

LEAVES.—*Agave sisalana* *Bromelia* sp.
FRUIT.—*Musa* sp., *Gossypium* sp.
Jute Agricultural Research
Laboratories, Dacca,
Indian Central Jute Committee,
October 4, 1943.

A. C. Bose.

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A NEW ASCOMYCETOUS FUNGUS ON SELAGINELLA

THE fungi, so far recorded on *Selaginella*, are *Pythium Debaryanum* and *Synchytrium Selaginellae* among the Phycmycetes; *Taphrina Selaginellae*, *Acrospermum urceolatum* and *Leptosphaeria helvetica* among the Ascomycetes; the Deuteromycete *Phyllosticta Selaginellae*, and two smuts *Melanotanium Selaginellae* and the Indian specimen *Entyloma polysporium*.¹ According to some² the smut recorded from India³ as *Entyloma* bears greater resemblance to the genus *Melanotanium*. Recently Sydow⁴ has described *Melanotanium oreophilum* as a new species on two Indian *Selaginellae*.

The present specimen is an Ascomycete belonging to the order Sphaeriales and the family Sphaeriaceae. The minute perithecia are globose and black and are found superficially in groups at the tips of vegetative shoots or sporangiferous spikes. They are black, smooth, hard, devoid of hairs and lack long beaks. However, an ostiole, situated on a minute papilla, is clearly visible under a lens. The ascospores, which are eight in number in each ascus, are oblong to spindle-shaped, hyaline and bi-celled. Paraphyses are present.

The fungus thus agrees with the description given^{5,6} for the genus *Melanopsamma* to which it belongs. Studies based on microtome sections as well as measurements of spores, asci, etc., show that it is a new species. An interesting feature of this fungus is that its hyphae grow down to a considerable extent, along the vascular bundle, from the tip, but do not affect other parts of the stem such as endodermis, cortex, etc., or the leaves. A full description of the fungus together with the naming of the species will be given elsewhere. It may be noted here that this is also the first record of *Melanopsamma* on any host in India. Butler and Bisby⁷ and Mundkur⁸ do not mention anything about this genus.

The present fungus was found growing on living *Selaginella chrysocaulos* in the Lloyd

Botanical Gardens, Darjeeling, in the month of September.

Department of Botany,
University of Allahabad,
October 5, 1943. A. K. MITRA.

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CASES OF ANTIPODAL POLYEMBRYONY IN ALANGIUM LAMARCKII Thw.

A DETAILED review on polyembryony has already been published by Webber.² In most of the cases multiple embryos are formed by nucellar budding and these are sporophytic in nature. Development of additional embryos from the antipodals are comparatively of rare occurrence. Cases of antipodals developing further into adventitious embryos are reported by Ernst¹ in *Allium* and Woodworth³ doubtfully refers to such cases in *Amus rugosa*.

In the course of the studies on the Gametogenesis and Embryogeny in *Alangium Lamarckii* Thw., the writer noticed in many cases, the antipodals developing into immature embryos. In normal cases the antipodal nuclei degenerate just prior to fertilization. But in some cases they become cellular. Such a cell

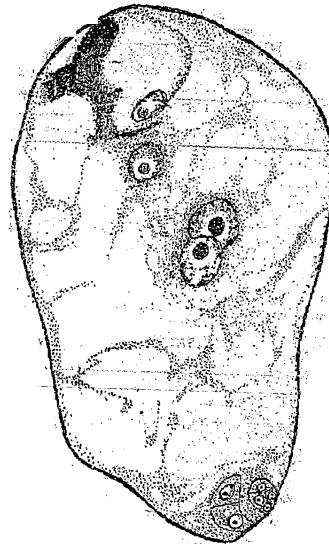


FIG. 1
Embryo-sac of *Alangium Lamarckii* showing antipodal polyembryony. $\times 700$.

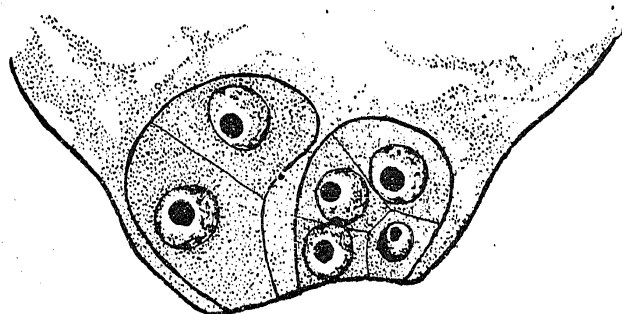


FIG. 2

Antipodal region of the same enlarge 1 × 1900.

divides by mitotic divisions to form a mass of 4 to 6 cells. Usually one to two antipodals of the embryo-sac develop in this manner individually. Further development of these antipodal embryos is arrested probably due to want of nutrition. Only the embryo developed from the fertilised egg matured and this fact has also been confirmed by seed germination tests.

The author is thankful to Dr. L. S. Dorasami, for facilities and guidance and to Mr. M. J. Thirumalachar for helpful suggestions.

Bangalore,
October 19, 1943.

D. M. GOPINATH.

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ON A VINE CHILLY IN MYSORE

IN Rayarakalhalli, a village six miles from Goribidnur, Mysore State, an unusual type of chilly plant is present. The plants are nearly six years old with apparent scandent habit. Consequently the plants have been supported on other trees. Material for the present study was made available by the kindness of Mr. N. R. Chikkannia, owner of the estate. A previous description of the plant that had appeared in the newspaper "*Hindu*" was based on the plants from the same garden.

The plants favour sciophytic (shade-loving) habitats. They are at present six years old, with branches supported to a height of 17 to 20 feet. An examination of the floral parts indicated that it is beyond doubt *Capsicum frutescens* L., but with minor variations. Comparative studies between the vine chilly plants and the local varieties of *Capsicum frutescens* with respect to floral parts, size, sculpturing and number of germ pores in the pollen grains, anatomy of the leaf-stem and root, and the size and distribution of the stomata, pointed out that the two plants are identical. Further, the similarity of the sizes of the stomata and the pollen indicate the improbability of the vine chilly plant having arisen as a result of polyploidy. In both the vine chilly plants and the local ones the leaves

are ovate-lanceolate, with solitary peduncles, white flowers, drooping fruits which are tapering, curved or slightly reflex. The ovary is two-celled and rarely three-celled. A higher percentage of three-celled ovaries, however, occur in the vine chilly plants.

The scandent habit of the plants with branches growing to a length of nearly 20 feet is a feature so far unrecorded in any of the species or varieties of the genus *Capsicum*. A close study of nearly two hundred large plants and seedlings of the vine chilly plants were made with a view to observe if any splitting of characters occurred, thus indicating the heterozygous nature of the plants. In all the cases the plants were true breeding and uniformly similar.

It is manifest that the vine chilly plants are true breeding, closely resembling structurally *Capsicum frutescens* L. It is also apparent that their scandent habit is not due to etiolated conditions but a natural phenomenon. A new variety *Capsicum frutescens* L. var. *scandens* Narasimhan is designated for its accommodation.

A brief history of the plants as obtained from Mr. Chikkannia indicated that a few plants with vine habit were first observed in a plot with seedlings of *Capsicum frutescens* near Koratigere, Mysore State. Since the plants are all true breeding, their origin by way of mutation is not improbable. A detailed cytological study is bound to throw more light on this point. Another feature worth mentioning is that the vine chilly plants are extremely floriferous and the branches do not become scraggy at the end of the year as in the local varieties. Their perennial habit and sciophytic nature can be used with advantage in growing them in cocoanut and areca gardens. An attempt in this direction has already been made.

Dept. of Agriculture,
Bangalore,
November 24, 1943.

M. J. NARASIMHAN.

ERGOT ON SUGARCANE IN MYSORE

IN the course of the collections of smuts on sugarcane in Mysore, elongated, yellowish-black sclerotia of ergot were noticed on sugarcane arrows; when they occur in abundance, the unaffected flowers cease to develop but remain sterile. The persistent tuft of bristles at the base of the glumes helps the dispersal of the sclerotia just in the same manner as the normal seeds. Such a mechanism of dispersal has been reported by Stager¹ in the ergot on *Calamagrostis epigeios*.

Ergot on sugarcane has been recorded as stray occurrence from the Philippines by Ocfemia² on the basis of the material collected by Messrs. Simon Perez and Pedro Juachon, and has so far not been recorded from any other place. The abundance of sclerotia observed in the present study is encouraging. The mass of flowers in the arrowing varieties of sugarcanes is enormous, and by proper inoculation and dissemination of infection it