Comparative studies were carried out on the development, tissue affinity and efficacy of microsporidian entomopathogen *Nosema marucae* on third instar larvae of the cereal stem borers Chilo partellus and *Busseola fusca*.

Larvae of both stem borer species were found to be susceptible to the microsporidian. The life cycle of the pathogen in both cases included the formation of both binucleate and tetranucleate meronts, binucleate and tetranucleate sporonts, sporoblasts, young spores and finally mature spores. Generation time for *C. partellus* was 192h, while that of *B. fusca* was 216h.

Histopathological observations revealed that the fat body was the primary site of infection in both cases. Other tissues that were attacked were, silk glands, malpighian tubules, intermuscular tissue and epithelial cells of the trachea. In *B. Fusca* only, the ganglia and interconnecting nerve cord were infected in advanced cases of infection.

Symptoms exhibited due to nosematosis included minimal feeding, difficulty in moulting and uncoordinated movements. While the cadavers of *C. partellus* larvae were stunted, mummified and black in colour, those of *B. fusca* were soft and deep brown.

Cumulative percentage mortalities at day 13 after inoculations (DAI) were 82% and 100% for *C. partellus* and *B. Fusca* respectively. Paired t-test analysis revealed that deaths caused by *N. marucae* in the larvae of *C. partellus* and *B. fusca* were highly significant. The analysis also showed that deaths in treated B. fusca larvae were significantly higher than those of treated *C. partellus* larvae.

As *Nosema marucae* developed in both *C. partellus* and *B. fusca*, and it also brought about significant mortality results, it stands a chance of being considered as a biological control candidate for an IPM strategy to control these two stem borers especially in areas where they occur together. Knowledge of the host tissues that are affected by the microsporidian can generate information on how manipulations can be done so as to have an effective means of dispersal of the microsporidian in the host population once it has been released, to get good control results.