

many discrete granules and the structure composed of 2–4 granules on the surface.

Morphological observations on the different varieties i.e. Jaya (present investigation) and Indica⁸ of *Oryza sativa* L. indicate a differential pattern of exine formation. These results strengthen the view of Erdtman³ that the study of pollen morphology may not only be useful in recognizing the different species of a genus but also the variety to which pollen grains belong.

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TERATOLOGICAL OBSERVATIONS IN TWO SPECIES OF *CORCHORUS* L. (TILIACEAE) FROM MARATHWADA

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DURING our investigations on the flora of Marathwada some interesting specimens of flowering plants were collected from Beed District. During this collection, a few unusual specimens of *Corchorus fascicularis* Lamk were noted from the banks of Pangri river. They were therefore collected in large numbers and preserved for future investigation. Such unusual specimens were also collected from the population of *Corchorus velutinus* Pardeshi from Choramba.

The curious specimens of both the species are undershrubs and have vegetative characters quite similar to their normal specimens. However, the flowers exhibited a series of abnormal features from short-stalked normal flowers to flowers with elongated peduncles and pedicels, enlarged leaf-like calyces, green foliar petals, stamens partly or wholly transformed into green leaves, carpels completely transformed into green-folded leaves simulating conduplicate carpels and total absence of ovules. Some flowers were partly transformed while others were completely transformed into short vegetative branches (figures 1A and B).

The normal flowers of the above species of *Corchorus* are borne on very short axillary peduncles and pedicels. In *C. fascicularis* they are in clusters of 3 to 4 and in *C. velutinus* they are in pairs. Both are pentamerous with indefinite (usually 15–20) stamens and 3 to 4 carpels and 3–6 mm long. But in the abnormal specimens these were replaced by 2–10 cm long or longer branches with extended internodes and 4 whorls of 4 leaves each (figures 1 Aa-Ae and Bb). Leaves on these branches were much smaller than the normal foliage.

A review of literature on plant teratology and diseases indicates that such abnormalities have been reported in a large number of cultivated and wild plants in the past. The 'false blossom disease' of cranberry^{1,2} and 'Witches broom virus disease' of *Tropaeolum majus*³, for instance, are of particular interest in the present context.

A series of abnormalities progressing from a normal flower to completely vegetative leafy branch in *Tropaeolum majus* and other plants have been termed *antholysis*³ which entails *virescence* (greening of floral parts), *phylloidy* (development of floral parts into normal foliage), *apostasis* (the development of the internodes theoretically present in the floral receptacle) and *proliferation* (elongation of receptacle above the insertion of the pistil).

Although the last stage of antholysis, namely proliferation, has not been observed in the present species of *Corchorus*, the situation appears quite similar to that in the false blossom disease of cranberry⁴ and witches broom virus disease of *Tropaeolum majus* mentioned above. Similar abnormalities in plants due to diseases reported earlier from tropical countries include phylloidy of *Crotalaria juncea*⁵, phylloidy of *Sesamum indicum*⁶, green petal of strawberry and invirescence of *Emilia sonchifolia*⁸. All these diseases were ascribed to a virus up to 1967 but now most of these are ascribed to mycoplasma-like organisms⁹.

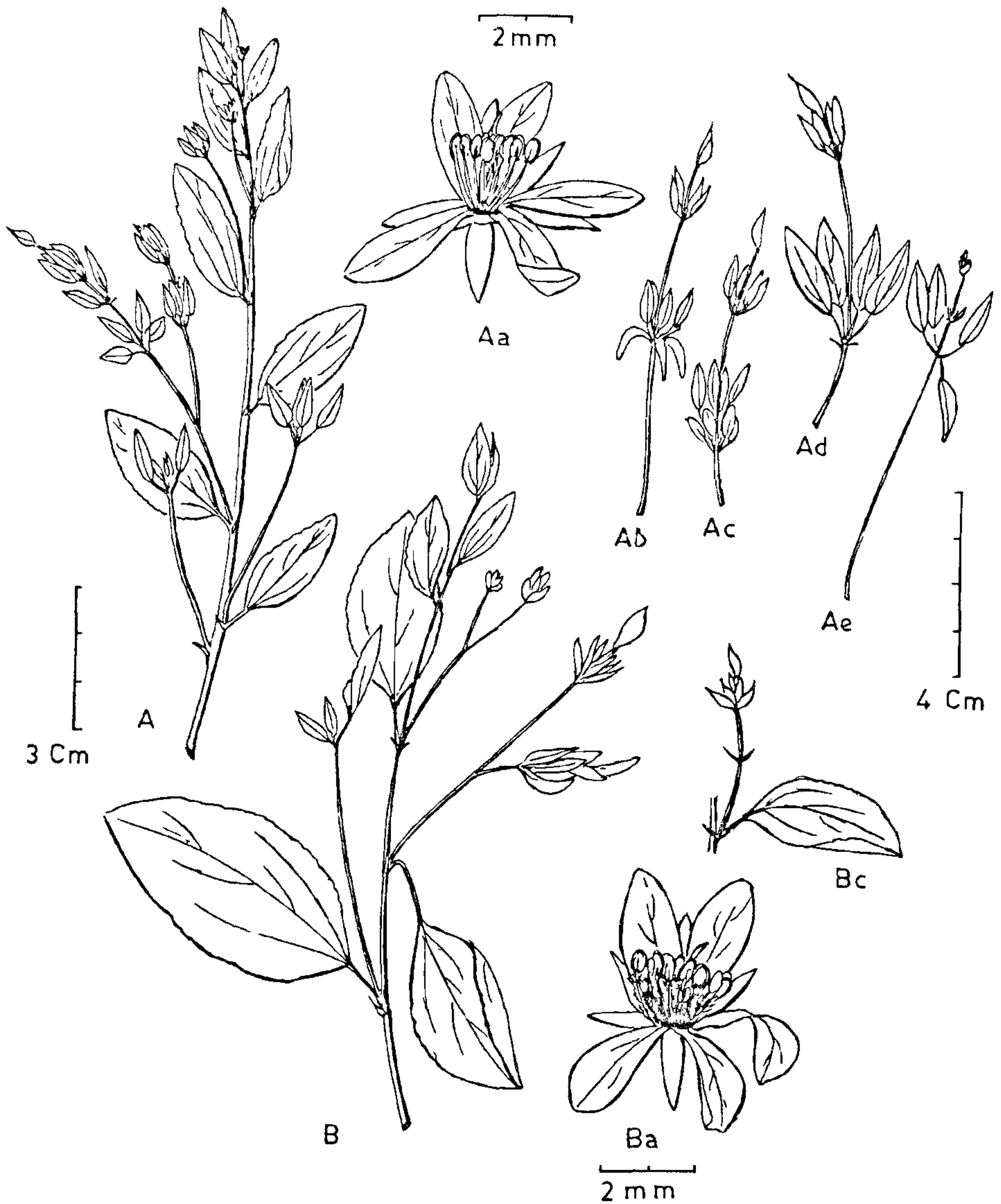


Figure 1. Teratological specimens. **A**—*Corchorus fascicularis* Lamk.; Aa—normal flower; Ab-Ae—abnormal vegetative branches. **B**—*Corchorus velutinus* Pardeshi, Ba—normal flower; Bb—abnormal vegetative branch.

Although nothing definite is known about the cause of teratology of the two species of *Corchorus* in Marathwada, the symptoms appear quite similar to the disease caused by mycoplasma-like organisms mentioned above. This however needs confirmation by further investigation.

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MARINE FUNGI FROM INDIA - V

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DURING a survey of higher marine fungi from the coast of Maharashtra (India), the author collected a Loculoascomycetous fungus *Pleospora avicenniae* sp. nov. on intertidal roots and pneumatophores of *Avicennia alba* Blume, which is described as new to science. The type material has been deposited in the Herbarium, CMI, Kew, England.

The genus *Pleospora* was validated and emended by Cesati and De Notaris. The type species of the genus is *P. herbarum* (Pers. ex. fr.) Rabenhorst. There are about 200 species of this genus of which only six are known from marine habitats¹. A description of the new fungus is given below:

Ascocarpiis 220–375 μm altis, 250–400 μm diametro, obpyriformibus, omnino immersis, ostiolatis, papillatis, carbonaceis ad coriaces, nigris, gregariis; peridiis bistratis; strato externo cellulis irregulariter hyphoideis, particulis putridis ligni vel corticis mixtis, strato interno cellulis applanatis, texturam angularem formantibus; rostris 80–150 μm longis, 40–60 μ diametro, irregulariter cylindricis, canale ostioli 30 μm diametro, reticulo hypharum subtilium hyalinarumque; pseudoparaphysibus 1–2 μm diametro, plus minusve parallelis eramosisque inter ascos, ramosis, anastomosantibusque supra ascos et in filamentibus periphysoideis ostioli transientibus; ascis 150–175 \times 28–38 μm , octosporis, clavati vel cylindricis, pedunculatis, pachydermaticis, bitunicatis, textura ascogena basale; ascosporis 28–40 \times 12–15 μm uniseriatis, oblongellipsoideis, flavido-brunneis, asymmetricae, muriformibus, 5–7–9-septatis, 2–3 septis verticalibus in aspectu fornali, ad septa constrictae, utroque termino late rotundatae, tegumentis mucosis tectis, tegumentis in aqua lente tumescentibus et diffluentibus. Substratum: Lignum immersum *Avicenniae alba* Bl. Distributio: Oceanus Indicus (India). Holotypus: B.D.A. MFM 38a; Herb. IMI 304217.

Ascocarps 220–375 μm high, 250–400 μm in diam., obpyriform, completely immersed, ostiolate, papillate, carbonaceous to coriaceous, black, gregarious. Peridium two-layered; outer stratum composed of irregular hyphoid cells mixed with decomposing wood or bark particles, inner stratum composed of flattened cells, forming a textura angularis. Necks 80–150 μm long, 40–60 μm in diam. irregularly cylindrical; ostiolar canal 30 μm in diam. filled with a network of thin hyaline hyphae. Pseudoparaphyses 1–2 μm in diam., more or less parallel between the asci and unbranched, becoming branched and anastomosing above the asci and merging with the periphysoid filaments in the ostiolar canal. Asci 150–175 \times 28–38 μm , eight-spored, clavate or cylindrical, pedunculate, thick-walled, bitunicate, arising from a basal ascogenous tissue. Ascospores 28–40 \times 12–15 μm , uniseriate, oblong ellipsoidal, yellow-brown, asymmetric, muriform, 5–7–9-septate, 2–3 vertical septa in face view, constricted at the septa, walls often at oblique angles at either end, ends broadly rounded, surrounded by a gelatinous sheath, which slowly swells in water and eventually dissolves.

On immersed wood and bark of *Avicennia alba* Bl. Range-Indian Ocean (India). Material examined: submerged roots of *Avicennia alba*, together with *Lulworthia* sp., Revas, 15 March 1982,