

INSECTA MUNDI

A Journal of World Insect Systematics

0582

New state records for Nearctic false click beetles
(Coleoptera: Eucnemidae)

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Date of Issue: October 27, 2017

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Insecta Mundi 0582: 1–21

ZooBank Registered: urn:lsid:zoobank.org:pub:F99E62B4-638E-406F-BA60-EF7B12899739

Published in 2017 by

Center for Systematic Entomology, Inc.
P. O. Box 141874
Gainesville, FL 32614-1874 USA
<http://centerforsystematicentomology.org/>

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. **Insecta Mundi** will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. **Insecta Mundi** publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. **Insecta Mundi** is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

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Electronic copies (Online ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format:

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Layout Editor for this article: Eugenio H. Nearn

New state records for Nearctic false click beetles (Coleoptera:
Eucnemidae)

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Abstract. New state records for 49 species of Eucnemidae (Coleoptera) are reported throughout the United States and a single species is newly reported from Utah. Diagnostic remarks are offered for *Xylophilus crassicornis* Muona and distributional observations are discussed for *Dirrhagofarsus lewisi*. The importance of retaining by-catch from statewide, regional, and national surveys for future studies is also discussed.

Key Words. United States, distribution, by-catch, surveys

Introduction

Over the last five years, opportunities were presented on many occasions to identify more than 1500 Eucnemidae from four private collections and eight institutional collections. Most of the specimens recently studied and identified came from the Carnegie Museum of Natural History as by-catch or residue material collected from various flight intercept traps deployed during the national bark beetle surveys conducted by the United States Department of Agriculture.

Materials and Methods

Specimens were examined under quartz halogen illumination, through a XTL-3300 series 7–90x zoom stereo trinocular microscope. Habitus images were taken with a JVC KY-F75U digital camera attached to a Leica® Z16 APO dissecting microscope with apochromatic zoom objective and motor focus drive, using a Synchroscope Auto-Montage® Pro System and software version 5.01.0005, resulting image stacks were processed using CombineZP®.

All images were captured as TIFF files during the imaging process. Each image was modified through Photoshop® Elements 10® software on a Toshiba Satellite® C55 series laptop computer and all were collated into plates through the computer's paint program. Label data for all specimens are condensed.

Specimens are deposited in the following collections:

- ARC — A. J. Cook Arthropod Research Collection, Michigan State University, Lansing, MI
- BYUC — Monte L. Bean Life Science Museum, Brigham Young University, Provo, UT
- CMNH — Carnegie Museum of Natural History, Pittsburg, PA
- DAVC — Doug A. Veal Collection, Marion, IA
- FMNH — Field Museum of Natural History, Chicago, IL
- FSCA — Florida State Collection of Arthropods, Gainesville, FL
- GERP — Global Eucnemid Research Project, UW-Madison, Dept. of Entomology, Madison, WI
- KDKC — Ken D. Karns Collection, Lancaster, OH
- KESC — Kyle E. Schnepf Collection, Gainesville, FL
- RHTC — Robert H. Turnbow Collection, Ft. Rucker, AL

SEMC — Snow Entomology Museum, University of Kansas, Lawrence, KS

TAMU — Texas A & M University Insect Collection, College Station, TX

Results

Subfamily Perothopinae Lacordaire, 1857

Perothops mucidus (Gyllenhal, 1817)

This rarely collected species has been recorded from Florida, Georgia, Indiana, New York, Pennsylvania, South Carolina, Virginia (Muona 1996; Otto 2009) and taken for the first time in Ohio. Several specimens were collected in Lindgren funnel traps baited with a combination of EtOH and α -Pinene lure. **OHIO: Athens County:** Waterloo State Forest, 19 May–3 June 2012, 25 May–1 June 2013, K.D. Karns (KDKC).

Subfamily Pseudomeninae Muona, 1993

Tribe Schizopholini Muona, 1993

Schizophilus subrufus (Randall, 1838)

(Fig. 1)

This rarely seen eucnemid species was previously known from Alabama, Florida, Indiana, Maine, Maryland, Michigan, New Jersey, New York, Oklahoma, Pennsylvania, Tennessee, Virginia, Wisconsin (Muona 2000) and is reported here for the first time in Ohio and Rhode Island. Specimens were taken from Lindgren funnel traps with EtOH lure, mixed upland hardwoods and eastern white pine forest, and mixed upland hardwoods forests. **OHIO: Athens County:** Waterloo State Forest, 9–15 July 2011, 19–26 July 2013, 5–17 July 2014 (2), 17–26 July 2014, 2–9 August 2014, 11–18 July 2015, K.D. Karns (KDKC), **Fairfield County:** Lancaster, 22 July 1997, 12–26 July 2015, K.D. Karns (KDKC), **Vinton County:** Knox Township, 14–29 July 2012, 02–09 August 2014 (2), 18–25 July 2015, K.D. Karns (KDKC); **RHODE ISLAND: Kent County:** 10.8 km W Coventry, 12–27 August 2016, L. Peterman (CMNH), **Providence County:** 1.2 km W Central Falls, 12–27 July 2016, K. Miller (CMNH).

Subfamily Melasinae Fleming, 1821

Tribe Melasini Fleming, 1821

Melasis pectinicornis Melsheimer, 1844

This widespread, common eucnemid species was previously recorded from Alabama, Connecticut, District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia (Muona 2000) and now for the first time in Delaware, Kansas and West Virginia. Specimens were taken from canopy traps and x-vane traps. **DELAWARE: Kent County:** Tabor St. For., 5 May 2009, G. Gladders (CMNH); **KANSAS: Bourbon County:** Elm Creek, 11–18 April 2011 (SEMC), **Crawford County:** 3 mi NE Pittsburg, 7–22 April 2005 (SEMC), 2 mi W Pittsburg, 10–19 April 2006 (SEMC), 14–21 April 2009, 21–30 April 2009 (SEMC), 14 April 2011 (SEMC), **Labette County:** Big Hill Reservoir, 29 March–7 April 2005, 7–22 April 2005, 11–19 April 2006 (SEMC); **WEST VIRGINIA: Pocahontas County:** Longs Run; Hwy 28, jct. E. Fork Greenbrier River, 15.V.90, R.W. Baumann (BYUC); **Hampshire County:** South Br. Potomac River, near junction Bread Run, 10 May 2000, S.M. Clark (BYUC).

Isorhipis nubila (Bonvouloir, 1871)

In the United States, *I. nubila* was previously known from Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina, Texas (Muona 2000; Otto 2010, 2012) and is reported here for the first

time in Illinois. One specimen was taken from a Lindgren funnel trap. **ILLINOIS: Massac County:** 0.6 km E Brookport, 19 May–3 June 2016, S. Mills (CMNH).

Isorhipis obliqua (Say, 1836)

In Canada, this common, widespread species has been found in Manitoba, Nova Scotia, Ontario and Québec. In the United States, *I. obliqua* was previously recorded from Connecticut, District of Columbia, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Maryland, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Virginia and Wisconsin (Muona 2000). New state records include Alabama, Florida, Oklahoma, Tennessee, Vermont and West Virginia. Specimens were taken from a Lindgren funnel trap baited with a combination of phoebe oil and manuka oil, EtOH trap and a Malaise trap. **ALABAMA: Dale County:** Fort Ruker Mil. Res., 13–20 May 2011, 20–27 May 2011, R. Turnbow (RHTC); **FLORIDA: Alachua County:** San Felasco Preserve, April 5–May 6 2014, Kyle E. Schnepf (KESC); **OKLAHOMA: Le Flore County:** 3.7 mi. N Big Cedar, Pipe Spring, E.G. Riley (TAMU); **TENNESSEE: Humphreys County:** 1.5 km SW Gorman, 19–21 April 2005, 13–15 June 2005, J.H. Lowe and E. Clebsch (CMNH), **Knox County:** John Sevier, 10–13 July 2005, J.H. Lowe and E. Clebsch (CMNH); **VERMONT: Chittenden County:** Essex, 22 June 2006, 25 June 2006, 29 June 2006, G.R. Nelson (CMNH), **Rutland County:** 2.2 km NE Rutland, 25 May–17 June 2016, 17 June–8 July 2016, E. Inoue (CMNH), **Windham County:** 2.1 km NW Rockingham, 13 June–6 July 2016, L. Modesto (CMNH); **WEST VIRGINIA: Brooke County:** 4.4 km SW Weirton, 22 June–6 July 2016, R. Braud (CMNH), **Hancock County:** 7.6 km SSW Chester, 17 June–1 July 2014, R. Messineo (CMNH), **Harrison County:** 0.4 km S Bridgeport, 11 May–7 June 2016, R. Braud (CMNH), **Monongalia County:** 5 km NE Morgantown, 22 June 2002, Robert E. Acciavatti (CMNH), Star City, 23 June–1 July 2009, 1–27 July 2009, Robert E. Acciavatti (CMNH), **Raleigh County:** 7.0 km ENE Beckley, 7 June–5 July 2016, R. Hays (CMNH).

Isorhipis ruficornis (Say, 1823)

In Canada, this uncommonly collected eucnemid species has been taken in Nova Scotia, Ontario and Québec. In the United States, *I. ruficornis* was previously recorded in Arkansas, Connecticut, District of Columbia, Georgia, Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Texas, Vermont, Wisconsin (Muona 2000) and taken for the first time in Kansas, Massachusetts, Oklahoma, Rhode Island and Virginia. Specimens were taken by Lindgren funnel traps, canopy traps and x-vane traps. **KANSAS: Cherokee County:** 2 mi S. Galena, 13 May–2 June 2005 (SEMC), **Crawford County:** 2 mi W. Pittsburg, 8 May 2011 (SEMC), **Neosho County:** 2 mi. SE. Erie, 22–28 April 2005, 14 May–2 June 2005, 4–14 May 2005 (SEMC); **MASSACHUSETTS: Hampshire County:** 1.3 km ESE Williamsburg, 20 May–4 June 2015, E. Chamberlain (CMNH); **OKLAHOMA: Oklahoma County:** 9.8 km SE Oklahoma City, 24 March–27 April 2016, A. Edwards (CMNH); **RHODE ISLAND: Kent County:** 2.4 km SSE Coventry, 6–20 June 2016, L. Petermen (CMNH); **VIRGINIA: Fairfax County:** Burke Center, 24–30 May 1989, R.D. Ward (CMNH), Springfield, 23 May 1983, 1–4 June 1987, R.D. Ward (CMNH).

Tribe Xylobiini Reitter, 1911

Xylophilus crassicornis Muona, 2000

(Fig. 2, 3)

This rarely seen eucnemid species was found in Arkansas, Maryland, Virginia, Wisconsin (Evans 2011; Muona 2000; Otto 2010, 2012), and now taken for the first time in Connecticut, Delaware, Georgia, Massachusetts, New Jersey, North Carolina, Ohio, Vermont and West Virginia. Specimens were taken from Lindgren funnel traps, intercept panel trap, flight intercept trap, beaten from small dead standing hardwood and from a weed. **CONNECTICUT: Hartford County:** 8.0 km W Granby, Enders State Forest, 8–24 June 2016, K. Divito (CMNH), **Litchfield County:** 6.1 km NE Torrington, 5–24 June 2013, K. Divito (CMNH), 6.3 km W Canton, Nepaug State Forest, 8–24 June 2016, intercept panel trap, K. Divito (CMNH); **DELAWARE: New Castle County:** 4.3 km NW Newark, White Clay Creek

State Park, 6–21 June 2016, J. Roman (CMNH); **GEORGIA: Elbert County:** 1.4 km SW Elberton, 9–23 May 2016, R. Morgan (CMNH), **Habersham County:** 6 km WNW Turnerville, 27 May–11 June 2014, P. Taylor (CMNH), **Murray County:** 18 km SSE Chatsworth, 22 April–12 May 2015, C. Van Atta (CMNH), **Oconee County:** 10.4 km NW Bishop, 8–22 May 2013, P. Walden (CMNH); **MASSACHUSETTS: Berkshire County:** 5.8 km SSE Sheffield, 7–21 June 2016, K. Divito (CMNH), 5.8 km SSE Sheffield, 21 June–5 July 2016, M. Conlee (CMNH), **Franklin County:** 3.9 km E Greenfield, 14–28 June 2016, M. Conlee (CMNH), 8.9 km W Sunderland, Northhampton Upper Reservoir, 28 June–8 July 2016, M. Conlee (GERP); **NEW JERSEY: Atlantic County:** 5.6 km NNE Corbin City, 25 May–9 June 2016, T. James (CMNH), **Camden County:** 1.9 km S. Camden, 22 June–6 July 2016, M. Parkinson (CMNH), **Warren County:** 2.9 km NE Hackettstown, Stephens State Park campground, 24 June–8 July 2009, C. O’Conor (CMNH); **NORTH CAROLINA: Henderson County:** Fletcher, 5 June 1971, L.L.L. (FSCA); **Jackson County:** Balsam, 12.VI.1959 (FMNH); **OHIO: Cuyahoga County:** Cleveland Metro Parks, 15 June–2 July 2007, H. Lee (CMNH), **Vinton County:** 6.5 km SE Zaleski, 4–11 June 2011 (2), 28 May–5 June 2012 (3), 9–16 June 2012, 4–11 June 2016, 10 June 2016, K.D. Karns (KDKC); **VERMONT: Windham County:** 3.1 km S Brattleboro, 13–27 June 2016, L. Modesto (CMNH); **WEST VIRGINIA: Raleigh County:** 6.5 km E Beckley, 6–19 June 2014, R. Braud (CMNH).

Muona (2000) commented on color variation in a related species, *Xylophilus cylindrififormis* (Horn), with some specimens being darker than others. Examination of a number of specimens throughout much of eastern United States indicates that color variations are also present in *X. crassicornis*. Some specimens were observed to be much darker than others (Fig. 2), contrary to Otto’s (2012) previous diagnostic assessment of the species. A small number of specimens were observed to have completely orange elytra (Fig. 3). Diagnostically, the best character state to identify *X. crassicornis* from *X. cylindrififormis* is the consistent presence of very shallow, sparse pronotal punctures in *X. crassicornis* (pronotum densely rugose, punctate in *X. cylindrififormis*).

Tribe Epiphanini Muona, 1993

Hylis frontosus (Say, 1836)

Although widespread across much of the eastern United States, this uncommonly encountered eucnemid species was previously recorded from District of Columbia, Georgia, Illinois, Indiana, Maryland, Michigan, Minnesota, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Wisconsin (Muona 2000) and reported here for the first time in Massachusetts, Rhode Island and Vermont. Specimens were taken from a Lindgren funnel trap and an intercept panel trap. **MASSACHUSETTS: Hampshire County:** 1 km NNE Hadley Reservoir, 10–21 July 2015, T. Kesting-Handly (CMNH), 4–19 August 2015, K. Kaseta (CMNH); **Worcester County:** 0.9 km SW Wheelwright, 28 June–8 July 2016, M. Conlee (CMNH); **RHODE ISLAND: Providence County:** 1.2 km W Central Falls, 28 June–12 July 2016, B. Noones & E. Dugas (CMNH), 3.0 km E Smithfield, 12–27 July 2016, K. Miller (CMNH); **VERMONT: Chittenden County:** 2.1 km N. Burlington, 7–19 July 2016, 19 July–16 August 2016, E. Inoue (CMNH), **Franklin County:** 2.0 km SSE Swanton, 15 June–6 July 2016, E. Inoue (CMNH), **Rutland County:** 2.1 km NE Rutland, 22 July–4 August 2016, E. Inoue (CMNH).

Hylis irvinei Muona, 2000

(Fig. 4)

This rarely seen eucnemid was previously recorded in California, Oregon, Washington (Muona 2000) and taken for the first time in Utah. One specimen was taken from a Malaise trap. **UTAH: Tooele County:** Oquirrh Mountains, Middle Canyon, 12 July 2013, S.M. Clark (GERP); **Utah County:** Mount Timpanogos, American Fork Canyon, Hwy 92, 22–31 July 2003, G. Stucki and A. Olsen (BYUC).

Hylis terminalis (LeConte, 1866)

In Canada, this uncommonly collected eucnemid species was previously taken in Québec and Ontario. In the United States, *H. terminalis* was previously known from Alabama, District of Columbia, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia and Wisconsin (Muona 2000; Otto 2012).

New records reported here include Connecticut, Delaware, Kansas, Massachusetts, Missouri, New Hampshire, Oklahoma, Rhode Island, Texas, Vermont and West Virginia. Specimens were taken from forest litter/FIT, canopy traps, Lindgren funnel traps, Malaise traps and a cross-vane panel trap. **CONNECTICUT: Hartford County:** 8.6 km SSW Manchester, J.B. Williams Park, 15–27 June 2016, N. Carrier (CMNH), **Litchfield County:** 2.9 km E Litchfield, 30 June–14 July 2016, K. Divito (CMNH), 4.9 km NNE Watertown, Mattatuck State Forest, 30 June–14 July 2016, K. Divito (CMNH), 5.7 km N Torrington, Sunny Brook State Park, 14–28 July 2016, K. Divito (CMNH), 6.3 km W Canton, Nepaug State Forest, 24 June–8 July 2016, K. Divito (CMNH), **Tolland County:** 5.8 km W Tolland, 15–24 June 2016, C. Baker (CMNH); **DELAWARE: New Castle County:** 2.3 km NNE Odessa, 6–21 June 2016, J. Roman (CMNH); **KANSAS: Crawford County:** 2 mi. W Pittsburg, 6–27 June 2008 (SEMC), **Jefferson County:** Perry State Park, 6–12 June 2006, 12–22 June 2006 (SEMC); **MASSACHUSETTS: Barnstable County:** 1.7 km SSE Hatchville, 21 June–8 July 2016, T. Kesting-Handly (CMNH), **Berkshire County:** 1.6 km NE Great Barrington, 5–19 July 2016, M. Conlee (CMNH), 3.8 km S Lee, 21 June–5 July 2016, M. Conlee (CMNH), 5.8 km SSE Sheffield, 21 June–5 July 2016, 5–19 July 2016, M. Conlee (CMNH), **Essex County:** 0.6 km WNW West Boxford, 8–24 June 2016, 3–19 August 2016, S.M. Grubin (CMNH), 4.2 km SE West Newbury, 3–19 August 2016, S.M. Grubin (CMNH), **Franklin County:** 8.9 km W Sunderland, Northhampton Upper Reservoir, 8–26 July 2016, M. Conlee (CMNH), 3.5 km S Montague, Mt. Toby State Park, 28 June–8 July 2016, M. Conlee (CMNH), 3.9 km Greenfield, 14–28 June 2016, M. Conlee (CMNH), **Hampden County:** 1.6 km SW Southwick, 5–22 June 2015, T. Kesting-Handly (CMNH), 5.4 km W Westfield, 28 June–7 July 2016, C. Baker (CMNH), **Hampshire County:** 1 km NNE Hadley Reservoir, 5 June–10 July 2015, T. Kesting-Handly (CMNH), 2.5 km NNE Goshen, 6–20 July 2015, T. Kesting-Handly (CMNH), 5.7 km S Worthington, 3–19 August 2015, T. Kesting-Handly (CMNH), 4.6 km W Ware, 6–21 July 2016, T. Kesting-Handly (CMNH), **Middlesex County:** 1.6 km ESE Littleton, 2–16 July 2015, 14–28 June 2016, 28 June–12 July 2016, 12–26 July 2016, T. Kesting-Handly (CMNH), 2.8 km NE Sudbury, 28 June–12 July 2016, T. Kesting-Handly (CMNH), **Norfolk County:** 2.3 km SSW Avon, D.W. Field Park, 7–20 July 2016, K. Thomsen (CMNH), **Worcester County:** 4.5 km SW Worcester, Hadwen Park, 23 June–7 July 2016, K. Divito (CMNH); **MISSOURI: St. Louis County:** 0.6 km S Valley Park, 14–27 June 2016, L. Trevathan (CMNH); **NEW HAMPSHIRE: Cheshire County:** 1.5 km E Keene, 22 June–7 July 2016, D. Dudley (CMNH), **Grafton County:** 1.1 km NW Lebanon, 1–19 July 2016, L. Modesto (CMNH); **OKLAHOMA: Latimer County:** SW of Red Oak, May–1997, K. Stephan (TAMU); **RHODE ISLAND: Kent County:** 2.9 km NW Coventry, 20 June–7 July 2016, L. Petermen (CMNH), 3.8 km SSW Coventry, 28 June–13 July 2016, K. Divito (CMNH), **Providence County:** 6.3 km E. Gloucester, 12–27 July 2016, L. Petermen (CMNH), 5.5 km SSW Cumberland, 13–28 June 2016, K. Miller (CMNH); **TEXAS: Henderson County:** 7.1 km E. Edom, 18 April–2 May 2016, C. Powell (CMNH), **Upshur County:** 10.1 km E Big Sandy, 17–31 May 2016, C. Powell (CMNH); **VERMONT: Addison County:** 3.1 km SE Middlebury, 17 June–8 July 2016, E. Inoue (CMNH), **Franklin County:** 1.9 km SSE Swanton, 15 June–6 July 2016, 6–18 July 2016, 18 July–3 August 2016, E. Inoue (CMNH), 2.0 km SSE Swanton, 18 July–3 August 2016, E. Inoue (CMNH), **Chittenden County:** 2.1 km N. Burlington, 30 July–7 August 2015, 7–25 August 2015, 7–19 July 2016, 19 July–16 August 2016, E. Inoue (CMNH), 3.3 km SE Essex, 24 June–8 July 2016, 8–18 July 2016, E. Inoue (CMNH), **Rutland County:** 1.1 km SW Brandon, 6–16 July 2015, E. Inoue (CMNH), 2.2 km NE Rutland, 17 June–8 July 2016, 8–22 July 2016, E. Inoue (CMNH), **Washington County:** 2.0 km NNW Barre, 18 July–8 August 2016, J. Rosovsky (CMNH), **Windham County:** 3.3 km E. Putney, 24 May–21 June 2016, 2–23 August 2016, E. Inoue (CMNH), 4.5 km SSW Brattleboro, 2–23 August 2016, E. Inoue (CMNH), 2.1 km NW Rockingham, 28 July–12 August 2016, L. Modesto (CMNH); **WEST VIRGINIA: Brooke County:** 4.4 km SW Weirton, 26 May–8 June 2016, R. Braud (CMNH), **Hancock County:** 7.6 km SW Chester, 13–27 July 2011, T. Smith (CMNH), 7.6 km SSW Chester, 6–20 July 2016, R. Braud (CMNH).

Tribe Dirhagini Reitter, 1911***Entomophthalmus rufiolus* (LeConte, 1866)**

In Canada, this uncommonly seen eucnemid species was found in Ontario and Québec. In the United States, *E. rufiolus* has been recorded in Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Texas, Virginia and Wisconsin (Muona 2000). New state records include Delaware, Kansas, Michigan, Rhode Island, South Carolina, Tennessee, Vermont and West Virginia. Specimens were taken by molasses trap, oak woods, canopy traps, intercept panel traps, Lindgren funnel traps, Malaise traps and mercury vapor light. **DELAWARE: New Castle County:** 4.3 km NW Newark, White Clay Creek State Park, 21 June–7 July 2016, J. Roman (CMNH); **KANSAS: Cherokee County:** 2 mi S. Galena, 8–18 June 2009 (SEMC), **Crawford County:** 3 mi NE Pittsburg, 6 June 1998 (SEMC), 2 mi W Pittsburg, 13–27 June 2006 (SEMC), **Douglas County:** 16 km NW Lawrence, 15–25 June 1986 (SEMC), **Jefferson County:** Perry State Park, 1.000 km SW, 6–12 June 2006 (SEMC), **Labette County:** Big Hill Reservoir, 6–15 June 2006 (SEMC); **MICHIGAN: Lake County:** Branch, 13–15 July 1974, 20–22 July 1874, 6–9 August 1974, 16–23 July 1975, 16–25 July 1975, T.A. Bowling (ARC), 9–15 July 1974, 14–20 August 1974, R.L. Fischer (ARC); Big Star Lake, 25 June–July 3 1975, T.A. Bowling (ARC); **Manistee County:** Dublin, 2–5 July 1974, 9–12 July 1974, 16–19 July 1974, 23–26 July 1974, T.A. Bowling (ARC); **Newaygo County:** 5 mi. No. Newaygo, 9–12 July 1974, T.A. Bowling (ARC); **RHODE ISLAND: Kent County:** 3.8 km SSW Coventry, 28 June–13 July 2016, K. Divito (CMNH), 0.8 km W Potowomut, Goddard Memorial State Park, 26 July–5 August 2016, K. Divito (CMNH), **Providence County:** 1.2 km W Central Falls, 12–27 July 2016, K. Miller (CMNH), 5.4 km SSW Cumberland, 12–27 July 2016, K. Miller (CMNH), **Washington County:** 3.5 km ENE Kingston, 28 June–12 July 2016, L. Petermen (CMNH), 5.5 km SW Charlestown, 28 June–12 July 2016, L. Petermen (CMNH); **SOUTH CAROLINA: Oconee County:** 8.1 km NNE Salem, Devils State Park, 4–19 May 2015, Eric Hitzler (CMNH); **TENNESSEE: Sevier County:** Great Smoky Mt. Nat. Pk., Twin Creeks NRS, 11–18 June 2004, A. Mayor (FSCA); **VERMONT: Windham County:** 2.9 km S Brattleboro, 13–27 June 2016, L. Modesto (CMNH); **WEST VIRGINIA: Summers County:** Bluestone State Park, 28 June 2014, R. Acciavatti and R. Davidson (CMNH).

***Rhagomicrus bonvouloiri* (Horn, 1886)**

In Canada, this eucnemid species was previously recorded in Ontario. In the United States, *R. bonvouloiri* was distributed in Alabama, Arkansas, District of Columbia, Florida, Georgia, Indiana, Iowa, Kentucky, Louisiana, Maryland, Missouri, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, Wisconsin (Muona 2000) and reported here for the first time in Connecticut, Illinois, Massachusetts, Oklahoma, Texas and Vermont. Specimens were taken from an intercept panel traps and Lindgren funnel traps. **CONNECTICUT: Fairfield County:** 1.2 km NNE Springdale, 29 July–12 August 2014, K. Divito (CMNH); **ILLINOIS: Lake County:** 1.6 km NE Rosecrans, 17 June–1 July 2014, R. Van Duzor (CMNH), **Massac County:** 2.2 km ESE Metropolis, 19 May–3 June 2016, 3–15 June 2016, 15 June–6 July 2016, 6–21 July 2016, S. Mills (CMNH), 2.2 km ESE Metropolis, 21 July–9 August 2016, T. Vorce (CMNH), **St. Clair County:** 1.1 km NNW East St. Louis, 30 June–20 July 2016, S. Mills (CMNH); **MASSACHUSETTS: Berkshire County:** 1.6 km NE Great Barrington, 5–19 July 2016, M. Conlee (CMNH); **OKLAHOMA: Rogers County:** 4.3 km N Catoosa, 28 April–23 June 2016, A. Edwards (CMNH), 5.1 km SW Catoosa, 4 May–29 June 2016, A. Edwards (CMNH); **TEXAS: Upshur County:** 10.1 km E Big Sandy, 2–16 May 2016, C. Powell (CMNH), **Wood County:** 0.6 km S Hawkins, 15–29 June 2016, C. Powell (CMNH); **VERMONT: Chittenden County:** 2.0 km N Burlington, 6–19 July 2016, E. Inoue (CMNH), 2.1 km N Burlington, 19 July–6 August, E. Inoue (CMNH), 3.2 km SE Essex, 8–18 July 2016, E. Inoue (CMNH), **Franklin County:** 1.9 km SSE Swanton, 15 June–6 July 2016, E. Inoue (CMNH), 2.0 km SSE Swanton, 6–18 July 2016, E. Inoue (CMNH), **Windham County:** 2.9 km S Brattleboro, 13–27 June 2016, L. Modesto (CMNH), 3.1 km S Brattleboro, 13–27 June 2016, L. Modesto (CMNH).

***Rhagomicrus humeralis* (Say, 1836)**

This eucnemid species was previously known from Alabama, Florida, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Missouri, New Hampshire, New York, Ohio, Pennsylvania, South Carolina, Tennessee and Wisconsin (Muona 2000; Otto 2012), and taken for the first time in Kansas, Texas and Vermont. Specimens were taken by canopy traps and Lindgren funnel traps. **KANSAS: Cherokee County:** 2 mi S. Galena, 13 May–2 June 2005, 18–30 May 2006, 30 May–6 June 2006, 8–18 June 2009 (SEMC), **Jefferson County:** Perry State Park, 1.000 km SW, 6–12 June 2006 (SEMC), **Sedgwick County:** 0.500 mi. S Derby, 30 July–24 August 2005 (SEMC); **TEXAS: Sabine County:** 9 mi. E. Hemphill, 26 May 2007, S.M. Clark (BYUC); ca 8 mi E. Hemphill, 18–25 May 2014, 25 May–8 June 2014, D. Heffern coll. (TAMU), **Upshur County:** 10.1 km E Big Sandy, 30 May–13 June 2016, 27 June–11 July 2016, C. Powell (CMNH), **Van Zandt County:** 0.3 km N. Edom, 17–31 May 2016, 30 May–13 June 2016, 27 June–11 July 2016, C. Powell (CMNH); **VERMONT: Chittenden County:** 3.2 km SE Essex, 18 July–5 August 2016, E. Inoue (CMNH).

***Adelothyreus dejeani* Bonvouloir, 1872**

(Fig. 5)

This rarely collected eucnemid has been recorded from Florida, Louisiana, Maryland, Mississippi (Muona 2000), and now for the first time in Alabama and Georgia. Specimens were taken from a black-light trap and a Lindgren funnel trap. **ALABAMA: Dale County:** Level Plains, 16–19 April 2011, 25–26 April 2011, R. Turnbow (RHTC); **GEORGIA: Bibb County:** 2.7 km WSW Walden, 26 April–9 May 2016, C. Barnes (CMNH), **Douglas County:** 1.8 km SE Austell, 27 May–8 June 2016, E. Dendy (CMNH), **Grady County:** 10.9 km NW Cairo, 17–30 April 2013, A. Tatum (CMNH).

***Adelothyreus downiei* Muona, 2000**

This rarely encountered eucnemid species was known from Indiana, Oklahoma, Pennsylvania and West Virginia (Muona 2000). New records reported here include Illinois, Missouri and Ohio. One of the specimen was taken from a Lindgren funnel trap. **ILLINOIS: St. Claire County:** 2.5 km S. Washington Park, 4–17 June 2015, S. Mills (CMNH); **MISSOURI: Jackson County:** Raytown, 5 July 1970, G.H. Nelson (FSCA); **OHIO: Greene County:** John Bryan St. Pk., 21 June 1965, J & L Donahue (ARC).

***Microrhagus audax* Horn, 1886**

Although widespread across much of the eastern United States, this rarely seen eucnemid species was previously known from Alabama, District of Columbia, Georgia, Illinois, Indiana, Iowa, Maryland, Michigan, Missouri, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, Texas, Virginia, West Virginia, Wisconsin (Muona 2000) and taken for the first time in Ohio. Specimens were taken from a cross-vane panel trap and a Lindgren funnel trap. **OHIO: Franklin County:** 1.5 km W Canal Winchester, 31 May–13 June 2016, E. Larue (CMNH), **Hocking County:** 0.9 km N Logan, 24 June–6 July 2016, A. Eitam (GERP).

***Microrhagus breviangularis* Otto, 2015**

(Fig. 6)

This recently described eucnemid species was distributed in Florida, Indiana and Wisconsin (Otto 2015). New state records include Georgia, Rhode Island, Texas, Vermont and Virginia. Specimens were taken from a yellow/bait jug and Lindgren funnel traps. **GEORGIA: Clayton County:** 0.3 km NNE Lake City, 8–26 August 2016, E. Dendy (CMNH); **RHODE ISLAND: Kent County:** 2.4 km ESE West Greenwich, 3–16 August 2016, L. Peterman and K. Miller (CMNH), 4.9 km NW Coventry, 22 July–4 August 2016, K. Miller (CMNH); **TEXAS: Cameron County:** Sabel Palm Grove, 28 March–24 April 2010, Heffern & Raber (TAMU); **VERMONT: Chittenden County:** 3.2 km SE Essex, 8–18 July 2016, E. Inoue (CMNH), **Washington County:** 2.0 km NNW Barre, 18 July–8 August 2016, J. Rosovsky (CMNH); **VIRGINIA: Rockbridge County:** 0.6 km N Fairfield, 14 July–15 August 2016, D. Heitzel (CMNH), **Warren County:** Front Royal, 18 July 1984, R.F. Surdick (CMNH).

***Microrhagus brunneus* Otto, 2013**

This recently discovered eucnemid species was previously known from Arkansas, Indiana, Kentucky, Louisiana, North Carolina, Oklahoma, Virginia, Wisconsin (Otto 2013a; Quinn 2014), and now for the first time in Georgia, Kansas, Missouri, New Hampshire, Ohio, Pennsylvania and West Virginia. Specimens were taken by Lindgren funnel traps, canopy traps, mercury vapor/UV light sheet, UV bucket trap, cross-vane panel trap and flight intercept traps. **GEORGIA: Douglas County:** 1.8 km SE Austell, 5 July–1 August 2016, E. Dendy (CMNH); **KANSAS: Bourbon County:** 9 mi. SW Fort Scott, 17–30 May 2006, 4 June 2009 (SEMC), **Crawford County:** 2 mi. W Pittsburg, 18–30 May 2006 (SEMC), **Douglas County:** 3.2 km N Baldwin, Breidenthal Reserve, 18–25 June 1996, 21–26 June 1996 (SEMC), 2 mi. NW Baldwin, 13 May–2 June 2006 (SEMC), Lawrence, 5 June 2010 (SEMC), **Jefferson County:** Perry State Park, 1.000 km SW, 6–12 June 2006 (SEMC), The Falin Property, 1.500 km N jct 94th St. and Kingman Rd., 19–29 May 2005, 29 May–7 June 2005 (SEMC), **Neosho County:** 2 mi. SE. Erie, 14 May–2 June 2005 (SEMC), **Rooks County:** 1 mi. W Webster State Park, 31 May–16 June 2005 (SEMC); **MISSOURI: Jackson County:** Raytown, 16 June 1969, 9 July 1973, 19 May 1974, 20 May 1974, 30 June 1975, 1 July 1975, 28 June 1978, 4 July 1978, 7 July 1978, G.H. Nelson (FSCA); Blue Springs, 6 June 2002, G.H. Nelson (FSCA); **NEW HAMPSHIRE: Grafton County:** 1.1 km NW Lebanon, 1–19 July 2016, L. Modesto (CMNH); **OHIO: Athens County:** 1.4 km S Athens, 24 June–6 July 2016, A. Eitam (CMNH), **Fairfield County:** Lancaster, 11 June 2008, 27 June 2009, 3 July 2012, K.D. Karns (KDKC) **Lucas County:** 3.9 km SW Sylvania, 7–22 June 2016, C. Poe (CMNH), 4.8 km SSW Sylvania, 22 June–5 July 2016, C. Poe (CMNH), **Stark County:** 3.1 km W. Alliance, 25 June–9 July 2016, R. Freeborn (CMNH), **Vinton County:** 6.5 km SE Zaleski, 19 June 2002, 2 July 2011, 8–15 June 2012, 16 June 2013, K.D. Karns (KDKC); **PENNSYLVANIA: Clinton County:** 6.5 km N Monument, 22 July 2011, P. Woods (CMNH), **Lebanon County:** 1962 Route 22 N, 5 July 1986, J. Felter coll. (FSCA); **WEST VIRGINIA: Harrison County:** 0.4 km SSW Bridgeport, 22 May–3 June 2013, R. Messineo (CMNH), **Monongalia County:** Star City, 23 June–1 July 2009, Robert E. Acciavatti (CMNH), **Randolph County:** 9.5 km SW Mill Creek, Kumbrabow SF, 22–23 July 2011, T. Tomon, R. Acciavatti and V. Verdecia (CMNH), **Wyoming County:** 8 km NW Mullens, Twin Falls State Park, 16–17 July 1993, R. Acciavatti (CMNH).

***Microrhagus carinicollis* Otto, 2015**

This recently described, apparently uncommon eucnemid species was distributed in Alabama, Florida, Indiana, Kansas and Wisconsin (Otto 2015). New records reported here include Georgia, Illinois, Michigan, New Hampshire, New Jersey, Ohio, South Carolina, Tennessee, Texas, Vermont, Virginia and West Virginia. Specimens were taken from Lindgren funnel traps, Malaise traps and a cross-vane panel trap. **GEORGIA: Clayton County:** 0.3 km NNE Lake City, 8–26 August 2016, E. Dendy (CMNH); **ILLINOIS: Massac County:** 2.2 km ESE Metropolis, 15 June–6 July 2016, S. Mills (CMNH), 2.5 km ESE Metropolis, 3–15 June 2016, S. Mills (CMNH), **St. Clair County:** 1.1 km NNW East St. Louis, 20 May–2 June 2016, S. Mills (CMNH); **MICHIGAN: Dickinson County:** Channing, 25 July 1983, R.L. Fischer (ARC), **Kalamazoo County:** Gull Lake Bio. Sta., 29 July 1965, 5 July 1982, R.L. Fischer (ARC), **Lake County:** Branch, 2–5 July 1974, 16–19 July 1974, 20–22 July 1974, 23–26 July 1974, July 30–2 August 1974, 3–9 July 1975, 16–23 July 1975, T.A. Bowling (ARC), **Manistee County:** Dublin, 23–26 July 1974, July 30–2 August 1974, 3–5 August 1974, 3–9 July 1975, 16–23 July 1975, T.A. Bowling (ARC), **Newaygo County:** 5 mi. No. Newaygo, 6–8 July 1974, T.A. Bowling (ARC); **NEW HAMPSHIRE: Strafford County:** Durham, 14 August 1965, J & L Donahue (ARC); **NEW JERSEY: Essex County:** 4.5 km SE Livingston, 10–26 July 2016, 18–30 August 2016, S. Coachman (CMNH); **OHIO: Erie County:** 2.4 km S Bogart, 28 June–15 July 2016, C. Poe (CMNH), **Hocking County:** 0.9 km N Logan, 6–18 July 2016, A. Eitam (CMNH), **Lucas County:** 3.9 km SW Sylvania, 22 June–5 July 2016, C. Poe (CMNH), **Stark County:** 3.1 km W Alliance, 25 June–9 July 2016, 6–20 August 2016, R. Freeborn (CMNH); **SOUTH CAROLINA: Clarendon County:** Lk. Marion, Packs Landing, 29 May 2006, E.G. Riley (TAMU); **TENNESSEE: Henderson County:** Natchez Trace St. Forest, 8 June 1971, E.R. Hoebeke (ARC); **TEXAS: Montgomery County:** Conoe, Jones State Forest, 13 May 2008, J. Pase (TAMU), **Sabine County:** ca 8 mi E Hemphill, 22 June–20 July 2014, Heffern & Raber (TAMU), **Travis County:** Breckenridge Field Lab, Austin, 7–13 August 1990, C.R. Nelson (BYUC), **Upshur County:** 10.1 km E Big Sandy, 30 May–13 June 2016, C. Powell (CMNH); **VERMONT: Chittenden County:**

3.2 km SE Essex, 24 June–8 July 2016, E. Inoue (CMNH); **VIRGINIA: Fairfax County:** Burke, 17–21 July 1989, R.D. Ward (CMNH); **WEST VIRGINIA: Hancock County:** 0.7 km W Newell, 15–29 July 2014, R. Messineo (CMNH).

***Microrhagus lecontei* Otto, 2015**

This recently described eucnemid species was found in Indiana, Kansas, Wisconsin (Otto 2015) and taken for the first time in Maine. A single specimen taken from a Lindgren funnel trap. **MAINE: Androscoggin County:** 3.4 km SW Lewiston, 30 June–11 July 2016, J. Nicoletti (CMNH).

***Microrhagus pectinatus* LeConte, 1866**

In Canada, this uncommon collected eucnemid species has been recorded in British Columbia, Nova Scotia, Ontario and Québec and taken for the first time in Manitoba. One specimen was taken from a UV light trap. **MANITOBA:** Bissett, near Rice Lake, 27 June 1997, D.A. Pollock (CMNH). In the United States, *M. pectinatus* was distributed in Georgia, Illinois, Indiana, Iowa, Kansas, Maine, Maryland, Michigan, Missouri, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Tennessee, Texas, Virginia, West Virginia and Wisconsin (Muona 2000). New state records include Alabama, Arkansas and Ohio. Specimens were taken from a Lindgren funnel trap, blacklight trap and a cross-vane panel trap. **ALABAMA: Blount County:** Highland Lake, 17 April 2012, T. King (FSCA); **ARKANSAS: Nassau County:** Roslyn, L.I., 4 July 1930, J.N. Belkin (FSCA); **OHIO: Athens County:** 1.4 km S Athens, 27 May–10 June 2016, A. Eitam (CMNH), **Highland County:** 4.0 km N Hillsboro, 23 May–7 June 2012, R. Davis (CMNH), **Lucas County:** 4.8 km SSW Sylvania, 25 May–7 June 2016, C. Poe (CMNH), 3.9 km SW Sylvania, 25 May–7 June 2016, C. Poe (CMNH), **Portage County:** 1.8 km NW Sugar Bush, 30 May–6 June 2014, R. Freeborn (CMNH).

***Microrhagus subsinuatus* LeConte, 1852**

In Canada, this uncommonly encountered eucnemid species was previously taken in Nova Scotia, Ontario and Québec. In the United States, *M. subsinuatus* has been collected in Colorado, Connecticut, District of Columbia, Florida, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Vermont, Virginia, West Virginia, Wisconsin (Muona 2000), and now for the first time in Georgia, Kansas and Rhode Island. Specimens were taken by pyrethrin fogging of a fungus infested log, x-vane trap and Lindgren funnel traps. **GEORGIA: Fulton County:** 3.6 km NNE Union City, 29 March–14 April 2016, E. Dendy (CMNH); **KANSAS: Crawford County:** 2 mi W. Pittsburg, 14–21 April 2009 (SEMC), **Woodson County:** Cross Timbers State Park, Toronto Point, Ancient Trees Trails, 24 April 2010 (SEMC); **RHODE ISLAND: Washington County:** 6.2 km NE South Kingstown, 14–28 June 2016, L. Petermen (CMNH).

***Microrhagus triangularis* (Say, 1823)**

In Canada, this widespread eucnemid species was found in New Brunswick, Nova Scotia, Ontario and Québec. In the United States, *M. triangularis* was previously recorded in Alabama, Arkansas, Connecticut, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, Wisconsin (Muona 2000; Majka 2007; Webster et al. 2012) and reported for the first time in Maine. Specimens were taken from a translucent cross-vane panel trap and a Lindgren funnel trap. **MAINE: Androscoggin County:** 3.8 km SE Lewiston, 30 June–11 July 2016, R. Nyce & R. Vicary (CMNH), **Penobscot County:** 2.2 km SSE Bangor, 22 June–6 July 2016, R. Nyce (CMNH).

***Dirrhagofarsus ernae* Otto, Muona & McClarin, 2014** (Fig. 7)

This recently described species was previously known from Alabama, Missouri, New Hampshire, Ohio, Pennsylvania, Virginia, Wisconsin (Otto et al 2014) and reported here for the first time in Connecticut, Delaware, Florida, Illinois, Indiana, Iowa, Georgia, Kansas, Maine, Massachusetts, Michigan, New Jersey, Oklahoma, Rhode Island, Tennessee, Texas, Vermont and West Virginia. Specimens were

taken from a fermenting sugar trap, a black bottle trap baited with ethanol lure, a clear bottle trap baited with fermenting fruit, a purple sticky trap, black panel trap baited with EtOH, swept from vegetation, at lights, beaten from a dead branch, Lindgren funnel traps, intercept panel traps, cross vane traps and a translucent cross vane panel trap. **CONNECTICUT: Hartford County:** 1.0 km NE Plainville, 6–17 June 2016, K. Divito (CMNH), **Litchfield County:** 0.4 km NNW Norfolk, Haystack Mountain State Park, 8–22 July 2016, K. Divito (CMNH), 4.9 km NNE Watertown, Mattatuck State Forest, 6–17 June 2016, K. Divito (CMNH), **New Haven County:** 3.4 km NNW Bradford, Lake Saltonstall, 8–22 June 2016, K. Divito (CMNH); **DELAWARE: New Castle County:** 3.1 km SSE Wilmington, 6–23 June 2016, J. Roman (CMNH), 3.4 km SE Wilmington, 23 June–11 July 2016, J. Roman (CMNH), 4.3 km NW Newark, White Clay Creek State Park, 21 June–7 July 2016, J. Roman (CMNH), 5.6 km SW New Castle, 6–21 June 2016, J. Roman (CMNH); **FLORIDA: Liberty County:** Torreya State Park, 27 April 2014, Kyle E. Schnepf (KESC); **Santa Rose County:** vic Camp Paquette, 5 April 2008, R. Turnbow (RHTC); **Walton County:** Bay Flats Rec. Area, 7 April 2008, R. Turnbow (RHTC); **GEORGIA: Chatham County:** 0.9 km E Port Wentworth, 7–21 April 2016, S. Davis (CMNH), 3.4 km S Garden City, 10–24 March 2016, S. Davis (CMNH), 4.5 km NW Port Wentworth, 3–16 April 2013, R. Morgan (CMNH), **Cherokee County:** 11.2 km SE Ball Ground, 17 June–1 July 2015, L. Womack (CMNH), **Cook County:** 11.6 km NW Adel, 20 August–9 September 2014, N. Skaggs (CMNH), 11.7 km NW Adel, 2–22 April 2013, N. Skaggs (CMNH), **Crisp County:** 4.3 km E Cordele, 26 April–10 May 2016, C. Barnes (CMNH), **DeKalb County:** 3.6 km NNW Lithonia, 18 April–5 May 2016, 5–31 May 2016, 31 May–8 June 2016, 16 August–6 September 2016, 6–28 September 2016, 28 September–11 October 2016, E. Dendy (CMNH), **Douglas County:** 1.8 km SE Austell, 18 April–4 May 2016, 28 September–11 October 2016, E. Dendy (CMNH), **Elbert County:** 1.4 km SW Elberton, 11–25 April 2016, R. Morgan (CMNH), 2.6 km NNW Elberton, 11–25 April 2016, 25 April–9 May 2016, 9–23 May 2016, 23 May–6 June 2016, R. Morgan (CMNH), **Fulton County:** 2.1 km SSW Union City, 4–19 May 2016, E. Dendy (CMNH), 2.2 km SSW Union City, 26 July–11 August 2016, E. Dendy (CMNH), 3.6 km NNE Union City, 20 May–2 June 2016, 30 June–27 July 2016, E. Dendy (CMNH), **Gwinnett County:** 2.9 km NNE Snellville, 7–21 October 2014, R. Willits (CMNH), **Long County:** ~10 miles WNW Ludowici, 22 July 2016, at lights, Kyle E. Schnepf (KESC); **Morgan County:** 7.3 km NW Madison, 3–17 June 2015, R. Willits (CMNH); **ILLINOIS: Cook County:** 1.0 km SW Dyer, 12–24 June 2014, R. Van Duzor (CMNH), **Fayette County:** 2.7 km SW Vandalia, 25 May–10 June 2016, 10–22 June 2016, 22 June–22 July 2016, C. Wetzel (CMNH); 2.4 km SSE Vera, 5–25 May 2016, 10–22 June 2016, C. Wetzel (CMNH), **Jo Daviess County:** 5.4 km SE East Dubuque, 27 May–16 June 2014, E. Burns (CMNH), **Madison County:** 3.5 km NW Highland, 2–14 June 2016, S. Mills (CMNH), **Massac County:** 2.2 km ESE Metropolis, 19 May–3 June 2016, S. Mills (CMNH), **St. Clair County:** 1.1 km NNW East St. Louis, 20 May–2 June 2016, 2–14 June 2016, 14–30 June 2016, S. Mills (CMNH); **INDIANA: Montgomery County:** Shades St. Pk., 30 May–6 July 2011, 21 May–8 June 2013, 3 June 2013, 8 June 2013 (KESC), **Morgan County:** 25–31 May 2009, 4 April–13 June 2010, 12–22 May 2011, 23 May–3 June 2011, 3 June–3 July 2011, Kyle E. Schnepf (KESC), **Tippecanoe County:** 29 May 2007, 1 June 2007, 4–17 June 2009, Kyle E. Schnepf (KESC), Ross Hill Park, 7 June 2013, R. Turnbow (RHTC); **IOWA: Henry County:** Geode State Park, 22 May 2004, in rotting stump, Doug Veal (DAVC), **Lucas County:** Stevens State Park, 14 June 2003, on car, Doug Veal (DAVC), **Van Buren County:** Shimek State Forest, 21 June 2003, Flour./uv light, Doug Veal (DAVC); **KANSAS: Cherokee County:** 2 mi S. Galena, 5 May 2009 (SEMC), **Crawford County:** 2 mi W. Pittsburg, 19 April–4 May 2006 (SEMC), **Douglas County:** Lawrence, 19 May 2005 (SEMC), **Jefferson County:** Perry State Park, 6–12 June 2006 (SEMC), **Johnson County:** Overland Park Arboretum, 23–30 May 2006 (SEMC), **Nemaha County:** approx. 5 mi. NNW Onaga, 23–31 May 2006 (SEMC), **Pottawatomie County:** 4.4 km E. Randolph, Randolph State Park, 21 May–5 June 2015, E. Stiers (CMNH); **MAINE: Androscoggin County:** 3.4 km SW Lewiston, 30 June–11 July 2016, J. Nicolelli (CMNH), **Hancock County:** 1.5 km NNE Sedgwick, 20 June–2 July 2013, S. Bonstedt (CMNH), 2.8 km S Bar Harbor, 19 July–2 August 2016, J. Nicolelli (CMNH), **Kennebec County:** 3.4 km SE Winslow, 30 June–14 July 2016, J. Nicolelli (CMNH), **Penobscot County:** 0.5 km NW East Newport, 6 June–1 July 2013, S. Bonstedt (CMNH), 0.4 km N East Newport, 1–19 July 2013, S. Bonstedt (CMNH), 2.2 km SSE Bangor, 22 June–6 July 2016, R. Nyce (CMNH), 4.8 km W Bangor, 6–13 July 2016, J. Nicolelli (CMNH), **Washington County:** 16 km ENE Beddington, 22 July–5 August 2016, J. Nicolelli (CMNH); **MASSACHUSETTS: Bristol County:** 4.1

km E. Freetown, 23 June–7 July 2016, K. Thomsen (CMNH), **Essex County**: 1.3 km SW Merrimac, 24 June–7 July 2016, S.M. Grubin (CMNH), **Hampshire County**: 2.6 km ENE Belchertwon, 9–23 June 2016, T. Kesting-Handly (CMNH), 3.7 km NNW Bondsville, 23 June–6 July 2016, T. Kesting-Handly (CMNH), **Middlesex County**: 4.2 km ENE Tewksbury, 25 May–7 June 2011, K. Divito (CMNH), **Plymouth County**: 0.7 km NNE Elmwood, 15–29 June 2016, T. Kesting-Handly (CMNH), **Worcester County**: 0.8 km NNW North Brookfield, 17 June–2 July 2015, T. Kesting-Handly (CMNH), 1 km W. Burncoat Pond, 17 June–2 July 2015, K. Kaseta (CMNH), 0.9 km SW Wheelwright, 8–26 July 2016, M. Corilee (CMNH); **MICHIGAN**: **Chippewa County**: 0.5 km SW Trout Lake and end of W Bulk Plant road, 3–5 July 2016, R. Androw (CMNH); **NEW JERSEY**: **Burlington County**: 1.5 km SW Delran, 10 May–1 June 2016, 1–22 June 2016, D. Armstrong (CMNH), **Gloucester County**: 4.7 km NE Sewall, 24 May–8 June 2016, 8–22 June 2016, M. Parkinson (CMNH), **Morris County**: 1.0 km SW Boonton, 19 May–1 June 2016, 15 June–8 July 2016, 8–22 July 2016, K. Moore (CMNH), **Somerset County**: 1.5 km Branchburg, 24 May–10 June 2016, 10–30 June 2016, 30 June–15 July 2016, S. Coachman (CMNH), **Sussex County**: 4.7 km SW Newton, 16–30 June 2016, T. Mauro (CMNH), 13.7 km WNW Newton, 16–30 June 2016, T. Mauro (CMNH), **Union County**: 1.3 km S Linden, 7–22 June 2016, P. Milicia (CMNH), **Warren County**: 1.0 km SSE Delaware, 1–15 June 2016, 15 June–8 July 2016, K. Moore & A. Pappas (CMNH); **OKLAHOMA**: **Rogers County**: 4.3 km N Catoosa, 9 March–28 April 2016, A. Edwards (CMNH), 5.1 km SW Catoosa, 4 May–29 June 2016, A. Edwards (CMNH), **Tulsa County**: 14.2 km NE Tulsa, 10 March–28 April 2016, A. Edwards (CMNH); **RHODE ISLAND**: **Kent County**: 2.4 km SSE Coventry, 6–20 June, 2016, L. Petermen (CMNH), 4.8 km NW Coventry, 7–20 June 2016, 20 June–7 July 2016, L. Petermen (CMNH), **Providence County**: 0.9 km S Slatersville, 14–29 June 2016, D. Hirsch (CMNH), 1.9 km WSW Pawtucket, 15–28 June, 2016, 12–27 July 2016, K. Miller (CMNH) 1.9 km WSW Pawtucket, 28 June–12 July 2016, B. Noones and E. Dugas (CMNH), **Washington County**: 6.2 km NE South Kingston, 14–28 June 2016, L. Petermen (CMNH), 6.3 km SW South Kingstown, 14–28 June 2016, L. Petermen (CMNH), **TENNESSEE**: **Humphreys County**: 1.5 km SW Gorman, 23–25 May 2005, 13–15 June 2005, J.H. Lowe and E. Clebsch (CMNH), **Marion County**: Nickajack L., 1 June 1991, W. Ward & Davidson (CMNH); **TEXAS**: **Sabine County**: ca 8 mi E Hemphill, 22 June–20 July 2014, Heffern & Raber (TAMU); **VERMONT**: **Addison County**: 3.1 km SE Middlebury, 8–22 July 2016, E. Inoue (CMNH), **Chittenden County**: 2.0 km N Burlington, 22 June–6 July 2016, E. Inoue (CMNH), 2.1 km N Burlington, 22 June–6 July 2016, 7–19 July 2016, 19 July–6 August 2016, E. Inoue (CMNH), 3.3 km SE Essex, 24 June–8 July 2016, 8–18 July 2016, 18 July–5 August 2016, E. Inoue (CMNH), **Franklin County**: 2.0 km SSE Swanton, 15 June–6 July 2016, 6–18 July 2016, 18 July–3 August, E. Inoue (CMNH), **Rutland County**: 1.1 km SW Brandon, 6–16 July 2015, E. Inoue (CMNH), 2.2 km NE Rutland, 17 June–8 July 2016, 8–22 July 2016, E. Inoue (CMNH), 2.1 km NE Rutland, 22 July–4 August 2016, E. Inoue (CMNH), **Washington County**: 2.0 km NNW Barre, 23 June–7 July 2016, J. Rosovsky (CMNH), **Windham County**: 4.5 km SSW Brattleboro, 21 June–7 July 2016, E. Inoue (CMNH), 3.3 km E Putney, 2–23 August 2016, E. Inoue (CMNH), 2.1 km NW Rockingham, 13 June–6 July 2016, L. Modesto (CMNH), **Windsor County**: 1.4 km SW White River Junction, 29 June–18 July 2016, L. Modesto (CMNH); **WEST VIRGINIA**: **Brooke County**: 4.4 km SW Weirton, 26 May–8 June 2016, 22 June–6 July 2016, R. Braud (CMNH), **Hancock County**: 7.6 km SSW Chester, 6–20 July 2016, R. Braud (CMNH), **Wood County**: 2.0 km WSW Williamstown, 8–20 June 2016, R. Hays (CMNH).

***Dirrhagofarsus lewisi* (Fleutiaux, 1900)**

According to Muona (2000), this seemingly uncommon eucnemid species was found in Georgia, Maryland, Pennsylvania and West Virginia. Over the years, the senior author have identified numerous specimens taken from various state which now includes Alabama, Arkansas, Florida, Illinois, Kansas, Maryland, Missouri, Ohio, Texas, Vermont, Virginia, West Virginia and Wisconsin.

***Sarpedon scabrosus* Bonvouloir, 1875**

This rarely seen eucnemid species was previously recorded in British Columbia and Ontario. In the United States, *S. scabrosus* was taken in Alabama, California, Colorado, Indiana, Iowa, Kansas, Maryland, Minnesota, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Oregon, Tennessee, Texas, Utah, Washington and Wisconsin (Muona 2000). New records reported here include

Michigan and Missouri. Specimens were taken from a rotary trap and a Lindgren funnel trap. **MICHIGAN: Saginaw County:** St. Charles, 19 August 1968, James G. Truchan (ARC); **MISSOURI: St. Louis County:** 2.5 km E Maryland Heights, 14–27 June 2016, L. Trevathan (CMNH).

Subfamily Eucneminae Eschscholz, 1829

Tribe Mesogenini Muona, 1993

Stethon pectorosus LeConte, 1866

This apparently rare eucnemid species was previously known from New Brunswick, Ontario and Québec. In the United States, *S. pectorosus* was taken in Alabama, Arkansas, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New York, Ohio, Oklahoma, Pennsylvania, Texas, Virginia, Wisconsin (Otto & Gruber 2016) and now for the first time in Louisiana. **LOUISIANA: St. Charles Parish:** Norco, Bonnet Carre Spillway, 10 May 1971, Eric H. Metzler (ARC).

Tribe Eucnemini Eschscholz, 1829

Eucnemis americana Horn, 1886

(Fig. 8)

In Canada, this rarely seen eucnemid species has been recorded in Ontario. In the United States, *E. americana* have been found in California, Illinois, Indiana, New York, Oregon, Pennsylvania, Washington, Wisconsin (Muona 2000) and taken for the first time in Connecticut, Massachusetts, New Jersey and Ohio. Specimens were taken from Lindgren funnel traps and a intercept panel trap. **CONNECTICUT: Harfield County:** 4.8 km NNE Enfield, 15–28 May 2013, K. Divito (CMNH); **MASSACHUSETTS: Hampden County:** 4.0 km W Westfield, 2–16 June 2016, N. Carrier (CMNH); **NEW JERSEY: Warren County:** 1.0 km SSE Delaware, 17 May–1 June 2016, K. Moore & A. Pappas (CMNH, GERP); **OHIO: Cuyahoga County:** 1.3 km SE Euclid, 17–30 May 2014, R. Freeborn (CMNH), **Mahoning County:** 3.0 km NE Cornersburg, 11–24 May 2012, R. Freeborn (CMNH), **Morris County:** 1.0 km SW Boonton, 15 June–8 July 2016, K. Moore (CMNH), **Ottawa County:** 3.6 km NNE Lacame, 19 May–2 June 2015, C. Poe (CMNH), **Stark County:** 3.1 km W Alliance, 14–28 May 2016, R. Freeborn (CMNH, GERP). **Vinton County:** 6.5 km SE of Zaleski. 11–18 May 2013, 22–29 April 2017 (3), K.D. Karns (KDKC).

Subfamily Macraulacinae Fleutiaux, 1922

Tribe Euryptychini Mamaev, 1976

Euryptychus heterocerus (Say, 1836)

(Fig. 9)

This rarely collected eucnemid species was found in Illinois, Indiana, Kansas, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, West Virginia and Wisconsin (Muona 2000). New records reported here include Georgia, North Carolina, Rhode Island and Virginia. Specimens were taken from blacklight traps and a Lindgren funnel trap. **GEORGIA: Wheeler County:** along the Ocmulgee river, summer 1996, E. Donaldson (FSCA); **NORTH CAROLINA: Wayne County:** Cliffs of the Neuse State Park, 23 June 2008, R. Androw & W. Merritt (CMNH); **RHODE ISLAND: Washington County:** 5.5 km SW Charlestown, 12–28 July 2016, L. Petermen (CMNH); **VIRGINIA: Augusta County:** 6.0 km WSW Craigsville, George Washington National Forest, 1 September 1997, L. Butler & J. Strazanac (CMNH).

Euryptychus ulkei (Horn, 1886)

(Fig. 10)

This rarely seen species has been recorded Georgia, Mississippi, Ohio, Pennsylvania, Virginia (Muona 2000; Hoffman et al 2009) and now for the first time in Florida, Rhode Island and Texas. Specimens were

taken from a Lindgren funnel trap and at lights. **FLORIDA: Taylor County:** ~5 miles SW U.S. 19 & 205 St., 9 July 2016, at lights, Kyle E. Schnepf (KESC); **RHODE ISLAND: Providence County:** 1.2 km W Central Falls, 12–27 July 2016, K. Miller (CMNH); **TEXAS: Hays County:** 6 mi. NW Dripping Springs, 3–30 June 2006, E.G. Riley et al., *Juniperus* managed land (TAMU).

Tribe Macraulacini Fleutiaux, 1902

Diphytaxis excavata Horn 1890

(Fig. 11)

This eucnemid species was previously known from Belize, Cuba, Guatemala and Mexico. In the United States, *D. excavata* were found in Arkansas, Texas (Muona 2000; Otto 2011b) and taken for the first time in Missouri. Two specimens were taken from Lindgren funnel traps. **MISSOURI: Callaway County:** 2.1 km NNW Fulton, 11–25 August 2016, B. Deschu (CMNH), **Cole County:** 4.9 km SW Jefferson City, 30 June–12 July 2016, B. Deschu (GERP).

Onichodon canadensis (Brown, 1940)

In Canada, this widespread, apparently rare eucnemid was previously recorded in New Brunswick, Nova Scotia, Ontario, Prince Edward Island and Québec (Muona 2000; Majka 2007). In the United States, *O. canadensis* were found in Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Pennsylvania and Wisconsin (Muona 2000). New state records include Connecticut and Vermont. Specimens were taken from Lindgren funnel traps. **CONNECTICUT: Litchfield County:** 6.1 km NE Torrington, 24 June–8 July 2013, K. Divito (CMNH); **VERMONT: Addison County:** 3.1 km SE Middlebury, 17 June–8 July 2016, 22 July–4 August 2016, E. Inoue (CMNH), **Chittenden County:** 2.1 km N Burlington, 6–19 July 2016, 19 July–6 August 2016, E. Inoue (CMNH), 3.2 km SE Essex, 8–18 July 2016, E. Inoue (CMNH), 3.3 km SE Essex, 8–18 July 2016, 18 July–5 August 2016, E. Inoue (CMNH), **Franklin County:** 2.0 km SSE Swanton, 6–18 July 2016, E. Inoue (CMNH), **Rutland County:** 2.2 km NE Rutland, 17 June–8 July 2016, 8–22 July 2016, 22 July–4 August 2016, E. Inoue (CMNH).

Onichodon downiei Muona, 2000

In Canada, the eucnemid species was taken in Ontario. In the United States, *O. downiei* were previously recorded in Illinois, Maryland, Michigan, Missouri, Pennsylvania, Wisconsin (Muona 2000; Otto 2011a) and is reported here for the first time in Indiana, Massachusetts, New York, Ohio, Vermont and Virginia. Specimens were taken from black panel trap baited with EtOH, Lindgren funnel traps, intercept panel trap, UV bucket trap at lights and a Malaise trap. **INDIANA: Morgan County:** 11 July–3 August 2010, Kyle E. Schnepf (KESC); **MASSACHUSETTS: Barnstable County:** 1.7 km SSE Hatchville, 8–20 July 2016, T. Kesting-Handly (CMNH), **Norfolk County:** 1.7 km WSW Foxborough, 29 June–14 July 2016, T. Kesting-Handly (CMNH), 2.3 km SSW Avon, D.W. Field Park, 7–20 July 2016, K. Thomsen (CMNH); **NEW YORK: Nassau County:** Roslyn, L.I., 4 July 1930, J.N. Belkin (FSCA); **OHIO: Fairfield County:** Lancaster, 25–26 May 2010, K.D. Karns (KDKC), **Vinton County:** Lake Hope State Park, 23 July 1984, R. Androw (CMNH), Lake Hope State Park, 5 July 1988, R. Androw & H. Flanery (CMNH); **VERMONT: Bennington County:** Beartown, July 1996 (CMNH); **VIRGINIA: Giles County:** 2 km NNE Mountain Lake, 23–24 July 1992, hardwoods, R. Acciavatti (CMNH).

Onichodon rugicollis (Fall, 1925)

This rarely seen eucnemid species was previously taken in Alabama, Florida, Illinois, Kentucky, Louisiana, Michigan, Mississippi, North Carolina, Pennsylvania, Texas, Wisconsin (Muona 2000; Otto 2010, 2013b), but now it has been recorded for the first time in Iowa. **IOWA: Allamakee County:** Yellow River Forest, July 3 2005, uv light, Ed Freese (DAVC).

***Onichodon wappesi* Muona, 2000**

(Fig. 12)

This rarely encountered eucnemid was a precintive species in Texas (Muona 2000), but now have taken for the first time in Oklahoma. One specimen was taken from a Lindgren funnel trap. **OKLAHOMA: Rogers County:** 4.3 km N Catoosa, 23 June–13 September 2016, A. Edwards (CMNH).

***Fornax bicolor* (Melsheimer, 1844)**

In Canada, this rarely collected eucnemid species has been recorded in Quebec. In the United States, *F. bicolor* was previously taken from Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Louisiana, Missouri, New York, North Carolina, Pennsylvania, South Carolina, Virginia (Muona 2000) and for the first time in Ohio. Two specimens were taken from Lindgren funnel traps baited with a combination of EtOH and α -Pinene lure. **OHIO: Athens County:** Waterloo State Forest, 31 August–14 September 2013, 16–23 August 2014, K.D. Karns (KDKC).

***Isarthrus calceatus* (Say, 1836)**

In Canada, this uncommonly seen eucnemid species was taken in Ontario and Québec. In the United States, *I. calceatus* was previously recorded in Arkansas, District of Columbia, Georgia, Illinois, Indiana, Kansas, Maine, Massachusetts, Michigan, Missouri, New Hampshire, New York, Ohio, Pennsylvania, Texas, Vermont and Wisconsin (Muona 2000). New records reported here include Maryland, New Jersey, Oklahoma and Rhode Island. Specimens was taken from Lindgren funnel traps and a intercept panel trap. **MARYLAND: Worchester County:** Whitesburg, 2 May 1988, R.J. Rabaglia (CMNH); **NEW JERSEY: Burlington County:** 7 km Chatsworth, Lebanon State Forest, 24 May–7 June 2005, R. Acciavatti (CMNH), 4.1 km NW Atsion, Wharton State Forest, 30 April–15 May 2002, R. Acciavatti (CMNH), **Salem County:** 3 km SE Centerton, Parvin State Park, 24 May–7 June 2005, R.E. Acciavatti (CMNH); **OKLAHOMA: Tulsa County:** 9.1 km NE Tulsa, 9 March–29 April 2016, A. Edwards (CMNH), 14.2 km NE Tulsa, 10 March–28 April 2016, A. Edwards (CMNH); **RHODE ISLAND: Kent County:** 0.8 km W Potowomut, Goddard Memorial State Park, 2–14 June 2016, K. Divito (CMNH), **Providence County:** 6.6 km SW Scituate, 6–19 May 2016, K. Divito (CMNH), **Washington County:** 1.4 km SE Exeter, 25 May–7 June 2016, L. Petermen (CMNH), 14.6 km W Exeter, 12–28 July 2016, L. Petermen (CMNH), 1.4 km WSW West Kingston, 7–14 May 2015, K. Divito (CMNH), 1.4 km SSW Hope Valley, 23 April–7 May 2015, K. Divito (CMNH), 6.2 km NE South Kingstown, 14–28 June 2016, L. Petermen (CMNH).

***Isarthrus rufipes* (Melsheimer, 1844)**

(Fig. 13)

In Canada, this eucnemid species was taken in Ontario. In the United States, *I. rufipes* were found in Alabama, Connecticut, District of Columbia, Georgia, Illinois, Indiana, Maryland, Michigan, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Virginia, Wisconsin (Muona 2000) and newly recorded in Iowa and Maine. One of the specimen was taken from a Lindgren funnel trap. **IOWA: Fremont County:** Waubonsie S.P., 28 June 2007, in rotting tree stump, Doug Veal (DAVC); **MAINE: Somerset County:** 1.8 km WNW Fairfield, 14–28 July 2016, J. Nicoletti (CMNH).

***Dromaeolus badius* (Melsheimer, 1844)**

In Canada, this widespread, common eucnemid species was taken in Ontario and Québec. In the United States, *D. badius* was previously known in Alabama, Arizona, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Louisiana, Maryland, Missouri, Nebraska, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Utah, Virginia and Wisconsin (Muona 2000). New records reported here include Massachusetts, New Jersey, Texas and Vermont. Specimens were taken from Lindgren funnel traps. **MASSACHUSETTS: Hampshire County:** 3.7 km NNW Bondsville, 6–21 July 2016, T. Kesting-Handly (CMNH); **NEW JERSEY: Ocean County:** 3.8 km SE Lakewood, 23 June–8 July 2016, D. Armstrong (CMNH); **TEXAS: Travis County:** 3.0 km SE Austin, 18 May 1985, J.E. Rawlins (CMNH); **VERMONT: Chittenden County:** 2.1 km N Burlington, 6–19 July 2016, E. Inoue (CMNH), **Windham County:** 4.5 km SSW Brattleboro, 21 July–2 August 2016, E. Inoue (CMNH).

***Dromaeolus cylindricollis* (Say, 1836)**

In Canada, this eucnemid species was previously known from Ontario and Québec. In the United States, *D. cylindricollis* has been recorded from Alabama, Arkansas, Connecticut, District of Columbia, Florida, Georgia, Illinois, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Texas, Virginia, Wisconsin (Muona 2000; Otto 2012) and recorded for the first time in Rhode Island and Vermont. Specimens were taken from Lindgren funnel traps. **RHODE ISLAND: Kent County:** 10.8 km W Coventry, 12–27 August 2016, L. Petermen and K. Miller (CMNH); **VERMONT: Addison County:** 3.1 km SE Middlebury, 17 June–8 July 2016, E. Inoue (CMNH), **Chittenden County:** 2.1 km N. Burlington, 30 June–16 July 2015, 19 July–6 August 2016, E. Inoue (CMNH), 3.3 km SE Essex, 18 July–5 August 2016, E. Inoue (CMNH), **Franklin County:** 2.0 km SSE Swanton, 6–18 July 2016, 18 July–3 August 2016, E. Inoue (CMNH), **Rutland County:** 2.2 km NE Rutland, 17 June–8 July 2016, 8–22 July 2016, 22 July–4 August 2016, 4–24 August 2016, E. Inoue (CMNH).

***Dromaeolus salsus* Bonvouloir, 1871**

(Fig. 14)

This very rarely seen eucnemid species was previously known from Louisiana and Texas (Muona 2000). New state records now include Florida and Ohio. Specimens were taken from a 6 meter Malaise trap and from a combination of UV/MV light trap. **FLORIDA: Alachua County:** SE Gainesville, Kincaid Rd., old field edge/xeric oak hammock, 6m Malaise, 24 April–1 May 1999, 1–8 May 1999, 8–15 May 1999, 16 May–5 June 1999, B.D. Sutton (FSCA, GERP); **OHIO: Vinton County:** Lake Hope State Park, near Keeton Cemetery, 15 July 2008, R. Andrew (CMNH).

***Dromaeolus striatus* (LeConte, 1852)**

(Fig. 15)

Although widespread across much of the eastern United States, this rarely seen eucnemid species was previously known from Alabama, Arkansas, Connecticut, District of Columbia, Florida, Georgia, Iowa, Louisiana, Maryland, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia, Wisconsin (Muona 2000) and newly recorded in Massachusetts. Muona (2000) regarded a Utah record as mislabeled. A single specimen was taken from a Lindgren funnel trap placed in Barnstable County. **MASSACHUSETTS: Barnstable County:** 3.8 km WSW Orleans, 20 July–3 August 2016, T. Kesting-Handly (CMNH).

***Dromaeolus teres* (Horn, 1886)**

This rarely encountered eucnemid species has been recorded from the Cayman Islands. In the United States, *D. teres* have been found in Florida, Louisiana, Texas (Muona, 2000), and taken for the first time in Georgia. Specimens were taken from a UV trap and a Lindgren funnel trap. **GEORGIA: Chatham County:** Skidaway Island St. Pk., 9 June 2013, E. Riley (TAMU), 3.3 km ESE Savannah, 14–28 May 2015, 28 May–11 June 2015, S. Davis (CMNH).

***Dromaeolus turnbowi* Muona, 2000**

This rarely seen eucnemid species was known from Alabama, Georgia, Louisiana, Mississippi, Pennsylvania, Tennessee and West Virginia (Muona 2000; Otto 2012). New state records include Florida, Ohio and Texas. Specimens were taken from Malaise traps, netted in flight over a dead windfall, Lindgren funnel traps and flight intercept traps. **FLORIDA: Leon County:** Tall Timbers Research Station, 1–25 May 1993, 1–8 June 1993, 8–15 June 1993, 8–15 June 1993 (FSCA); **OHIO: Athens County:** Waterloo State Forest, 6–19 July 2013, K.D. Karns (KDKC). **Ross County:** Scioto Trail State Forest, 19–26 June 2010, K.D. Karns (KDKC). **Vinton County:** 6.5 km SE of Zaleski, 2–9 July 2011, 16–23 June 2012 (3), 23–30 June 2012, 7–14 July 2012 (2), 6 July 2013, 12–19 July 2013, 19–26 July 2013, 30 June–7 July 2013 (6), K.D. Karns (KDKC); **TEXAS: Sabine County:** 9 mi. E. Hemphill, 26 May 2007, S.M. Clark (BYUC).

***Thambus horni* Muona, 2000**

(Fig. 16)

In Canada, this uncommonly collected eucnemid species was taken in Ontario. In the United States, *T. horni* was known from Illinois, Indiana, Kansas, Mississippi, New York, Ohio, Texas, Virginia and Wisconsin (Muona 2000; Otto 2011a). New records reported here include Michigan, Missouri and North Carolina. Specimens were taken from a rotary trap and Lindgren funnel traps. **MICHIGAN: Saginaw County:** St. Charles, 15 July 1968, 17 July 1968, 21 August 1968, James G. Truchan (ARC); **MIS-SOURI: Boone County:** 2.7 km SSE Columbia, 30 June–12 July 2016, B. Deschu (CMNH); **NORTH CAROLINA: Swain County:** Job Corps Center, 8 July 2004, A. Mayor (TAMU).

***Deltometopus amoenicornis* (Say, 1836)**

In Canada, this common, widespread eucnemid species was previously recorded in New Brunswick, Nova Scotia, Prince Edward Island, Ontario and Québec (Muona 2000; Majka 2007). In the United States, *D. amoenicornis* was known from Alabama, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Oklahoma, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin (Muona 2000) and newly reported in Rhode Island. Specimens were taken from Lindgren funnel traps. **RHODE ISLAND: Kent County:** 4.8 km NW Coventry, 7–20 June 2016, L. Petermen (CMNH), 10.8 km W Coventry, 13–28 July 2016, K. Miller (CMNH), **Providence County:** 1.9 km WSW Pawtucket, 12–27 July 2016, 10–25 August 2016, K. Miller (CMNH), 3.8 km S Cranston, 12–27 July 2016, K. Miller (CMNH).

Tribe Nematodini Leiler, 1976***Nematodes atropos* (Say, 1836)**

This widespread, common eucnemid species was previously known from Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas and Virginia (Muona 2000). New state records include Connecticut, Massachusetts, New Jersey, Oklahoma, Tennessee and West Virginia. Specimens were reared from dead *Carya sp.* (Juglandaceae) limbs, Lindgren funnel traps and an intercept panel trap. **CONNECTICUT: Fairfield County:** 1.5 km SE New Canaan, 23 June–6 July 2015, K. Divito (CMNH); **MASSACHUSETTS: Plymouth County:** 0.5 km Middleborough Center, 14–28 July 2016, D. Hirsch (CMNH); **NEW JERSEY: Essex County:** 4.5 km SE Livingston, 27 June–10 July 2016, 10–26 July 2016, S. Coachman (CMNH), **Hunterdon County:** 2.9 km NNE Flemington, 30 June–15 July 2016, A. Pappas (CMNH), **Morris County:** 1.0 km SW Boonton, 15 June–8 July 2016, K. Moore (CMNH); **OKLAHOMA: Caddo County:** Hinton, 15 June 1960, W.T. VanVelzen (ARC); **TENNESSEE: De Kalb County:** Edgar Evins State Park, 12–13 June 2009, Robert D. Ward Coll. (CMNH), **Loudon County:** 9 km NNW Lenoir City, emerged winter 2015, ex dead *Carya* caged 30 May 2014 (CMNH); **WEST VIRGINIA: Putnam County:** 3.2 km SSW Buffalo, 16–30 June 2016, R. Hays (CMNH).

***Nematodes collaris* Bonvouloir, 1872**

(Fig. 17, 18)

This very rarely seen eucnemid species has been recorded in Indiana, Louisiana, Maryland, Missouri, Ohio, South Carolina (Muona 2000; Otto 2010) and now for the first time in Illinois and Kansas. Specimens were taken by Lindgren funnel traps, canopy traps, flight intercept traps and canopy Malaise traps. **ILLINOIS: Effingham County:** 2.0 km SSW Effingham, 10–29 June 2016, C. Wetzel (CMNH); **Shelby County:** 3.6 km NE Shelbyville, 9–28 June 2016, C. Wetzel (CMNH), **St. Clair County:** 1.1 km NNW East St. Louis, 20 May–2 June 2016, 2–14 June 2016, 14–30 June 2016, S. Mills (CMNH, GERP); **KANSAS: Bourbon County:** 9 mi. SW Fort Scott, 17–30 May 2006, 7–15 June 2006 (SEMC), **Crawford County:** 2 mi. W Pittsburg, 1–13 June 2005, 13–27 June 2005, 18–30 May 2006 (SEMC), **Douglas County:** 2 mi. NW Baldwin, 13 May–2 June 2006 (SEMC), **Jefferson County:** Perry State

Park, 1.000 km SW, 6–12 June 2006 (SEMC), The Falin Property, 1.500 km N jct 94th St. and Kingman Rd, 7–10 June 2005, 10–20 June 2005 (SEMC), **Johnson County:** Overland Park Arboretum, 23–30 May 2006 (SEMC), **Labette County:** Big Hill Reservoir, 2–13 June 2005, 30 May–6 June 2006 (SEMC), **Nemaha County:** approx. 5 mi. NNW Onaga, 6–12 June 2006 (SEMC), **Neosho County:** 2 mi. SE. Erie, 13–28 June 2005 (SEMC).

***Nematodes penetrans* (LeConte, 1852)**

In Canada, this uncommonly collected eucnemid species was found in New Brunswick, Nova Scotia, Ontario and Québec (Webster et al. 2012). In the United States, *N. penetrans* was previously known from Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, Texas, Virginia, West Virginia and Wisconsin (Muona 2000). New records reported here include Alabama, Florida, Georgia, New Hampshire, New Jersey, Oklahoma and Vermont. Specimens were taken from a blacklight trap, a Malaise trap, Lindgren funnel traps, a panel intercept trap and cross-vane panel traps. **ALABAMA: Dale County:** Level Plains, 27–28 April 2011, 25–27 May 2011, 7–10 June 2011, 1–11 May 2012, R. Turnbow (RHTC); **FLORIDA: Leon County:** Tall Timbers Research Station, 11–18 May 1993 (FSCA); **GEORGIA: Coffee County:** 12.2 km W Nicholls, 7 May–4 June 2013, N. Skaggs (CMNH); **NEW HAMPSHIRE: Cheshire County:** 1.5 km E. Keene, 7–21 July 2016, 4–23 August 2016, D. Dudley (CMNH); **NEW JERSEY: Passaic County:** 3.8 km ESE Wayne, 29 June–19 July 2016, S. Limbachia (CMNH), **Warren County:** 1.2 km SSE Delaware, 15 June–8 July 2016, K. Moore (CMNH); **OKLAHOMA: Rogers County:** 4.3 km N Catoosa, 28 April–23 June 2016, A. Edwards (CMNH); **VERMONT: Chittenden County:** 2.0 km N Burlington, 22 June–6 July 2016, 6–19 July 2016, E. Inoue (CMNH), 2.1 km N. Burlington, 22 June–6 July 2016, 7–19 July 2016, 19 July–6 August 2016, E. Inoue (CMNH); **Rutland County:** 2.2 km NE Rutland, 17 June–8 July 2016, 22 July–4 August 2016, E. Inoue (CMNH), **Washington County:** 1.8 km NNW Barre, 23 June–7 July 2016, 18 July–8 August 2016, J. Rosovsky (CMNH), 2.0 km NNW Barre, 23 June–7 July 2016, 18 July–8 August 2016, J. Rosovsky (CMNH), **Windham County:** 3.0 km S Brattleboro, 27 June–11 July 2016, L. Modesto (CMNH), 3.3 km E Putney, 24 May–21 June 2015, E. Inoue (CMNH).

Discussion

Prior to this effort to elucidate distributional information for many species of Eucnemidae, much of the geographical information was widely scattered. There are many distributional gaps for the majority of Eucnemidae known in the eastern United States. Retention of by-catch or residual material resulting from statewide, regional and national surveys offers any researcher an opportunity to fill in the gaps on any distributional information that are otherwise scant.

One such example, *D. salsus*, is a very rarely collected species of Eucnemidae, known only from five specimens. Nearly all specimens were taken in Louisiana and Texas, which has led to a preconceived notion the species is highly localized in the region. The discovery of a single specimen in Ohio and four specimens in Florida has changed our understanding on the species' distribution across the eastern United States.

These by-catch materials often provide unexpected results that change our perspective in our understanding of not only the different species, but also the family as a whole. Results from identifying by-catch accumulated from other surveys offer us additional, new understanding by recording trends observed in the study, like population dynamics and flight intercept trap performance evaluations.

Acknowledgments

We would like to thank Kyle Schnepf, Doug Veal and Robert Turnbow for allowing access to their private collections, Robert Androw of Pittsburgh, PA, Shawn Clark of Provo, UT, Zach Falin of Lawrence KS, Ed Riley of College Station, TX, as well as Kyle Schnepf and Paul Skelley both of Gainesville, FL, for lending their specimens during the course of this study, Daniel Young for blocking off time to allow senior author to operate the Auto-Montage equipment in the laboratory and facilitating loans from

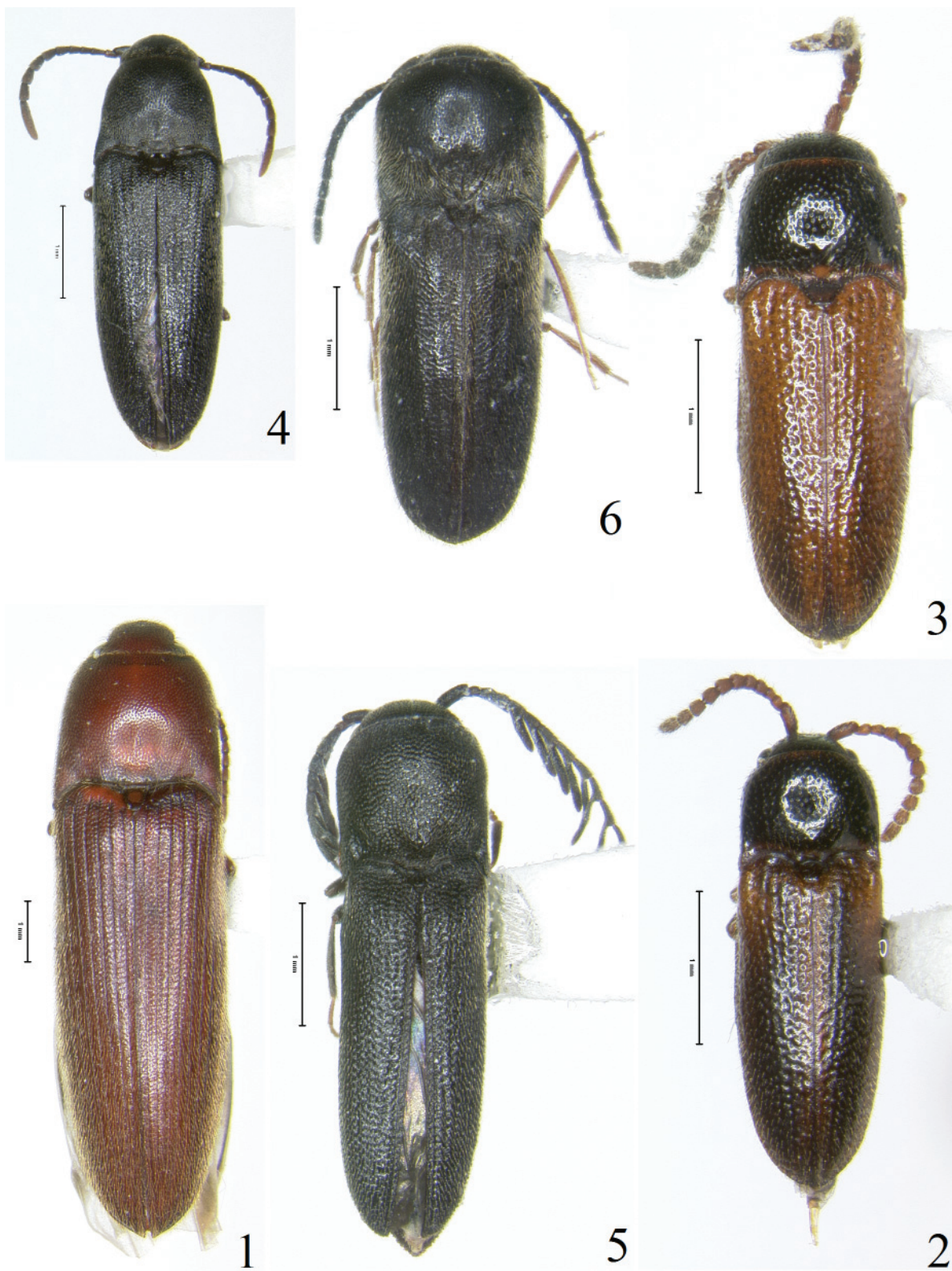
Michigan State University and the Field Museum of Natural History, and Alexey Tishechkin and Dan Young for reviewing and offering their input on the manuscript. The junior author extends a special thanks to the Ohio Department of Natural Resources Division of Parks and Recreation, State Forests, and Wildlife Areas for providing collecting permits for sampling of Coleoptera on property under their care and for continued support of the Ohio Coleopterists organization.

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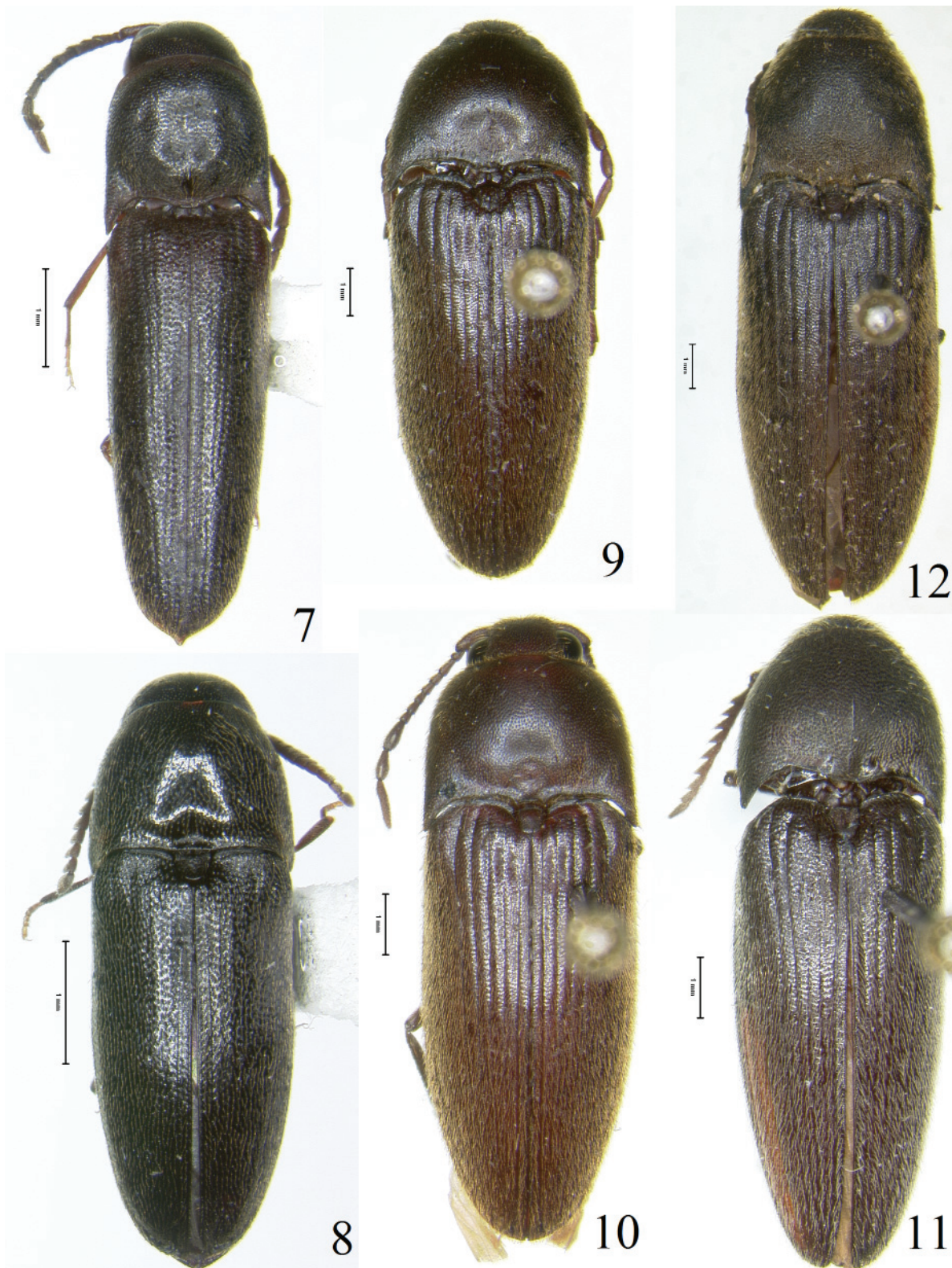
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Received October 3, 2017; Accepted October 11, 2017.

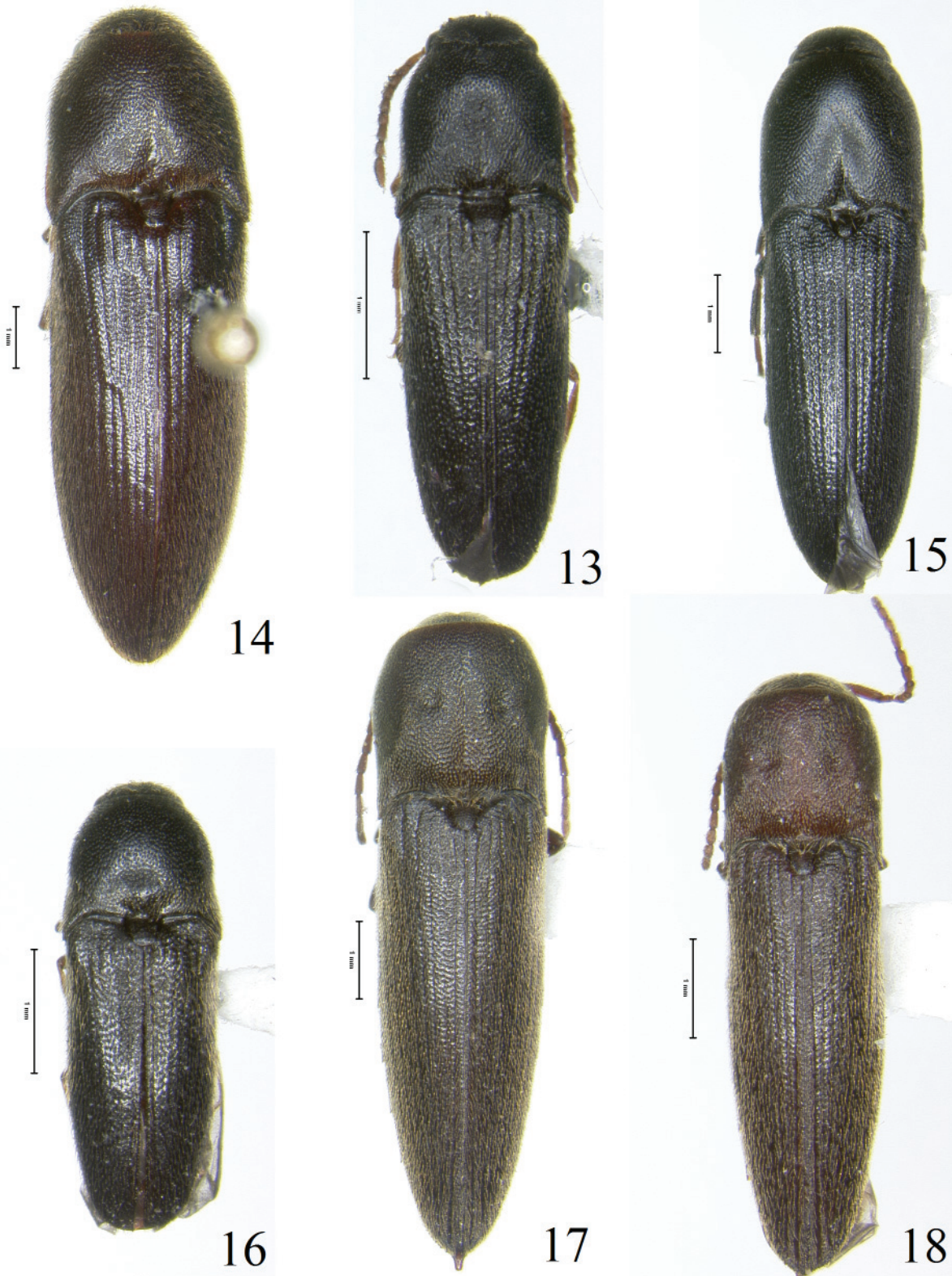
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Figures 1–6. Nearctic Eucnemidae, dorsal habitus. 1) *Schizophilus subrufus*. 2) *Xylophilus crassicornis* (dark form). 3) *Xylophilus crassicornis* (light form). 4) *Hylis irvinei*. 5) *Adelothyreus dejeani*. 6) *Microrhagus breviangularis*. (Scale: 1.0 mm.)



Figures 7–12. Nearctic Eucnemidae, dorsal habitus. 7) *Dirrhagofarsus ernae*. 8) *Eucnemis americana*. 9) *Euryptychus heterocerus*. 10) *Euryptychus ulkei*. 11) *Diphytaxis excavata*. 12) *Onichodon wappesi*. (Scale: 7–12 = 1.0 mm.)



Figures 13–18. Nearctic Eucnemidae, dorsal habitus. 13) *Isarthrus rufipes*. 14) *Dromaeolus salsus*. 15) *Dromaeolus striatus*. 16) *Thambus horni*. 17) *Nematodes collaris* (unicolored form). 18) *Nematodes collaris* (bicolored form). (Scale: 13–18 = 1.0 mm.)

