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Awareness on blue ternate flowers: Its beneficiality and utilization

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Abstract

Blue ternate is an underutilized flower in the Philippines despite empirical evidence of its benefits and utilization. In a selected barangay in Oroquieta City where blue ternate flowers were grown, people who know it commonly used it as tea while others grow it as influenced by others even without knowing its name or benefits. Hence, this study primarily aimed to determine the level of awareness of the residents of Brgy. Mobod, Oroquieta City on blue ternate, its benefits, and utilization. The researcher utilized a quantitative descriptive research design using a researcher-made questionnaire to survey 150 respondents who were residents of the barangay. Using a 5-point Likert scale, the data collected were analyzed and interpreted using weighted mean. The results revealed that the respondents are "somewhat aware" of blue ternate flowers, its benefits, and utilization with a weighted mean of 3.23, 3.15, and 3.18, respectively. These results clearly indicate that the level of awareness among the residents is insufficient.

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Introduction

Clitoria ternatea, commonly known as butterfly pea or blue ternate, is classified as Kingdom Plantae, Phylum Tracheophyta, Class of Magnoliopsida, and a family of Fabaceae. It is an herbaceous perennial climber plant widely found growing in gardens and in the wild (Jamil *et al.*, 2018). Blue ternate is considered one of the diverse species that can be found in various areas in the Philippines known for its benefits and potential applications both in modern medicine and agriculture often featured in cocktails, cosmetics, and herbal tea blends (Roa *et al.*, 2023). It thrives in temperature below to 25°C but not suited to locations with frequent or several frost (Hapinat, 2020).

Several studies have reported various pharmacological effects of the blue ternate flowers, such as antioxidant, antimicrobial, anti-inflammatory, antipyretic, antilipidemic, and analgesic properties (Gupta *et al.*, 2010). It has also been traditionally used as a treatment for snakebites, scorpion stings, fever, and skin diseases, among others (Mukherjee *et al.*, 2008). Due to its bright blue color which is attributed to its high anthocyanin content, the flowers are also used to make a traditional welcome tea known as dokanchan, which hotels frequently serve to travelers upon their arrival (Baird, 2015). It was also used in a special edition cold brew beverage by Starbucks Asia for the spring season in 2018 (Hapinat, 2020). Additionally, blue ternate has been used in baked products, violet cakes, gelatins, ice creams, tea, tarts, bakery and savory products (Ramli and Salleh, 2019).

Locally, blue ternate grows in many areas of Misamis Occidental, Philippines; however, the awareness of the people on its benefits and utilization has to be determined. Hence, this study aims to determine the awareness level of the respondents on blue ternate flowers, its benefits, and utilization.

Materials and methods

This study employed a quantitative research design, and 150 respondents, residing in Brgy. Mobod, Oroquieta City, were chosen through a stratified random sampling to answer a researcher-made questionnaire.

Prior to the actual data gathering, the researcher sent a request letter to the barangay captain asking for approval to conduct the study in the barangay. A consent letter was also given to the respondents asking permission to participate and indicating therein the objectives of the study. The data collected were analyzed using descriptive statistics, specifically the weighted mean, to determine the awareness level of the respondents on blue ternate flower, its benefits, and utilization. To analyse the data, a 5-point Likert scale with verbal descriptions was used.

Results and discussion

Table 1 shows that the respondents are generally "somewhat aware" of blue ternate flowers with a weighted mean of 3.23. It reveals that the respondents are of blue ternate flower.

Interestingly, the statements which point out the benefits of the blue ternate and its medical usefulness yield mean values of 3.71 and 3.73, respectively, are both categorized as "moderately aware." Meanwhile, the statements which point out its potential in regulating blood sugar, treatment for eye infection, better brain function, and promotion of good hair condition are interpreted as "somewhat aware" reveals the respondents' limited level of awareness on this aspect. This is consistent to Abance *et al.* (2021) which reported that people have quite limited awareness on blue ternate.

Table 2 shows the awareness of the respondents on the benefits of blue ternate flowers.

Evidently, the table reveals that the respondents are "moderately aware" on the medical benefits of blue ternate with a mean value of 3.69 and are "somewhat aware" of its benefits in treating some illnesses and health conditions because of its anti-inflammatory, antimicrobial, antipyretic and analgesic properties. Furthermore, the respondents

are also "somewhat aware" of its benefits for proper blood circulation and proper brain function with a mean of 3.29 and 2.93, respectively. In general, the respondents are "somewhat aware" of the benefits of blue ternate with a weighted mean of 3.15.

Table 1. Awareness on blue ternate flowers

Statements	Mean	Verbal interpretation
1. I am aware of the benefits of blue ternate flowers.	3.71	Moderately aware
2. I am aware that blue ternate flowers can be used as medicine.	3.73	Moderately aware
3.I am aware that blue ternate flowers can help regulate blood sugar levels.	3.33	Somewhat aware
4. I am aware that blue ternate flowers can prevent eye infections.	3.14	Somewhat aware
5. I am aware that blue ternate flowers can boost brain health.	3.12	Somewhat aware
6. I am aware that blue ternate flowers can improve hair health.	3.03	Somewhat aware
7. I am aware that blue ternate flowers can improve skin health.	3.19	Somewhat aware
8. I am aware that blue ternate can enhance physical and mental wellbeing.	3.01	Somewhat aware
9. I am aware that blue ternate flowers can be used as food colorants.	3.11	Somewhat aware
10. I am aware that blue ternate flowers can be used as dyeing material for coloring industry.	2.94	Somewhat aware
General weighted mean	3.23	Somewhat aware

Table 2. Awareness on the benefits of blue ternate

Statement	Mean	Verbal interpretation
1. I can benefit from blue ternate flowers in terms of medication.	3.69	Moderately aware
2. I can benefit from blue ternate flowers because of their anthocyanidins/ plant pigments.	3.07	Somewhat aware
3. I can benefit from blue ternate flowers because of its antioxidant property.	3.14	Somewhat aware
4. I can benefit from blue ternate flowers because of its antimicrobial properties.	2.95	Somewhat aware
5. I can benefit from blue ternate flowers because of their anti-inflammatory properties.	3.15	Somewhat aware
6. I can benefit from blue ternate flowers because of their antipyretic properties.	3.14	Somewhat aware
7. I can benefit from blue ternate flowers because of their analgesic property.	3.09	Somewhat aware
8. I can benefit from blue ternate flowers in terms of their usefulness for proper blood circulation.	3.29	Somewhat aware
9. I can benefit from blue ternate flowers in terms of enhancing my brain function.	2.93	Somewhat aware
10. I can benefit from blue ternate flowers in terms of hair growth stimulation.	2.99	Somewhat aware
General weighted mean	3.15	Somewhat aware

Table 3. Utilization of blue ternate flower

Statement	Mean	Verbal interpretation
1. Blue ternate flowers can be used as herbal tea.	3.98	Moderately aware
2. I use blue ternate flowers as an aid for fever.	3.29	Somewhat aware
3. I use blue ternate flowers as an aid for diabetes.	3.10	Somewhat aware
4. I use blue ternate flowers as an aid for insomnia.	3.02	Somewhat aware
5. I use blue ternate flowers in terms of promoting quality sleep.	3.00	Somewhat aware
6.I use blue ternate flowers as treatment for asthma.	2.86	Somewhat aware
7. I use blue ternate flowers as a treatment for skin diseases.	2.95	Somewhat aware
8. I use blue ternate flower as detox water.	3.45	Moderately aware
9. I use blue ternate flowers as color additives.	3.17	Somewhat aware
10. I use blue ternate flowers in terms of managing stress and mood disorder.	2.99	Somewhat aware
General weighted mean	3.18	Somewhat aware

Lastly, Table 3 below shows the awareness level of the respondents on the utilization of blue ternate flowers. The table evidently reveals that the respondents are "moderately aware" that the blue ternate flowers can be used as herbal tea and detox water with a mean of 3.98 and 3.45, respectively. Furthermore, the table also presents the respondents' awareness in terms of blue ternate's usefulness in relieving fever, treating diabetes, asthma, and skin diseases with a mean of 3.09, 3.10, 2.86, and 2.95, respectively, which are all interpreted as "somewhat aware." Overall, the respondents are "somewhat aware" of the practicable utilization of blue

ternate, particularly in medication and promotion of good health with a general weighted mean of 3.18.

Conclusion

Based on the results, the respondents possess fair level of awareness on blue ternate, its benefits, and utilization. This gives an impression that despite the availability of blue ternate in many areas of Brgy. Mobod, Oroquieta City and the existence of many research studies, which empirically proved the plethora of benefits and utilization the plant, the inadequate level of respondents' awareness is evident.

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