



Medico-botany of plants used in rituals in Jajpur district of Odisha

Kunja Bihari Satapathy^{1*}, Prasanna Kumar Mishra², Gouri Sankar Juga Prakash Jena³

¹ Department of Botany, School of Applied Sciences, Centurion University of Technology and Management, Odisha, India

² Department of Botany, V.N. Autonomous College, Jajpur Road, Odisha, India

³ Department of Botany, Sadhu Goureswar College, Kanikapada, Jajpur, Odisha, India

Abstract

Plants have been associated with the life and culture of mankind since the beginning of the human civilization. India is exceptionally rich in rituals owing to its great diversity in religious cultures and traditions. Plants are considered as important components of these traditional rituals which are used for some definite purposes. A survey was conducted on some Hindu temples of Jajpur district of Odisha to explore the plants used in daily and festive rituals. The observations indicate that the present-day residents of Jajpur district of Odisha have been maintaining the age-old practice of offering of plants to the deities in form of fruits, flowers and leaves as well as specific floral objects during festivals and family rituals. The present communication attempts to document and enumerate the medico-botanical relevance of plants used in present-day religious rites by the people of Jajpur district of Odisha. During the survey 88 angiospermic species belonging to 74 genera and 43 families have been collected, critically studied, identified and incorporated in the Herbarium. Ailments covered in this paper include anorexia, bronchitis, cold, colic pain, conjunctivitis, constipation, diabetes, diarrhoea, dysentery, dysuria, epilepsy, galactorrhoea, menstrual disorder, piles, pyorrhoea, scabies, small pox, throat infection and foot and mouth disease in animals.

Keywords: Medico-botany, ritual-plants, worship-plants, Odisha.

1. Introduction

Plants are often connected with the culture of mankind since ancient times; they do not have just religious values but also have other values associated with them. All our religious scriptures (Vedas, Upanishads, Arthasashtra, etc.) are replete with information signifying the mythological, religious and cultural importance of plants species in human life. Our ancestors not only worshiped the trees and other plants, but they also venerate mountains, water and animals. Evidently, none of the religious ceremonies of Hindus is complete without the use of plants or plant parts as it is believed to sanctify the surroundings for devotional ambience and provided a link with the ethereal, with eternity, with the universe, and ultimately helped to create a sense of reverence of nature and natural resources.

Plants have specific role in religious and social ceremonies of every rural society, and offered for worshipping several deities by the people of our country right from the 'Vedic' period ^[1]. One can find thousands of references to the uses of plant by man, in the time honoured Indian epics and other ancient Sanskrit literature. Almost all the religious communities and tribal societies consider some plant(s) as holy in origin and essential/important in religious functions ^[2]. Hindus believe that the plants used in various rituals are endowed with peculiar medicinal, culinary and other properties that account for their reverence in Hindu ceremonies ^[3]. There is no part of the world, in which, this greatest gift of God to mankind has not been regarded with special reverence. Many flowers, fruits, or whole plants and vegetations have been used by the Indian in their various religious rituals and worshipping as incense, votive offerings to deities in temples, ceremonial sacrifices, warding-off evil spirits, and to provide fertility to barren women, boon of male child, good luck, prosperity and protection to

worshippers. It is customary to use leaves of *Piper betle*, *Mangifera indica* and *Cynodon dactylon* in all religious ceremonies of 'Hindus' in India. Unfortunately with the development of society and economy, traditional culture is declining, and needs to be documented for devising any comprehensive conservation strategy for region in particular.

The plant-religion nexus has its origin in the pre-historic times. The tree-worship in India is one of the earliest forms of religious cult. Many communities worship trees as symbols of deities, who are believed to reside on them. Worshipping for blessings and betterment of life is common in all human beings. During worshipping, traditional rituals are being performed by offering appropriate plant materials to the deities, right from the ceremony of birth till mourning for death. This custom has been observed in tribal communities too. Being an important centre of ancient culture of Odisha, Jajpur has the distinction of introducing and observing a diverse group of rituals and, therefore, still retain its geo-cultural identity. This place is popularly known as "Biraja Khetra" or "Baitarini Tirtha" and is the oldest cultural centre of Odisha. Jajpur is famous for the "Goddess Biraja", "Lord Baraha", "the Vedic tradition", "the Baidic Brahmins" and the river "Baitarini". In the "Mahabharata" and several mythological literatures like the "Bhagabata", "Bamanpurana", "Tirthachintamani", "Biraja Mahatmya", "Kapilasanhita", "Brahmapurana", "Bayupurana", and others, "Baitarini" has been described as a holy river and compared with the river Ganges. The fame, sanctity and popularity of the "Baitarini Tirtha" as a sacred place of pilgrimage have been known since remote past. In the "Banaparba" of "Mahabharata" (ascribed to have been compiled during the third century B.C.) it was clearly stated that "Biraja Tirtha", situated in the "Kalinga kingdom" on

the river “Baitarani” was a pilgrimage of immense importance.

The present study explores to register plants used in rituals by different segments of human population of Jajpur district of Odisha and, in addition, to record observations on their therapeutic utilities.

2. Methodology

Jajpur, one of the interior districts of Odisha, lies between 20°35'-21°10' N latitudes and between 85°40'-86°40' E longitudes (Fig.1). It is surrounded on the north by Balasore

and Keonjhar districts, on the south by Cuttack and Kendrapara districts, on the west by Dhenkanal district and on the east by Kendrapara district. Various temples, places of religious importance, different family rituals, temple rituals, and funeral rituals were identified in Jajpur district of Odisha (Fig.2). Local knowledgeable people, ‘Vedic Brahmins’ and temple priests were interviewed to collect information concerning the plants or plant parts used in rituals carried out in house-hold or in temples on daily basis or during festive seasons. The references cited in ancient text were also studied [4-22].

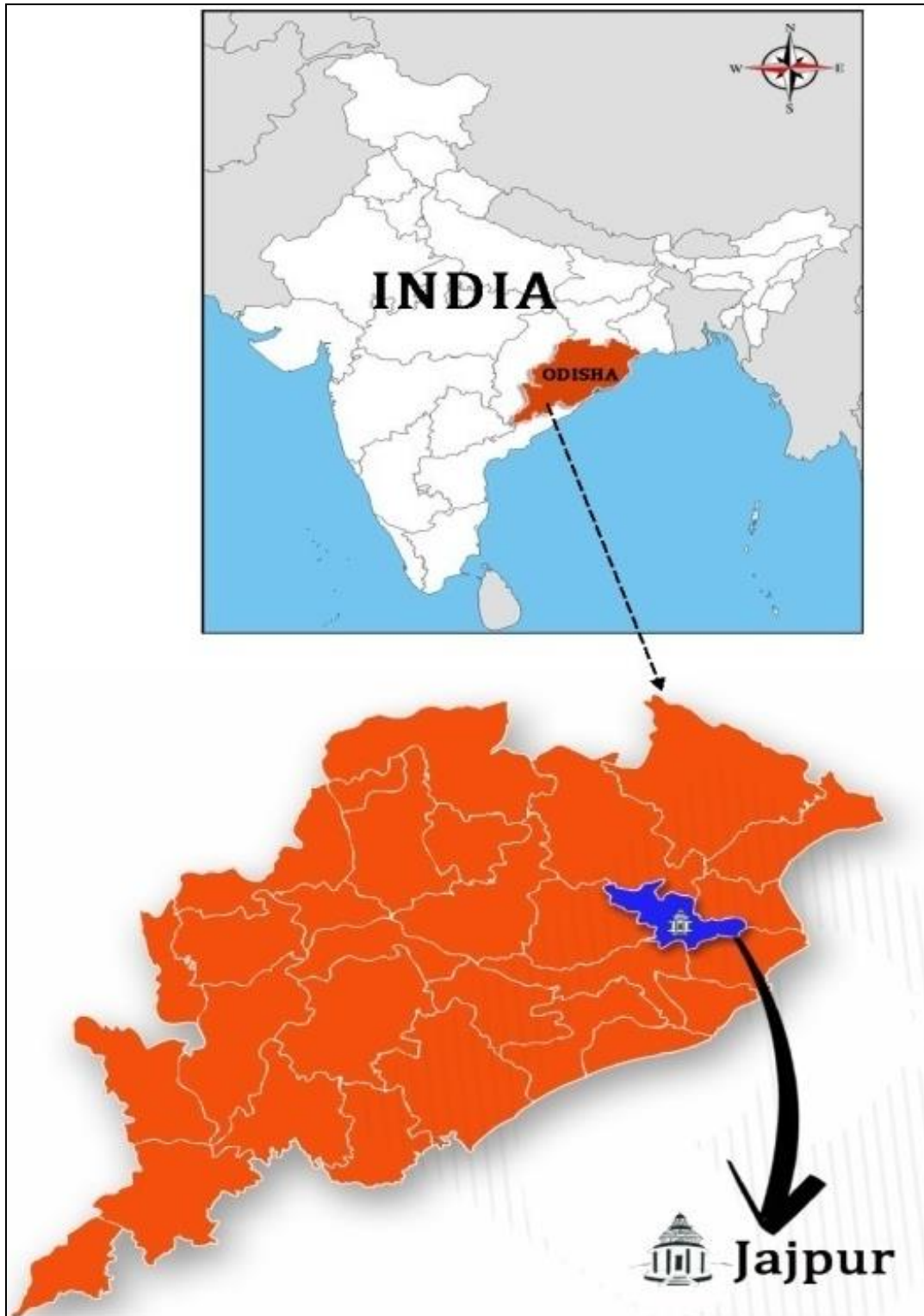


Fig 1: Map showing the location of Jajpur district of Odisha

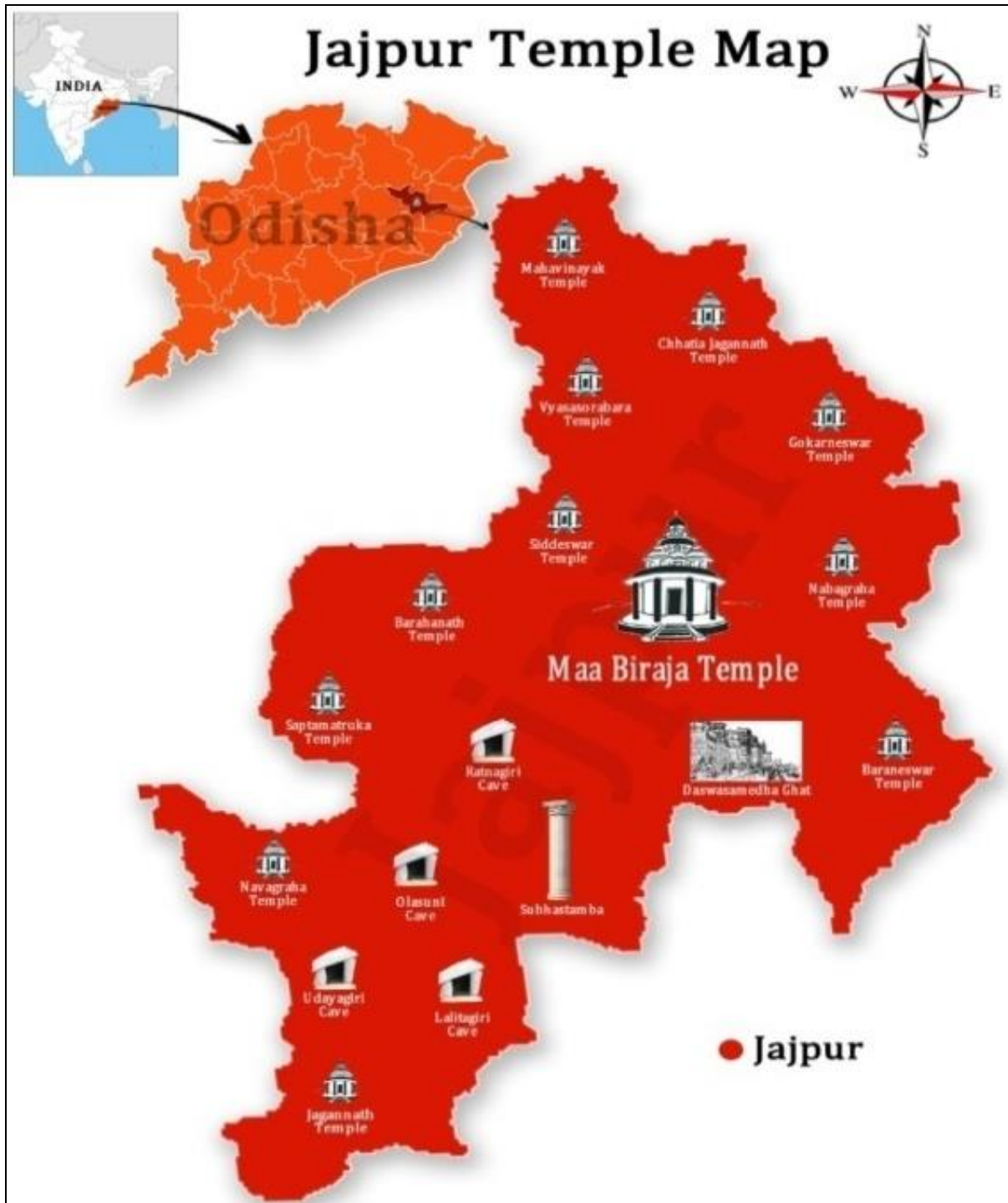


Fig 2: Map showing the important religious places and temples in Jajpur district of Odisha

The floristic composition of the neighborhood was thoroughly examined and the plants being used in domestic and temple rituals were studied and identified. As different species of plants come to flower and fruiting at different seasons, field survey were executed in such a way as to accommodate relevant information in different stages of their life history, besides to acquaint with plants or plant part (s) being used in family rituals as well as temple rituals round the year. Folk-lore claims of the plants used in rituals were documented along with voucher specimens. Local name(s) in Odia is given in order that the native inhabitants could be consulted for locating and procuring such plants. The specimens collected were identified with the help of regional flora - The Botany of Bihar and Orissa [23]. Further confirmation was made by following “The Flora of Orissa”

[24]. Plants are enumerated here with details mentioning their local name, sanskrit name, botanical name, and their therapeutic value. All these specimens were deposited in Herbarium of Department of Botany, V.N. Autonomous College, Jajpur Road, Odisha for future references.

3. Results and Discussion

The rituals observed in Jajpur could be broadly categorized in relation to (i) divine deities (Gods and Goddesses) and family deities (forefathers). The major plant species utilized in rituals of this district are discussed here (Table1-4). Out of a large number of plants or plant parts used in performing various rituals, some are required for religious rites (marriage ceremony, sacred thread ceremony, birth ceremony etc.: Table 1), while others being associated with

festive and funeral rituals (Table 2) and a number of plant part (s) especially flowers are associated with the worship of divine deities (Table 3). A number of plants are also related to propitiatory rituals such as house-warming (Griha Prabesh) occasions. Information also includes plants edible before and during religious celebrations (e.g. fruits of *Mangifera indica*, *Emblica officinale*, *Terminalia chebula*, *Phaseolus aureus*; leaves of *Leucas cephalotes*, *Leucas aspera*, *Mollugo pentaphylla* and *Ipomoea aquatica*); plants inedible before and during religious rites such as “Panchuka brata” in the month of “Kartika” (e.g. *Daucus carota*, *Raphanus sativus*, *Lens culinaris*, *Piper betle*, *Basella rubra* and *Agaricus campestris*) and also use of plants like *Pongamia pinnata*, *Calotropis procera*, *Phyllanthus fraternus* and *Streblus asper* etc. in achieving some specific virtues. It is fascinating to note that several or all of these offerings possess therapeutic value. Of the plants worshipped in Jajpur (Table 4), some have local or regional appeal while others have widespread reverence. Since time immemorial, plants have been regarded as living beings; it was, therefore, strictly forbidden to hurt or destroy them. In giving nature a sacred sense, the aboriginal communities preserve plant resources in a more holistic way. Although the impact of modernisation has shattered many indigenous

and traditional beliefs, the custom of tree-worship is still in vogue. The ‘Amalaki’ (*Phyllanthus emblica*), ‘Tulasi’ (*Ocimum sanctum*), ‘Asvattha’ (*Ficus religiosa*), ‘Vata’ (*Ficus benghalensis*), ‘Bilva’ (*Aegle marmelos*), ‘Nimbah’ (*Azadirachta indica*), ‘Amrah’ (*Mangifera indica*), ‘Ashoka’ (*Saraca asoca*), and other sacred trees are worshipped throughout Jajpur district of Odisha while ‘Madhukah’ (*Madhuca indica*), ‘Shami’ (*Prosopis cineraria*), ‘Salah’ (*Shorea robusta*), ‘Shakhotaka’ (*Streblus asper*) and ‘Salmali’ (*Bombax ceiba*), only in specific regions especially in tribal pockets. The aquatic and marshy plants like *Nelumbo nucifera*, *Nymphaea nouchali*, *Nymphaea stellata*, *Aeschynomene aspera* and *Ipomoea aquatica* have also made a place in the rituals in addition to the more common fragrant flowers such as ‘Malli’ (*Jasminum sambac*), ‘Champaka’ (*Michelia champaca*), ‘Nagakeshara’ (*Mesua ferrea*) and ‘Malati’ (*Aganosma caryphyllata*).

This paper gives an elaborate account of 88 plant species belonging to 74 genera and 43 angiospermic families which are being used in the year round rituals observed by the different segments of human population in Jajpur district of Odisha. It is interesting to note that all of these plants are having medicinal properties and a few are of nutritive value.

Table 1: Plant(s) or plant part(s) used during family festives in Jajpur district of Odisha and their medicinal uses

Occasion(s)	Botanical name & Family	Local name(s)/ Sanskrit names	Part(s) used	Uses in ailments
‘Sathi-puja’	<i>Bambusa arundinacea</i> (Retz.) Willd. (Poaceae)	Baunsa/Bans	Flower	Hypertension, Leprosy & Diabetes.
	<i>Clitoria ternatea</i> L. (Fabaceae)	Aparajita	Grain	Infections in Ear, Pimples, Epilepsy, Skin diseases & Insomnia.
	<i>Colocasia esculenta</i> (L.) Schott (Araceae)	Saru/Alukee	Whole plant	Piles, Body-ache & Stomach-ache.
	<i>Panicum miliaceum</i> L. (Poaceae)	Rala/Ghantia	Grain	Oedema, Sores & Gonorrhoea.
	<i>Sida cordifolia</i> L. (Malvaceae)	Bisiripi/Bala	Whole plant	Piles, Abscesses, Diabetes & Urinary troubles.
Birth ceremony	<i>Areca catechu</i> L. (Arecaceae)	Gua/Puga	Nut	Induce abortion, Infected gum, Diabetes & Diarrhoea.
	<i>Cocos nucifera</i> L. (Arecaceae)	Paida/Narikela	Fruit	Burn, Eczema, Impotency, Headache & Measles.
	<i>Cynodon dactylon</i> (L.) Pers. (Poaceae)	Duba/Durva	Leaf	Erysipelas, Hypertension, Excessive bleeding, Haemorrhoids, Toothache, Gastrointestinal problems & Syphilis.
	<i>Mangifera indica</i> L. (Anacardiaceae)	Amba/Amrah	Vegetative twig	Diarrhoea, Blood dysentery, Diarrhoea, Uterine haemorrhage, & Scorpion sting.
	<i>Musa paradisiaca</i> L. (Musaceae)	Pachila-kadali/ Rambha	Fruit	Anorexia, Skin whitener, Hair conditioner, General debility, Coughing of blood, Neuritis & Hypertension.
	<i>Piper betle</i> L. (Piperaceae)	Pana/Tambulah	Leaf	Fever, Suppuration, Earache, Cough, Cold, Indigestion & Hoarseness of voice.
	<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae)	Jamu/Jambuh	Leaf	Diabetes, Dysentery & Wound healing.
	<i>Ziziphus mauritiana</i> (Burm.f.) Wight & Arn. (Rhamnaceae)	Bara-koli/Badara	Leaf	Skin diseases, Injury on shoulder of oxen & Scabies.
Sacred thread ceremony	<i>Butea monosperma</i> (Lam.) Taub. (Fabaceae)	Palas	Vegetative twig	Bone fractures, Prevent pregnancy, Urinary troubles & Worm infestation.
	<i>Crotalaria juncea</i> L. (Fabaceae)	Chanapata	Fibres	Diabetes
	<i>Ficus benghalensis</i> L. (Moraceae)	Bara/Vatah	Young prop root	Diarrhoea, Wounds, Sexual impotency, Teeth & Gum disorders, Diabetes, Crack of the heels & Toothache.
	<i>Ficus hispida</i> L. (Moraceae)	Airi-dimiri/Yagi-dumur	Vegetative twig, fruit, wood	Jaundice, Galactagogue

	<i>Gmelina arborea</i> Roxb. (Verbenaceae)	Gambhari	Wood (used for 'Sruba' & 'Sucha')	Cardiac disease & Diabetes.
	<i>Gossypium arboreum</i> L. (Malvaceae)	Kapa/Karpashah	Cotton fibre (used for sacred thread)	Leucorrhoea, Lactation, Leucoderma & Body Itching.
	<i>Shorea robusta</i> Gaertn. (Dipterocarpaceae)	Salua/Salah	Wood (used for Homa)	Seminal weakness, Blood dysentery, Scabies, Earache, Diarrhoea & Syphilis.
Marriage ceremony	<i>Capparis sepiaria</i> L. (Capparaceae)	Ashadua-suta	Stem	Skin diseases.
	<i>Aescynomene aspera</i> L. (Fabaceae)	Sola	Stem	Joint-pain, Leucoderma, Cold & Cough.
	<i>Commiphora wightii</i> (Arn.) Bhandari (Burseraceae)	Guggula	Resin	Rheumatism, Pyorrhoea, Leucorrhoea & Mouth ulcer.
	<i>Curcuma longa</i> L. (Zingiberaceae)	Haladi/Haridra	Rhizome	Colic pain, Asthma, Cutaneous diseases, Round worm infection, Diabetes, Conjunctivitis, Jaundice & Glycosuria.
	<i>Desmostachya bipinnata</i> (L.) Stapf (Poaceae)	Kusha	Stem, leaf	Uterine bleeding, Dysuria, Common cold, Fever & Arthritis.
	<i>Nardostachys jatamansi</i> (D. Don) DC. (Caprifoliaceae)	Jatamansi	Root	Hysteria, Convulsions, Worm infestation & Burning sensation in Skin.
	<i>Ocimum sanctum</i> L. (Lamiaceae)	Tulasi	Leaf	Colds & Fevers, Pustules, Toothache, Ear infection, Pyorrhoea & Kidney stones.
	<i>Pueraria tuberosa</i> L. (Fabaceae)	Bhuin-kakharu/Vidari	Tuber	Urinary disorder & General debility.
	<i>Terminalia bellirica</i> L. (Combretaceae)	Bahada/Bibhitaki	Fruit	Piles & Constipation.
	<i>Terminalia chebula</i> L. (Combretaceae)	Harida/Haritaki	Fruit	Chronic dysentery, Piles & Constipation.

Table 2: Plant(s) or plant part(s) associated with family deities in Jajpur district of Odisha and their medicinal uses

Botanical name and Family	Local name/ Sanskrit name	Part (s) used	Occasion (s)	Uses in ailments
<i>Areca catechu</i> (L.f.) Willd. (Mimosaceae)	Gua/Pugah	Fruit	All rituals	Leucorrhoea.
<i>Artocarpus heterophyllus</i> L. (Moraceae)	Panasa	Leaf	'Sradha'	Spermatorrhoea, Diarrhoea, Mumps & Infections in the leg of cattle.
<i>Azadirachta indica</i> A.Juss. (Meliaceae)	Nimba	Leaf	Funeral	Skin disease & Diabetes.
<i>Bambusa arundinacea</i> (Retz.) Willd. (Poaceae)	Baunsa/Benu	Stem, flower	Funeral & 'Shradha'	Hypertension, Leprosy & Diabetes.
<i>Brassica juncea</i> (L.) Czern. & Coss. (Brassicaceae)	Dhala Sorisha/ Sweta-Sarsapa	Seed	All rituals	Pruritus, Enamel loss in Teeth & Diarrhoea.
<i>Capparis sepiaria</i> L. (Capparaceae)	Kanti	Flower	'Paya-shradha'	Skin diseases.
<i>Cocos nucifera</i> L. (Arecaceae)	Nadia/Narikelah	Nut	All rituals	Burn, Eczema, Impotency, Headache & Measles.
<i>Crateva magna</i> (Lour.) DC. (Capparaceae)	Varuna	Bark	Funeral	Cardiac diseases, Rheumatoid-arthritis, Indigestion, Facial cream & Abdominal pain.
<i>Cynodon dactylon</i> (L.) Pers. (Poaceae)	Duba/Durva	Leaf	All rituals	Erysipelas, Hypertension, Excessive bleeding, Haemorrhoids, Toothache, Gastrointestinal problems & Syphilis.
<i>Desmostachya bipinnata</i> (L.) Stapf (Poaceae)	Kusha	Stem, leaf	All rituals	Uterine bleeding, Dysuria, Common cold, Fever & Arthritis.
<i>Ficus religiosa</i> L. (Moraceae)	Oshtha/Peepalah	Bark	Funeral	Sprain, Leucorrhoea, Excessive urination, Painful urination, Ulcer & Skin diseases.
<i>Flacourtia jangomas</i> (Lour.) Raeusch. (Flacourtiaceae)	Baincha	Bark	Funeral	Gum bleeding, Mouth ulcer, Anorexia & Body ache.
<i>Hordeum vulgare</i> L. (Poaceae)	Jaba-dhana/Jaba	Grain	All rituals	Liver disorders, Obesity, Urine infection & Diabetes.
<i>Ichnocarpus frutescens</i> (L.) W.T. Aiton (Apocynaceae)	Suan-Lai/Sariva	Flowers & inflorescence	'Paya-shradha'	Gall stone, Skin infection, Menorrhagia & Diarrhoea.
<i>Musa paradisiacal</i> L. (Musaceae)	Kadali/Rambha	Fruits & leaf	All rituals	Anorexia, Skin whitener, Hair conditioner, General debility, Coughing of blood, Neuritis & Hypertension.
<i>Oryza sativa</i> L. (Poaceae)	Dhana/Dhanya	Grain	All rituals	Abdominal disorders, Piles, Lactation in cattle & Urinary dysfunction.
<i>Prosopis cineraria</i> (L.) Druce (Mimosaceae)	Shami	Bark	Funeral	Abortion, Rheumatism & Eye disorders.
<i>Sesamum orientale</i> L. (Pedaliaceae)	Khasa/Tilah	Seeds	All rituals	Obesity, Pimples, Hair growth, Ulcer, Burns, Piles & Urinary troubles.

<i>Zingiber officinale</i> Rosc. (Zingiberaceae)	Ada/Viswavesajam	Rhizome	'Paya-shraddha'	Epileptic fits, Sore throat, Waist pain, Cold, Anorexia & Dyspepsia.
<i>Ziziphus mauritiana</i> (Burm.f.) Wight & Arn. (Rhamnaceae)	Barakoli/Badarah	Leaf	'Shraddha'	Injury on shoulder of oxen & Scabies.

Table 3: Plant or plant part(s) offered to Divine deities in various festive occasions in Jajpur district of Odisha

Botanical name & Family	Local name(s)/ Sanskrit names	Part(s) used	Deities	Uses in ailments
<i>Aganosma caryophyllata</i> (Roxb. ex Sims.) G. Don (Apocynaceae)	Malati	Flower	Lord Jagannath	Bone injury.
<i>Artemisia nilagirica</i> (C.B.Cl.) Pampan (Asteraceae)	Dayana /Damanaka	Leaf	Lord Jagannath	Indigestion, Menstrual problems, Breast cancer, & Skin allergy.
<i>Barleria prionotis</i> L. (Acanthaceae)	Daskarenta/Artagalaha	Flower	Lord Shiva	Dental caries & Pimples.
<i>Benincasa hispida</i> (Thunb.) Cogn. (Cucurbitaceae)	Pani kakharu/Kusmanda	Leaf, Flower and Fruit	Lord Naga, Goddess Durga	Diabetes.
<i>Butea monosperma</i> (Lam.) Kuntz. (Fabaceae)	Palasa/Kinshuka	Flower and stem	Lod Brahma	Bone fractures, Prevent Pregnancy, Urinary troubles & Worm infestation.
<i>Caesalpinia pulcherrima</i> (L.) Sw. (Caesalpiniaceae)	Godibana/Sidhakya	Flower	All Gods and Goddesses	Suppuration, Tooth & gum troubles.
<i>Calotropis gigantea</i> (L.) Br. (Asclepiadaceae)	Sweta Arakha/Arka	Flower	Lord Shiva	Scabies, Toothache, Pimples & Foot diseases of cattle.
<i>Calotropis procera</i> (Ait.) R.Br. (Asclepiadaceae)	Arakha/Alarka	Flower	Lord Shiva	Earache, Acne, Pimples & Syphilis.
<i>Catharanthus roseus</i> (L.) G.Don. (Apocynaceae)	Sadabihari /Sadapuspa	Flower	Lord Surya (Sun)	Colic pain, Diabetes & Nasal bleeding.
<i>Chrysanthemum coronarium</i> L. (Asteraceae)	Sebattee	Flower	Lord Jagannath	Skin diseases.
<i>Clitoria ternatea</i> L. (Fabaceae)	Aparajita/Bishnukranta	Flower	Lord Shani, Lord Vishnu	Infections in Ear, Pimples, Epilepsy, Skin disease & Insomnia.
<i>Couropita guianensis</i> Aubl. (Lecythidaceae)	Nagachampa	Flower	Lord Shiva	Menstrual disorders & Toothache.
<i>Datura innoxia</i> Mill. (Solanaceae)	Dudura/Dhatura	Flower	Lord Shiva	Rheumatic pains & Urinary diseases.
<i>Datura metel</i> L. (Solanaceae)	Kala Dudura/Dhatura	Flower	Lord Shiva	Earache, Foot & mouth disease of cattle.
<i>Datura stramonium</i> L. (Solanaceae)	Dudura /Dhatura	Flower	Lord Shiva	Hair loss & Respiratory problems.
<i>Delonix regia</i> (Boj. ex Hook.) Raf. (Caesalpiniaceae)	Krushna chuda	Flower	All Gods and Goddesses	Laziness & Round worm infection
<i>Ervatamia divericata</i> (L.) Burkill (Apocynaceae)	Tagara/Tagarakam	Flower	All Gods and Goddesses	Toothache & Abdominal pain.
<i>Gardenia jasminoides</i> Ellis (Rubiaceae)	Sweta Sugandharaj	Flower	Lord Jagannath, Vishnu & Lord Shiva	Scabies.
<i>Gloriosa superba</i> L. (Liliaceae)	Pancha-angulia/Agnisikha	Flower	Goddess Durga	Constipation, Worm infestation in cattle, Hair fall & Ringworm infection.
<i>Hibiscus mutabilis</i> L. (Malvaceae)	Sthalapadma	Flower	Lord Jagannath, Balabhadra and Goddess Shubhadra	Kidney stone & Skin burning.
<i>Hibiscus rosa-sinensis</i> L. (Malvaceae)	Mandara /Jaba	Flower	Lord Shiva, Goddess Durga and her incarnations like Kalee, Mangala, Bimala & Chandee	Greying of the hair, Hair fall, Menorrhagia & Bloodlessness in cattle.
<i>Hibiscus schizopetalus</i> (Mast.) Hook.f. (Malvaceae)	Kuncha mandara/Deerna mandara	Flower	Lord Shiva, Goddess Durga and her incarnations like Kalee, Mangala, Bimala, Chandee etc.	Flatulence & Hair fall.
<i>Jasminum arborescens</i> Roxb. (Oleaceae)	Niali/Navamallika	Flower	Lord Jagannath	Stye.
<i>Jasminum auriculatum</i> Vahl (Oleaceae)	Jui /Yuthika	Flower	Lord Jagannath	Eczema & Ring-worm, Oral thrush.
<i>Jasminum grandiflorum</i> L. (Oleaceae)	Jai/Chambeli	Flower	Lord Jagannath	Facial complexion.

<i>Jasminum sambac</i> (L.) Ait. (Oleaceae)	Malli / Mallika	Flower	Lord Krishna and Jagannath	Stye & Urinary tract infections.
<i>Leucas aspera</i> (Willd.) Link. (Lamiaceae)	Gayasa / Dronapushpi	Flowering twig	Lord Shiva	Gastric trouble, Nose bleeding & Bone fracture.
<i>Linum usitatissimum</i> L. (Linaceae)	Alasi/Atasee	Flower	Goddess Durga	Urination, Removal of blemishes from the face & Round worm infection.
<i>Malvaviscus arboreus</i> Cav. var. <i>penduliflorus</i> (Malvaceae)	Lanka mandara/ Maricha jaba	Flower	Lord Shiva, Goddess Durga	Menorrhagia & Inflammations.
<i>Mesua ferrea</i> L. (Clusiaceae)	Nageswar/ Nagakeshar	Flower	Lord Shiva	Hemicarnia, Piles, Diabetes & Epilepsy.
<i>Michelia champaca</i> L. (Magnoliaceae)	Swarna champa/ Champak	Flower	Lord Shiva, Radha Krishna and Biswakarma	Mental disorder, Hair growth & Colic pain.
<i>Mimusops elengi</i> L. (Sapotaceae)	Baula/ Bakula	Flower	Lord Jagannath	Wounds, Strengthen the gum as well as the teeth & Inflammations.
<i>Murraya paniculata</i> (L.) Jack. (Rutaceae)	Kamini	Flower	Lord Jagannath, Balabhadra, Goddess Shubhadra and Lord Shiva	Burning sensation of the hands & feet.
<i>Neolamarckia cadamba</i> (Roxb.) Bosser (Rubiaceae)	Kadamba/Neepa	Flowering twig	Lord Shree Krishna	Uterine complaints, Burning sensation & Jaundice.
<i>Nerium oleander</i> L. (Apocynaceae)	Karabeera	Flower	Lord Shiva	Skin diseases.
<i>Ocimum sanctum</i> L. (Lamiaceae)	Tulasi/ Tulasee	Flowering twig and Leaf	Vishnu and his incarnation	Colds & fevers, Pustules, Toothache, Ear infection, Pyorrhoea & Kidney stones.
<i>Passiflora foetida</i> L. (Passifloraceae)	Sweta tamala/ Gandha tamala	Flower	Lord Jagannath	Burns & Swelling.
<i>Passiflora incranata</i> L. (Passifloraceae)	Krushnatamala	Flower	Lord Jagannath	Haemorrhoids, Burns, Swelling & Nervous disorders.
<i>Phyllanthus emblica</i> L. (Euphorbiaceae)	Aenla/ Amalaki	Leaf	Radha, Kriishna and Goddess Laksmee	Burning sensation, Leucorrhoea, Dysuria, Blood dysentery, Dry skin, Hair stainer & Diabetes.
<i>Plumeria rubra</i> L. (Apocynaceae)	Katha champa / Kastha Champaka	Flower	Lord Shiva	Itch, Foot & Mouth diseases in cattle.
<i>Pterospermum acerifolium</i> (L.) Willd. (Sterculiaceae)	Muchukunda / Muchukund	Flower	Lord Jagannath, Balabhadra and Goddess Shubhadra	Irregular Menstruation & Small Pox.
<i>Pterospermum canescens</i> Roxb. (Sterculiaceae)	Giringa/ Muchukund	Flower	Lord Jagannath, Balabhadra and Goddess Shubhadra	Abdominal pain & Eye irritation.
<i>Saraca asoca</i> (Roxb.) de Wilde (Caesalpiniaceae)	Ashoka	Flower, Leaf	Lord Shiva, Durga and Lord Ganesh	Leucorrhoea, Menstrual disorder, Freshness in skin & Uterine haemorrhages.
<i>Stachytarpheta jamaicensis</i> (L.) Vahl (Verbenaceae)	Shyama gayasa	Flower	Lord Shiva	Wounds & Earache.
<i>Tagetes patula</i> L. (Asteraceae)	Gendu, Manda/ Jhandu	Flower	All god and goddess	Earache & Parasitic Infections.

Table 4: List of Plants Worshipped in different festivals/ rituals in Jajpur district of Odisha

Botanical name & Family	Local name/ Sanskrit name	Occasion(s)	Uses in ailments
<i>Aegle marmelos</i> (L.) Corr. (Rutaceae)	Bela /Bilwa	Kali puja, Shiva-Ratri	Dyspepsia, Blood dysentery & Diabetes.
<i>Amorphophallus paeoniifolius</i> (Dennst.) Nicolson var. <i>campanulatus</i> (Decne) Sivadasan (Araceae)	Olua /Arsaghna	Garbhana samkranti	Post-delivery Piles & Diarrhoea.
<i>Azadirachta indica</i> A. Juss. (Meliaceae)	Nimba	Navakalebara	Skin diseases, Tooth disease, Scabies & Diabetes.
<i>Ficus benghalensis</i> L. (Moraceae)	Bara/Vata	Sabitrī brata, Trinatha mela, Mahavisuva samkranti, Janmastamee	Diarrhoea, Wounds, Sexual impotency, Teeth & Gum disorders, Diabetes, Crack of the heels & Toothache.
<i>Ficus religiosa</i> L. (Moraceae)	Aswatha/ Peepala	Chandi puja, Makar samkranti	Sprain, Leucorrhoea, Excessive urination Painful urination, Ulcer & Skin diseases.
<i>Guazuma ulmifolia</i> Lam. (Sterculiaceae)	Kuta Rudrakshya	Mangala puja	Skin diseases.
<i>Mangifera indica</i> L.	Amba/Amram	Every auspicious occasion like	Diarrhoea, Blood dysentery, Diarrhoea, Uterine

(Anacardiaceae)		Marriage, Thread ceremony, Gruha pratistha & Yajna	haemorrhage & Scorpion sting.
<i>Mimusops elengi</i> L. (Sapotaceae)	Baula/Bakula	Baula Amabasya	Wounds, Strengthen the gum as well as the teeth & Inflammations.
<i>Musa paradisiaca</i> L. (Musaceae)	Kadalee/Rambhaphala	Every auspicious occasion like Marriage, Thread ceremony, Gruha pratistha & Yajna	Anorexia, Skin whitener, Hair conditioner, General debility, Coughing of blood, Neuritis & Hypertension.
<i>Ocimum sanctum</i> L. (Lamiaceae)	Tulasi/Tulasee	Every day, Kartika brata	Colds & fevers, Pustules, Toothache, Ear infection, Pyorrhoea & Kidney stones.
<i>Oryza sativa</i> L. (Poaceae)	Dhana/Dhanya	Garvana-sankaranti, Manabasa	Abdominal disorders, Piles, Lactation in cattle & Urinary dysfunction.
<i>Phyllanthus emblica</i> L. (Euphorbiaceae)	Aenla/Amalaki	Aenla Navamee, Kartika Brata	Burning sensation, Leucorrhoea, Dysuria, Blood dysentery, Dry skin, Hair stainer & Diabetes.
<i>Shorea robusta</i> Gaertn.f. (Dipterocarpaceae)	Sala/Salaka	Pana-Samkaranti, Mangala puja	Seminal weakness, Blood dysentery, Scabies, Earache, Diarrhoea & Syphilis.

4. Conclusion

The worship of plants, mythological association of plants or plant part(s) with Gods & Goddesses, offering of fruits, flowers and leaves to the house-hold & temple deities, routine use of certain floristic objects at festivals and rituals show how close the religious people have been to the protection of plants. From the present survey of the plant materials used in the various religious rites in Jajpur district of Odisha, it is explicit that the inhabitants of this district have been meaningfully utilizing plant resources in their day-to-day life. Thus, in giving nature a sacred sense, the native communities conserve natural plant resources in a more holistic manner without compromising the welfare of future generations. Interestingly, majority of these plants naturally possess curative properties. However, it is sad to note that the precious pharmaceutical potential of these sacred plants are not properly understood neither by the priests nor by the common users. Thus, indexing such plants with correct botanical names, local names and their local uses in an inventory is imperative. Besides, in order to save these selected medico-important plants against wanton destruction due to over-exploitation, domestication via propagation and maintenance at the premises of the temples as well as in and around the courtyard of the private dwelling places, village schools and youth clubs aimed at conserving them as a renewable resource in a sustainable manner.

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6. Reference

- Manilal KS. Linkages of ethnobotany with other sciences and discipline. *Ethnobotany* 1989; 1: 15-24.
- Sensarma P. The sacred and religious plants in the 'Tantrasastra'. *Ethnobotany* 1995; 7: 51-61.
- Banerjee BN. Hindu Culture, Custom and ceremony. Agnikala Prakashan, Delhi, 1979.
- Dikshitar VVR. Purana Index. Madras University Historical Series, 1951, 19.
- Dutt MN. Garuda Purana. Society for the Resuscitation of Indian Literature, Calcutta, 1908.
- Ganguly KM. Mahabharata: Translated into English prose. Munshiram Manoharlal, New Delhi, 1976.
- Gupta SS. Tree symbol Worship in India. Indian Folklore Society, Bombay, 1965.
- Manmatha ND. Agni Puranam. Chowkhamba Publishers, Varanasi, 1967.
- Pal DC. Plants associated with Durga Puja ceremony in west Bengal. *Natural History Society and Natural History Museum* 1970; 36: 61-67.
- Pal DC, Chaudhuri HN. Plants in folk religion and Mythology. *Glimpses of Indian Ethnobotany*, SK Jain (Ed.) Oxford and IBH Publishing Company, Delhi, 1981, 57-68.
- Pande T. Tree worship in ancient India. *Folklore* 1964; 5(6): 213-218.
- Pandey BP. Sacred plants of India. Shree Publishing House, New Delhi, 1989.
- Saikia N, Nath SC. Traditional use of some plants in religious-cultural purposes by Koch Community in Assam, India. *Journal of Economic and Taxonomic Botany* 2003; 27(4): 997-1001.
- Sastry KN. Tree-worship and tree-legend in the Indus valley. *New light on the Indus Civilization*, Delhi. 1957; 1: 24-35.
- Shastri HP. Valmiki's Ramayana: Translated into English. Shanti Sadan, London, 1952.
- Shastri JL. Siva-Purana: Translated into English. Motilal Banarasidass, Delhi, 1970.
- Sinha PN. A study of the Bhagavata Purana. Theosophical Publishing House, Adyar, 1950.
- Sinha BC. Tree worship in ancient India. Books Today, New Delhi, 1979.
- Sitholey RV. Plants represented in Ancient Indian Sculpture. *Geophytology* 1979; 6(1): 15-25.
- Upadhaya AS, Kumbhojkar MS, Kulkarni DK. Ethno-medico-botany of some sacred plants of Western Maharashtra. *Ethnobotany* 1997; 9: 65-68.
- Wilson HH. Vishnu Purana: Translated into English. Punthi Pustak, Calcutta, 1961.
- Sensarma P. Plants in the Indian Puranas - An ethnobotanical investigation. Naya Prokash, Calcutta, 1989.
- Haines HH. The Botany of Bihar and Orissa. Botanical Survey of India Calcutta, reprint, 1961, 1921-25.
- Saxena HO, Brahmam M. The Flora of Orissa. Orissa Forest Development Corporation, Bhubaneswar. 1994-1996, 1-4.