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Biochemical studies on cestode parasites in *Gallus gallus domesticus* in Solapur and Osmanabad district, M.S (India)

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Abstract
The present investigation deals with the biochemical estimation of cestode parasite and its host tissue i.e. normal and infected intestinal tissue of *Gallus gallus domesticus* in Solapur and Osmanabad dist. The result obtained an cestode is percentage of lipid is high in parasite as compared to their hosts.

Keywords: Biochemistry, *Gallus gallus domesticus*, *cotugnia*, Solapur and Osmanabad

1. Introduction
India recorded the fastest growth rate in poultry meat production during 1985-95 with growth rate about 18% per annum which perhaps, no other country or agro industry in the world has recorded, during that period.
Intensive rising of poultry in commercial farms inevitably exposes flock to the various diseases which cause mortality and loss to the farmers. Diseased birds can also be hazardous to the human health; there may be possibilities of damage to the human body due to intake of diseased birds.
Glucose is an important source of energy for cestodes, inhibiting the alimentary tract of vertebrates (Mishra *et al* 1991) [3]. Cestode possess stored carbohydrate metabolism, with enormous amount of store carbohydrate (Daughtery 1966, Fairbairn, Werthein, Harpuret Schiller 1961, Read 1957b) [12-14] cestode parasites stores relatively large quantities of polysaccharides, which in most cases has been assumed to be glycogen (Reid 1942) [9].
Proteins have many different biological functions. They are ubiquitous in their distribution and there is really no satisfactory scheme of classifying them. The largest gr. of proteins is the enzyme proteins provide rich environment for the nourishment of cestodes. The cestodes utilize different degrees of protein for producing energy. Literature reveals that the parasite able to adapt themselves to the parasitic mode of life, only due to protein usually constitutes reported (John Barett 1981) [6]. The higher content of lipid is found in older proglottids (Brand and Vant 1952) [1]. It is revealed from the present study that there is high content of lipids in the parasites and also the parasites are taking advantages of host and absorbing most of the nourishing materials.

2. Materials and Methods
The worms were collected from the alimentary tract of *Gallus gallus domesticus* and then washed with distilled water. collected worms were dried on the blotting paper keeping them to remove excess water and transformed to watch glass and weighed on sensitive balance. After 50-60C for 24hrs, the dry weight was also taken. The estimation of protein content in the cestode parasites were carried out by Lowrys method (1951) [8], the glycogen estimation were carried out by Kemp *et al*. (1954) [7] method and lipid estimation by floch *et al* (1957) [4] method.

2.1 Observation table
Biochemical contents in the intestine of *Gallus gallus domesticus* and their relevant *Cotugnia* cestode parasites.

Sr	Tissue	Glycogen	Protein	Lipid
1	Normal Intestine	12.5	17.2	10.8
2	Infected intestine	6.78	8.6	8.2
3	*Cotugnia*	4.52	6.77	15.5

3. Result and Discussion

The quantitative values of biochemical estimation in *cotugnia* shown in the table no 1. It shows that the amount of protein present in the host intestine is 17.2mg/gm of the wet weight of tissue. While in parasite 6.77 mg/gm wet weight of tissue. Hence it can be concluded that *cotugnia* sp would maintain a good balance in protein content with their host *Gallus gallus domesticus*. Glycogen content in *cotugnia* sp. showed 4.52 mg/100 ml of solution of the tissue where as in host intestine 12.5 mg/100ml of solution and infected intestine shows 6.78 mg/100ml of solution. Observing the result it is seen that the worm *cotugnia* is quite successfully in obtaining a sufficient amount of glycogen. In few cestodes developmental history changes the growth of parasites is rapid at the first 18-24 hrs and then slows down even if the concentration is high as it was in the early stage.

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