

50 mg/l, while HK and FDPA were favoured at 100 mg/l GA.

It is well known that GA induces *de novo* synthesis of amylase in the endosperm of barley¹⁷. Enzyme induction depends on RNA and protein synthesis, as determined by the use of inhibitors¹⁸. Higgins *et al*¹⁹ found that in the hormone-treated tissue the level of translatable mRNA for α -amylase increased in parallel with the increased rate of enzyme synthesis. However, the activity of amylase in cotton callus cultures was stimulated only towards the termination of culture period. Considerable increase in the activity of invertase was also noticed at higher GA (50 mg/l) level. A linear increase in the activity was noticed from day 3 till day 25 in culture. Such an increase in the activity immediately upon transfer of callus to fresh medium may be a consequence of wounding and increased protein synthesis. In *Acer pseudoplatanus* cells also, high activity of both acid and neutral invertases corresponded to periods of active growth and cell division²⁰. The initial decrease in acid phosphatase activity might be due to high inorganic phosphate in the medium. Higher activities of the enzymes during lag phase indicated that the energy required for exponential growth is produced prior to its onset. Nevertheless, evidence is presented in this report for the first time that GA can also stimulate glucose oxidation via EMP glycolytic and pentose phosphate pathways.

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A NEW RECORD OF PARASITISM OF METEORUS NR ARCTIICIDA VIERECK (HYMENOPTERA : BRACONIDAE) ON SPILOSOMA (= DIACRISIA) OBLIQUA WALKER

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WITH a view to exploring the possibility of biocontrol of Bihar hairy caterpillar, *Spilosoma* (= *Diacrisia*) *obliqua* Walker (Lepidoptera : Arctiidae) which is considered to be one of the most serious polyphagous insect pests in India, preliminary investigations were initiated to record its natural enemies. Pest larvae of different instars were collected from the field at weekly intervals and reared in the laboratory on the natural foods.

From the pest larvae collected from mid-August to mid-November, the full-grown grubs of a parasitoid were isolated. Usually one parasitoid grub came out from the body of one parasitized pest larva and underwent pupation within 5-10 hr. Growth of parasitized larvae was reduced by 2 to 5 times. Adult parasitoids of brownish colour emerged within 4-6 days and were slender wasps having long antennae.

Among the parasitoids recorded during the investigation, this was found to be dominant, with the rate of natural parasitization being as high as 40% during September (the peak season of the pest). This parasitoid was later identified as *Meteorus* nr. *arctiicida* Viereck (Hymenoptera : Braconidae) and was recorded from *S. obliqua* for the first time from India.

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LYMPHOCYSTIS IN *MACROPODUS CUPANUS* (CUV. & VAL.) (PISCES: BELONTIIDAE)

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LYMPHOCYSTIS is an infectious viral disease of wild and cultured, marine and freshwater fish species¹. It is characterized by external macroscopic nodules caused by hypertrophied subcutaneous tissues². Mature lymphocystis cells have variably enlarged nuclei, diffused cytoplasmic inclusions and granular cytoplasm. The cells are covered with thick hyaline capsules³.

The present specimen infested with lymphocystis was obtained from a collection of fishes from Chackai canal (Trivandrum). Of the 150 fishes collected only one specimen (measuring 24 mm) had the affliction and it possessed a creamy, white nodular growth, completely covering the left eye (figure 1). The nodular mass measured approximately 2 mm in diameter. The nodule was a spongy white mass of tissue on the dorso-lateral aspect of the orbit and attached to the cornea. In life, a tiny white tuft of very thin filaments was observed projecting from the centre of the growth; possibly a secondary fungal growth.

Transverse sections through the head of the fish in the plane of eyes showed that the white lesions around the left eye consist of multiple, enormous oval cells under the epidermis having thick hyaline capsules. Basophilic bodies occur in the cytoplasm. Nuclei are large, but are not always present at the level of the sections (figure 2).



Figure 1. Nodular mass of Lymphocystis on the left eye of *M. cupanus* ($\times 2.5$).

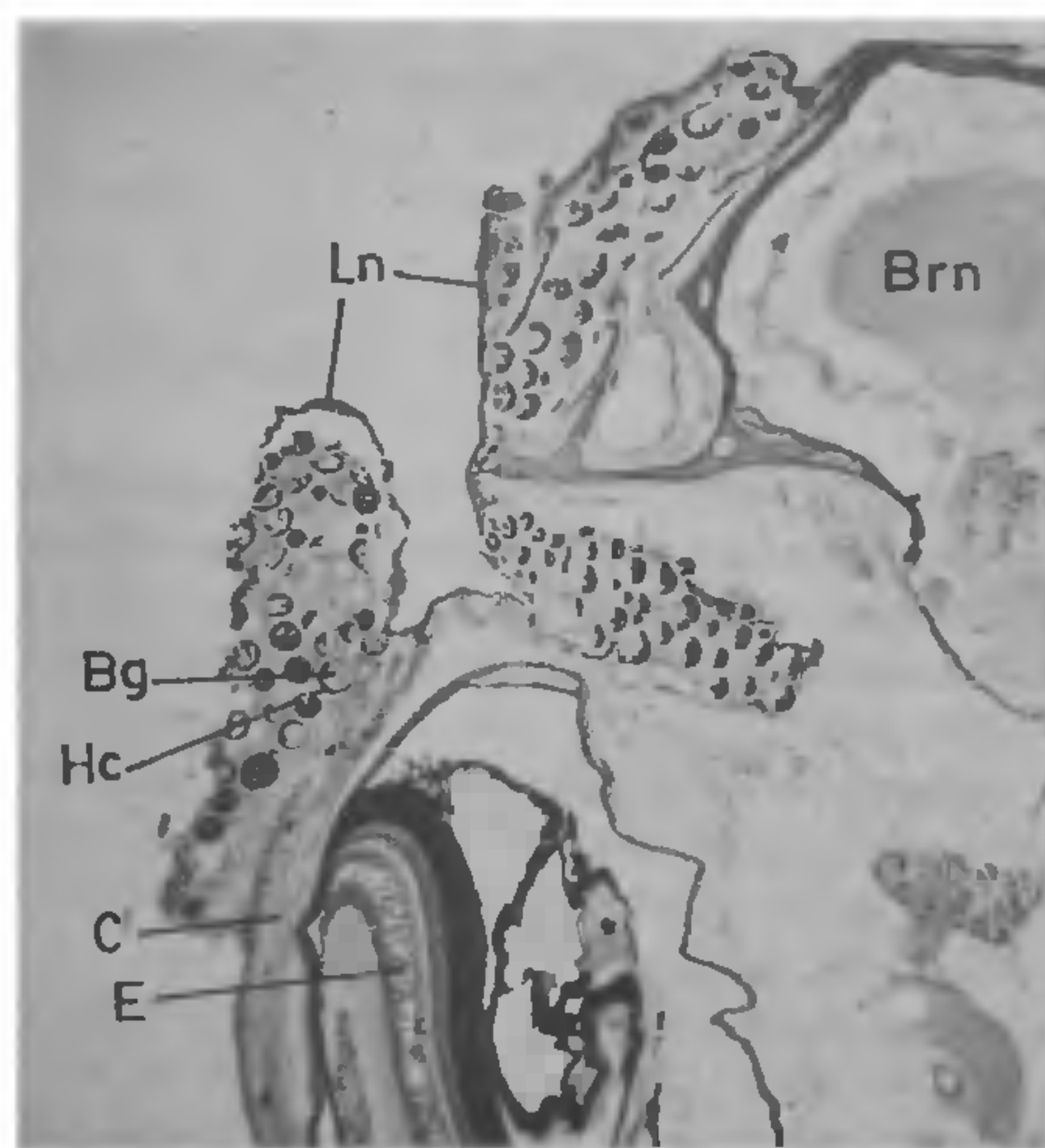


Figure 2. T. S. through the head of *M. cupanus* in the plane of the left eye and through the lymphocystis nodule. (Brn - brain; Bg - basophilic granule; C - cornea; E - eye; Hc - hyaline coat; Ln - lymphocystis nodule).

Lymphocystis has been reported from many other fishes, but the sites of infestation reported are fins and caudal tissues⁴⁻⁸. Lymphocystis has also been reported from cichlid fishes⁹, striped bass¹⁰, *Tilapia* spp.¹¹ and *Anabas testudineus*¹². The present one is the first record of lymphocystis in *M. cupanus* and also the first from the south-west coast of India.

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