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BRUGUIERA CYLINDRICA (L.) BL. (RHIZOPHORACEAE)— A NEW LOCALITY RECORD FROM THE WEST COAST OF INDIA

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BRUGUIERA CYLINDRICA (L.) Bl., one of the mangrove plants and a member of the family Rhizophoraceae, has not been reported from Goa coast so far. This note therefore forms the first record on this taxon from this region, along the west coast of India.

In one of the recent surveys, the morphological variation in floral structures observed in the species of *Bruguiera* generated a lot of interest and led us to take up a detailed taxonomic observations of all the taxa of this genera. All the four species of this genera viz. *Bruguiera parviflora, B. sexangula, B. cylindrica* and *B. gymnorhiza* reported from India and described recently as tree forms[1], focussed the attention of the authors on the locally collected (from Ribander, along Mandovi estuary) bushy shrub/small tree. This was initially assigned to the genus *Bruguiera* based on key characters and on further observations confirmed to be *B. cylindrica* (L) Bl. (figure 1).

Cooke[2] and Blatter[3] have enlisted *B. caryophylloides* (= *B. cylindrica*) as a rare species along southern presidency of Bombay. It is however, observed that there is no mention of this species from west coast of India in recent literature[4,5,6] while, it is reported to be common on the east coast of India[4].

The occurrence of *B. cylindrica* along the Goa coast, therefore, forms an interesting finding from phytogeographic distribution point of view and its autecology might throw some light on possible causes of its rarity.

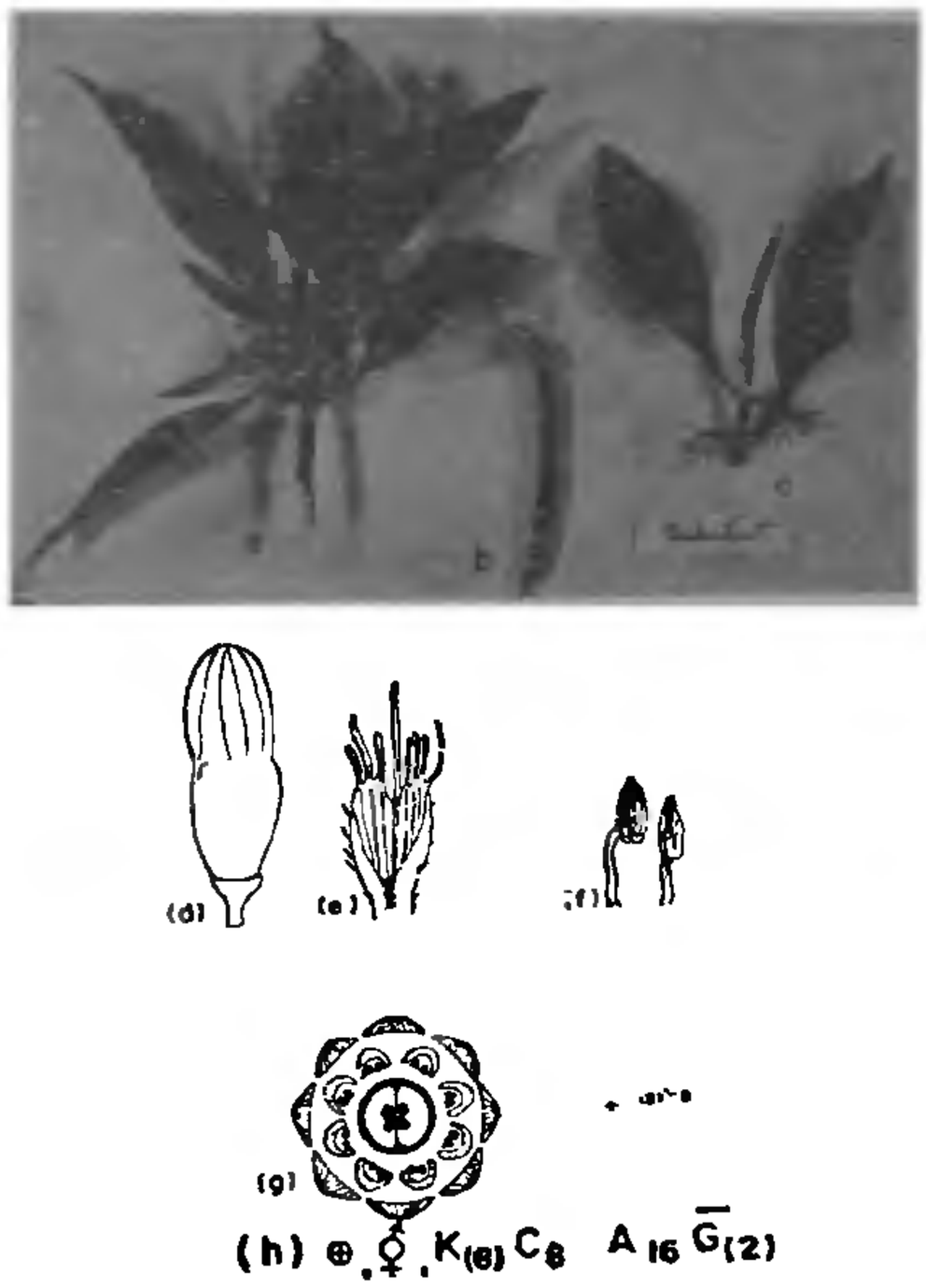

Figure 1. *Bruguiera cylindrica* (L) Bl. **a.** portion of a shoot with seedlings, **b.** mature detached seedling, **c.** portion of shoot showing insertion of inflorescences, **d.** single flower showing smooth calyx tube, **e.** single petal showing apical and sinus bristles, **f.** a pair of stamens with unequal filaments, **g and h.** floral diagram and floral formula of *B. cylindrica*.

Key to the *Bruguiera* Species
(after Ding Hou, Fl. Thailand 2(1); 8, 1970)

1. Flowers solitary, 3– 4 cm long:
   i. Petal lobes acute (not reflexed); each with (1–) 2– 4 apical cilia usually distinctly exceeding lobe apices. Mature calyx red to pinkish-red,ribbed only at the upper part of the tube.. 1. *B. gymnorhiza*
   ii. Petal lobes obtuse (reflexed); each with 0 or 1–2 (–3) apical cilia usually not or hardly exceeding lobe apices. Mature calyx yellow (often with

pinkish tinge) distinctly ribbed to base (on drying) .. 2. *B. sexangula*

2. Flowers (2–) 3(–5) in pedunculate cymes, less than 2 cm long:

iii. Calyx tube smooth; lobes nearly equal to tube, completely reflexed in fruit .. 3. *B. cylindrica*

iv. Calyx tube ribbed; lobes 1/4 –1/5 the length of tube, errect or slightly spreading in fruit. .. 4. *B. parviflora*

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A NOTE ON THE OSTRACODE FAUNA FROM THE QUILON BEDS (LOWER MIOCENE) OF KERALA

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THE Quilon beds of Kerala have been known to geologists since 1854, when they were first described by Carter[1], based on the collection by General Cullen. The surface exposures of these beds are scarce, confined to 2–3 meters thick beds, exposed at the base of sea cliffs near Padappakkara (8° 58′:76° 38′), Paravur (8° 49′:76° 46′) and Edavai (8° 46′:76° 41′). Investigations carried out for groundwater and hydrocarbons reveal that the beds, however, occur quite extensively at the subsurface level along the Kerala coast attaining 50–150 m in thickness[2].

The Quilon beds are very rich both in micro- as well as mega-fauna. Numerous papers pertaining to the stratigraphy and palaeontology of these beds have been published. However, the ostracodes have not received much attention from the micropalaeontologists. The occurrence of a few species has been recorded by different investigators[3–9]. Only 3 species have been described and illustrated from these beds. They are *Miocyprideis thirukkaruvensis* and *Triebelina quilonensis* by Guha and Rao[4] and *Gujaratella quilonensis* by Khosla and Nagori[9].

In order to study the ostracode fauna of the Quilon beds, samples were collected from the known surface exposures (*supra cit.*). Besides, (through the courtesy of Kerala State Ground Water Department, Trivandrum) samples of the Quilon beds were also obtained from four subsurface sections: Sankaramangalam well 4 (8° 59′ 45″: 76° 32′ 15″) 31.39 to 247.79 m depth; Thevally well (8° 53′ 45″: 76° 36′ 45″) 28.34 to 247.79 m depth; District Hospital Quilon well (8° 53′: 76° 53′) 124.96 to 125.88 and 75.89–79.96 depth, and Mayyanad well (8° 50′: 76° 39′) 19.20 to 20.12 m depth. With the exception of Edavai section (probably due to collection failure) all other sections yielded a rich and excellently preserved ostracode assemblage comprising in all 97 species. The object of the present note is to place on record this assemblage. Detailed systematics is in hand and will be published elsewhere.

Of the 97 ostracode species recorded the following 49 species have been assigned to the already known species from India and elsewhere (those marked by * are common to the recorded species from Kerala by earlier workers) : *Actinocythereis gujaratensis* Tewari and Tandon, **A. tumefaciens* (Lubimova and Guha), *A. vinjhanensis* (Tewari and Tandon), **Alocopocythere fossularis* (Lubimova and Guha), *A. gujaratensis* Khosla, "*Archicythereis*" *pulchra* (Lubimova and Guha), **Asymmetricythere mutata* (Lubimova and Guha), *Bairdoppilata rajnathi* Tewari and Tandon, *Bicornucythere secedens* (Lubimova and Guha), *Caudites gujaratensis* Khosla, *Cletocythereis bradyi* Holden, **Cytherella protuberans* Lubimova and Guha, *Cytherelloidea bar-*