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CHARACTERIZATION OF A NEW SPECIES OF CYST NEMATODE PARASITIZING CORN **E. C. Bernard,[1] P. A. Donald,[2] Z. A. Handoo,[3] R. D. Heinz,[4] T. O. Powers.[5]**
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Examination of unthrifty corn roots in northwestern Tennessee (Obion County) in 2006 revealed high population densities of juveniles and lemon-shaped cysts. This nematode resembles *Cactodera* spp. in possessing a circumfenestrate vulva, but lacks bullae and an underbridge. These characters differentiate it from *Heterodera* spp., including *H. zeae*, the corn cyst nematode. Similar cyst specimens had previously been collected in 1978 from Lauderdale County, TN, on goosegrass (*Eleusine indica*). Comparison of the 1978 specimens deposited in the USDA Nematology Collection at Beltsville, MD, and the 2006 specimens verified that they were identical. Infective juveniles are 320–400 μm long, have a short stylet (14–16 μm) and possess a short tail with a bluntly rounded terminus. DNA sequences from three molecular markers (18S, D2/3, ITS1) and direct comparison with *H. zeae* from Maryland excluded conspecificity with *H. zeae*. There were no DNA sequences in GenBank that indicated a close relationship with other Heteroderidae. This nematode appears to be a sister group to the *Globodera-Punctodera-Cactodera* clade. It reproduced well (RF > 5) on all tested hybrid corn cultivars. Reproduction was poor on other monocots and no dicot hosts have been found to date.