

tive in *A. squamosa*, *Artabotrys*, *Millettia* and *Saccopetalum* and negative in other members. The veracity of the positive results for cyanogenesis in taxa such as *A. muricata*, *A. reticulata*, *A. squamosa* and *C. odorata* etc., by earlier workers (see Gibbs¹) has been questioned by Gibbs¹. He found *A. cherimola* to be cyanogenic and *A. reticulata* and *A. squamosa* to be non-cyanogenic. The present findings are in concurrence with those of Gibbs¹, with reference to the latter two taxa. However, weak signs of cyanogenesis are observed in *A. glabra*, while in all others no cyanogenesis is noticed.

The previous² and the present chemotaxonomic data on Annonaceae indicate that they are in consonance with other families of Magnoliales in general and Buchheim's³ group I in particular. All the families including Annonaceae, under this group hang together in the homogeneity of chemical characters such as positive results for alkaloids and tannins, negative results for Ehrlich and Juglone tests, invariably negative results for saponins and Syringin test and occurrence of similar phenolic compounds such as delphinidin, ellagic acid and myricetin.

Further, Annonaceae and Magnoliaceae resemble one another in chemical characters such as positive results for Cigarette and Hot water tests, similar alkaloids, seed fats and several phenolic compounds⁴ (present study), though they differ in some chemical characters and also in the type of sieve tube plastids⁵.

Besides, the morphological⁶, embryological⁶, palynological⁶, floral^{6,7} and wood anatomical⁸ data, the earlier² and the present chemotaxonomical data substantiate the affinity of Annonaceae with Magnoliaceae.

Two of us (ITS and MRK) are thankful to Prof. Shyam Sundar Simha for his kind interest.

August 3, 1981.

1. Gibbs, R. D., *Chemotaxonomy of Flowering Plants*, I-IV, McGill Queen's University Press, Montreal and London, 1974.
2. Buchheim, G., In: *A. Engler's Syllabus der Pflanzenfamilien*, 12th edn. (ed. H. Meisner) Berlin, 1964.
3. Behnke, H. D., *Taxon*, 1971, 20, 723.
4. Lawrence, G. H. M., *Taxonomy of Vascular Plants*, Macmillan Co., New York, 1951.
5. Sastri, R. L. N., *Biol. Rev.*, 1969, 44, 291.
6. Canright, J. E., *Grana Palynol.*, 1963, 4, 64.
7. Eames, A. J., *Morphology of Angiosperms*, McGraw-Hill, New York, 1961.
8. Vander Wyk, R. W. and Canright, E. M., *Trop. Woods*, 1956, 104, 84.

FLOWER ROT OF VERBENA CAUSED BY *ALTERNARIA* STATE OF *PLEOSPORA INFECTORIA* FUECKEL

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A FLOWER rot disease of Verbena (*Verbena vetosa* Gill and H.) caused by *Alternaria* state of *Pleospora infectoria* Fuckel has been recorded in West Bengal. Both pre-blossom and blossomed flowers were infected. The base and calyx of the flowers showed dry rotting and consequent blackening due to infection. Petals of diseased flowers turned pale and discoloured but remained free from invasion by the pathogen. Infected flowers failed to open and blossomed flowers prematurely fell off. The disease was most severe in late season plants during late February to March. *Alternaria* state of *Pleospora infectoria* Fuckel (IMI No. 203182) was isolated from the diseased flowers. The isolate was proved pathogenic to Verbena flowers by spray inoculation with spores by the usual method. This is the first record of a flower rot disease of Verbena, an important winter flowering annual, caused by a species of *Alternaria*, in India and elsewhere.

September 17, 1981.

A NEW FRUIT ROT OF POMEGRANATE CAUSED BY *ASPERGILLUS VARIECOLOR*

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A FRUIT rot of pomegranate (*Punica granatum* L.) was not commonly present but wherever it occurred, the extent of rotting ranged from 15-25% at times, the whole consignment was rendered unfit for consumption.

Isolation revealed the presence of *Aspergillus varicolor* (Berkeley and Broome) Thom and Raper as causative agent for the disease under study. The disease is characterised by softening of rind and underlying pulp. The affected rind initially turns brown and then blackish brown at advanced stage of infection. The fruits neither shrivel nor lose their shape until they are pressed.

The pathogenicity of *A. varicolor* was established by artificial inoculation on surface sterilized healthy