

FIG. 2

Antipodal region of the same enlarge  $1 \times 1900$ .

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.

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November 24, 1943.

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### 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 Stager<sup>1</sup> in the ergot on *Calamagrostis epigeios*.

Ergot on sugarcane has been recorded as stray occurrence from the Philippines by Ocfemia<sup>2</sup> 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

should be possible to secure a large-scale production of ergot.

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November 25, 1943.

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### OBSERVATIONS ON TWO MAMMALIAN COCCIDIA

In June 1943, I found some fresh oocysts from the rectal contents of the rabbit *Lepus* sp. and the common Indian goat *Caprahircus* Linn.; both the hosts were collected from the suburbs of Calcutta. The oocysts of the rabbit when fully matured were found to be identical with *Eimeria stiedæ* (Lindemann, 1865), while those of the goat were found to be synonymous with *Eimeria faurei* (Moussu and Marotel, 1901).

*E. stiedæ* is being reported for the first time from India. *E. faurei*, though reported before from Indian sheep by Baldrey<sup>1</sup> (1906), the Indian goat *C. hircus* is added as a new host of this parasite.

The oocysts of *E. stiedæ*, measuring 30.2—37.4  $\mu$  by 22—26.4  $\mu$ , are ovoid in shape, light-brown in colour and flattened at one pole, as stated by previous workers. A micropyle is present at the flattened end of the oocysts. There is a well-defined spherical oocystic residual body about 1  $\mu$  in diameter. The sporocysts and the sporozoites have the same form and measurements as given by the previous authors. A residual body is also present in the sporocysts.

The oocysts of *E. faurei*, measuring 26.4—30.8  $\mu$  by 22—24.2  $\mu$ , are ovoid in shape and brownish in colour. There is a micropyle closed by a cap at one end of the oocyst. Wenyon<sup>2</sup> (1926) states that the oocystic residuum may or may not be present, but I could not find any oocystic residuum at any stage of development of the oocyst though a sporocystic residual body is present, as stated by him. A micropyle is present at the pointed end of each of the sporocysts and sporozoites have the same features as stated by previous observers.

I am indebted to Mr. M. Chakraverty for his guidance and valuable suggestions and also to Prof. H. K. Mookerjee for kindly allowing me to work in this Laboratory.

Zoological Laboratory,  
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July 24, 1943.

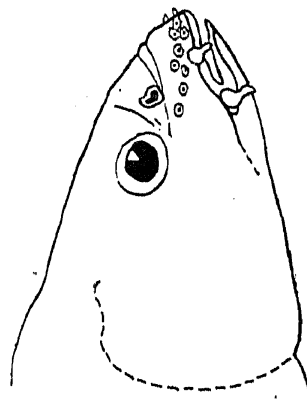
AMIYA BHUSAN KAR.

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### SEXUAL DIMORPHISM IN *SCHIZOTHORAX LONGIPINNIS* HECKEL

In a collection of fishes made from the Dal Lake, Kashmir, in August 1938, there are numerous immature specimens of *S. longipinnis*

Heckel, besides four full-grown specimens of the same species. Two of the four specimens possess smooth-skinned heads while the other two could be marked out by the presence of tubercles on the snouts and comparatively lean bodies. The tubercles are arranged in two groups, one on either side of the mid-dorsal line. On dissection it was found that both the smooth-skinned specimens are females possessing well-developed ova, while the tuberculated ones are males. The bigger male has 29 such tubercles while the smaller one possesses only 14. From the above observation it can be concluded that at the time of maturity the males of *S. longipinnis* develop "nuptial organs" which become more pronounced as the breeding season approaches.



Head of a male specimen of *Schizothorax longipinnis* Heckel, showing tubercles on the snout. ca. Nat. size.

There does not seem to be any appreciable difference in the length of the fins in the two sexes. Since the specimens have been preserved in formalin, the exact coloration could not be noted.

The largest specimen in the collection is a male measuring 322.0 mm., while in female measuring only 249.1 mm. in length.

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### A PROBABLE INSTANCE OF RECAPITULATION IN DECAPOD LARVÆ

In a paper published in 1937 on decapod larvæ from the Madras plankton<sup>1</sup> I had stated that the last two larval stages of *Albunea* possessed 12 and 13 gills respectively. Since the number in the adults is 10, I had ventured to state that this may be an instance of recapitulation of an ancestral character. Only two specimens belonging to the last stage were available at that time, so that the observation could not be confirmed then.

Recently I have been able to obtain several specimens belonging to both stages and on examination my previous observation has been found to be correct. It can, therefore, be definitely stated that the presence of a larger number of gills in these larvæ is a normal character and not an occasional abnormality.

In the corresponding stages of a closely related form, viz., *Emerita*, the number of gills