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The enzyme activity of Glucose—6-Phosphate dehydrogenase in avian parasite Neokrimia Singhia (Cestode)

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Abstract
Glucose-6-Phosphate dehydrogenase was the enzyme of Pentose Phosphate pathway which was the secondary pathway of glucose Catabolism. The main function of glucose Catabolism was to generate ATP energy. The Pentose Phosphate pathway generates Pentose, used in the biosynthesis of nucleic acids. It also functions in the degradation of Pentoses by converting them to hexoses, which can then enter the glycolytic pathway.

Keywords: glucose-6-phosphate dehydrogenase, pentose phosphate pathway, glucose, neokrimia singhia, hescoses

Introduction
Glucose-6-Phosphate dehydrogenase is the enzyme of Pentose Phosphate pathway which is the secondary pathway of glucose catabolism. The main function of glucose catabolism was to generate ATP energy. The Pentose Phosphate pathway generates Pentose, used in the biosynthesis of nucleic acids. It also functions in the degradation of Pentoses by converting them to hexoses, which can then enter the glycolytic pathway.
The presence of glucose-6-phosphate dehydrogenase in helminths is usually taken as evidence for a functional Pentose Phosphate pathway.
In the present investigation the enzyme activity of Glucose-6-Phosphate dehydrogenase was estimated biochemically in Neokrimia singhia a Cestode Parasite of Perdicula asiatica.

Materials and methods
The birds were collected from Ranga Reddy district and were sacrified in the laboratory. The intestines were then cut open and the Parasites were flushed with saline water and repeatedly, washed in ice-cold saline water to remove the adhering mucus and. food paraticles. Generally, mature and live worms of same size and length were taken for biochemical studies. The Parasites were then transferred to Whatman's Filter paper No.l to remove the adhering moisture. Then the Parasites were weighed and used for the experiment.
The Glucose-6-Phosphate dehydrogenase activity was assayed by Lohr and Walter (1965) [8].

Results and discussions
In Neokrimia singhia the enzyme activity of Glucose-6-Phosphate dehydrogenase content in immature, mature and gravid region was 0.340 ± 0.001, 0.689 ± 0.001 and 0.739 ± 0.001 u moles formazan/mg protein/hour respectively.
The presence of Glucose-6-Phosphate dehydrogenase indicated the Pentose Phosphatase pathway was functional in the Parasite Neokrimia singhia and was related to Raillietina (R) Paucitesticulata (1991) [10] and in Choanotaenia acridotheresi (1991) [9].
There is little gradation along the length of the strobila. The glucose-6-Phosphate dehydrogenase activity increases from immature to gravid region indicating that degradation of glucose molecule was occurring more rapidly in the gravid region than in the mature and immature regions.

Table 1

S. No.	Immature	Mature	Gravid
1.	0.343	0.693	0.742
2.	0.340	0.690	0.741
3.	0.339	0.686	0.739
4.	0.338	0.689	0.735
5.	0.342	0.691	0.740
6.	0.341	0.688	0.741
Mean	0.340	0.689	0.739
S.E. ±	0.001	0.001	0.001
S.E. ±	0.001	0.001	0.001

Values are expressed as u moles of formagan/mg protein/hour

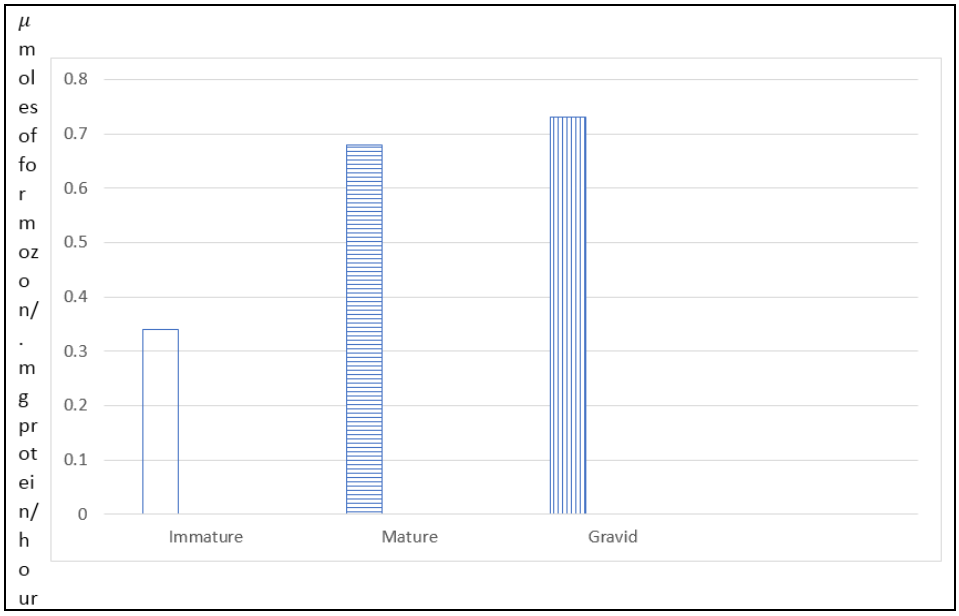

Fig: The enzyme activity of Glucose 6 phosphate dehydrogenase in Neokrimia singhia

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