NOTE

Sonneratia ovata (Sonneratiaceae) — A New Distributional Record for India from Andaman and Nicobar Islands

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ABSTRACT: Sonneratia ovata Backer was found from Havelock, Andaman and Nicobar Islands, representing a new addition to the mangrove flora of India. This species lacks petals and is characterized by the finely warty calyx, the lobes of which are red on the inner side and by the adpressed calyx lobes in fruit. Since S. ovata is considered rare as a whole, conservation measures are imperative for managing the mangrove diversity of the Islands with special reference to this species.

KEY WORDS: Andaman and Nicobar Islands, floristic affinities, India, mangrove, new record, Sonneratia.

INTRODUCTION

Sonneratiaceae is a small tropical family consisting of two small genera Sonneratia, ranging from East Africa through Indo-Malaya to tropical Australia and into Micronesia and Melanesia (Tomlinson, 1986) and Duabanga, which is confined to Southeastern Asia (Shi et al., 2000). Sonneratia is a typical mangrove genus (Backer et al., 1954) comprising of nine species (Wang and Chen, 2002) and the inland genus Duabanga is an evergreen component of the rainforest belt (Backer et al., 1954) comprising of two species and has a more restricted range (Tomlinson, 1986). In India, including Andaman and Nicobar Islands, four species of Sonneratia viz., Sonneratia alba Smith, S. caseolaris (L). Engler, S. griffithi Kurz. and S. apetala Buch. Ham. have been recorded so far (Parkinson, 1923; Dagar et al., 1991; FAO, 2005; Kathiresan and Rajendran, 2005; Mandal and Naskar, 2008). Recent floristic expeditions revealed the presence of Sonneratia ovata from Havelock Island, South Andaman which is being reported herein as a new distributional record for India.

TAXONOMIC TREATMENT

Key to the species of Sonneratia in India

1a. Leaves narrowly elliptic to lanceolate, gradually tapering towards apex, narrowed to short petiole at base, calyx lobes 4(-6), up to twice as long as the tube; ovary 5–8 celled; stigma peltate and umbrella shaped, 1.5–2 cm; petals absent; stamens white ………

1b. Leaves, elliptic to broadly ovate, oblong, obovate, or suborbicular; usually 5 cm wide or wider, abruptly narrowed to the rounded or even emarginated apex; calyx usually 6–8 lobed; ovary 14–21 celled; stigma capitulate; petals present or absent; stamens red, white, or red and white …………………………………………. 2

2a. Calyx flat, extended horizontally, not enclosing the ripe fruit, obscurely ribbed ………………………………………………… 3

2b. Calyx cupular, enclosing the base of the ripe fruit, prominently ribbed ………………………………………………… 3

2c. Calyx flat, extended horizontally, not enclosing the ripe fruit, obscurely ribbed ………………………………………………… 3

3a. Twigs not pendulous; leaves obovate to sub-orbicular; base rounded, petiole scarcely developed, midrib green throughout; veins conspicuous, prominent on the upper blade surface; petals absent; stamens white ………………………………………………… S. apetala

3b. Twigs pendulous, slender; leaves broadly elliptic or oblong with minute, recurved tip; petiole short with reddish pink base; veins greenish, prominent, stamens usually present; stamens red, white, or red and white ………………………………………………… S. apetala

3c. Twigs pendulous, slender; leaves broadly elliptic or oblong with minute, recurved tip; petiole short with reddish pink base; veins greenish, prominent, stamens usually present; stamens red, white, or red and white ………………………………………………… S. apetala

3d. Leaves ovate to oblong-ovate with short thick petiole; apex of fruit not depressed at base of style; tube of the fruiting calyx smooth, lobes usually reflexed, may also be flattened into a plane; petals present; stamens white, sometimes pink at base ………………… S. alba

3e. Leaves broadly ovate, as broad as long with a distinct narrow petiole, micro absent, apex of fruit depressed at base of style; tube of the fruiting calyx finely verrucose, lobes ascending, petals mostly absent, rarely vestigial, white; stamens white ………… S. ovata

Columnar tree c. 7.2 m high with quadrangular branches when young (Fig. 1A); trunk base not buttressed; bark slightly flaky (Fig. 1B), pale brown to grey; pneumatophores thin, pointed, c. 37 cm high (Fig. 1C). Leaves simple, opposite, broadly ovate, 5.3–9.0 cm × 4.1–8.6 cm, rounded or subcordate at the base, leaf Apex obtuse, mucro absent, upper surface glossy, lower surface satiny (Fig. 1D), mid-vein not reddened; petiole 5.7–6.9 mm long; terete, reddened (Fig. 1G). Inflorescence-with 1–3 buds (Fig. 1E), mature flower bud-with obtuse apex, broadly oval and covered with small warts (Fig. 1F). Flower bisexual, solitary or occur in groups of three at the tops of stems. Calyx lobes usually 6, rarely 5 (Fig. 1I), 2.6–4.6 cm long, obtuse apex, inner surface strongly tinged with red at base (Fig. 1J); remain attached to the fruit enveloping the berry. Petals absent. Stamens white and numerous which fall off quickly within hours of anthesis. Anthers yellow, dorsifixed, (Fig. 1H). Ovary multilocular (Fig. 1L). Berry globose, 4–6 cm by 3.5–4.5 cm wide (Fig. 1K); pericarp leathery; apex of fruit depressed at base of style. Seeds numerous; rounded and irregular.

Specimen examined: INDIA, South Andaman, Havelock Island, Radha Nagar Beach (11°59'04.7"N 92°57'18.7"E) 13/05/2009 M. Kalijamoomorthy and M.P. Goutham Bharathi (s n 25536 PBL). Four trees were observed in the muddy soil, along the tidal creek on the landward margin of mangroves.

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LITERATURE CITED


Table 1. Salient characteristic features of *Sonneratia* species in India

<table>
<thead>
<tr>
<th>Characters</th>
<th>S. alba</th>
<th>S. apetala</th>
<th>S. caseolaris</th>
<th>S. griffithi</th>
<th>S. ovata</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bark</td>
<td>cream-coloured to brown; smooth longitudinal fissures.</td>
<td>thin, light brown, smooth; furrows at maturity.</td>
<td>pale brown, smooth; furrows at maturity.</td>
<td>deep or pale brown, smooth when young; fissures at maturity.</td>
<td>pale brown to grey; slightly flaky.</td>
</tr>
<tr>
<td>Leaves</td>
<td>elliptic to ovate or obovate</td>
<td>narrowly elliptic to lanceolate, gradually tapering towards an obtuse apex; nerves and veins indistinct</td>
<td>ovate-elliptic or broadly oblong, apex rounded with minute, recurved tip, veins conspicuous</td>
<td>obovate or suborbicular, apex rounded, veins conspicuous</td>
<td>broadly ovate to suborbicular, apex obtuse, mucro absent</td>
</tr>
<tr>
<td>Leaf base</td>
<td>rounded</td>
<td>attenuate</td>
<td>rounded</td>
<td>cuneate</td>
<td>reniform</td>
</tr>
<tr>
<td>Petals</td>
<td>white</td>
<td>absent</td>
<td>red; sometimes white distally</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>Staminal filaments</td>
<td>white</td>
<td>white</td>
<td>red; sometimes white distally</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td>Seeds</td>
<td>falcate</td>
<td>falcate</td>
<td>irregularly angular</td>
<td>angular</td>
<td>rounded irregular</td>
</tr>
<tr>
<td>Inflorescence</td>
<td>terminal cyme occur either solitarily or in groups of three</td>
<td>terminal cyme from branch axis</td>
<td>solitary cyme or few flowers on outer pendulous wing</td>
<td>solitary cyme on terminal and lateral branches</td>
<td>terminal cyme occur either solitarily or in groups of three</td>
</tr>
</tbody>
</table>


來自印度安達曼－尼科巴群島的新紀錄分佈－大葉海桑（海桑科）

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摘要：本文報導在印度安達曼－尼科巴群島發現的大葉海桑新紀錄分佈，此種缺少花瓣，且花萼表面長有細瘤，萼片內面為紅色並緊貼果實。由於此種族群稀少，因此迫切需要對群島上的紅樹林進行保育評估。

關鍵詞：印度安達曼－尼科巴群島、植物區系、印度紅樹林、新紀錄分佈、海桑屬。