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REFERENCE

SEM WAL, J. K. & GAUR, R. D. (1981): Alpine flora of Tungnath in Garhwal Himalaya. *J. Bombay nat. Hist. Soc.* 78: 498-512.

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¹ Expired in April 1984.

40. NEW DISTRIBUTIONAL RECORDS OF SOME MANGROVE SPECIES FROM ORISSA COAST

Since the publication of Botany of Bihar and Orissa by H. H. Haines in the year 1922, many new plant species as well as new records have been discovered by various workers (Mooney 1950, Patnaik *et al.* 1956, Panigrahi *et al.* 1964, Saxena & Brahman 1978, Rao *et al.* 1967). During the studies on vegetation and flora of the Mahanadi delta in Cuttack district, Orissa state, I collected several mangrove species from Bhitara Kanika, Gahirimata, Thakurdian and False point estuarine islands of which eight species were found to be new distributional records.

MALVACEAE

Thespesia populneoides (Roxb.) Kostel. Allg. Med. Pharm. Fl. 5: 1836.

Trees 5-8 m tall with yellow flowers and partly dehiscent capsules, frequent along muddy sea shores and estuarine islands. Fruiting specimens of this tree are distinguished in the field

by separation of exocarp from the endocarp at maturity. Orissa: Hookitola island, L. K. Banerjee 9517.

MILIACEAE

Aglaia cucullata (Roxb.) Pellegrin in Not. Syst. 1: 284. 1909.

Small tree with peg-like pneumatophores and cup-shaped terminal leaflets like *Ficus krishnae*, frequent along the banks of tidal creeks towards fresh water regions, usually in association with *Brownlowia tresa* and *Heritiera fomes*.

Orissa: Bhitara Kanika, L. K. Banerjee 9537.

PAPILIONACEAE

Intsia bijuga (Colebr.) O. Kuntze, Rev. Gen. Pl. 192. 1891.

Tree with 2-3 jugate leaves and purple flowers, frequent along fresh water mangrove swamps in association with *Heritiera fomes*.

Orissa: Bhitara Kanika, L. K. Banerjee 10231.

RHIZOPHORACEAE

Rhizophora stylosa Griff. Not. Pl. As. 4: 665. 1854.

Trees 5-8 m tall with many stilt roots. Leaves ovate-elliptic, obtuse at apex, cuneate at base; flowers white, arranged in dichotomously branched cymes; peduncles 4 times forked; petals villose; style 4-5 mm long. Hypocotyle cylindrical. Rare along the sandy sea shore, directly facing the sea surf.

R. stylosa is closely related to *R. mucronata* and *R. apiculata* already known from the area but can be distinguished by the presence of densely hairy petals and longer styles.

This species is so far known from Java, New Guinea, Philippines and North Australia. The present extension of its distribution along Orissa coast is a new distributional record for India.

Orissa: Thakurdian island, *L. K. Banerjee* 10232.

Ceriops tagal (Perr.) C. B. Rob. in Phil. J. Bot. 3: 306. 1908.

Small trees with fluted buttresses and stilt roots, sporadic towards inner mangrove fringes, usually in association with *Ceriops decandra* and *Bruguiera cylindrica*. Flowering specimen of the tree is distinguished in the field by the presence of 3 clavate appendages at the petal apex.

Orissa: Thakurdian island, *L. K. Banerjee* 10217.

SONNERATIACEAE

Sonneratia griffithii Kurz, in J. As. Soc. Beng. 40(2): 56. 1871.

Trees 10-15 m tall with many pneumatophores; leaves obovate, entire emarginate at apex, tapering towards base; flowers apeta-

lous, white, solitary, axillary; fruits ovoid, flat at base. Frequent along the estuarine banks under the influence of high salinity and tidal inundation, usually in association with *Avicennia alba* and *Bruguiera parviflora*.

Distribution of this species has been reported from Andamans, Pegu and Tenasserim in Burma. The present occurrence of this species from Orissa is the first record for main land.

Orissa: Gahirimata island, *L. K. Banerjee* 9471.

APOCYNACEAE

Cerbera manghas Linn. Sp. Pl. 208. 1753.

Glabrous tree with yellow white flowers (turns purple) and woody fibrous fruits, common along the intertidal regions towards fresh water swamps in association with *Heritiera fomes*.

Haines though he did not collect this plant from the Mahanadi delta, made a mention of this plant in The Bot. Bih. and Orissa 1922 as follows" wild in Sunderbans and Chittagong and possibly occurring in the Mahanadi delta."

Orissa: Bhitara Kanika, *L. K. Banerjee* 10171.

AVICENNIACEAE

Avicennia marina (Forsk.) Vierh. var. **acutissima** Stapf & Moldenke in Phytologia 1: 411, 1940.

Bushy shrubs with elliptic acuminate leaves and yellow flowers, common along the Barua river mouth under high salinity conditions. Vegetative specimen of this shrub is distinguished from the typical variety in the field by its short petiols and acuminate leaf apex. This variety has so far been known from the West coast. Present occurrence along the East coast is of distributional significance.

Orissa: Barua river mouth, L. K. Banerjee 10279.

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41. SOME OBSERVATIONS ON THREE LITTLE KNOWN SPECIES ENDEMIC TO BHUTAN AND NORTHEAST INDIA

During field studies on the flora of Jalpaiguri District in West Bengal, in 1975-76, I collected three rare endemic species from the hilly tracts in the north-eastern part of the district, from the Buxaduar and Jainti forest ranges.

Ardisia bhotanica (Myrsinaceae) was described by C. B. Clarke in 1882, based on a single collection of William Griffith from Bhutan in 1838. The species appears to have eluded plant explorers from that time onwards for almost 138 years. Then on May 16th, 1976, I came across this plant growing in moist, cool and shaded situations in the semi-evergreen forests on the upper hills of Buxaduar forest range at about 1700 m elevation. It was found growing abundantly in association with *Ardisia undulata* Clarke, *Begonia laciniata* Roxb. and *Polygonum chinense* L., but was restricted to a very small patch of

land about 3 sq. m. in area only *A. bhotanica* is an undershrub, 1-1.75 m tall, which is characterised by its lanceolate, crenate membranous and gland-dotted leaves and rosy-white flowers borne in simple panicles on decurved peduncles. I reported it from India as a new record (Sikdar 1979) and provided a detailed description and illustration for it.

All the relevant literature pertaining to Griffith's (1839, 1848) collections and travels in Bhutan were examined carefully and it is quite evident that the type locality Murichom is just north of Buxaduar. I also collected the plant in the Buxaduar forest range practically on the Indo-Bhutanese border. So, after a span of nearly one and a half centuries, *A. bhotanica* has been collected very near the type locality, and it may so happen that the two localities may be within a stone's throw of each other.



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