

agree with one another, as well as the one reported in literature.

Perithecia were superficial, oval to elliptical, orange to chestnut, 320 to 450  $\mu\text{m}$  deep, 237 to 383  $\mu\text{m}$  in diameter, perithecial wall roughened. Asci club-shaped, long stalked and hyaline. The ascospores were hyaline, variously curved, irregularly crowded, fusoid, faintly bent; 1 to 5 septate, mostly 3 or 4, measuring 21.0 to 26.0  $\times$  4.0 to 6.0  $\mu\text{m}$  in size, (Fig. 1). These characters agree with those described by Peeraly<sup>3</sup>. The organism was, thus, identified as *Calonectria quinqueseptata* Figueiredo and Namekata.

*C. quinqueseptata* was recorded as the perfect state of *Cylindrocladium quinqueseptatum* for the first time from different species of *Eugenia* including clove and *Eucalyptus* from Brazil<sup>4</sup>. This state has not been recorded so far from India and is being newly reported here. The present finding that the causal organism of the leaf blight of clove can form the perfect state in clove under suitable conditions, points to the likelihood of its survival in the host in the perfect state, provided such conditions occur.

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## INFLORESCENCE ANATOMY OF *CYPERUS COMPRESSUS*

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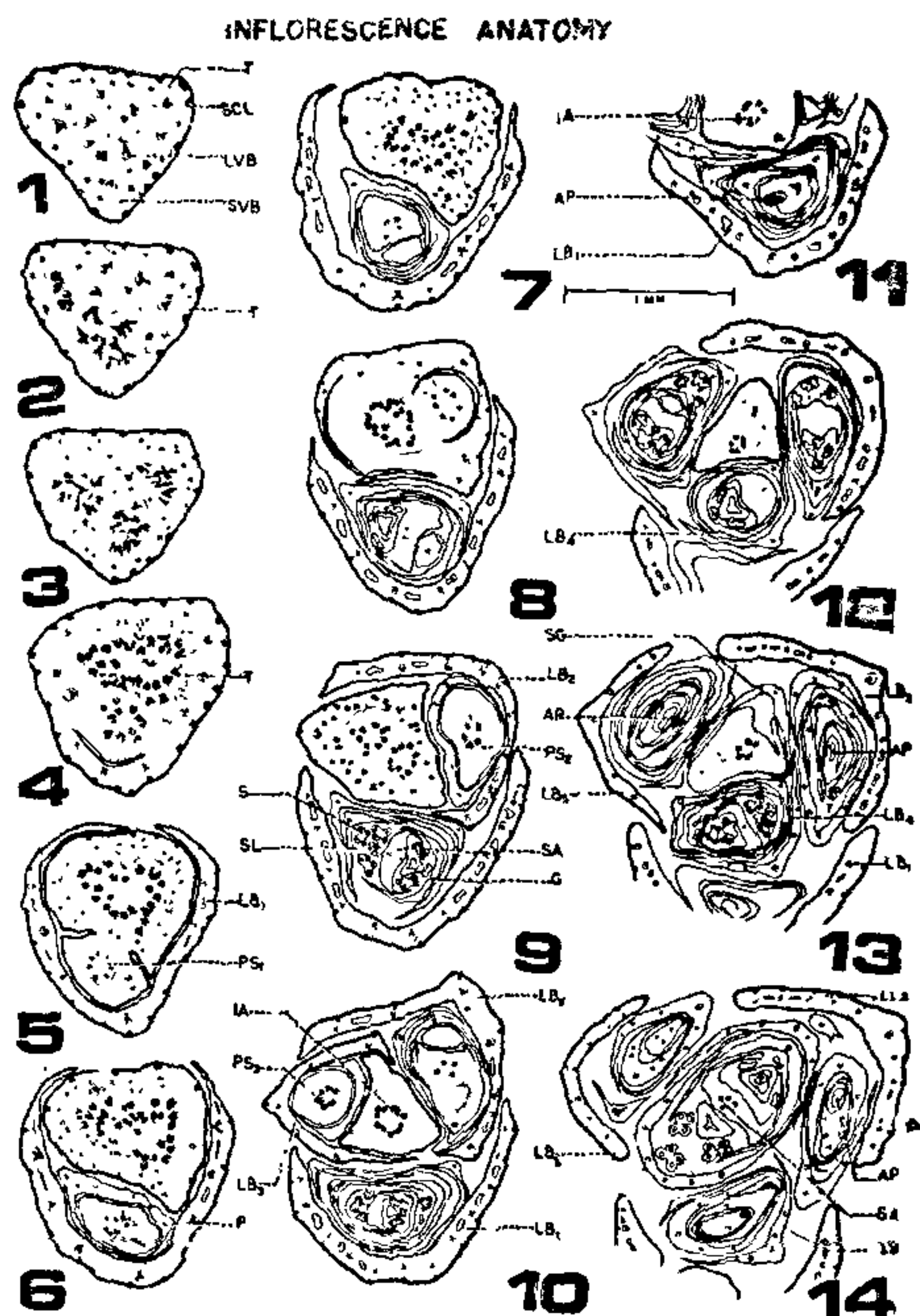
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LOOKING at the literature on the anatomy of Cyperaceae<sup>1-3</sup>, it becomes clear that the inflorescence anatomy of *Cyperus compressus* has not been worked out so far. To fill this gap, this investigation has been undertaken.

The culm in *C. compressus* terminates in an inflorescence. The inflorescence comprises of spikelets arranged in somewhat umbellate manner. At the base of each group of spikelets is present a large leafy bract which resembles the foliage leaf in appearance. A mature leafy bract ranges from 5-12 cm in length. Each spikelet is extraordinarily laterally compressed, and reaches up to 2.5 cm in length. The glumes (8-30) remain arranged in two ranks on the spikelet axis. Lower 1-2 glumes remain sterile while in the axil of all the rest is present a flower. Each flower contains three stamens and a gynoecium which is tricarpeillary, syncarpous and superior. The style divides into three stigmatic lobes.

The triangular culm has a thickly cuticularized epidermis. Sclerenchymatous patches occur close to the epidermis. Numerous vascular bundles of different sizes occur throughout, intermingled with tannin filled cells (Fig. 1). A little higher up vascular bundles fuse (Fig. 2) and form three groups (Fig. 3), of which two coalesce (Fig. 4). The third group, separated on one side, supplies the first peduncle of spikelet (Figs. 5 and 6). Simultaneously, the peripheral part of the culm separates to form the first leafy-bract which is supplied by peripheral bundles of the culm (Figs. 4 and 5). Few vascular bundles of the peduncle are separated towards the periphery, only a little higher up, and supply the sheath present around the peduncle. This sheath represents the prophyll (Fig. 6). The peduncle now is the axis of the spikelet. A little higher up, there separates a glume, in the axil of which develops a flower (Fig. 7). Next glume and flower are formed in opposite position only a little higher up (Figs. 8-10). This sequence continues to be repeated. The spikelet axis ends in an apex having only few procambial strands (Fig. 11).

At the stage when the formation of 2<sup>nd</sup> flower in the 1<sup>st</sup> spikelet is completed (Fig. 8), the peduncle of the second spikelet is differentiated in the inflorescence axis, evidenced by separation of a group of about 6-9 vascular bundles from the two fused groups. The second peduncle and the second leafybract follow the same pattern of separation as in case of the first



FIGS. 1-14. Serial transverse sections of the young inflorescence of *C. compressus* from base upward. Note the separation of the peduncle of the spikelets in Figs. 5, 8, 10 and 12, and separation of a sterile glume in Fig. 13.

AP—Apex; G—Glume; IA—Inflorescence axis; LVB—Large vascular bundle; LB<sub>1</sub>–LB<sub>4</sub>—1st, 2nd, 3rd and 4th Leafy bract; P—Prophyll; PS<sub>1</sub>–PS<sub>4</sub>—Peduncles of the spikelet Nos. 1, 2, 3 and 4; S—Stamen; SA—Spikelet axis; SCL—Sclerenchyma; SG—Sterile glume; SL—Stigmatic lobe; SVB—Small vascular bundle; T—Tannin.

peduncle and first leafy-bract. The second peduncle is also enclosed by a tubular prophyll (Fig. 9) and cuts flowers in the same way (Figs. 10-13).

The peduncle and the leafy-bract of the third spikelet are formed on the third remaining side of the inflorescence axis (Fig. 10) in the same fashion described earlier. However, after the separation of third peduncle, some vascular tissue is left in the inflorescence axis. The peduncle and respective leafy-bract of the fourth spikelet are separated from the inflorescence axis just beneath the origin of the first spikelet (Fig. 12). The third and fourth spikelets also cut flowers in the same way as described for first spikelet

(Figs. 12-13). The spikelets are formed in anti-clockwise direction on the inflorescence axis.

After the formation of four or sometimes more spikelets, the inflorescence axis does not cut more peduncles but itself behaves as a peduncle. It cuts a few sterile glumes at the base (Fig. 13) followed by fertile glumes, each bearing a flower in its axil (Fig. 14) in the usual manner. It terminates at the apex having a few procambial strands.

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### A NEW FRUIT ROT DISEASE OF *ANONA SQUAMOSA* L. FROM INDIA

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*Anona squamosa* L. is commonly called annona in India; in other countries, it is called sweet sop or sugar apple. A severe fruit rot disease of *A. squamosa* was observed during 1979-80 (August-November) in the Horticultural Garden of Agricultural College and also in the Karnatak University Campus, Dharwad, Karnataka. The disease was marked by water-soaked area followed by brown spotting and softening of the fruit tissues which in an advanced stage, turns the fruit brown. The incidence was quite high ranging from 20 to 90%.