



RESEARCH ARTICLE

AN ASSESSMENT OF MANGROVE ASSOCIATE PLANT SPECIES IN RATNAGIRI DISTRICT,  
MAHARASHTRA, INDIA

<sup>1</sup>Kalpiti Mhatre and <sup>2</sup>Alok Gude

<sup>1</sup>Arts, Commerce and Science College, Lanja-Ratnagiri, India

<sup>2</sup>St. Xavier's College, Mumbai, India

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ABSTRACT

The present paper deals with the study of mangrove associate plant species found in the Ratnagiri District of the Maharashtra State. Present investigation reveals that a total of 21 mangrove associate species are found in the district in a huge population.

Key words:

Mangrove associate,  
Assessment,  
Population.

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INTRODUCTION

Mangroves are plants that adapt themselves to the saline conditions by producing specialized structure such as stilt roots and pneumatophores. According to Lugo & Snedaker (1974), the term mangrove means either a group of halophytes exhibiting either marked similarities in morphological characters or ecological adaptations. The Oxford dictionary (2011) has defined mangroves as any tropical tree or shrub of genus *Rhizophora* growing in shore-mud with many tangled roots above the ground. Mangroves grow well where the conditions favor the deposition of sediments in the convex margins of river and the creek meanders and where there is progradation of the coasts and the soil is built up (Vamico 1989). Mangroves grow between mid-tide and high-tide levels and are found extensively in the estuarine regions where mudflats are wide and gently sloping. Besides estuaries, mangroves also inhabit the intertidal regions of shallow bays and creeks where the environment is conducive for the growth of mangroves. The global distribution of mangroves is divided into two hemispheres: the Atlantic East Pacific and the Indo West Pacific.

The Atlantic East Pacific has fewer species than the Indo West Pacific (12 compared to 58 species respectively). The most extensive mangrove cover is found in Asia, Africa and South America. Four countries namely Indonesia, Brazil, Nigeria and Australia account for about 41 % present of all mangroves of the world (Dhargalkar *et al.*, 214). Mangroves in India are spread over an area of 4,639 sq. km. occupying only 0.14 % of Asian mangrove coverage. Around 8 % of mangroves are along the east coast of India and 20 % along the west coast of India (Dhargalkar *et al.* 214). In Maharashtra, a diverse mangrove flora is present along the west coast of India. Coastal districts of Maharashtra include Mumbai, Thane, Raigad, Ratnagiri and Sindhudurg. Ratnagiri district is one of the 36 districts of Maharashtra state in Western India. Ratnagiri city is the district headquarters of the district. The district is 11.33% urban. The district is bounded by the Arabian Sea to the west, Sindhudurg district to the south, Raigad district to the north and Satara, Sangli and Kolhapur districts to the east. This district is part of Konkan division. The total area of the district measures 8,208 sq. kms and the population is 16, 15, 069 (2011). The average annual rainfall is 3364 cms (2013) and the literacy rate is 74.26 %. Over 85 % of the land surface in the district is hilly. All rivers in the district originate in the Sahyadri ranges and flow from east to west and merge in to Arabian Sea. The district has 167 km long sea coast which contains many beaches and forts. The district can be divided physically into three zones such as coastal zone, middle zone

\*Corresponding author: Alok Gude,  
St. Xavier's College, Mumbai, India.

and hill area zone. The coastal zone extends to about 10-15 km from sea coast and generally has low altitude and about 2500 mm rainfall. The middle zone lies between the coastal and hill areas and generally has a medium altitude. It is most accessible due to Mumbai-Goa highway as well as Konkan railway.

The hill area zone includes western slopes of the Sahyadri and extends up to about 10–15 km. It generally has medium to high altitude with high rainfall of about 3400 cm. A large area of this zone is covered by forest. A huge population of mangroves and mangrove associates is observed along the coast of the district.

## RESULTS AND DISCUSSION

The present paper deals with the assessment of 21 mangrove associate species in the Ratnagiri District of Maharashtra State. These mangrove associate species grows luxuriantly in the mangrove area because of pleasant temperature and environmental conditions.

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### Observations

**Table No. 1. Showing a list of mangrove associate found in the district**

No.	Botanical Name	Common Name	Family
1	<i>Morindapubescens</i> Sm.	Bartondi	Rubiaceae
2	<i>Lantana camara</i> L.	Ghaneri	Verbenaceae
3	<i>Dregiavolubilis</i> (L.f.) Benth. exHook.f.	Vatakaka	Apocynaceae
4	<i>Ipomoea pes-tigridis</i> L.	Pingali	Convolvulaceae
5	<i>Abrusprecatorius</i> L.	Gunj	Fabaceae
6	<i>Manilkarahexandra</i> (Roxb.) Dubard	--	Sapotaceae
7	<i>Acanthus ilicifolius</i> L.	Khirmi	Acanthaceae
8	<i>Aeluropuslagopoides</i> (L.) Trin.	--	Poaceae
9	<i>Bacopamonnieri</i> (L.)Penneu.	Brahmi	Plantaginaceae
10	<i>Clerodendrumnerme</i> (L.)Gaertn.	Kadu-mendi	Verbenaceae
11	<i>Derris scandens</i> Benth.	--	Fabaceae
12	<i>Derris trifoliata</i> Lour.	--	Fabaceae
13	<i>Ipomoea pes-carpae</i> (L.) R. Br.	--	Convolvulaceae
14	<i>Ipomoea companulata</i> L.	--	Convolvulaceae
15	<i>Pongamiapinnata</i> (L.) Pierre.	Karanj	Fabaceae
16	<i>Salvadorapersica</i> L.	Miswak	Salvadoraceae
17	<i>Sesuviumportulacastrum</i> L.	Ghela	Aizoaceae
18	<i>Suaedamaritima</i> (L.) Dumort	Ghela	Amaranthaceae
19	<i>Thespesiapopulnea</i> (L.)Soland ex. Correa.	Bhendi	Malvaceae
20	<i>Caesalpiniaabonduc</i> (L.)Roxb.	Sagargota	Caesalpinaceae
21	<i>Wedeliachinensis</i> (Osbeck.) Merr.	--	Asteraceae

## MATERIALS AND METHODS

For the assessment of mangrove associate species in the district, a field visit plan was designed. Regular field visits was conducted to the different locations having the diversity of mangrove associates. During field visits flowering twigs of mangrove associate species have been collected and herbarium sheets of the same have been prepared. Mangrove associate species have been identified with the help of standard flora and manuals. Collected plant species were deposited in the department of botany at arts, commerce and science college, Lanja-Ratnagiri. Global positioning system of all the mangrove associate species has also been recorded with the help of Garmin eTrex Vista Hcx machine.

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