

Medicinal values of *Amorphophallus* species

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ABSTRACT

The tribal community of Odisha is a treasure of traditional knowledge which is used to treat many diseases and disorders. They use diverse plant species along with wild tuberous plants for the same. Among them, *Amorphophallus* species are common and belongs to the family Araceae. *Amorphophallus* species are used both as food as well as a medicinal agent. The popularity of these species has declined in the urban areas, but it has some highly nutritional values, which makes it a potent wild food. *Amorphophallus paeoniifolius* is used in dysentery, stomach ache, piles, asthma, etc. It is also used as food in tribal areas. *Amorphophallus bulbifer* is also used to treat many ailments like rheumatism, skin infection, etc. The present study implies that particular *Amorphophallus* species have food and medicinal values which needs more documentation & bio-chemical works for value addition.

Keywords: Tribal community, Nutraceutical, Medicinal values, Food values

INTRODUCTION

Tribal population constitutes an important place in India and all over the world. Tribal people, mostly consume leafy vegetables, tuberous plants, which grow in the wild or they cultivate in their home gardens. The tribal people consumed them for food and medicinal purposes. Worldwide, mankind is facing food scarcity, which is a greater problem for human beings. Reduced food intake and poor excess food intake in underdeveloped countries, resulting in malnutrition and health hazards, but in the meantime, the problem is on the edge and it needs to be sorted out soon. Whereas food scarcity is the major problem, and wild food plants like leafy vegetable, tuberous plant have become a savior. The tribal communities have a hub of traditional knowledge on wild food and medicinal agents. The tribal people have more knowledge about the tuberous plant and how to consume it with no complications. *Amorphophallus* species belong to the family Araceae having round tuber known as corm. It often grows along the roadside, in the village areas, and moist areas. It is commonly known as elephant foot yam, devil tongue etc. Mostly, the tuberous plant is washed thoroughly and successive boiling is done to remove the bitterness. Many plants of the family Araceae have been reported but some have been less documented. *Amorphophallus bulbifer* (Roxb) Blume is a cormous plant commonly known as devil tongue. It is widely distributed from Burma to the Himalayan regions of Asia. It is mostly found at high altitudes and in moist areas. *Amorphophallus bulbifer* is commonly used in ayurvedic medicine in India (Shete et al. 2015). *Amorphophallus paeoniifolius* is a stout herbaceous plant. It is largely cultivated in India, specifically Punjab, West Bengal, Assam and Sri Lanka. It is commonly known elephant foot yam. It is also used as food (Dey et al. 2012). The present study highlights the ethnomedicinal values of *Amorphophallus paeoniifolius* and *Amorphophallus bulbifer*.

METHODOLOGY

Ethno-botanical exploration was undertaken in the tribal areas of Odisha. Details on the information regarding the identification of medicinal plants, diseases to be treated, and the mode of uses were collected. A periodic semi-questionnaire was collected from tribal people and listed in Table 1. The plant was identified by the Dr. Sanjeet Kumar, CEO Ambika Prasad Research Foundation, Odisha, India.

RESULTS AND DISCUSSION

The study was carried out in the tribal areas of Odisha (Mayurbhanj, Athagarh, Khordha and Dhenkanal). *Amorphophallus* species have a wide range of food and medicinal values. The analysis of data revealed that leaf, corm, tuber, petiole and rhizome are used to treat various diseases. *Amorphophallus paeoniifolius* (Plate 1b) also known as olua is used to treat many diseases like dysentery, poor appetite, sinusitis, stomach problem, piles, asthma, jaundice. *Amorphophallus bulbifer* known as ban olua is used to treat skin infection, jaundice, rheumatic and joint pain. Other researchers also documented that the *Amorphophallus paeoniifolius* and *Amorphophallus bulbifer* (Plate 1a) is used to treat various ailments. In 2009, Das et al. reported that *Amorphophallus paeoniifolius* has medicinal uses in Tripura. In 2012, Reddy et al. reported that *Amorphophallus bulbifer* has anti-inflammatory activity and other compounds which can treat various diseases. In 2015, Shete et al. reported that the tuber of *Amorphophallus bulbifer* has antibacterial activity. In 2016, Padhan and Panda reported that the tuber of *Amorphophallus paeoniifolius* is used to treat piles. In 2017, Rahmatullah et al. reported that *Amorphophallus bulbifer* is used to treat jaundice in Bangladesh. Many researchers have worked on these particular species but need more work on these aspects which could cure many diseases in the future.

Table 1: Ethno-medicinal values of *Amorphophallus paeoniifolius* and *Amorphophallus bulbifer*

Plant Name	Local Name	Parts used	Uses	Location
<i>Amorphophallus paeoniifolius</i>	Olua Banaolua Badaolua	Leaf	The leaf is used in the treatment of dysentery.	Mayurbhanj
			The leaf is consumed against poor appetite.	Aathgarh
			Apical shoots are used to cure sinusitis.	Khordha
		Corm	Dried corms are used against stomach problems.	Mayurbhanj
			Dried corms are used for the treatment of piles.	Aathgarh
			It has appetizer properties.	Khordha
			The corm has blood purifier properties and is used in the treatment of asthma.	Khordha
		Whole plant	Dried powder of whole plant is mixed with curd to treat jaundice.	Mayurbhanj
			The whole plant is used to improve poor appetite.	Aathgarh
			The whole plant is used to treat stomach problems.	Dhenkanal
<i>Amorphophallus bulbifer</i>	Ban Olua	Corm	The corm is used to treat skin infection	Khordha
		Tuber	The tuber is cooked and eaten to get relief from jaundice; It also possess antibacterial activity.	Mayurbhanj

		Petiole and rhizome	Small pieces of fresh petiole and bulbils of this plant are cooked as vegetables with dry fish and taken with rice once a day for 10-12 days for rheumatic or joint pain.	Dhenkanal
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Plate 1: A) *Amorphophallus bulbifer*, B) *Amorphophallus paeoniifolius*

CONCLUSION

The consumption of wild food plants by tribal people in Odisha is already in a flashlight zone, but it is not consumed by the urban people due to less documentation on these wild food plants. The documentation is a necessary for the authentication to consume such wild plants available in forest area. *Amorphophallus* species are widely used by tribal people to treat various ailments. Such knowledge needs sound proof documentation. Many researchers have worked out on these particular species, even it is still unknown to the urban areas. It should be introduced as a course menu food item.

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