ICBB2020-LOA for abstract

1 message

ICBB 2020 <pubb.icbb2020@gmail.com> Sat, Sep 12, 2020 at 1:46 PM
To: dede.consultant@gmail.com

Dear IG. A. S. Wangiyana,

Please find the attached LOA for acceptance of your Abstract.

Notice for other important dates:
1. Conference schedule = 12-14 October 2020
2. Full paper deadline = 2nd October 2020
3. Video presentation deadline = 28th September 2020

Please note that all participants video presentation would be displayed on
Conference website from 12th October 2020
Discussion session for each presentation would be carried out be comments on the video

For reference, the same method is used by previous video conferences from :
1. Abs2020 Tokyo http://www.absconf.org/
2. ICSAE-7 Sebelas Maret University https://icsae.id/parallel-session-room-list/

Some good examples of video presentation are displayed below:
1. https://www.youtube.com/watch?v=AdMN4Y3PynU&feature=youtu.be
2. https://www.youtube.com/watch?v=vHM6HmlgV08&feature=youtu.be

If you have any questions regarding technical information please don't hesitate to contact us!

We are looking forward to sharing various interesting research and presentations!

Best regards

LOA_ICBB2020-026.pdf
114K

Decision on your manuscript ID ICBB-IOP-046: Minor revision required

8 messages

pubb icbb2020 <pubb.icbb2020@unram.ac.id> Sun, Nov 22, 2020 at 4:38 PM
To: dede.consultant@gmail.com

Dear IGAS Wangiyana,

Thank you for submitting the full paper manuscript
ICBB-IOP-046 entitled "**Phytochemical Screening and Antioxidant Activity of Gyrinops Tea from Agarwood Plantation on Lombok Island, Indonesia"** to IOP Conference Proceedings on Bioscience and Biotechnology Research for Environmental Sustainability of the 3rd International Conference on Bioscience and Biotechnology (ICBB2020).

We have reviewed and made suggestions to improve your manuscript. Please find the review results in the manuscript from our peer reviewers.

The manuscript is already well written, however some corrections need to be made for meeting the IOP guidelines. Please ensure that the manuscript is within 4 to 6 pages long.
Furthermore, please include explanations and descriptions for concluding your study which relates to environmental sustainability. As our scope for this conference includes contribution for environmental sustainability.

Attached with this email is the manuscript with my editorial suggestions and comments (word file named "ICBB2020-IOP-046"). You are encouraged to WORK ON THIS FILE and HIGHLIGHT THE CHANGES YOU MADE WITH RED FONT when revising your manuscript.

Kindly submit your revised manuscript by 26 November 2020.

PLEASE SUBMIT YOUR REVISED MANUSCRIPT BY REPLYING TO THIS EMAIL USING THE SAME SUBJECT LINE.

Thank you.

Sincerely,
Eka Sunarwidhi Prasedya
Chief Editor
ICBB2020-IOP conference proceedings

4 attachments

AAAJPCS-template.docx
23K

ICBB2020-IOP-046.docx
73K

AAAJPCSWordguidelines.doc
159K

AAAJPCS-example word document.docx
535K

Dede Wangiyana <dede.consultant@gmail.com> Thu, Nov 26, 2020 at 10:11 PM
To: pubb icbb2020 <pubb.icbb2020@unram.ac.id>

Dear editor of ICBB2020-IOP conference proceedings

I would like to apologize for the late reply. Along with this email, I have attached a revision of the manuscript based on the reviewer's suggestion. The revisions were marked in red font as what you requested. Thank you for your kind attention.

Best regards,
Gde Adi S Wangiyana
[Quoted text hidden]

ICBB2020-IOP-046 (1st revision).docx
79K

---

pubb icbb2020 <pubb.icbb2020@unram.ac.id> Mon, Dec 7, 2020 at 6:42 PM
To: Dede Wangiyana <dede.consultant@gmail.com>

Dear IGAS Wangiyana,

Thank you for submitting your revised version of the manuscript.

The current version of the manuscript has been well improved.
However for the materials and methods section adjustments are needed. Such as phytochemical assays and antioxidant assay should be in a different subsection than sample collection.
Please revise this section.

Submit your revision by replying to this email.

Best regards
[Quoted text hidden]

ICBB2020-IOP-046_r2.docx
79K

Dede Wangiyana <dede.consultant@gmail.com> Tue, Dec 8, 2020 at 10:02 PM
To: pubb icbb2020 <pubb.icbb2020@unram.ac.id>

Dear Editor of ICBB2020-IOP Conference Proceedings

Along with this email, I have attached 2revision of the manuscript just like what you have suggested. Thank you very much for your kind attention.

best regards,
Gde Adi S Wangiyana
[Quoted text hidden]

ICBB2020-IOP-046_r2 (2nd revision).docx
81K

---

pubb icbb2020 <pubb.icbb2020@unram.ac.id> Thu, Dec 17, 2020 at 3:09 PM
To: Dede Wangiyana <dede.consultant@gmail.com>

Dear Dr. IGAS Wangiyana,

We are glad to accept your manuscript for publication in ICBB2020-IOP proceedings.
Below we attach your manuscript.

We would suggest you to rephrase the manuscript title. We could assist you with this.

Please conduct proofreading.

Submit your final version by replying to this email.

Best regards
[Quoted text hidden]

ICBB2020-IOP-046_Accepted.docx
59K

Dede Wangiyana <dede.consultant@gmail.com> Sun, Dec 20, 2020 at 5:41 PM
To: pubb icbb2020 <pubb.icbb2020@unram.ac.id>

Dear Editorial Team of ICBB2020-IOP proceedings

I would like to apologize for the late reply. Along with this email, I have attached the final version of the manuscript. I have conducted the proofreading just what you have suggested. However, I could not rephrase the manuscript title. I would be very glad if you could give a suggestion about the manuscript title for me. I also will accept all revision decision about the manuscript title made by the editorial team of ICBB2020-IOP proceedings. Thank you very much for your kind attention.

best regards,
I Gde Adi S Wanigyana
[Quoted text hidden]

ICBB2020-IOP-046_Accepted (final version).docx
54K

---

pubb icbb2020 <pubb.icbb2020@unram.ac.id> Thu, Jan 7, 2021 at 6:38 PM
To: Dede Wangiyana <dede.consultant@gmail.com>

Dear Dr. I Gde Adi S Wangiyana,

Here we attached IOP Invoice. Please find it. If the payment is successful, please confirm to Yufika Dewi Muksin (Whatsapp number: +6285237409093). If you have any question, please don't hesitate to contact us.
Thank you

Best Regards,
ICBB Committee

[Quoted text hidden]

INVOICE-ICBB2020-IOP-046.pdf
230K

---

pubb icbb2020 <pubb.icbb2020@unram.ac.id> Sat, Jan 9, 2021 at 3:56 PM
To: Dede Wangiyana <dede.consultant@gmail.com>

Dear Dr. I Gde Adi S Wangiyana,

Here we attach the IOP receipt. Please find it.
Thank you

Best regards
ICBB2020 committee

[Quoted text hidden]

ICBB2020-IOP-046.pdf
468K

Phytochemical Screening and Antioxidant Activity of Gyrinops Tea from Agarwood Plantation on Lombok Island, Indonesia

I G A S Wangiyana[1*], Supriadi[2], A Nikmatullah [3], Sunarpi[4], D S Putri[5], S Rosidah[4]
[1] Forestry Department, Universitas Pendidikan Mandalika, Mataram, Indonesia
[2] Veterinary Department, Universitas Pendidikan Mandalika, Mataram, Indonesia
[3] Agro-technology Department, Mataram University, Mataram, Indonesia
[4] Biology Department, Mataram University, Mataram, Indoensia
[5] Food Processing Technology Department, Universitas Muhammadiyah Matram, Mataram, Indonesia
[*]corresponding author e-mail: dede.consultant@gmail.com

Abstract. This research aims to carry qualitative phytochemical analysis and antioxidant activity assay of Gyrinops tea from several agarwood plantations on Lombok Island. *Gyrinops versteegii* leaves as the raw material of Gyrinops tea were taken from several agarwood plantations on Lombok Island, including Lingsar (West Lombok), Rarung (Central Lombok), Kekait (North Lombok), Pejaring (East Lombok), and Mataram. There are three steps on *G. versteegii* leaves processing method into Gyrinops tea, including sterilization, drying, and chopping. *G. versteegii* leaves were brewed in distilled water at 70oC for 5 minutes to make Gyrinops tea. Phytochemical screening of Gyrinops tea was conducted with a qualitative assay identification of Flavonoid, Alkaloid, Saponin, and Tannin. The antioxidant assay of Gyrinops tea was investigated based on DPPH radicals scavenging activity. Based on phytochemical screening, it is shown that the Gyrinops tea positively contains tannin in high dosage and Flavonoid in a moderate dose. However, no alkaloid and saponin were detected from this product. Various antioxidant activity was detected on Gyrinops tea from different sampling locations. Gyrinops tea samples have moderate to strong antioxidant power based on IC50 measurement. It could be concluded that Gyrinops tea contains chemical compounds that have potential antioxidant activity.

1. Introduction

Agarwood tea is an excellent alternative utilization of agarwood commodities [1]. This product was made from agarwood leaves that could be harvested periodically by agarwood farmers [2] [3]. The agarwood leaves utilization into agarwood tea could give agarwood farmers additional income during the waiting period of agarwood resin harvesting. Moreover, agarwood tea production involves a simple method quickly learned by agarwood farmers [4].

Agarwood species from Aquilaria genus are well known as the raw material of agarwood tea products [3]. In Indonesia, Agarwood tea products from Aquilaria genus are mostly well developed on Sumatra Island [5], [6]. This agarwood tea product is well known as “Aqila Tea” with good economic feasibility [1]. However, agarwood species well distributed on Lombok Island is *Gyrinops versteegii*

instead of Aquilaria sp [7]. Thus, the development of agarwood tea on Lombok Island should be focused on *Gyrinops versteegii* as the raw material source [2]

Gyrinops tea is an agarwood tea made from *Gyrinops versteegii* leaves [8]. This product has been well developed by agarwood farmers on Lombok Island, mostly from the West Lombok region [9]. It is also well accepted by Lombok Island society based on hedonic assay [10]. Thus, Gyrinops tea has an excellent prospect to develop on Lombok Island. To further develop this product as a potential herbal tea commodity, it is essential to carry quality standardization.

Phytochemical screening and antioxidant assay are the most expected quality standardization on agarwood tea products [11]. Several studies have proven that agarwood tea from Aquilaria members contains a chemical compound with good antioxidant activity [6], [12]. This antioxidant activity is affected by the environmental condition of the Aquilaria habitat [13]. However, phytochemical screening and antioxidant assay of agarwood tea from *Gyrinops versteegii* have rarely been conducted. Phytochemical screening and antioxidant assay of Gyrinops tea are essential for developing this product, especially on Lombok Island [14]. G. versteegii, the raw material of this product, is well distributed on Lombok Island. Thus, the phytochemical assay and antioxidant activity of Gyrinops tea should represent a variant of this species in a different region of Lombok Island [15]. This research aims to carry qualitative phytochemical analysis and antioxidant activity assay of Gyrinops tea from several agarwood plantations on Lombok Island.

2. Materials and methods

2.1. Sampling location

Deleted[User]: *L*

Gyrinops versteegii leaves were taken from 5 regions on Lombok Island, including Lingsar (West Lombok), Rarung (Central Lombok), Pejaring (East Lombok), Kekait (North Lombok), and Mataram (table 1). Leaves processing and Gyrinops tea extraction were conducted at General Forest Research Laboratory of Pendidikan Mandalika University. Phytochemical Screening was conducted at Agriculture Chemistry Laboratory of Muhammadiyah Mataram University. Antioxidant activity measurements were conducted at the Immunobiology Laboratory of Mataram University.

Table 1. Sampling location of *Gyrinops versteegii* leaves

Location	Coordinate (Latitude-Longitude)	Elevation (m)
Rarung	8°33’26’’S 116°17’38’’E	410
Kekait	8°31’26’’S 116°07’03’’ E	24
Mataram	8°33’58’’S 116°07’47’’ E	42
Lingsar	8°33’32’’ S 116°09’25’’ E	72
Pejaring	8°42’28’’ S 116°27’11’’ E	200

2.1.1. Sample collection. G. versteegii tree was chosen from agarwood plantation on Lombok Islands (Table 1). Leaves were taken from *G. versteegii* tree after selection based on size, shape, and condition. Leaves with length from 5 cm – 15 cm with no chlorosis and necrosis were chosen as a sample for Gyrinops tea production [9]

Deleted[User]: *Procedure*

2.1.2. Raw material preparation. G. versteegii leaves were washed with flowing water for three times to clear dirt and dust on them. The leaves then were dried on a drying rack at room temperature for 2 – 3 days until they lost 10% of water content. Dried leaves were chopped using a grinding machine to form a 1 – 2 mm particle size [4]. The particles were stored for further analysis.

2.1.3. Gyrinops tea extraction. *G. versteegii* particle leaves were extracted using distilled water to form Gyrinops tea products. Five-gram particles were extracted on 250 ml (concentration 0.02 gr/ml)

distilled water and were heated 70oC for 5 minutes. The filtrate was taken by filtration using a qualitative filter paper [14]. The Gyrinops tea samples were stored for further analysis.

2.1.4. Phytochemical screening. Phytochemical screening is carried by a qualitative chemical assay to examine compounds that have antioxidant activity. Four chemical compounds were examined in this study by qualitative chemical tests, including Tannin, Flavonoid, Alkaloids, and Saponins. These tests using a different method and chemical reagent (Table 2).

Table 2. Phytochemical screening procedure

Assay	Reagent	Indicator	Reference
Tannin test	FeCl3	Changing solution into blackish brown	[16]
Flavonoid test	PbCH3COO	Formation of white precipitates	[17]
Alkaloid test	Wagner's reagent Dragendroff's reagent Mayer's reagent	Formation of precipitant on the solution	[18]
Saponins test	HCl	Formation of stable foam for 5 minutes	[19]

2.1.5. Antioxidant activity assay. The antioxidant activity of Gyrinops tea was carried by DPPH free radical scavenging method based on [20] with some modification. Serial dilution of Gyrinops tea were carried using absolute methanol to form different concentration including: 150 µg/ml, 125 µg/ml, 100 µg/ml, 75 µg/ml, 50n µg/ml. Pure vitamin C was used as a positive control. Absorbance measurement of each Gyrinops tea concentration was performed by a UV-Vis spectrophotometer at 516 nm wavelength.

2.2. Data Analysis

Scavenging Activity Percentage were measured using equation [21]

$$\%\,\text{Scavenging Activity} = \left(\frac{A_{blanko} - A_{sample}}{A_{sample}} \right) \text{x} 100\%$$

IC50 measurements were calculated based on the linear regression interpolation of scavenging activity percentage data. The IC50 value is the concentration of Gyrinops tea that could give 50% of scavenging activity inhibition.

3. Result and Discussion

3.1. Phytochemical screening

Phytochemical screening is the preliminary test to examine secondary metabolites that have antioxidant activity. Secondary metabolites on the plant are commonly produced as a defense mechanism of the plant again pressure on its habitats. Two plant organisms but classified into the same species could have different secondary metabolites characteristic if they grow on different habitat conditions [22]. However, in this study, 5 Gyrinops tea samples taken from different regions

with different environmental conditions on Lombok Island have shown the same characteristic of secondary metabolite profile (Table 3). All of these Gyrinops tea samples contain tannin and Flavonoid with no alkaloid and saponins. These two compounds are important secondary metabolites that commonly found on agarwood leaves from Aquilaria genus [23][24] and Gyrinops genus [25]

Table 3. Phyochemical screening result of Gyrinops tea sample

Compounds	Sampling Location				
	Mataram	Langko	Pejaring	Rarung	Kekait
Tannin	++	+	+	+	+
Flavonoid	+	+	+	+	+
Alkaloid	-	-	-	-	-
Saponins	-	-	-	-	-

Gyrinops tea from Mataram is the only sample with an abundance of tannin concentration. Tannin is an important secondary metabolite that could determine the quality of herbal tea products. Moreover, tannin is a standard compound on agarwood tea product that has mostly been examined. Tannin content on agarwood tea products has a positive correlation with the antioxidant capacity [13]. Thus it could be hypothesized that Gyrinops tea from Mataram region has the highest antioxidant capacity among other regions.

Gyrinops tea from all regions has shown flavonoid content. Flavonoid is a compound that has been responsible for the antioxidant activity of *G. versteegii* leaves extract [26]. This result could support the hypothesis that Gyrinops tea from all regions should have antioxidant activity.

Saponins compound could not be found on Gyrinops tea from all regions. This chemical characteristic of Gyrinops agarwood tea is different from the chemical characteristic of Aquilaria agarwood tea. Agarwood tea from Aquilaria has been reported to contain saponin based on phytochemical screening [24]. Thus, the taste of Gyrinops agarwood tea should be different from the taste of Aquilaria agarwood tea.

3.2. Antioxidant Assay

An antioxidant assay based on DPPH free radical scavenging method shown different antioxidant activity of Gyrinops tea from different regions (Figure 1). Based on the linear regression slope value, Gyrinops tea from Mataram regions has the highest antioxidant activity among other regions. This result has confirmed previous phytochemical screening results showing that Gyrnops tea from Mataran has the highest tannin concentration. Tannin concentration on agarwood tea has a positive correlation with its antioxidant activity.

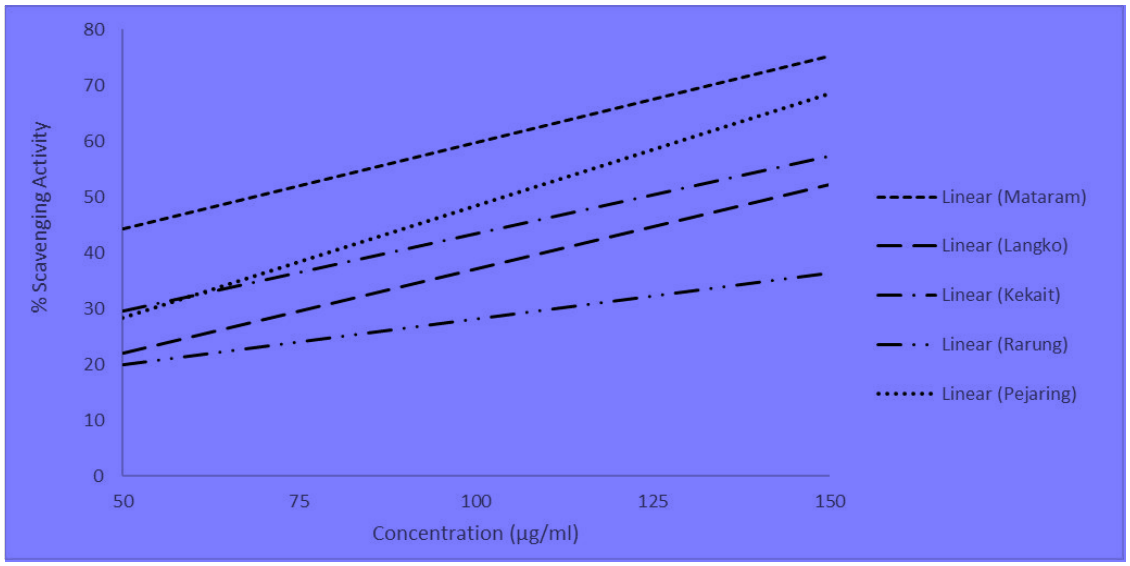

Figure 1. Antioxidant activity of Gyrinops tea from different regions

3.3. Measurement of IC50

Different antioxidant activity of Gyrinops tea from different regions has affected its different IC50 values (Table 3). Gyrinops tea from the Mataram region has the highest IC50 value since it has the highest antioxidant activity. Gyrinops tea of Mataram also the only sample that has strong antioxidant strength based on its IC50 value.

Table 3. IC50 Measurement Result

Region	IC50 (µg/ml)	Antioxidant Strength Category
Mataram	68.58	Strong
Langko	142.78	Moderate
Kekait	123.82	Moderate
Rarung	233.4	Weak
Pejaring	103.94	Moderate

Standard Value of Antioxidant Power Category [11]
Very Strong : < 50 µg/ml
Strong : 50 µg/ml – 100 µg/ml
Moderate : 101 µg/ml – 150 µg/ml
Weak : 151 µg/ml – 200 µg/ml

Environmental conditions of plant habitat play an essential role in secondary metabolite production. An unfavorable habitat that leads to plant stress conditions could improve several secondary metabolites for defensive mechanisms [22]. Mataram region is the only *G. versteegii* habitat on Lombok Island that located at urban area. This condition is much worse than the condition of *G. versteegii* natural habitat. Thus, *G. versteegii* from Mataram regions has been forced to produce higher secondary metabolites than the regions with similar conditions with *G. versteegii* natural habitat.

Gyrinops tea has a lower IC50 value compare to *G. versteegii* leaves extract. *G. versteegii* leaves extracted with methanol has very strong antioxidant strength with 22.13 µg/ml IC50 value. On the

other hand, Gyrinops tea from this study only has 68.58 µg/ml IC50 value, which is classified into a strong antioxidant strength category. The lower antioxidant strength of Gyrinops tea hypothetically is caused by the low extracting power of water compare to the extracting power of methanol as an organic solvent [27]. However, this study could give the closest phytochemical data for the food industry since it directly using agarwood tea products as a sample. A study about agarwood antioxidant activity was used agarwood leaves extract instead of agarwood tea product.

4. Conclusion

Gyrinops tea made from *G. versteegii* leaves from several regions on Lombok Island contains Tannin and saponins with various antioxidant activity which classified into moderate antioxidant activity.

References

[1] Karsiningsih E 2016 Analisis Kelayakan Finansial dan Strategi Pengembangan Teh Gaharu di Kabupaten Bangka Tengah (Studi Kasus: Teh Gaharu 'Aqilla' Gapoktan Alam Jaya Lestari) *Agrar. J. Agribus. Rural Dev. Res.***2**, pp.143–151.

[2] Wangiyana I G A S and Samiun 2017 Characteristic of Agarwood Tea From *Gyrinops versteegii* Fresh and Dry Leaves *J. Sangkareang mataram* **4** pp. 41–44.

[3] Adam A Z Lee S Y Lee and Mohamed,R Pharmacological properties of agarwood tea derived from Aquilaria (Thymelaeaceae) leaves: An emerging contemporary herbal drink," *J. Herb. Med.*, **10** Pp 37–44

[4] Wangiyana I G A S, Putri D S and Triandini I G G A H Pelatihan Pengolahan Daun Gaharu Menjadi Teh Herbal Untuk Istri Petani Anggota Kelompok Tani Desa Duman,*Logista J. Ilm. Pengabdi. Kpd. Masy.* **3** pp 82–89

[5] Adrianar N Batubara R and Julianti E 2015 Value of Consumers Preference Towards To Agarwood Tea Leaves (Aquilaria malaccensis Lamk) Based on The Location Of Leaves In The Trunk," *Peronema For. Sci. J.*, **4** pp 12–16

[6] Simatupang J, Batubara R and Julianti E 2015 Consumers acceptance and antioxidant of the agarwood (*Aquilaria malaccensis* Lamk.) leaves tea based on the shape and size of leaves," *Peronema For. Sci. J.* **4**. pp 1–11

[7] Mulyaningsih T and Yamada I 2008 Notes on some species of agarwood in Nusa Tenggara, Celebes and West Papua in *Natural Resource Management and Socio-economic transformation under decentralization in Indonesia: Toward Sulawesi area studies*, Kyoto: CSEAS Kyoto University pp 365–72.

[8] Wangiyana I G A S, Triandini I G A A H, Putradi D and Wangiyana W 2018 Tannin concentration of gyrinops tea from leaves of juvenile and mature agarwood trees (gyrinops versteegii gilg (domke)) with different processing methods *J. Chem. Pharm. Res.* **10** pp 113–19

[9] Wangiyana I G A S and Putri D S 2019 Teh gyrinops : produk inovatif dari istri petani desa duman kecamatan lingsar kabupaten lombok barat in *Prosiding PEPADU* **1** pp 388–96.

[10] Wangiyana I G A S and Sami'un 2019 Pengolahan daun gaharu (gyrinops versteegii) menjadi teh herbal dengan kualitas warna dan rasa yang disukai in *Prosiding Seminar Saintek* pp 156–62.

[11] Surjanto, Batubara R, Hanum T I and Pulungan W 2019 Phytochemical and antioxidant activity of gaharu leaf tea (aquilaria malaccensis lamk) as raw material of tea from middle tapanuli regency, north sumatera province in *IOP Conference Series: Earth and Environmental Science* **260** pp 1–6

[12] Batubara R Hanum T I, Risnasari I, Ginting H and Lubis L A 2018 Antioxidant activity and preferences test of agarwood leaves tea (aquilaria malaccensis lamk) based on leaves drying methods in *Proceedings of BROMO Conference* **2018** pp 159–63

[13] Batubara R, Hanum T I, Handika A and Affandi O 2020 The screening of phytochemical and

antioxidant activity of agarwood leaves (Aquilaria malaccensis) from two sites in North Sumatra , Indonesia *Biodiversitas*, **21** pp 1588–96
[14]Wangiyana I G A S, Sawaludin, Nizar W Y and Wangiyana W 2019 Tannin concentrations of gyrinops tea with different leaf processing methods and addition of herbal medicine ingredients tannin concentrations of gyrinops tea with different leaf processing methods and addition of herbal medicine ingredients in *AIP Conference Proceedings* **2199** pp. 1–7.
[15]Iswantari W Mulyaningsih T and Muspiah A 2017 Karyomorphology and chromosome number of four groups of Gyrinops versteegii (Gilg.) Domke in Lombok *J. Ilmu Kehutan* **11**, pp. 205–11
[16]Hidayah W W, Kusrini D and Facriyah E 2016 Isolasi, identifikasi senyawa steroid dari daun getih-getihan (Rivina humilis L.) dan uji aktivitas sebagai antibakteri *J. Kim. Sains dan Apl.* **19** pp 32–37
[17]Geoffrey K K, John K M, Naomi M and Simon K M 2014 Qualitative phytochemical screening of camellia sinensis and psidium guajava leave extracts from kericho and baringo counties *Int. J. Adv. Biotechnol. Res.* **5** pp. 506–12
[18]Inamdar P, Jelamvazir, Desai S, Patel D and Meshram D 2014 Phytochemical screening and in vitro antifungal activity of camellia sinensis *Int. J. Pharm. Pharm. Sci.* **6** pp. 148–50
[19]Novianti T, Zainuri M and Widowati I 2019 Aktivitas antioksidan dan identifikasi golongan senyawa aktif ekstrak kasar mikroalga chlorella vulgaris yang dikultivasi berdasarkan sumber cahaya yang berbeda *Barakuda 45* **1** pp. 72–87
[20]Molyneux P 2004 The use of the stable free radical diphenyl-picrylhydrazyl (dpph) for estimating antioxidant activity *Songklanakarin J. Sci. Technol* **26** pp. 212–19
[21]Prihantini A I and Rizqiani K D 2019 Various antioxidant assays of agarwood extracts (Gyrinops versteegii) from West Lombok, West Nusa Tenggara, Indonesia *Asian J. Agric.* **3** pp. 1–5
[22]Mohiuddin A K 2019 Impact of various environmental factors on secondary metabolism of medicinal plants *J Pharmacol Clin Res* **7** pp 1–10
[23]Wil N N A N, Omar N A M, Ibrahim N A and Tajuddin S N 2014 In vitro antioxidant activity and phytochemical screening of Aquilaria malaccensis leaf extracts *J. Chem. Pharm. Res.* **6** pp 688–93
[24] Batubara R, Hanum T I and Surjanto 2018 Phytochemical and tannin content in two species of agarwood leaves from Mandailing Natal Regency North Sumatera Province Phytochemical and Tannin Content in Two Species of Agarwood Leaves From Mandailing Natal Regency North Sumatera Province in *AIP Conference Proceedings* **2049** pp. 1–5.
[25]Parwata A, Manuba P, Yasa S and Bidura I G N G 2016 Characteristics and antioxidant activities of gaharu (gyrinops versteegii) leaves *J. Biol. Chem. Res.* **33** pp 294–301
[26]Parwata A, Manuaba P and Yasa S 2018 The potency of flavonoid compounds in water extract Gyrinops versteegii leaves as natural antioxidants sources *Biomed. Pharmacol. J.* **11** pp. 1501–11
[27]Sepahpour S, Selamat J, Manap M Y A, Khatib A and Razis A F A 2018 Comparative analysis of chemical composition, antioxidant activity and quantitative characterization of some phenolic compounds in selected herbs and spices in different solvent extraction systems *Molecules* **23** pp. 1–17

Acknowledgments
The authors would like to thank the Indonesian Ministry of Research and Technology for research grant scheme “Penelitian Kerjasama Perguruan Tinggi” that supports this research

Peer review declaration

To cite this article: 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **712** 011002

Peer review declaration

All papers published in this volume of IOP Conference Series: Earth and Environmental Science have been peer reviewed through processes administered by the Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.

- **Type of peer review:**

  The review process is conducted by single-blind review

- **Conference submission management system:**
  The conference submission management system was conducted via online manuscript management system *manuscriptlink.com/conferences/icbb2020* and email *(pubb.icbb2020@unram.ac.id)*

- **Number of submissions received:**

  Number of submissions received were 102 manuscripts

- **Number of submissions sent for review:**

  Number of submissions sent for review were 64 manuscripts

- **Number of submissions accepted:**
  Number of submissions accepted are 51 manuscripts

- **Acceptance Rate (Number of Submissions Accepted / Number of Submissions Received X 100):**
  Average acceptance rate 50%

- **Average number of reviews per paper:**

  The average number of reviews per paper were 3 rounds of reviews

- **Total number of reviewers involved:**

  The total number of reviewers involved were 8

- **Any additional info on review process:**

- **Contact person for queries: (please include name, affiliation and email address)**

  Eka Sunarwidhi Prasedya, PhD. , University of Mataram, ekasprasedya@unram.ac.id