*Pak. J. Nematol.*, 22 (2): 117-128, 2004

# SYMBIOTIC BACTERIAL *XENORHABDUS* AND *PHOTORHABDUS* ASSOCIATED WITH ENTOMOPATHOGENIC NEMATODES IN PAKISTAN

**F. SHAHINA, H. MANZAR AND K.A. TABASSUM**

*National Nematological Research Centre, University of Karachi, Karachi-75270, Pakistan*

## Abstract

The new and known species viz., *Heterorhabditis indica, Steinernema pakistanense, S. asiaticum* and *S. feltiae* were characterized by the presence of symbiotic bacteria belonging to the genera *Xenorhabdus* and*Photorhabdus*. The nematodes carry specific bacterium in their lumen of pharynx and intestine. These bacteria spend duel life cycles i.e. a symbiotic stage in the gut of the nematode and a pathogenic stage in which susceptible insects are killed by the combined action of the nematode and the bacteria. The bacterial cells are large, motile, flagellated and gram negative. During these studies three different species of bacteria *Photorhabdus luminescence, Xenorhabdus nematophila* and *X. bovienii* are reported for the first time from Pakistan.