



Technical Report

DEVELOPMENT OF A SENSITIVE REAL-TIME PCR ASSAY FOR THE DETECTION OF MICROSPORIDIA IN SILKWORMS

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ABSTRACT

Microsporidia are obligate intracellular parasites that infect a broad range of invertebrates, and vertebrates including humans. Pebrine disease caused by microsporidia has been a constant threat to sericulture industry. A real-time PCR-based method was developed for the specific and sensitive diagnosis of microsporidia from silkworms. A pair of primers from the conserved regions coding for the 16S small subunit ribosomal RNA gene across microsporidia gave discrete PCR product. As few as 10 spores could be detected from DNA extracted from both gut and eggs of silkworm, *Bombyx mori*. Further, the detection method was extended to the wild tasar silkworm, *Antheraea mylitta*. It is validated that this method is highly reliable for early and sensitive detection of microsporidia and thus could be a valuable addition in quarantine and surveillance activities in sericulture.

Key words: *Antheraea mylitta*, *Bombyx mori*, real-time PCR.