



Original Research Article

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Diversity of Plants Used in Perishing Ritual Bata Osha (Yamaraja Osha) in Coastal Districts of Odisha, India

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Abstract

The plant world has always been a base for the Odishan culture, both for material culture (practical uses) and for the spiritual one (myth and symbols). The people of Odisha use various plant species to perform their rituals for the wellbeing of human, animals, plants and their surrounding environment as a whole. A study has been conducted to document the indigenous uses and beliefs of plants that are utilized in perishing ritual such as Bata Osha popularly called as Jamaraja Osha. Information was gathered from informants of various ages in different villages of the district by using participant observation, open-ended conversations and semi-structured questionnaires. Bata Osha is observed by the married women of villages at mid night about 10-11 PM on 3rd day of Panduu Purnema in Odia calendar month of Pausa (Dec.-Jan) every year. The Osha is meant for blessing and long life of son and to give birth a son who has no son. A total of 28 plant species belonging to 27 genera under 15 families are recorded. The most cited plant families are Arecaceae with 5 species followed by Poaceae and Malvaceae with four species each. The traditional knowledge, various sociocultural beliefs and practices, religious taboos emerged in course of development of human society no doubt play an important role in protecting the natural resources and thereby managing the biodiversity.

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Introduction

Written and oral traditions as well as archaeological and ethnological data show that, apparently in all times and all over the world, people have believed in supernatural forces, be they gods, the spirits of the forefathers, or elemental beings – some good, some evil. Man has turned to these invisible beings in various situations of decisive importance or when problems threatened an insecure existence. The various ways in which communication with these superior forces is established

depended on social and economic circumstances, as well as on the environmental situation. Consequently, they have changed over the ages. One very common way of communicating with, or paying worship to, the spiritual world is by means of an offering; here considered as a part of a sacral or cultic act in a ritual context. Among the various types of offerings, a broad variety of plants has been used by people in association with ritual purity, fertility, good health, prosperity and life, on the one hand, or with ritual impurity, infertility, sickness, ill-fate and death on the other (Simoons, 1998). Similar beliefs

has been developed and used in virtually all cultures and religions over time – although these cultures differ from one region to other (Lambert, 1993; Miller and Burger, 1995; Douglas, 1999; Leach, 2003; Dafni et al., 2006; Naiden, 2006). The Indigenous and tribal communities around the world are strong believers of nature and accordingly use, worship and conserving the natural resources, including biodiversity. The conservation of ecosystem and its biodiversity can be attributed to the traditional knowledge evolved with time and spiritual respect of indigenous communities (Berkes, 1999). Traditionally the people of Odisha have used a large numbers of plant species for worshipping different Gods and Goddesses. There are at least 18 major Oshas, observed in Odisha in a year (Dash, 2006). Bata Osha (Yamaraja Osha) is one such ritual performed by village women in coastal districts of Odisha for getting blessings of Yamaraja for birth and long life of their son. The importance of plants for worshipping God and Goddesses has been described in different vedas and it could be seen in the hymns. In Odisha amongst Hindu many plant species are associated with religious function, rituals and also in celebration of festival. However, this traditional knowledge associated with utilization of plant species for various rituals has not been documented. Together with pressing problems regarding environment, nature and also discussions regarding globalization and its phenomena of ‘standardization’, which bring to surface even more the problem of ‘national identity’, we can now feel a need, not necessarily to return to traditions, but at least to know and become more familiar with them, build a ‘safety net’ (Bernea, 2007). Therefore, an attempt has been made in this paper to highlight the uses of various plant species associated with traditional rituals, particularly Bata Osha (Yamaraja Osha) which will help in strengthening the conservation practices among the younger generation of the community.

Materials and methods

Study area

Odisha, the ninth largest state of India by area and the eleventh largest by population is located in the east coast of India ($17.48^{\circ} - 22.34^{\circ}$ N and $81.24^{\circ} - 87.29^{\circ}$ E) with the Bay of Bengal forming its eastern and south eastern frontiers. With the eastern Ghat range of hills, almost passing through the heart of the state, high Similipal hills on its north and around 480 kms of coast line on its east, Odisha having varied ecosystems from marine to

semi-arid on the west provides ‘niches’ for diverse animal and plant communities (Patnaik, 1966). The entire territory lies in the tropical zone as a result of which high temperature is recorded particularly during April-May. However, the sea exercises a moderating influence over the climate of the coastal belt whereas the hill tracts experience an extreme climate. The vegetation found in this region is tropical moist deciduous forest type (Champion and Seth, 1968). Obviously the Odishan people have not only depended on this rich floristic resources to fulfill all their basic needs, but it has also influenced the faith, belief, rituals, customs, art, craft, sculpture and other finer expressions of human mind and creativity of this region from time immemorial.

Data collection

A survey was under taken in rural villages of coastal districts of Odisha (Fig. 1) from 2012-2016.

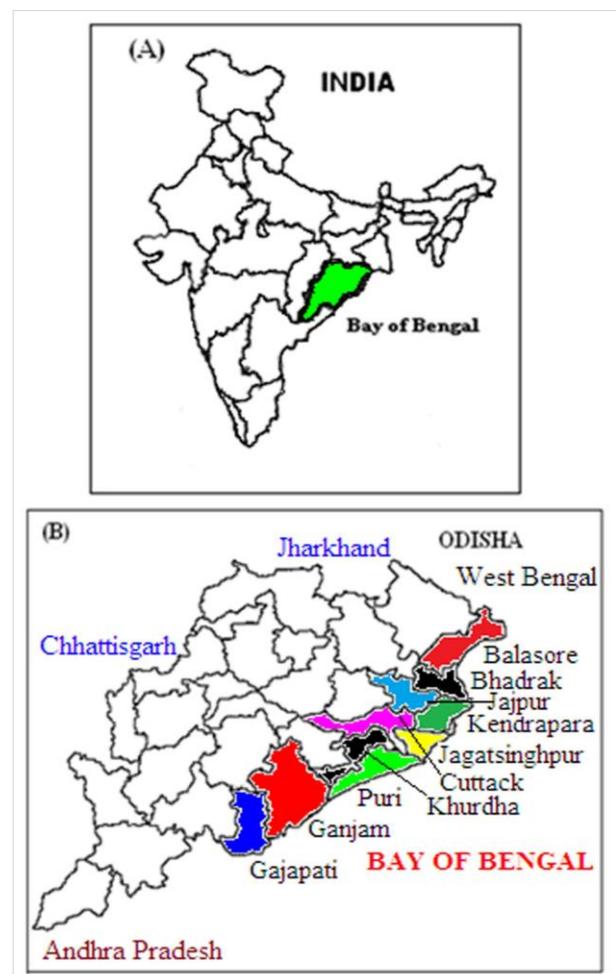


Fig. 1: (A) Location of Odisha state in the eastern region of India; (B) Study area showing different districts.

Before the field study- aims, methods, anticipated benefits of the study were adequately explained to the informants in local language, i.e. (Odia), due consent and cooperation was taken for the documentation of the traditional plants used by them. Bata Osha (Yamaraja Osha) was observed by the women at night. The women of rural Odisha were mostly shy in nature and generally fear and feel shame to talk with unknown persons. To overcome this problem, we discussed with the heads of the village, asked about their opinions and made decisions together on where to go and what to do. Information was gathered from informants of various ages in different villages by using participant observation, open-ended conversations and semi-structured questionnaires (Jain, 1987; Martin, 1995). Information on vernacular names, life forms, growth, local status, growth ranges, sources, parts used, and uses of the plant species were collected and recorded from the informants. Personal interviews and group discussions with local inhabitants revealed some valuable and specific information about the plants, which were further compared and authenticated by crosschecking (Cunningham, 2001). Interviews with people were also conducted on a systematic basis to know more details about plant species, their management and distribution. All the plant species which were found useful and linked with the ritual and festival were collected and identified through consultation with the experts and by using standard floras and available literatures (Haines, 1925; Saxena and Brahmam, 1996). Voucher specimens were deposited in the herbarium of Botany Department, S.G College, Kanikapada. The list of plants were depicted in a tabular form along with their botanical names followed by family, their local names in Odia if any, the parts used for Bata Osha purpose and medicinal utility.

Results and discussion

Bata Osha is observed by the married women of villages at mid night about 10-11 PM on 3rd day of Panduu Purnema in Odia calendar month of Pausa (Dec.-Jan.) every year. The Osha is meant for blessing and long life of son and to give birth a son who has no son. During the present study, a total of 28 plant species belonging to 27 genera under 15 families are recorded (Table 1; Fig. 2-6). The most cited plant families are Arecaceae with 5 species followed by Poaceae and Malvaceae four species each. Documentation of such plants from the perspective of ethnobotanical angle is important for the understanding of indigenous knowledge systems. On the day of observation, women in coastal district of Odisha clean a spot in middle of the three way of road of the village by pasting cow dung water in sufficient time before worship. After complete dry, they draw jhoti/chita resembling bunches of paddy cornels and flower of *Nelumbo nucifera* Gaertn. by using rice paste in water. They collect different types of fruits, stems and other materials like sugarcane, banana, radish, vermilion, sandal, kajala and prepare different types of cakes using rice, coconut, jiggery and casein. They collect different types of flowers such as aparajita (*Clitoria ternatea*), mandar (*Hibiscus rosa-sinensis*), bajramuli (*Sida acuta*), tagar (*Ervatamia divaricata*) etc. They carry all necessary articles to the spot of worship. They cover the offerings by Bajramuli (*Sida acuta*). They sweep the place in a line around the place of worship and also touch the heads of sons sitting around the place of worshiping for their long life. The priest recited mantra and read out the Book of Bata Osha (Anonymous, 2017).

Table 1. Plants used in Bata Osha (Jamaraja Osha) and its medicinal utility.

Botanical name (Family) and 'vernacular name'	Parts used	Traditional use in rituals	Medicinal use
<i>Aeschynomene aspera</i> L. (Fabaceae) 'Sola'	Stem	Padak or Garland is made in stem and offered to Ghata/Kalasa.	Leucoderma.
<i>Areca catechu</i> L. (Arecaceae) 'Gua'	Fruit	Used as representative of Yamaraja (God of Death) for worship	Flatulence, odema, dysuria, diarrhoea, dysentery.
<i>Bambusa arundinacea</i> (Retz.) Willd. (Arecaceae) 'Baunsa'	Stem	Used in making container (called basket or Tokei for keeping all the Prasad (cakes, flattened rice, swollen rice, etc.)	Leprosy, skin disease, ring worm, arthralgia, gonorrhoea, wounds, fever, dyspesia, nausea
<i>Borassus flabellifer</i> L. (Arecaceae) 'Tala'	Leaf	Used in making Asana on which priest sits on ground.	Ring worm, chest burning, colic, constipation, intestinal worm, leprosy

Botanical name (Family) and 'vernacular name'	Parts used	Traditional use in rituals	Medicinal use
<i>Calamus rotang</i> L. (Arecaceae) 'Beta'	Stem	Used in making container (called basket or Tokei for keeping all the Prasad (cakes, flattened rice, swollen rice etc.)	Cough, bronchitis, dysentery, leprosy, skin disease, inflammations, hyperdipsia.
<i>Cascabela thevetia</i> (L.) Lippold. (Apocynaceae) 'Kaniora'	Flower	Offered to Ghata (Kalasa) and to representative of Yama God as ornament.	Dropsy, rheumatism, cardiac diseases, asthma.
<i>Cocos nucifera</i> L. (Arecaceae) 'Nadia'	Fruit	Used in making panchamruta (Prasad), this is offered to Ghata and Yama God.	Sores, scabies, stomachache, rheumatism, diarrhoea, dysentery.
<i>Clitoria ternatea</i> L. (Fabaceae) 'Aparajita'	Flower	Offered to Ghata (Kalasa) and to representative of Yama God as ornament.	Ophthalmopathy, amentia, helminthiasis, leprosy, leucoderma, elephantiasis, inflammation, bronchitis, asthma, ulcers, ascites, hepatopathy.
<i>Cucumis sativus</i> L. (Cucurbitaceae) 'Kakudi'	Fruit	Used in making panchamruta (Prasad), and offered to Ghata and Yama God.	Hyperdipsia, thermoplegia, fever, insomnia, cephalalgia, bronchitis, jaundice, constipation, renal calculus,
<i>Cynodon dactylon</i> (L.) Pers. (Poaceae) 'Duba'	Whole plant	Placed on Ghata (Kalasa) as per tradition in almost all rituals.	Leprosy, skin disease, vomiting
<i>Desmostachya bipinnata</i> (L.) Stapf. (Poaceae) 'Kusa'	Stem	Stem is used in making Kusa Batu (one type of ring) which is weared in right hand finger.	Asthma, jaundice, dysentery, skin eruption, menorrhagia.
<i>Ervatamia divaricata</i> (L.) Burkill. (Apocynaceae) 'Tagara'	Flower	It is offered to Ghata (Kalasha) and representative of Yama God as ornament.	Paralysis, dermatopathy, anti-inflammatory, ophthalmitis.
<i>Gossypium herbaceum</i> L. (Malvaceae) 'Tula'	Flower	It is used in making weak (Salita) in deepa which is burnt with cow ghee as fuel during worship.	Induce abortion, ease menstrual cramps, boils, sores, good hairs.
<i>Hibiscus rosa-sinensis</i> L. (Malvaceae) 'Mandara'	Flower	It is offered to Ghata (Kalasha) and representative of Yama God as ornament.	Hyperdipsia, inflammations, nephropathy, anthelmintic, ophthalmic, dyspepsia
<i>Mangifera indica</i> L. (Anacardiaceae) 'Amba'	Twig	It is placed on Ghata (Kalasa) during worship.	Diarrhoea, dysentery, peptic ulcer, stomach disorder, asthma
<i>Michelia champaca</i> L. (Magnoliaceae) 'Champa'	Flower	It is offered singly or in form of garland to Ghata (Kalasha) and representative of Yama God as ornament.	Abscesses, inflammation, constipation, amenorrhoea, fever, cough, bronchitis, ophthalmia, cough, malarial fever, nephropathy
<i>Musa paradisiaca</i> L. (Musaceae) 'Kadali'	All parts	Leaf is used for placing of Ghata and for offering panchamruta to Ghata or Kalasa. Fruit is used in making panchamruta or directly offered to Ghata (Kalasa) and representative of Yama God. Leaf sheath is used as thread for making garland.	Venereal disease, scabies, leprosy, debility, inflammation, stomachic, hyperacidity, colic, diabetes, dysentery, ascites, dropsycolic, burning sensation, fever, insomnia, bronchitis, jaundice, renal calculus.
<i>Nerium indicum</i> Mill. (Apocynaceae) 'Kaobira'	Flower	It is offered to Ghata (Kalasha) and representative of Yama God as ornament.	Anthelmintic, asthma, leprosy, ulcer, scabies, ring worm.
<i>Ocimum sanctum</i> L. (Lamiaceae) 'Tulsi'	Leaves	The plant considered sacred by the Hindus. The leaves are used for the worship.	Constipation, cholera, cough cold, wounds of leprosy, diabetes, prevent bad breath.

Botanical name (Family) and 'vernacular name'	Parts used	Traditional use in rituals	Medicinal use
<i>Oryza sativa</i> L. (Poaceae) 'Dhana'	Grain	The grain is used in making different types of cakes for offering. It is also used in making flattened rice, swollen rice, ukhuda for offering as Prasad to God. Ghata (Kalasa) is placed on unhusked grain during worship.	Burning sensation, diarrhoea, colonopathy.
<i>Punica granatum</i> L. (Punicaceae) 'Bedana'	Fruit	It is used in offering as Prasad during worship.	Syphilis, jaundice, diarrhea, nose bleeding.
<i>Raphanus sativus</i> L. (Brassicaceae) 'Mula'	Whole plant	Whole plant is used for worship this ritual.	Indigestion, skin infections, diuretic, carminative, digestive, laxative and flatulence.
<i>Saccharum officinarum</i> L. (Poaceae) 'Akhu'	Stem/ (Jiggery)	Jiggery is added in Prasad and direct culm (stem) is offered during worship.	Sore of eyes and throats.
<i>Santalum album</i> L. (Santalaceae) 'Chandan'	Wood	The paste of the wood is used in making swastika mark (Tilaka) on the Ghata (Kalasa) which is worshipped and on representative of Yamaraja (Betel nut).	Skin disease, leprosy, cardiac debility, hyperacidity, jaundice, cough, bronchitis, inflammation, dysentery, leucorrhoea, spermatorrhoea, general debility.
<i>Sida acuta</i> Burm.f. (Malvaceae) 'Bajramuli'	Whole plant	Whole plant is worshipped and placed on Bhoga or Prasad kept in Basket. After worshipping, women who have done fasting sweep the ground around the place of worship as khadika and touch the head and back of their children wishing their age as bajra i.e. long life of their children for which this Brata Osha is made.	Fever, leucorrhoea, colic, nervous disorder.
<i>Sida cordata</i> (Burm. f.) Borssum. (Malvaceae) 'Bajramuli'	Whole plant	Whole plant is worshipped and placed on bhoga or Prasad kept in Basket/Beta. After worshipping women who have done fasting sweep the ground around the place of worship as khadika and touch the head and back of their children and other children wishing their age as bajra i.e. long life of their children for which this Brata Osha is made.	Fever, arthritis, leucorrhoea, gonorrhoea, diarrhoea.
<i>Tagetes petula</i> L. (Asteraceae) 'Gendu'	Flower	It is offered singly or in form of garland to Ghata (Kalasha) and representative of Yama God as ornament.	Ear ache, purgative.
<i>Zyzyphus mauritiana</i> Lam. (Rhamnaceae) 'Barakoli'	leaf	Leaves are placed on Ghata (Kalasa) during worship.	Prevent hair fall, vomiting, abdominal pain, diarrhea, chest trouble

Legendary story-1: This story is read in Bata Osha (Anonymous, 2017). There was a poor Brahmin in PataliPutra who had seven sons. But all died. So the Brahmin was very sad. He was a devotee of Lord Vishnu. He continuously worshiped Lord Vishnu. Lord Vishnu became pleased and advised the Brahmin to

perform ritual Bata Osha (Yamaraja, The God of death) by his wife in dream to get a child. Brahmin wife performed this Osha and blessed with a son.

Legendary story-2: The King of Koshala State (A part of ancient Odisha) was a very kind hearted man but he

was very unhappy because he had no son. In the evening of Bata Osha, the Queen listened the sound of Hula Huli (a sound created by the village women by moving their tongue in mouth in all ceremonial occasions, festivals, worships, oshas, Bratas and rituals) and interrogated her female servant about the matter. The female servant explained about the secret behind the Yamaraja Osha and the queen committed to perform this Osha. The Queen ate Prasad sent by village women and after few days she blessed with a son. The son grew and went to school for education. Both king and queen were happy but the queen forgot her commitment. The king Yamaraja became angry and take away the son to the heaven (Yamalaya where the soul get punishment according to their sin before mixing with super soul paramatma) and instructed her mother to cook the boy and went to take bath. Meanwhile the small boy sneezed and the mother of Yamaraja blessed the boy “wish you long life”.

As a result the king Yamaraja left the son near the palace of the king. King and queen became happy and listened the story of Yamaraja from his son. The queen realized the matter and performed the Bata Osha (Anonymous, 2017). After chanting mantra, prasad is offered to the god Jamaraja. Then prasad is distributed (Bhoga) to the children and others in place of worship. Some of the earlier studies (Chaudhry et al. 2011; Gam and Nath, 2012; Pala et al., 2014) have also focused the indigenous knowledge system of various rituals in relation to plant resource utilization. Plant species with medicinal utility reported in this paper are also documented in earlier works (Rout et al., 2009; Panghal et al., 2010; Sankaranarayanan et al., 2010; Sinhababu and Banerjee, 2013; Mishra et al., 2015).



Fig. 2: Image of Jamaraja.



Fig. 3: Collected material at the spot of worship.



Fig. 4: Arrangement of materials by priest at the worship spot.



Fig. 5: Married women at the worship place.



Fig. 6: Some plant species used in Bata Osha Brata (a) *Aeschynomene aspera* L. (b) *Calamus rotang* L. (c) *Cascabela thevetia* (L.) Lippold. (d) *Ervatamia divaricata* (L.) Burkill. (e) *Nerium indicum* Mill. (f) *Ocimum sanctum* L. (g) *Punica granatum* L. (h) *Sida acuta* Burm.f. (i) *Zizyphus mauritiana* Lam.

Conclusion

Ritual use of plants is an on-going tradition that continues to develop all around the world. The present paper demonstrates that the indigenous knowledge system of Odishan people in relation to plant utilization has been found directly relevant to the conservation and management of ecosystem. All the species used in the rituals and cultures are taken care by the community in their natural habitat indicating the impacts of the tradition and culture in ecosystem and plant conservation. All the species that are used in rituals and

religious performances are not only protected in the vicinity but are also managed in their agroforestry systems. Some of the species like *Areca catechu* L., *Cocos nucifera* L., *Cucumis sativus* L., *Mangifera indica* L., *Michelia champaca* L., *Musa paradisiaca* L. and *Punica granatum* L. used in the rituals are the valuable resources for the community providing the livelihood and economic support. The traditional knowledge, various sociocultural beliefs and practices, religious taboos emerged in course of development of human society no doubt play an important role in protecting the natural resources and thereby managing the biodiversity.

Conflict of interest statement

Authors declare that they have no conflict of interest.

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