

COASTAL PHYTODIVERSITY OF PURI DISTRICT, ODISHA, INDIA

DEENABANDHU SAHU AND MALAYA K. MISRA*

*Ecology & Floristic Laboratory, P.G. Department of Botany
Berhampur University, Berhampur -760007, Odisha*

**E-mail: malayamisra.botany@gmail.com*

ABSTRACT

The paper deals with the systematic account of plants from the coast of Puri district of Odisha comprising of 260 species of angiosperms under 195 genera belonging to 72 families. The flora consists of 162 herbs, 27 climbers, 33 shrubs and 38 tree species. *Micrococca mercurialis* is recorded from the coasts of Ganjam and Puri districts of Odisha after a century. Leguminosae was the dominant family followed by Poaceae, Cyperaceae, Asteraceae, Rubiaceae, Verbenaceae and Asclepiadaceae.

INTRODUCTION

The coast line of India stretches over a length of 7,500km (Banerjee & al., 2002), of which, Odisha comprises 481km. Out of the six coastal districts of Odisha, Puri coast extends over 138km along the Bay of Bengal. The coast is mainly sandy and devoid of any rocky substratum. Parallel sand dunes and beach ridges of 10 -15m high are present in Puri coast. The width of the sandy coastal belt ranged from 100 to 1000m from the seawater (drift line) to the interior. The coastal plant community is divided into two distinct types - dry coastal plant community and wet coastal plant community. The former comprises strand flora whereas the later comprises mangroves.

The strand flora of Puri coast has not been studied in detail, although some sporadic reports are available (Rao, 1974; Panda, 1992; Subudhi & al., 2002) on the coastal flora. In this paper, an attempt has been made to study in detail the strand flora of Puri district, Odisha.

STUDY SITE

Puri which is one of the central coastal districts of Odisha, lies between 19° 28' and 20° 14' N and between 85° 07' and 86° 25' E. The district is bounded by Ganjam on the south, Jagatsinghpur on the north and Khurda district on the west (Fig.1). Chilika, which is the biggest brackish water lagoon of Asia, is located on the southern portion of the district. The world famous Irrawaddy dolphin (locally known as *Bhuasuni magar*) is found in the Chilika lagoon. The district experiences maritime monsoon climate with active south-west monsoon.

Puri and Konark beaches are famous from religious point of view since centuries. Presently, these beaches are flooded with tourists from all parts of the world and the beach flora is affect drastically by anthropogenic activities.

METHODS

An extensive floristic survey of the sandy coast of Puri district was done during 2007-2010. The sandy coast, at places, is intercepted by wet areas including water bodies. Plants specimens collected from different localities along the coast during different seasons were dried and poisoned with saturated mercuric chloride solution with ethyl alcohol (Jain & Rao, 1977). The specimens were identified with the help of local floras (Haines, 1921-1925; Gamble 1915-1936; Saxena and Brahmam, 1994-1996) and the voucher specimens were deposited in the Herbarium of the Department of Botany, Berhampur University (BOTB), Odisha, India. Identification was also aided by visiting different State and National Herbaria such as Herbarium of Regional Plant Resource Centre, Bhubaneswar (REPRECENT), Herbarium of Institute of Minerals and Materials Technology, Bhubaneswar (RRL-B) and the Central National Herbarium of the Botanical Survey of India, Howrah (CAL).

The specimens are enumerated indicating the scientific name followed by habit, ecology, locality with field numbers followed by local odia name. The field number(s) cited in the text is of Misra, M.K., Sahu, D. and

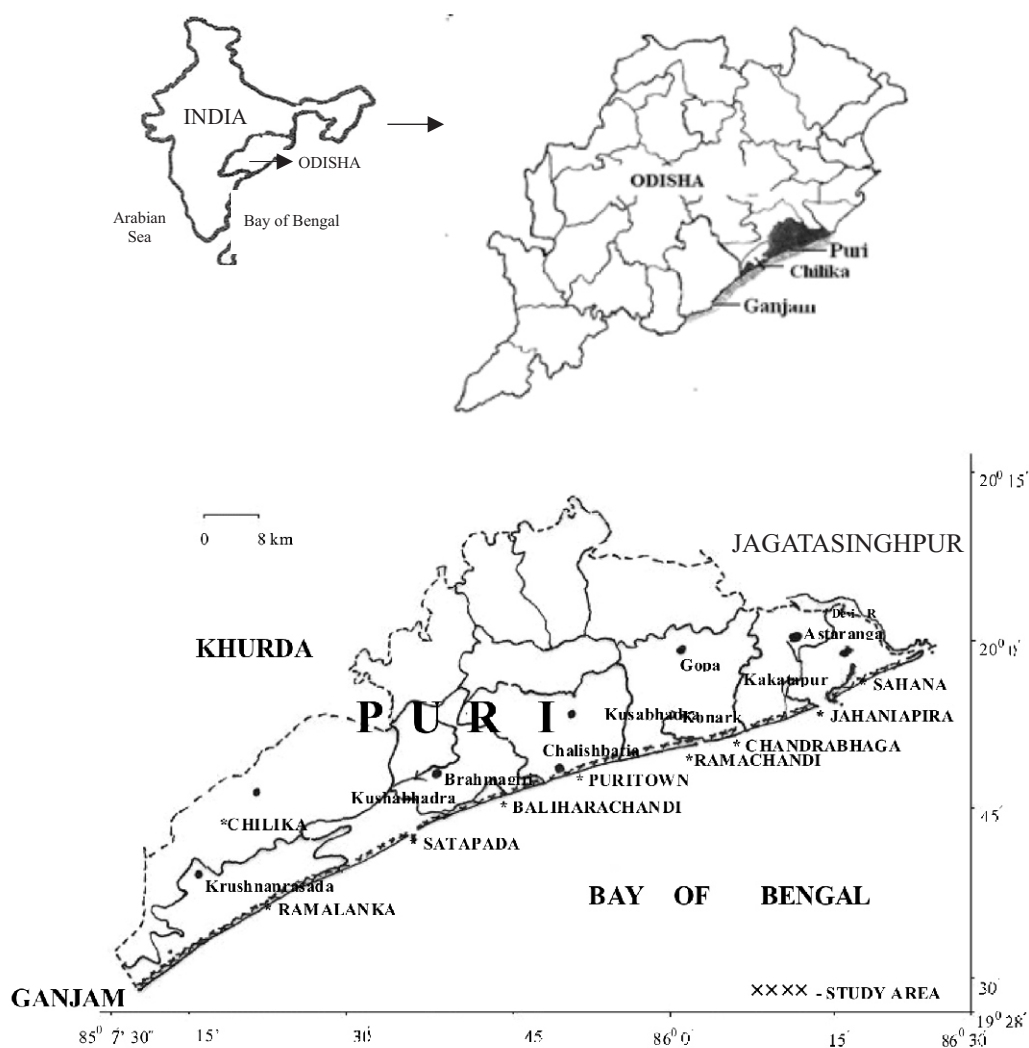


Fig.1. : Map showing the coastal area of Puri district, Odisha. Insets are India and Odisha map.

Table 1. : Statistical analysis of the sandy flora of coast of Puri district during 2007-2010.

Taxa	Dicot	Monocot	Total
Family	63	09	72
Genus	164	31	195
Species	214	46	260

Table 2. : Habit wise classification of the sandy flora of coast of Puri district during 2007-2010.

	Dicot	Monocot	Total
Tree	34 (13.0%)	4 (1.5 %)	38 (14.5%)
Shrub	31 (11.9%)	2 (0.8 %)	33 (12.7%)
Climber	26 (10.0%)	1 (0.4%)	27 (10.4%)
Herb	123 (47.1%)	39 (15.3%)	162 (62.4%)
Total	214 (82.0 %)	46 (18.0%)	260(100%)

Sahoo, R.C. The plant specimens are arranged according to Bentham and Hooker's system (1862-1883) of classification and the species are arranged under each family alphabetically.

RESULTS

The paper enlists 260 species under 195 genera and 72 families. Out of 260 species, dicots represented 82% and monocots 18% (Table 1). Leguminosae was the dominant family followed by Poaceae, Cyperaceae, Asteraceae, Rubiaceae, Verbenaceae and Asclepiadaceae. The flora includes 162 herbs, 27 climbers, 33 shrubs and 38 tree species (Table 2).

ENUMERATION OF TAXA

Dicotyledons

ANNONACEAE

***Polyalthia longifolia* (Sonn.) Thwaites**

Tree, flowers yellowish-green, seed smooth, Fl. : Mar. - Apr.; Fr.: Jul. - Aug. Planted near temples. Sahana, Puri; Misra; Sahu & Sahoo 1458. Debadaru.

***Polyalthia suberosa* (Roxb.) Thwaites**

Shrub, seed solitary. Fl.: Apr. - May; Fr.: Aug. - Nov. Inside Casuarina plantation. Ramalanka; Misra, Sahu & Sahoo 475. Karadia.

MENISPERMACEAE

***Cissampelos pareira* L. (*Cissampelos pareira* L. var. *hirsuta* (Buch. - Ham. ex DC.) Forman**

Climber, drupe red to orange. Fl.: June - Nov.; Fr.: Nov. - Jan. Occasional in the backshore. Ramachandi; Misra, Sahu & Sahoo 1459. Akanabindhi.

***Tinospora cordifolia* (Willd.) Miers**

Slender climber, drupe globose. Fl.: Aug. - Dec.; Fr.: Mar. - May. Climbers on Casuarina plants. Astaranga; Misra, Sahu & Sahoo 2034. Guluchi lata.

PAPAVERACEAE

***Argemone mexicana* L.**

Prickly glabrous herb, flowers yellow. Fl. & Fr.: Feb. - Jun. Weed, mostly in village wastelands and lee side of the sand dunes. Puri beach; Misra, Sahu & Sahoo 605. Odasamari.

BRASSICACEAE

***Rorippa indica* (L.) Hiern**

Pubescent herb, flowers small, yellow. Fl. & Fr.: Oct. - Apr. On dry sands. Ramalanka; Misra, Sahu & Sahoo 434.

CAPPARACEAE

***Cleome viscosa* L.**

Herb, seeds many, reniform, reddish brown to black. Fl. & Fr.: May - Oct. Weed on backshore wastelands. Konark; Misra, Sahu & Sahoo 665. Anasorisha.

VIOLACEAE

***Hybanthus enneaspermus* (L.) F. Muell.**

Herb, capsules sub-globose, seeds ellipsoid. Fl. & Fr.: Throughout the year. Frequent inside cashew and Casuarina plantations. Ramalanka; Misra, Sahu & Sahoo 404, Puri beach 1103. Madanmastak.

FLACOURTIACEAE

***Casearia nigrescens* Tul. (*Casearia elliptica* Tul.)**

Small tree, capsule ellipsoid. Fl.: Feb. - May, Fr.: Apr. - May. Frequent, inside Casuarina vegetation. Ramalanka; Misra, Sahu & Sahoo 445, Astaranga 1444. Khakada.

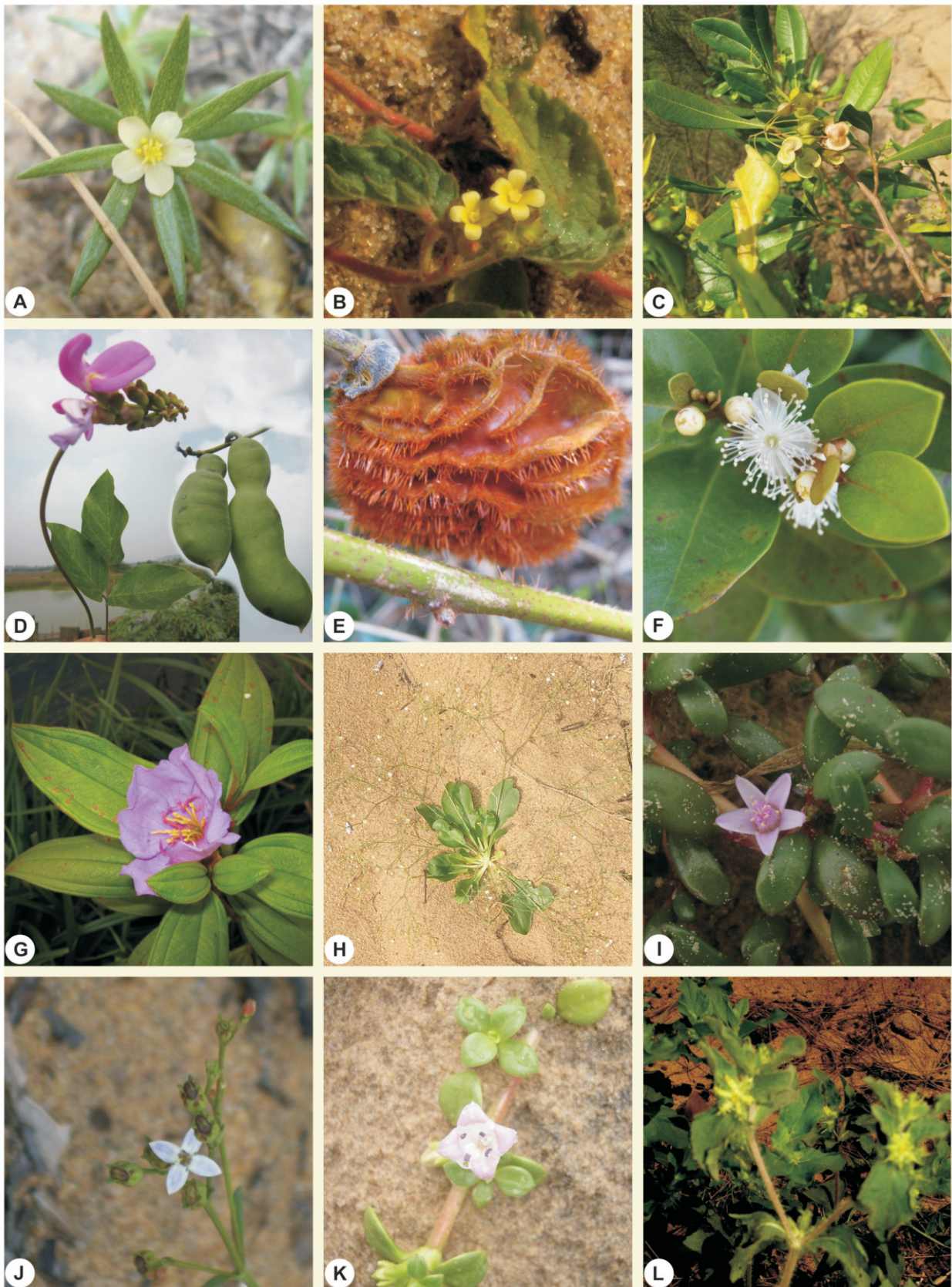


Plate - 1: A. *Portulaca quadrifida*; B. *Waltheria indica*; C. *Dodonaea viscosa*; D. *Canavalia rosea*; E. *Mucuna monosperma* (fruit); F. *Eugenia roxburghii*; G. *Melastoma malabathricum*; H. *Mollugo nudicaulis*; I. *Sesuvium portulacastrum*; J. *Oldenlandia stricta*; K. *Hydrophylax maritima*; L. *Acanthospermum hispidum*

Flacourtia indica (Burm.f.) Merr.

Shrub, twigs pubescent. Fl.: Dec. - Mar., Fr.: Mar. - May. Common, on backshore thickets. Tikana; Misra, Sahu & Sahoo 2960. Kontaikoli.

POLYGALACEAE

Polygala arvensis Willd.

Procumbent herb, flowers small, yellow, capsule winged. Fl.: Jun. - Aug., Fr.: Sept. - Dec. On sand dunes and beaches. Ramalanka; Misra, Sahu & Sahoo 2865.

CARYOPHYLLACEAE

Polycarpaea corymbosa (L.) Lam.

Erect herb, flowers silvery white, seeds reniform. Fl.: Aug. - Sept., Fr.: Oct. - Nov. On lee side of sand dunes and sandy riverbanks. Puri beach; Misra, Sahu & Sahoo 1119. Sana Jatajatia.

PORTULACACEAE

Portulaca quadrifida L.

(Pl.1A)

Creeping herb, flowers yellow, solitary, capsule ovoid. Fl. & Fr.: Most part of the year. Along the edge of the foreshore. Ramalanka; Misra, Sahu & Sahoo 422, Khalakapatna 1437. Balbalua.

ELATINACEAE

Bergia ammannioides Roxb. ex Roth

Herb, flower-pinkish, seeds minute, dark brown. Fl. & Fr.: Sept. - Mar. Frequent along the riverbanks and marshy areas of the coast. Chandrabhaga; Misra, Sahu & Sahoo 650, 1460.

CLUSIACEAE

Calophyllum inophyllum L.

Tree, leaves broadly elliptic-oblong, flowers white, fragment, drupe yellow when ripe. Fl.: Mar. - Jun. & Oct. - Nov.; Fr.: Oct. - Nov. & Apr. - May. On backshore. Satapada; Misra, Sahu & Sahoo 1178, Astaranga 2172, Ramalanka 2354. Polanga.

MALVACEAE

Pavonia zeylanica Cav.

Perennial herb; flowers axillary, seeds reniform. Fl. & Fr.: Jul. - Dec. On backshore. Ramalanka; Misra, Sahu & Sahoo 2308.

Sida acuta Burm.f.

Erect herb, flowers solitary, seeds dark brown. Fl. & Fr.: Sept. - May. On coastal wastelands. Astaranga; Misra, Sahu & Sahoo 2038. Sunakhadika.

Sida cordata (Burm. f.) Borss.

Herb, flower axillary, seeds ovoid, glabrous. Fl.: Throughout the year. Inside cashew and Casuarina plantations. Sahana; Misra, Sahu & Sahoo 1461. Bajramuli.

Sida cordifolia L.

Erect herb, flower axillary, seeds flattened. Fl.: Aug. - Dec., Fr.: Oct. - Jan. Common, inside cashew and Casuarina plantations. Ramalanka; Misra, Sahu & Sahoo 426, Baliarachandi 1127, Gundalaba 2082. Bisiripi.

Urena lobata L.

Shrub, flowers pink with purple centre. Fl. & Fr.: Aug. - Dec. On sandy seashore, coastal scrubs and inside Casuarina plantation. Sahana; Misra, Sahu & Sahoo 2028, Ramalanka 2346. Bilakapasiasa.

STERCULIACEAE

Melochia corchorifolia L.

Herb, flowers purple. Fl.: & Fr.: Jul. - Dec. Weed in open, moist places in the backshore. Ramalanka; Misra, Sahu & Sahoo 406, Khalakapatna 1433. Telpuri.

Waltheria indica L.

(Pl. 1B)

Herb, flower yellow, capsule ovoid. Fl. & Fr.: Aug. - Jan. Weed, frequent on sandy soils. Ramachandi; Misra, Sahu & Sahoo 727.

TILIACEAE

Triumfetta bogotensis DC. (*Triumfetta pilosa* Roth)

Shrub, capsule globose. Fl. & Fr.: Sept. - Jan. In open sandy soil. Chandrabhaga; Misra, Sahu & Sahoo 2975. Bachhua.

Triumfetta pentandra A. Rich.

Herb, flowers yellow. Fl.: Aug. - Sept., Fr.: Oct. - Nov. Weed along the coast. Baliharachandi; Misra, Sahu & Sahoo 1120, Jahaniapira 2117.

ZYGOPHYLLACEAE

Tribulus terrestris L.

Procumbent herb, flowers yellowish. Fl. & Fr.: Throughout the year. Frequent along the coast. Ramalanka; Misra, Sahu & Sahoo 2362. Gokhra.

OXALIDACEAE

Oxalis corniculata L.

Procumbent herb, capsules oblong. Fl. & Fr.: Throughout the year. A common weed in wet places of lee side. Ramachandi; Misra, Sahu & Sahoo 753. Ambiliti.

RUTACEAE

Aegle marmelos (L.) Correa

Small tree, flowers greenish-white. Fl. & Fr.: Mar. - Apr. Planted near coastal villages. *Jahanipira*; Misra, Sahu & Sahoo 1462. Bela.

Murraya koenigii (L.) Spreng.

Small tree, flowers white, Fl.: Feb. - Apr., Fr.: May. - Sept. Rare in coastal scrub forests. *Baliharchandi*; Misra, Sahu & Sahoo 1463. Bhursunga.

Toddalia asiatica (L.) Lam.

Rhambling prickly shrub, flowers white or yellowish, Fl. & Fr.: Aug. - Apr. Inside the Casuarina plantations of backshore. Ramalanka; Misra, Sahu & Sahoo 442. Tundapoda.

MELIACEAE

Azadirachta indica A. Juss.

Tree, flowers white, seed one. Fl. & Fr.: Mar. - Jul. Common inside Casuarina plantation. Ramachandi; Misra, Sahu & Sahoo 1720. Limba.

OLACACEAE

Oxalys psittacorum (Lam.) Vahl

Scandent shrub, flowers white. Fl.: Mar. - Aug., Fr.: Oct. - Dec. Occasional in the backshore. Balukhand Reserve Forest; Misra, Sahu & Sahoo 1182. Badabana.

RHAMNACEAE

Ziziphus mauritiana Lam.

Tree, flowers greenish-white. Fl.: Oct. - Dec., Fr.: Nov. - Feb. Along the coastal scrubs. Ramalanka; Misra, Sahu & Sahoo 283. Barakoli.

Ziziphus oenopolia (L.) Mill.

Stragling, thorny shrubs, flowers greenish-white. Fl.: Jun. - Sept. Fr.: Oct. - Jan. Frequent in coastal scrubs and inside Casuarina plantation. Ramalanka; Misra, Sahu & Sahoo 283, Ramachandi 710, Baliharachandi 1150, Astaranga 2042. Kanta koli.

VITACEAE

Cissus quadrangularis L. (*Cissus quadrangula* L.)

Rhambling shrub, stems fleshy, 4-angled. Fl. & Fr.: Apr. - Jan. *On coastal thickets*. Ramachandi; Misra, Sahu & Sahoo 718. Hadabhanga.

SAPINDACEAE

Cardiospermum halicacabum L.

Climbing herb, flower white. Fl. & Fr.: Apr. - Nov. Inside coastal vegetation and lee side of sand dunes. Ramachandi; Misra, Sahu & Sahoo 794. Phatka.

Dodonaea viscosa Jacq.

(Pl. 1C)

Shrub, flowers greenish-white, seeds globose, black. Fl. & Fr.: Most part of the year. Common on sandy seashore. Konark; Misra, Sahu & Sahoo 726, Khalakapatna 1415, Ramachandi 2945. Mahada.

ANACARDIACEAE

Anacardium occidentale L.

Trees, flowers greenish white. Fl. & Fr.: Feb. - May. Largely planted along the sandy coast. Ramalanka; Misra, Sahu & Sahoo 2356. Kaju.

Lannea coromandelica (Houtt.) Merr.

Tree, leaves 5-9 foliolate. Fl.: Feb. - Apr., Fr.: May - Jul. Occasional in and around coastal villages. Astaranga; Misra, Sahu & Sahoo 1455. Mahi.

LEGUMINOSAE (subfamily : CAESALPINIOIDEAE)

Caesalpinia bonduc (L.) Roxb.

Scrambling shrub, flower yellow. Fl. & Fr.: Aug. - Apr. Along sandy seashore. Ramachandi; Misra, Sahu & Sahoo 1470. Gila.

Senna occidentalis L. (*Cassia occidentalis* L.)

Perennial shrub, flowers yellow. Fl. & Fr.: Jul. - Jan. Weed inside Casuarina plantation. Ramalanka, Misra, Sahu & Sahoo 436, Chandrabhaga 2923. Kalachakunda.

Senna sophora (L.) Roxb. (*Cassia sophora* L.)

Shrub, Fl.: Aug. - Dec. Fr.: Sept. - Jan. Common in backshore. Ramalanka; Misra, Sahu & Sahoo 2363. Ghoda Chakunda.

Senna tora (L.) Roxb. (*Cassia tora* L.)

Shrub, flowers yellow. Fl.: Sept. - Nov., Fr.: Nov. - Dec. Occasional in backshore and coastal waste places. Ramalanka; Misra, Sahu & Sahoo 2364. Dhala Chakunda.

LEGUMINOSAE (subfamily : MIMOSOIDEAE)

Acacia auriculiformis Benth.

Tree, flowers yellow, pods much coiled. Fl. & Fr.: Throughout the year. Planted on the coast. Ramachandi; Misra, Sahu & Sahoo 1721. Akasia.

Acacia nilotica (L.) Delile subsp. **indica** (Benth.) Brenan

Tree, flowers heads yellow. Fl.: Aug. - Dec.; Fr.: Jan. - Apr. Backshore of the sandy coast. Chandrabhaga; Misra, Sahu & Sahoo 2905. Babullo.

Acacia polyacantha Willd.

Tree, stipular thorns straight. Fl.: Aug. - Sept., Fr.: Dec. - Apr. Planted and self-sown in backshore and in the lee side of the sand dunes. Konark; Misra, Sahu & Sahoo 651. Somi.

Leucaena leucocephala (Lam.) de Wit.

Small tree, flowers white. Fl.: May - Jun., Fr.: Aug. - Oct. Planted and often self sown near coastal villages. Konark; Misra, Sahu & Sahoo 645. Kelikadamba.

Mimosa pudica L.

Prostrate herb, flower heads pink. Fl. & Fr.: Aug. - May. Frequent in wet sandy soil. Chandrabhaga; Misra, Sahu & Sahoo 2926. Lajakulilata.

Pithecellobium dulce (Roxb.) Benth.

Tree, heads white or yellowish. Fl.: Jan. - Mar.; Fr.: Apr-Jun. Backshore of the coast. Astaranga; Misra, Sahu & Sahoo 479. Simakoina.

LEGUMINOSAE (SUBFAMILY : PAPILIONOIDEAE)

Abrus precatorius L.

Climber, flowers pinkish-white. Fl. & Fr.: Aug. - Mar. Common on bushes in scrub jungles. Ramalanka; Misra, Sahu & Sahoo 292. Kainch.

Aeschynomene indica L.

Annual branched herb, flowers yellow. Fl. & Fr.: Jul. - Nov. Wet places of backshore. Khalakapatna; Misra, Sahu & Sahoo 1436. Sola.

Alysicarpus heterophyllus (Baker) Jafri & Ali (*Alysicarpus vaginalis* (L.) DC. var. *heterophyllus* Baker)

Prostrate, glabrous herb, flower pinkish. Fl. & Fr.: Sept. - Jan. Common in backshore. Daluakani; Misra, Sahu & Sahoo 2138.

Alysicarpus monilifer (L.) DC.

Diffused herb, flowers in axillary racemes. Fl. & Fr.: Sept. - Jan. In open sandy soils of backshore. Puri beach; Misra, Sahu & Sahoo 613, Baliharachandi 1140.

Cajanus scarabaeoides (L.) Thouars (*Atylosia scarabaeoides* (L.) Benth.).

Herbaceous twinner, flowers yellow. Fl. & Fr.: Aug. - Jan. Frequent along sandy seashore. Ramachandi; Misra, Sahu & Sahoo 2916. Kulathia.

Canavalia cathartica Thouars (*Canavalia virosa* (Roxb.) Wight & Arn.).

Perennial herb, flowers lilac purple. Fl.: Aug. - Dec., Fr.: Dec. - Mar. Occasional, in edges of foreshore and backshore. Ramalanka; Misra, Sahu & Sahoo 2900. Mohra.

Canavalia rosea (Sw.) DC (*Canavalia maritima* (Aubl.) Thouars)

(Pl. 1D)

Herb, prostrate, flowers pink, pods straight. Fl. & Fr.: Mar. Occasional in the foreshore. Astaranga; Misra, Sahu & Sahoo 1464 Lunasimba.

Crotalaria hirsuta Willd.

Erect hairy herb, flowers yellow. Fl.&Fr.:Nov.On backshore. Tikana; Misra, Sahu & Sahoo 2983.

Crotalaria montana Roth

Erect herb, flowers yellow. Fl.: Sept.-Oct.; Fr.: Oct.-Nov.Occasional in the backshore. Chandrabhaga; Misra, Sahu & Sahoo 2922.

Crotalaria pallida Aiton

Shrub, flowers yellow, pods turgid. Fl.: Jul. - Aug., Fr.: Nov. - Dec. Occasional along the sandy seashores. Gaudanuagan; Misra, Sahu & Sahoo 2204, Ramachandi 2951. Jhumuka.

Crotalaria retusa L.

Herb, flowers yellow, pods turgid. Fl.: & Fr.: Oct. - Mar. On the backshore sand. Sahana; Misra, Sahu & Sahoo 2012, Daluakani 2178.

Crotalaria spectabilis Roth

Herb, flowers yellow, pods linear oblong. Fl.: Sept. - Feb., Fr.: Dec. - May. On the backshore. Sahana; Misra, Sahu & Sahoo 2012. Haradijiling.

Crotalaria verrucosa L.

Shrub, flowers bluish-purple, pods oblong, turgid. Fl.: Mar. - May; Fr.: Sept. - Oct. On coastal wastelands. Puri beach; Misra, Sahu & Sahoo 604, Ramachandi 732, 2935.

Dalbergia sissoo DC.

Trees, glabrous, flowers yellow. Fl. & Fr.: Sept. - Dec. Planted near coastal villages. Chilika; Misra, Sahu & Sahoo 2244. Sissoo.

Desmodium triflorum (L.) DC.

Trailing herb, flowers red or purple. Fl. & Fr.: Throughout the year. Along sandy riverbanks, low-lying areas. Ramalanka; Misra, Sahu & Sahoo 433. Katkana.

Dicerma biarticulatum (L.) DC. (*Desmodium biarticulatum* (L.) F. Muell.).

Trailing shrub, flowers bright red, Fl.: Sept. - Oct., Fr.: Nov. - Dec. Common, on sands. Ramalanka; Misra, Sahu & Sahoo 291, Ramachandi 1186.

Indigofera glabra L.

Diffuse herb with numerous stems. Fl. & Fr.: Jul. - Dec. Frequent on the sand dunes of the backshore. Gaudanuagan; Misra, Sahu & Sahoo 2981.

Indigofera linnaei Ali

Herb, flowers red, clustered. Fl. & Fr.: Aug. - Dec. Common in backshore. Chandrabhaga; Misra, Sahu & Sahoo 649.

Indigofera trifoliata L.

Shrub, flower red. Fl. & Fr.: Sept. - Nov. Inside Casuarina vegetation on the coast. Ramalanka; Misra, Sahu & Sahoo 414.

Mucuna monosperma Wight

(Pl. 1E)

Large woody twiner, flowers purple. Fl.: Nov. - Dec.; Fr.: Feb. - Apr. Rare, in backshore. Tikana; Misra, Sahu & Sahoo 2956. Sarni.

Rhynchosia rufescens (Willd.) DC.

Pubescent climber, flowers yellow. Fl.: Oct. - Dec.; Fr.: Jan. On backshore. Gaudanuagan; Misra, Sahu & Sahoo 2220.

Rothia indica (L.) Druce

Branched herb, flowers pinkish (or yellowish). Fl. & Fr.: Nov. - Jan. Common, along sandy coast. Ramalanka; Misra, Sahu & Sahoo 296. Papra.

Tephrosia purpurea (L.) Pers. subsp. **purpurea** var. **maritima** Haines

Diffuse shrub, flowers in many pairs, Fl. & Fr.: May. Rare on the sandy coast. Ramachandi; Misra, Sahu & Sahoo 1197.

Tephrosia purpurea (L.) Pers. subsp. **purpurea** var. **purpurea**.

Erect shrub, flowers deep purple. Fl. & Fr.: Throughout the year. Common along riverbanks of the sandy shores. Chandrabhaga; Misra, Sahu & Sahoo 694. Bana nila.

Vigna adenantha (G. F. Meyer) Marechal

Herb, glabrescent. Fl.: Sept. - Oct.; Fr.: Oct. - Nov. Rare, in the edges of foreshore and backshore. Daluakani; Misra, Sahu & Sahoo 2136. Tasud-chandoa.

Vigna trilobata (L.) Verdc.

Trailing herb, flower yellow. Fl. & Fr.: Sept. - Feb. On the sands. Tikana; Misra, Sahu & Sahoo 2955. Sanamungo.

Zornia diphylla (L.) Pers.

Much branched herb, flower yellow. Fl.: Jul. - Sept., Fr.: Oct. - Dec. Frequent along the sandy or muddy shore. Konark; Misra, Sahu & Sahoo 663. Birmoch.

DROSERACEAE

Drosera burmannii Vahl

Herb, flower pink or white. Fl. & Fr.: Most part of the year. Rare on wet sandy backshore. Ramalanka; Misra, Sahu & Sahoo 2000.

MYRTACEAE

Eucalyptus globulus Labill.

Tree, flower green. Fl. & Fr.: Nov. - Jan. Planted along the coast. Beleswar; Misra, Sahu & Sahoo 2979. Nilagiri.

Eugenia roxburghii DC. (*Eugenia bracteata* (Willd.) Raeussch ex DC.)

(Pl. 1F)

Shrub, flowers white. Fl.: Mar. - Jun, Fr.: Jul. - Nov. Common in coastal scrub forest. Ramachandi; Misra, Sahu & Sahoo 699, 1199, 1722 & 2940. Sagarbatua

Syzygium cumini (L.) Skeels.

Tree, flowers white. Fl. Apr. - May, Fr.: Jul. - Aug. In coastal scrubs. Tikana; Misra, Sahu & Sahoo 2963. Jamu.

MELASTOMATACEAE

Melastoma malabathricum L.

(Pl. 1G)

Densely hairy shrub, flower purple. Fl.: Feb. - May; Fr.: Nov. - Dec. Rare along riverbanks and sandy moist places. Baliharachandi; Misra, Sahu & Sahoo 1157. Gangai.

LYTHRACEAE

Ammannia baccifera L.

Glabrous herb, flowers minute. Fl.: Sept. - Nov.; Fr.: Nov. - Mar. Common in open sandy soil. Ramachandi; Misra, Sahu & Sahoo 1200. Ramdauni.

Lawsonia inermis L.

Glabrous shrub, flowers white. Fl.: Aug. - Oct.; Fr.: Nov. - Dec. Planted in the hedges of the coastal villages. Beleswar; Misra, Sahu & Sahoo 2966. Manjuati.

ONAGRACEAE

Ludwigia adscendens (L.) H. Hara

Marshy herb, flowers white or yellowish-white. Fl. & Fr.: Dec. - Jul. Common in open sandy soil. Ramachandi; Misra, Sahu & Sahoo 1007. Jagal.

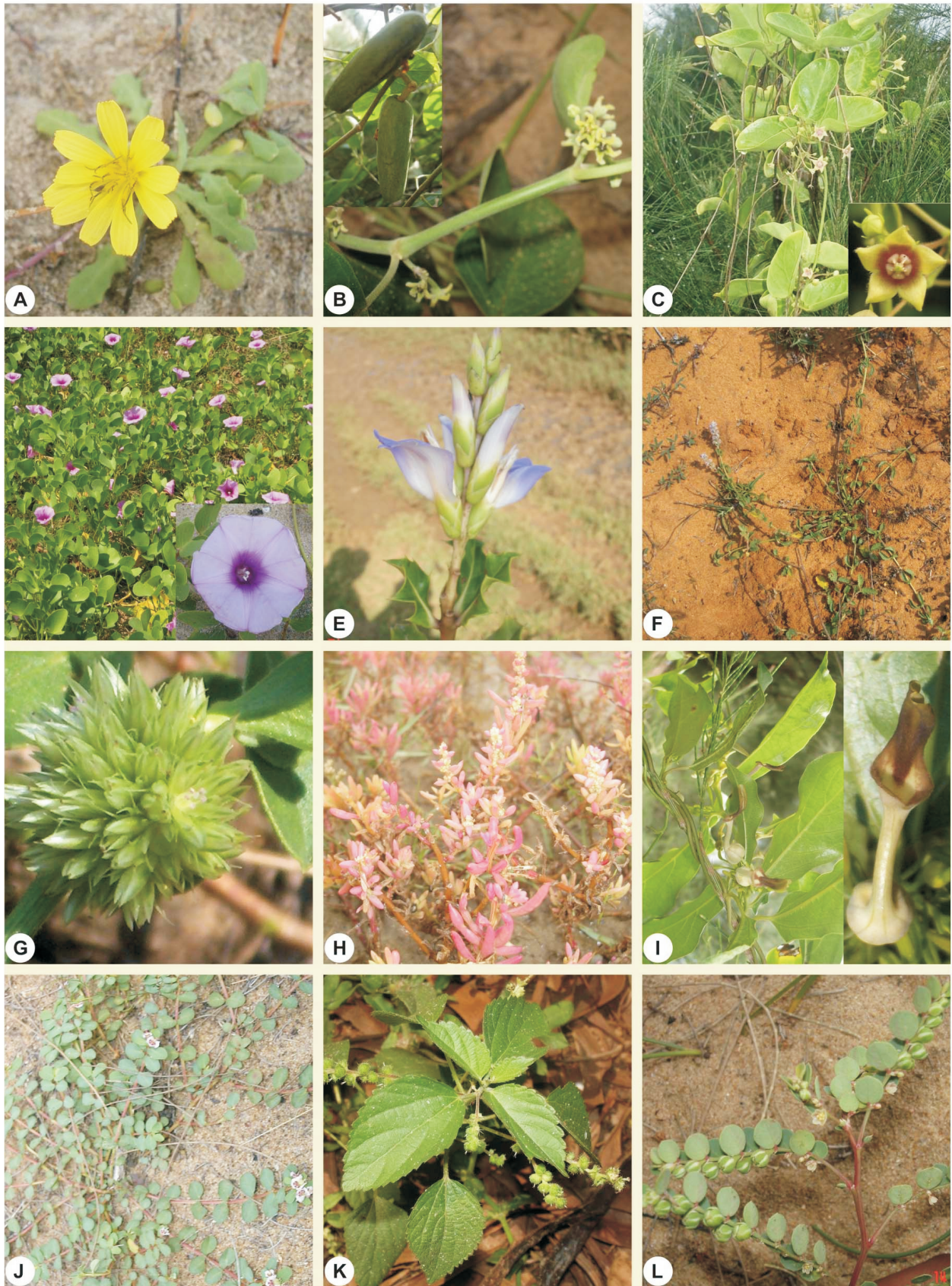


Plate - 2 : A. *Launaea sarmentosa*; B. *Leptadenia reticulata*; C. *Tylophora indica*; D. *Ipomoea pes-caprae*; E. *Acanthus illicifolius*; F. *Ocimum tenuiflorum*; G. *Allmannia nodiflora*; H. *Suaeda maritima*; I. *Aristolochia indica*; J. *Euphorbia rosea*; K. *Micrococe muecurialis*; L. *Phyllanthus rotundifolius*

Ludwigia linifolia Poir

Annual herb, flowers sessile. Fl.: Oct. - Dec.; Fr.: Dec. - Jan. Common in wet places of backshore. Ramachandi; Misra, Sahu & Sahoo 721.

Ludwigia perennis L.

Glabrous herb, flowers yellow, small, short pedicel. Fl.: Oct.- Nov.; Fr.: Nov.-Jan. Common weed in moist sandy places. Chilika; Misra, Sahu & Sahoo 2238. Latkera.

PASSIFLORACEAE

Passiflora suberosa L.

Slender tendri-climber, flowers greenish-yellow, Fl.: Feb. - Mar.; Fr.: May - Jun. On coastal thickets. Beleswar; Misra, Sahu & Sahoo 2964.

CUCURBITACEAE

Coccinia grandis (L.) Voigt.

Scandent climber. Fl. & Fr.: Most part of the year. Climbing on the plants of coastal thickets. Ramalanka; Misra, Sahu & Sahoo 427, Ramachandi 412, Gundalaba 2086. Bana kundur.

Diplocyclos palmatus (L.) C. Jeffrey.

Climbing herb, leaves 5-lobed. Fl.: Nov. - Jan.; Fr.: Feb. - Mar. On backshore scrubs, lee side of the sand dunes. Ramachandi; Misra, Sahu & Sahoo 2971. Shivlinga.

CACTACEAE

Cereus pterogonus Lem.

Shrub, flower large. Fl.: Mar. - Jul. Occasional in village hedges, backshore waste places. Ramachandi; Misra, Sahu & Sahoo 2973. Nagapheni.

Opuntia dillenii (Ker Gawl.) Haw. (*Opuntia stricta* var. *dillenii* (Ker Gawl.) L. D. Benson).

Erect, spiny, fleshy shrub; flowers bright yellow with red flush. Fl. & Fr.: Jan. - Sept. Frequent along sandy shore. Puri beach; Misra, Sahu & Sahoo 616, Khalakapatna 1413. Nagapheni.

Opuntia ficus-indica (L.) Mill. (*Opuntia vulgaris* Mill.)

Succulent shrub, flowers yellow. Fl. & Fr.: Jan. - Sept. Common in wastelands, coastal scrubs and inside Casuarina plantation. Ramachandi; Misra, Sahu & Sahoo 2978. Nagapheni

MOLLUGINACEAE

Gisekia pharnaceoides L.

Succulent herbs, flowers white. Fl. & Fr.: Mar. - Jul. Common along sandy shore and lee side of sand dunes. Ramalanka; Misra, Sahu & Sahoo 424, Puri beach 1102, Baliharachandi 1152, Gaudanuagan 2251. Susni.

Glinus lotoides L.

Prostrate herbs, flowers greenish-white. Fl. & Fr.: Feb. - Apr. & Sept. - Oct. *Common along shore.* Ramachandi; Misra, Sahu & Sahoo 2974. Dusera saga.

Glinus oppositifolius (L.) A. DC.

Diffused herbs, flowers greenish-white. Fl. & Fr.: Mar. - Oct. Frequent along seashore, riverbanks. Khalakapatna; Misra, Sahu & Sahoo 1438, Chandrabhaga 2976. Pita saga.

Mollugo disticha Ser.

Herb. Fl. & Fr.: Jul. - Oct. Occasional in sandy soil. Khirisahi; Misra, Sahu & Sahoo 2268.

Mollugo nudicaulis Lam.

(Pl. 1H)

Herb. Fl. & Fr.: Feb. - Aug. On open sands. Chandrabhaga; Misra, Sahu & Sahoo 660, Ramachandi 746, Khalakapatna 1425.

Mollugo pentaphylla L.

Prostrate, glabrous herb, flowers greenish-white. Fl. & Fr.: All the year round. Common in sandy shore and sand bars along the riverbanks. Puri beach; Misra, Sahu & Sahoo 619, 1198, Jahaniapira 2191. Pita saga.

AIZOACEAE

Sesuvium portulacastrum (L.) L.

(Pl. 1I)

Succulent herb, flowers deep purple or pinkish-violet. Fl. & Fr.: Nov. - May. On the pioneer zones of sandy or muddy sea beaches. Puribeach; Misra, Sahu & Sahoo 1106, Astaranga 2140, Ramachandi 2939.

ALANGIACEAE

Alangium salviifolium (L.f.) Wangerin

Small spinous tree, flowers white. Fl. & Fr.: Mar. - Jun. Along the backshore village hedges. Ramachandi; Misra, Sahu & Sahoo 2977. Ankula.

APIACEAE

Centella asiatica (L.) Urb.

Prostrate herb, flower pink or red. Fl. & Fr.: Throughout the year. Along the moist sandy seashore. Narasingapatna; Misra, Sahu & Sahoo 1171. Thalkudi.

RUBIACEAE

Canthium coromandelicum (Burm. f.) Alston (*Canthium parviflorum* Lam.).

Shrub, spines present, flowers greenish. Fl. & Fr.: May - Nov. In coastal hedges, scrubs, thickets of the coast. Ramachandi; Misra, Sahu & Sahoo 793. Tutudi.

Hydrophylax maritima L.f.

(Pl. 1J)

Succulent herb, flowers lilac. Fl. & Fr.: Mar. - Nov. Along seashores, restricted to beach. Ramalanka; Misra, Sahu & Sahoo 439, Puri beach 620, 1104. Chauli.

Mitracarpus hirtus (L.) DC. (*Mitracarpus villosus* (Sw.) DC.)

Erect herb, flower small, white. Fl. & Fr.: Sept. - Mar. Near the coastal villages. Ramachandi; Misra, Sahu & Sahoo 770.

Morinda pubescens Sm.

Tree, flowers white. Fl.: Apr. - Nov. Commonly inside Casuarina plantations. Khalakapatna; Misra, Sahu & Sahoo 1409. Achu.

Oldenlandia corymbosa L. (*Hedyotis corymbosa* (L.) Lam.).

Annual herb, flowers white, minute. Fl. & Fr.: Jun. - Jan. Common on sandy soil. Puri beach; Misra, Sahu & Sahoo 1114. Gharpodia.

Oldenlandia herbacea (L.) Roxb. (*Hedyotis herbacea* L.)

Erect herbs, flowers white. Fl. & Fr.: Aug. - Jan. On waste places near the coast. Puri beach; Misra, Sahu & Sahoo 610.

Oldenlandia stricta L. (*Hedyotis graminifolia* L. f. ssp. *arenaria* (Haines) Deb & R. M. Dutta (Pl. 1K)

Herb, flowers minute. Fl. & Fr.: Aug. - Oct. On sandy soils of the coast. Puri beach; Misra, Sahu & Sahoo 609, Ramachandi 1404.

Oldenlandia umbellata L. (*Hedyotis puberula* (G. Don) Arn.).

Diffuse herb, flowers white, minute. Fl. & Fr.: Sept. - Mar. Frequent on sand dunes. Chandrabhaga; Misra, Sahu & Sahoo 659. Surbuli.

Pavetta crassicaulis Bremek.

Small tree, flowers white. Fl.: Jun. - Aug.; Fr.: Oct. - Dec. On backshore of the coast. Ramachandi; Misra, Sahu & Sahoo 2934, Tikana 2959. Macharnka.

Spermacoce articularis L.f.

Prostrate herbs, stems quadrangular. Fl.: Jul. - Oct.; Fr.: Sept. - Dec. Common along the lee side of the seashore. Puri beach; Misra, Sahu & Sahoo 1105. Solaganthi.

Spermacoce hispida L.

Erect herb, flowers pink. Fl.: Jul. - Oct.; Fr.: Sept. - Dec. On sand dunes of backshore. Ramalanka; Misra, Sahu & Sahoo 402, Puri beach 636, Ramachandi 2931, 2950. Sana-gharapodia.

ASTERACEAE

Acanthospermum hispidum DC.

(Pl. 1L)

Herb, hispidly hairy. Fl. & Fr.: Jan. - Jun. Rare, on the sands. Baliharachandi; Misra, Sahu & Sahoo 1160. Gokhura.

Ageratum conyzoides (L.) L.

Annual herb, stems terete. Fl. & Fr.: Sept. - Jan. Weed of backshore. Ramalanka; Misra, Sahu & Sahoo 2348. Pokasunga.

Blumea lacera (Burm.f.) DC.

Erect herb, sparsely pilose. Fl. & Fr.: Feb. - Jul. A common weed along riverbanks. Ramalanka; Misra, Sahu & Sahoo 2324. Pokasunga.

Blumea obliqua (L.) Druce

Herb. Fl.: Jul. - Mar. On lee side of the coast. Narasingapatnam; Misra, Sahu & Sahoo 1170.

Chromolaena odorata (L.) R. M. King & H. Rob.

Erect shrub, heads bluish. Fl. & Fr.: Oct. - Dec. Inside Casuarina vegetation of the coast. Puri beach; Misra, Sahu & Sahoo 632. Pokasunga.

Cyanthillium cinereum (L.) H. Rob. (*Vernonia cinerea* (L.) Less.)

Decumbent herbs, head pinkish purple. Fl. & Fr.: Most of the year. Common weed, frequent inside coastal scrubs and stabilized sand dunes. Jahaniapira; Misra, Sahu & Sahoo 2116. Badipokasunga.

Eclipta prostrata (L.) L.

Annual prostrate herb, head white. Fl. & Fr.: Aug. - Apr. Frequent along riverbanks and near backwater. Ramachandi; Misra, Sahu & Sahoo 1408, Chandrabhaga 2903. Bhrungaraj.

Emilia sonchifolia (L.) DC.

Glabrous herb, heads pink or purple. Fl. & Fr.: Aug. - Apr. Common in moist and sandy places. Khirisahi; Misra, Sahu & Sahoo 2299. Sarkara.

Grangea maderaspatana (L.) Poir.

Procumbent herb, hirsute, heads globose. Fl. & Fr.: Jan.-Apr. On low laying areas. Khalakapatna; Misra, Sahu & Sahoo 1434. Agnikumari.

Launaea sarmentosa (Willd.) Sch.-Bip. ex Kuntze

(Pl. 2A)

Perennial, stoloniferous herb, heads yellow. Fl. & Fr.: Mar. - Nov. Common in coastal sands, inside and outside Casuarina plantation. Puri beach; Misra, Sahu & Sahoo 606, 1108.

Mikania micrantha Kunth

Twining herb, Fl. & Fr.: Jan. - Apr. Inside Casuarina plantation. Ramachandi; Misra, Sahu & Sahoo 729, 1723. Gandhuli nata.

Parthenium hysterophorus L.

Pubescent herb. Fl. & Fr.: Throughout the year. On roadsides, waste places of coastal villages. Khirisahi; Misra, Sahu & Sahoo 2297

Pentanema indicum (L.) Ling (*Vicoa indica* (L.) DC.).

Erect, rigid herb, heads solitary, yellow. Fl. & Fr.: Nov. - Jan. On backshore. Beleswar Misra, Sahu & Sahoo 2967. Bana Sebati.

Tridax procumbens L.

Decumbent perennial herb, head yellow. Fl. & Fr.: Throughout the year. A common weed along riverbanks and seashore. Astaranga; Misra, Sahu & Sahoo 2165. Bisalyakarani.

Wedelia chinensis (L.) Merr.

Procumbent herb, stems creeping. Fl. & Fr.: Sept. - Apr. Occasional in moist places of backshore. Ramachandi; Misra, Sahu & Sahoo 1467. Brungaraj.

PRIMULACEAE

Anagalis arvensis L.

Annual herb. Fl. & Fr.: Jan. - Mar. On backshore of the coast. Baliharachandi; Misra, Sahu & Sahoo 1474.

SALVADORACEAE

Azima tetracantha Lam.

Armed straggling shrub. Fl. & Fr.: Mar. - May. Common in coastal thickets. Khirisahi; Misra, Sahu & Sahoo 2308.

APOCYNACEAE

Carissa carandas L.

Shrub, with spines, flower white. Fl.: Mar. - Apr.; Fr.: Jul. - Oct. Common in coastal scrub jungle. Baliharachandi; Misra, Sahu & Sahoo 1168. Karanda Koli.

Carissa spinarum L.

Bushy shrub, flowers white. Fl.: Mar. - Apr.; Fr.: Jul. - Sept. Common in coastal scrubs and thickets. Chandrabhaga; Misra, Sahu & Sahoo 670, 2943. Dud Koli.

Catharanthus roseus (L.) G. Don

Perennial herb, flower white or pink. Fl. & Fr.: Throughout the year. Frequent in coastal scrub jungles and wastelands of the coast. Puri beach; Misra, Sahu & Sahoo 631. Sada bihari.

Ichnocarpus frutescens (L.) R. Br.

Large twinner. Fl.: Sept. - Dec.; Fr.: Jan. - Apr. Frequent along backshore. Ramachandi 733. Sugandhilata.

Rauvolfia tetraphylla L.

Shrub, flowers white. Fl. & Fr.: Most part of the year. Occasional inside Casuarina plantations, on sands. Ramachandi; Misra, Sahu & Sahoo 719, Khalakapatna 1428. Mahinsia Patalagaruda.

ASCLEPIADACEAE

Calotropis gigantea R. Br.

Erect shrub, flowers large and pale. Fl. & Fr.: Dec. - Jun. Observed on sea beach as well as inside Casuarina plantations. Khirisahi; Misra, Sahu & Sahoo 2279. Arakha.

Cynanchum callialatum Buch. - Ham ex Wight

Twiner, flower glabrous. Fl. & Fr.: Aug. - Jan. Inside backshore vegetation. Ramachandi; Misra, Sahu & Sahoo 2938. Kurvar.

Hemidesmus indicus (L.) R. Br.

Glabrous twinner, flowers green outside. Fl. & Fr.: Aug. - Feb. Common inside Casuarina and cashew vegetation of the coast. Baliharachandi; Misra, Sahu & Sahoo 1131, Khirisahi 2276. Sugandhi nai.

Leptadenia reticulata (Retz.) Wight & Arn.**(Pl. 2B)**

Climber with corky bark. Fl.: Jun. - Oct.; Fr.: Mar. - Apr. Occasionally in sandy places along the backshore of the coast. Gaudanuagan; Misra, Sahu & Sahoo 2201.

Pentatropis capensis (L.f.) Bullock

Slender glabrous twinner. Fl.: Mar. - Jun.; Fr.: Nov. Frequent in coastal scrub. Khirisahi; Misra, Sahu & Sahoo 2275.

Pergularia daemia (Forssk.) Chiov.

Climber, hairy, flowers greenish white. Fl. & Fr.: Aug. - Apr. Frequently climbing on Casuarina plants on the coast. Ramalanka; Misra, Sahu & Sahoo 289. Uturuli.

Sarcostemma viminalis (L.) R. Br. (*Sarcostemma acidum* (Roxb.) Voigt).

Straggling shrub, flowers cream coloured, fragrant. Fl. & Fr.: Not observed. Occasionally on open sandy soils of backshore. Ramachandi; Misra, Sahu & Sahoo 1402.

Tylophora indica (Burm.f.) Merr.**(Pl. 2C)**

Perennial, twinning shrub, flowers greenish-yellow. Fl. & Fr.: Mar. - Sept. Common along the lee side of the seashore. Ramalanka; Misra, Sahu & Sahoo 413, 749. Mendi.

CONVOLVULACEAE

Evolvulus alsinoides (L.) L.

Annual trailing herb, flowers blue. Fl. & Fr.: Jul. - Feb. Frequent inside Casuarina vegetation. Ramachandi; Misra, Sahu & Sahoo 740. Nila Bichhamalia.

Evolvulus nummularius (L.) L.

Prostrate trailing herb, flowers white. Fl. & Fr.: Jul. - Nov. Common in backshore, especially in moist places of the coast. Astaranga; Misra, Sahu & Sahoo 2005, Chilika 2217. Dhala Bichhamalia.

Ipomoea fistulosa Mart. ex Choisy (*Ipomoea carnea* Jacq. subsp. *fistulosa* (Mart. ex Choisy) D. F. Austin).

Shrub, branches fistulose or solid. Fl. & Fr.: Oct. - Jan. Occasional in moist places in the lee side of sand dunes. Astaranga; Misra, Sahu & Sahoo 2058. Amari.

Ipomoea pes-caprae (L.) R. Br.**(Pl. 2D)**

Glabrous, perennial creepers, Flowers pinkish or reddish violet. Fl. & Fr.: Oct. - Mar. Common along the seashore, often forming pure stands as pioneer vegetation. Ramalanka; Misra, Sahu & Sahoo 293, Puri beach 602, Chandrabhaga 681. Kansarinata.

Merremia tridentata (L.) Hallier f.

Prostrate or twining variable perennial herbs, Flowers yellow. Fl. & Fr.: Jun. - Dec. Common in dry sandy places. Ramachandi; Misra, Sahu & Sahoo 775. Ramalanka 297, 416

Stictocardia tiliifolia (Desr.) Hallier f. (*Ipomoea campanulata* L.)

Large climber, flowers white with darker centre. Fl. & Fr.: Nov. - Feb. Occasional in backshore. Ramalanka; Misra, Sahu & Sahoo 300.

SOLANACEAE

Datura metel L.

Shrub, flowers purple or white. Fl. & Fr.: Most part of the year. Occasional in backshore waste places. Ramachandi; Misra, Sahu & Sahoo 784, 2941. Kaladudura.

Physalis angulata L. (*Physalis minima* L.)

Erect herb, flowers small. Fl. & Fr.: Aug. - Jan. Occasional on backshore. Astaranga; Misra, Sahu & Sahoo 2060. Tipai.

Solanum americanum Mill. (*Solanum nigrum* L.)

Erect herb, flowers small, white. Fl. & Fr.: Most part of the year. Rare, on backshore and inside Casuarina plantation. Beleswar; Misra, Sahu & Sahoo 2976. Tutguna.

Solanum trilobatum L.

A prickly, climbing, shrubs, flowers violet. Fl. & Fr.: Feb.-Jul. Frequent inside Casuarina plantation. Ramalanka; Misra, Sahu & Sahoo 285, Chandrabhaga 687. Nab-hiankuri.

Solanum virginianum L.

Diffuse herb, flower deep blue. Fl. & Fr.: Throughout the year. Common inside Casuarina vegetation. Ramachandi; Misra, Sahu & Sahoo 750, Daluakani 2147. Bheji baigana.

SCROPHULARIACEAE

Bacopa monnieri (L.) Wettst.

Creeping herb, flowers pale-blue or whitish-blue. Fl. & Fr.: Apr. - Dec. Frequent in moist and swampy places of sandy ditches. Chandabhaga; Misra, Sahu & Sahoo 2906. Panikundi.

Limnophila indica (L.) Druce.

Small herb, flowers white or pale purple. Fl. & Fr.: Sept. - Feb. Common in wet places of backshore. Jahaniapira; Misra, Sahu & Sahoo 2107, 2197. Keralata.

Lindernia anagallis (Burm.f.) Pennell

Diffused herb, flowers bluish-purple. Fl. & Fr.: May - Dec. Common in wetplaces along the backshore. Ramalanka; Misra, Sahu & Sahoo 711.

Lindernia caespitosa (Blume) Panigrahi

Small herb, flowers white. Fl. & Fr.: Aug. - Dec. Occasional in moist places of the backshore. Ramachandi; Misra, Sahu & Sahoo 766, Chilika 2277.

Lindernia ciliata (Colsm.) Pennell

Glabrous herb, flowers purple, pink or white. Fl. & Fr.: Sept. - Nov. Occasional in moist places and on the lee side of sand dunes. Jahaniapira; Misra, Sahu & Sahoo 2231. Khetakura.

Scoparia dulcis L.

Glabrous herb, flowers 3-6 from each whorl. Fl. & Fr.: Throughout the year. Common in waste places of backshore. Astaranga; Misra, Sahu & Sahoo 2193. Bana Ganjai.

PEDALIACEAE

Pedaliium murex L.

Annual herb, flowers yellow. Fl. & Fr.: Aug. - Nov. Common along sandy shores. Khirisahi; Misra, Sahu & Sahoo 2274. Bada gokhora.

MARTYNIACEAE

Martynia annua L.

Herb, flowers drooping. Fl.: Aug. - Oct.; Fr.: Nov. - Jan. Ocassional on the backshore. Ramachandi; Misra, Sahu & Sahoo 714. Baghanakhi.

ACANTHACEAE

Acanthus ilicifolius L.

(Pl. 2E)

Ascending, shrub, flowers violet, pubescent within. Fl. & Fr.: Mar. - Dec. Common along the banks of creeks and channels. Ramachandi; Misra, Sahu & Sahoo 1724. Harkacha.

Asystasia gangetica (L.) T. Anderson

Herb, flowers purple. Fl. & Fr.: Oct. - Dec. Common in the backshore inside Casuarina plantations. Chilika; Misra, Sahu & Sahoo 2253, Ramalanka 2337. Dhanasish.

Hygrophila auriculata (Schumach) Heine.

Robust herb, flowers purple. Fl. & Fr.: Oct. - Feb. Common along water courses of backshore. Ramachandi; Misra, Sahu & Sahoo 2932. Koelekha.

Rungia pectinata (L.) Nees

Diffuse herb, flower very small, blue. Fl. & Fr.: Oct. - Mar. Inside Casurina plantation. Baliharachandi; Misra, Sahu & Sahoo 1154, Ramalanka 2952.

VERBENACEAE

Avicennia marina (Forssk.) Vierh. (*Avicennia alba* Blume)

Small tree, pneumatophores straight, flowers yellow. Fl.: May - Jun. & Fr.: Aug. - Sept. Common along the estuarine borders. Sahana; Misra, Sahu & Sahoo 2061. Dhala Bani.

Avicennia officinalis L.

Small tree, flowers yellow, fragrant. Fl. & Fr.: Jun. - Jul.; Aug. - Sept. Frequent along muddy coast and in the inter-tidal regions of creeks. Astaranga; Misra, Sahu & Sahoo 1443, Astaranga 2062. Kala Bani.

Clerodendrum inerme (L.) Gaertn.

Branched shrub, flowers white with bright red filaments. Fl. & Fr.: Most part of the year. Occasional along the inner tidal zones of creeks and channels. Khalakapatna; Misra, Sahu & Sahoo 1422, Astaranga 2014. Phuljholi.

Clerodendrum infortunatum L. (*Clerodendrum viscosum* Vent.)

Shrub, flowers white with pink-centre, red in fruit. Fl.: Jan.-Mar.; Fr.: Apr.-Jul. Common, in the backshore inside Casuarina plantations. Jahaniapira; Misra, Sahu & Sahoo 2975. Madhvi.

Lantanaxaculeata L. (*Lantana camara* L. var. *aculeata* (L.) Moldenke)

Aromatic shrub, flowers pinkish white. Fl. & Fr.: All the year round. Common in the backshore and inside Casuarina vegetation. Puri beach; Misra, Sahu & Sahoo 637. Nagari.

Lippia javanica (Burm.f.) Spreng.

Aromatic shrub, flowers pink, scented. Fl. & Fr.: Mar. - Dec. Occasional near canal and watercourses of the coast. Ramachandi; Misra, Sahu & Sahoo 2937. Bhutoni.

Phyla nodiflora (L.) Greene

Prostrate herb, flowers white. Fl. & Fr.: Most part of the year. Common in wet places in backshore. Chilika; Misra, Sahu & Sahoo 2221, 2265. Gosingi.

Premna mollissima Roth (*Premna latifolia* Roxb.)

Small tree. Fl. & Fr.: Apr. - Jun. Occasional, in scrub forest of coastal thickets. Ramachandi Misra, Sahu & Sahoo; 1180. Gandhana.

Tectona grandis L. f.

Tree, flowers white. Fl. & Fr.: Jul. - Aug. Planted in and around coastal villages. Khirisahi; Misra, Sahu & Sahoo 2271. Sagwan.

Vitex negundo L.

Shrub, flowers bluish purple. Fl. & Fr.: Most part of the year. Occasional in the village hedges of the coast. Ramachandi; Misra, Sahu & Sahoo 725, Daluakani 2185. Begunia.

LAMIACEAE

Anisomeles indica (L.) Kuntze

Pubescent shrub, flowers purple. Fl. & Fr.: Sept. - Mar. Common in backshore. Astaranga; Misra, Sahu & Sahoo 1445, Baleswar 2965. Begunia.

Hyptis suaveolens (L.) Poit.

Hairy, aromatic shrub, flowers blue. Fl. & Fr.: Sept. - Jan. Common in the backshore. Daluakani; Misra, Sahu & Sahoo 2104, 2137, Ramalanka 2349. Mainsirampuda.

Leucas aspera (Willd.) Link.

Diffuse herb, flower whorls terminal and axillary. Fl. & Fr.: Jul. - Jan. Occasional on backshore. Gaudanuagana; Misra, Sahu & Sahoo 2227. Gaisa.

Ocimum basilicum L.

Herb, verticillasters many flowered. Fl. & Fr.: Sept. - Jan. Common in wastelands along seashore. Ramachandi; Misra, Sahu & Sahoo 752, Khalakapatana 1417. Landa babula.

Ocimum tenuiflorum L. (*Geniosporum tenuiflorum* (L.) Merr.)

(Pl. 2F)

Prostrate, aromatic herb, flowers whitish or pale blue. Fl. & Fr.: Jun. - Oct. On coastal sands. Khalakapatana; Misra, Sahu & Sahoo 1419.

NYCTAGINACEAE

Boerhavia diffusa L.

Prostrate, herb. flower very small, pink, sessile. Fl. & Fr.: Throughout the year. Frequent in coastal thickets. Ramalanka; Misra, Sahu & Sahoo 425. Atikapodi Saga.

AMARANTHACEAE

Achyranthes aspera L.

Perennial herb, flowers greenish white. Fl. & Fr.: Oct. - Feb. Frequent in waste places along the seashore. Ramalanka; Misra, Sahu & Sahoo 454, Chandrabhaga 646. Apamaranga.

Allmania nodiflora (L.) R. Br. ex Wight

(Pl. 2G)

Annual diffuse herb. flowers subsessile. Fl. & Fr.: Jul. - Dec. Commonly found in the backshore inside Casuarina & cashew plantation. Ramalanka; Misra, Sahu & Sahoo 419, 2948, Chandrabhaga 648, Ramachandi 723.

Alternanthera sessilis (L.) R. Br. ex DC.

Perennial prostrate herb. Fl. & Fr.: Jul. - Jan. Common in swampy places inside coastal scrubs. Sahana; Misra, Sahu & Sahoo 2039. Madaranga saga.

Amaranthus viridis L.

Prostrate herb, flowers minute in paniced spikes. Fl. & Fr.: Throughout the year. Common in coastal wasteland. Ramalanka; Misra, Sahu & Sahoo 455, Astaranga 2110. Khada saga.

Celosia argentea L. var. **cristata** (L.) Kuntze

Glabrous herb, spikes pink or white. Fl. & Fr.: Aug. - Jan. Common on moist places along seashore. Sahana; Misra, Sahu & Sahoo 2090. Mayurchulia.

CHENOPODIACEAE

Suaeda maritima (L.) Dumort

(Pl. 2H)

Herb, flowers whitish-green. Fl. & Fr.: Apr. - Dec. Common in salt marshes near the coast and estuaries. Sahana; Misra, Sahu & Sahoo 2017. Giriya.

POLYGONACEAE

Antigonum leptopus Hook. & Arn.

Climber, flowers pink. Fl. & Fr.: Throughout the year. Occasional coastal waste places near habitations. Ramachandi; Misra, Sahu & Sahoo 790. Snehalata.

ARISTOLOCHIACEAE

Aristolochia indica L.

(Pl. 2I)

Perennial, creeping herbs, flowers greenish white. Fl. & Fr.: Jul. - Jan. Frequent in open sandy areas. Chandrabhaga; Misra, Sahu & Sahoo 652, Baliharachandi 1143. Hansa lata. (Fig. 26a, b).

LAURACEAE

Cassytha filiformis L.

Herb, climbing, flowers yellow. Fl.: Oct.; Fr.: Nov. - Feb. Common in coastal backshore. Ramachandi; Misra, Sahu & Sahoo 1194.

PROTEACEAE

Grevillea pteridifolia Knight

Small tree, flowers orange. Fl.: Feb. - Apr. Planted along with Casuarina plantation. Balukhanda; Misra, Sahu & Sahoo 1192, Chandabhaga 2925. Sarala.

EUPHORBIACEAE

Acalypha indica L.

Erect herb. Fl. & Fr.: Jul. - Dec. Common in coastal waste places. Ramachandi; Misra, Sahu & Sahoo 738. Nakachana.

Breynia vitis-idaea (Burm. f.) C.E.C. Fisch.

Shrub, flowers monoecious, green, or yellow. Fl.&Fr.: Mar.-Feb. Common in backshore and near the coastal village. Astaranga; Misra, Sahu & Sahoo 2187. Jajhangi.

Croton bonplandianus Baill.

Aromatic bushy herb, flowers unisexual. Fl. & Fr.: Jul. - Oct. Common weed inside coastal scrubs. Chandrabhaga; Misra, Sahu & Sahoo 1465. Bana Maricha.

Euphorbia hirta L.

Prostrate hairy herb, seeds reddish. Fl. & Fr.: Throughout the year. Frequent in backshore waste places. Tikana; Misra, Sahu & Sahoo 446. Chita Kuteai.

Euphorbia rosea Retz.

(Pl. 2J)

Glabrous herb, male florets 4-6, female florets laterally pendulous. Fl.: Oct. Common in the backshore. Khalakapatna; Misra, Sahu & Sahoo 1430.

Euphorbia tirucalli L.

Shrub. Fl. & Fr.: Jul. - Oct. Occasional in coastal village hedges. Astaranga; Misra, Sahu & Sahoo 1450. Khadi Siju.

Excoecaria agallocha L.

Small, dioecious tree. Fl. & Fr.: Jan. - Jun. Common along intertidal zones of creeks and channels. Daluakani; Misra, Sahu & Sahoo 2181. Garini.

Jatropha curcas L.

Shrub, flowers greenish yellow. Fl. & Fr.: Mar. - Sept. Frequent in sandy waste places. Astaranga; Misra, Sahu & Sahoo 1454. Baigaba.

Jatropha gossypifolia L.

Shrub, flowers red with yellow centre. Fl. & Fr.: Mar. - Oct. Frequent and scattered in dry sandy areas. Khalakapatna; Misra, Sahu & Sahoo 1440. Lanka Kala.

Micrococca mercurialis (L.) Benth.**(Pl. 2K)**

Annual herb. Fl. & Fr.: Aug. - Sept. Occasionally in the coastal wasteland. Ramalanka; Misra, Sahu & Sahoo 448, 2357, Satapada 1176.

Phyllanthus acidus (L.) Skeels

Tree, flowers clustered. Fl.: May; Fr.: Jun. - Oct. Occasionaly planted near the coastal villages. Khalakapatna; Misra, Sahu & Sahoo 1439. Narakoli.

Phyllanthus fraternus G.L. Webster

Annual herb, flowers in axillary, Fl. & Fr.: Apr. - Jan. Common, inside the backshore casuarina and cashew plantations. Baliharchandi; Misra, Sahu & Sahoo 1138, Astaranga 2024, Chilika 2237, Ramalanka 2327. Badi Amla.

Phyllanthus reticulatus Poir.

Shrub, flowers green or purple. Fl. & Fr.: Most part of the year. Occasional, in backshore and inside Casuarina plantations. Ramalanka; Misra, Sahu & Sahoo 421. Jandakhai.

Phyllanthus rotundifolius Klein ex Willd.**(Pl. 2L)**

Small herb. Fl. & Fr.: May. - Oct. Frequent, inside backshore Casuarina vegetation. Baliharachandi; Misra, Sahu & Sahoo 1123, Astaranga 2078, Ramalanka 2315.

Phyllanthus urinaria L.

Herb, flowers greenish white. Fl. & Fr.: Jul. - Dec. Frequent on riverbanks, back waters and moist sandy places. Konark; Misra, Sahu & Sahoo 703, Baliharachandi 1122. Bhui Amla.

Phyllanthus virgatus G. Forst.

Herb, female flowers larger than male. Fl. & Fr.: Jun. - Jan. Frequent in coastal scrubs. Ramalanka; Misra, Sahu & Sahoo 408, Baliharachandi 1163, Gundalaba 2072. Bhui amla.

Ricinus communis L.

Shrub, flowers greenish-yellow, seeds oblong. Fl. & Fr.: Most part of the year. Occasional on sandy wasteland. Ramalanka; Misra, Sahu & Sahoo 451, Ramachandi 768. Jada.

Sauropus bacciformis (L.) Airy Shaw.

Glabrous herb, female flowers solitary. Fl. & Fr.: Most part of the year. Common on the backshore. Baliharachandi; Misra, Sahu & Sahoo 1146. Bila nariya.

Sebastiania chamaelea (L.) Mull. Arg.

Glabrous herb, flowers yellow. Fl. & Fr.: Most part of the year. Occasional, on sandy seashore. Ramachandi; Misra, Sahu & Sahoo 739, Baliharachandi 1167.

MORACEAE

Ficus benghalensis L.

Large tree. Fl.: All the year round. Frequent, inside backshore Casuarina vegetation. Khalakapatana; Misra, Sahu & Sahoo 1410. Bara.

Ficus hispida L. f.

Tree, hypanthodium numerous. Fl. & Fr.: Jun. - Sept. Occasional on backshore thickets. Khalakapatna; Misra, Sahu & Sahoo 1435. Dimiri.

Ficus religiosa L.

Large tree, Fr.: Jun. - Oct. Frequent on backshore and coastal villages. Konark; Misra, Sahu & Sahoo 691. Ustha.

Streblus asper Lour.

Rigid much branched shrub. Fl.: Mar. - Apr.; Fr.: May. - Jun. Frequent in the backshore and inside Casuarina vegetation. Astaranga; Misra, Sahu & Sahoo 1480. Sahada.

CASUARINACEAE

Casuarina equisetifolia L.

Large tree, flowers unisexual. Fl. & Fr.: Mar. - Aug. Extensively planted on the sandy seashore as windbreaker and sand binder and nitrogen fixer. Ramalanka; Misra, Sahu & Sahoo 443. Jhaun.

MONOCOTYLEDONS

CANNACEAE

Canna indica L.

Erect herb, flowers distant. Fl. & Fr.: Most part of the year. In damp waste places. Khalakapatna; Misra, Sahu & Sahoo 1431.

LILIACEAE

Asparagus racemosus Willd.

Twiner. Fl.: Sept.-Oct.; Fr.: Nov. - Dec. Occasional inside Casuarina plantation. Jahaniapira 2111, Chilika 2259. Satabari.

XYRIDACEAE

Xyris indica L.

(Pl. 3A)

Erect annual herb, flowers yellow. Fl. & Fr.: Oct. - Feb. Rare, in moist sandy places. Astaranga; Misra, Sahu & Sahoo 2189.

COMMELINACEAE

Commelina benghalensis L.

Diffuse branched sub-succulent herb. Fl. & Fr.: Jul. - Jan. On backshore. Puri beach; Misra, Sahu & Sahoo 640, Astaranga 2146. Kanaseera.

Cyanotis cristata (L.) D. Don

Ascending, flowers blue. Fl. & Fr.: Sept. - Nov. On moist places. Khalakapatna; Misra, Sahu & Sahoo 1429.

Murdannia japonica (Thunb.) Faden

Herb, flowering stem leafy. Fl. & Fr.: Aug. - Oct. Common in open sandy places. Baliharachandi; Misra, Sahu & Sahoo 1475.

Murdannia spirata (L.) G. Bruckn.

Herb, flowers small, blue or violet, Fl. & Fr.: Sept. - Dec. On lee side of the sand dunes, in the marshy places. Sahana; Misra, Sahu & Sahoo 2060, Chandrabhaga 2912.

ARECACEAE

Borassus flabellifer L.

Large tree, flowers dioecious, Fl. & Fr.: Mar. - May. Common along the dry coastal sands. Khalakapatna; Misra, Sahu & Sahoo 1427. Tala.

Cocos nucifera L.

Tall tree. Fl. & Fr.: Throughout the year. Cultivated in the coastal belt. Khalakapatna; Misra, Sahu & Sahoo 1424. Nadia.

Phoenix sylvestris (L.) Roxb.

Tall unbranched tree. Fl. & Fr.: Feb. - Jun. Frequent in sandy coast. Khalakapatna; Misra, Sahu & Sahoo 1423. Khajuri.

PANDANACEAE

Pandanus odorifer (Forssk.) Kuntze (*Pandanus fascicularis* Lam.) (Pl. 3B)

Tree. Fl. & Fr.: Apr. - Sept. Common along estuarine banks and sandy seashore. Khalakapatna; Misra, Sahu & Sahoo 1421. Kia

ERIOCAULACEAE

Eriocaulon quinquangulare L.

Herb. Fl. & Fr.: Aug. - Feb. On wet place of backshore. Chandrabhaga; Misra, Sahu & Sahoo 2901. Phurki.

CYPERACEAE

Bulbostylis barbata (Rottb.) C. B. Clarke (Pl. 3C)

Herb. Fl. & Fr.: Jul. - Nov. Common on open sandy places. Ramalanka; Misra, Sahu & Sahoo 407, Puri beach 633, Astaranga 2098, Chilika 2210.

Bulbostylis subspinescens C. B. Clarke

Caspirose herb. Fl. & Fr.: Jul. - Sept. On sands of the foreshore. Puri beach; Misra, Sahu & Sahoo 634.

Cyperus arenarius Retz. (Pl. 3D)

Herb. Fl. & Fr.: Jul. - May. Pioneer sand binder on sandy beaches. Puri beach; Misra, Sahu & Sahoo 617, 1107, Ramachandi 788.

Cyperus compressus L.

Glabrous annual herb. Fl. & Fr.: Jul. - Dec. On periphery of backwaters. Khalakapatna; Misra, Sahu & Sahoo 1420.

Cyperus paniceus (Rottb.) Boeckelen

Perennial herb. Fl. & Fr.: Jun. - Aug. On back shore. Ramachandi; Misra, Sahu & Sahoo 2973.

Cyperus rotundus L.

Perennial herb. Fl. & Fr.: Jul. - Dec. On back shore. Baliharachandi; Misra, Sahu & Sahoo 2972. Mutha.

Cyperus stoloniferus Retz.

Perennial herb. Fl. & Fr.: Oct. - Feb. On moist sandy places along the coast. Khalakapatna; Misra, Sahu & Sahoo 1416.

Eleocharis atropurpurea (Retz.) J. Persl & C. Persl

Annual caespitose herb. Fl. & Fr.: Oct. - Dec. On wet grassy places of the backshore. Ramachandi; Misra, Sahu & Sahoo 1403.

Fimbristylis acuminata Vahl

Perennial glabrous herb. Fl. & Fr.: Jul. - Nov. On sandy ground of the coast. Ramachandi; Misra, Sahu & Sahoo 1189.

Fimbristylis aestivalis Vahl

Small tufted, annual herb. Fl. & Fr.: Apr. - May. Common in moist places of backshore. Ramachandi; Misra, Sahu & Sahoo 1476.

Fimbristylis cymosa R. Br. (*Cyperus triceps* (Rottb.) Endl.)

Tufted, perennial herb. Fl. & Fr.: May. - Dec. On wet places of backshore and on sandy foreshore. Ramachandi; Misra, Sahu & Sahoo 1407, 787. Astaranga 2052.

Fimbristylis ferruginea (L.) Vahl

Perennial caspirose. Fl. & Fr.: Apr. - Oct. On open sandy places. Ramachandi; Misra, Sahu & Sahoo 611, 1188.

Fimbristylis ovata (Burm. f.) J. Kern

Glabrous densely tufted herb. Fl. & Fr.: Jun. - Dec. On moist places of the backshore. Chandrabhaga; Misra, Sahu & Sahoo 1477.

Fuirena ciliaris (L.) Roxb.

Erect annual, tufted herb. Fl. & Fr.: Oct. - Jan. On moist places of backshore. Chandrabhaga; Misra, Sahu & Sahoo 2904.

Pycnus polystachyos (Rottb.) P. Beauv. (*Cyperus polystachyos* Rottb.)

Tufted herb. Fl. & Fr.: Feb. - Oct. On moist sandy places of the coast. Khalakapatna; Misra, Sahu & Sahoo 1418.

POACEAE

Aristida setacea Retz.

Perennial grass. Fl. & Fr.: Aug. - Feb. Common in open sandy soil of the coast. Ramachandi; Misra, Sahu & Sahoo 1183. Ghodalanji.

Bothriochloa bladhii (Retz.) S. T. Blake.

Variable tufted perennial grass. Fl. & Fr.: Aug. - Feb. On grassy places along the backshore. Ramachandi; Misra, Sahu & Sahoo 1181. Gondabena.

Brachiaria distachya (L.) Stapf.

Culms, rooting at base. Fl. & Fr.: Sept. - Dec. On wet places of the backshore. Ramachandi; Misra, Sahu & Sahoo 779, 1726.

Cynodon dactylon (L.) Pers.

Extensively creeping grass. Fl. & Fr.: Most part of the year. On backshore. Ramachandi; Misra, Sahu & Sahoo 1179. Duba.

Dactyloctenium aegyptium (L.) Willd.

Annual herb. Fl. & Fr.: Sept. - Mar. On sandy coast. Ramalanka; Misra, Sahu & Sahoo 401, Puri beach 626. Kakhuriya.

Dendrocalamus strictus (Roxb.) Nees

Caespitose bamboo. Fl.: Not observed. Planted in backshore, near coastal villages. Tikana; Misra, Sahu & Sahoo 2970. Saliabaunso.

Digitaria ciliaris (Retz.) Koeler

Annual. Fl. & Fr.: Jun. - Apr. On backshore of the coast. Puri beach; Misra, Sahu & Sahoo 638, Sahana 2050.

Digitaria longiflora (Retz.) Pers.

Annual herb. Fl. & Fr.: Jul. - Dec. Common along the coast. Satpada; Misra, Sahu & Sahoo 1174. Kanakjaria

Eragrostis amabilis (L.) Wight & Arn. (*Eragrostis tenella* (L.) P. Beauv. ex Roem. & Schult.)

Tufted annual herb. Fl. & Fr.: Sept. - Mar. On backshore sandy soils. Baliharachandi; Misra, Sahu & Sahoo 1139.

Eragrostis ciliaris (L.) R. Br.

Annuals herb. Fl. & Fr.: Jul. - Dec. Inside backshore Casuarina plantations. Daluakani; Misra, Sahu & Sahoo 2157, 2175. Ghiralanja.

Eragrostis coarctata Stapf.

Perennial herb. Fl. & Fr.: Sept. - Apr. On coastal sands. Puri beach; Misra, Sahu & Sahoo 629, Baliharachandi 1121. Ghodananji.

Eragrostis tremula (Lam.) Hochst. ex Steud.

Annual herb. Fl. & Fr.: Oct. - Dec. Occasional, in the backshore open sandy places. Puri beach 623, Khirisahi 2270.

Eragrostis unioides (Retz.) Nees ex Steud.

Annual herb. Fl. & Fr.: Jul. - Mar. On backshore. Puri beach; Misra, Sahu & Sahoo 624, Jahaniapira 2096. Phurphuri.

Oplismenus burmannii (Retz.) P. Beauv.

Annual grass. Fl. & Fr.: Oct. - Nov. Common, on backshore, near wet and shady places. Konark; Misra, Sahu & Sahoo 657, Sahana 2062. Kanguria.

Perotis indica (L.) Kuntze

Annual herb. Fl. & Fr.: Aug. - Nov. Common on dry sandy soils. Ramalanka; Misra, Sahu & Sahoo 287, Puri beach 628.

Saccharum spontaneum L.

Tufted grass. Fl. & Fr.: Aug. - Feb. Occasional, on foreshore. Khirisahi; Misra, Sahu & Sahoo 2296. Kasatandi.

Spinifex littoreus (Burm. f.) Merr.

(Pl. 3E & F)

Perennial stoloniferous, creeping grass. Fl. & Fr.: Sept. - Mar. Common, restricted along the seashore, beaches and sand dunes. Puri beach; Misra, Sahu & Sahoo 437, 630. Rabana.

Sporobolus indicus (L.) R. Br. var. **diander** (Retz.) Jovet & Guedes.

Tufted very slender perennial grass. Fl. & Fr.: Jun. - Feb. On open moist places of the coast. Puri beach; Misra, Sahu & Sahoo 2969. Kankrachara.

Zoysia matrella (L.) Merr.

Small stiff wiry grass. Fl.: Mar. - Apr. On sandy seashore. Baliharachandi; Misra, Sahu & Sahoo 1124

DISCUSSION

The distribution pattern of the Indian maritime strand flora can be divided into three types; first type includes all those plants showing complete fidelity to inner strand, the second type encompasses plants of mid / outer strand under the maritime influence, while the third type consists of plants from strand to inland extension (Rao, 1974).

During the study, only the sand strand flora is observed as no rock strand is present in the studied area. Some of the interesting elements of this strand flora are *Cyperus arenarius*, *Ipomoea pes-caprae*, *Hydrophyllax maritima*, *Sesuvium portulacastrum* and *Spinifex littoreus*, etc. The plants which are under the second type are *Calophyllum inophyllum*, *Clerodendrum inerme*, *Leptadenia reticulata* and *Mucuna monosperma*.

The plants which extend from the seashore towards the interior to inland are *Calotropis gigantea*, *Cassytha filiformis*, *Drosera burmannii*, *Jatropha gossypifolia*, *Leptadenia reticulata*, *Premna latifolia* and *Vitex negundo*, etc.

Out of the 75 species of angiosperms reported from Odisha coast (Rao, 1974), the present study reports occurrence of 30 species in the Puri coast alone and 2 species, viz., *Odenlandia stricta* and *Allmania nodiflora* that were reported from this region for the first time. The study has brought out a number of species that are either rediscovered and / or new records for Odisha coast. *Micrococca mercurialis* which was last reported from Konark sandy coast (Haines, 1921-1925) and from Ganjam coast (Fischer (1905) about a century ago. The species was also considered under threatened category (Saxena and Brahmam (1994-1996); during the present study, the species is now recollected both from Ganjam and Puri districts coast of Odisha.

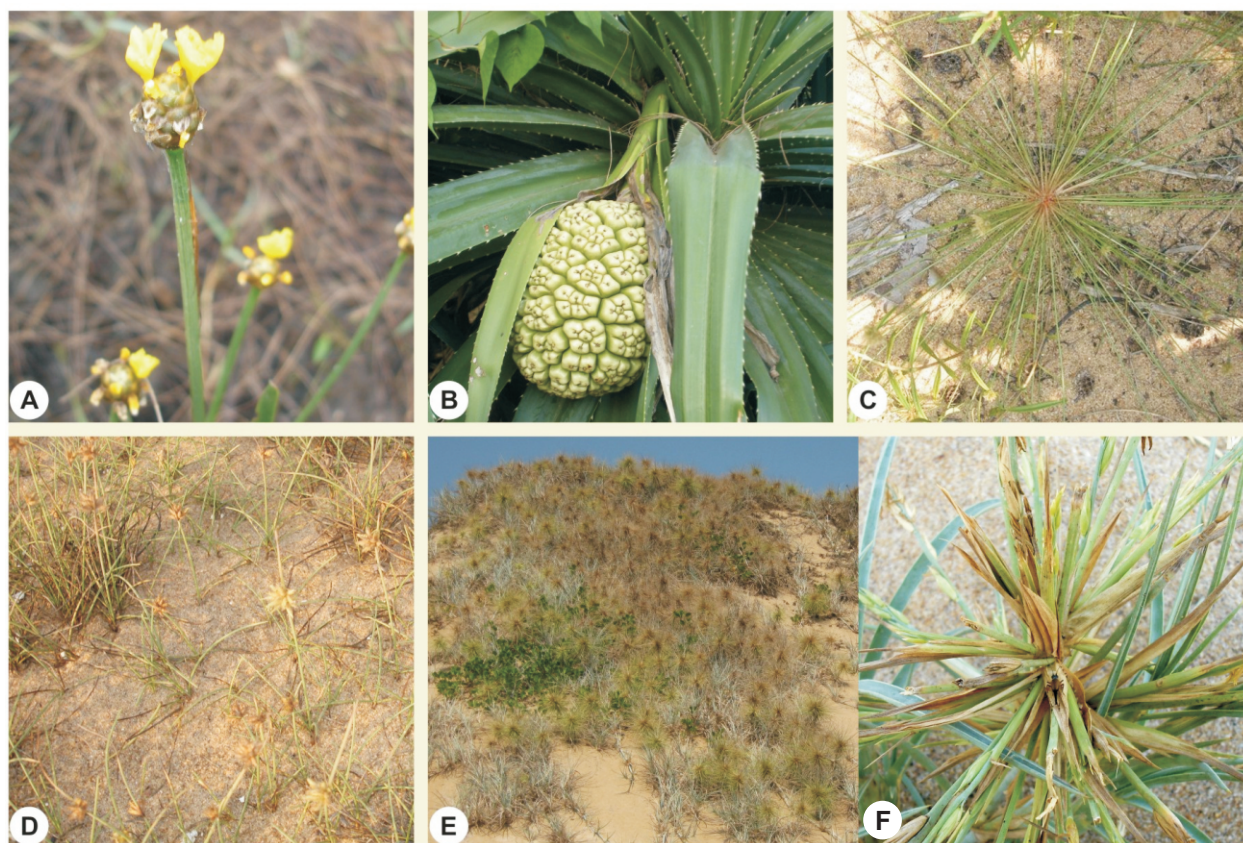


Plate - 3 : A. *Xyris indica*; B. *Pandanus odorifer*; C. *Bulbostylis barbata*; D. *Cyperus arenarius*; E. *Spinifex littoreus* (male flower); F. *Spinifex littoreus* (female flower)

Tephrosia purpurea (L.) Pers. subsp. *purpurea* var. *maritima* Haines, an endemic species to Odisha coast, *Passiflora suberosa* and *Vigna adnantha* are collected for the first time from Puri district during the study.

The species such as *Acanthospermum hispidum*, *Drosera burmannii*, *Passiflora suberosa*, *Pavonia zeylanica* and *Vigna adenantha* are rare to the area.

Many of the exotic species invaded in to the coastal area are naturalized and few of them spread to such an extent that they are threat to the growth of native species. The species such as *Antigonon leptopus*, *Chromolaena odorata*, *Hyptis suaveolens* and *Parthenium hysterophorus* are the most notorious invasive aliens. The loss of native flora in the coast may be attributed to human habitation, privatization of common property resources of the coastal villages (Sahoo and Misra, 1994) and industrialization including establishment of hotels on the beach.

The old beefwood (*Casuarina equisetifolia*) plantation in the coast provides a congenial environment for the growth of many species, such as *Aristolochia indica*, *Asystasia gangetica*, *Ceropegia candelabrum*, *Coccinia grandis*, *Emilia sonchifolia*, *Hybanthus enneaspermus*, *Micrococca mercurialis*, *Pergularia daemia*, *Sida cordifolia*, *Solanum trilobatum* and *Tylophora indica*. Many species such as *Azadirachta indica*, *Lannea coromandelica* and *Morinda pubescens* that are common within the beefwood plantations, and provide a livelihood to the local people.

The plant resources of the coast of Puri district are ecologically and economically very important. Different parts of *kia* (*Pandanus odorifer*), a semi-natural plant, are used by the local people (Panda & al., 2001) for various purposes. Besides, coconut (*Cocos nucifera*) and cashew (*Anacardium occidentale*) are important economic resources of the coast. Most of these plantations are owned by the local villagers and are not managed properly that need scientific management as well as proper utilization of the products. Proper market for these products is to be created for the economic improvement of these local people.

ACKNOWLEDGEMENTS

The authors are thankful to the Ministry of Earth Sciences, Government of India, New Delhi for financial assistant in the form of a project. Also thankful to the Head, Department of Botany, Berhampur University for facilities.

REFERENCES

- BAIRIGANJAN, G.C., P.C. PANDA, B.P. CHOUDHURY AND S.N. PATNAIK. 1985. Fabaceae in Orissa. *J. Econ. Taxon. Bot.* 7:249-276.
- BANERJEE, L.L., T.A. RAO, A.R.K. SASTRY AND D. GHOSH. 2002. Diversity of Coastal Plant Communities in India. ENVIS-EMCB- Botanical Survey of India, Calcutta.
- BENTHAM, G. AND J.D. HOOKER, 1862-1883. *Genera Plantarum*. 3 Vols., London.
- FISCHER, C.E.C. 1905. Further notes on flora of northern Ganjam. *J. Bombay Nat. Hist. Soc.* 16:473-483.
- GAMBLE, J. S. 1915-1936. *Flora of the Presidency of Madras*, London. (Reprinted by BSI, Calcutta, 1967).
- HAINES, H.H. 1921-1925. *The Botany of Bihar and Orissa*, London. (Reprinted by BSI, Calcutta, 1961).
- JAIN, S. K. AND R. R. RAO. 1977. *A Handbook of Field and Herbarium Methods*. Today and Tomorrow's Printers & Pub., New Delhi.
- PANDA, K.K., S. MAHAPATRA, L.N. DAS, M.K. MISRA AND B.B. PANDA 2001. Optimal utilization of kewda, *Pandanus fascicularis* to ameliorate economy and ecology of coastal India. *J. Medicinal and Aromatic Plant Science* 22-24: 679-682.
- PANDA, P.C. 1992. Flora of Puri district. *Ph. D. Thesis*, Utkal University, Bhubaneswar.
- RAO, T.A. 1974. Distributional resume of the maritime strand flora of India. *Bull. Bot. Surv. India* 13: 192-202.
- SAHOO, H.P. AND M.K. MISRA. 1994. Village ecocomplex functioning with common property resources: a case study on coastal Orissa, India. *Environmental Conservation* 21(1): 57-61.
- SAHU, D. AND M.K. MISRA. 2010. Flora of sandy coast of Ganjam district, Orissa, India. *J. Bombay Nat. Hist. Soc.* 107: 213-219.
- SAXENA, H. O. AND M. BRAHMAM. 1994-1996. *The Flora of Orissa*. 4Vols. Regional Research Laboratory and Forest Development Corporation Ltd., Bhubaneswer, Orissa.
- SUBUDHI, H.N., B.P. CHOUDHURY AND B.C. ACHARY. 2002. Systematic enumeration of plants from Orissa coast. *J. Econ. Taxon. Bot.* 26: 185-192.

पुरी जिला, ओडिशा, भारत की तटीय पादप विविधता

दीनबन्धु साहु एवं मलय के मिश्रा

सारांश

इस आलेख में ओडिशा के पुरी जिले के तट से पौधों के क्रमबद्ध विवरण में ७२ कुलों के १६५ वंशों के अंतर्गत आवृतबीजी की २६० जातियां शामिल हैं। इस वनस्पतिजात में १६२ शाकीय पौधे, २७ लताएं, ३३ क्षुप एवं ३८ वृक्ष जातियां हैं। एक शताब्दी के बाद ओडिशा के गंजम तथा पुरी जिलों के तट से *माइक्रोकोका मक्यूरिएलिस* के अभिलेख हुए हैं। फेबेसी कुल की बहुलता के बाद पोएपी, सायपरेसी, एस्टरेसी, रुबिएसी, वर्बेनेसी तथा एस्लेपिएडेसी की व्याप्ति है।