SYNOPSIS

Since last few decades the field of histochemistry and biochemistry of parasites of vertebrates has been rapidly expanding. Some histochemical and biochemical aspects of large nematodes e.g. *Ascaris lumbricoides* have already been worked out.

Histochemistry is gaining an increasing importance during the recent years. The histochemical study is useful to understand many biological phenomena. In view of this, the present work was undertaken. Further, an adequate infection of the host almost throughout the year and ready supply of the host, prompted the author to undertake this type of work. Two genera of nematodes i.e. *Trichuris muris* (Schrank, 1788) and *Ganqueletarakis spumosa* (Schneider, 1866) Lane, 1914 have been selected. Both of these parasites remain in the vicinity of fat-rich environment of the host *Rattus rattus*.

The thesis deals with the histochemical studies of the two parasites. An attempt has also been made to study neurosecretion in *Ganqueletarakis spumosa*. The thesis comprises of five chapters.
The first chapter describes materials and methods adapted during the course of investigation various organic constituents have been detected histochemically by employing specific tests.

The second chapter deals with the morphological variations, incidence of infection, comparision of the prevalence of male and female worms. The results are discussed with the help of graphs and histograms.

The third chapter gives an account of histochemical localization of carbohydrates, proteins and fats in the two worms. Stainability grades have been depicted in the tables and results are supplemented with photomicrographs. Sexual differences in these constituents are worked out. Egg shell histochemistry is dealt with separately.

The fourth chapter is related to the enzymes histochemistry. Some hydrolytic enzymes are localized using histochemical techniques. The biological role in relation to their exact localization in the tissues of the worms has been discussed.

The last chapter is devoted to the study of nervous system and neurosecretion in *Gamuleterakis spumosa*. Standard histological methods were employed for the study of nervous system. Neurosecretory cells have been demonstrated in the young and adult worm.