nuclei were formed with one end broader and other narrower (Fig. 4). However in some other cases 4-nucleate embryos underwent repeated divisions and formed multinucleate embryos (Figs. 5 and 6) and the size of the responsive microspores got increased.

Positive indications for the development of haustoriated embryos in S. torum have been recorded. Efforts are being made to develop such embryos into plantlets.

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**INDUCTION OF THE PERFECT STATE OF CYLINDROCLADIUM QUINQUESEPTATUM**

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A severe leaf blight disease caused by *C. quinque septatum* Boodijn et Reitsma on clove (*Eugenia caryophyllata* L.) was found to be widely prevalent in many parts of Kerala, India, which has earlier been reported by Wilson et al. Seedlings and two to three-year-old plants are more prone to infection which is severe during monsoons. Infection of clove by this fungus was first reported in 1941 from Indonesia by Sloop, quoted from Boodijn et Reitsma.

Figueiredo and Namekata first recorded the perfect state of the causal organism as *Colostricia quinque septata* from Brazil. Since the disease is found to be very destructive to the clove cultivation in this part of the country, a search was made for the natural occurrence of *C. quinque septatum*. Various methods were also tried to artificially induce its perfect state. Its natural occurrence could not be observed, but the following method of artificial induction gave positive results.

Small twigs, 0.5-1.0 cm thick of clove, *Eugenia* (*Annona squamosa* L.) and *Anona* (*Annona squamosa* L.) were cut into bits, 8 to 10 cm long. Three to four of these bits were taken in 250 ml of sterile flasks containing 10 ml distilled water. The bark of the twig was slightly injured, sterilized for 15 minutes at 1-05 kg/cm². The sterilized bits were then inoculated by placing actively growing mycelium containing conidia of the fungus on the injured areas. Lactated flasks were incubated at room temperature (28 ± 2°C) and periodically examined for the presence of perfect state of the organism. The perfect state of the fungus, *viz.*, *Colostricia quinque septata* was obtained from all the three twigs tried after 7 days of incubation. Irrespective of the hosts, the measurements were found to
agreed with one another, as well as the one reported in literature.

Perithecia were superficial, oval to elliptical, orange to chestnut, 320 to 450 μm deep, 237 to 383 μm in diameter, perithecial wall roughened. Ascii club-shaped, long stalked and hyaline. The ascospores were hyaline, variously curved, irregularly crowded, fusoid, faintly bent; 1 to 5 seporate, mostly 3 or 4, measuring 21.0 to 26.0 x 4.0 to 6.0 μm in size, (Fig. 1). These characters agree with those described by Peersleyα. The organism was, thus, identified as Calonectria quinquesepata Figueiredo and Namekata.

C. quinquesepata was recorded as the perfect state of Cylindrocladium quinquesepatum for the first time from different species of Eugenia including clove and Eucalyptus from Brazil. 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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Looking at the literature on the anatomy of Cyperaceaeα–β, 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 gyroecium which is tricarpellary, 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 2nd flower in the 1st 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 leafy-bract follow the same pattern of separation as in case of the first