



IJRASET

International Journal For Research in
Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 Issue: II Month of publication: February 2021

DOI: <https://doi.org/10.22214/ijraset.2021.32969>

www.ijraset.com

Call:  08813907089

E-mail ID: ijraset@gmail.com

Glycogen Content of *Ascaridia Galli* from its Host *Gallus Domesticus*

R. M. Khadap

Department of Zoology, Nuthan College Sailu. Dist. Parbhani-431503 M.S. India.

Abstract: Glycogen is the major source for energy yielding micro molecule occurs storage in the all tissue of helminth worms. It content in nematode has been reported for a number of worms and data has been reviewed by Mythili and Rao,1982. Some physiological and biochemical characters of helminth glycogen has been reported by Bueding et.al,1949. The glycogen content in male and female worm from naturally infected host is different. Therefore researchers has made an attempt to estimate the glycogen content in male and female worms of *Ascaridia galli*.

Keywords: *Ascaridia galli*, *Gallus domesticus*, Glycogen content.

I. INTRODUCTION

The carbohydrate metabolism in helminth parasites can be expected to occur both aerobically and an aerobically, it will be prove into the metabolic adaptations of the parasite. The parasite live oxygen rich environment can be presumed to have good accessibility to oxygen and may predominantly follow aerobic type of metabolism. Carbohydrate metabolism in helminth worms shifts according to the availability of oxygen. The present study has made an attempt to investigate the content glycogen in *A.galli*. These study helps to same extent in understanding the glycogen requirement and their metabolism of *Ascaridia galli* and its sex based metabolic difference.

II. MATERIAL AND METHOD

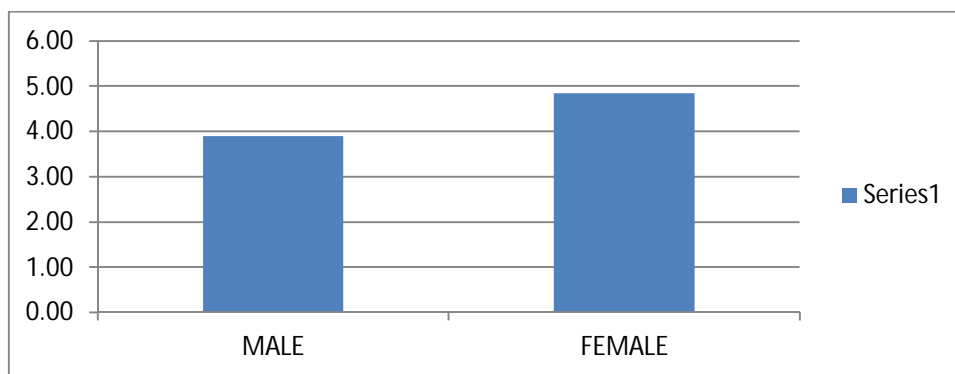
The nematodes were collected from intestine of *Gallus domesticus*. They were fixed in hot 70% alcohol and preserved in fresh 70% alcohol containing 10% glycerine. The Glycogen content was determined by the Anthrone Method.

III. RESULTS

The results obtained on the glycogen content in male and female worms of *A.galli*. given in the table. The table suggest that glycogen content is 3.90 % in male and 4.85 % in female. The ratio content male to female which is 0.804%, Percentage difference between male and female is 19.58%

TABLE:1 Glycogen content in (mg%) in male and female worms of *Ascaridia galli*

Sex	Content	Male to female ratio	Percentage Difference
Male	3.90	0.804	19.58
Female	4.85		



Glycogen content in (mg%) in male and female worms of *Ascaridia galli*

IV. DISCUSSION

The energy requirement of the parasites generally have to depend upon predominately anaerobic type of metabolism. The energy output of anaerobic metabolism is relatively less as most of the intermediate substrates are excreted out instead of getting completely oxidized due to non availability of oxygen. In such parasites were of energy yielding molecules in order to compensate the loss of intermediate substrates and supply the adequate amount of energy required for vital activity, for this reason that the parasites become voracious feeders. In the parasites of the present study it is observed that both male and female do contain glycogen which are more in female. The amount of glycogen is present in the worm is comparable with order intestinal nematode life *A.lubricoides* 3.3 to 8.7%, Weinald 1901 and Flury 1912, *Hetrakis galline* 2.7, Glockin and Fairbairn, 1952. Reid W.M. 1944. determine the glycogen content in the male and female worm of *A.galli* which is 3.60 and 4.63% respectively. These difference in the glycogen content may be due to the difference in the environment of the parasites, chemical composition of the habit species differences, energy requirement of the parasites. The availability of the free glucose is also a factor for the synthesis and storage of glycogen. In view of these result it can be said that the male and female worms of *Ascaridia galli* are metabolically different with the female adopted for parasitic mode of life.

V. ACKNOWLEDGEMENT

The author are thankful to the Principal Nutan Mahavidyalaya sailu, for providing laboratory facilities.

REFERENCES

- [1] Bueding et.al, 1949. Study on the metabolism of the filarial worm *Litomosoides carinii*. J.Exp.Med.(89) pp 107-130
- [2] Flury 1912. Zur.Chemle and Taxikologie der Ascardion. Arch.Exp. Pathol.Pharmakol (67).PP 275-392.
- [3] Glockin and Fairbairn, 1952. Biochemistry of parasite. Academic press New York.
- [4] Mythili and Rao, 1982. A bibliographic study of carbohydrate metabolism in helminthes. J.Bio.Chem pp.233-235
- [5] Reid W.M. 1944. The effect of the host starvation on worm elimination and glycogen depletion with the nematode *A.galli*. J.Parasitol(30)pp1-12.
- [6] Yamaguti S, 1961. Systema Helminthum Vol.III. The nematode of Vertebrate Part I & II. Interscience Publishers Ltd. London.



10.22214/IJRASET



45.98



IMPACT FACTOR:
7.129



IMPACT FACTOR:
7.429



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089  (24*7 Support on Whatsapp)