Introduction

Microsporidia are a group of non-taxonomic designation that describes obligate intracellular parasites belonging to the phylum *Microspora* ***(Santaniello et al., 2009)***. Microsporidia are considered to be the cause of emerging infections in a plethora of vertebrate and invertebrate hosts ***(Wittner, 1999)***.

There are more than 1200 species and 140 genera of microsporidia and the group is characterized by their diverse structural, physiological, and genetic characteristics that transcend borders of traditional taxonomical classification, making it difficult to place them in any one category. However, two defining characteristics of microsporidia unite all species of these organisms together: 1) they all exist as spores in the extracellular environment, and 2) they all contain a structurally similar polar filament (tube) which is extruded during the invasion of a host cell ***(Didier, 2005).***

The detrimental effects of microsporidiosis have been reported in several industries of economic importance, including fisheries, honeybee, and silkworm, and are a known cause of infection in laboratory animals ***(Wittner, 1999).*** Human infections have gained greatest recognition since the advent of HIV/AIDS in the early 1980's and with the improvement of diagnostic techniques ***(Bryan and Schwartz, 1999 and Didier, 2005).***

While microsporidiosis has primarily been associated with immunocompromised individuals, such as HIV/AIDS patients, organ recipients and cancer patients, the parasite is becoming reported more

frequently as the cause of enteric and ocular infections in healthy people ***(Didier, 2005 and Nkinin et al., 2007).***

Infections primarily occur through the ingestion of spores that infect enterocytes of the small intestine; however, infections of lung epithelial tissues have also been reported and believed to occur through the inhalation of aerosolized spores ***(Didier, 2005).***

Although the phylum *Microspora* consists of nearly 140 genera, only seven genera *Enterocytozoon, Encephaitozoon* (including Septata), *Pleistophora, Trachipleistophora ,Vittaforma, Brachiola and Nosema* as well as a few unclassified microsporidia (e.g. *Microsporidium*) have been described as pathogens in humans ***(Franzen and Muller, 2001).***

Enterocytozoon bieneusi and *Encephalitozoon spp*. are the most prevalent microsporidia identified in humans ***(Didier and Weiss, 2006).***