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## RESEARCH ARTICLE

Extended Range of Distribution of *Meyna laxiflora* Robyns (Rubiaceae) from the Bhitarkanika National Park, Odisha, India

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**Abstract:**

Exhaustive explorations of the forests of Bhitarkanika National Park in Kendrapara district of Odisha resulted in extension of range of *Meyna laxiflora* Robyns (Rubiaceae). After careful examinations the identity has been confirmed and the taxon is described as a new record both for the flora of Odisha and Bhitarkanika National Park as well in this communication. Brief description of the species along with correct nomenclature, ecology, phenology of flowering and distribution etc were provided.

**Key Words:**  
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**Introduction**

Bhitarkanika lying between 20° 30' to 20° 50'N Latitude and 86°30' to 87°06'E Longitude of Kendrapara district and in the North-Eastern Coast of Odisha state is endowed with very rich as well as diverse type of both flora and fauna. Among the flora, mangroves deserves special attention being the most productive and sensitive ecosystems of the globe. The forests of Bhitarkanika are located in the deltaic regions of river Brahmani and Baitarani and it is the second largest mangroves of India in respect of geographical distribution next to Sundarban. The tidal and littoral swamp forests were under severe threat when these areas were under the Kanika Zamindary. After that the denudation process were accelerated to a noticeable extent due to rapid march of urbanization, over-grazing, settlement of immigrants and conversion of mangrove areas to aquaculture ponds etc. Hence, the tidal and littoral swamp forests being the most valuable and threatened type of wetlands have suffered heavy losses due to anthropogenic interferences. But after the declaration of sanctuary and enforcement of Wildlife Protection Act (1975) the mangroves of Bhitarkanika were given adequate protection for conservation. The mangrove forests of Bhitarkanika are represented by 63 species out of 72 species available in world. Bhitarkanika mangrove ecosystem is usually of two storeyed. The species of the top canopy/layer/storey are *Avicennia alba*, *A. marina*, *A. officinalis*, *Excoecaria agallocha*, *Heritiera fomes*, *H. littoralis*, *Sonneratia apetala*, *S. caseolaris* etc. The middle storey/layer/canopy is represented mainly by shrubs and small-trees like *Aegiceras corniculatum*, *Brownlowia tersa*, *Ceriops decandra*, *Hibiscus tiliaceus*, *Kandelia candel*, *Lumnitzera racemosa*, *Rhizophora apiculata*, *R. mucronata*. However, the ground flora is very poor in species composition. The herbaceous elements are, *Salicornia brachiata*, *Sesuvium portulacastrum*, *Suaeda maritima* and *S. nudiflora*, *Trianthema portulacastrum*, *Synostemon bacciformis* etc. Pure formation of *Myriostachya wightiana*, *Porteresia coarctata* are commonly met with near creeks and channels. There is a significant patch of miscellaneous forests in the central part of the Bhitarkanika PRF where non-mangrove taxa especially the elements of deciduous forests were distributed abundantly due to lack of the tidal water inflow and (prevalence of) sandy soil. Some of the dominant species of this forest type are *Ficus sp.*, *Borassus flabellifer*, *Barringtonia acutangula*, *Diospyros ferrea*, *Diospyros sylvatica*, *Lannea coromandelica* etc.

Many species exhibit very shrinkage of distribution and are becoming rare and threatened due to the changes in the ecological factors like change in fresh water inflow, salinity gradient and tidal inundation etc. So, it is high time to conserve these vulnerable/rare/threatened elements before further genetic erosion takes place.

Realising the growing concern on mangroves, the Forest Department of Odisha have taken up active researches, survey and herbarium under the aegis of the World Bank sponsored Integrated Coastal Zone

Management Project. Under this programme, the forests of Bhitarkanika were explored intensively and exhaustively. In this connection efforts were made to enumerate and collect the representative species which resulted in the relocation or addition of a taxon of Rubiaceae i.e. *Meyna laxiflora* Robyns from the centrally located deciduous miscellaneous forest (in the Bhitarkanika National Park). The plant was collected, identified and deposited in the herbarium of Mangrove Forest Division (Wildlife), Rajnagar, Kendrapara. After consultation of available literature, this taxon is found to be a new record for the state of Odisha (earlier reported by Panigrahi and excluded from the Flora of Orissa by Saxena and Brahmam). Haines (1921-25), Mooney (1950) and Saxena and Brahmam (1994-96) the earlier workers for the state of Bihar and Odisha did not report this species. Banerjee (1984) have recorded 312 angiosperms including 2 ferns belonging to 80 families from the sanctuary area. Out of these, 90 are monocots belonging to 18 families where as 209 are dicots under 62 families. But he did not enlist this species. Recently Chadha and Kar (1999) were given a detailed list of plant species occurring in this sanctuary which is the compilation of earlier data. But there is also no mention of this plant. Hence this taxon turned out to be an addition or new record for the Bhitarkanika National Park as well as for Odisha state. The correct nomenclature, diagnostic characters, phenology, ecology, distribution etc. are provided in brief.

### Meyna Roxb.

#### Laxiflora Robyns

*Meyna laxiflora* Robyns, Bull. Jard. Bot. Etat. 11: 228. 1928; Santapu in Bull. Bot. Surv. India 3: 1961. *Vengueria spinosa* Roxb. Fl. India 2: 127. 1824 (pro parte, excl. Type); Grham, Cat. 90. 1839; FBI 3:136. 1882 (P. P.); Cooke 1: 607 (2: 36). 1903.

A large shrub or small tree, stem with straight opposite, sharp spines. Leaves elliptic, lanceolate, acuminate, glabrous. Flowers in pedunculate cymes or rarely in fascicles from the old scars below the leaves. Corolla greenish white. Drupe ellipsoid, green turning brown when ripe.

**Locality:** Bhitarkanika

**Ecology:** A common shrub at dry and sandy areas of the National Park higher elevation in forest.

**Fls.:** December – April

Specimens Examined: Bhitarkanika PRF

**Distribution** Charatha , Amboli of Maharashtra state

#### Taxonomical Notes:

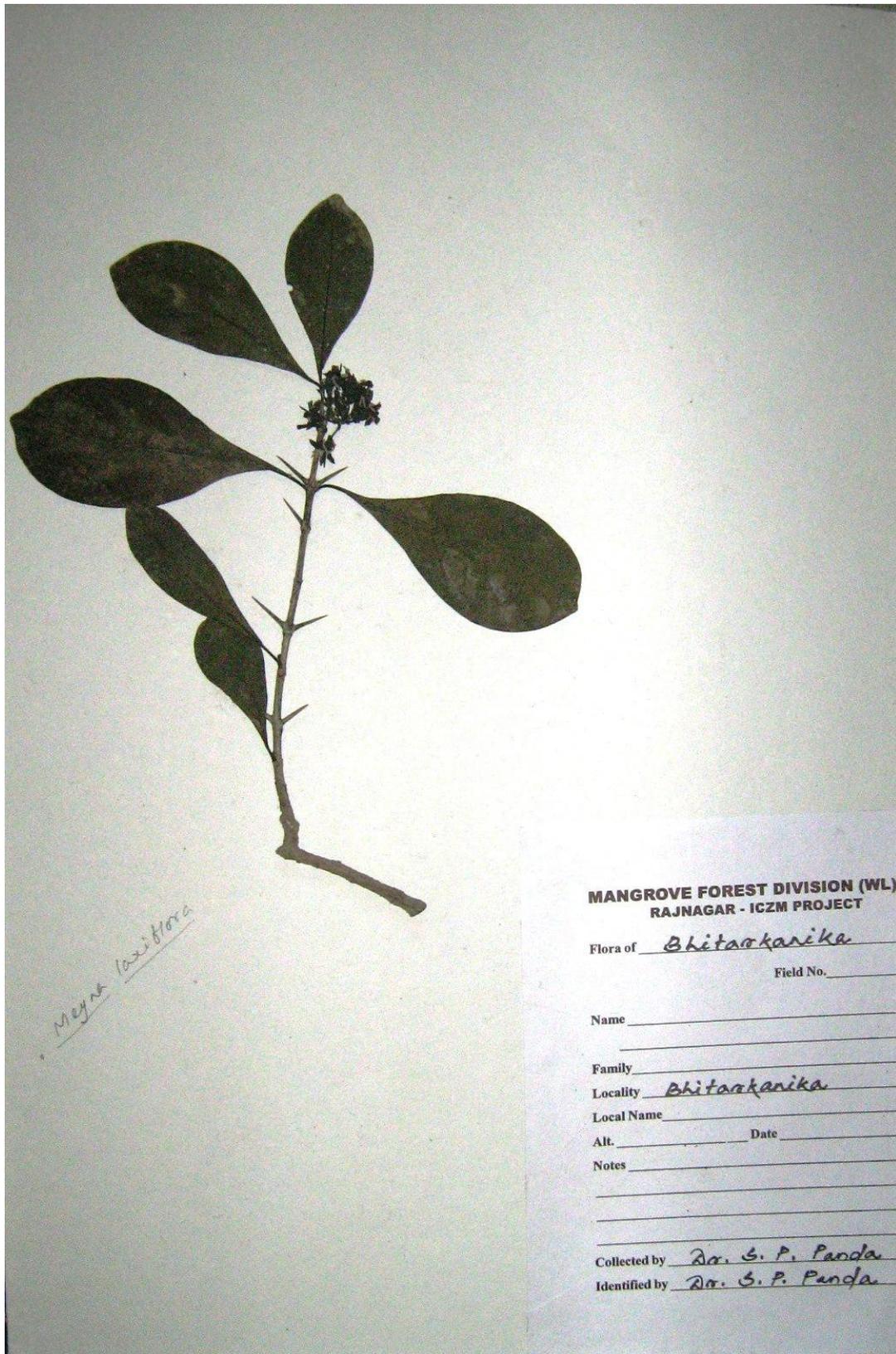
The angiospermic family Rubiaceae is represented by genera and species in the flora of Odisha. Whereas, the genus *Meyna* Roxb. ex Link. is monotypic having a single species i.e. *Meyna spinosa* Roxb. ex Link. var *pubescens* Robyns under it.

However *Meyna laxiflora* Robyns was described by Panigrahi et al. (1964) from Sukinda, Ghatagaon and Bangura in Odisha. But Saxena and Brahmam (1994-96) while compiling the flora of Orissa referred the specimens collected by Panigrahi et al. (l.c) and deposited in the Central National Herbarium (CAL), Kolkata and concluded the specimens as *Meyna spinosa* Roxb. ex Link. var *pubescens* Robyns not *Meyna laxiflora* Robyns. Hence, they have excluded this species from the flora of Odisha. Its presence in Bhitarkanika National Park forms an addition to the Flora of Odisha and Bhitarkanika as well.

*Meyna laxiflora* Robyns closely resembles with *Catunaregam spinosa* (Thunb.) Tirvngadam and create confusions. So in order to avoid such confusions the distinguishing features of both these species are outlined in the below provided table. 1.

**Table. 1.** Showing the difference between *Meyna laxiflora* Robyns and *Catunaregam spinosa* (Thunb.) Tirvngadam

Plant Parts	<i>Meyna laxiflora</i> Robyns	<i>Catunaregam spinosa</i> (Thunb.) Tirvngadam
Spines	Sharp opposite	Sharp geminate
Leaves	Lanceolate, glabrous	Rounded, pubescent beneath
Flowers	Flowers in pedunculate cymes rarely in fascicles from the old scars bellow the leaves, non-fragrant	Fls solitary or 2-3 in axillary clustered peduncled cymes, fragrant
Corolla	Greenish white	White turning yellow
Fruits	Drupe ellipsoid, green turning brown when ripe	Berries globose or ovoid, yellow when ripe



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