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BIOCHEMICAL STUDIES OF CESTODE PARASITE *GANGESIA* FROM *CLARIAS BATRACHUS*

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ABSTRACT
This paper contains biochemical study of cestode genus Gangesia of Clarias batrachus to understand their host parasite relationship. The protein contents in cestodes were estimated by the method given byGornell et al. (1994) and lipid content were estimated by the Barner's and Blackstock method (1973).

Keywords: Gangesia, Cestode Parasite, Clarias batrachus

Protein estimation: The intestine of *Clarias batrachus* were examined at laboratory. The identical parasites were sorted out with the help of microscope. Small pieces of infected host intestine were also collected for the protein estimation. The protein content in the cestode parasites was estimated by Brand (1966) and Gornell *et al.* (1994) method. The worm were dried on blotting paper to remove water and taken wet weight of the tissue. The material was transferred in to previously weighted watch glass and kept in oven at 60°C for 24 hrs. Dried material was made into powder form. This powder weighed 250 mgs on balance. This material was grind with the help of morter pastle. Added with 5 ml of 10% TCA. Material was transferred to test tube and centrifuged for10 min. at 2000 rpm. Discard the supernatant and taken the residue add 1 ml of distilled water and 3 ml of Biuret solution. The tube was kept for half hour until lavender colour is developed. Colour reading was noted on colorimeter at 530 mm to note Optical density.

$$\frac{\text{O. D. of Unknown tissue}}{\text{O. D. Of known tissue}} \times \text{mg of Protein} \times \frac{1000}{\text{weight of taken tissue}}$$

O. D. of unknown tissue = 0.39

O. D. of known tissue = 0.58

mg. of protein = 10

$$\frac{0.39 \times 10}{0.58} \times \frac{1000}{250}$$

= 26.88 mg/gm. wet weight of the tissue.

By the same procedure amount of protein in the host intestine was estimated. The results showed that the intestine possessed 31.47 mg/gm. wet weight of the tissue. These two comparisons reveal that *Gangesia absorbed* 26.88 mg/gm.

Lipid estimation: The intestine dissected and were found to be infected with the cestode. Parasite and host intestine kept in watch glass. This material was taken on blotting paper to remove excess of water and then it was weighted on balance to obtained wet weight of tissue. Tissue then kept at 80°C to completely dry. Tissue was powdered with the help of morter pastle. Lipid was estimated by the Barner's and Black stock method (1973). The lipid content was very high in the worms as compared to the host. The lipid level in *Gangesia* was 27.30 mg/100 mg ±S.D. whereas 22.80 was in the host *i.e. Clarias batrachus*

Glycogen estimation: To estimate glycogen in cestode as well as in host intestine, the tissue was dried on blotting paper to remove excess water. Material kept at 60°C for 24 hours. The 100 gms of dry material were homogenized in mortal pastle then added 5% TCA to it and was transferred in centrifuge tube. Material was digested in boiling water bath for 15 minutes. Cool and centrifuged for 15 minutes at 2000 rpm. One ml of supernatant was taken in tube and added with 3 ml of sulphuric acid and cooled for 15 minutes. Mixture shaken well, then readings was taken in colorimeter at 530μ.

$$\text{Percentage of glycogen} = \frac{100 \times U}{1.11 \times S}$$

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U = O. D. of the unknown test solution

S = O. D. of the known test solution

1.11 = Conversion factor of glucose to glycogen

$$\text{Percentage of glycogen} = \frac{100 \times 0.45}{1.11 \times 2}$$

= 20.27 mg/100ml of solution.

The glycogen contain in host tissue was 20.27 mg/100ml of solution.

CONCLUSION

The results revealed that the percentage of lipid is high in the parasite than their host and also high as compared to glycogen and protein. Cestodes are depends upon the host for the lipid source. Results indicate that distinctiveness host parasite relationship.

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