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ABSTRACTS FROM THE SOCIETY OF NEMATOLOGISTS ANNUAL MEETING 2019

MOLECULAR AND MORPHOLOGICAL CHARACTERIZATION OF *VITTATIDERA ZEAPHILA* FROM INDIANA

Zafar Handoo¹, A. M. Skantar¹, M. Kantor¹, L. K. Carta¹, J. Faghihi², V. Ferris²

¹Mycology & Nematology Genetic Diversity & Biology Laboratory, USDA, ARS, BARC-West, Bldg. 010A, Rm. 111, Beltsville, MD 20705, USA;

²Purdue University, Department of Entomology, 901 West State St. West Lafayette, IN 47907-2089

In the summer of 2016, a field of corn (*Zea mays*) in Spencer County, Indiana was observed with heavily stunted plants. From the affected roots, a large number of cysts were recovered. Spencer county's geographic location is just across the Ohio River from Kentucky, approximately 200 miles away from Hickman County, Kentucky, where the nematode was previously reported. Soil samples were submitted to one of us (JF), who extracted the nematode cysts and sent them to the USDA-ARS, Mycology and Nematology Genetic Diversity and Biology Laboratory (MNGDBL), Beltsville, Maryland, for morphological and molecular identification. After fixation, the cysts and juveniles (J2) recovered from cysts were examined molecularly and morphologically. The cysts and second stage juveniles (J2) that were examined morphologically were consistent with the measurements of *Vittatidera zeaphila*, the goose cyst nematode originally described from Tennessee, USA, in 2010. The molecular analysis of J2 using ITS and 28S molecular markers showed a 99-100% similarity with sequences deposited in GenBank as *V. zeaphila*. Molecular markers previously unreported with the original isolate were analyzed, including ribosomal small subunit (18S) rDNA, mitochondrial cytochrome oxidase I (COI), and nuclear heat shock protein 90 (Hsp90). Similarities to existing cyst nematode sequences are reported herein. To the best of our knowledge, this is the first report of *V. zeaphila* in Indiana.