INCIDENCE OF GASTRO-INTESTINAL PARASITISM IN FREE LIVING, FERAL BONNET MACAQUE (*MACACA RADIATA* L.)

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Introduction

Among the Prosimians, the Cercopithecinae comprises of the Old World monkeys and their cousins. Primates, especially the members of the sub-family Cercopithecinae and particularly those of the common cercopithecines like the macaques, langurs, baboons etc, inhabit not only forests but also the suburbs of cities and townships. Thus the possibility of disease causing agents being carried by the latter group of inhabitants are of great veterinary as well as human public health importance. The Bonnet Macaque (*Macaca radiata*) is also an experimental model for several bio-medical studies, like cardio-pulmonary, leprotic, auto-immune deficiency, tuberculosis, filarial as well as ethological and other several human diseases.

Practically very little systematic work has been carried out on the prevalence and epizootiology of the disease agents encountable among the monkeys. Pythal (1970) had maintained a male and a female Bonnet Macaques for experimental purposes for 6 years and found these animals positive for *Strongyloides* sp., *Trichuris* sp., *Bertiella* sp., *Eimeria* sp. and a number of species of uncommensal ciliates, some of which were causing a decline in their health condition. It appears that the literature regarding parasites of monkeys are very much scanty and almost wholly unsystematic. A few authors (Adkoli *et al.*, 1986; Jayagobala Reddy *et al.*, 1992; Muraleedharan *et al.*, 1990) have reported parasites such as *Trichuris* sp., Ascarids., *Strongyloides* sp., Strongylids and *Eimeria* sp. among captive Bonnet Macaques in certain zoos but the infestation among free-living Bonnets and especially other free-living monkeys have not been studied systematically.

The present work has been carried out to gain a better understanding on the parasitic disease problems of feral Bonnet Macaques.

Materials and Methods

Free-living feral Bonnet Macaques numbering 32 frequenting the Anjaneyar (Hanuman) temple and sub-urban forests as well as agricultural holdings in Mettala Village of Rasipuram Taluk of Namakkal District of central Tamil Nadu were studied for this purpose. Fresh faecal samples were collected and immediately preserved with solution containing 2% potassium dichromate and 5% formaldehyde. The samples were then brought to the laboratory and screened by sedimentation techniques. The results are given below.

Result and Discussion

Out of 32 samples examined, 30 (90%) were found positive for parasitism and 29 (90%) Macaques had helminthic infections, 16 Macaques (50%) had mixed infections with more than one helminth and protozoan. Among helminths, Strongylids and *Strongyloides* sp. were present in 13 Macaques (40%). Next to these, Ascarids in 11 Macaques (34%), coccidial infections in nine Macaques (28%), Balantidial infections in three samples (6%) were also present. None of the trematode or cestode infections were found in these animals. This indicates that the Strongylids and *Strongyloides* sp. as well as coccidial infections are the major parasitic problems in this free-living feral Bonnets, possibly occurring as sub-clinical infections. All the Bonnet Macaques were active and none of the animals exhibited any obvious clinical illness.

Khera (1979) has stated that wildlife constitutes one of the important reservoirs of numerous infectious diseases for domestic livestock. Since these feral Bonnets come in frequent contact with wild animals in the sub-urban forests and also with the domestic animals in the nearby agricultural holdings, they may act as carriers of transmitting certain infectious diseases including parasitic diseases from wild animals to domestic livestock. However, information in this aspect is meagre and has to be investigated.

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BUTTERFLIES OF KRISHNAPURAM GRAMA PANCHAYATH, ALAPPUZHA DISTRICT KERALA

Biju Babjan and Archana

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Krishnapuram Grama Pachayath in the Alappuzha District of Kerala covers an area extending over 2000 acres. It is a typical village with a vast area of agriculture land. The average rainfall is 1200mm. The temperature varies between 24°C to 34°C. The soil texture is sandy loam. The area is having mixed crop vegetation with all types of annuals, perennials, herbs and shrubs. Due to the abundance of food plants and ideal tropical climate the area provides an interesting site for insect diversity. The study period was seven months from 1 October 1997 to 30 April 1998. The collected specimens were identified with the help of Wynter-Blyth (1957), and Gay *et al.* (1992). Forty species of butterflies belonging to seven families were recorded.

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List of butterflies recorded in Krishnapuram Grama Panchayath

Scientific Name	Common Name
Danaidae	
Danaus chrysippus (Linnaeus)	Plain Tiger
Danaus genutia	Striped Tiger
Euploea core (Cramer)	Common Crow
Euploea klugii kollari Felder & Felder	Brown King Crow
Idea malabarica	Malabar Tree Nymph
Parantica aglea (Moote)	Glassy Tiger
Tirumala limniace (Butter)	Blue Tiger
Satyridae	
Melanitis leda	Common Evening Brown
Orsotrioena medus	Nigger
Mycalesis mineus (L)	Dark Brand Bush Brown
Nymphalidae	
Charaxes bernardus	Tawny Rajah
Cynthia cardui (Linnaeus)	Painted Lady
Hypolimnas bolina (Linnaeus)	Great Egg Fly
Junonia almana	Chocolate pansy
Junonia orithyia	Blue pansy
Kallima horsfieldi Kollar	Blue Oak Leaf
Moduza procris (Cramer)	Commander
Neptis hylas	Common Sailer
Phalanta phalantha (Drury)	Common leopard
Lycaenidae	
Abisara echerius	Plum judy
Amblypodia anita	Leaf Blue
Chilades laius (Cramer)	Lime Blue
Euchrysops cnejus (Fabricius)	Gram Blue
Jamides celeno	Common Cerulean
Loxura atymnus	Yam Fly
Rapala jarbas sorya (Kollar)	Indian Red Flash
Papilionidae	
Chilasa clytia clytia (Linnaeus)	Common Mime
Graphium agamemnon	Tailed Jay
Papilio polymnestor	Blue Mormon
Pachliopta aristolochiae aristolochiae F.	Common Rose
Pathysa nomius	Sword Tail
Troides minos Cramer	Southern Birdwing
Pieridae	
Catopsilia pomona Fabricius	Lemon Emigrant
Colotis eucharis (Drury)	Plain Orange tip
Eurema hecabe (Linnaeus)	Common Grass Yellow
Pieris canidia (Sparrman)	Indian Cabbage White
Hesperiidae	
Badamia exclamationis (Fabricius)	Brown Awl
Celaenorrhinus ambaressa	Malabar Spotted flat
Gangara thyrsis (Fabricius)	Gaint Red Eye
Udaspes folus (Crammer)	Grass Demon

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