



## To Study The Prevalence of Gastro-Intestinal Helminthic Infection in Mammalian Host from Tipeswar Region, District: Yavatmal (M.S.) India

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### ABSTRACT

The present communication deals with the prevalence of gastro-intestinal helminthic infection in mammalian host from Tipeswar, district yavatmal. During October 2014 to October 2015. A total 58 fecal samples of the Indian Wild dogs (*Cuon alpinus*) and 621 samples of the Goat (*Capra hircus*) from Tipeswar region, Maharashtra, India, were examined for parasites. Findings include 19 species were detected. A methodology of direct smear was used for complete examination of all the sediment. All the samples were incubated at room temperature to observe the sporogony of oocytes and the embryonic and post-embryonic development of eggs, and in Goat (*Capra hircus*) Out of 621 samples (60.22%) were positive for helminthic infection. The incidence of helminthic infection is slightly more in adult Goat i.e. (73.52%) than Kid (53.92%). The seasonal variation of helminthic infection shows Adult & Kid the higher Prevalence of cestode & nematode occurs in winter 73.52%, 53.92% & 43.92%, 33.64% followed by Monsoon 59.22%, 46.60% & 38.23%, 28.43% and summer 30.47%, 25.71% & 28.15%, 25.24% respectively. The present study indicates that the higher infection occurs in cestode parasites in all Seasons (60.51%) than nematode parasites (44.87%).

**KEY WORDS:** Prevalence, Indian wild dog, Goat, Kid, Cestode, Nematode.

### INTRODUCTION

Vertebrates are the important components of the ecosystem. They are very important from the ecological and economical point of view. Man uses many mammals as their food. These mammals are known to harbor a number of parasitic infection i.e. trematodes, cestodes and nematodes which cause deterioration in their health and increase the rate of mortality of hosts. The parasite does not have the capability to obtain food directly from the ecosystem and hence they have no option but to adopt to live in or on some other organisms and derive their food either ecto or endo parasitically from it. If the flesh of mammals is not properly cooked, the cysts enter inside the body of human and cause dangerous diseases to human beings. Hence the study was undertaken on the status of the prevalence and seasonal variation of gastro-intestinal parasitic infection in wild dog (*Cuon alpinus*) & Goat (*Capra hircus*) at Tipeswar, Dist.: yavatmal (M.S.), India.

### MATERIAL AND METHODS

A total fecal samples from Indian wild dog (*C. alpinus*) & Goat (*Capra hircus*) of different age groups were collected in the polythene bags, from Tipeswar Region, yavatmal district (M. S.) India during October 2014 to October 2015 and were processed by Standard method (Souls by, 1982). The infected materials which were collected that Preserved in 4% formalin, 10% glycerol; Viz. Cestodes and Nematodes

respectively. Borax carmine and Haematoxylin stain are used for permanent slides and ready for cestode identification where the nematode parasites are fixed in glycerin jelly for identification.

### RESULTS AND DISCUSSION

A total fecal samples of the Indian Wild dogs (*Cuon alpinus*) and *Capra hircus* (Goat) from Tipeswar, district, yavatmal, Maharashtra, India, were examined for parasites. Findings include nineteen species *Acanthocephala*, *Ancylostoma caninum*, *Ascaris*, *Dipylidium caninum*, *Fasciola hepatica*, *Hydatigera taeniaeformis*, *Hymenolepis diminuta*, *Isospora felis*, *Paragonimus kellicotti*, *Paragonimus westermani*, *Spirometra erinacei*, *Taenia pisciformis*; *Toxascaris leonine*, *Toxocara cati*, *Trichuris trichuria*, *Trichuris vulpis* and *Moniezia*, *Stilesia*, *Alizia*, *Avitellina*, *Strongyloides* & *Trichuris*, respectively were detected.

**Observation table No. 1:-** Parasitic infection in Indian wild dog (*C. alpinus*)

The indigenous name of Indian wild dog (*cuon alpinus*) in Hindi son- kutta, in Marathi called as kolsa or kolsun

### Scientific classification:-

Kingdom: - Animalia, Phylum: - Chordata. Class: - Mammalia. Order:- Carnivore, Sub order:- Caniformia, Family:- Canidae, Genus:- *Cuon* Hodson, 1838, Species:- *C. alpinus*.

Sr. No	T. No. of Sample Examined	No. of Infe. Sample	Species: Wild dogs (Cuonalpinus) Parasite infection	No. of Parasite	Prevalence (%)
1	06	05	<i>Acanthocephala</i>	11	83.33%
2	02	01	<i>Ancylostama caninum</i>	5	50.00%
3	03	02	<i>Ascaris</i>	5	66.66%
4	05	03	<i>Dipylidium caninum</i>	7	60.00%
5	03	01	<i>Fasciola hepatica</i>	6	33.33%
6	02	01	<i>Hydatigera taeniaeformis</i>	6	50.00%
7	03	02	<i>Hymenolepis diminuta</i>	3	66.66%
8	06	02	<i>Iso spora felis</i>	3	33.33%
9	05	03	<i>Paragonimus kellicotti</i>	4	60.00%
10	03	01	<i>Paragonimus westermani</i>	6	33.33%
11	04	02	<i>Spirometra erinacei</i>	8	50.00%
12	02	01	<i>Taenia pisciformis</i>	3	50.00%
13	04	03	<i>Toxascaris leonine</i>	5	75.00%
14	04	02	<i>Toxocara cati</i>	4	50.00%
15	03	02	<i>Trichuris trichuria</i>	7	66.66%
16	03	01	<i>Trichuris vulpis</i>	6	33.33%

**Observation table No. 2** PREVALENCE SHOWING THE INFECTION BETWEEN HOST AND PARASITES

	T. No. of Sample Examined	No. of Infected Sample	Name of Cestode	No. of Parasite	Prevalence (%)
1	102	73	<i>Moniezia</i>	89	71.56%
2	107	75	<i>Stilesia</i>	78	70.09%
3	102	65	<i>Alizia</i>	70	63.72%
4	105	69	<i>Avitellina</i>	72	65.71%
	466	282	Total	309	<b>60.51%</b>
1	103	54	<i>Strongyloides (Nematode)</i>	32	52.42%
2	102	38	<i>Trichuris (Nematode)</i>	28	37.25%
	205	92	Total	60	<b>44.87%</b>

**Observation table No. 3.** PREVALENCE SHOWING THE INFECTION BETWEEN SEASON AND HELMINTHIC INFECTION

Session	Name of parasites	Total No. of Sample Examined		NO. Of Infected Sample		PREVALENCE(%)	
		Goat	Kid	Goat	Kid	Goat	Kid
Winter	Cestode	102	-	75	55	73.52%	53.92%
	Nematode	-	107	47	36	43.92%	33.64%
Summer	Cestode	-	105	32	27	30.47%	25.71%
	Nematode	103	-	29	26	28.15%	25.24%
Man soon	Cestode	-	103	61	48	59.22%	46.60%
	Nematode	102	-	39	29	38.23%	28.43%

**Conclusion**

During screening the different samples were examined as per their habitat and incidence of parasitic infections and their high percentage were noted in Wild dogs (*Cuonalpinus*) 83.33% (*Acanthocephala*) 75.00% (*Toxascaris leonine*), etc., See for details observation table No. 1. According to observation table 2 & 3 it explain in Goat (*Capra hircus*) Out of 621 samples (60.22%) were positive for helminthic infection. The incidence of helminthic infection is slightly more in adult Goat i.e. (73.52%) than Kid (53.92%) . The seasonal variation of helminthic infection shows Adult & Kid the higher Prevalence of cestode & nematode occurs in winter 73.52% , 53.92% & 43.92% , 33.64% followed by

Monsoon 59.22% , 46.60% & 38.23% , 28.43% and summer 30.47% , 25.71% & 28.15% , 25.24% respectively The present study indicates that the higher infection occurs in cestode parasites in all Seasons (60.51% ) than nematode parasites (44.87%).

**REFERENCES**

Acharya, S.K. (1939) : Incidence of helminth parasites in indigenous dogs and jackals with special reference to hookworms. India vet. J., 16: 7-8.  
 Bailenger, J., 1973. Coprologie parasitaire et fonctionnelle. Edition Drouillard. Bordeaux. France.  
 Bang P. Dahlstorm, P. (1975): Pollen analysis of faces as a method of demonstrating

- seasonal variations in the diet of Svalbard reindeer (*Rangifertarandus platyrhynchus*). *Polar Res.* 19: 183 – 192.
- Bjork, K. E., Averbek, G. A., Stromberg, B. E., 2000. Parasites and parasite stages of free-ranging wild lions (*Pantheraleo*) of northern Tanzania. *Journal of Zoo And Wildlife Medicine.* 31(1), 56-61.
- Boray, J. C., 1985. Flukes of domestic animals. In *Parasites; Pests and Predators*. Ed. Gaafar, S.M; Walter E. Woward and Rex E. Marsh. Elsevier Science Publishers B.V., pp. 179-218.
- Bush, A. O., Fernández, J. C., Esch, G. W., Seed, J.R., 2001. *Parasitism: The diversity and ecology of animal parasites.* Cambridge University Press. Cambridge.
- Carter, G. R., 2001. *Internal Parasitic Diseases of Dogs and Cats.* In *A Concise Guide to Infectious and Parasitic Diseases of Dogs and Cats.* Carter G.R. (Ed.).
- Digveerendrasing (1994) : Panthers eating water melons. *J. Bomb. Nat. His. Soc.* 92 (3): 407.
- Dorny, P., Fransen, J., 1989. Toxoplasmosis in a Siberian tiger (*Pantheratigris altaica*). *Vet. Rec.* 125(26/27), 647.
- Haque, M. D. N. (1989): Small mongoose *Herpestes auropunctatus* feeding on droppings of Nilgai *Boselaphu stragocamelus*. *J. Bomb. Nat. His. Soc.*, 85(3): 609.
- International Veterinary Information Service, Ithaca NY ([www.ivis.org](http://www.ivis.org)), B0408.0701.
- Mandal, D. and Choudhary, A. (1985): Helminth parasites of wild tiger of Sunderbans, Forest, W. B. India. *International Symposium on zoo and Wild Animals Diseases*, 9 – 13 June, 1985. Berlin Academic Verlag, (Helminth. Abst.55 : 34 – 54).
- Mandal, D., Choudhury, A., 1985. Helminth parasites of wild tiger of Sunderbans Forest, West Bengal, India. *Proc. Int. Symp. Dis. Zoo Anim.* 27, 499-501.
- Nietfeld, J. C., Pollock, C., 2002. Fatal cytauxzoonosis in a free-ranging bobcat (*Lynx rufus*). *Journal of Wildlife Diseases.* 38(3), 607-610.
- Patton, S., Rabinowitz, A. R., 1994. Parasites of wild felidae in Thailand - A Coprological Survey. *Journal of Wildlife Diseases.* 30 (3), 472-475.
- Sharma, S.K. (1988): The small Mongoose feeding on droppings of Nilgai, *J. Bomb. Nat. His. Soc.*, 85 (3): 305.
- KATOCH, R, MANDAL, R.K. AND NAGAL, K.B. (1999) *Indian vet. J.*, 76: 932.
- VASUDEVAN, B. AND BASUTHAKUR, A.K. (1986): *Indian J. animal sci.*, 56: 897.
- C. SREEDEVI AND G.S.S. MURTHY, (2005) *Indian Vet. J.* 82:912.
- Kennedy CR.1976. *Ecological aspects of parasitology.* North Holland publishing company Amsterdam 10x ford.
- Kennedy C R. 1977 (a). The regulation of fish parasite populations. In *regulation of parasite population* 61-109
- Kulakovskaya OP.1962. The seasonal changes in representatives of the family Caryophyllaeidae (Cestoda) under conditions existing in Western Ukrainian region, URSR. *Scientific Memories of Science Biological Museum of the Utranisn Academy of Science* (10): 88-93
- K.M. Shaikh, M.S. Nirmale, D.B. Bhure and H.S. Chaudhari.2010. Seasonal variation of *Moniezia* (Blanchard,1891) (Cestoda) in *Capra hircus*. *Proc.Recent Trends in Environmental Science.* Vol.1- pp 51-54.
- Lawrence JL. 1970. Effect of season, host age on endo helminthes of *Catostomus Commersoni*. *J Parasitology* 56 (3): 567-571.
- Moller H. 1978. The effect of salinity and temperature in the development and survival of fish parasites. *J of Fish Bio* 12: 311-324
- Pennyuick KL 1973. "Seasonal variation in the parasite population of three spined Stickle backs, *Gasterosteus aculeatus* L". *Parasitology* 63:373-388.
- Rajeshwar Rao and V Ramkrishna.1982. "The seasonal variations of Helminth Parasites of *Ranatigrina* in Hyderabad district" *Geobios* (10): 34-36.
- Ramreddy GBV.1980. Studies on the population dynamics of helminth parasite of certain lizard of Hyderabad. Ph. D. thesis Osmania University Hyderabad A. P. India
- Rudolphi.1810. *Entozoorum sive vermium intestinalium nistorianaturalis* 11 pars. 2 xii 386pp Amstelredami. *Zool. Anz.* 29 (8): 224-252

