The Journal Gastronomy Tourism

Journal homepage:
https://ejournal.upi.edu/index.php/gastur/index

Characterization of Sensory Attributes of an Arak-Based Liqueur Infused with Roselle and Pandan Leaves

*Lidjah Magdalena Massenga, Ni Kadek Eni Juniari, I Gusti Agung Febrianto**

Politeknik Pariwisata Bali, Indonesia

*Correspondence: E-mail: agungfebri@ppb.ac.id

ABSTRACT

Liqueur is an alcoholic beverage characterized by its sweetness and flavors derived from fruits, spices, flowers, leaves, nuts, and cream. This research conducted a characteristic test of liqueur based on coconut liquor distilled with the addition of hibiscus flowers, pandan leaves, and simple syrup as a sweetener. The aim of this study was to determine the characteristics of liqueur based on coconut liquor distilled with hibiscus and pandan leaves. The data analysis technique used in this study was qualitative descriptive, where the results were presented in words and sentences. The testing was performed through organoleptic evaluation by 5 highly trained panelists on aspects such as acidity, sweetness, bitterness, flavour, alcohol content, and balance, according to the assessment indicators used to evaluate the liqueur characteristics. The results of the characteristic test using 6 indicators showed that the liqueur had medium acidity, a sweet character, low bitterness, pandan, hibiscus, and coconut flavors, medium alcohol content, and good balance. The implication of this research is that liqueur based on distilled coconut liquor with hibiscus and pandan leaves could be one of the suitable local liqueur drinks to offer to both foreign and domestic tourists who want to enjoy liqueur with a new and unique taste. Additionally, this liqueur can be used as a mixing ingredient in cocktail preparation.

ARTICLE INFO

Article History:
Submitted/Received 19 May 2026
First Revised 8 November 2026
Accepted 9 November 2026
First Available online 22 Nov 2026
Publication Date December 2026

Keyword:
Characteristic; Distilled Arak; Liqueur.

© 2026 UPI Journal and Publication Office

1. INTRODUCTION

Liqueur is an alcoholic beverage characterized by a sweet taste and flavors derived from fruits, spices, flowers, nuts, and cream. According to Lersch (2008), the term liqueur originates from the Latin word liquifacere, meaning "to dissolve." Cousins et al. (2014) describe liqueur as a sweetened and flavored spirit. In general, liqueurs are characterized by their sweetness, diverse flavor profiles, and relatively moderate alcohol content compared with many distilled spirits.

Liqueur typically contains approximately 15–30% alcohol by volume and can be served either directly or as an ingredient in cocktails. According to Buglass (2011), liqueurs generally do not require prolonged maturation because their sensory characteristics are primarily developed through the interaction between the spirit base, sweeteners, and flavoring ingredients. This flexibility provides opportunities for the incorporation of botanical ingredients to create distinctive flavor and aroma profiles.

The development of a liqueur using Balinese Arak infused with roselle (Hibiscus sabdariffa) and pandan leaves (Pandanus amaryllifolius Roxb.) represents an innovation that combines traditional alcoholic beverages with locally relevant botanical ingredients. In recent years, the integration of botanical ingredients into spirit-based beverages has gained increasing attention in both gastronomic research and product development, as botanical infusion is recognized as an effective strategy for enhancing product differentiation and sensory complexity in distilled beverages (Rodríguez-Solana et al., 2016; Cortés-Diéguez et al., 2020). Previous studies on herbal and coffee liqueurs demonstrate that interactions between the alcoholic base matrix and plant-derived compounds play an important role in determining aroma profiles, flavor perception, and overall product acceptability, highlighting the importance of systematically characterizing sensory attributes rather than relying solely on traditional or experiential descriptions (Cortés-Diéguez et al., 2020; Darıcı et al., 2021).

Research on roselle-based beverages has shown that color intensity, aroma strength, and sweetness–acidity balance are important drivers of sensory perception and consumer liking, suggesting that roselle-derived pigments and organic acids may substantially influence the sensory characteristics of alcoholic formulations (Monteiro et al., 2017; Ramírez-Rodrigues et al., 2012). Similarly, pandan leaves have been scientifically characterized as a source of a distinctive "glutinous-rice" aroma, with volatile profiling identifying 2-acetyl-1-pyrroline as one of the major aroma-active compounds contributing to pandan's characteristic sensory identity (Azhar et al., 2022; Tang et al., 2025). From a methodological perspective, contemporary sensory science emphasizes the use of structured descriptive approaches and standardized sensory vocabulary to produce evaluations that are reproducible, interpretable, and communicable across complex food and beverage products (Marques et al., 2022; Darıcı et al., 2021).

Recent developments in alcoholic-beverage research further emphasize the importance of systematic sensory characterization for differentiating products and explaining how formulation and processing affect perceived sensory attributes. Wang et al. (2024) highlighted the increasing role of structured sensory analysis in alcoholic-beverage product development and quality evaluation, while Huang et al. (2024) demonstrated that sensory profiling can effectively differentiate spirits based on their sensory characteristics and underlying flavor composition. Studies on botanical-enriched spirits have likewise shown that the incorporation of plant-derived ingredients can modify both volatile composition and sensory traits, reinforcing the need to evaluate botanical–spirit interactions systematically.

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

However, a clear gap remains in the literature concerning Balinese Arak-based liqueurs formulated with local botanicals. Existing research on Balinese Arak-based beverage innovations has tended to focus primarily on hedonic acceptance, product preference, or general organoleptic evaluation rather than detailed characterization of individual sensory attributes. Recent studies on Arak-based cocktails and liqueurs, for example, have examined consumer or panelist acceptance of attributes such as sweetness, acidity, aroma, alcohol, and balance (Rasmadinata et al., 2024; Putra et al., 2025), but limited empirical evidence is available regarding how these attributes are systematically perceived in botanical-infused Arak liqueurs. Furthermore, although roselle has been studied for its contribution to acidity, sweetness, color, aroma, and aftertaste (Kizzie-Hayford et al., 2024), and pandan has been widely recognized for its characteristic aroma compounds (Cheng et al., 2024; Tang et al., 2025), the combined contribution of roselle and pandan to the sensory profile of a Balinese Arak-based liqueur remains insufficiently documented. In particular, limited evidence is available regarding the perceived acidity, sweetness, bitterness, flavor, alcohol intensity, and overall balance of a liqueur combining these two locally relevant botanicals. This gap indicates the need for a more structured characterization of the sensory attributes of value-added Balinese Arak products.

To address this gap, the present study characterizes the sensory attributes of a Balinese Arak-based liqueur formulated with roselle (Hibiscus sabdariffa) and pandan leaves (Pandanus amaryllifolius Roxb.). The evaluation focuses on six sensory attributes—acidity, sweetness, bitterness, flavor, alcohol perception, and overall balance—to provide a structured description of the product's sensory profile. By combining Balinese Arak with two locally relevant botanicals, this study seeks to extend the limited empirical evidence on the sensory characterization of value-added Arak beverages and provide a basis for further formulation refinement and product development.

Roselle and pandan have long been used as ingredients in beverages and culinary preparations. Roselle provides a distinctive red color and naturally acidic taste and is commonly processed into tea, cold beverages, sauces, and jams. Pandan leaves, in contrast, are widely used in Southeast Asian culinary traditions because of their distinctive aroma. The complementary characteristics of roselle and pandan therefore provide a relevant basis for their application in a botanical-infused liqueur, with roselle contributing primarily to color and acidity and pandan contributing to aromatic complexity.

Balinese Arak is a traditional distilled alcoholic beverage commonly produced from fermented coconut or palm sap, although it can also be produced from rice through fermentation and distillation. Its alcohol content may vary considerably depending on raw materials and production practices. Beyond its role as an alcoholic beverage, Arak has cultural significance in Balinese society and is also used in certain traditional and ceremonial contexts (Sugiarta et al., 2022). These characteristics provide opportunities for Arak to be developed beyond its traditional form into value-added beverage products while retaining its local identity.

The increasing variety of Arak-based beverages has created opportunities for product innovation through the incorporation of locally available ingredients. In the present formulation, roselle was incorporated to contribute color and acidity, while pandan leaves were used to provide a distinctive aromatic character. The formulation process was followed by the addition of simple syrup to provide sweetness and support the overall sensory balance of the liqueur. The resulting beverage therefore represents an attempt to combine the traditional identity of Balinese Arak with the sensory characteristics of roselle and pandan in a differentiated liqueur product.

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

2. LITERATURE REVIEW

Developing an arak-based liqueur infused with roselle (Hibiscus sabdariffa) and pandan leaves (Pandanus amaryllifolius) can be positioned as a gastronomy-relevant innovation because the quality of liqueurs is not merely a culinary "blend" but the outcome of maceration/infusion-driven transfer of volatile aroma compounds and phenolic constituents into an alcoholic matrix, which subsequently shapes aroma, taste, colour, and overall sensory identity (Cortés-Diéguez et al., 2020; Rodríguez-Solana et al., 2016). In herbal and botanical liqueurs, studies show that both phenolic composition and aroma-impact odorants meaningfully contribute to perceived quality and differentiation across products, reinforcing the need to interpret sensory outcomes through a chemical–sensory lens rather than relying on anecdotal tasting (Rodríguez-Solana et al., 2016).

Roselle is repeatedly reported to influence consumer acceptance through visual and taste-balance cues, where consumer liking for hibiscus beverages is strongly associated with red colour intensity, aroma strength, and the sweetness–acidity balance, implying that roselle may act as a primary "sensory driver" in infused alcoholic products that depend on colour appeal and flavour harmony (Monteiro et al., 2017). Moreover, sensory–volatile correlation work in roselle beverages demonstrates that hibiscus-derived products present recognizable descriptor patterns that can be systematically captured by trained panels, supporting the feasibility of describing roselle-infused liqueurs using structured descriptors rather than generic terms (Avalos-Martínez et al., 2019). Pandan, on the other hand, provides a culturally salient aromatic signature; advanced profiling has characterised its "glutinous-rice" aroma and mapped key volatiles across processing states, including compounds associated with high odor activity that can reasonably be expected to modulate perceived aroma intensity and character in alcohol infusions (Tang et al., 2025).

Methodologically, because alcohol matrices can mask or accentuate notes and intensities, rigorous sensory science is essential to produce interpretable, reproducible evidence: contemporary reviews emphasise the role of systematic sensory characterisation approaches for linking product attributes to perception and acceptance (Marques et al., 2022), while distilled-beverage research demonstrates the value of descriptive analysis and lexicon development (including sensory wheels) to standardise vocabulary and strengthen product characterisation for spirits and spirit-based products (Darıcı et al., 2021; Cortés-Diéguez et al., 2020). Against this background, a sensory evaluation of an arak-based liqueur infused with roselle and pandan contributes to the gastronomy literature by (i) extending evidence on botanical infusion effects in spirit matrices and (ii) empirically clarifying how a colour-active botanical (roselle) and an aroma-signature botanical (pandan) jointly shape hedonic responses and sensory profiles under a structured evaluation framework (Monteiro et al., 2017; Tang et al., 2025; Marques et al., 2022).

3. METHODS

The object of this study was the sensory characteristics of a Balinese Arak-based liqueur redistilled with roselle (Hibiscus sabdariffa) and pandan leaves (Pandanus amaryllifolius Roxb.). Coconut-based Balinese Arak was used as the base spirit, while roselle and pandan leaves were incorporated as botanical ingredients to contribute acidity, color, aroma, and flavor to the final product. Simple syrup was added after the distillation process as a sweetening component.

The liqueur was prepared using a standardized formulation consisting of 35 L of coconut-based Balinese Arak, 500 g of roselle calyces, 500 g of pandan leaves, and 500 g of simple syrup. The Arak was first poured into the distillation vessel, followed by the addition of roselle

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

and pandan leaves. The mixture was then heated in the distillation vessel until vapor was produced. The vapor was subsequently condensed and collected in a receiving container. The distillation process lasted approximately 2–3 hours and produced approximately 10 L of roselle–pandan Arak distillate. After distillation, simple syrup was added as a sweetening component to produce the final liqueur formulation.

The original experimental documentation did not record the exact distillation temperature or the sugar-to-water ratio used in preparing the simple syrup. Therefore, these parameters were not retrospectively estimated in the present manuscript. Only formulation and processing parameters that could be verified from the original experimental documentation are reported.

Table 1. Standardized Formulation of Roselle–Pandan Balinese Arak Liqueur

Ingredient	Amount	Function
Coconut-based Balinese Arak	35 L	Base spirit
Roselle calyces	500 g	Acidity, color, and botanical character
Pandan leaves	500 g	Aroma and flavor
Simple syrup	500 g	Sweetening component
Final distillate	Approximately 10 L	Final roselle–pandan Arak distillate

Source: Original experimental documentation, processed for the revised manuscript.

The preparation process is summarized in Figure 1.

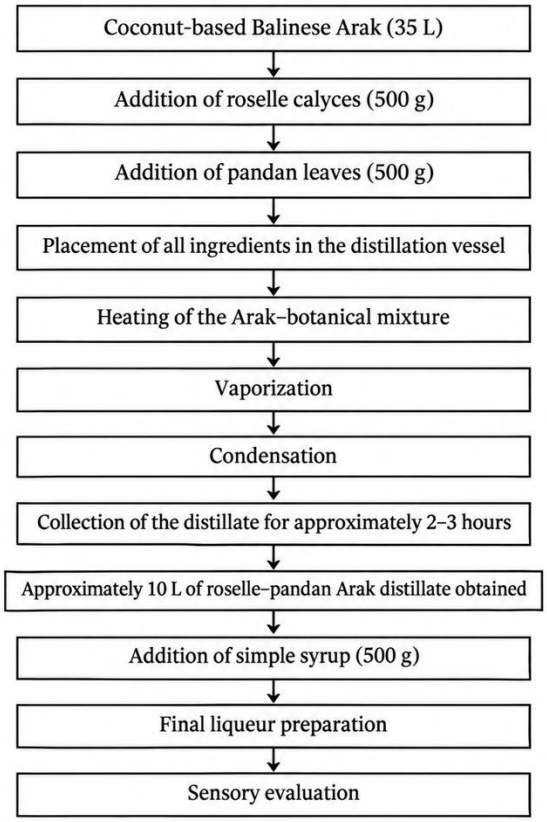


Figure 1. Flowchart od the Preparation Process of Roselle-Pandan Balinese Arak Liqueur
Source: Processed from the original experimental documentation

The sensory evaluation was conducted by five highly trained panelists at five different locations in Bali: Philanthropy Restaurant and Bar in Nusa Dua on May 5, 2024; Flair Forever School in Benoa on May 7, 2024; Senandung Coffee Craft in Tegallalang on May 9, 2024;

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

Lukisan Coffee in Gianyar on May 9, 2024; and Jl. Dharmawangsa, Br. Petangan, Kutuh, South Kuta, on May 10, 2024. Each panelist evaluated the same standardized liqueur formulation.

This study employed a descriptive sensory characterization approach supported by qualitative descriptive analysis. Primary data were obtained directly from the panelists through a structured characteristic-test form, while documentation and interviews were used as supporting data. The sensory evaluation focused on six attributes: acidity, sweetness, bitterness, flavor, alcohol perception, and overall balance. The panelists' responses were summarized descriptively to identify the dominant sensory characteristics of the roselle–pandan Balinese Arak liqueur.

4. RESULTS AND DISCUSSION

4.1. Result

After conducting tests on liqueur drinks made from arak distilled with rosella flowers and pandan leaves by 5 expert panelists to determine the characteristics of the drink, the results obtained can be seen in the table below.

a. Acidity

The assessment of the five panelists written in the characteristic test form to identify pandan rosella liquor for the acidity indicator results can be seen in the table below.

Table 1: Results of Characteristic Tests Against Acidity Indicators from Liqueur Arak Rosela Pandan

Indicators & Questions Acidity	Panelists	Description
1. Does this drink have high, medium or low acidity?	P.1	Medium
	P.2	Medium
	P.3	Medium
	P.4	Low
	P.5	Medium
2. Which ingredient causes the acidity character in this drink?	P.1	Arak & Rosella
	P.2	Pandanus, Coconut, Rosella
	P.3	Rosella
	P.4	Rosella
	P.5	Pandan
3. Does the acidity character appear during the first taste or after taste?	P.1	Aftertaste
	P.2	Aftertaste
	P.3	First Taste
	P.4	Aftertaste
	P.5	Aftertaste

Source: Results of Processed Data Characteristics Test 2024

Based on Table 1 which contains the results of the panelists' assessment of the acidity characteristics of the pandan rosella arak liqueur, the panelists gave a medium acidity assessment. The ingredients that cause the acidity character are Arak, rosella, pandan and coconut. And the dominant acidity character appears during the after taste.

b. Sweetness

The assessment of the five panelists written in the characteristic test form to identify pandan rosella liquor for the sweetness indicator results can be seen in the table below.

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

Table 2: Results of Characteristic Tests on Sweetness Indicators from Rosela Pandan Arak Liqueur

Indicators & Questions Sweetness	Panelists	Description
1. What is the sweetness character of this drink, is it dry, off dry, medium dry or sweet?	P.1	Sweet
	P.2	Sweet
	P.3	Sweet
	P.4	Very Sweet
	P.5	Sweet
2. Which ingredient is the most dominant in creating a sweet taste?	P.1	Pandan
	P.2	Pandan
	P.3	Adding sugar to the process
	P.4	Sugar
	P.5	Sugar & Pandan
3. Does the sweetness character appear during the first taste or after taste?	P.1	First Taste
	P.2	First Taste
	P.3	First Taste
	P.4	First Taste
	P.5	Aftertaste

Source: Results of Processed Data Characteristics Test 2024

Based on Table 2 containing the results of the panelists' assessment of the sweetness characteristics of the pandan rosella liqueur, the panelists gave a sweet assessment. The dominant ingredients that create sweetness are said to come from sugar and pandan. Meanwhile, the sweetness character appears at the first taste.

c. Bitterness

The assessment of the five panelists written in the characteristic test form to identify pandan rosella liquor for the Bitterness indicator results can be seen in the table below.

Table 3: Results of Characteristic Tests Against the Bitterness Indicator from Liqueur Arak Rosela Pandan

Indicators & Questions Bitterness	Panelists	Description
1. What is the bitter character of this drink, is it high, medium or low?	P.1	Low
	P.2	Low
	P.3	Low
	P.4	Low
	P.5	Low
2. Which ingredient makes this drink taste bitter?	P.1	None
	P.2	Rosella
	P.3	Rosella
	P.4	Alcohol/Spirit (Arak)
	P.5	Rosella & Arak
3. Does the bitter character appear during the first taste or after taste?	P.1	First Taste
	P.2	Aftertaste
	P.3	Aftertaste
	P.4	After Taste, but very low
	P.5	Aftertaste

Source: Results of Processed Data Characteristics Test 2024

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

Based on Table 3, which contains the results of the panelists' assessment of the bitterness characteristics of pandan rosella liqueur, the panelists gave a low bitter rating. The ingredients that create the bitter taste are mentioned as rosella, alcohol and arak. Meanwhile, the dominant bitterness taste appears during the aftertaste.

4. Flavor

The assessment of the five panelists written in the characteristic test form to identify pandan rosella liquor for the Flavor indicator results can be seen in the Table below.

Table 4: Results of Characteristic Tests on Flavor Indicators from Liqueur Arak Rosela Pandan

Indicators & Questions Flavor	Panelists	Description
1. Does the taste of rosella flowers appear during the first taste or after taste?	P.1	Aftertaste
	P.2	Aftertaste
	P.3	Aftertaste
	P.4	None
	P.5	Aftertaste
2. Is the aroma of rosella flowers detectable at first smell?	P.1	No
	P.2	No
	P.3	Note
	P.4	None
	P.5	First Smell
3. Does the taste of pandan leaves appear during the first taste or after taste?	P.1	After & First Taste
	P.2	Yes
	P.3	Aftertaste
	P.4	Very dominant pandan flavor
	P.5	Above
4. Is the aroma of pandan leaves detectable at first smell?	P.1	Yes
	P.2	Yes
	P.3	Yes
	P.4	Yes, exactly
	P.5	First Smell
5. Are there other tastes and aromas besides the rosella flowers and pandan leaves that appear?	P.1	Fragrance
	P.2	coconut
	P.3	Yes, sweet
	P.4	Pandan is very dominant
	P.5	None

Source: Results of Processed Data Characteristics Test 2024

Based on Table 4 which contains the results of the panelists' assessment of the flavor characteristics of the pandan rosela liquor, it shows that the panelists gave an assessment that the taste of the rosela flower appeared during the after taste, and its aroma was not detected during the first smell. Meanwhile, the taste of pandan leaves appeared during the first taste and its aroma also appeared during the first smell.

5. Alcohol

The assessment of the five panelists written in the characteristic test form to identify pandan rosella liquor for the alcohol indicator results can be seen in the table below.

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

Table 5: Results of Characteristic Tests Against Alcohol Indicators from Rosela Pandan Arak Liqueur

Indicators & Questions Alcohol	Panelists	Description
1. Does this drink have a high, medium or low alcohol content?	P.1	High
	P.2	Medium
	P.3	Medium
	P.4	Medium to high
	P.5	Medium
2. What other ingredients can improve Alcohol on this drink?	P.1	No
	P.2	Pandanus
	P.3	Pandanus
	P.4	None
	P.5	None
3. What alcohol content is suitable for this drink?	P.1	Between 30% - 35% ABV
	P.2	30%
	P.3	High alcohol ABV
	P.4	10 ABV bit lower
	P.5	30%

Source: Results of Processed Data Characteristics Test 2024

Based on Table 4.6, which contains the results of the panelists' assessment of the alcohol characteristics of pandan rosella liquor, it shows that the panelists gave a medium alcohol rating. Other ingredients that can be mentioned are: increasing alcohol is pandan leaves. While the appropriate alcohol content in this drink is around 10% - 35% ABV.

6. Balance (General Review in This Product)

The assessment of the five panelists written in the characteristic test form to identify pandan rosella liquor for the Balance indicator results can be seen in the table below.

Table 6: Results of Characteristic Tests on Balance Indicators from Liqueur Arak Rosela Pandan

Indicators & Questions Balance	Panelists	Description
1. How does this drink look like?	P.1	Clear
	P.2	Clear
	P.3	Clear
	P.4	So far good, but in my opinion better add coloring
	P.5	Clear
2. Can this drink be categorized as bad, good, very good or excellent?	P.1	Very Good
	P.2	Very Good
	P.3	Good
	P.4	Good
	P.5	Good

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

Indicators & Questions	Panelists	Description
Balance		
3. Is the taste of this drink balanced against all the indicators above? Explain!	P.1	Need to slightly lower the ALC/ABV levels and add sugar level
	P.2	Not yet, when mixing the wine that has been added with pandan rosella and sugar, you have to use more precise measurements so that the taste is well-balanced
	P.3	Yes, you need to maintain feeling and control sweet taste
	P.4	So far pandan flavor is really dominant, and too sweet
	P.5	Not yet, reduce simple syrup

Source: Results of Processed Data Characteristics Test 2024

Based on Table 6 which contains the results of the panelists' assessment of the balance characteristics of the pandan rosella liqueur, it shows that the panelists gave an assessment of the clear appearance of the drink, and it can be categorized as good. And also a little input on this drink, namely the need to maintain the taste, and for the pandan taste is still very dominant compared to the rosella taste, and it is necessary to reduce the alcohol content, and when mixing with sugar, the appropriate dosage must be used.

4.2. Discussion

After seeing the results of the characteristic test conducted by 5 highly trained panelists, the characteristics of Rosela Pandan Liqueur are shown in the table below.

Table 7: Results of Data Analysis of Characteristics Test of Rosela Pandan Liqueur

No.	Indicator	Characteristics
1	Acidity	Medium
2	Sweetness	Sweet
3	Bitterness	Low
4	Flavor	Rosella, Pandan, Coconut

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

No.	Indicator	Characteristics
5	Alcohol	Medium
6	Balance	Good

Source: Results of Characteristics Test of Processed Data 2024

Based on Table 7, namely the results of the analysis of the characteristic test data on pandan rosella liquor identified by the panelists, the results of the characteristic identification were obtained based on the determined indicators as follows:

a. Acidity

The acidity indicator or sour taste contained in the pandan rosella liqueur can be concluded to have medium characteristics as the main taste. The acidity results show that this pandan rosella liqueur has a moderate sour taste, not too sour. The ingredients that cause the acidity character in this drink are Arak, rosella, pandan and coconut. Meanwhile, the dominant acidity character appears during the after taste.

b. Sweetness

The sweetness indicator or sweet taste contained in pandan rosella liquor can be concluded to have sweet characteristics. In this case, it can be interpreted that the sweetness character in this pandan rosella liquor has a sweet taste. The ingredients in this drink that predominantly create sweetness are said to come from sugar and pandan. Meanwhile, the sweetness character appears at the first taste.

c. Bitterness

Indicator of bitterness or bitter taste contained in this pandan rosella arak liquor is at a low level, which means that this drink is almost no bitter taste. It is said that the ingredients that create the bitter taste in this drink are rosella flowers, alcohol and arak. Meanwhile, the bitterness taste is dominant in the after taste.

d. Flavor

Flavor is the taste and aroma in this pandan rosela liqueur drink. In this flavor indicator, the taste and aroma of pandan leaves are very dominant at first taste, first smell and after taste. While the taste and aroma of rosela flowers do not appear too much at first taste, after taste or first smell.

e. Alcohol

The alcohol indicator in pandan rosela liqueur is medium, which means that this drink does not have a high alcohol content. And it is recommended that the alcohol content that is suitable for this drink is around 10% - 35% ABV. In this case, it can be interpreted that the alcohol content in this drink is almost in accordance with the alcohol content of liqueur drinks in general.

f. Balance (Product Description in General)

Product Description in Generalis the overall assessment of the panelists on the quality of a product. The overall assessment of the panelists on the rosella pandan liqueur showed that the assessment in terms of the appearance of this drink was good and categorized as clear because it has a clear and clean appearance. Meanwhile, for the overall assessment of the results of this liqueur product, it is included in the good category so that it can be concluded that this drink product has great potential to be developed and can get even better quality by ensuring that the ratio of the ingredients used has the right measurements when making it.

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970

Based on the results of the discussion that has been discussed previously, it can be seen that the characteristics of the rosella pandan liqueur drink using 6 indicators obtained medium acidity results, sweet sweetness, low bitterness, flavor and aroma of rosella, pandan and coconut, medium alcohol, and a clear balance of the appearance of the drink and can be categorized as good.

5. CONCLUSION

Based on the results of the study of the characteristics of liqueur made from arak distilled with rosella flowers and pandan leaves made in Tri Eka Buana Village through organoleptic tests tested by 5 panelists with highly trained statements in 5 different places using 6 indicators consisting of acidity, sweetness, bitterness, flavor, alcohol, and balance. In the acidity indicator, the results of this pandan rosella liqueur have a medium character. The sweetness indicator feels sweet. The bitterness indicator has a low level. In the flavor indicator, the results of the taste and aroma of pandan leaves are very pronounced at first smell, first taste and after taste, while the taste and aroma of rosella flowers are not very pronounced and smelled at first taste, after taste or first smell. The alcohol indicator obtained medium results. And for the balance indicator, it was found that this drink has a clear appearance and the overall assessment of all indicators in the pandan rosella liqueur drink can be categorized as good.

6. ACKNOWLEDGMENT

The authors realize that in this research, the authors received a lot of help and support from various parties. So on this occasion the authors would like to thank the Bali Tourism Polytechnic, the Culinary Arts Study Program and all parties that the authors cannot mention one by one who have motivated and helped the authors find solutions.

7. REFERENCES

Avalos-Martínez, E., Pino, J. A., Sáyago-Ayerdi, S., Sosa-Moguel, O., & Cuevas-Glory, L. (2019). Assessment of volatile compounds and sensory characteristics of Mexican hibiscus (Hibiscus sabdariffa L.) calyces hot beverages. Journal of Food Science and Technology, 56(1), 360–366. https://doi.org/10.1007/s13197-018-3496-0

Azhar, A. N. H., Amran, N. A., Yusup, S., & Mohd Yusoff, M. H. (2022). Ultrasonic extraction of 2-acetyl-1-pyrroline (2AP) from Pandanus amaryllifolius Roxb. using ethanol as solvent. Molecules, 27(15), 4906. https://doi.org/10.3390/molecules27154906

Buglass, A. J. (Ed.). (2011). Handbook of alcoholic beverages: Technical, analytical and nutritional aspects (Vols. 1–2). John Wiley & Sons.

Cheng, Y., Fei, T., Liu, Y., Chen, S., Wang, Z., Han, Y., Wang, L., & Li, C. (2024). Ultrasound-assisted extraction of squalene and 2-acetyl-1-pyrroline from pandan leaf: The effects of drying methods and extraction conditions. Foods, 13(24), 4010. https://doi.org/10.3390/foods13244010

Cortés-Diéguez, S., Otero-Cerviño, C., Rodeiro-Mougán, H., & Feijóo-Mateo, J. A. (2020). Quantitative descriptive analysis of traditional herbal and coffee liqueurs made with grape marc spirit (orujo). Foods, 9(6), 753. https://doi.org/10.3390/foods9060753

Cousins, J., Lillicrap, D., & Weekes, S. (2014). Food and beverage service for levels 1 and 2. Hodder Education.

Darıcı, M., Özcan, K., Beypınar, D., & Cabaroglu, T. (2021). Sensory lexicon and major volatiles of rakı using descriptive analysis and GC-FID/MS. Foods, 10(7), 1494. https://doi.org/10.3390/foods10071494

DeGroff, D. (2002). The craft of the cocktail: Everything you need to know to be a master bartender, with 500 recipes. Clarkson Potter.

Fernandes, C. (2018). The food and beverage service book: Academic book for hospitality programs. FSP Media Publications.

Huang, H., Chen, Y., Hong, J., Chen, H., Zhao, D., Wu, J., Li, J., Sun, J., Sun, X., Huang, M., & Sun, B. (2024). Unraveling the chemosensory characteristics on different types of spirits based on sensory contours and quantitative targeted flavoromics analysis. Food Chemistry: X, 23, 101716. https://doi.org/10.1016/j.fochx.2024.101716

Katsigris, C., & Thomas, C. (2007). The bar & beverage book (4th ed.). John Wiley & Sons.

Katsigris, C., & Thomas, C. (2012). The bar & beverage book (5th ed.). John Wiley & Sons.

Kizzie-Hayford, N., Seidu-Larry, S., Owusu-Ansah, S., Quaye, B., & Ampofo-Asiama, J. (2024). Influence of sweeteners on the phytochemical and physicochemical quality and consumer acceptability of roselle beverage. Journal of Food Processing and Preservation, 2024, 6669374. https://doi.org/10.1155/2024/6669374

Lersch, M. (2008, June 8). Wonders of extraction: Ethanol. Khymos. https://khymos.org/2008/06/08/wonders-of-extraction-ethanol/

Marques, C., Correia, E., Dinis, L.-T., & Vilela, A. (2022). An overview of sensory characterization techniques: From classical descriptive analysis to the emergence of novel profiling methods. Foods, 11(3), 255. https://doi.org/10.3390/foods11030255

Monteiro, M. J. P., Costa, A. I. A., Fliedel, G., Cissé, M., Bechoff, A., Pallet, D., Tomlins, K., & Pintado, M. M. E. (2017). Chemical-sensory properties and consumer preference of hibiscus beverages produced by improved industrial processes. Food Chemistry, 225, 202–212. https://doi.org/10.1016/j.foodchem.2016.11.127

Ramírez-Rodrigues, M. M., Plaza, M. L., Azeredo, A., Balaban, M. O., & Marshall, M. R. (2012). Phytochemical, sensory attributes and aroma stability of dense phase carbon dioxide processed Hibiscus sabdariffa beverage during storage. Food Chemistry, 134(3), 1425–1431. https://doi.org/10.1016/j.foodchem.2012.03.042

Rodríguez-Solana, R., Salgado, J. M., Domínguez, J. M., & Cortés-Diéguez, S. (2016). Phenolic compounds and aroma-impact odorants in herb liqueurs elaborated by maceration of aromatic and medicinal plants in grape marc distillates. Journal of the Institute of Brewing, 122(4), 653–660. https://doi.org/10.1002/jib.377

Sendari, A. A. (2019, August 8). Mengenal jenis penelitian deskriptif kualitatif pada sebuah tulisan ilmiah. Liputan6. https://www.liputan6.com/hot/read/4032771/mengenal-jenis-penelitian-deskriptif-kualitatif-pada-sebuah-tulisan-ilmiah

Sugiarta, I. K., Astara, I. W. W., & Arsana, I. M. (2022). Implementation of Balinese arak regulation in Bali Governor Regulation Number 1 of 2020 concerning governance of Balinese fermented and/or distilled beverages. Public Inspiration: Journal of Public Administration, 7(1), 53–59. https://doi.org/10.22225/pi.7.1.2022.53-59

Tang, K., Chen, C., Liu, Y., Li, S., Luo, Y., Chen, X., & Wu, Z. (2025). Comprehensive characterization of aroma profile of “glutinous rice” flavor in Pandanus amaryllifolius Roxb. using HS–SPME–GC–O–MS and HS-GC-IMS technology coupled with OAV. Foods, 14(6), 935. https://doi.org/10.3390/foods14060935

Veljović, S., Cvetković, D., Petrović, M., Luković, M., Karabegović, I., Vukosavljević, P., & Dajić Stevanović, Z. (2025). Serbian traditional spirit enriched with yellow gentian and saline wormwood: Volatile profile and sensory traits. Flavour and Fragrance Journal, 40(3), 555–568. https://doi.org/10.1002/ffj.3846

Wang, J., Wang, J., Qiao, L., Zhang, N., Sun, B., Li, H., Sun, J., & Chen, H. (2024). From traditional to intelligent, a review of application and progress of sensory analysis in alcoholic

beverage industry. Food Chemistry: X, 23, 101542. https://doi.org/10.1016/j.fochx.2024.101542

Wiratnaya, I. N., Rinala, I. N., & Darmawan, I. W. A. (2019). Karakteristik wine salak yang diproduksi di Kabupaten Karangasem dan Kabupaten Tabanan. Jurnal Gastronomi Indonesia, 7(1), 12–26. https://doi.org/10.52352/jgi.v7i1.385

DOI: https://doi.org/10.17509/gastur.v13i2.294
p- ISSN 2774-6186 e- ISSN 2716-3970