (WHO), traditional medicine has been used widely in the world since almost 20 years. In countries such as Ghana, Mali, Nigeria and Zambia, the use of traditional medicine reaches 60% and around 80% of the population in many countries use traditional medicine as their health protection³. The use of plants as medicine Naturally all plants / plants have flavonoid compounds, saponins, terpenoids, steroids, to find out, they can test fitokima, we can find a variety of chemical compounds that are formed and contained in plants, ranging from chemical structures, biosynthesis, changes and its metabolism, and its bioactivity⁴.

Indonesia has many medicinal plants, but it has not been widely studied scientifically. Plants used in traditional medicine need to be supported by scientific studies so that the accuracy of the properties can be ascertained and scientific data can be obtained regarding the active components of the vegetable ingredients. In general, the use of medicinal plants is actually caused by the chemical content. Although it is not known in detail, the pharmacological approach produces information on the usefulness of medicinal plants ⁵.

One plant that has a chemical content that has the potential to become a drug is the Dragon Tail Leaf (*Rhaphidophora schottii* Hook.f.) which has an active secondary metabolite content on dragon tail plants in the form of alkaloid compounds, flavonoids, saponins, tannins, triterpenoids / steroids. further regarding flavonoid compounds in dragon tail leaves carried out by Neldawati found that the types of flavonoids in dragon tail leaves were flavones and the average level of flavonoids of dragon tail leaves was 26.7137 µg / ml and steroid levels 12.5 µg / ml ⁶.

FORMULATION OF THE PROBLEM

Based on the background above, the formulation of the problem is as follows: Is the type of stigmasterol compound contained in the extract of the Dragon Tail Leaf (*Rhaphidophora schottii* Hook.f.)?

RESEARCH PURPOSES

To identify the stigmasterol compounds contained in the methanol extract of Dragon Tail Leaves (*Rhaphidophora schottii* Hook.f.)

BENEFITS OF RESEARCH

The expected benefits of this study are:

1. The results of this study are expected to provide information about the content of chemical compounds contained in methanol extract of methanol extract of Naga Tail Leaf (*Rhaphidophora schottii* Hook.f.) to be used as a reference for further research.

2. Adding value for Dragon Tail Leaves (*Rhaphidophora schottii* Hook.f.)

RESULTS

Collecting samples of dragon tail leaves (*Rhaphidophora schottii* Hook.f.) Samples were taken in Toliwang Village, West Kao District, in North Halmahera District in July. Samples that have been collected are then washed with running water and then made chopped and dried. The dried simplicia was smoothed with a blender then soaked with methanol for 5 days with stirring every day. After 5 days the marinade is then filtered and the filtrate or methanol liquid filtered with blackish green is evaporated until a thick extract is obtained.

The thick extract obtained is greenish black with a weight of 5 grams. The thick extract obtained was tested by the active substance using GC-MS, where the extracted sample was given a pressure of helium or nitrogen so that the sample was in the form of steam before injected into the column (GC). From the GC column to the detector (MS) to be separated into fragments. The resulting fragments indicate the presence of compounds that will appear on the GC-MS device, and the following results are obtained:

Table of Gc-MS Test Results of Dragon Tail Leaf Thickened Extract (*Rhaphidophora schottii* Hook.f.)

CONNECTION COMPOUNDS SAMPLE (%)

Dragon Tail Leaves (*Rhaphidophora schottii* Hook.f.) Stigmasterol 2.54

From the results above that dragon tail leaf has or contains one compound, stigmasterol is phytosterol, which is one of the steroid groups.

DISCUSSION

Dragon Tail Leaf is a part of the reef han from the areceae family. In general, people consume this plant by drinking decoction water to treat cancer, reduce body fat, rheumatic antihypertension, vein (sprained), cough and stroke therapy, while the active substance of the dragon tail is secondary metabolites in the tail dragon in the form of alkaloid compounds, flavonoids, saponins, tannins, triterpenoids / steroids. This research is specific to identify the phytosterol group compounds contained in the methanol extract of dragon tail leaves and after GC-MS test found that in the dragon tail leaf methanol extract there are types of steroids that is, the phytosterol group, the type of stigmasterol, has an average level of 2.54%. Stigmasterol is a compound that belongs to the steroid class. More specifically, this compound belongs to the phytosterol group as part of the sterol. So it can be

said that stigmasterol is a derivative of phytosterol. While phytosterol is a derivative of sterols. Phytosterol consists of several types, namely cholesterol, sitosterol, and stigmasterol. From this explanation we can find out that stigmasterol is included as a class of compounds that we can find in various kinds of plant foods. Structurally, stigmasterol as one type of fitosterol has a form that is almost the same as cholesterol in general. Benefits of Stigmasterol, Setting Hormones in Women, Preventing the Development of Cancer Cells Improving the Immune System, Preventing Stroke, Antioxidants, Preventing Diabetes, According to Hilyatul Jannah (2013), one of the plants that contain phytosterol, efficacious to shed urine (diuretics) and reduce glucose levels blood (hypoglycemic), allegedly due to the role of active compounds such as β -sitosterol and stigmasterol are bean plants (*Phaseolus vulgaris* L.) and there are several other types containing phytosterol compounds and potentially as medicinal ingredients, including antihyperglycemic, bean and bran mixture to reduce levels glucose is more effective, a mixture of beans and soybean to treat colic, treatment of seizures during menstruation and gastric booster when mixed with sembung leaves. Conclusion Through a series of steps to obtain dragon tail leaf extract and after the GCMS test the methanol extract of dragon tail leaves contains phytosterol group compounds, Stigmasterol 2.54%, and phytosterol group, efficacious to shed urine (diuretic) and reduce blood glucose levels (hypoglycemic)

REFERENCES

1. Susiarti S. Knowledge and utilization of medicinal plants of local communities in the spooky islands of Maluku: Pros and Cons of Indon, 2015.
2. Saskiawan I, N Hasanah. Antimicrobial and antioxidant activity of white oyster mushroom (*pleurotus ostreatus*) polysaccharide. Pros, Indon, 2015; 1 (5): 1083: 1105-1109.
3. Haris M, Determination of Total Flavanoid Levels and Antioxidant Activity of God Leaves (*Gynura pseudochina*) with UV-Visible spectrophotometer. Essay. Faculty of Pharmacy. Andalas University. Padang, 2011.
4. Rizky Maulida, Isolation and Identification of Chemical Compounds from N-Hexane Extract of Citrus Trees (*Dendrophloe pentandra* (L.) Miq.) Mulawarman University, 2012.
5. The carving of several isolation compounds from the bark of tree parasites, Surabaya State University, 2013.
6. Setyaningsih, D, Pandji, C, and Perwatasari, D.D. Study of Antioxidant Activities and Antimicrobial Fractions and Extracts from Fence Leaves and Twigs (*Jatropha curcas* L.) and Utilization of Products on Personnel Hygiene. AGRITECH. 2014, Vol 34, No.2.
7. Heyne, K. Indonesian Useful Plants. Volume I. Mold I. Translator: Forestry Research and Development Agency. Jakarta: Publisher of Sarana Wanajaya Foundation. 2014. Hal. 493.
8. Fernandes, M. A. M., Ngura, I. W., and NI, G.A.M.A. The Effect of Giving Dragon Tail Leaf Extract (*Rhapidophora Pinnata* (L.F) Schoot) to the Development of Female Menicet Uterus (*Mus Musulus*) that has been ovariectomized. Journal of Biology, 2015. 19 (2): 75.
9. Bahti HH, Gas Chromatography Theory and Application. Bandung: Alfabeta, 2013.
10. Mapanawang AL, Research in Health, Tobelo Medika Mandiri Foundation, 2016.
11. Anggreni SF. Sambiloto Sample Preparation Report (*Andrographis Paniculata*). Makassar: Hasanuddin University, 2014.
12. Budiadji AF, Mapanawang AL, Sedeng D, Muh N, Tualeka A, Fambrene BT, et al. Identification of Hexadecanoid Acid Compound which in Golobe Extract (*Hornstedtia zingiberaceae*). International Journal of Health Medicine and Current Research, 2016; Vol 1 (01): 47-51, DOI: 10.22301 / IJHMCR.2528-3189.79.
13. Simanjuntak PT, Pratiwi LE, Lenny S, Tamat and R Murwany. Isolate and identify antioxidant compounds and extracts Benalu, (*Scurrula oortiana* (Korth) danser (Lorantaceae). Journal Indonesian Pharmaceutical Sciences.
14. Dewi, I.D.A.D.Y, Astuti K.W, Warditiani NK. Phytochemical Screening Ethanol extract 95 Mangosteen rind (*Garcinia mangostan* L) Journal of Udayan Pharmacy, 2013.
15. Setyowati W A E, Ariani S. R D, Ashadi, Mulyani B, Rahmawati C P, Phytochemical Screening and Identification of Main Components of Durian Skin Methanol Extract (*Durio Zibethinus murr*) Petruk variety. National Chemistry Seminar and Chemical Education VI. Chemistry Education Study Program Department of Mathematics and Natural Sciences FKIP University of Surakarta, 2016.
16. Budiadji A F Mapanawang A L Sedeng D. Identification of hexadecanoic acid Compound Which in Golobe Extract (*hornstedtia zingiberaceae*). International Journal of Health Medicine and Curent Research (IJHMCR), 2016; Vol 1 (Issue 01): 49-51, DOI: 10.22301 / IJHMCR 2528.3189.48.
