

### GERMINATION OF ERGOT

THE sclerotia of *Claviceps purpurea* (Fr.) Tul. are nearly cylindrical, slightly curved with longitudinal furrows and externally dark-brown with a yellowish core. The length of the sclerotia imported from Europe varies from 1 to 2 cm.

Several attempts were made to secure germination of these sclerotia. Moist sand was put into petri-dishes and sterilised. After proper sterilization of the outer surface with 1 per cent. silver nitrate solution and subsequent washing with sterilised 2 per cent. NaCl solution, a single sclerotium was dropped into each petri-dish. These petri-dishes were kept in a cold room at 20° C. After an interval of 20 days, four sclerotia were found to have germinated. In one case eight stalked stromata grew out of it, each consisting of a slender, delicate, white stalk terminated by a pinkish

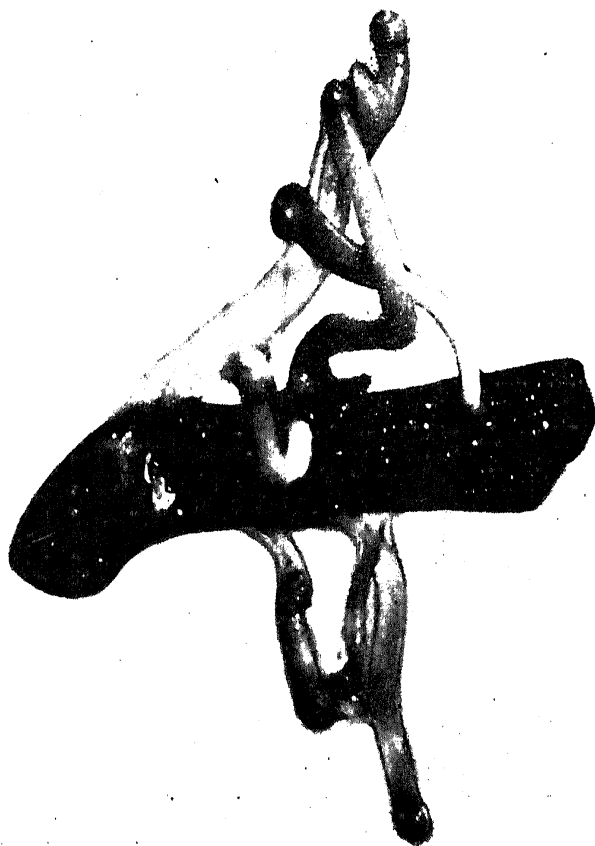


FIG. 1. A number of stalked stromata growing out of a sclerotium of *Claviceps purpurea* (Fr.) Tul. ( $\times 4$ ).

globular head—the perithecial receptacle or *sphaeridium* (Fig. 1). The *sphaeridium* on sectioning showed a number of flask-shaped peri-

thecia containing asci and filiform ascospores inside.

Subsequently in 1941, samples of sclerotia of *Claviceps* sp. collected in Simla Hills by Dr. Pushkar Nath<sup>1</sup> were obtained through the kindness of Dr. H. P. Chaudhury, Professor of Botany of the Punjab University. These were kept in sample tubes in cold storage at a temperature of 20° C.; in March 1942, one sclerotium out of these germinated after an interval of 7 days, bearing one-stalked stroma. The stalk was very slender and yellowish in colour. The stroma on sectioning showed a number of mature perithecia with asci and filiform ascospores. Unfortunately, further development of ascospores in wheat-agar medium cannot be followed up at present.

Ergot and its preparations are universally employed in obstetric practice. It is also used in a number of other conditions, chief amongst which are migraine and circulatory failure due to shock, etc. Its economic importance, therefore, is very great. As medicinal ergot is not available in India, its successful cultivation in artificial culture media in the laboratory would be a promising scientific and economic contribution.

This work was taken up at the suggestion of Dr. B. Mukerji, Director, Biochemical Standardisation Laboratory, Government of India, Calcutta, and I am thankful to Mr. S. N. Banerjee of the Botany Department, Calcutta University, for the photograph attached.

A. B. BOSE.

Botanical Laboratory,  
Carmichael Medical College,  
Calcutta,  
September 25, 1942.

<sup>1</sup> Nath, Pushkar and Padwick, G. W., *Curr. Sci.*, 1941, 10, 488.

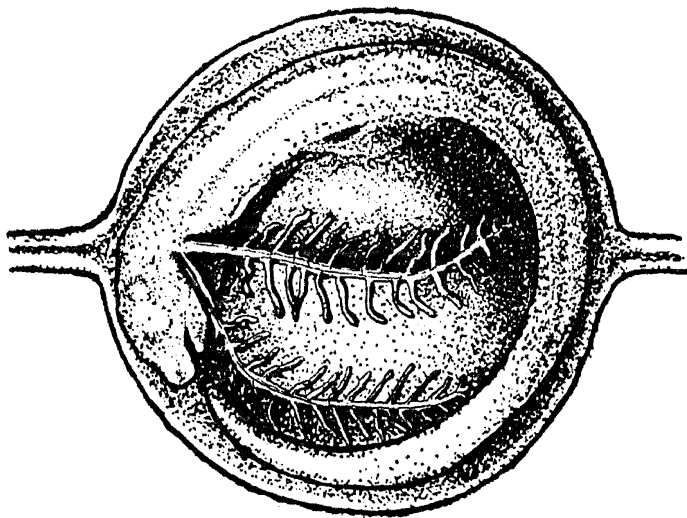
### THE EGGS AND EMBRYOS OF *GEGENOPHIS CARNOSUS* BEDD.

No account of either the eggs or embryos of *Gegenophis* exists. The genus is confined to India and is represented by a single species (*G. carnosus*) described by Beddome<sup>1</sup> in 1870.

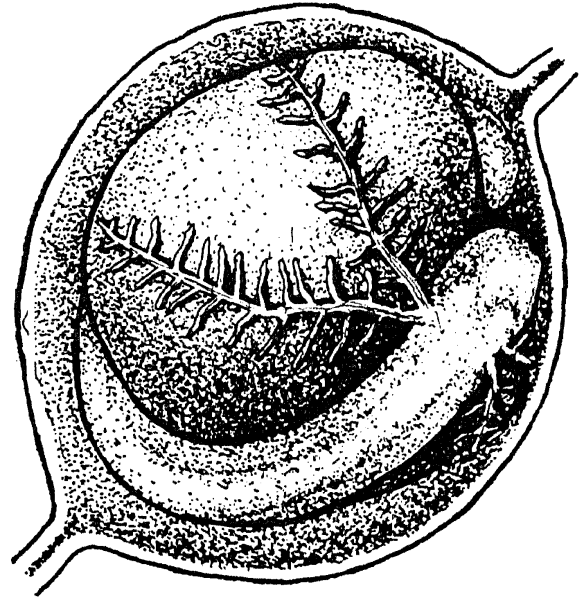
The two specimens which formed Beddome's collection were taken at Wynaad in the Western ghats and were found under stones at an elevation of 5,000 feet. Since then no extensive collection of this species was made; but Dr. L. S. Ramaswami of this University collected a few specimens last year in Trivandrum. A visit to the Travancore forests by the

those of *Ichthyophis glutinosus* figured and described by the Sarasins,<sup>2</sup> and about fifteen eggs are found in a cluster, the eggs being attached to each other by transparent chala-  
zal connections. The chalazæ differ from those of *Ichthyophis* is not being twisted.

The most interesting feature of the embryos refers to the gills. It is a well-



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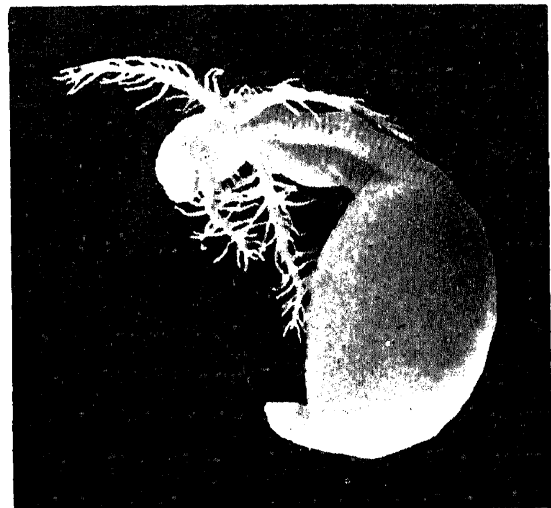


2

FIGS. 1 and 2. Eggs of *Gegenophis carnosus* with embryos *in situ*.  $\times 3$ .



3



4

FIGS. 3 and 4. Embryos of *Gegenophis carnosus* removed from the egg envelopes.  $\times 2$ .

author in June this year, which was made possible by the kindness of the University of Mysore, resulted in the collection of a very large number of specimens and their eggs. The eggs were taken in burrows by the side of small water courses on the hillside in Tenmalai, Travancore. The egg clusters resemble

known fact that in the Gymnophiona, the gilled stage is passed through in the embryonic condition, and by the time the larvæ hatch out, the gills are altogether lost. In *Ichthyophis* there are three pairs of gills in the embryo, of which the third pair is the shortest. The Sarasins<sup>2</sup> figure a nearly ripe embryo of

*Ichthyophis glutinosus* with the yolk almost completely used up and with three pairs of gills. In the embryos of *Gegenophis carnosus* that I have in my possession there are only two pairs of gills of almost equal length, the third pair being either completely absent, or represented as in a few embryos, by a very small stump. It is premature to say whether the third gill pair is ever developed in *Gegenophis* but it is possible that the third and the smallest pair of gills is reduced even further in *Gegenophis* till it is either completely absent or does not make its appearance till very late in embryonic development.

B. R. SESHACHAR.

Department of Zoology,  
Central College,  
Bangalore,  
November 10, 1942.

<sup>1</sup> Beddome, R., *Madras Monthly Journ. Med. Sci.*, 1870, 2, 176.

<sup>2</sup> Sarasin, P. and F., *Erg. Naturwiss. Forschungen auf Ceylon*, 1887-1890, 2.

#### A NEW NEMATODE *CAMALLANUS SALMONÆ* FROM KASHMIR

RECENTLY I had an opportunity of examining two gravid female nematodes of the genus *Camallanus* recovered from the intestine of *Salmo* sp., in Kashmir. One of these was so much mutilated that it served no useful purpose, and consequently I had to make observations on the single specimen at my disposal. Two species of this genus have so far been recorded from fish in India, viz., *C. anabantis*<sup>1,2</sup> and *C. sweeti*.<sup>3</sup> Salmon is for the first time observed to be infected with such worms.

*Camallanus salmonæ* n. sp.

The specimen exhibits cuticular striations and two pairs of cephalic papillæ. Each of the buccal valves contains 15 longitudinal ridges without beads. Tridents are definitely wanting. The tail is finger-like and elegantly rounded, and its tip is without any spine. No papillæ in the caudal region were observed. The vulva is placed almost in the middle of

the body and there is a very slight cuticular expansion in the vulvar region. The nerve ring is placed at a distance of 0.21 mm. from the anterior extremity. The measurements in millimetres of different parts are given below:—

Total Length—12.

Maximum breadth of the body—0.38.

Length of the capsule—0.14.

Breadth of the capsule—0.15.

Length of the muscular

oesophagus—0.39.

Host—*Salmo* sp.

Location—Intestine.

Locality—Kashmir.

A comparison has been made here between *C. salmonæ* and other species of *Camallanus* parasitising various fishes. According to Lewaschoff<sup>4</sup> the number of ridges on the buccal capsule in *C. lacustris* is 25, whereas *C. salmonæ* possesses only 15. In the female *C. ancyloDIRUS*<sup>5</sup> the tip of the tail is bluntly conical, the tridents are well developed, and the body length greatly differs from that of *C. salmonæ*. *C. oxycephalus*<sup>5</sup> differs from my species by its body length as well as by the possession of tridents. The size of *C. cotti*<sup>6</sup> is very small and the tridents are also present. *C. wolgensis* differs from the present worm by the encirclement of vulva by lobular ridges, by the development of tridents and also by its body length. According to Pearse<sup>7</sup> the gravid females of *C. anabantis* are wanting in tridents, but those reported from India by me<sup>2</sup> exhibit well-defined tridents, and it has been suggested in that paper<sup>2</sup> that the specimens of Pearse should be re-examined. Moreover, in *C. anabantis* the body length is extremely small and the tail ends conically with 2 or 3 small spines. In *C. trichogasteræ*<sup>7</sup> again the tail ends in a pair of minute spines. Lastly *C. sweeti*<sup>3</sup> differs from *C. salmonæ* by its body length, possession of spines at the tip of the tail, vulva having prominent lips and ridges on the buccal valves being beaded.

On the basis of the aforesaid differences I consider that my specimen deserves a new