Summary

In the present work the biodiversity of entozoic flagellates of *Heterotermes indicola* and *Coptetermes heimi* was studied. Nine species of flagellates were found to inhibit both the termites, which were as follow *Holomastigoes campanula, Holomastigotes annandalei, Holomostigotes metchnikowi, Holomastigototides kempi, Holomastigotoides kemigynum, Holomastigotoides hartmani, Holomastigotoides metchnikowi, Holomastigotoides koidzumi and Pseudotrichonympha grassi.*

H. indicola was found to have four more flagellate species in addition to above not found in *C.heimi viz. Trichomonas termites, Holomastigotes termites, Holomastigotes biconcave and Rostronympha magna.*

The *C. heimi* however did not have any of the flagellates not found in the *H. indicola*. Both workers and soldiers were found to harbour entozoic flagellates but the soldiers had considerably fewer flagellates as compared to workers.

The workers and soldiers of the two species of termites were fed on three different woods, whole as well as their parts (bark, sapwood, heartwood) and their effects on termites and their *symbionts protozoans* were studied.

Among the three woods *E.cammaldulensis* was found to be the most resistant followed by *D. sissoo* and *A. arabica* was not found to be resistant at all to both of the termite species and their flagellates.

As far as parts of the three woods are concerned the bark of all the three woods i.e. *E. cammeldulensis D. sisoo* and *A. arabica* was found to be resistant to both of the termites and their flagellates. The sapwood of *E.cammeldulensis* is resistant while that of *D. sissoo* and *A. arabica* supported the life of termites and their flagellates. The heartwood of *Acacia arabica* was found to be nonresistant to termite species and their flagellates but that of *E. cammeldulensis* and *D. sissoo* was proved to be resistant to these termite and their flagellates. The sapwood of

E.cammeldulensis is resistant to the termite species while those of *D. sissoo* and *A. arabica* are not resistant to termites and their flagellates.

These termites were also fed on three extracts i.e. water, chloroform and benzene ethanol extracts of the various parts of the wood and their effects on the termite and their symbionts were studied.

The water soluble, chloroform soluble and benzene ethanol soluble extracts of the three regions i.e. the bark, sapwood and Heartwood of the three woods were made and their effects were studied and it was found that the water extracts were not toxic but on the other had they were found to support the life of the termites and their flagellates were as chloroform and benzene ethanol extracts appeared to be toxic for life of both termites and their flagellates.

The effect of six anti-protozoan drugs i.e. Resochin, Entox, Sulfonamides (Sulfadimidine sodium, Salfaquanoxaline sodium, Diaviridine) and menthol on termites and their flagellates was also studied.

It was found that resochin sulfonamidies, menthol had toxic effects on the growth of the flagellates and also of the termites.

Entox being insoluble in water did not show any effect on termites and their flagellates population.

Menthol resisted the propagation of termites and their flagellates. It was probably its vapours that affected the nervous system of termites, thus paralyzed them which led to their death and their symtuents in the hind gut.