

**THOMAS O. POWERS**  
Department of Plant Pathology  
406 Plant Sciences Hall  
University of Nebraska – Lincoln  
Lincoln NE 68583-0722

**Professional Preparation**

<i>Institution</i>	<i>Major</i>	<i>Degree</i>	<i>Year</i>
Purdue University West Lafayette, IN	Entomology	B.S.	1976
University of Florida, Gainesville, FL	Nematology	M.S.	1979
University of California-Riverside, CA	Nematology	Ph.D.	1983

**Appointments**

<i>Year(s)</i>	<i>Title</i>
2006-present	Professor, University of Nebraska, Department of Plant Pathology
1991-2005	Associate Professor, University of Nebraska, Department of Plant Pathology
1994	Fulbright Scholar, St. Patrick's College, Maynooth, Ireland
1985-1991	Assistant Professor, University of Nebraska, Department of Plant Pathology
1983-1985	Postdoctoral Fellow, University of California-Riverside, Depart. of Biology

**Publications**

***Five publications most closely related to the project***

1. Powers, T.O., Neher, D.A., Mullin, P., Esquivel, A., Giblin-Davis, R.M., Kanzaki, N., Stock, S.P., Mora, M.M., and L. Uribe-Lorio. 2009. Tropical nematode diversity: Vertical stratification of nematode communities in a Costa Rican humid lowland rainforest. *Molecular Ecology* 18: 985-996.
2. Powers, T.O., Harris, T.S., Higgins, R.S., Sutton, L.A., and K. S. Powers. 2010. Morphological and molecular characterization of *Discocriciconemella inarata*, an endemic nematode from North American native tallgrass prairies. *Journal of Nematology* 42:35-45.
3. Bliss, T., Powers, T.O., and C. E. Brassil. 2010. The spatial influence of aboveground diversity on belowground communities. *Ecosphere* 1(2/3):art7. doi:10.1890/ES10-00040.1
4. Porazinska, D.L., Giblin-davis, R.M., Esquivel, A., Powers, T.O., Sung, W. and Thomas, W.K. 2010. Ecometagenetics confirms high tropical rainforest nematode diversity. *Molecular Ecology* 19: 5521-5530.
5. Todd, T.C., Powers, T.O., and P.G.Mullin. 2006. Sentinel nematodes of land-use change and restoration. *Journal of Nematology* 38:20-27

***Five other publications***

1. Powers, T.O. P.G. Mullin, T.S. Harris, L.A. Sutton, and R.S. Higgins. 2005. Incorporating molecular identification into a large-scale regional nematode survey. *Journal of Nematology* 37:226-235.
2. Blok, V.C. and T.O. Powers. 2009. Biochemical and molecular identification. In *Root-knot Nematodes*, Eds Perry, Moens, and Starr. Publisher: CABI Publishing, UK.
3. Powers, T.O. 2004. Nematode molecular diagnostics: From bands to barcodes. *Annual Review of Phytopathology*. 42:367-385.
4. Porazinska, D.L., Giblin-Davis, R.M., Faller, L., Farmerie, W., Kanzaki, N., Morris, K., Powers, T.O., Sung, W., Tucker, A., Thomas, W. K.. 2009. Evaluating high-throughput

- sequencing as a method for metagenomic analysis of nematode diversity. *Molecular Ecology Resources* 9(6) 1439-1450.
5. Mullin, P.G., T.S. Harris, and T.O. Powers. 2005. Phylogenetic relationships of *Nygolaimina* and *Dorylaimina* (Nematoda: Dorylaimida) inferred using small subunit ribosomal DNA. *Nematology* 7:59-79.

### **Synergistic Activities**

- Fellow of Society of Nematologists (2011), President Society of Nematologists (2002-2003), Associate Editor: *Nematology* (2000-2011), *Phytopathology* (2003-2005)
- Direct research laboratory that annually processes over 1,000 soil samples for nematode identification as designated nematode diagnostic laboratory for USDA CAPS (Cooperative Agricultural Pest Survey program) Western Region
- Currently maintain web-based nematode photo-archive that includes over 20,000 images and database of 18S-barcode that includes over 500 nematode species linked through GenBank accession # and web based specimen voucher pages using Link-out option of NCBI.
- Maintained *Plant and Insect Parasitic Nematodes* web page (<http://nematode.unl.edu>) for 16 years
- Participant in NemATOL, the Nematode Tree of Life, curator for nematodes Encyclopedia of Life, moderator of Nema-L discussion list

### **Collaborators & Other Affiliations**

**Collaborators:** Brito, J. (U. Florida), Drijber, R., (U. Nebraska), Esquivel, A. (U. Nacional, Costa Rica), Fulginiti, L. (U. Nebraska), Giblin-Davis, R. (U. Florida), Neher, D. (U. Vermont), Stock, P. (U. Arizona), Porazinska D. (U. Florida), Wedin, D. (U. Nebraska),

**Thesis and Postdoctoral Advisors:** Baldwin, J.G. (U.C.-Riverside), Hyman, B. C. (U.C.-Riverside)

## Biographical Sketch

### Ernest Charles Bernard

#### (i) Professional Preparation:

Michigan State University	Entomology	B.S. 1972
Michigan State University	Entomology/Nematology	M.S. 1974
University of Georgia	Plant Pathology/Nematology	Ph.D. 1977

#### (ii) Appointments:

- 1986-pres.-- Professor, Dept. of Entomology and Plant Pathology, The University of Tennessee.
- 1981-1986-- Associate Professor, Dept. of Entomology and Plant Pathology, The University of Tennessee.
- 1977-1981-- Assistant Professor, Dept. of Entomology and Plant Pathology, The University of Tennessee.
- 1974-1977-- Graduate Assistant, Dept. of Plant Pathology, University of Georgia.
- 1972-1974-- Graduate Assistant, Dept. of Entomology, Michigan State University.

#### (iii) Publications:

##### (a) most closely related to the proposed project -

- Bernard, E. C., Z. A. Handoo, T. O. Powers, P. A. Donald, and R. D. Heinz. 2010. *Vittatidera zeaphila* (Nematoda: Heteroderidae), a new genus and species of cyst nematode parasitic on corn (*Zea mays*). *Journal of Nematology* 42:139-150.
- Insera, R. N., A. Troccoli, U. Gozel, E. C. Bernard, D. Dunn, and L. W. Duncan. 2007. *Pratylenchus hippeastri* n. sp. (Nematoda: Pratylenchidae) from amaryllis in Florida with notes on *P. scribneri* and *P. hexincisus*. *Nematology* 9:29-42.
- Bernard, E. C. 2005. *Filenchus flagellicaudatus* n. sp. and *Lelenchus schmitti* n. sp. (Nemata: Tylenchidae) from Molokai, Hawaii. *Journal of Nematology* 37:115-120.
- Bernard, E. C., and D. P. Schmitt. 2005. Nematode assemblages in native plant communities of Molokai, Hawaii. *Journal of Nematology* 37:242-248.
- Bernard, E. C. 1992. Soil nematode biodiversity. *Biology and Fertility of Soils* 13:99-103.

##### (b) other significant publications -

- Bernard, E. C., and P. J. Long. 2010. Estimation of sorting time for arthropod samples collected with Tullgren funnels. *Great Lakes Entomologist* 43:76-83.
- Felderhoff, K. L., E. C. Bernard, and J. K. Moulton. 2010. Biodiversity of *Pogonognathellus* (Collembola: Tomoceridae) in the southern Appalachians based on morphological and molecular data. *Annals of the Entomological Society of America* 103:472-491.
- Fjellberg, A., and E. C. Bernard. 2009. Review of *Agrenia* Börner, 1906 with descriptions of four new species from North America (Collembola, Isotomidae). *Zootaxa* 2306:17-28.
- Parker, C., and E. Bernard. 2006. The science approach to the Smokies ATBI. *George Wright Forum* 23: 26-36.
- Eisenback, J. D., E. C. Bernard, J. L. Starr, T. A. Lee, Jr., and E. K. Tomaszewski. 2003. *Meloidogyne haplanaria* n. sp. (Nematoda: Meloidogynidae), a root-knot nematode parasitizing peanut in Texas. *Journal of Nematology* 35:395-403.

**(iv) Synergistic Activities:**

- ◆ Chairman of the Board of Directors, Discover Life in America, 2007-2010. DLIA is the legal entity that oversees the All-Taxa Biodiversity Inventory (ATBI) in Great Smoky Mountains National Park.
- ◆ Leader of Taxonomic Working Groups (TWIGs) for nematodes and for Apterygota-Myriapoda in the All-Taxa Biodiversity Inventory. My responsibility is to keep the collection and identification process rolling forward in the ATBI for these major groups.
- ◆ Featured Speaker, Biodiversity Educational Exhibit, Oconaluftee Visitor Center. One of nine scientists featured on audio and pictorial exhibits discussing biodiversity, the goals and aims of the ATBI, and the work that they do.
- ◆ Zootaxa editor for minor insect orders.
- ◆ Web pages for Collembola of Great Smoky Mountains National Park ([www.dlia.org](http://www.dlia.org)), a comprehensive list of species found in the Park with images and video of many species.

**(v) Collaborators and Other Affiliations:**

**(a) Collaborators and co-editors**

R. T. Allen, Philadelphia Academy of Sciences  
K. A. Christiansen, Grinnell College  
L. W. Duncan, University of Florida  
J. D. Eisenback, VPI & SU  
Monica Farfan, The Ohio State University  
Penelope Greenslade, University of Ballarat, Victoria, Australia  
K. D. Gwinn, University of Tennessee  
Arne Fjellberg, Lund University, Sweden  
R. N. Inerra, University of Florida  
B. H. Ownley, University of Tennessee  
J. G. Palacios-Vargas, Mexico City  
K.-H. Park, Chonbuk National University, Korea  
C. R. Parker, U.S. Geological Survey  
Andreas Schmidt-Rhaesa, University of Hamburg  
D. P. Schmitt, University of Hawaii  
Julia Shrubovych, L'viv, Ukraine  
R. J. Snider, Michigan State University  
F. Soto-Adames, University of Illinois  
A. Troccoli, Bari, Italy

**(b) Graduate and Postdoctoral Advisors**

R. S. Hussey, University of Georgia (retired).  
C. W. Laughlin, formerly USDA-CREES (deceased).

**(c) Thesis advisor (total of 20 graduate students advised, no postdoctoral scholars)**

Kelly L. Felderhoff, North Carolina State University  
W. Nicholas Reynolds, University of Tennessee