



Streamlining the use of BOLD specimen data to record species distributions: a case study with ten Nearctic species of Microgastrinae (Hymenoptera: Braconidae)

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Abstract

The Barcode of Life Data Systems (BOLD) is designed to support the generation and application of DNA barcode data, but it also provides a unique source of data with potential for many research uses. This paper explores the streamlining of BOLD specimen data to record species distributions – and its fast publication using the Biodiversity Data Journal (BDJ), and its authoring platform, the Pensoft Writing Tool (PWT). We selected a sample of 630 specimens and 10 species of a highly diverse group of parasitoid wasps (Hymenoptera: Braconidae, Microgastrinae) from the Nearctic region and used the information in BOLD to uncover a significant number of new records (of locality, provinces, territories and states). By converting specimen information (such as locality, collection date, collector, voucher depository) from the BOLD platform to the Excel template provided by the PWT, it is possible to quickly upload and generate long lists of "Material Examined"

for papers discussing taxonomy, ecology and/or new distribution records of species. For the vast majority of publications including DNA barcodes, the generation and publication of ancillary data associated with the barcoded material is seldom highlighted and often disregarded, and the analysis of those data sets to uncover new distribution patterns of species has rarely been explored, even though many BOLD records represent new and/or significant discoveries. The introduction of journals specializing in – and streamlining – the release of these datasets, such as the BDJ, should facilitate thorough analysis of these records, as shown in this paper.

Keywords

Species distribution records, streamlining data, Barcode of Life Data Systems, Pensoft Writing Tool, Microgastrinae, Nearctic

Introduction

The Barcode of Life Data Systems (BOLD) is designed to support the generation and application of DNA barcode data. The platform consists of four main modules: a data portal, a database of barcode clusters, an educational portal, and a data collection workbench. Currently almost 4 million sequences (over 3.4 million of them DNA barcodes) are stored in BOLD, including coverage for more than 143K animal species, 53K plant species, and 16K fungi and other species (<http://www.boldsystems.org/>, accessed on October 09, 2014). This immense platform provides a unique source of data with potential for many research uses. For example, the use of sequences in BOLD has been greatly expanded in the past few years, and dozens of publications using BOLD exist.

A less known and explored avenue is the use of specimen data (also stored in BOLD), which has a great potential to reveal new biodiversity information as well. This paper explores the streamlining of BOLD specimen data to record species distributions. For that we use the Biodiversity Data Journal (BDJ), and its authoring platform, the Pensoft Writing Tool (PWT), which is a community peer-reviewed, open-access, comprehensive online platform, designed to accelerate publishing, dissemination and sharing of biodiversity-related data of any kind (<http://biodiversitydatajournal.com/about#FocusandScope>).

A highly diverse group of insects (parasitoid wasps of the family Braconidae, subfamily Microgastrinae) was used as a case study. Microgastrine wasps are among the best represented groups of Hymenoptera in BOLD, and over 20K sequences have been already released and are publicly available (e.g., Smith et al. 2012). Microgastrinae is also one of the largest and most important groups of caterpillar parasitoids, with great importance in biological control programs worldwide (e.g., Whitfield 1997).

Materials and methods

All specimens used for this study are deposited in the collections of the Biodiversity Institute of Ontario, University of Guelph (BIO), or the Canadian National Collection of Insects, Ottawa (CNC). They represent dozens of collecting events and different research projects carried out by those institutions. Most of the specimens rendered partial or full DNA barcodes (information can be retrieved using the following public DOI: <http://dx.doi.org/10.5883/DS-NEAMICRO>), and many have associated sequences, images and/or data from their labels in collections (Suppl. materials 1, 2, 3, 4).

We selected a sample of 630 specimens of parasitoid wasps, representing ten species and five genera of Microgastrinae (Hymenoptera: Braconidae) from the Nearctic region (Canada and the United States). The identity of the species was confirmed by JFT against authenticated material deposited in the CNC.

We downloaded the “Data Spreadsheet” associated with those records, including the worksheets “Collection Data” and “Specimens Details” (for a detailed explanation consult the “BOLD Print Handbook for BOLD v3”, freely available online at http://www.boldsystems.org/libhtml_v3/static/BOLD_Handbook_Oct2013.pdf).

The Excel file downloaded from BOLD (Suppl. material 1) was then adapted to the template provided by BDJ (a DarwinCore Compliant Excel file). Fields that were of interest for this study (e.g., locality data, collecting date, collectors, institution storing the specimens) were pasted to the corresponding columns in the BDJ template (Suppl. material 2), and from there directly imported into the Pensoft Writing Tool (the tool used to produce manuscripts for consequent submission to the BDJ). The information was uploaded as part of “Materials” for every individual species included in this study.

We compared the known distributions of the species (using mostly Fernandez-Triana 2010, Fernandez-Triana et al. 2014, Whitfield 2006, Yu et al. 2012, Fernández-Triana and Huber 2010) against the information stored in BOLD. In doing so, a significant number of new records (of locality, provinces, territories and states) were uncovered, which are detailed and discussed for every individual species under the section “Notes”. The distribution records of the specimens involved in this study (Suppl. material 5) were mapped using SimpleMappr (<http://www.simplemappr.net>).

The ten species analyzed here represented 13 Barcode Index Numbers (BINS), sensu Ratnasingham and Hebert (2013). In three cases, single names were found to contain multiple clusters of COI variation (Suppl. materials 4, 5). Since such variation has often been ascribed to cryptic or hidden species we examine each case under the section “Notes” for those particular species.

A few specimens discussed in this paper did not render any DNA and thus do not have any associated sequence in BOLD. However, their ancillary data (e.g., collecting date, locality, etc.) was still available and thus is presented below.

When discussing the distribution of species, states of the United States and provinces/territories of Canada are abbreviated with acronyms consisting of two capital letters, following Canada Post standards (<http://www.canadapost.ca/tools/pg/manual/PGaddress-e.asp>).

Species List

Apanteles carpatus (Say, 1836)

Materials

- a. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 19-Sep-2007; lifeStage: Adult; catalogNumber: CAM0023; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ213-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 17-Jul-2010; lifeStage: Adult; catalogNumber: BIOUG01088-A03; recordedBy: James Sones; otherCatalogNumbers: [JSHYO003-11](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- c. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007; lifeStage: Adult; catalogNumber: CAM0036; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ226-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- d. country: Canada; stateProvince: Ontario; county: Essex County; locality: Ruthven; verbatimEventDate: 18-Jul-1947; sex: Female; lifeStage: Adult; catalogNumber: MIC 000034; recordedBy: Dom. Par. Lab.; otherCatalogNumbers: MHABR034-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- e. country: United States; stateProvince: North Carolina; county: Bertie County; locality: near Cahaba; verbatimEventDate: 02-Jun-1976; sex: Male; lifeStage: Adult; catalogNumber: MIC 000041; recordedBy: N. C. D. A.; otherCatalogNumbers: MHABR041-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- f. country: Canada; stateProvince: Ontario; locality: Vineland; verbatimEventDate: 17-Aug-1974; sex: Female; lifeStage: Adult; catalogNumber: MIC 000036; recordedBy: Phillips; otherCatalogNumbers: MHABR036-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- g. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 18-Aug-2011; lifeStage: Adult; catalogNumber: BIOUG01631-B09; recordedBy: James Sones; otherCatalogNumbers: [JSAUG1452-11](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario

- h. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 08-Sep-2007; lifeStage: Adult; catalogNumber: CAM0104; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ294-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- i. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa; verbatimEventDate: 15-Sep-1955; sex: Female; lifeStage: Adult; catalogNumber: MIC 000035; recordedBy: J. Vockeroth; otherCatalogNumbers: MHABR035-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: United States; stateProvince: North Carolina; county: Bertie County; locality: near Cahaba; verbatimEventDate: 02-Jun-1976; lifeStage: Adult; catalogNumber: CNCHYM 00081; recordedBy: N. C. D. A.; otherCatalogNumbers: Hycnd1790-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- k. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-Jul-2007; lifeStage: Adult; catalogNumber: CAM0117; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ307-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- l. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 13-Jul-2007; lifeStage: Adult; catalogNumber: CAM0021; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ211-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- m. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: CAM0046; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ236-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- n. country: United States; stateProvince: North Carolina; county: Bertie County; locality: near Cahaba; verbatimEventDate: 02-Jun-1976; sex: Male; lifeStage: Adult; catalogNumber: MIC 000040; recordedBy: N. C. D. A.; otherCatalogNumbers: MHABR040-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- o. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: CAM0053; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ243-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- p. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 13-Jul-2007; lifeStage: Adult; catalogNumber: CAM0063; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ253-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- q. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 13-Jul-2007; lifeStage: Adult; catalogNumber: CAM0020; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ210-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- r. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 13-Jul-2007; lifeStage: Adult; catalogNumber: CAM0058; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ248-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- s. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-Jul-2007; lifeStage: Adult; catalogNumber: CAM0026; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ216-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- t. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: CAM0049; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ239-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- u. country: Canada; stateProvince: New Brunswick; county: York County; verbatimEventDate: 21-Oct-1981; sex: Female; lifeStage: Adult; catalogNumber: MIC 000037; recordedBy: D. Finnamore; otherCatalogNumbers: [MHABR037-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- v. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa; verbatimEventDate: 08-May-1928; sex: Female; lifeStage: Adult; catalogNumber: MIC 000033; recordedBy: C. Twinn; otherCatalogNumbers: MHABR033-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- w. country: Canada; stateProvince: British Columbia; locality: Aldergrove, on a poultry barn; verbatimEventDate: 15-Jul-1978; sex: Female; lifeStage: Adult; catalogNumber: MIC 000038; otherCatalogNumbers: MHABR038-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- x. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007; lifeStage: Adult; catalogNumber: CAM0042; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ232-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

Notes: A cosmopolitan species (Yu et al. 2012), it was recorded from three provinces in Canada (BC, NB, ON) by Fernandez-Triana (2010), but no locality records were provided at the time. Here we present new details about the distribution of this species in Canada, based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Apanteles conanchetorum Viereck, 1917

Materials

- a. country: United States; stateProvince: North Carolina; county: Orange County; locality: Chapel Hill; verbatimEventDate: 14-Jul-1976; lifeStage: Adult; catalogNumber: CNCHYM 00088; recordedBy: N. C. D. A; otherCatalogNumbers: HYCND1797-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- b. country: Canada; stateProvince: Newfoundland and Labrador; locality: St-Andrew's; verbatimLatitude: 47.793; verbatimLongitude: -59.233; verbatimEventDate: 18-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000908; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1100-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- c. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10353-H05; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF286-14](#); institutionID: Biodiversity Institute of Ontario
- d. country: Canada; stateProvince: Newfoundland and Labrador; locality: St-Andrew's; verbatimLatitude: 47.793; verbatimLongitude: -59.233; verbatimEventDate: 18-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000905; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1097-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- e. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-E12; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF313-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- f. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 03-Aug-2010; lifeStage: Adult; catalogNumber: BIOUG10252-E11; recordedBy: James Sones; otherCatalogNumbers: [JSHYO534-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- g. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 19-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG07019-B11; recordedBy: Cyndi Smith; otherCatalogNumbers: [CNWLM799-13](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- h. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 22-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10403-A09; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF871-14](#); institutionID: Biodiversity Institute of Ontario
- i. country: United States; stateProvince: Kansas; locality: Manhattan; verbatimEventDate: 15-Aug-1945; sex: Female; lifeStage: Adult; catalogNumber: MIC 000063; otherCatalogNumbers: MHABR063-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10360-E02; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF627-14](#); institutionID: Biodiversity Institute of Ontario
- k. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest

- (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10358-C12; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF423-14](#); institutionID: Biodiversity Institute of Ontario
- l. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-F01; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF314-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- m. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11905-C04; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2363-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- n. country: Canada; stateProvince: Newfoundland and Labrador; locality: Cap St-George, fallow field; verbatimLatitude: 48.466; verbatimLongitude: -59.260; verbatimEventDate: 11-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000902; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1094-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- o. country: Canada; stateProvince: Nova Scotia; county: Queens County; locality: White Pt. Beach; verbatimEventDate: 15-Aug-1935; sex: Female; lifeStage: Adult; catalogNumber: MIC 000058; recordedBy: J. McDunnough; otherCatalogNumbers: [MHABR058-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- p. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city, Slack Road; verbatimEventDate: 05-Oct-2007; lifeStage: Adult; catalogNumber: CAM0096; recordedBy: L. Masner; otherCatalogNumbers: [CNCHZ286-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- q. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11907-E10; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2583-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- r. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; lifeStage: Adult; catalogNumber: CAM1013; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHX143-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- s. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 14-Sep-2011; lifeStage: Adult; catalogNumber: BIOUG01631-H02; recordedBy: James Sones; otherCatalogNumbers: [JSSEP761-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- t. country: United States; stateProvince: North Carolina; county: Davie County; locality: near Mocksville; verbatimEventDate: 04-Oct-1976; lifeStage: Adult; catalogNumber: CNCHYM

- 00089; recordedBy: N. C. D. A; otherCatalogNumbers: HYCND1798-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- u. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 26-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG04245-B10; recordedBy: Jarret Hardisty; otherCatalogNumbers: [CNWLF652-12](#); institutionID: Biodiversity Institute of Ontario
- v. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-E09; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF310-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- w. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11904-F02; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2302-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- x. country: Canada; stateProvince: Saskatchewan; county: Prince Albert NP; municipality: Red Deer Trl. Red Loop; verbatimElevation: 578; verbatimLatitude: 53.907; verbatimLongitude: -106.075; verbatimEventDate: 14-Aug-2010; lifeStage: Adult; catalogNumber: 10BBCHY-2243; recordedBy: BIObus 2010; otherCatalogNumbers: [BBHYK285-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- y. country: Canada; stateProvince: Ontario; locality: Woodlawn; verbatimEventDate: 06-Aug-2008; lifeStage: Adult; catalogNumber: MIC 000600; recordedBy: L. Masner; otherCatalogNumbers: [CNCHZ792-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- z. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: 15km SE of Leamington; locality: DeLaurier Marsh and Thicket Trail; verbatimElevation: 181; verbatimLatitude: 41.949; verbatimLongitude: -82.521; verbatimEventDate: 28-Jun-2010; lifeStage: Adult; catalogNumber: PCPP10-0759; recordedBy: T.F.Mitterboeck, C.Vandermeer, V.Junea, C.Sobel; otherCatalogNumbers: [BBHYN214-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- aa. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11909-G05; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2792-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ab. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 23-Oct-2010; lifeStage: Adult; catalogNumber: BIOUG00991-A05; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF353-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- ac. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber:

- BIOUG00914-E04; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF115-11](#);
 identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
 ad. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality:
 Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude:
 -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber:
 BIOUG00914-E03; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF114-11](#);
 identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
 ae. country: Canada; stateProvince: Prince Edward Island; county: Prince Edward Island
 National Park; municipality: Woodland Trail / Long Point; verbatimElevation: 6;
 verbatimLatitude: 46.412; verbatimLongitude: -63.085; verbatimEventDate: 17-Jul-2013;
 lifeStage: Adult; catalogNumber: BIOUG10961-E03; recordedBy: Paul Ayles;
 otherCatalogNumbers: [CNPEP1205-14](#); institutionID: Biodiversity Institute of Ontario
 af. country: Canada; stateProvince: Ontario; county: Campbellville; municipality: Mountsberg
 Conservation Area; verbatimElevation: 215; verbatimLatitude: 43.457; verbatimLongitude:
 -80.027; verbatimEventDate: 28-Sep-2013; lifeStage: Adult; catalogNumber:
 BIOUG08661-F09; recordedBy: Amy Fennell; otherCatalogNumbers: [SMTPD5714-13](#);
 institutionID: Biodiversity Institute of Ontario
 ag. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality:
 Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083;
 verbatimLongitude: -113.876; verbatimEventDate: 02-Aug-2012; lifeStage: Adult;
 catalogNumber: BIOUG07067-E03; recordedBy: Emma Sylvester; otherCatalogNumbers:
[CNWLN171-13](#); institutionID: Biodiversity Institute of Ontario
 ah. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality:
 Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation:
 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 29-
 Aug-2010; lifeStage: Adult; catalogNumber: BIOUG01280-G04; recordedBy: James
 Sones; otherCatalogNumbers: [JSHYP027-11](#); identifiedBy: BOLD ID Engine;
 institutionID: Biodiversity Institute of Ontario
 ai. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
 verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007;
 lifeStage: Adult; catalogNumber: CAM0160; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ350-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
 aj. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality:
 Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083;
 verbatimLongitude: -113.876; verbatimEventDate: 19-Jul-2012; lifeStage: Adult;
 catalogNumber: BIOUG06873-E09; recordedBy: Cyndi Smith; otherCatalogNumbers:
[CNWLM287-13](#); institutionID: Biodiversity Institute of Ontario
 ak. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail
 off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest
 (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude:
 -64.376; verbatimEventDate: 12-Aug-2013; lifeStage: Adult; catalogNumber:
 BIOUG12293-G01; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNT1471-14](#);
 identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
 al. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail
 off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest
 (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude:
 -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber:
 BIOUG10408-B06; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF1260-14](#);
 institutionID: Biodiversity Institute of Ontario

- am. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-E11; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF312-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- an. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 22-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10358-E06; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF441-14](#); institutionID: Biodiversity Institute of Ontario
- ao. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Puslinch Township; locality: Concession 11/Hume Rd; verbatimElevation: 320; verbatimLatitude: 43.537; verbatimLongitude: -80.134; verbatimEventDate: 15-Oct-2010; lifeStage: Adult; catalogNumber: BIOUG00861-G06; recordedBy: Paul Hebert; otherCatalogNumbers: [PHMTX962-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- ap. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 05-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG10550-D04; recordedBy: Dany Brodeau; otherCatalogNumbers: [CNFNG557-14](#); institutionID: Biodiversity Institute of Ontario
- aq. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Puslinch Township; locality: Concession 11/Hume Rd; verbatimElevation: 320; verbatimLatitude: 43.537; verbatimLongitude: -80.134; verbatimEventDate: 08-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG02507-D09; recordedBy: Paul Hebert; otherCatalogNumbers: [HESEP836-12](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- ar. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10403-A08; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF870-14](#); institutionID: Biodiversity Institute of Ontario
- as. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber: BIOUG00914-E07; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF118-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- at. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0147; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ337-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- au. country: Canada; stateProvince: Ontario; county: Guelph; municipality: 25 Division St.; verbatimElevation: 326; verbatimLatitude: 43.554; verbatimLongitude: -80.264; verbatimEventDate: 29-Oct-2010; lifeStage: Adult; catalogNumber: BIOUG00988-A09; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF167-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith

- av. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11910-C01; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2835-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- aw. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 26-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG04245-A01; recordedBy: Jarret Hardisty; otherCatalogNumbers: [CNWLF631-12](#); institutionID: Biodiversity Institute of Ontario
- ax. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber: BIOUG00914-F08; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF131-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- ay. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 05-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG10661-F02; recordedBy: Dany Brodeau; otherCatalogNumbers: [CNFNG1150-14](#); institutionID: Biodiversity Institute of Ontario
- az. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11910-B12; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2834-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ba. country: United States; stateProvince: Kansas; locality: Manhattan; verbatimEventDate: 15-Aug-1945; lifeStage: Adult; catalogNumber: CNCHYM 00093; otherCatalogNumbers: HYCND1803-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bb. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 19-Sep-2007; lifeStage: Adult; catalogNumber: CAM0005; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ195-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bc. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007; lifeStage: Adult; catalogNumber: CAM0085; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ275-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bd. country: Canada; stateProvince: Ontario; county: Guelph; municipality: 25 Division St.; verbatimElevation: 326; verbatimLatitude: 43.554; verbatimLongitude: -80.264; verbatimEventDate: 29-Oct-2010; lifeStage: Adult; catalogNumber: BIOUG00989-A08; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF261-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- be. country: Canada; stateProvince: Saskatchewan; county: Prince Albert NP; municipality: Spruce River Highlands Trail; verbatimElevation: 551; verbatimLatitude: 53.712; verbatimLongitude: -106.048; verbatimEventDate: 11-Jul-2012; lifeStage: Adult;

- catalogNumber: BIOUG08192-F10; recordedBy: BIOBus 2012; otherCatalogNumbers: [SSPAC3799-13](#); institutionID: Biodiversity Institute of Ontario
- bf. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 18-Oct-2010; lifeStage: Adult; catalogNumber: BIOUG01330-D09; recordedBy: James Sones; otherCatalogNumbers: [JSHYP661-12](#); institutionID: Biodiversity Institute of Ontario
- bg. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10353-G01; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF270-14](#); institutionID: Biodiversity Institute of Ontario
- bh. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber: BIOUG00914-G01; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF136-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- bi. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 19-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG07067-C07; recordedBy: Cyndi Smith; otherCatalogNumbers: [CNWLM1411-13](#); institutionID: Biodiversity Institute of Ontario
- bj. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 30-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG12037-E03; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNS886-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- bk. country: Canada; stateProvince: Ontario; county: St. Lawrence Islands National Park; locality: Grenadier Island Center; verbatimEventDate: 02-Jul-1975; sex: Female; lifeStage: Adult; catalogNumber: MIC 000061; otherCatalogNumbers: [MHABR061-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bl. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-E10; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF311-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- bm. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 22-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10405-G04; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF1033-14](#); institutionID: Biodiversity Institute of Ontario
- bn. country: Canada; stateProvince: Ontario; county: Aylmer; locality: Aylmer West; verbatimEventDate: 20-Jul-1972; sex: Female; lifeStage: Adult; catalogNumber: MIC 000060; otherCatalogNumbers: [MHABR060-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- bo. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0159; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ349-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bp. country: Canada; stateProvince: Ontario; county: Rouge National Urban Park; municipality: West of Glen Rouge campground; locality: Marsh scrub along riverside; verbatimElevation: 80; verbatimLatitude: 43.804; verbatimLongitude: -79.146; verbatimEventDate: 07-Jun-2013; lifeStage: Adult; catalogNumber: BIOUG13530-A05; recordedBy: BIOBus 2013; otherCatalogNumbers: [SSROB2643-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- bq. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber: BIOUG00914-F06; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF129-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- br. country: United States; stateProvince: North Carolina; county: Avery County; locality: Linville; verbatimEventDate: 05-Oct-1976; lifeStage: Adult; catalogNumber: CNCHYM 03970; recordedBy: N. C. D. A; otherCatalogNumbers: HYCND1800-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bs. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 26-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG04245-C02; recordedBy: Jarret Hardisty; otherCatalogNumbers: [CNWLF656-12](#); institutionID: Biodiversity Institute of Ontario
- bt. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-G12; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF337-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- bu. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Puslinch Township; locality: Concession 11/Hume Rd; verbatimElevation: 320; verbatimLatitude: 43.537; verbatimLongitude: -80.134; verbatimEventDate: 23-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG01309-D01; recordedBy: Paul Hebert; otherCatalogNumbers: [PHSEP1889-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- bv. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 21-Nov-2010; lifeStage: Adult; catalogNumber: BIOUG00914-E08; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF119-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- bw. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11908-H02; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2706-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- bx. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest

- (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11903-A01; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2146-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- by. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 12-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG12293-B06; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNT1416-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- bz. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10405-C03; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF984-14](#); institutionID: Biodiversity Institute of Ontario
- ca. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 19-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG06873-G07; recordedBy: Cyndi Smith; otherCatalogNumbers: [CNWLM309-13](#); institutionID: Biodiversity Institute of Ontario
- cb. country: Canada; stateProvince: Nova Scotia; county: Queens County; locality: White Pt. Beach; verbatimEventDate: 15-Aug-1935; sex: Female; lifeStage: Adult; catalogNumber: MIC 000059; recordedBy: J. McDunnough; otherCatalogNumbers: [MHABR059-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cc. country: United States; stateProvince: North Carolina; county: Martin County; locality: near Williamston; verbatimEventDate: 16-Jun-1975; lifeStage: Adult; catalogNumber: CNCHYM 00090; recordedBy: N. C. D. A.; otherCatalogNumbers: HYCND1799-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cd. country: Canada; stateProvince: Ontario; county: St. Lawrence Islands National Park; locality: Thwartway Island; verbatimEventDate: 19-Jul-1976; sex: Male; lifeStage: Adult; catalogNumber: MIC 000064; otherCatalogNumbers: [MHABR064-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ce. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11904-C07; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2271-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- cf. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 12-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00991-B06; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF366-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- cg. country: Canada; stateProvince: Saskatchewan; county: Prince Albert NP; municipality: Spruce River Highlands Trail; verbatimElevation: 542; verbatimLatitude: 53.713; verbatimLongitude: -106.048; verbatimEventDate: 14-Jul-2012; lifeStage: Adult;

- catalogNumber: BIOUG09238-D12; recordedBy: BIOBus 2012; otherCatalogNumbers: [SSPAC13669-13](#); institutionID: Biodiversity Institute of Ontario
- ch. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 30-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG12038-B01; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNS943-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ci. country: Canada; stateProvince: Ontario; county: Guelph; municipality: 25 Division St.; verbatimElevation: 326; verbatimLatitude: 43.554; verbatimLongitude: -80.264; verbatimEventDate: 29-Oct-2010; lifeStage: Adult; catalogNumber: BIOUG00989-A07; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF260-11](#); identifiedBy: Angela Telfer; institutionID: Research Collection of M. Alex Smith
- cj. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG10479-G03; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNF2105-14](#); institutionID: Biodiversity Institute of Ontario
- ck. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11908-G11; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2703-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- cl. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 26-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG03486-E11; recordedBy: Jarret Hardisty; otherCatalogNumbers: [CNWLF272-12](#); institutionID: Biodiversity Institute of Ontario
- cm. country: Canada; stateProvince: Prince Edward Island; county: Georgetown; locality: near Georgetown; verbatimElevation: 8; verbatimLatitude: 46.417; verbatimLongitude: -62.667; verbatimEventDate: 31-Jul-2005; lifeStage: Adult; catalogNumber: WMIC 0240; recordedBy: M. Sharkey; otherCatalogNumbers: [CNCHX240-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cn. country: Canada; stateProvince: Alberta; county: Waterton Lakes NP; municipality: Foothills Parkland Region; verbatimElevation: 1338; verbatimLatitude: 49.083; verbatimLongitude: -113.876; verbatimEventDate: 26-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG04245-B04; recordedBy: Jarret Hardisty; otherCatalogNumbers: [CNWLF646-12](#); institutionID: Biodiversity Institute of Ontario
- co. country: United States; stateProvince: North Carolina; county: Avery County; locality: Linville; verbatimEventDate: 26-Aug-1976; sex: Female; lifeStage: Adult; catalogNumber: MIC 000062; otherCatalogNumbers: [MHABR062-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cp. country: Canada; stateProvince: Quebec; county: Forillon National Park; municipality: trail off of park compound (i.e. operation centre), 1501 boul. Forillon; locality: mixed forest (spruce, poplar); verbatimElevation: 135; verbatimLatitude: 48.857; verbatimLongitude: -64.376; verbatimEventDate: 15-Jul-2013; lifeStage: Adult; catalogNumber:

- BIOUG11907-B04; recordedBy: F.Tremblay; otherCatalogNumbers: [CNFNR2541-14](#);
 identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
 cq. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality:
 Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation:
 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 04-
 Oct-2010; lifeStage: Adult; catalogNumber: BIOUG01327-H05; recordedBy: James
 Sones; otherCatalogNumbers: [JSHYP610-11](#); institutionID: Biodiversity Institute of
 Ontario

Notes: This species is widely distributed in central and eastern North America. It was recorded from two provinces in Canada (NS, ON) by Fernandez-Triana (2010), but no locality records were provided at the time. Here we present additional information about the distribution of this species in Canada, including five new provincial records (AB, NL, PE, QC, SK), based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

The specimens of *A. conanchetorum* that rendered DNA barcodes comprise two BINS: [BOLD:AAC5506](#) (eastern North America) and [BOLD:AAC5507](#) (principally Western Canada, but some records from ON, PE) (Suppl. material 4); whether they represent two different species or not will be studied in an upcoming paper.

Apanteles ensiger (Say, 1836)

Materials

- a. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 26-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG11625-E04; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKJ648-14](#); institutionID: Biodiversity Institute of Ontario
- b. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: North Bear; verbatimLatitude: 44.695; verbatimLongitude: -79.039; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01657-E06; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC149-11](#); institutionID: Biodiversity Institute of Ontario
- c. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 02-Aug-2007; lifeStage: Adult; catalogNumber: 07PROBE-22328; recordedBy: A. Renaud; otherCatalogNumbers: [ASWAV869-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- d. country: Canada; stateProvince: Nova Scotia; county: Kejimikujik National Park; locality: Jeremy's Bay Campground, near Amphitheater off of Campfire Circle; verbatimElevation: 116; verbatimLatitude: 44.407; verbatimLongitude: -65.245; verbatimEventDate: 25-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11759-F05; recordedBy: Matt Davis; otherCatalogNumbers: [CNKJF1743-14](#); institutionID: Biodiversity Institute of Ontario
- e. country: Canada; stateProvince: Newfoundland and Labrador; county: Plum Point; locality: Plum Point, fallow field; verbatimLatitude: 51.064; verbatimLongitude: -56.982; verbatimEventDate: 16-Jul-2008; lifeStage: Adult; catalogNumber: CAM0960; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX090-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- f. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14172-C09; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO3073-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- g. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 14-Sep-2011; lifeStage: Adult; catalogNumber: BIOUG01631-D07; recordedBy: James Sones; otherCatalogNumbers: [JSSEP718-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- h. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08683-C10; recordedBy: BIO Collections Staff; otherCatalogNumbers: [SMTPD5208-13](#); institutionID: Biodiversity Institute of Ontario
- i. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14172-G04; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO3116-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- j. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 19-Sep-2007; lifeStage: Adult; catalogNumber: CAM0009; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ199-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- k. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 13-Jun-2013; lifeStage: Adult; catalogNumber: BIOUG08669-D07; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOD945-13](#); institutionID: Biodiversity Institute of Ontario
- l. country: Canada; stateProvince: Newfoundland and Labrador; county: Corner Brook; locality: Corner Brook, fallow field; verbatimLatitude: 48.956; verbatimLongitude: -57.911; verbatimEventDate: 17-Jul-2008; lifeStage: Adult; catalogNumber: CAM0940; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX070-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- m. country: Canada; stateProvince: Ontario; county: Rondeau Provincial Park; verbatimEventDate: 16-Jul-1972; sex: Female; lifeStage: Adult; catalogNumber: MIC 000087; otherCatalogNumbers: [MHABR087-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- n. country: Canada; stateProvince: Ontario; county: Guelph; municipality: John F. Ross Collegiate & Vocational Institute; locality: EQP-CLL-524; verbatimElevation: 329; verbatimLatitude: 43.562; verbatimLongitude: -80.247; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08641-D09; recordedBy: M. Neerhof, S. Lipskie; otherCatalogNumbers: [SMTPD3239-13](#); institutionID: Biodiversity Institute of Ontario
- o. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Sep-2013;

- lifeStage: Adult; catalogNumber: BIOUG08683-G07; recordedBy: BIO Collections Staff; otherCatalogNumbers: [SMTPD5253-13](#); institutionID: Biodiversity Institute of Ontario
- p. country: Canada; stateProvince: Ontario; county: Paris; municipality: Holy Family School; locality: EQP-CLL-560; verbatimElevation: 250; verbatimLatitude: 43.207; verbatimLongitude: -80.391; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08663-H08; recordedBy: Anne Parkhill; otherCatalogNumbers: [SMTPD4869-13](#); institutionID: Biodiversity Institute of Ontario
- q. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 27-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG09765-A01; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROS470-13](#); institutionID: Biodiversity Institute of Ontario
- r. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08683-C04; recordedBy: BIO Collections Staff; otherCatalogNumbers: [SMTPD5202-13](#); institutionID: Biodiversity Institute of Ontario
- s. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14108-F04; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO1489-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- t. country: Canada; stateProvince: Ontario; county: St. Marys; municipality: Little Falls Public School; locality: EQP-CLL-554; verbatimElevation: 305; verbatimLatitude: 43.259; verbatimLongitude: -81.142; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08647-G04; recordedBy: Lisa Cairncross; otherCatalogNumbers: [SMTPD3828-13](#); institutionID: Biodiversity Institute of Ontario
- u. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 04-Oct-2013; lifeStage: Adult; catalogNumber: BIOUG09932-C07; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBION508-14](#); institutionID: Biodiversity Institute of Ontario
- v. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001023; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA309-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- w. country: Canada; stateProvince: Ontario; county: Georgian Bay Islands National Park; municipality: Beausoleil Island; locality: Cedar Spring Campground, mixed forest; verbatimElevation: 177; verbatimLatitude: 44.852; verbatimLongitude: -79.874; verbatimEventDate: 27-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG10202-A04; recordedBy: Chris Johnstone; otherCatalogNumbers: [CNGBG1411-14](#); institutionID: Biodiversity Institute of Ontario
- x. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0342; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ532-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- y. country: Canada; stateProvince: Newfoundland and Labrador; locality: Corner Brook, fallow field; verbatimLatitude: 48.956; verbatimLongitude: -57.911; verbatimEventDate: 17-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000903; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1095-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- z. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 26-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG11707-A06; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKJ2122-14](#); institutionID: Biodiversity Institute of Ontario
- aa. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001022; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA308-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ab. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 12-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG06823-D09; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLS106-13](#); institutionID: Biodiversity Institute of Ontario
- ac. country: Canada; stateProvince: Ontario; county: St. Marys; municipality: Little Falls Public School; locality: EQP-CLL-554; verbatimElevation: 305; verbatimLatitude: 43.259; verbatimLongitude: -81.142; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08647-C01; recordedBy: Lisa Cairncross; otherCatalogNumbers: [SMTPD3777-13](#); institutionID: Biodiversity Institute of Ontario
- ad. country: Canada; stateProvince: Newfoundland and Labrador; locality: Plum Point, fallow field; verbatimLatitude: 51.064; verbatimLongitude: -56.848; verbatimEventDate: 16-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000910; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1102-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ae. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0526; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1146-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- af. country: Canada; stateProvince: Newfoundland and Labrador; county: Corner Brook; locality: Corner Brook, fallow field; verbatimLatitude: 48.956; verbatimLongitude: -57.911; verbatimEventDate: 17-Jul-2008; lifeStage: Adult; catalogNumber: CAM0962; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX092-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ag. country: Canada; stateProvince: Prince Edward Island; locality: Blooming Point, fallow field; verbatimElevation: 6; verbatimLatitude: 46.408; verbatimLongitude: -62.951; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000493; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ685-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- ah. country: Canada; stateProvince: Alberta; county: Wood Buffalo NP; municipality: Benchmark weather station; verbatimElevation: 219; verbatimLatitude: 59.561; verbatimLongitude: -112.261; verbatimEventDate: 05-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG06549-D07; recordedBy: Nicole Labine; otherCatalogNumbers: [CNWBH1210-13](#); institutionID: Biodiversity Institute of Ontario
- ai. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: Cactus Field; verbatimElevation: 168; verbatimLatitude: 41.939; verbatimLongitude: -82.516; verbatimEventDate: 01-Jun-2012; lifeStage: Adult; catalogNumber: BIOUG03220-A01; recordedBy: Heidi Brown; otherCatalogNumbers: [CNPPC821-12](#); institutionID: Biodiversity Institute of Ontario
- aj. country: Canada; stateProvince: Quebec; county: Belle-Anse; locality: Belle-Anse; verbatimLatitude: 48.625; verbatimLongitude: -64.178; verbatimEventDate: 26-Jul-2008; lifeStage: Adult; catalogNumber: CAM0290; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ480-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ak. country: Canada; stateProvince: Manitoba; county: Aweme; locality: Criddle Homestead, mixed-grass prairie; verbatimLatitude: 49.706; verbatimLongitude: -99.576; verbatimEventDate: 24-Jul-2007; lifeStage: Adult; catalogNumber: MIC 000637; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ829-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- al. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-May-2007; lifeStage: Adult; catalogNumber: CAM0011; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ201-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- am. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001027; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA313-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- an. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 12-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG06823-E10; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLS119-13](#); institutionID: Biodiversity Institute of Ontario
- ao. country: Canada; stateProvince: Newfoundland and Labrador; county: Corner Brook; locality: Corner Brook, fallow field; verbatimLatitude: 48.956; verbatimLongitude: -57.911; verbatimEventDate: 17-Jul-2008; lifeStage: Adult; catalogNumber: CAM0939; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX069-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ap. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 26-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG11771-G06; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPJK2479-14](#); institutionID: Biodiversity Institute of Ontario
- aq. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Jun-2013;

- lifeStage: Adult; catalogNumber: BIOUG08748-E07; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOE1290-13](#); institutionID: Biodiversity Institute of Ontario
- ar. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0352; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ542-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- as. country: Canada; stateProvince: Ontario; county: Leeds; locality: Leeds-Granville Co., forest; verbatimLatitude: 44.629; verbatimLongitude: -76.359; verbatimEventDate: 01-Oct-2008; lifeStage: Adult; catalogNumber: CAM0448; recordedBy: S. Peck; otherCatalogNumbers: [CNCHZ638-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- at. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 19-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG09807-F11; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOK461-14](#); institutionID: Biodiversity Institute of Ontario
- au. country: Canada; stateProvince: Alberta; county: Banff NP; municipality: Corral Creek old road; verbatimElevation: 1539; verbatimLatitude: 51.407; verbatimLongitude: -116.154; verbatimEventDate: 24-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG06471-C10; recordedBy: BIOBus 2012; otherCatalogNumbers: [SSBAF2145-13](#); institutionID: Biodiversity Institute of Ontario
- av. country: United States; stateProvince: Alaska; locality: Trapper Creek, Petersville Road; verbatimElevation: 127; verbatimLatitude: 62.316; verbatimLongitude: -150.261; verbatimEventDate: 17-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3194; recordedBy: Goulet & Bouderault; otherCatalogNumbers: [CNCHV264-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aw. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: Cactus Field; verbatimElevation: 168; verbatimLatitude: 41.939; verbatimLongitude: -82.516; verbatimEventDate: 01-Jun-2012; lifeStage: Adult; catalogNumber: BIOUG03220-F05; recordedBy: Heidi Brown; otherCatalogNumbers: [CNPPC885-12](#); institutionID: Biodiversity Institute of Ontario
- ax. country: Canada; stateProvince: Quebec; county: Belle-Anse; locality: Belle-Anse; verbatimLatitude: 48.625; verbatimLongitude: -64.178; verbatimEventDate: 26-Jul-2008; lifeStage: Adult; catalogNumber: CAM0289; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ479-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ay. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: North Bear; verbatimLatitude: 44.695; verbatimLongitude: -79.039; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01657-F10; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC165-11](#); institutionID: Biodiversity Institute of Ontario
- az. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0344; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ534-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- ba. country: Canada; stateProvince: Ontario; locality: North Gower to Smith Falls, 1 km N of Rd 6 & Montague Bdy Rd; verbatimLatitude: 45.033; verbatimLongitude: -75.900; verbatimEventDate: 15-Jun-2004; lifeStage: Adult; catalogNumber: HYM00001003; recordedBy: Bennet & Barnes; otherCatalogNumbers: [ASWA289-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bb. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0525; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1145-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bc. country: Canada; stateProvince: Ontario; county: Whitby; municipality: Donald A. Wilson Secondary School; locality: EQP-CLL-597; verbatimElevation: 91; verbatimLatitude: 43.894; verbatimLongitude: -78.964; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08643-F01; recordedBy: Linda Phillips; otherCatalogNumbers: [SMTPD3455-13](#); institutionID: Biodiversity Institute of Ontario
- bd. country: Canada; stateProvince: Quebec; locality: Gatineau Park; verbatimEventDate: 15-Jun-1977; sex: Female; lifeStage: Adult; catalogNumber: MIC 000090; recordedBy: L. Masner; otherCatalogNumbers: [MHABR090-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- be. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 10 km ESE Churchill, Launch Road near A-frame; locality: Launch road Fen; verbatimLatitude: 58.754; verbatimLongitude: -93.998; verbatimEventDate: 31-Jul-2010; lifeStage: Adult; catalogNumber: BIOUG00761-A09; recordedBy: Brandon Laforest; otherCatalogNumbers: [JBHCI617-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- bf. country: Canada; stateProvince: Manitoba; county: Churchill; locality: unspecified locality; verbatimLatitude: 58.740; verbatimLongitude: -93.820; verbatimEventDate: 17-Aug-2006; lifeStage: Adult; catalogNumber: HYM00000665.2; otherCatalogNumbers: [ASWAY519-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bg. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG09925-E09; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOL366-14](#); institutionID: Biodiversity Institute of Ontario
- bh. country: Canada; stateProvince: Quebec; locality: Knowlton; verbatimEventDate: 24-Aug-1929; sex: Female; lifeStage: Adult; catalogNumber: MIC 000084; recordedBy: L. Milne; otherCatalogNumbers: [MHABR084-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bi. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: Prairie Smoke; verbatimLatitude: 44.645; verbatimLongitude: -79.095; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01572-H03; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC087-11](#); institutionID: Biodiversity Institute of Ontario
- bj. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007; lifeStage: Adult; catalogNumber: CAM0114; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ304-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- bk. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14107-D02; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO1368-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- bl. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0345; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ535-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bm. country: Canada; stateProvince: Newfoundland and Labrador; county: St-David`s; locality: St-David`s, fallow field; verbatimLatitude: 48.205; verbatimLongitude: -58.866; verbatimEventDate: 10-Jul-2008; lifeStage: Adult; catalogNumber: CAM0963; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX093-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bn. country: Canada; stateProvince: Quebec; county: Belle-Anse; locality: Belle-Anse; verbatimLatitude: 48.625; verbatimLongitude: -64.178; verbatimEventDate: 26-Jul-2008; lifeStage: Adult; catalogNumber: CAM0288; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ478-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bo. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0341; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ531-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bp. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 08-Sep-2007; lifeStage: Adult; catalogNumber: CAM0106; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ296-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bq. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 12-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG06823-E06; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLS115-13](#); institutionID: Biodiversity Institute of Ontario
- br. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001019; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA305-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bs. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0154; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ344-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bt. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude:

- 76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0340; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ530-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bu. country: Canada; stateProvince: Manitoba; locality: Vita Tallgrass prairie; verbatimLatitude: 49.147; verbatimLongitude: -96.681; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001028; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA314-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bv. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001024; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA310-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bw. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0161; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ351-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bx. country: Canada; stateProvince: Quebec; county: Mingan Archipelago National Park Reserve; municipality: Quarry Island; locality: bog near forest edge; verbatimLatitude: 50.214; verbatimLongitude: -63.798; verbatimEventDate: 06-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG12486-D10; recordedBy: Park Staff; otherCatalogNumbers: [CNMIG236-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- by. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: 15km SE of Leamington; locality: Cactus Patch Meadow off Bike Trail on Route to Visitors Centre; verbatimElevation: 174; verbatimLatitude: 41.934; verbatimLongitude: -82.514; verbatimEventDate: 23-Jun-2010; lifeStage: Adult; catalogNumber: PCPP10-0466; recordedBy: T.F.Mitterboeck, C.Vandermeer, V.Junea, C.Sobel; otherCatalogNumbers: [BBHYH072-10](#); identifiedBy: Julie K. Stahlhut; institutionID: Biodiversity Institute of Ontario
- bz. country: Canada; stateProvince: Nova Scotia; county: Kejimikujik National Park; locality: Jeremy's Bay Campground, near Amphitheater off of Campfire Circle; verbatimElevation: 116; verbatimLatitude: 44.407; verbatimLongitude: -65.245; verbatimEventDate: 18-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG12736-B05; recordedBy: J.Garber, M.Davis; otherCatalogNumbers: [CNKJN622-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ca. country: United States; stateProvince: Florida; county: Kissimmee Prairie Preserve SP; locality: mesic hammock; verbatimElevation: 15; verbatimLatitude: 27.582; verbatimLongitude: -81.048; verbatimEventDate: 07-Mar-2010; lifeStage: Adult; catalogNumber: 10BBHYM-1225; recordedBy: Biobus 2010; otherCatalogNumbers: [BBHYH202-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- cb. country: Canada; stateProvince: Manitoba; municipality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001004; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA290-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cc. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 19-Sep-2007;

- lifeStage: Adult; catalogNumber: CAM0008; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ198-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
- cd. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
 Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
 verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Jun-2013;
 lifeStage: Adult; catalogNumber: BIOUG08799-G08; recordedBy: BIO Collections Staff;
 otherCatalogNumbers: [MBIOE1410-13](#); institutionID: Biodiversity Institute of Ontario
- ce. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near
 Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult;
 catalogNumber: CAM0521; recordedBy: A. Bennett; otherCatalogNumbers:
[CNCHZ1141-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National
 Collection of Insects, Arachnids and Nematodes
- cf. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality:
 Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude:
 44.475; verbatimLongitude: -75.865; verbatimEventDate: 15-Sep-2012; lifeStage: Adult;
 catalogNumber: BIOUG04041-A02; recordedBy: Thousand Islands NP;
 otherCatalogNumbers: [CNSLK104-12](#); institutionID: Biodiversity Institute of Ontario
- cg. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality:
 Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude:
 44.475; verbatimLongitude: -75.865; verbatimEventDate: 21-Aug-2012; lifeStage: Adult;
 catalogNumber: BIOUG03979-A07; recordedBy: Thousand Islands NP;
 otherCatalogNumbers: [CNSLI393-12](#); institutionID: Biodiversity Institute of Ontario
- ch. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality:
 Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude:
 44.475; verbatimLongitude: -75.865; verbatimEventDate: 21-Aug-2012; lifeStage: Adult;
 catalogNumber: BIOUG03979-B04; recordedBy: Thousand Islands NP;
 otherCatalogNumbers: [CNSLI402-12](#); institutionID: Biodiversity Institute of Ontario
- ci. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality:
 Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude:
 -79.703; verbatimEventDate: 01-Aug-2010; lifeStage: Adult; catalogNumber:
 BIOUG00991-B03; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF363-11](#);
 identifiedBy: Jose Fernandez-Triana; institutionID: Research Collection of M. Alex Smith
- cj. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
 verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007;
 lifeStage: Adult; catalogNumber: CAM0166; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ356-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
- ck. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
 verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 08-Sep-2007;
 lifeStage: Adult; catalogNumber: CAM0103; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ293-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
- cl. country: Canada; stateProvince: Ontario; county: Rouge National Urban Park; locality:
 Sector 7; verbatimElevation: 135; verbatimLatitude: 43.825; verbatimLongitude: -79.203;
 verbatimEventDate: 15-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG07898-C04;
 recordedBy: BIO Team; otherCatalogNumbers: [RBINA1006-13](#); institutionID: Biodiversity
 Institute of Ontario
- cm. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
 Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;

- verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 04-Oct-2013; lifeStage: Adult; catalogNumber: BIOUG09931-A07; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBION389-14](#); institutionID: Biodiversity Institute of Ontario
- cn. country: Canada; stateProvince: Quebec; county: La Mauricie National Park; municipality: Saint-Mathieu west park entrance near Visitor Centre; locality: primarily conifer forest stand (balsam fir, *Epicea glauca*, birch); verbatimElevation: 219; verbatimLatitude: 46.651; verbatimLongitude: -72.970; verbatimEventDate: 01-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG12977-D11; recordedBy: Medo Toure; otherCatalogNumbers: [CNLMG1235-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- co. country: Canada; stateProvince: Ontario; county: Guelph; municipality: John F. Ross Collegiate & Vocational Institute; locality: EQP-CLL-524; verbatimElevation: 329; verbatimLatitude: 43.562; verbatimLongitude: -80.247; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08641-G07; recordedBy: M.Neerhof, S.Lipskie; otherCatalogNumbers: [SMTPD3273-13](#); institutionID: Biodiversity Institute of Ontario
- cp. country: United States; stateProvince: North Carolina; county: Swain County; locality: Smokemont; verbatimEventDate: 07-Jun-1976; lifeStage: Adult; catalogNumber: CNCHYM 00107; recordedBy: N.C.D.A.; otherCatalogNumbers: [HYCND1817-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cq. country: Canada; stateProvince: Newfoundland and Labrador; county: St-Andrew's; locality: St-Andrew's, fallow field; verbatimLatitude: 47.793; verbatimLongitude: -59.233; verbatimEventDate: 18-Jul-2008; lifeStage: Adult; catalogNumber: CAM0938; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX068-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cr. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0348; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ538-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cs. country: Canada; stateProvince: Ontario; county: St. Marys; municipality: Little Falls Public School; locality: EQP-CLL-554; verbatimElevation: 305; verbatimLatitude: 43.259; verbatimLongitude: -81.142; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08647-G07; recordedBy: Lisa Cairncross; otherCatalogNumbers: [SMTPD3831-13](#); institutionID: Biodiversity Institute of Ontario
- ct. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 21-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG03979-B03; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLI401-12](#); institutionID: Biodiversity Institute of Ontario
- cu. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0346; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ536-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cv. country: Canada; stateProvince: Ontario; locality: Scheck Nature Reserve; verbatimLatitude: 44.349; verbatimLongitude: -76.895; verbatimEventDate: 05-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01795-D07; recordedBy: J. Cossey;

- otherCatalogNumbers: [NCCC726-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- cw. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 09-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG11996-F03; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKK1009-14](#); institutionID: Biodiversity Institute of Ontario
- cx. country: Canada; stateProvince: Nova Scotia; county: Kejimikujik National Park; locality: Jeremy's Bay Campground, near Amphitheater off of Campfire Circle; verbatimElevation: 116; verbatimLatitude: 44.407; verbatimLongitude: -65.245; verbatimEventDate: 11-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11597-E04; recordedBy: D.Crossland, K.Rowter; otherCatalogNumbers: [CNKJE1961-14](#); institutionID: Biodiversity Institute of Ontario
- cy. country: Canada; stateProvince: Ontario; county: Leeds; locality: Leeds-Granville Co., forest; verbatimLatitude: 44.629; verbatimLongitude: -76.359; verbatimEventDate: 01-Oct-2008; lifeStage: Adult; catalogNumber: CAM0445; recordedBy: S. Peck; otherCatalogNumbers: [CNCHZ635-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- cz. country: Canada; stateProvince: Ontario; county: Rouge National Urban Park; locality: Sector 8; verbatimElevation: 167; verbatimLatitude: 43.859; verbatimLongitude: -79.209; verbatimEventDate: 15-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG07903-F12; recordedBy: BIO Team; otherCatalogNumbers: [RBINA3743-13](#); institutionID: Biodiversity Institute of Ontario
- da. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0527; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1147-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- db. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: North Bear; verbatimLatitude: 44.695; verbatimLongitude: -79.039; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01657-C11; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC130-11](#); institutionID: Biodiversity Institute of Ontario
- dc. country: Canada; stateProvince: New Brunswick; county: Kouchibouguac NP; municipality: Research House; verbatimElevation: 52; verbatimLatitude: 46.771; verbatimLongitude: -65.006; verbatimEventDate: 20-Aug-2009; lifeStage: Adult; catalogNumber: 09BBEHY-2030; recordedBy: BIObus 2009; otherCatalogNumbers: [BBHYF031-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- dd. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 14-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG09770-A04; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROT251-13](#); institutionID: Biodiversity Institute of Ontario
- de. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0531; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1151-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- df. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 19-Sep-2007;

- lifeStage: Adult; catalogNumber: CAM0007; recordedBy: H. Goulet;
otherCatalogNumbers: [CNCHZ197-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- dg. country: Canada; stateProvince: Quebec; county: Mingan Archipelago National Park
Reserve; municipality: Quarry Island; locality: bog near forest edge; verbatimLatitude:
50.214; verbatimLongitude: -63.798; verbatimEventDate: 06-Aug-2013; lifeStage: Adult;
catalogNumber: BIOUG12487-D03; recordedBy: Park Staff; otherCatalogNumbers:
[CNMIG324-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- dh. country: Canada; stateProvince: Ontario; locality: Brighton; verbatimEventDate: 24-
Jul-1956; sex: Female; lifeStage: Adult; catalogNumber: MIC 000086;
otherCatalogNumbers: [MHABR086-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- di. country: Canada; stateProvince: Ontario; county: Guelph; municipality: 25 Division St.;
verbatimElevation: 326; verbatimLatitude: 43.554; verbatimLongitude: -80.264;
verbatimEventDate: 01-Nov-2009; lifeStage: Adult; catalogNumber: ASGLE-0880;
recordedBy: Alex Smith; otherCatalogNumbers: [ASGLE690-10](#); identifiedBy: Jose
Fernandez-Triana; institutionID: Research Collection of M. Alex Smith
- dj. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality:
Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude:
44.475; verbatimLongitude: -75.865; verbatimEventDate: 02-Sep-2012; lifeStage: Adult;
catalogNumber: BIOUG03887-F12; recordedBy: Thousand Islands NP;
otherCatalogNumbers: [CNSLJ045-12](#); institutionID: Biodiversity Institute of Ontario
- dk. country: Canada; stateProvince: Ontario; county: Paris; municipality: Holy Family School;
locality: EQP-CLL-560; verbatimElevation: 250; verbatimLatitude: 43.207;
verbatimLongitude: -80.391; verbatimEventDate: 27-Sep-2013; lifeStage: Adult;
catalogNumber: BIOUG08665-D12; recordedBy: Anne Parkhill; otherCatalogNumbers:
[SMTPD4966-13](#); institutionID: Biodiversity Institute of Ontario
- dl. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 22-Aug-2013;
lifeStage: Adult; catalogNumber: BIOUG09515-E11; recordedBy: BIO Collections Staff;
otherCatalogNumbers: [MBIOI1222-13](#); institutionID: Biodiversity Institute of Ontario
- dm. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 13-Jul-2007;
lifeStage: Adult; catalogNumber: CAM0022; recordedBy: H. Goulet;
otherCatalogNumbers: [CNCHZ212-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- dn. country: Canada; stateProvince: Ontario; county: Leeds; locality: Leeds-Granville Co.,
forest; verbatimLatitude: 44.629; verbatimLongitude: -76.359; verbatimEventDate: 01-
Oct-2008; lifeStage: Adult; catalogNumber: CAM0446; recordedBy: S. Peck;
otherCatalogNumbers: [CNCHZ636-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- do. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality:
Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation:
111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 18-
Aug-2011; lifeStage: Adult; catalogNumber: BIOUG01631-A09; recordedBy: James
Sones; otherCatalogNumbers: [JSAUG1440-11](#); identifiedBy: BOLD ID Engine;
institutionID: Biodiversity Institute of Ontario
- dp. country: Canada; stateProvince: Ontario; county: Cochrane; locality: Cochrane &
Kapuscaning Forest Reserves; verbatimLatitude: 49.398; verbatimLongitude: -80.472;

- verbatimEventDate: 12-Aug-2007; lifeStage: Adult; catalogNumber: CAM0635; recordedBy: N. Islam; otherCatalogNumbers: [ASCNC020-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- dq. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0335; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ525-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- dr. country: Canada; stateProvince: Nova Scotia; locality: Kejimikujik National Park, Grafton Lake; verbatimLatitude: 44.383; verbatimLongitude: -65.202; verbatimEventDate: 04-Aug-2009; lifeStage: Adult; catalogNumber: GOU 0570; recordedBy: J. Fernandez; otherCatalogNumbers: [WOMIA340-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ds. country: Canada; stateProvince: Ontario; county: Rouge National Urban Park; locality: Sector 8; verbatimElevation: 167; verbatimLatitude: 43.859; verbatimLongitude: -79.209; verbatimEventDate: 15-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG07902-D08; recordedBy: BIO Team; otherCatalogNumbers: [RBINA3620-13](#); institutionID: Biodiversity Institute of Ontario
- dt. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001026; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA312-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- du. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0523; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1143-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- dv. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0356; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ546-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- dw. country: United States; stateProvince: Alaska; locality: Anchorage; verbatimElevation: 33; verbatimLatitude: 61.166; verbatimLongitude: -149.766; verbatimEventDate: 08-Jun-2003; lifeStage: Adult; catalogNumber: CNCH1358; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHW328-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- dx. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Blackburn; verbatimEventDate: 09-Jun-1939; sex: Male; lifeStage: Adult; catalogNumber: MIC 000083; recordedBy: O. Peck; otherCatalogNumbers: [MHABR083-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- dy. country: Canada; stateProvince: Quebec; county: La Mauricie National Park; municipality: Saint-Mathieu west park entrance near Visitor Centre; locality: primarily conifer forest stand (balsam fir, *Epicea glauca*, birch); verbatimElevation: 219; verbatimLatitude: 46.651; verbatimLongitude: -72.970; verbatimEventDate: 01-Aug-2013; lifeStage: Adult;

- dz. catalogNumber: BIOUG12977-D01; recordedBy: Medo Toure; otherCatalogNumbers: [CNLMG1225-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
country: Canada; stateProvince: Ontario; county: Georgian Bay Islands National Park; municipality: Beausoleil Island, Cedar Spring Campground; locality: Mixed forest; verbatimElevation: 177; verbatimLatitude: 44.852; verbatimLongitude: -79.874; verbatimEventDate: 19-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG11331-F04; recordedBy: J. Howard, C. Johnstone; otherCatalogNumbers: [CNGBN1394-14](#);
- ea. identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 21-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG03863-G08; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLI089-12](#); institutionID: Biodiversity Institute of Ontario
- eb. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 27-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG09765-B03; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROS484-13](#); institutionID: Biodiversity Institute of Ontario
- ec. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Little Current, prairie alvar; verbatimLatitude: 45.975; verbatimLongitude: -81.904; verbatimEventDate: 04-Jun-2008; lifeStage: Adult; catalogNumber: CAM0410; recordedBy: Goulet, Boudreault & Fernandez; otherCatalogNumbers: [CNCHZ600-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ed. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007; lifeStage: Adult; catalogNumber: CAM0113; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ303-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ee. country: Canada; stateProvince: Ontario; locality: London; verbatimLatitude: 43.030; verbatimLongitude: -81.206; verbatimEventDate: 07-Jul-2003; lifeStage: Adult; catalogNumber: WMIC 0517; recordedBy: L. Gualtieri; otherCatalogNumbers: [CNCHX802-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ef. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 09-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG11999-F03; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKK1294-14](#); institutionID: Biodiversity Institute of Ontario
- eg. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km SE Churchill, Twin Lakes Road fen; locality: fen grasses and willows, 5km down Twin lakes rd; verbatimLatitude: 58.672; verbatimLongitude: -93.839; verbatimEventDate: 29-Jul-2010; lifeStage: Adult; catalogNumber: BIOUG00726-B07; recordedBy: Brandon Laforest; otherCatalogNumbers: [JBHCI247-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- eh. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0151; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ341-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- ei. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0524; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1144-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ej. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 24-Jun-2012; lifeStage: Adult; catalogNumber: BIOUG03123-B05; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLE365-12](#); institutionID: Biodiversity Institute of Ontario
- ek. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-May-2007; lifeStage: Adult; catalogNumber: CAM0013; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ203-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- el. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Britannia; verbatimEventDate: 20-Jun-1947; sex: Male; lifeStage: Adult; catalogNumber: MIC 000082; recordedBy: G. Shewell; otherCatalogNumbers: [MHABR082-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- em. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14171-B01; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO2958-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- en. country: Canada; stateProvince: Newfoundland and Labrador; county: St-Andrew's; locality: St-Andrew's, fallow field; verbatimLatitude: 47.793; verbatimLongitude: -59.233; verbatimEventDate: 18-Jul-2008; lifeStage: Adult; catalogNumber: CAM0942; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX072-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- eo. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 19-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG09803-F06; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOK076-14](#); institutionID: Biodiversity Institute of Ontario
- ep. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 15-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG07004-C04; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLQ251-13](#); institutionID: Biodiversity Institute of Ontario
- eq. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0529; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1149-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- er. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 26-Jun-2007; lifeStage: Adult; catalogNumber: CAM0074; recordedBy: H. Goulet;

- otherCatalogNumbers: [CNCHZ264-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- es. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 12-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG06823-E08; recordedBy: Thousand Islands NP;
- et. otherCatalogNumbers: [CNSLS117-13](#); institutionID: Biodiversity Institute of Ontario
country: Canada; stateProvince: Ontario; county: Paris; municipality: Holy Family School; locality: EQP-CLL-560; verbatimElevation: 250; verbatimLatitude: 43.207; verbatimLongitude: -80.391; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08665-A11; recordedBy: Anne Parkhill; otherCatalogNumbers: [SMTPD4929-13](#); institutionID: Biodiversity Institute of Ontario
- eu. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 14-Sep-2011; lifeStage: Adult; catalogNumber: BIOUG01631-G11; recordedBy: James Sones; otherCatalogNumbers: [JSSEP758-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- ev. country: Canada; stateProvince: Quebec; county: La Mauricie National Park; municipality: Saint-Mathieu west park entrance near Visitor Centre; locality: primarily conifer forest stand (balsam fir, *Epicea glauca*, birch); verbatimElevation: 219; verbatimLatitude: 46.651; verbatimLongitude: -72.970; verbatimEventDate: 01-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG12974-A03; recordedBy: Medo Toure; otherCatalogNumbers: [CNLMG906-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ew. country: Canada; stateProvince: Ontario; county: Leeds; locality: Leeds-Granville Co., forest; verbatimLatitude: 44.629; verbatimLongitude: -76.359; verbatimEventDate: 01-Oct-2008; lifeStage: Adult; catalogNumber: CAM0447; recordedBy: S. Peck; otherCatalogNumbers: [CNCHZ637-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ex. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 18-Aug-2011; lifeStage: Adult; catalogNumber: BIOUG01597-F04; recordedBy: James Sones; otherCatalogNumbers: [JSAUG449-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- ey. country: Canada; stateProvince: Ontario; county: St. Marys; municipality: Little Falls Public School; locality: EQP-CLL-554; verbatimElevation: 305; verbatimLatitude: 43.259; verbatimLongitude: -81.142; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08647-D01; recordedBy: Lisa Cairncross; otherCatalogNumbers: [SMTPD3789-13](#); institutionID: Biodiversity Institute of Ontario
- ez. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: North Bear; verbatimLatitude: 44.695; verbatimLongitude: -79.039; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01657-F02; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC157-11](#); institutionID: Biodiversity Institute of Ontario
- fa. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 27-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG09765-A12; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROS481-13](#); institutionID: Biodiversity Institute of Ontario

- fb. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 02-Sep-2012; lifeStage: Adult; catalogNumber: BIOUG03979-H08; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLJ189-12](#); institutionID: Biodiversity Institute of Ontario
- fc. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0350; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ540-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fd. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: Cactus Field; verbatimElevation: 168; verbatimLatitude: 41.939; verbatimLongitude: -82.516; verbatimEventDate: 07-Sep-2012; lifeStage: Adult; catalogNumber: BIOUG03931-F01; recordedBy: H.Brown; otherCatalogNumbers: [CNPPJ1314-12](#); institutionID: Biodiversity Institute of Ontario
- fe. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 04-Oct-2013; lifeStage: Adult; catalogNumber: BIOUG09930-G10; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBION369-14](#); institutionID: Biodiversity Institute of Ontario
- ff. country: Canada; stateProvince: Ontario; county: St. Marys; municipality: Little Falls Public School; locality: EQP-CLL-554; verbatimElevation: 305; verbatimLatitude: 43.259; verbatimLongitude: -81.142; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08648-H10; recordedBy: Lisa Cairncross; otherCatalogNumbers: [SMTPD3941-13](#); institutionID: Biodiversity Institute of Ontario
- fg. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 03-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08752-A08; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROJ908-13](#); institutionID: Biodiversity Institute of Ontario
- fh. country: Canada; stateProvince: Quebec; county: Mingan Archipelago National Park Reserve; municipality: Quarry Island; locality: bog near forest edge; verbatimLatitude: 50.214; verbatimLongitude: -63.798; verbatimEventDate: 06-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG12497-F12; recordedBy: Park Staff; otherCatalogNumbers: [CNMIG1286-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- fi. country: Canada; stateProvince: Ontario; county: Paris; municipality: Holy Family School; locality: EQP-CLL-560; verbatimElevation: 250; verbatimLatitude: 43.207; verbatimLongitude: -80.391; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08665-F02; recordedBy: Anne Parkhill; otherCatalogNumbers: [SMTPD4980-13](#); institutionID: Biodiversity Institute of Ontario
- fj. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 04-Oct-2013; lifeStage: Adult; catalogNumber: BIOUG09930-E06; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBION341-14](#); institutionID: Biodiversity Institute of Ontario
- fk. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-Jul-2007; lifeStage: Adult; catalogNumber: CAM0120; recordedBy: H. Goulet;

- otherCatalogNumbers: [CNCHZ310-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fl. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: North Bear; verbatimLatitude: 44.695; verbatimLongitude: -79.039; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01661-E11; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC249-11](#); institutionID: Biodiversity Institute of Ontario
- fm. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 27-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG09765-A06; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROS475-13](#); institutionID: Biodiversity Institute of Ontario
- fn. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Misery Bay Prov. Park; verbatimElevation: 185; verbatimLatitude: 45.792; verbatimLongitude: -82.750; verbatimEventDate: 03-Jun-2008; lifeStage: Adult; catalogNumber: CAM0389; recordedBy: Boudreault, Goulet & Fernandez; otherCatalogNumbers: [CNCHZ579-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fo. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001020; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA306-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fp. country: Canada; stateProvince: Quebec; county: Belle-Anse; locality: Belle-Anse; verbatimLatitude: 48.625; verbatimLongitude: -64.178; verbatimEventDate: 26-Jul-2008; lifeStage: Adult; catalogNumber: CAM0286; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ476-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fq. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0163; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ353-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fr. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0351; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ541-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fs. country: United States; stateProvince: Massachusetts; county: Barnstable County; municipality: Woods Hole|Woods Hole Village; locality: Urban parkland: Meadow/Anthropogenic; verbatimLatitude: 41.529; verbatimLongitude: -70.670; verbatimEventDate: 29-Sep-2010; lifeStage: Adult; catalogNumber: TDWG-0384; recordedBy: B.Obus: A.Borisenko, R.Labee, V.Levesque-Beaudin, M.Milton, J.Smith, S.Ratnasingham; otherCatalogNumbers: [TDWGB248-10](#); institutionID: Biodiversity Institute of Ontario
- ft. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Misery Bay Prov. Park; verbatimElevation: 185; verbatimLatitude: 45.792; verbatimLongitude: -82.750; verbatimEventDate: 03-Jun-2008; lifeStage: Adult; catalogNumber: CAM0413; recordedBy: Boudreault, Goulet & Fernandez; otherCatalogNumbers: [CNCHZ603-09](#);

- identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fu. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 12-Aug-2012; lifeStage: Adult; catalogNumber: BIOUG06823-D07; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLS104-13](#); institutionID: Biodiversity Institute of Ontario
- fv. country: United States; stateProvince: Georgia; locality: Forsyth; verbatimEventDate: 08-Oct-1970; lifeStage: Adult; catalogNumber: CNCHYM 00106; recordedBy: F. Naumann; otherCatalogNumbers: [HYCND1816-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fw. country: Canada; stateProvince: Ontario; county: Teeswater; municipality: Sacred Heart School; locality: EQP-CLL-568; verbatimElevation: 314; verbatimLatitude: 43.992; verbatimLongitude: -81.282; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08499-C11; recordedBy: Kristen McGuire; otherCatalogNumbers: [SMTPD1460-13](#); institutionID: Biodiversity Institute of Ontario
- fx. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0360; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ550-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fy. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0349; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ539-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- fz. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007; lifeStage: Adult; catalogNumber: CAM0115; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ305-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ga. country: Canada; stateProvince: Ontario; locality: Grimsby; verbatimEventDate: 09-Jun-1944; sex: Female; lifeStage: Adult; catalogNumber: MIC 000085; recordedBy: H. Boyce; otherCatalogNumbers: MHABR085-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gb. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality: Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude: 44.475; verbatimLongitude: -75.865; verbatimEventDate: 02-Sep-2012; lifeStage: Adult; catalogNumber: BIOUG03979-G06; recordedBy: Thousand Islands NP; otherCatalogNumbers: [CNSLJ175-12](#); institutionID: Biodiversity Institute of Ontario
- gc. country: Canada; stateProvince: Newfoundland and Labrador; county: St-David's; locality: St-David's, fallow field; verbatimLatitude: 48.205; verbatimLongitude: -58.866; verbatimEventDate: 10-Jul-2008; lifeStage: Adult; catalogNumber: CAM0964; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX094-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gd. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-Jul-2007;

- lifeStage: Adult; catalogNumber: CAM0025; recordedBy: H. Goulet;
otherCatalogNumbers: [CNCHZ215-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- ge. country: Canada; stateProvince: Ontario; county: St. Lawrence Islands National Park;
locality: Grenadier Island Center; verbatimEventDate: 21-Jul-1975; sex: Female;
lifeStage: Adult; catalogNumber: MIC 000088; otherCatalogNumbers: [MHABR088-09](#);
identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of
Insects, Arachnids and Nematodes
- gf. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Jun-2013;
lifeStage: Adult; catalogNumber: BIOUG08807-A09; recordedBy: BIO Collections Staff;
otherCatalogNumbers: [MBIOE2286-13](#); institutionID: Biodiversity Institute of Ontario
- gg. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 08-Sep-2007;
lifeStage: Adult; catalogNumber: CAM0101; recordedBy: H. Goulet;
otherCatalogNumbers: [CNCHZ291-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- gh. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Sep-2013;
lifeStage: Adult; catalogNumber: BIOUG09925-F01; recordedBy: BIO Collections Staff;
otherCatalogNumbers: [MBIOL370-14](#); institutionID: Biodiversity Institute of Ontario
- gi. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 08-Aug-2013;
lifeStage: Adult; catalogNumber: BIOUG09345-D07; recordedBy: BIO Collections Staff;
otherCatalogNumbers: [MBIOH323-13](#); institutionID: Biodiversity Institute of Ontario
- gj. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Sep-2013;
lifeStage: Adult; catalogNumber: BIOUG09925-A01; recordedBy: BIO Collections Staff;
otherCatalogNumbers: [MBIOL310-14](#); institutionID: Biodiversity Institute of Ontario
- gk. country: Canada; stateProvince: Quebec; county: La Mauricie National Park; municipality:
Saint-Mathieu west park entrance near Visitor Centre; locality: primarily conifer forest
stand (balsam fir, *Epicea glauca*, birch); verbatimElevation: 219; verbatimLatitude:
46.651; verbatimLongitude: -72.970; verbatimEventDate: 23-Jul-2013; lifeStage: Adult;
catalogNumber: BIOUG14261-G11; recordedBy: Medo Toure; otherCatalogNumbers:
[CNLMP1391-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- gl. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 26-Jun-2007;
lifeStage: Adult; catalogNumber: CAM0062; recordedBy: H. Goulet;
otherCatalogNumbers: [CNCHZ252-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- gm. country: Canada; stateProvince: Ontario; county: Paris; municipality: Holy Family School;
locality: EQP-CLL-560; verbatimElevation: 250; verbatimLatitude: 43.207;
verbatimLongitude: -80.391; verbatimEventDate: 27-Sep-2013; lifeStage: Adult;
catalogNumber: BIOUG08665-D10; recordedBy: Anne Parkhill; otherCatalogNumbers:
[SMTPD4964-13](#); institutionID: Biodiversity Institute of Ontario

- gn. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 26-Jun-2007; lifeStage: Adult; catalogNumber: CAM0076; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ266-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- go. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 26-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG11771-G09; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKJ2482-14](#); institutionID: Biodiversity Institute of Ontario
- gp. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 19-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG09807-D05; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOK431-14](#); institutionID: Biodiversity Institute of Ontario
- gq. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0530; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1150-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gr. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001021; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA307-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gs. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0528; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1148-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gt. country: Canada; stateProvince: Saskatchewan; county: Prince Albert NP; municipality: Boundary Bog Trl.; verbatimElevation: 568; verbatimLatitude: 53.906; verbatimLongitude: -106.030; verbatimEventDate: 13-Aug-2010; lifeStage: Adult; catalogNumber: 10BBCHY-1304; recordedBy: BIObus 2010; otherCatalogNumbers: [BBHYJ345-10](#); identifiedBy: Julie K. Stahlhut; institutionID: Biodiversity Institute of Ontario
- gu. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 06-Jul-2009; lifeStage: Adult; catalogNumber: CNCH1025; recordedBy: L. Masner; otherCatalogNumbers: [CNCHX1040-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gv. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Misery Bay Prov. Park; verbatimElevation: 185; verbatimLatitude: 45.792; verbatimLongitude: -82.750; verbatimEventDate: 03-Jun-2008; lifeStage: Adult; catalogNumber: CAM0399; recordedBy: Boudreault, Goulet & Fernandez; otherCatalogNumbers: [CNCHZ589-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gw. country: Canada; stateProvince: Ontario; county: Rouge National Urban Park; locality: Sector 8; verbatimElevation: 167; verbatimLatitude: 43.859; verbatimLongitude: -79.209; verbatimEventDate: 15-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG07902-D06;

- recordedBy: BIO Team; otherCatalogNumbers: [RBINA3618-13](#); institutionID: Biodiversity Institute of Ontario
- gx. country: Canada; stateProvince: Ontario; county: St. Lawrence Islands National Park; locality: Thwartway Island; verbatimEventDate: 15-Aug-1976; sex: Female; lifeStage: Adult; catalogNumber: MIC 000089; otherCatalogNumbers: [MHABR089-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- gy. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 111; verbatimLatitude: 44.618; verbatimLongitude: -75.775; verbatimEventDate: 18-Aug-2011; lifeStage: Adult; catalogNumber: BIOUG01631-A05; recordedBy: James Sones; otherCatalogNumbers: [JSAUG1436-11](#); identifiedBy: BOLD ID Engine; institutionID: Biodiversity Institute of Ontario
- gz. country: Canada; stateProvince: Newfoundland and Labrador; county: Corner Brook; locality: Corner Brook, fallow field; verbatimLatitude: 48.956; verbatimLongitude: -57.911; verbatimEventDate: 17-Jul-2008; lifeStage: Adult; catalogNumber: CAM0941; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX071-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ha. country: Canada; stateProvince: Newfoundland and Labrador; county: St-David's; locality: St-David's, fallow field; verbatimLatitude: 48.205; verbatimLongitude: -58.866; verbatimEventDate: 10-Jul-2008; lifeStage: Adult; catalogNumber: CAM0961; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX091-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hb. country: Canada; stateProvince: Ontario; county: Georgian Bay Islands National Park; municipality: Georgian Bay Islands National Park, Administration Office, 901 Wye Valley Rd.; locality: Marsh; verbatimElevation: 190; verbatimLatitude: 44.742; verbatimLongitude: -79.850; verbatimEventDate: 23-May-2013; lifeStage: Adult; catalogNumber: BIOUG10641-G12; recordedBy: Chris Johnstone; otherCatalogNumbers: [CNGBJ1514-14](#); institutionID: Biodiversity Institute of Ontario
- hc. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 22-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG09631-C02; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOI1284-13](#); institutionID: Biodiversity Institute of Ontario
- hd. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14099-G10; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO652-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- he. country: Canada; stateProvince: Nova Scotia; county: Kejimikujik National Park; locality: Jeremy's Bay Campground, near Ampitheater off of Campfire Circle; verbatimElevation: 116; verbatimLatitude: 44.407; verbatimLongitude: -65.245; verbatimEventDate: 25-Jul-2013; lifeStage: Adult; catalogNumber: BIOUG11758-F08; recordedBy: Matt Davis; otherCatalogNumbers: [CNKJF1651-14](#); institutionID: Biodiversity Institute of Ontario
- hf. country: Canada; stateProvince: Saskatchewan; county: Prince Albert NP; municipality: Boundary Bog Trl.; verbatimElevation: 568; verbatimLatitude: 53.906; verbatimLongitude: -106.030; verbatimEventDate: 13-Aug-2010; lifeStage: Adult; catalogNumber:

- 10BBCHY-1305; recordedBy: BIObus 2010; otherCatalogNumbers: [BBHYJ346-10](#); identifiedBy: Julie K. Stahlhut; institutionID: Biodiversity Institute of Ontario
- hg. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0522; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1142-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hh. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0347; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ537-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hi. country: United States; stateProvince: Louisiana; county: Evangeline County; locality: Bayou Chicot; verbatimEventDate: 23-Apr-1972; lifeStage: Adult; catalogNumber: CNCHYM 00105; recordedBy: D. Shanek; otherCatalogNumbers: [HYCND1815-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hj. country: Canada; stateProvince: Ontario; county: Heron Bay; municipality: Pukaskwa National Park; verbatimElevation: 631; verbatimLatitude: 48.601; verbatimLongitude: -86.289; verbatimEventDate: 01-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG14170-E05; recordedBy: Cavan Harpur; otherCatalogNumbers: [CNPKO2903-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- hk. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: CAM0054; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ244-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hl. country: Canada; stateProvince: Manitoba; county: Churchill; verbatimLatitude: 58.740; verbatimLongitude: -93.820; verbatimEventDate: 17-Aug-2006; lifeStage: Adult; catalogNumber: HYM00000665; otherCatalogNumbers: [DSWAS984-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hm. country: Canada; stateProvince: Ontario; county: Toronto; municipality: Rouge National Urban Park, Trap 1; verbatimElevation: 136; verbatimLatitude: 43.822; verbatimLongitude: -79.190; verbatimEventDate: 03-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08749-G01; recordedBy: Lydia Attard, Kyla Greenham; otherCatalogNumbers: [CNROJ688-13](#); institutionID: Biodiversity Institute of Ontario
- hn. country: United States; stateProvince: Massachusetts; county: Barnstable County; municipality: Woods Hole|near memorial circle cottage #24; locality: Mixed deciduous; verbatimElevation: 16; verbatimLatitude: 41.530; verbatimLongitude: -70.655; verbatimEventDate: 29-Sep-2010; lifeStage: Adult; catalogNumber: TDWG-0167; recordedBy: BIObus: A.Borisenko, R.Labee, V.Levesque-Beaudin, M.Milton, J.Smith, S.Ratnasingham; otherCatalogNumbers: [TDWGB052-10](#); institutionID: Biodiversity Institute of Ontario
- ho. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-23393; recordedBy: A.Renaud; otherCatalogNumbers:

- [ASWAX959-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- hp. country: Canada; stateProvince: Ontario; county: Rouge National Urban Park; locality: Sector 8; verbatimElevation: 167; verbatimLatitude: 43.859; verbatimLongitude: -79.209; verbatimEventDate: 15-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG07902-D03; recordedBy: BIO Team; otherCatalogNumbers: [RBINA3615-13](#); institutionID: Biodiversity Institute of Ontario
- hq. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 08-Sep-2007; lifeStage: Adult; catalogNumber: CAM0099; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ289-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hr. country: Canada; stateProvince: Ontario; county: Perth East; municipality: Mornington Central School; locality: EQP-CLL-556; verbatimElevation: 380; verbatimLatitude: 43.614; verbatimLongitude: -80.885; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08565-E09; recordedBy: Barb Maschke; otherCatalogNumbers: [SMTDP1793-13](#); institutionID: Biodiversity Institute of Ontario
- hs. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: MIC 000666; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ858-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ht. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 01-Sep-2007; lifeStage: Adult; catalogNumber: CAM0146; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHZ336-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hu. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 05-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG09801-C03; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBOJ817-13](#); institutionID: Biodiversity Institute of Ontario
- hv. country: Canada; stateProvince: Prince Edward Island; locality: Blooming Point, fallow field; verbatimElevation: 6; verbatimLatitude: 46.408; verbatimLongitude: -62.951; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000488; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ680-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hw. country: Canada; stateProvince: Ontario; municipality: Carden Alvar; locality: Prairie Smoke; verbatimLatitude: 44.645; verbatimLongitude: -79.095; verbatimEventDate: 06-Oct-2011; lifeStage: Adult; catalogNumber: BIOUG01572-D01; recordedBy: J. Cossey; otherCatalogNumbers: [NCCC037-11](#); institutionID: Biodiversity Institute of Ontario
- hx. country: Canada; stateProvince: Manitoba; locality: Gardenton; verbatimElevation: 292; verbatimLatitude: 49.079; verbatimLongitude: -96.766; verbatimEventDate: 11-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001025; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWA311-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- hy. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 26-Jun-2007;

- lifeStage: Adult; catalogNumber: CAM0072; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ262-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
- hz. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
 verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-Jul-2007;
 lifeStage: Adult; catalogNumber: CAM0024; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ214-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
- ia. country: Canada; stateProvince: Ontario; county: Georgian Bay Islands National Park;
 municipality: Beausoleil Island, Cedar Spring Campground; locality: Mixed forest;
 verbatimElevation: 177; verbatimLatitude: 44.852; verbatimLongitude: -79.874;
 verbatimEventDate: 19-Aug-2013; lifeStage: Adult; catalogNumber: BIOUG11726-F01;
 recordedBy: J. Howard, C. Johnstone; otherCatalogNumbers: [CNGBN2850-14](#);
 institutionID: Biodiversity Institute of Ontario
- ib. country: Canada; stateProvince: Quebec; county: Mingan Archipelago National Park
 Reserve; municipality: Quarry Island; locality: bog near forest edge; verbatimLatitude:
 50.214; verbatimLongitude: -63.798; verbatimEventDate: 06-Aug-2013; lifeStage: Adult;
 catalogNumber: BIOUG12460-D06; recordedBy: Park Staff; otherCatalogNumbers:
[CNMIG137-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ic. country: Canada; stateProvince: Ontario; county: Wellington County; municipality:
 Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335;
 verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 04-Oct-2013;
 lifeStage: Adult; catalogNumber: BIOUG09930-G04; recordedBy: BIO Collections Staff;
 otherCatalogNumbers: [MBION363-14](#); institutionID: Biodiversity Institute of Ontario
- id. country: Canada; stateProvince: Ontario; county: Thousand Islands NP; municipality:
 Jones Creek by Mallorytown, County Rd. 5; verbatimElevation: 117; verbatimLatitude:
 44.475; verbatimLongitude: -75.865; verbatimEventDate: 05-Aug-2012; lifeStage: Adult;
 catalogNumber: BIOUG03863-E06; recordedBy: Thousand Islands NP;
 otherCatalogNumbers: [CNSLH124-12](#); institutionID: Biodiversity Institute of Ontario
- ie. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden;
 verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 10-Aug-2007;
 lifeStage: Adult; catalogNumber: CAM0039; recordedBy: H. Goulet;
 otherCatalogNumbers: [CNCHZ229-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
 Canadian National Collection of Insects, Arachnids and Nematodes
- if. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Little Current,
 prairie alvar; verbatimLatitude: 45.975; verbatimLongitude: -81.904; verbatimEventDate:
 04-Jun-2008; lifeStage: Adult; catalogNumber: CAM0409; recordedBy: Goulet,
 Boudreault & Fernandez; otherCatalogNumbers: [CNCHZ599-09](#); identifiedBy: Jose
 Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and
 Nematodes

Notes: This species is widely distributed in central and eastern North America. It was recorded from four provinces in Canada (MB, NS, ON, QC) by Fernandez-Triana (2010), but no locality records were provided at that time. Recently four more Canadian provinces and territories (AB, NB, NT, SK) and one state (AK) from the United States were added (Fernandez-Triana et al. 2014). Here we present additional information about the distribution of this species in the Nearctic, including two new provincial records for Canada (NL, PE) and one state (FL) from the United States, based on

examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

The specimens of *A. ensiger* that rendered DNA barcodes comprise two BINS, [BOLD:ACE6783](#) (ON, MB) and [BOLD:AAA3764](#) (AB, ON, SK and some localities of southern US) (Suppl. material 4); whether they represent two different species or not will be studied in an upcoming paper.

***Apanteles sodalis* (Haliday, 1834)**

Materials

- a. country: Canada; stateProvince: British Columbia; locality: 11 km S of Cawston; verbatimElevation: 303; verbatimEventDate: 10-Jun-1998; lifeStage: Adult; catalogNumber: CBRA0492; recordedBy: J. Cossentine; otherCatalogNumbers: CNCHV584-10; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: Canada; stateProvince: Newfoundland and Labrador; locality: St. John`s; verbatimEventDate: 05-Aug-2004; sex: Female; lifeStage: Adult; catalogNumber: CBRA0493; recordedBy: H. Fry; otherCatalogNumbers: [CNCHV585-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- c. country: Canada; stateProvince: British Columbia; locality: Chilliwack; verbatimEventDate: 27-Jun-1978; lifeStage: Adult; catalogNumber: CNCHYM 00215; recordedBy: Doganlar; otherCatalogNumbers: [HYCNE025-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- d. country: Canada; stateProvince: British Columbia; locality: 11 km S of Cawston; verbatimElevation: 303; lifeStage: Adult; catalogNumber: CBRA0491; recordedBy: J. Cossentine; otherCatalogNumbers: CNCHV583-10; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- e. country: Canada; stateProvince: New Brunswick; locality: SE of Upsalq; verbatimEventDate: 19-Jul-1961; sex: Female; lifeStage: Adult; catalogNumber: MIC 000009; recordedBy: T. Renault; otherCatalogNumbers: MHABR009-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- f. country: Canada; stateProvince: British Columbia; locality: 11 km S of Cawston; verbatimElevation: 303; verbatimEventDate: 14-May-1998; lifeStage: Adult; catalogNumber: CBRA0490; recordedBy: J. Cossentine; otherCatalogNumbers: [CNCHV582-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- g. country: Canada; stateProvince: British Columbia; locality: Burnaby; verbatimEventDate: 07-May-1977; sex: Female; lifeStage: Adult; catalogNumber: MIC 000007; recordedBy: F. Peters; otherCatalogNumbers: [MHABR007-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- h. country: Canada; stateProvince: Newfoundland and Labrador; locality: St. John`s; verbatimEventDate: 05-Aug-2004; sex: Female; lifeStage: Adult; catalogNumber: MIC 000013; recordedBy: H. Fry; otherCatalogNumbers: [MHABR013-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- i. country: Canada; stateProvince: New Brunswick; locality: Green River Lab.; verbatimEventDate: 24-Jul-1961; sex: Female; lifeStage: Adult; catalogNumber: MIC 000010; recordedBy: T. Renault; otherCatalogNumbers: MHABR010-09; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: Canada; stateProvince: British Columbia; locality: 11 km S of Cawston; verbatimElevation: 303; verbatimEventDate: 14-May-1998; sex: Female; lifeStage: Adult; catalogNumber: MIC 000011; recordedBy: J. Cossentine; otherCatalogNumbers: [MHABR011-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- k. country: Canada; stateProvince: Newfoundland and Labrador; locality: St. John`s; verbatimEventDate: 05-Aug-2004; sex: Male; lifeStage: Adult; catalogNumber: MIC 000014; recordedBy: H. Fry; otherCatalogNumbers: [MHABR014-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- l. country: Canada; stateProvince: British Columbia; locality: Burnaby; verbatimEventDate: 07-May-1977; sex: Female; lifeStage: Adult; catalogNumber: MIC 000005; recordedBy: Doganlar; otherCatalogNumbers: [MHABR005-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- m. country: Canada; stateProvince: Newfoundland and Labrador; locality: St. John`s; verbatimEventDate: 05-Aug-2004; sex: Female; lifeStage: Adult; catalogNumber: CBRA0495; recordedBy: H. Fry; otherCatalogNumbers: [CNCHV587-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- n. country: Canada; stateProvince: Newfoundland and Labrador; locality: St. John`s; verbatimEventDate: 05-Aug-2004; sex: Female; lifeStage: Adult; catalogNumber: CBRA0494; recordedBy: H. Fry; otherCatalogNumbers: [CNCHV586-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- o. country: Canada; stateProvince: British Columbia; locality: 11 km S of Cawston; verbatimElevation: 303; verbatimEventDate: 13-Jul-1998; sex: Male; lifeStage: Adult; catalogNumber: MIC 000012; recordedBy: J. Cossentine; otherCatalogNumbers: [MHABR012-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- p. country: Canada; stateProvince: British Columbia; locality: Burnaby; verbatimEventDate: 07-May-1977; sex: Male; lifeStage: Adult; catalogNumber: MIC 000006; recordedBy: Doganlar; otherCatalogNumbers: [MHABR006-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- q. country: Canada; stateProvince: British Columbia; locality: Summerland; verbatimEventDate: 02-Jun-1978; sex: Male; lifeStage: Adult; catalogNumber: MIC 000008; recordedBy: F. Peters; otherCatalogNumbers: [MHABR008-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

Notes: This species is widely distributed in the Holarctic and it was recorded from three provinces in Canada (BC, NB, NL) by Fernandez-Triana (2010), but no locality records were provided at the time. Here we present new information about the distribution of this species in Canada, based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

The specimens of *A. sodalis* that rendered DNA barcodes comprise two BINS: [BOLD:AAM7223](#) (BC, NL) and [BOLD:AAN1859](#) (BC) (Suppl. material 4); whether they represent two different species or not will be studied in an upcoming paper.

Apanteles xanthostigma (Haliday, 1834)

Materials

- a. country: Canada; stateProvince: Newfoundland and Labrador; county: Gros Morne National Park; municipality: James Callaghan Trail (aka Gros Morne Trail); locality: mature conifer stand, balsam fir, wind damage; verbatimElevation: 39; verbatimLatitude: 49.569; verbatimLongitude: -57.830; verbatimEventDate: 17-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG10637-H02; recordedBy: Anderson; otherCatalogNumbers: [CNGMI700-14](#); institutionID: Biodiversity Institute of Ontario
- b. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 16 km SW Churchill, Churchill River Pump House; verbatimLatitude: 58.626; verbatimLongitude: -94.229; verbatimEventDate: 12-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-22321; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAV862-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- c. country: Canada; stateProvince: Saskatchewan; county: Prince Albert NP; verbatimElevation: 627; verbatimLatitude: 53.850; verbatimLongitude: -106.078; verbatimEventDate: 10-Jul-2012; lifeStage: Adult; catalogNumber: BIOUG04486-G10; recordedBy: Rod Thompson, Eric Knight; otherCatalogNumbers: [CNPAD006-13](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- d. country: Canada; stateProvince: British Columbia; county: Sorrento; locality: Sorrento, fallow field; verbatimLatitude: 50.779; verbatimLongitude: -119.502; verbatimEventDate: 28-May-2005; lifeStage: Adult; catalogNumber: MIC 000638; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHZ830-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- e. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 16 km SW Churchill, Churchill River Pump House; verbatimLatitude: 58.626; verbatimLongitude: -94.229; verbatimEventDate: 07-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-20921; otherCatalogNumbers: [ASWAT273-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario

Notes: Previously, this species was known to be widely distributed in the Palaearctic, with one record from tropical Africa (Yu et al. 2012). It was recently recorded from three provinces in Canada (BC, MB, SK) by Fernandez-Triana et al. (2014). A new provincial record (NL) is added here, altogether with detailed information about the distribution of this species in Canada, based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Cotesia crambi (Weed, 1887)

Materials

- a. country: United States; stateProvince: New Jersey; locality: Metuchen; verbatimEventDate: 19-Sep-1973; lifeStage: Adult; catalogNumber: CNCHYM 00401; recordedBy: Mailloux; otherCatalogNumbers: [HYCNE211-11](#); identifiedBy: Jose

- Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: Canada; stateProvince: Ontario; county: Paris; municipality: Holy Family School; locality: EQP-CLL-560; verbatimElevation: 250; verbatimLatitude: 43.207; verbatimLongitude: -80.391; verbatimEventDate: 27-Sep-2013; lifeStage: Adult; catalogNumber: BIOUG08665-E05; recordedBy: Anne Parkhill; otherCatalogNumbers: [SMTPD4971-13](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- c. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 15-Aug-2010; lifeStage: Adult; catalogNumber: BIOUG01258-H06; recordedBy: James Sones; otherCatalogNumbers: [JSHYO850-11](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- d. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mixed forest near Manotick; verbatimLatitude: 45.235; verbatimLongitude: -75.624; lifeStage: Adult; catalogNumber: CAM0542; recordedBy: A. Bennett; otherCatalogNumbers: [CNCHZ1162-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- e. country: Canada; stateProvince: Ontario; county: Wellington County; municipality: Guelph; locality: Biodiversity Institute of Ontario; verbatimElevation: 335; verbatimLatitude: 43.528; verbatimLongitude: -80.229; verbatimEventDate: 27-Jun-2013; lifeStage: Adult; catalogNumber: BIOUG08742-H10; recordedBy: BIO Collections Staff; otherCatalogNumbers: [MBIOE759-13](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- f. country: United States; stateProvince: New Jersey; locality: Metuchen, Red Fescue; verbatimEventDate: 01-Jul-1974; lifeStage: Adult; catalogNumber: CNCHYM 00404; recordedBy: H. T. Streu; otherCatalogNumbers: [HYCNE214-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- g. country: United States; stateProvince: New Jersey; locality: Metuchen; verbatimEventDate: 19-Sep-1973; lifeStage: Adult; catalogNumber: CNCHYM 00403; otherCatalogNumbers: [HYCNE213-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- h. country: United States; stateProvince: New Jersey; locality: Metuchen; verbatimEventDate: 07-Sep-1973; lifeStage: Adult; catalogNumber: CNCHYM 00402; otherCatalogNumbers: [HYCNE212-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- i. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottwa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; lifeStage: Adult; catalogNumber: CAM1034; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHX164-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: Cactus Field; verbatimElevation: 168; verbatimLatitude: 41.939; verbatimLongitude: -82.516; verbatimEventDate: 15-Jun-2012; lifeStage: Adult; catalogNumber: BIOUG03438-B06; recordedBy: Heidi Brown; otherCatalogNumbers: [CNPPD2118-12](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- k. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottwa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; lifeStage: Adult; catalogNumber: CAM0893; recordedBy: H. Goulet; otherCatalogNumbers: [CNCHX023-09](#); identifiedBy:

Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- i. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: Cactus Field; verbatimElevation: 168; verbatimLatitude: 41.939; verbatimLongitude: -82.516; verbatimEventDate: 29-Jun-2012; lifeStage: Adult; catalogNumber: BIOUG03445-F01; recordedBy: Tyler Peters; otherCatalogNumbers: [CNPPE479-12](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario

Notes: This species has been recorded mainly from northeast and central United States (Yu et al. 2012, Fernandez-Triana et al. 2014). Until now it was only known from two localities in Canada (ON, QC) (Fernandez-Triana 2010, Fernandez-Triana et al. 2014). Here we present new and detailed information about four additional localities in ON, based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Dolichogenidea longicauda (Wesmael, 1837)

Materials

- a. country: Canada; stateProvince: British Columbia; locality: Burnaby; verbatimEventDate: 09-Jul-1978; lifeStage: Adult; catalogNumber: CNCHYM 01091; recordedBy: Doganlar; otherCatalogNumbers: [HYCNE902-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: Canada; stateProvince: British Columbia; locality: New Westminster; verbatimEventDate: 05-May-1978; lifeStage: Adult; catalogNumber: CNCHYM 01093; otherCatalogNumbers: [HYCNE904-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- c. country: Canada; stateProvince: British Columbia; locality: Burnaby; verbatimEventDate: 01-Jul-1977; lifeStage: Adult; catalogNumber: CNCHYM 01089; recordedBy: Doganlar; otherCatalogNumbers: [HYCNE900-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- d. country: Canada; stateProvince: British Columbia; locality: Burnaby; verbatimEventDate: 01-Jul-1977; lifeStage: Adult; catalogNumber: CNCHYM 00216; recordedBy: Doganlar; otherCatalogNumbers: [HYCNE026-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

Notes: This species is widely distributed in the Palaearctic (Yu et al. 2012). It was recorded from one province in Canada (BC) by Fernandez-Triana (2010), Fernández-Triana and Huber (2010), but no locality records were provided at the time. Here we present new information about the distribution of this species in Canada (BC), as well as the first record of this species from the United States (WA) based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Hygroplitis melligaster (Provancher, 1886)

Materials

- a. country: Canada; stateProvince: New Brunswick; locality: Kouchibouguac N.P.; verbatimEventDate: 18-Aug-1978; lifeStage: Adult; catalogNumber: CNCHYM 01363;

- recordedBy: D. B. Lyons; otherCatalogNumbers: [HYCNE1175-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: United States; stateProvince: North Carolina; locality: Wayah Bald; verbatimElevation: 1249.7; verbatimEventDate: 29-Jul-1957; lifeStage: Adult; catalogNumber: CNCHYM 01366; recordedBy: W. R. Richards; otherCatalogNumbers: [HYCNE1178-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- c. country: Canada; stateProvince: Ontario; locality: Kemptville; verbatimEventDate: 28-Jul-1983; lifeStage: Adult; catalogNumber: CNCHYM 01375; recordedBy: W. Mason; otherCatalogNumbers: [HYCNE1187-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- d. country: Canada; stateProvince: Ontario; locality: 2 km SW of Innisville; verbatimEventDate: 26-Jun-1991; lifeStage: Adult; catalogNumber: GOU 0314; recordedBy: Sharkey & Read; otherCatalogNumbers: [CNCBA789-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- e. country: Canada; stateProvince: Nova Scotia; locality: Lockeport; verbatimEventDate: 09-Aug-1958; lifeStage: Adult; catalogNumber: CNCHYM 01365; recordedBy: J. R. Vockeroth; otherCatalogNumbers: [HYCNE1177-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- f. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0473; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ663-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- g. country: Canada; stateProvince: New Brunswick; locality: St. Andrews; verbatimEventDate: 08-Aug-1959; lifeStage: Adult; catalogNumber: CNCHYM 01369; recordedBy: G. E. Shewell; otherCatalogNumbers: [HYCNE1181-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- h. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0470; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ660-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- i. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0471; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ661-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0468; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ658-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- k. country: United States; stateProvince: North Carolina; locality: Highlands; verbatimElevation: 1158.25; verbatimEventDate: 12-Jul-1957; lifeStage: Adult; catalogNumber: CNCHYM 01370; recordedBy: J. G. Chillcott; otherCatalogNumbers:

- HYCNE1182-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- i. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0463; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ653-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- m. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0465; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ655-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- n. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0464; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ654-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- o. country: Canada; stateProvince: Manitoba; locality: Brandon; verbatimEventDate: 14-Aug-1958; lifeStage: Adult; catalogNumber: CNCHYM 01368; recordedBy: R. B. Madge; otherCatalogNumbers: [HYCNE1180-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- p. country: Canada; stateProvince: Ontario; county: St. Lawrence Islands National Park; locality: Grenadier Island Centre; verbatimEventDate: 29-Jul-1975; lifeStage: Adult; catalogNumber: CNCHYM 01367; recordedBy: McMillan; otherCatalogNumbers: [HYCNE1179-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- q. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0462; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ652-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- r. country: United States; stateProvince: New York; locality: Paul Smiths, Franklin Co.; verbatimEventDate: 20-Jul-1962; lifeStage: Adult; catalogNumber: CNCHYM 01371; recordedBy: J. R. Vockeroth; otherCatalogNumbers: HYCNE1183-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- s. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0469; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ659-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- t. country: Canada; stateProvince: Ontario; locality: Aylmer West; verbatimEventDate: 22-Jul-1972; lifeStage: Adult; catalogNumber: CNCHYM 01376; otherCatalogNumbers: [HYCNE1188-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- u. country: Canada; stateProvince: Ontario; locality: Stittsville; verbatimEventDate: 22-Aug-1963; lifeStage: Adult; catalogNumber: CNCHYM 01364; recordedBy: W. R. M. Mason; otherCatalogNumbers: [HYCNE1176-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- v. country: Canada; stateProvince: Ontario; locality: Rondeau Prov. Pk.; verbatimEventDate: 31-Jul-1972; lifeStage: Adult; catalogNumber: CNCHYM 01377; otherCatalogNumbers: [HYCNE1189-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- w. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Mer Bleue; verbatimEventDate: 09-Jul-1982; lifeStage: Adult; catalogNumber: CNCHYM 01378; recordedBy: L. Dumouchel; otherCatalogNumbers: [HYCNE1190-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- x. country: Canada; stateProvince: Ontario; county: Leeds and Grenville; municipality: Elizabethtown-Kitley; locality: 4452 Rowsome Rd., Elizabethtown; verbatimElevation: 112; verbatimLatitude: 44.621; verbatimLongitude: -75.773; verbatimEventDate: 17-Jul-2010; lifeStage: Adult; catalogNumber: BIOUG01082-E12; recordedBy: James Sones; otherCatalogNumbers: [JSHYN833-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- y. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0474; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ664-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- z. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0466; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ656-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aa. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0472; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ662-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ab. country: Canada; stateProvince: Prince Edward Island; locality: Ten Mile House, salt marsh; verbatimLatitude: 46.313; verbatimLongitude: -62.981; verbatimEventDate: 23-Jul-2008; lifeStage: Adult; catalogNumber: CAM0467; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ657-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

Notes: This species is relatively widely distributed in northeast North America, extending up to central Canada (Yu et al. 2012). It was recorded from five provinces in Canada (MB, NB, NS, ON, QC) by Fernandez-Triana (2010), but no locality records were provided at the time. Here we present additional information about the distribution of the species in Canada, including one new provincial record (PE), based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Pholetesor bedelliae (Viereck, 1911)

Materials

- a. country: Canada; stateProvince: Ontario; county: Ottawa; locality: Ottawa city garden; verbatimLatitude: 45.356; verbatimLongitude: -75.707; verbatimEventDate: 30-May-2007;

- lifeStage: Adult; catalogNumber: CAM0278; recordedBy: H. Goulet;
otherCatalogNumbers: [CNCHZ468-09](#); identifiedBy: Jose Fernandez-Triana; institutionID:
Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: Canada; stateProvince: Alberta; county: Banff NP; municipality: Storm Mountain;
locality: Adjacent to train track and Bow River; verbatimElevation: 1462; verbatimLatitude:
51.282; verbatimLongitude: -115.944; verbatimEventDate: 25-Jul-2012; lifeStage: Adult;
catalogNumber: BIOUG04442-A12; recordedBy: BIOBus 2012; otherCatalogNumbers:
[SSBAD5451-13](#); institutionID: Biodiversity Institute of Ontario
- c. country: Canada; stateProvince: Yukon Territory; locality: Fish Lake road;
verbatimElevation: 1107; verbatimLatitude: 60.688; verbatimLongitude: -135.238;
verbatimEventDate: 05-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000958;
recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS929-07](#); identifiedBy:
Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids
and Nematodes
- d. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3;
verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084;
verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3205;
recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHV275-10](#); identifiedBy:
Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids
and Nematodes
- e. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 26 km SE Churchill,
Twin Lakes Burn site; verbatimElevation: 38; verbatimLatitude: 58.617;
verbatimLongitude: -93.812; verbatimEventDate: 19-Aug-2006; lifeStage: Adult;
catalogNumber: HYM00000818; otherCatalogNumbers: [DSWAS761-07](#); identifiedBy:
Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids
and Nematodes
- f. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3;
verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084;
verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3212;
recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHV282-10](#); identifiedBy:
Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids
and Nematodes
- g. country: Canada; stateProvince: British Columbia; county: 10 km W Kamloops;
municipality: New Afton Mine; locality: Wetland, Site 1; verbatimElevation: 759;
verbatimLatitude: 50.643; verbatimLongitude: -120.516; verbatimEventDate: 11-Jul-2013;
lifeStage: Adult; catalogNumber: BIOUG07357-A10; recordedBy: Chrystal Simon;
otherCatalogNumbers: [NGNAC1789-13](#); institutionID: Biodiversity Institute of Ontario
- h. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing;
verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585;
verbatimEventDate: 16-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000994;
recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS965-07](#); identifiedBy:
Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids
and Nematodes
- i. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation:
733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-
Jul-2006; lifeStage: Adult; catalogNumber: HYM00000974; recordedBy: Goulet &
Boudrealt; otherCatalogNumbers: [DSWAS945-07](#); identifiedBy: Jose Fernandez-Triana;
institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing;
verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585;

- verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000953; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS924-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- k. country: Canada; stateProvince: Manitoba; county: Churchill; locality: unspecified locality; verbatimLatitude: 58.740; verbatimLongitude: -93.820; verbatimEventDate: 17-Jul-1949; lifeStage: Adult; catalogNumber: HYM00000821.2; recordedBy: R.Gwatkin; otherCatalogNumbers: ASWAY564-08; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- l. country: Canada; stateProvince: Ontario; locality: Faleyet; verbatimEventDate: 07-Sep-1963; lifeStage: Adult; catalogNumber: CNCHYM 03136; recordedBy: F. I. S.; otherCatalogNumbers: HYCNE1821-11; identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- m. country: Canada; stateProvince: Manitoba; county: Churchill; locality: unspecified locality; verbatimLatitude: 58.740; verbatimLongitude: -93.820; verbatimEventDate: 17-Jul-1949; lifeStage: Adult; catalogNumber: HYM00000821; recordedBy: R.Gwatkin; otherCatalogNumbers: DSWAS764-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- n. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000941; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS912-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- o. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3; verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084; verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3209; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHV279-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- p. country: United States; stateProvince: Alaska; locality: Sutton on Glen Highway; verbatimElevation: 188; verbatimLatitude: 61.711; verbatimLongitude: -148.910; verbatimEventDate: 22-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3215; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHV380-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- q. country: Canada; stateProvince: British Columbia; locality: 5 Miles West of Lumby; verbatimEventDate: 26-May-1958; lifeStage: Adult; catalogNumber: CNCHYM 03143; recordedBy: F. I. S.; otherCatalogNumbers: HYCNE1828-11; identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- r. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 16-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000996; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS967-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- s. country: United States; stateProvince: Alaska; locality: Delta Junction; verbatimElevation: 315; verbatimLatitude: 64.044; verbatimLongitude: -145.524; verbatimEventDate: 20-Jul-2009; lifeStage: Adult; catalogNumber: CNCH0955; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHX970-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- t. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000948; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS919-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- u. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3; verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084; verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3208; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHV278-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- v. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000986; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS957-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- w. country: Canada; stateProvince: Manitoba; county: Churchill; locality: Mile 505, Hudson Bay Railway; verbatimEventDate: 16-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000820; recordedBy: J.G.Chillcot; otherCatalogNumbers: [DSWAS763-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- x. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000971; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS942-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- y. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000955; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS926-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- z. country: United States; stateProvince: Alaska; locality: Sutton on Glen Highway; verbatimElevation: 188; verbatimLatitude: 61.711; verbatimLongitude: -148.910; verbatimEventDate: 22-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3306; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHV375-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aa. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000972; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS943-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ab. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000947; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS918-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- ac. country: United States; stateProvince: Alaska; locality: Sutton on Glen Highway; verbatimElevation: 188; verbatimLatitude: 61.711; verbatimLongitude: -148.910; verbatimEventDate: 22-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3310; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHV379-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ad. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000931; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [DSWAS902-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ae. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000985; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [DSWAS956-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- af. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3; verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084; verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3203; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHV273-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ag. country: United States; stateProvince: California; locality: Fallen Leaf, Eldorado co.; verbatimElevation: 1981.22; verbatimEventDate: 13-Jul-1961; lifeStage: Adult; catalogNumber: CNCHYM 03141; recordedBy: H. B. Poole; otherCatalogNumbers: [HYCNE1826-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ah. country: United States; stateProvince: Alaska; locality: Delta Junction; verbatimElevation: 315; verbatimLatitude: 64.044; verbatimLongitude: -145.524; verbatimEventDate: 20-Jul-2009; lifeStage: Adult; catalogNumber: CNCH0995; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [CNCHX1010-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ai. country: Canada; stateProvince: Yukon Territory; locality: Whitehorse, fallow field; verbatimElevation: 689; verbatimLatitude: 60.710; verbatimLongitude: -135.055; verbatimEventDate: 10-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000331; recordedBy: Boudereault & Goulet; otherCatalogNumbers: [CNCHY059-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aj. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000939; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [DSWAS910-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ak. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000969; recordedBy: Goulet & Boudereault; otherCatalogNumbers: [DSWAS940-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- al. country: United States; stateProvince: Alaska; locality: Delta Junction; verbatimElevation: 315; verbatimLatitude: 64.044; verbatimLongitude: -145.524; verbatimEventDate: 20-Jul-2009; lifeStage: Adult; catalogNumber: CNCH0993; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHX1008-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- am. country: Canada; stateProvince: New Brunswick; locality: Fredericton; verbatimEventDate: 09-Jul-1970; lifeStage: Adult; catalogNumber: CNCHYM 03145; recordedBy: C. M. Yoshimoto; otherCatalogNumbers: [HYCNE1830-11](#); identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- an. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 26 km SE Churchill, Twin Lakes Burn site; verbatimElevation: 38; verbatimLatitude: 58.617; verbatimLongitude: -93.812; verbatimEventDate: 19-Aug-2006; lifeStage: Adult; catalogNumber: HYM00000819; otherCatalogNumbers: [DSWAS762-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ao. country: Canada; stateProvince: British Columbia; locality: Langford; verbatimEventDate: 22-Jun-1962; lifeStage: Adult; catalogNumber: CNCHYM 03138; recordedBy: F. I. S.; otherCatalogNumbers: [HYCNE1823-11](#); identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ap. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3; verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084; verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3204; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHV274-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aq. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3; verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084; verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3213; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHV283-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ar. country: Canada; stateProvince: Ontario; county: Haldimond-Dunn Townline; municipality: Windy Bluff; verbatimElevation: 179; verbatimLatitude: 42.861; verbatimLongitude: -79.703; verbatimEventDate: 19-Sep-2010; lifeStage: Adult; catalogNumber: BIOUG00989-E07; recordedBy: Alex Smith; otherCatalogNumbers: [ASGLF308-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Research Collection of M. Alex Smith
- as. country: Canada; stateProvince: Ontario; county: Point Pelee NP; municipality: Cactus Field; verbatimElevation: 168; verbatimLatitude: 41.939; verbatimLongitude: -82.516; verbatimEventDate: 07-Sep-2012; lifeStage: Adult; catalogNumber: BIOUG03931-A10; recordedBy: H. Brown; otherCatalogNumbers: [CNPPJ1263-12](#); institutionID: Biodiversity Institute of Ontario
- at. country: United States; stateProvince: Alaska; locality: Delta Junction; verbatimElevation: 315; verbatimLatitude: 64.044; verbatimLongitude: -145.524; verbatimEventDate: 20-Jul-2009; lifeStage: Adult; catalogNumber: CNCH0965; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHX980-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- au. country: Canada; stateProvince: Saskatchewan; locality: Grassland National Park; verbatimElevation: 830; verbatimLatitude: 49.074; verbatimLongitude: -106.529; verbatimEventDate: 04-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001322;

- recordedBy: Goulet, Boudreault & Fernandez; otherCatalogNumbers: [ASWA608-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- av. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0437; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ627-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aw. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000990; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [DSWAS961-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ax. country: Canada; stateProvince: Ontario; locality: Macdiarmid; verbatimEventDate: 03-Aug-1962; lifeStage: Adult; catalogNumber: CNCHYM 03139; recordedBy: F. I. S.; otherCatalogNumbers: HYCNE1824-11; identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ay. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000975; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [DSWAS946-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- az. country: United States; stateProvince: Alaska; locality: Anderson, Hwy 3; verbatimElevation: 235; verbatimLatitude: 64.295; verbatimLongitude: -149.084; verbatimEventDate: 18-Jul-2009; lifeStage: Adult; catalogNumber: CNCH3206; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHV276-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ba. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000935; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [DSWAS906-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bb. country: United States; stateProvince: Alaska; locality: Delta Junction; verbatimElevation: 315; verbatimLatitude: 64.044; verbatimLongitude: -145.524; verbatimEventDate: 20-Jul-2009; lifeStage: Adult; catalogNumber: CNCH1008; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [CNCHX1023-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bc. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000987; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [DSWAS958-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bd. country: United States; stateProvince: Alaska; locality: Delta Junction; verbatimElevation: 315; verbatimLatitude: 64.044; verbatimLongitude: -145.524; verbatimEventDate: 20-Jul-2009; lifeStage: Adult; catalogNumber: CNCH0987; recordedBy: Goulet & Boudreault;

- otherCatalogNumbers: [CNCHX1002-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- be. country: Canada; stateProvince: Saskatchewan; county: Grasslands NP; municipality: East Block badlands; verbatimElevation: 848; verbatimLatitude: 49.071; verbatimLongitude: -106.531; verbatimEventDate: 16-Jul-2008; lifeStage: Adult; catalogNumber: 08BBHYM-1368; recordedBy: J.Cossey, N.Jeffery, J.Straka; otherCatalogNumbers: [BBHYM324-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- bf. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000968; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS939-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bg. country: United States; stateProvince: California; locality: Los Angeles; verbatimEventDate: 01-Dec-1944; lifeStage: Adult; catalogNumber: CNCHYM 03144; otherCatalogNumbers: HYCNE1829-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bh. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000936; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS907-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bi. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000951; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS922-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bj. country: Canada; stateProvince: Saskatchewan; locality: Grassland National Park; verbatimElevation: 830; verbatimLatitude: 49.074; verbatimLongitude: -106.529; verbatimEventDate: 04-Jun-2007; lifeStage: Adult; catalogNumber: HYM00001320; recordedBy: Goulet, Boudrealt & Fernandez; otherCatalogNumbers: [ASWA606-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bk. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 26 km SE Churchill, Twin Lakes Burn site; verbatimElevation: 38; verbatimLatitude: 58.617; verbatimLongitude: -93.812; verbatimEventDate: 17-Aug-2006; lifeStage: Adult; catalogNumber: HYM00000920; otherCatalogNumbers: [DSWAS863-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bl. country: Canada; stateProvince: Ontario; locality: Hearst; verbatimEventDate: 03-Aug-1971; lifeStage: Adult; catalogNumber: CNCHYM 03137; otherCatalogNumbers: [HYCNE1822-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bm. country: Canada; stateProvince: Manitoba; county: Churchill; locality: Mile 505, Hudson Bay Railway; verbatimEventDate: 16-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000820.2; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAY563-08; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- bn. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000976; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS947-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bo. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000943; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS914-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bp. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000934; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS905-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bq. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000938; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS909-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- br. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000950; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS921-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bs. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000956; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS927-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bt. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000973; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS944-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bu. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000970; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS941-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bv. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000940; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS911-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bw. country: Canada; stateProvince: Newfoundland and Labrador; locality: Agric.Exp.Sta.St.John's; verbatimEventDate: 20-Jul-1967; lifeStage: Adult; catalogNumber: CNCHYM 03142; recordedBy: J. F. McAlpine; otherCatalogNumbers:

- [HYCNE1827-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bx. country: Canada; stateProvince: Yukon Territory; locality: Champagne; verbatimElevation: 733; verbatimLatitude: 60.790; verbatimLongitude: -136.437; verbatimEventDate: 08-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000942; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS913-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- by. country: United States; stateProvince: Colorado; locality: Muddy Pass Jackson Co.; verbatimElevation: 2682.27; verbatimEventDate: 15-Aug-1961; lifeStage: Adult; catalogNumber: CNCHYM 03140; recordedBy: B. Poole; otherCatalogNumbers: HYCNE1825-11; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bz. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 26 km SE Churchill, Twin Lakes; verbatimLatitude: 58.632; verbatimLongitude: -93.788; verbatimEventDate: 07-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-20072; recordedBy: A.Renaud; otherCatalogNumbers: ASWA270-08; identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario

Notes: This species is widely distributed within the Nearctic (e.g., Whitfield 2006, Fernandez-Triana 2010, Yu et al. 2012, Fernandez-Triana et al. 2014), and is also reported from Finland (Hellén 1977), Peru (de Huiza 1995), and was introduced to Hawaii (Yu et al. 2012). Here we present additional information about the distribution of this species in Canada, including one new provincial record (AB), based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Pholetesor viminetorum (Wesmael, 1837)

Materials

- a. country: United States; stateProvince: Colorado; locality: Doolittle Ranch Mt. Evans; verbatimElevation: 2987.08; verbatimEventDate: 09-Aug-1961; lifeStage: Adult; catalogNumber: CNCHYM 03217; recordedBy: S. M. Clark; otherCatalogNumbers: HYCNF002-11; identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- b. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 18-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000806; recordedBy: J.G.Chillcot; otherCatalogNumbers: DSWAS749-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- c. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 16-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-22423; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAV964-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- d. country: Canada; stateProvince: Newfoundland and Labrador; county: Gros Morne NP; municipality: Lomond River Trail; locality: Balsam fir, larch, fern and wildflowers (Ladyslipper orchid); verbatimElevation: 35; verbatimLatitude: 49.429; verbatimLongitude: -57.741; verbatimEventDate: 19-Jul-2013; lifeStage: Adult; catalogNumber:

- BIOUG14184-G04; recordedBy: BIObus 2013; otherCatalogNumbers: [SSGBB2792-14](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- e. country: Canada; stateProvince: Manitoba; county: Churchill; locality: Fort Churchill; verbatimLatitude: 58.734; verbatimLongitude: -93.820; verbatimEventDate: 11-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000809.2; recordedBy: J. G. Chillcot; otherCatalogNumbers: [ASWAY600-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- f. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 12 km ESE Churchill, Launch Road; locality: Launch road Fen; verbatimLatitude: 58.754; verbatimLongitude: -93.998; verbatimEventDate: 19-Jul-2010; lifeStage: Adult; catalogNumber: 10PROBE-29276; recordedBy: Brandon Laforest; otherCatalogNumbers: [JBHCH968-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- g. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 07-Aug-1952; lifeStage: Adult; catalogNumber: HYM00000798; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAS997-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- h. country: Canada; stateProvince: Newfoundland and Labrador; county: Cap St-George; locality: Cap St-George, fallowfield & coastal tundra; verbatimLatitude: 48.466; verbatimLongitude: -59.260; verbatimEventDate: 11-Jul-2008; lifeStage: Adult; catalogNumber: CAM0958; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX088-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- i. country: Canada; stateProvince: Yukon Territory; locality: Tahkini River road; verbatimElevation: 693; verbatimLatitude: 60.875; verbatimLongitude: -135.386; verbatimEventDate: 06-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000981; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS952-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- j. country: Canada; stateProvince: Alberta; county: Elk Island NP; municipality: peninsula in Astotin Lake; locality: The Point near administration/warden office; verbatimElevation: 719; verbatimLatitude: 53.685; verbatimLongitude: -112.860; verbatimEventDate: 10-Jun-2012; lifeStage: Adult; catalogNumber: BIOUG03191-A01; recordedBy: Stephanie Church; otherCatalogNumbers: [CNEIB1042-12](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- k. country: Canada; stateProvince: Manitoba; county: Churchill; locality: Fort Churchill; verbatimLatitude: 58.734; verbatimLongitude: -93.820; verbatimEventDate: 21-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000792.2; recordedBy: J. G. Chillcot; otherCatalogNumbers: [ASWAY590-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- l. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0427; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ617-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- m. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude:

- 93.789; verbatimEventDate: 21-Jun-1952; lifeStage: Adult; catalogNumber: HYM00000795; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAS994-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- n. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 07-Nov-1952; lifeStage: Adult; catalogNumber: HYM00000813; recordedBy: J.G.Chillcot; otherCatalogNumbers: DSWAS756-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- o. country: Canada; stateProvince: Nova Scotia; locality: Kejimikujik National Park, Peter's Point; verbatimLatitude: 44.366; verbatimLongitude: -65.196; verbatimEventDate: 02-Aug-2009; lifeStage: Adult; catalogNumber: GOU 0582; recordedBy: J. Fernandez; otherCatalogNumbers: [WOMIA352-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- p. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-23399; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAX965-08](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- q. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 11-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000922; recordedBy: J.G.Chillcot; otherCatalogNumbers: DSWAS865-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- r. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Little Current prairie Alvar; verbatimLatitude: 45.975; verbatimLongitude: -81.904; verbatimEventDate: 04-Jun-2008; lifeStage: Adult; catalogNumber: CAM0412; recordedBy: Goulet, Boudreault & Fernandez; otherCatalogNumbers: [CNCHZ602-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- s. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 23-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-23413; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAX979-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- t. country: Canada; stateProvince: British Columbia; county: Yoho NP; municipality: Kicking Horse Cmpgrd.; locality: Amphitheatre flowered meadow; verbatimElevation: 1317; verbatimLatitude: 51.424; verbatimLongitude: -116.429; verbatimEventDate: 21-Jul-2010; lifeStage: Adult; catalogNumber: 10BBCHY-2887; recordedBy: BIObus 2010; otherCatalogNumbers: [BBHYK928-10](#); identifiedBy: Julie K. Stahlhut; institutionID: Biodiversity Institute of Ontario
- u. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0422; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ612-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- v. country: Canada; stateProvince: Yukon Territory; locality: Pelly Crossing; verbatimElevation: 495; verbatimLatitude: 62.831; verbatimLongitude: -136.585; verbatimEventDate: 15-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000945; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS916-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- w. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 21-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000814.2; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAY595-08; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- x. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0435; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ625-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- y. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 07-Aug-1952; lifeStage: Adult; catalogNumber: HYM00000801; recordedBy: J.G.Chillcot; otherCatalogNumbers: [DSWAS744-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- z. country: Canada; stateProvince: Newfoundland and Labrador; county: Cap St-George; locality: Cap St-George, fallowfield & coastal tundra; verbatimLatitude: 48.466; verbatimLongitude: -59.260; verbatimEventDate: 11-Jul-2008; lifeStage: Adult; catalogNumber: CAM0959; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX089-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aa. country: Canada; stateProvince: Yukon Territory; locality: Tahkini River road; verbatimElevation: 693; verbatimLatitude: 60.875; verbatimLongitude: -135.386; verbatimEventDate: 06-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000964; recordedBy: Goulet & Boudrealt; otherCatalogNumbers: [DSWAS935-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ab. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 16-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000794; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAS993-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ac. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 16-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-22417; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAV958-08](#); identifiedBy: Angela Telfer; institutionID: Biodiversity Institute of Ontario
- ad. country: Canada; stateProvince: Nova Scotia; locality: Kejimikujik National Park, Peter's Point; verbatimLatitude: 44.366; verbatimLongitude: -65.196; verbatimEventDate: 02-Aug-2009; lifeStage: Adult; catalogNumber: GOU 0590; recordedBy: J. Fernandez;

- otherCatalogNumbers: [WOMIA360-11](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ae. country: Canada; stateProvince: Newfoundland and Labrador; county: Plum Point; locality: Plum Point, fallow field; verbatimLatitude: 51.064; verbatimLongitude: -56.982; verbatimEventDate: 16-Jul-2008; lifeStage: Adult; catalogNumber: CAM0936; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX066-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- af. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 21-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-20806; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAT346-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- ag. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0434; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ624-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ah. country: Canada; stateProvince: Newfoundland and Labrador; county: Sally's Cove; locality: Sally's Cove, fallow field; verbatimLatitude: 49.739; verbatimLongitude: -57.925; verbatimEventDate: 13-Jul-2008; lifeStage: Adult; catalogNumber: CAM0948; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX078-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ai. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 04-Aug-1952; lifeStage: Adult; catalogNumber: HYM00000802; recordedBy: J.G.Chillcot; otherCatalogNumbers: DSWAS745-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aj. country: Canada; stateProvince: Yukon Territory; locality: Fish Lake Rd; verbatimElevation: 1107; verbatimLatitude: 60.686; verbatimLongitude: -135.236; verbatimEventDate: 05-Jul-2006; lifeStage: Adult; catalogNumber: HYM00001682; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [ASWAU310-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ak. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0421; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ611-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- al. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0416; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ606-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- am. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 01-Jan-1952; lifeStage: Adult; catalogNumber: HYM00000815; recordedBy: J.G.Chillcot; otherCatalogNumbers: DSWAS758-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- an. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0428; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ618-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ao. country: Canada; stateProvince: Manitoba; county: Churchill; locality: Warkworth Creek nr. Churchill; verbatimLatitude: 58.700; verbatimLongitude: -94.100; verbatimEventDate: 08-May-1952; lifeStage: Adult; catalogNumber: HYM00000816; recordedBy: J.G.Chillcot; otherCatalogNumbers: DSWAS759-07; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ap. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 21-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-20818; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAT358-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- aq. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Little Current prairie Alvar; verbatimLatitude: 45.975; verbatimLongitude: -81.904; verbatimEventDate: 04-Jun-2008; lifeStage: Adult; catalogNumber: CAM0386; recordedBy: Goulet, Boudreault & Fernandez; otherCatalogNumbers: [CNCHZ576-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ar. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Little Current prairie Alvar; verbatimLatitude: 45.975; verbatimLongitude: -81.904; verbatimEventDate: 04-Jun-2008; lifeStage: Adult; catalogNumber: CAM0387; recordedBy: Goulet, Boudreault & Fernandez; otherCatalogNumbers: [CNCHZ577-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- as. country: Canada; stateProvince: Newfoundland and Labrador; county: Sally`s Cove; locality: Sally`s Cove, fallow field; verbatimLatitude: 49.739; verbatimLongitude: -57.925; verbatimEventDate: 13-Jul-2008; lifeStage: Adult; catalogNumber: CAM0944; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX074-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- at. country: United States; stateProvince: Colorado; locality: Boulder; verbatimElevation: 1828.82; verbatimEventDate: 31-May-1961; lifeStage: Adult; catalogNumber: CNCHYM 03216; recordedBy: B. H. Poole; otherCatalogNumbers: [HYCNF001-11](#); identifiedBy: J. Whitfield; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- au. country: Canada; stateProvince: Newfoundland and Labrador; county: South Branch; locality: South Branch, fallow field; verbatimLatitude: 47.922; verbatimLongitude: -59.014; verbatimEventDate: 10-Jul-2008; lifeStage: Adult; catalogNumber: CAM0952; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX082-09](#);

- identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- av. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 01-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000815.2; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAY594-08; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- aw. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0426; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ616-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ax. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 11 km S Churchill, Goose Creek; locality: Goose Creek Second Train Tracks; verbatimLatitude: 58.718; verbatimLongitude: -94.122; verbatimEventDate: 16-Jul-2010; lifeStage: Adult; catalogNumber: 10PROBE-28643; recordedBy: Brandon Laforest; otherCatalogNumbers: [JBHCH335-10](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- ay. country: Canada; stateProvince: Manitoba; county: Churchill; locality: 23 km E Churchill, Fort Churchill; verbatimElevation: 27; verbatimLatitude: 58.734; verbatimLongitude: -93.789; verbatimEventDate: 11-Jul-1952; lifeStage: Adult; catalogNumber: HYM00000811.2; recordedBy: J.G.Chillcot; otherCatalogNumbers: ASWAY598-08; identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- az. country: Canada; stateProvince: Newfoundland and Labrador; locality: Sally's Cove, fallow field; verbatimLatitude: 49.739; verbatimLongitude: -57.925; verbatimEventDate: 13-Jul-2008; lifeStage: Adult; catalogNumber: CAM0492; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1139-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- ba. country: Canada; stateProvince: Newfoundland and Labrador; county: Sally's Cove; locality: Sally's Cove, fallow field; verbatimLatitude: 49.739; verbatimLongitude: -57.925; verbatimEventDate: 13-Jul-2008; lifeStage: Adult; catalogNumber: CAM0945; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX075-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bb. country: Canada; stateProvince: Yukon Territory; locality: Fish Lake road; verbatimElevation: 1107; verbatimLatitude: 60.688; verbatimLongitude: -135.238; verbatimEventDate: 05-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000603; recordedBy: Goulet & Boudreal; otherCatalogNumbers: [CNCHY331-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bc. country: Canada; stateProvince: Newfoundland and Labrador; county: Plum Point; locality: Plum Point, fallow field; verbatimLatitude: 51.064; verbatimLongitude: -56.982; verbatimEventDate: 16-Jul-2008; lifeStage: Adult; catalogNumber: CAM0951; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHX081-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

- bd. country: Canada; stateProvince: Yukon Territory; locality: Fish Lake road; verbatimElevation: 1107; verbatimLatitude: 60.688; verbatimLongitude: -135.238; verbatimEventDate: 05-Jul-2006; lifeStage: Adult; catalogNumber: HYM00000989; recordedBy: Goulet & Boudreault; otherCatalogNumbers: [DSWAS960-07](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- be. country: Canada; stateProvince: Newfoundland and Labrador; locality: Sally's Cove, fallow field; verbatimLatitude: 49.739; verbatimLongitude: -57.925; verbatimEventDate: 13-Jul-2008; lifeStage: Adult; catalogNumber: MIC 000900; recordedBy: H. Goulet, A. Badiss, C. Boudeault; otherCatalogNumbers: [CNCHZ1092-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bf. country: Canada; stateProvince: Manitoba; county: Churchill; municipality: 23 km E Churchill, Ramsay Creek; verbatimElevation: 10; verbatimLatitude: 58.731; verbatimLongitude: -93.780; verbatimEventDate: 21-Jul-2007; lifeStage: Adult; catalogNumber: 07PROBE-20808; recordedBy: A.Renaud; otherCatalogNumbers: [ASWAT348-08](#); identifiedBy: Jose Fernandez-Triana; institutionID: Biodiversity Institute of Ontario
- bg. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0365; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ555-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bh. country: Canada; stateProvince: Ontario; county: Manitoulin Island; locality: Little Current, prairie alvar; verbatimLatitude: 45.975; verbatimLongitude: -81.904; verbatimEventDate: 04-Jun-2008; lifeStage: Adult; catalogNumber: CAM0384; recordedBy: Goulet, Boudreault & Fernandez; otherCatalogNumbers: [CNCHZ574-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes
- bi. country: Canada; stateProvince: Ontario; county: Almonte; locality: 5 km NW of Almonte, Hwy 49, Burnt Land, Alvar Prov. Park; verbatimLatitude: 45.255; verbatimLongitude: -76.140; verbatimEventDate: 29-May-2008; lifeStage: Adult; catalogNumber: CAM0431; recordedBy: Goulet & Fernandez; otherCatalogNumbers: [CNCHZ621-09](#); identifiedBy: Jose Fernandez-Triana; institutionID: Canadian National Collection of Insects, Arachnids and Nematodes

Notes: This species is widely distributed in the Holarctic (e.g., Whitfield 2006, Fernandez-Triana 2010, Yu et al. 2012, Fernandez-Triana et al. 2014). Here we present new and detailed information about the distribution of the species in Canada, including one new provincial record (ON), based on examined specimens from the BIO and CNC collections. Data for those specimens was extracted from BOLD.

Discussion

In addition to being a diverse platform for the generation, analysis and permanent storage of DNA barcodes, the Barcode of Life Data Systems (BOLD) houses an immense amount of collateral data that are only starting to be explored and exploited. Validated species

occurrences records are one such data element, critical for various fields and applications from environmental niche modeling in ecology to risk assessments in conservation biology. This paper demonstrates the potential of using BOLD occurrence data for these purposes – to define and refine the distributions of species – and presents a model for their rapid dissemination in the primary literature.

The key to this model is the seamless and dynamic transition of data between source and journal. By converting specimen information (such as locality, collection date, collector, voucher depository) from the BOLD platform to the Excel template provided by the Pensoft Writing Tool ([PWT](#)), the authoring platform of the Biodiversity Data Journal (BDJ), it is possible to quickly upload and generate long lists of "Material Examined" for papers discussing taxonomy, ecology and/or new distribution records of species. Additional functions in BOLD allow verification of this material, for instance the ability to generate high-res image libraries (e.g., Suppl. material 3) or Kimura 2-Parameter (K2P) phylograms using the corresponding sequences (e.g., Suppl. material 4). For the vast majority of publications including DNA barcodes, the generation and publication of ancillary data associated with the barcoded material is seldom highlighted and often disregarded. The analysis of those data sets to uncover new distribution patterns of species has rarely been explored, even though many BOLD records represent new and/or significant discoveries (but see Smith et al. (2012) for a discussion of this topic). The introduction of journals specializing in – and streamlining – the release of these datasets, such as the BDJ, should facilitate thorough analysis of these records, even large datasets. This paper used a moderately large data set (630 specimens comprising 10 species) and revealed several new distribution records, as well as the workflow that permitted their release (i.e., from a database to a publication).

The logical next step would be to create a simple interface and module at the source database (BOLD) that will submit data selected by the author, "at the click of a button", into the PWT, using the Application Programming Interface ([API](#)) of the latter. Within the PWT environment, the submitting author can complete the manuscript by adding additional text, figures, images, citations, references and so on. The author can also invite co-authors and/or "contributors" (e.g., linguistic editors, mentors, colleagues who are not formal co-authors) to collaboratively work on the manuscript. After completion, the manuscript is submitted to BDJ, again "at the click of a button", where it undergoes a community peer-review process and subsequent publication upon acceptance (e.g., Smith et al. 2013). The published article will contain dynamic links to external sources (Penev et al. 2010), including to BOLD, and will also be available in highly structured XML format which ensures machine readability of the text and data. For example, the occurrence records will automatically be exported to GBIF and appear there with their original source (e.g., BOLD) and publication source (reference for citation), bringing additional visibility and usage tracking statistics to both the source database and the authors. Visibility and usability are essential here, particularly for collateral data such as species occurrence records residing on BOLD, as the consumers and eventual uses of this biodiversity data are nearly as diverse as the organisms they represent.

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Supplementary materials

Suppl. material 1: Supplemental Appendix 1

Authors: Fernandez-Triana et al. 2014

Data type: Complete Specimen Data downloaded from BOLD

Filename: Supplemental Appendix 1.xls - [Download file](#) (783.50 kb)

Suppl. material 2: Supplemental Appendix 2

Authors: Fernandez-Triana et al. 2014

Data type: Data from BOLD modified for BDJ template

Filename: Supplemental Appendix 2.xls - [Download file](#) (315.00 kb)

Suppl. material 3: Supplemental Appendix 3

Authors: Fernández-Triana et al. 2014

Data type: Image Library of specimens studied

Filename: Image Library in BOLD of specimens studied.pdf - [Download file](#) (904.10 kb)

Suppl. material 4: Supplemental Appendix 4

Authors: Fernández-Triana et al. 2014

Data type: K2P tree of sequences studied

Filename: K2P tree of specimens studied.pdf - [Download file](#) (22.67 kb)

Suppl. material 5: Distribution of 10 Microgastrinae species based on BOLD records

Authors: Fernández-Triana et al. 2014

Data type: Distribution records

Filename: Maps.pdf - [Download file](#) (5.51 MB)