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Promotion of Honje (*Etlingera elatior*) as a Superfood: Utilization and Potential in Pangandaran

Winantris Winantris [a)], Mohamad Sapari Dwi Hadian, Lia Jurnaliah, Lili Fauzielly

Department of Geology, Universitas Padjadjaran, Sumedang, Indonesia

[a)]Corresponding author: winantris@unpad.ac.id

ABSTRACT

Honje is a herbaceous plant commonly found in Pangandaran. Honje distribution in Asia includes India, Thailand, Malaysia, Singapore, the Philippines, and Indonesia. This paper aims to promote it and claim it as a superfood. A literature review, survey, forum group discussion (FGD), and interviews have been conducted. Its nutritional composition meets the requirements of a superfood, including antioxidants, vitamins, and minerals. Another important point is low-calorie. The main antioxidants include flavonoids, phenols, and tannins, all of which are found in the leaves, flowers, and fruit. Minerals include potassium (K), calcium (Ca), magnesium (Mg), phosphorus (P), and sulfur (S). Fruits and flowers are rich in vitamin C. Just 27 calories are found in 100 grams of fresh fruit, making it extremely low in calories. One of the most recognizable tourist attractions in Pangandaran is fruit juice, a commercial product. The plant is widely distributed. It is simple to reap the benefits of Honje tea and infused water. The flower has historically been used as a spice for fish soup and in salads. Innovation in the manufacturing process of foods and beverages is crucial for improving product quality, hygiene, taste, and appearance. Honje meets superfood criteria and offers significant potential for local food innovation and tourism in Pangandaran.

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INTRODUCTION

Honje (*Etlingera elatior* (Jack) R.M.Sm., popularly known as torch ginger. Indonesia has some names, including Honje, Kecombrang, and Bongkot. This plant can be found on Java, Sumatra, Bali, Sulawesi, and Papua islands. In Pangandaran, Honje grows abundantly, an integral crop to everyday life. The crop is easily found in yards and along forest edges. The colour of the flower petals is a vibrant pink, making them very attractive. When the flower is ripe and has matured into a fruit, its colour changes to red or purple. In the botanical treasure, it is classified within the Zingiberaceae family and is characterized as a monocotyledonous plant with aromatic rhizomes, a type of underground stem.

Why is it necessary to promote Honje as a superfood? Of course, because its nutritional composition meets the requirements for a superfood. Another advantage is its availability, ease of access, and use in daily life. What is a superfood? It is a type of food rich in nutrients and offering health benefits. The term "superfood" refers to foods that provide maximum nutritional benefits with minimal calories. These foods should contain vitamins, minerals, and antioxidants (Olsen, 2019). So it is very reasonable to promote Honje as a superfood because it contains bioactive substances.

METHOD

Data Sources and Literature Selection

A review of 17 national and international publications about Honje was conducted, focused on nutritional analysis, phytochemistry, utilization, and distribution in Indonesia and Southeast Asia.

Field Observation and Interviews

Interviews with adults and housewives were undertaken to obtain data on the use of flowers and fruit ingredients, and field trips around some villages in Pangandaran were conducted to gather data on residents' planting habits for the herb (Figure 2).

FGD Implementation

Promoting Honje as a superfood was done through lectures and discussions, with a forum group discussion, one of which is the Pangandaran Tourism Awareness Groups (POKDARWIS). Pangandaran was chosen as the focus location because this city already has a commercial product, Honje juice, which is known as a typical Pangandaran tourist souvenir (Figure 1. Pangandaran Location).

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FIGURE 1. Pangandaran on the map of Indonesia
(https://www.mapsland.com/asia/indonesia/large-detailed-elevation-map-of-indonesia)

RESULT AND DISCUSSION

Utilisation of Honje (*Etlingera elatior*)

Honje is a traditional Indonesian culinary herb that is becoming increasingly popular (Prastowo et al, 2025). The people of Pangandaran use the flowers as a salad and seasoning. Honje is an additional ingredient in fish soup (local name is Pindang gunung) to enhance its taste and aroma and make it more attractive. In contrast, juice is made from fruit (Figure 2). As a comparison, in several areas such as East Java, the flower is used as a Pecel ingredient (similar to a salad), and in Tapanuli, it is used as a mixture of curry. In Tanah Karo, the Batak people use the fruit and flowers to remove the fishy smell from fish dishes. Meanwhile, in Malaysia, Indonesia's neighbouring country, people use it as an aromatic ingredient and flavoring in Laksa and Curry dishes (Koch et al, 2024). Similar to Malaysia, Singaporeans use it as a spice for popular traditional meals like Rojak and Laksa. In Thailand, Honje is a food ingredient (Rachkeeree, 2018). The leaf is a source of essential oil and an active agent in cosmetics (Sangthong et al, 2022). The current and future challenge is producing diversified products based on Honje while maintaining its nutritional composition, including vitamins, minerals, antioxidants, and low calories. This challenge is expected to lead to innovation in superfood products. Wouldn't it be possible to dry the flowers to make tea? To achieve this, knowledge of the hygienic drying process for Honje flowers is essential, while maintaining their nutritional content to preserve their benefits. The fruit can also make a simple yet beneficial infusion water. Innovation in exploring its applications is still open. Utilizing the potential of local food ingredients is a very important endeavor (Febrianti et.al, 2023), and Honje is one of them.

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FIGURE 2. Honje grows naturally in the yard (left), juice (middle), stir-fried vegetables with Honje flowers (right)

Facts of the Important Substances of Honje (*Etlingera elatior*)

It is crucial to disseminate and promote Honje's nutritional content and phytochemical composition to the public, as this knowledge can influence individual food consumption decisions. Furthermore, this campaign can encourage people to explore using it as a superfood, which will impact their nutritional needs. This program is expected to produce a healthier generation. The goal is to make people aware of the availability of superfoods with extraordinary nutrition, so they do not waste nature's special gifts.

Flavonoids, tannins, and saponins are antioxidants found in fruit (Hikmah et al, 2022; Chan et al, 2011; Farida et al, 2016). The antioxidant content of the flavonoid type in syrup ranges from 11,600,000 -14,138,043 mg/L. The syrup is made from the fruit; it is stated that the antioxidants contained in the syrup are not only flavonoids but also tannins and saponins similar to those found in the Honje fruits (Hikmah et al, 2022). The results of the nutritional analysis of the complete flower are as follows: crude protein (12.6%), fat (18.2%), and fibre (17.6%), high level of unsaturated fatty acids (palmitoleic acid 16.4%, linoleic acid 14.5%, oleic acid 5.2%). The amino acid profile indicates the presence of essential amino acids, with leucine and lysine being the most abundant (7.2 and 7.9 mg/100 mg protein, respectively). The flowers contain minerals: potassium (K: 1589 mg/100 g), Calcium (Ca: 775 mg/100 g), Magnesium (Mg: 327 mg/100 g), Phosphorus (P: 286 mg/100 g), and Sulfur (S: 167 mg/100 g) (Osadee et al, 2011). The caloric value of 100 grams of fresh fruit is only 27 calories (Rachkeeree et al, 2018). The total anthocyanin and vitamin C levels were 47.535 mg/100 g and 985.250 mg/100 g from the inflorescence extract (Prayoga et al, 2025). Test results from different parts of the plant show varying vitamin C content. The bud and bloom flowers yielded 26.40 mg/100 g and 44.26 mg/100 g of vitamin C, respectively (Lis et al, 2019). Even though it is not as popular as the flower, it turns out that leaves also contain antioxidants (Chan et al, 2007). The fruit, leaf, stem, and rhizome extracts with an ethanol solvent showed antioxidant activity with IC50 values of 72.518 mg/L, 99.890 mg/L, 52.345 mg/L, and 58.638 mg/L, respectively. In contrast, Vitamin C showed the highest IC50: 3.787 mg/L or ppm (Jabbar et al, 2019). Even IC 50 test results from other researchers are much stronger at 1.51 ppm (Safrina et al, 2022). The screening results of phytochemicals in the leaves, flowers, and fruit also revealed antioxidants: flavonoids, tannins, and saponins (Saudah 2021) (Table 1). These various research results

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prove that Honje has excellent potential to be used as a superfood (Figure 3).

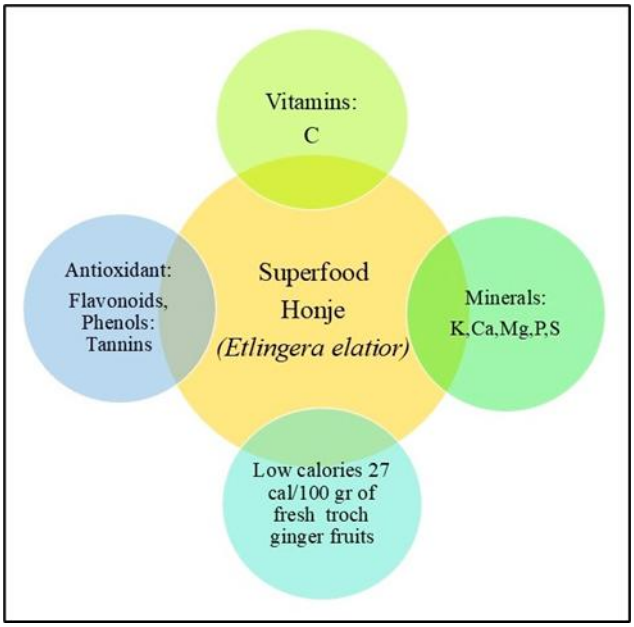

FIGURE 3. Components of the superfood Honje

TABLE 1. Phytochemical content of leaves, flower and fruit of the Etlingera elatior (Chan et al, 2021)

Phytochemical components	Test method	Sample Code/ Ethanol Solvent		
		EL	EFL	EFT
Flavonoids		+	+	+
Phenols		+	+	+
Tannins		+	+	+
Terpenoids		-	+	+
Steroids		+	-	-
Saponins		+	+	-
Alkaloids	Mayer	+	+	+
Alkaloids	Wagner	+	+	+
Alkaloids	Dragendorff	+	+	+

Note: + found; - not found EL: Leaf EFL: flower EFT: *Fruit*

Besides the leaves and fruit, which contain antioxidants, it turns out that the roots (rhizomes) also contain antioxidants. Testing of leaves, flowers, stems, and rhizome detects the presence of metabolite compounds (Table 2), such as alkaloids, flavonoids, tannins, saponins, and triterpenoids (Jabbar et al, 2019). Analysis of the rhizome showed that Diarylheptanoids 1-3 were found in the rhizome, which exhibit antioxidant activity. Rhizome extracts have been reported to possess highly antioxidant properties comparable to α-tocopherol (Mohamad et al, 2005). It has been reported that extracts of leaves, obtained using crude dichloromethane and methanol, possess antioxidant and antitumor activity (Habsah et al, 2005).

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TABLE 2. Antioxidant of the rhizome of the Honje (Jabbar et al, 2019)

Part tested	Secondary Metabolites				
	Alkaloids	**Flavonoids**	**Tannins**	**Saponins**	**Triter penoid**
Fruits	+	+	+	-	+
Leaf	+	+	+	+	-
Stem	+	+	+	+	-
Rhizome	+	+	+	+	+

The scientific report provides evidence that exhibits various health benefits. Flavonoids, phenols, and tannins are the primary antioxidants in fruit, flowers, and leaves. Saponins are found in the leaves, stem and rhizome, while triterpenoids are found only in the fruit and rhizome. (Jabbar et al, 2019).

CONCLUSION

Honje is a herbaceous plant species that can be categorized as a superfood due to its high antioxidant, mineral, and vitamin C content, while remaining low in calories. This is supported by various scientific studies demonstrating the presence of these components. Superfoods play a significant role in boosting the immune system. This fact needs to be widely disseminated to encourage creativity and innovation in using it. Education is needed to broaden understanding of their uses. With increased knowledge of Honje's nutritional value, it is hoped that the public will be able to develop a high-quality Honje-based food and beverage industry.

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