

## NEW RECORDS OF BEETLES (COLEOPTERA) FROM THE TENNESSEE VALLEY OF SOUTHEASTERN USA

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### ABSTRACT

Fifty-three beetle species within 13 families are reported as **new state records** for Tennessee or Georgia, USA. Most specimens were collected at two localities, the Tennessee River Gorge Land Trust (Marion Co., Tennessee) or the Lula Lake Land Trust (Walker Co., Georgia). Specimens were collected during May 2015–2016 using various techniques, including Malaise, flight intercept, pitfall, and Lindgren funnel traps, as well as sifting leaf litter. All specimens and records come from the University of Tennessee at Chattanooga Insect collection (UTCI).

Key Words: collecting, faunistics, database, SCAN, Georgia, Alabama

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### INTRODUCTION

Entomology has a long history at the University of Tennessee at Chattanooga, originating in the early 1960s with Dr. Charles Nelson, a Plecoptera expert. Over the years the University has built an impressive teaching collection with more than 50,000 specimens. The research collection, which has a significant beetle focus (Coleoptera), was formally started in 2008 as the University of Tennessee at Chattanooga Insect Collection (UTCI) and is the only insect collection in the state of Tennessee that supplies data to GBIF ([gbif.org/dataset/b65c0886-3c24-4ead-a93a-b89d2a676b10](https://gbif.org/dataset/b65c0886-3c24-4ead-a93a-b89d2a676b10)). Currently the research collection has approximately 40,000 pinned specimens, of which more than 27,000 are databased ([serv.biokic.asu.edu/ecdysis/collections/misc/collprofiles.php?collid=10](https://serv.biokic.asu.edu/ecdysis/collections/misc/collprofiles.php?collid=10)). In recent years several researchers have borrowed specimens and published papers from the UTCI collection for revisionary and faunal studies: Klingeman *et al.* (2017), new state record (Tennessee) for *Anelaphus moestus moestus* (LeConte, 1854) (Cerambycidae); Anderson and Caterino (2018), revisionary work on *Eurhoptus* LeConte (Curculionidae); Brunke *et al.* (2019), revisionary work on *Quedionuchus* Sharp (Staphylinidae); Caterino and Langton-Myers (2019), southern Appalachian phylogeography; McElrath and McHugh (2018), Monotomidae revisionary work; and Schiefer (2018), Scolytinae (Curculionidae) faunistic records. Additionally, many types have been recently deposited at the UTCI collection, primarily based on Xanthopygina rove beetles or Scydmaeninae (Staphylinidae) (*e.g.*,

Chatzimanolis 2016, 2017, 2019; Chatzimanolis and Caron 2016; Chatzimanolis and Hightower 2019; Jąłoszyński 2020). The purpose of this paper is twofold: First, we want to introduce the UTCI collection as a valuable resource specializing in insects found throughout the southeastern USA; and second, to highlight new beetle records based on the UTCI collection efforts from the Tennessee Valley, an area typically defined as the intersection of the states of Alabama, Georgia, and Tennessee.

### MATERIAL AND METHODS

Specimens used in this research were collected opportunistically using a variety of methods in numerous locations in the Tennessee Valley during 2008 through 2019. However, two main areas were selected for extensive fieldwork: The Tennessee River Gorge Trust and the Lula Lake Land Trust (Fig. 1). The Tennessee River Gorge Trust is located in Marion County in Tennessee (35.04°, –85.50°) and its areas flank the Tennessee River. The Lula Lake Land Trust is located in Walker County, Georgia (34.92°, –85.39°). Both of these areas were sampled extensively for a period of one year (roughly during May 2015 through May 2016) using a Malaise trap, a flight intercept trap (FIT), a Lindgren funnel, and several pitfall traps at each site. Traps were serviced every month. Besides the samples collected by trapping, other samples were collected by sifting leaf litter and collecting near river shores. Permission to collect in these Land Trusts were established verbally with the local land managers.



**Fig. 1.** Map of the Tennessee Valley, highlighting the two areas of focus, the Tennessee River Gorge Trust and the Lula Lake Land Trust.

Specimens of various families were identified by the following experts: Anthribidae and Curculionidae were identified by R. S. Anderson (Canadian Museum of Nature) and A. Cognato (Michigan State University), Cerambycidae by W. E. Klingeman (University of Tennessee), Elateridae by B. Mathison (ARUP Laboratories), Histeridae by M. S. Caterino (Clemson University), and Staphylinidae by S. Chatzimanolis (University of Tennessee at Chattanooga). Specimen identifications were made for smaller families by S. Chatzimanolis. To determine whether a specimen was a new record for Tennessee or Georgia, we examined the original species description or subsequent revisions/faunistics studies. Additionally, we checked the following electronic databases for records of specimens: IdigBio ([idigbio.org](http://idigbio.org)) and GBIF ([gbif.org](http://gbif.org)).

All specimens are deposited at the University of Tennessee at Chattanooga Insect Collection (UTCI). Specimens were photographed using a Canon

40D camera equipped with a MP-E 65-mm macro lens on a Cognisys StackShot 3X macro rail and controller ([cognisys-inc.com/products/stackshot/stackshot.php](http://cognisys-inc.com/products/stackshot/stackshot.php)) and z-stacking of images was done using Helicon Focus Pro 6.7.1 ([heliconsoft.com/heliconsoft-products/helicon-focus](http://heliconsoft.com/heliconsoft-products/helicon-focus)). The map was created using the online program SimpleMapper (Shorthouse 2010). Electronic records of all species/specimens presented in this paper can be found online at [serv.biokic.asu.edu/ecdysis/collections/misc/collprofiles.php?collid=10](http://serv.biokic.asu.edu/ecdysis/collections/misc/collprofiles.php?collid=10) by selecting the UTCI collection and searching for a particular species.

## RESULTS

In total, 53 species within 13 families of Coleoptera that represent new state records for Tennessee and Georgia were collected. Specimen-level collection data are provided for all species. The UTCI

collection code is provided in full for all specimens so it is machine searchable and readable within this document. All specimens are deposited in the UTCI collection and thus no further collection code is provided.

## ANTHRIBIDAE

*Eurymycter tricarinatus* Pierce, 1930 (Fig. 2A)

**New Records.** USA: **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1166°, -85.3931°; 278 m; 13–27 Jul 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000009316. First record for Tennessee.

## CANTHARIDAE

*Rhaxonycha carolina* (Fabricius, 1801) (Fig. 2B)

**New Records.** USA: **Tennessee** • (2); Marion Co., Tennessee River Gorge; 35.1153°, -85.3915°; 277 m; 15 Mar–15 Apr 2016; Chatzimanolis leg.; Malaise trap; UTCI000014909, UTCI000014910. First record for Tennessee.

*Silis spathulata* LeConte, 1881 (Fig. 2C)

**New Records.** USA: **Georgia** • (4); Walker Co., Lula Lake; 34.9273°, -85.3716°; 451 m, 15 Apr–13 May 2016; Chatzimanolis leg.; Malaise trap; UTCI000015259, UTCI000015413, UTCI000015468, UTCI000015478 • (9); same data except 15 Mar–15 Apr 2016; UTCI000015104, UTCI000015124, UTCI000015139, UTCI000015152, UTCI000015173, UTCI000015177, UTCI000015186, UTCI000015188, UTCI000015193. **Tennessee** • (6); Marion Co., Tennessee River Gorge; 35.1153°, -85.3915°; 277 m; 15 Mar–15 Apr 2016; Chatzimanolis leg.; Malaise trap; UTCI000014906, UTCI000014953, UTCI000014955, UTCI000014958, UTCI000014985, UTCI000014996. First record for Georgia.

## CERAMBYCIDAE

*Dorcaschema nigrum* (Say, 1826) (Fig. 2D)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9273°, -85.3716°; 451 m; 29 Jun–31 Jul 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000008845. First record for Georgia.

*Ecyrus dasycerus* (Say, 1827) (Fig. 2E)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9273°, -85.3716°; 451 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007343. First record for Georgia.

*Oberea myops* Haldeman, 1847 (Fig. 2F)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9273°, -85.3716°; 451 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007279. First record for Georgia.

## CURCULIONIDAE

*Acalles minutissimus* (LeConte, 1876) (Fig. 2G)

**New Records.** USA: **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1169°, -85.3933°; 282 m; 19 Oct–25 Nov 2015; Chatzimanolis leg.; FIT; UTCI00001429; • (2); Cumberland Co., Cumberland Mt. State Park; 35.9052°, -84.9949°; 6 Jul 2015; Chatzimanolis, Murphy leg.; UTCI000003336, UTCI000003338. First record for Tennessee.

*Aphanommata tenuis* (Casey, 1892)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9299°, -85.3701°; 444 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Lindgren trap; UTCI000006607. First record for Georgia.

*Epacalles inflatus* (Blatchley, 1916) (Fig. 2H)

**New Records.** USA: **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1169°, -85.3933°; 282 m; 27 Jul–7 Aug 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000009655; • (2); same data except 35.1166°, -85.3931°; 278 m; 13–27 Jul 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000009185, UTCI000009220. First record for Tennessee.

*Ewallacea interjectus* (Blandford, 1894) (Fig. 2I)

**New Records.** USA: **Tennessee** • (1); Hamilton Co., Chattanooga, UTC Campus; 35.1246°, -85.2854°; 3–15 Apr 2013; R. Jibrin leg.; Lindgren trap; UTCI000004885. First record for Tennessee.

*Hylobius congener* Dalla Torre, Schenkling, and Marshall, 1932 (Fig. 3A)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9273°, -85.3716°; 451 m; 15 Mar–15 Apr 2016; Chatzimanolis leg.; Malaise trap; UTCI000015190. First record for Georgia.

*Hylocurus rudis* (LeConte, 1876) (Fig. 3B)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9299°, -85.3701°; 444 m; 1–26 May 2015; Chatzimanolis leg.; Lindgren trap; UTCI000006256; • (2); same data except; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Lindgren trap; UTCI000006592, UTCI0000066019. First record for Georgia.

*Magdalis perforata* Horn, 1873 (Fig. 3C)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake, along N. Creek Trail; 34.9316°, -85.3733°; 587m; 18 Jun 2015; Chatzimanolis leg.; hand collecting; UTCI000006510. First record for Georgia.

*Orchestes pallicornis* (Say, 1831) (Fig. 3D)

**New Records.** USA: **Georgia** • (2); Walker Co., Lula Lake; 34.9273°, -85.3716°; 451 m; 15 Apr–13 Jun 2016; Chatzimanolis leg.; Malaise trap; UTCI000015136, UTCI000015458. **Tennessee** • (1); Hamilton, Tennessee River Gorge; 35.0864°,





**Fig. 2.** Habitus photographs of beetles. A) Anthribidae, *Eurymycter tricarinatus*, B) Cantharidae, *Rhaxonycha carolina*, C) Cantharidae, *Silis spathulata*, D) Cerambycidae, *Dorcaschema nigrum*, E) Cerambycidae, *Ecyrus dasycerus*, F) Cerambycidae, *Oberea myops*, G) Curculionidae, *Acalles minutissimus*, H) Curculionidae, *Epacalles inflatus*, I) Curculionidae, *Euwallacea interjectus*. Photographs not to scale.





**Fig. 3.** Habitus photographs of beetles. A) Curculionidae, *Hylobius congener*, B) Curculionidae, *Hylocurus rudis*, C) Curculionidae, *Magdalis perforata*, D) Curculionidae, *Orchestes pallicornis*, E) Curculionidae, *Tomolips quercicola*, F) Curculionidae, *Xyleborus viduus*, G) Curculionidae, *Xyleborus xylographus*, H) Elateridae, *Ampedus melsheimeri*, I) Elateridae, *Ampedus pusio*, J) Elateridae, *Glyphonyx inquinatus*. Photographs not to scale.

–85.3921°; 20 Oct 2012; Chatzimanolis leg.; leaf litter; UTCI000004343; • (1); Hamilton, Chattanooga Nature Center; 35.0052°, –85.3648°; 30 Apr 2010; Chatzimanolis, Murphy leg.; UTCI000002036; • (1); same data except; 21 May 2011; Chatzimanolis, Murphy, Bramblett leg.; sweep net; UTCI000003178. First record for Tennessee.

***Sitona cylindricollis* (Fähræus, 1840)**

**New Records.** USA: **Tennessee** • (2); Hamilton Co.: Chattanooga Nature Center; 35.0052°, –85.3648°; 21 May 2011; Chatzimanolis, Murphy, Bramblett leg.; sweep net; UTCI000002759, UTCI000003173. First record for Tennessee. This is an adventive species from the Palearctic.

***Tomolips quercicola* (Boheman, 1845) (Fig. 3E)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9299°, –85.3701°; 444 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Lindgren trap; UTCI000006615. First record for Georgia.

***Tychius picirostris* (Fabricius, 1787)**

**New Records.** USA: **Tennessee** • (1); Hamilton Co., Chattanooga Nature Center; 35.0052°, –85.3648°; 21 May 2011; Chatzimanolis, Murphy, Bramblett leg.; sweep net; UTCI000002761. First record for Tennessee.

***Tychius stephensi* Schönherr, 1836**

**New Records.** USA: **Tennessee** • (1); Hamilton Co., Chattanooga Nature Center; 35.0052°, –85.3648°; 21 May 2011; Chatzimanolis, Murphy, Bramblett leg.; sweep net; UTCI000002754. First record for Tennessee. This is an adventive species from the Palearctic.

***Xyleborus viduus* Eichhoff, 1878 (Fig. 3F)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 29 Jun–21 Jul 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000008123. First record for Georgia.

***Xyleborus xylographus* (Say, 1826) (Fig. 3G)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9303°, –85.3701°; 444 m; 7–26 May 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000006339. First record for Georgia.

ELATERIDAE

***Ampedus melsheimeri* (Leng, 1918) (Fig. 3H)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9299°, –85.3701°; 444 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Lindgren trap; UTCI000006646. First record from Georgia.

***Ampedus pusio* Germar, 1844 (Fig. 3I)**

**New Records.** USA: **Georgia** • (4); Walker Co., Lula Lake; 34.9273°, –85.3716°; 451 m; 29 Jun–31

Jul 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007667, UTCI000007823, UTCI000008011, UTCI000008046. First record from Georgia.

***Glyphonyx inquinatus* (Say, 1834) (Fig. 3J)**

**New Records.** USA: **Tennessee** • (4); Hamilton Co., North Chickamauga Creek; 35.2626°, –85.2602°; 27 Apr 2009; G. Hobart leg.; blacklight; UTCI000000164, UTCI000000165, UTCI000000166, UTCI000000167. First record for Tennessee.

***Melanotus dietrichi* Quate, 1967 (Fig. 4A)**

**New Records.** USA: **Tennessee** • (1); Hamilton Co., 105 Meadowbrook Dr.; 35.1246°, –85.2848°; 23 May–17 Jun 2012; Chatzimanolis leg.; Lindgren trap; UTCI000003542; • (1); same data except 7 May–12 Jun 2013; UTCI000004177. First record from Tennessee.

***Melanotus trapezoideus* (LeConte, 1853)**

**New Records.** USA: **Tennessee** • (1); Hamilton Co., 105 Meadowbrook Dr.; 35.1246°, –85.2848°; 23 May–17 Jun 2012; Chatzimanolis leg.; Lindgren trap; UTCI000003547. First record from Tennessee.

***Selonodon perplexus* Galley, 1999 (Fig. 4B)**

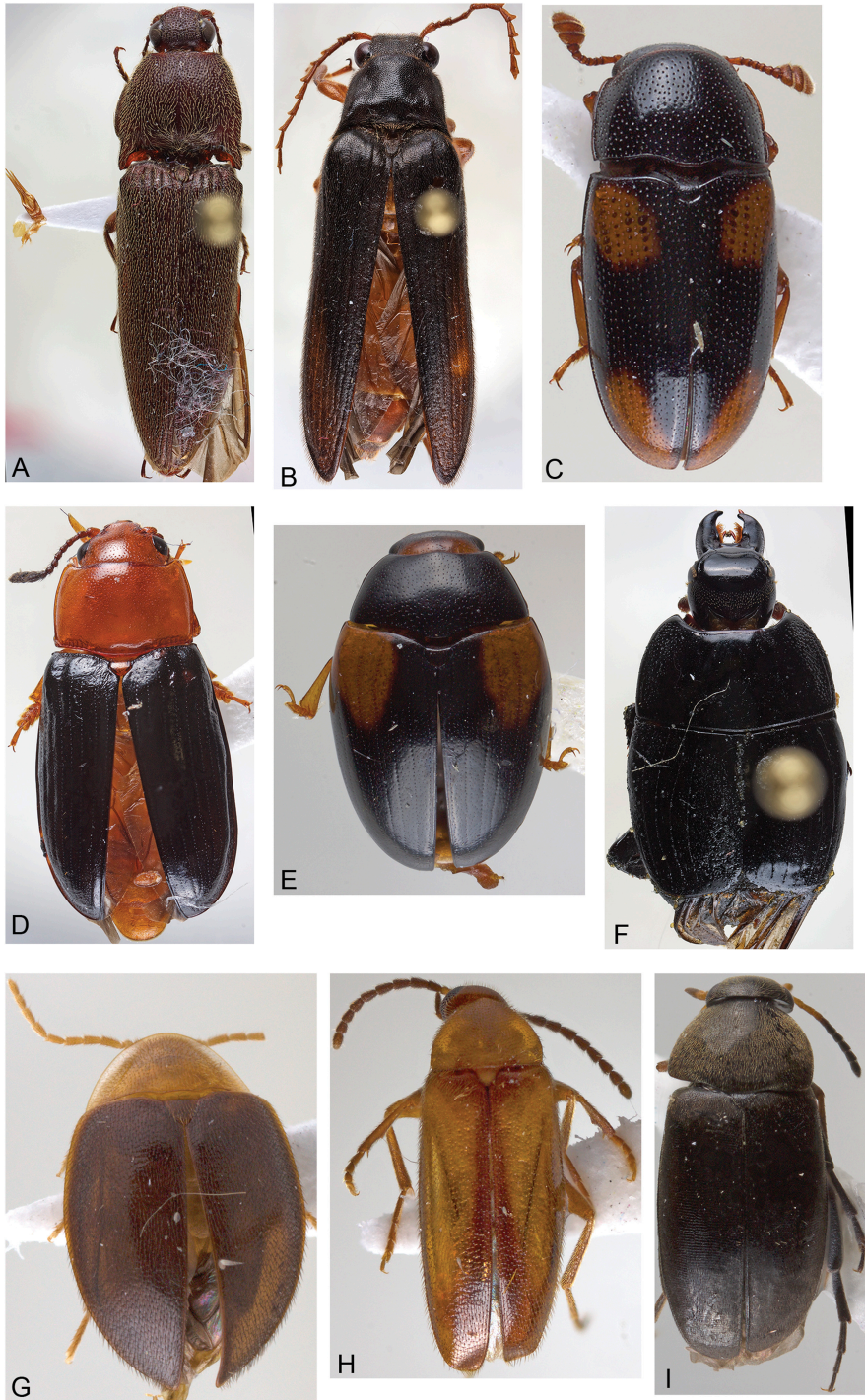
**New Records.** USA: **Georgia** • (35); Walker Co., Lula Lake; 34.9273°, –85.3716°; 451 m; 31 Jul–7 Sep 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000010264, UTCI000010279, UTCI000010282, UTCI000010285, UTCI000010286, UTCI000010287, UTCI000010288, UTCI000010290, UTCI000010291, UTCI000010292, UTCI000010293, UTCI000010289, UTCI000010294, UTCI000010295, UTCI000010296, UTCI000010297, UTCI000010298, UTCI000010299, UTCI000010300, UTCI000010301, UTCI000010302, UTCI000010303, UTCI000010304, UTCI000010305, UTCI000010308, UTCI000010310, UTCI000010311, UTCI000010312, UTCI000010313, UTCI000010316, UTCI000010317, UTCI000010318, UTCI000010320, UTCI000010321, UTCI000010324; • (16); same data except 29 Jun–31 Jul 2015; UTCI000007614, UTCI000007615, UTCI000007616, UTCI000007624, UTCI000007631, UTCI000007632, UTCI000007633, UTCI000007634, UTCI000007635, UTCI000007636, UTCI000007637, UTCI000007648, UTCI000007649, UTCI000007650, UTCI000007651, UTCI000007652. **Tennessee** • (4); Marion Co., Tennessee River Gorge; 35.1153°, –85.3915°; 277 m; 13–27 Jul 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000010892, UTCI000010893, UTCI000010895, UTCI000010897. First record from Tennessee.

EROTYLIDAE

***Dacne quadrimaculata* (Say, 1835) (Fig. 4C)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 15 Feb–15 Mar 2016; Chatzimanolis leg.; FIT;





**Fig. 4.** Habitus photographs of beetles. A) Elateridae, *Melanotus dietrichi*, B) Elateridae, *Selonodon perplexus*, C) Erotylidae, *Daene quadrimaculata*, D) Erotylidae, *Triplax macra*, E) Erotylidae, *Tritoma humeralis*, F) Histeridae, *Merohister arboricavi*, G) Scirtidae, *Sacodes thoracica*, H) Scaptiidae, *Allopoda lutea*, I) Scaptiidae, *Anaspis nigrina*. Photographs not to scale.



UTCI000014742; • (1); same data except 7–26 May 2015; UTCI000006073. First record for Georgia.

***Triplax macra* LeConte, 1854** (Fig. 4D)

**New Records.** USA: **Georgia** • (23); Walker Co., Lula Lake; 34.9273°, –85.3716°; 451 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007334, UTCI000007335, UTCI000007336, UTCI000007338, UTCI000007344, UTCI000007345, UTCI000007394, UTCI000007493, UTCI000007502, UTCI000007540, UTCI000007543, UTCI000007562, UTCI000007576, UTCI000008899, UTCI000008900, UTCI000008914, UTCI000008999, UTCI000009040, UTCI000009050, UTCI000009148, UTCI000009384, UTCI000009433, UTCI000009631; • (1); same data except 34.9303°, –85.3710°; 444 m; 7–26 May 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000005989. **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1040°, –85.4126°; 222 m; 19 Oct–25 Nov 2015; Chatzimanolis, Irick leg.; Lindgren trap; UTCI000010046. First record for Georgia and Tennessee.

***Tritoma humeralis* Fabricius, 1801** (Fig. 4E)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9273°, –85.3716°; 451 m; 31 Jul–7 Sep 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000010414. **Tennessee** • (2); Marion Co., Tennessee River Gorge; 35.1153°, –85.3915°; 277 m; 27 Jul–7 Sep 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000009605, UTCI000009843; • (1); same data except 7 Sep–19 Oct 2015; UTCI000010499. First record for Tennessee.

HISTERIDAE

***Merohister arboricavi* Johnson, 1991** (Fig. 4F)

**New Records.** USA: **Georgia** • (2); Walker Co., Lula Lake; 34.9299°, –85.3701°; 444 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Lindgren trap; UTCI000006632, UTCI000006729. First record for Georgia.

LEIODIDAE

***Prionochaeta opaca* (Say, 1825)**

**New Records.** USA: **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1153°, –85.3915°; 277 m; 15 Mar–15 Apr 2016; Chatzimanolis leg.; Malaise trap; UTCI000014903. First record for Tennessee.

LYMEXYLIDAE

***Melittomma sericeum* (Harris, 1841)**

**New Records.** USA: **Tennessee** • (1); Coffee Co., Short Springs Natural Area; 35.4073°, –86.1746°; 15 Jun 2010; Chatzimanolis leg.; blacklight; UTCI000001490. First record for Tennessee.

SCIRTIDAE

***Sacodes fuscipennis* (Guérin-Méneville, 1843)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9299°, –85.3701°; 444 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Lindgren trap; UTCI000006676. First record for Georgia.

***Sacodes thoracica* (Guérin-Méneville, 1843)** (Fig. 4G)

**New Records.** USA: **Georgia** • (2); Walker Co., Lula Lake; 34.9273°, –85.3716°; 451 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007497, UTCI000009076. **Tennessee** • (1); Coffee Co., Short Springs Natural Area; 35.4073°, –86.1746°; 15 Jun 2010; Chatzimanolis leg.; blacklight; UTCI000001694; • (1); May Prairie State Natural Area; 35.4569°, –86.0253°; 17 Jun 2010; Chatzimanolis leg.; blacklight; UTCI000002448; • (1); Hamilton Co., 105 Meadowbrook Dr.; 35.1246°, –85.2848°; 30 Jun 2012; Chatzimanolis leg.; blacklight; UTCI000003769. First record for Tennessee.

SCRAPTIIDAE

***Allopora lutea* (Haldeman, 1848)** (Fig. 4H)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9330°, –85.3713°; 385 m; 12 May 2015; Chatzimanolis leg.; Hand collecting; UTCI000005581; • (1); same data except 7–26 May 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000006287; • (1); same data except 34.9273°, –85.3716°; 451 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000009773; • (45); same data except 34.9273°, –85.3716°; 451 m; 7–26 May 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000005725, UTCI000005732, UTCI000005734, UTCI000005735, UTCI000005744, UTCI000005745, UTCI000005746, UTCI000005747, UTCI000005750, UTCI000005755, UTCI000005757, UTCI000005762, UTCI000005764, UTCI000005767, UTCI000005769, UTCI000005774, UTCI000005779, UTCI000005784, UTCI000005793, UTCI000005801, UTCI000005808, UTCI000005811, UTCI000005815, UTCI000005817, UTCI000005818, UTCI000005822, UTCI000005825, UTCI000005830, UTCI000005833, UTCI000005895, UTCI000005904, UTCI000005909, UTCI000005910, UTCI000005912, UTCI000005939, UTCI000005941, UTCI000005943, UTCI000006119, UTCI000006132, UTCI000006134, UTCI000006135, UTCI000006136, UTCI000006145, UTCI000006152, UTCI000006172; • (20); same data except 34.9273°, –85.3716°; 451 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007359, UTCI000007369, UTCI000007373, UTCI000007446, UTCI000007488, UTCI000007496, UTCI000007586, UTCI000007590, UTCI000008872,

UTCI000008928, UTCI000009043, UTCI000008908, UTCI000008921, UTCI000009354, UTCI000009367, UTCI000009372, UTCI000009377, UTCI000009426, UTCI000009434, UTCI000009448. First record for Georgia.

***Anaspis nigrina* Csiki, 1915** (Fig. 4I)

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9275°, –85.3716°; 451 m; 7–26 May 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000006130. First record for Tennessee.

***Canifa plagiata* (Melsheimer, 1846)** (Fig. 5A)

**New Records.** USA: **Georgia** • (65); Walker Co., Lula Lake; 34.9275°, –85.3716°; 451 m; 7–26 May 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000005738, UTCI000005743, UTCI000005751, UTCI000005756, UTCI000005759, UTCI000005761, UTCI000005763, UTCI000005768, UTCI000005772, UTCI000005773, UTCI000005775, UTCI000005777, UTCI000005778, UTCI000005786, UTCI000005787, UTCI000005789, UTCI000005794, UTCI000005795, UTCI000005800, UTCI000005802, UTCI000005810, UTCI000005814, UTCI000005816, UTCI000005820, UTCI000005821, UTCI000005824, UTCI000005826, UTCI000005828, UTCI000005869, UTCI000005894, UTCI000005897, UTCI000005902, UTCI000005911, UTCI000005913, UTCI000005914, UTCI000005921, UTCI000005929, UTCI000005938, UTCI000005940, UTCI000005947, UTCI000005949, UTCI000006109, UTCI000006110, UTCI000006113, UTCI000006117, UTCI000006120, UTCI000006123, UTCI000006129, UTCI000006133, UTCI000006137, UTCI000006138, UTCI000006139, UTCI000006141, UTCI000006142, UTCI000006143, UTCI000006144, UTCI000006148, UTCI000006150, UTCI000006151, UTCI000006153, UTCI000006158, UTCI000006173, UTCI000006176, UTCI000006177, UTCI000006180; • (8); same data except 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000008860, UTCI000008867, UTCI000008892, UTCI000008909, UTCI000009673, UTCI000009729, UTCI000009361, UTCI000009383. First record for Georgia.

STAPHYLINIDAE

***Aleochara curtula* (Goeze, 1777)** (Fig. 5B)

**New Records.** USA: **Georgia** • (3); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000006794, UTCI000006912, UTCI000006943; • (10); same data except 29 Jun–31 Jul 2015; UTCI000007907, UTCI000007925, UTCI000008126, UTCI000008136, UTCI000008155, UTCI000008281, UTCI000008290, UTCI000008299, UTCI000008335, UTCI000008369. First record for Georgia. This is an adventive species from the Palearctic.

***Batrissodes cavicornis* (Casey, 1897)** (Fig. 5C)

**New Records.** USA: **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1169°, –85.3933°; 282 m; 19 Oct–25 Nov 2015; Chatzimanolis leg.; FIT; UTCI000014099; • (1); same data except 35.1040°, –85.4126°; 222 m; 5 Feb–15 Mar 2016; Chatzimanolis leg.; Lindgren trap; UTCI000013821. First record for Tennessee.

***Carphacis effrenatus* Herman, 2001**

**New Records.** USA: **Georgia** • (8); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 15 Feb–15 Mar 2016; Chatzimanolis leg.; FIT; UTCI000014533, UTCI000014566, UTCI000014576, UTCI000014589, UTCI000014596, UTCI000014603, UTCI000014734, UTCI000014750. First record for Georgia.

***Cyrtoquedius verres* (Smetana, 1971)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 29 Jun–31 Jul 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000008206. First record for Georgia.

***Dalmosella tenuis* Casey, 1897**

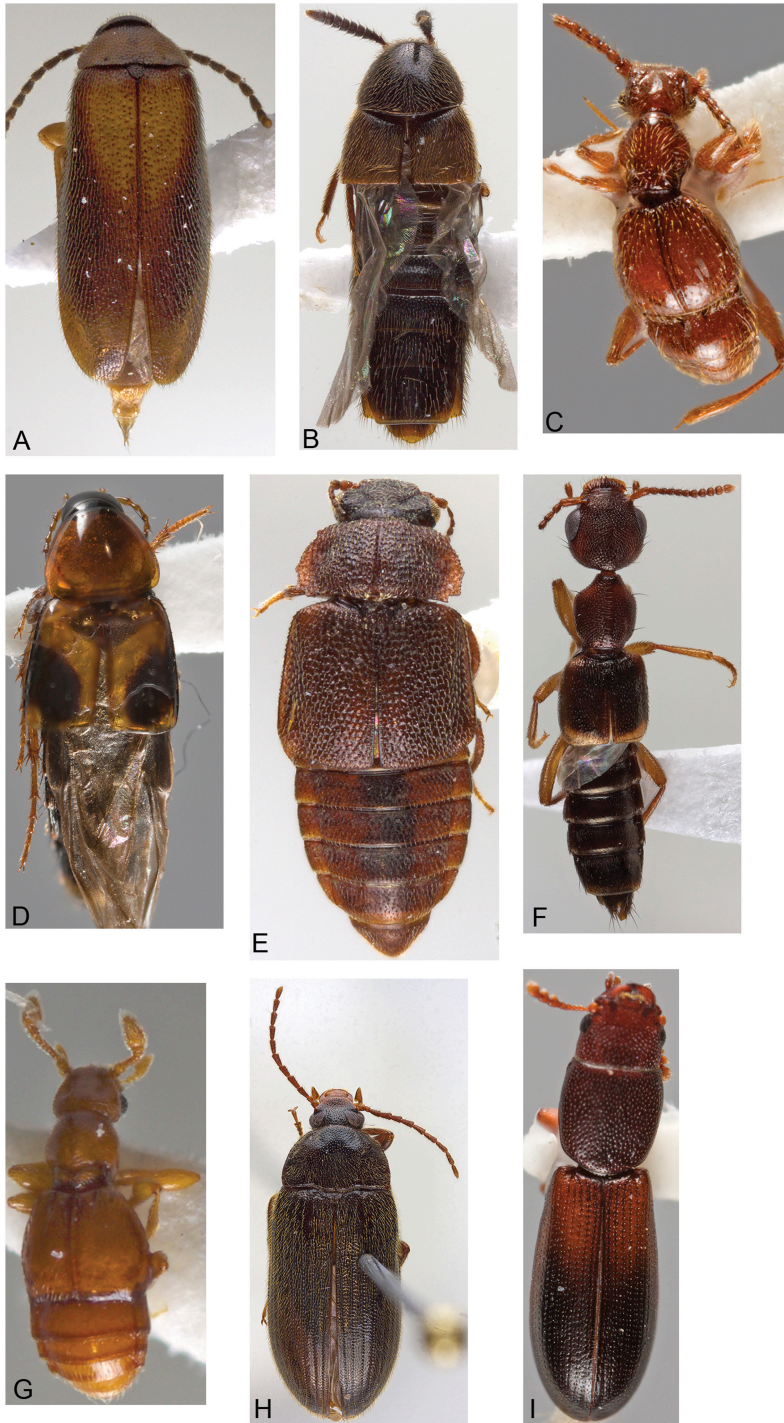
**New Records.** USA: **Tennessee** • (1); Grundy Co., Savage Gulf Natural Area; 35.4468°, –85.6606°; 549 m; 4 Oct 2009; Chatzimanolis leg.; dead tree litter; UTCI000000064. First record for Tennessee.

***Lordithon obsoletus* (Say, 1834)** (Fig. 5D)

**New Records.** USA: **Georgia** • (5); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 15 Feb–15 Mar 2016; Chatzimanolis leg.; FIT; UTCI000014538, UTCI000014584, UTCI000014626, UTCI000014785, UTCI000014868; • (1); same data except 19 Oct–27 Nov 2015; UTCI000012121; • (1); same data except 5 Jan–15 Feb 2016; UTCI000013459; • (3); same data except 7 Sep–19 Oct 2015; UTCI000012150, UTCI000012361, UTCI000012500. **Tennessee** • (1); Marion Co., Tennessee River Gorge; 35.1169°, –85.3933°; 282 m; 19 Oct–25 Nov 2015; Chatzimanolis leg.; FIT; UTCI000014220; • (1); Hamilton Co., 105 E. Meadowbrook Dr., Chattanooga; 35.1244°, –85.2848°; 11 Oct 2009; Chatzimanolis leg.; UTCI000001327. First record for Tennessee.

***Megarthus americanus* Sachse, 1852** (Fig. 5E)

**New Records.** USA: **Georgia** • (10); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 15 Feb–15 Mar 2016; Chatzimanolis leg.; FIT; UTCI000014638, UTCI000014680, UTCI000014697, UTCI000014704, UTCI000014710, UTCI000014736, UTCI000014756, UTCI000014862, UTCI000014866, UTCI000014872; • (1); same data except 7 Sep–19 Oct 2015; UTCI000012547; • (57); same data except 7 Sep–19 Oct 2015; UTCI000012147, UTCI000012156,



**Fig. 5.** Habitus photographs of beetles. A) Scaptiidae, *Canifa plagiata*, B) Staphylinidae, *Aleochara curtula*, C) Staphylinidae, *Batrisodes cavicornis*, D) Staphylinidae, *Lordithon obsoletus*, E) Staphylinidae, *Megarthrus americanus*, F) Staphylinidae, *Rugilus orbiculatus*, G) Staphylinidae, *Trimiomelba dubia*, H) Tenebrionidae, *Hymenorus obscurus*, I) Trogossitidae, *Corticotomus parallelus*. Photographs not to scale.



UTCI000012164, UTCI000012180, UTCI000012231, UTCI000012259, UTCI000012282, UTCI000012338, UTCI000012339, UTCI000012356, UTCI000012363, UTCI000012365, UTCI000012385, UTCI000012424, UTCI000012441, UTCI000012444, UTCI000012458, UTCI000012480, UTCI000012501, UTCI000012503, UTCI000012514, UTCI000012526, UTCI000012530, UTCI000012531, UTCI000012543, UTCI000012560, UTCI000012564, UTCI000012582, UTCI000012586, UTCI000012602, UTCI000012700, UTCI000012702, UTCI000012706, UTCI000012709, UTCI000012713, UTCI000012714, UTCI000012717, UTCI000012745, UTCI000012774, UTCI000012790, UTCI000012791, UTCI000012808, UTCI000012819, UTCI000012822, UTCI000012824, UTCI000012829, UTCI000012832, UTCI000012838, UTCI000012841, UTCI000012848, UTCI000012862, UTCI000012868, UTCI000012882, UTCI000012885, UTCI000012919, UTCI000012972, UTCI000013022; • (14); same data except 5 Jan–15 Feb 2016; UTCI000013431, UTCI000013453, UTCI000013458, UTCI000013471, UTCI000013480, UTCI000013483, UTCI000013540, UTCI000013541, UTCI000013546, UTCI000013556, UTCI000013559, UTCI000013628, UTCI000013635, UTCI000013662; • (32); same data except 19 Oct–27 Nov 2015; UTCI000012090, UTCI000012115, UTCI000012127, UTCI000012132, UTCI000012134, UTCI000012210, UTCI000012233, UTCI000012235, UTCI000012595, UTCI000012631, UTCI000012658, UTCI000012662, UTCI000012664, UTCI000012681, UTCI000012685, UTCI000013365, UTCI000013366, UTCI000013368, UTCI000013376, UTCI000013383, UTCI000013385, UTCI000013408, UTCI000013527, UTCI000013575, UTCI000013587, UTCI000013593, UTCI000014972, UTCI000014974, UTCI000015032, UTCI000015034, UTCI000015073, UTCI000015085; • (12); same data except 25 Nov 2015–5 Jan 2016; UTCI000010596, UTCI000010606, UTCI000010608, UTCI000010612, UTCI000010927, UTCI000010939, UTCI000010951, UTCI000010953, UTCI000010962, UTCI000010964, UTCI000010975, UTCI000010984. **Tennessee** • (18); Marion Co., Tennessee River Gorge; 35.1169°, –85.3933°; 282 m; 19 Oct–25 Nov 2015; Chatzimanolis leg.; FIT; UTCI000014040, UTCI000014044, UTCI000014058, UTCI000014078, UTCI000014084, UTCI000014103, UTCI000014126, UTCI000014246, UTCI000014253, UTCI000014289, UTCI000014304, UTCI000014314, UTCI000014333, UTCI000014397, UTCI000014425, UTCI000014481, UTCI000014482, UTCI000014484. First record for Tennessee.

***Meronera venustula* (Erichson, 1839)**

**New Records.** USA: **Tennessee** • (1); Hamilton Co., Chattanooga Nature Center; 35.0052°, –85.3648°; 20 May 2011; Chatzimanolis, Murphy, Bramblett leg.; blacklight; UTCI000002960. First record for Tennessee.

***Nearctitychus sternalis* (Raffray, 1904)**

**New Records.** USA: **Tennessee** • (1); Cumberland Co., Cumberland Mt. State Park; 35.9052°, –84.9949°; 7 Jul 2011; Chatzimanolis, Murphy leg.; leaf litter; UTCI000003372. First record for Tennessee.

***Neobisnius jocosus* (Horn, 1884)**

**New Records.** USA: **Tennessee** • (9); Hamilton Co., 105 Meadowbrook Dr.; 35.1246°, –85.2848°; 30 May 2011; Chatzimanolis leg.; blacklight; UTCI000003495, UTCI000003496, UTCI000003498, UTCI000003499, UTCI000003500, UTCI000003502, UTCI000003503, UTCI000003504, UTCI000003506; • (1); Chattanooga, UTC, Holt Hall; 35.0473°, –85.2962°; 13 Aug 2008; Chatzimanolis leg.; blacklight; UTCI000003372. First record for Tennessee.

***Parocyusa fuliginosa* (Casey, 1906)**

**New Records.** USA: **Georgia** • (1); Walker Co., Lula Lake; 34.9273°, –85.3716°; 451 m; 27 Nov 2015–5 Jan 2016; Chatzimanolis leg.; Malaise trap; UTCI000012032; • (2); same data except 5 Jan–15 Feb 2016; UTCI000013136, UTCI000013188. **Tennessee** • (3); Marion Co., Tennessee River Gorge; 35.1153°, –85.3915°; 277 m; 25 Nov 2015–5 Jan 2016; Chatzimanolis leg.; Malaise trap; UTCI000011977, UTCI000012024, UTCI000012025; • (1); same data except 19 Oct–25 Nov 2015; Chatzimanolis, Irick leg.; UTCI000010527. First record for Georgia and Tennessee.

***Rugilus orbiculatus* (Paykull, 1789) (Fig. 5F)**

**New Records.** USA: **Alabama** • (2); Blount Co., Highland Lake; 33.8872°, –86.4237°; 2,092 m; 26 Apr 2013; R. M. Brattain leg.; Pitfall Trap; UTCI000018807, UTCI000018813; • (1); same data except 12 Apr 2013; Light; UTCI000018986; • (2); same data except 30 Apr 2013; Light; UTCI000019130, UTCI000019157; • (1); same data except 18 Apr 2013; UV Light with FIT; UTCI000019505; • (1); same data except 21 Apr 2013; UTCI000019231. **Georgia** • (2); Walker Co., Lula Lake; 34.9303°, –85.3710°; 444 m; 15 Feb–15 Mar 2016; Chatzimanolis leg.; FIT; UTCI000014583, UTCI000014749; • (12); same data except 19 Oct–27 Nov 2015; UTCI000012120, UTCI000012128, UTCI000012194, UTCI000012218, UTCI000012687, UTCI000013500, UTCI000013502, UTCI000013517, UTCI000014970, UTCI000015026, UTCI000015028, UTCI000015041; • (23); same data except 31 Jul–7 Sep 2015; UTCI000011137, UTCI000011138, UTCI000011167, UTCI000011177, UTCI000011185, UTCI000011194, UTCI000011273, UTCI000011309, UTCI000011327, UTCI000011333, UTCI000011381, UTCI000011835, UTCI000011872, UTCI000011874, UTCI000011884, UTCI000011917, UTCI000011925, UTCI000011938, UTCI000011941, UTCI000011943, UTCI000011946, UTCI000011948,

UTCI000011950; • (9); same data except 25 Nov 2015–5 Jan 2016; UTCI000010570, UTCI000010571, UTCI000010577, UTCI000010621, UTCI000010626, UTCI000010632, UTCI000010938, UTCI000010952, UTCI000010966; • (26); same data except 7 Sep–19 Oct 2015; UTCI000012080, UTCI000012082, UTCI000012246, UTCI000012268, UTCI000012283, UTCI000012286, UTCI000012303, UTCI000012333, UTCI000012372, UTCI000012384, UTCI000012451, UTCI000012454, UTCI000012475, UTCI000012486, UTCI000012492, UTCI000012534, UTCI000012567, UTCI000012599, UTCI000012603, UTCI000012609, UTCI000012703, UTCI000012784, UTCI000012823, UTCI000012869, UTCI000012946, UTCI000012933; • (3); same data except 3 Jul–7 Sep 2015; UTCI000011788, UTCI000011802, UTCI000011827; • (6); same data except 7–26 May 2015; Chatzimanolis, Sanders leg.; UTCI000006289, UTCI000006295, UTCI000006328, UTCI000006335, UTCI000006353, UTCI000006361; • (71); same data except 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; UTCI000006774, UTCI000006775, UTCI000006777, UTCI000006781, UTCI000006783, UTCI000006791, UTCI000006793, UTCI000006796, UTCI000006803, UTCI000006805, UTCI000006838, UTCI000006846, UTCI000006851, UTCI000006854, UTCI000006858, UTCI000006865, UTCI000006866, UTCI000006873, UTCI000006891, UTCI000006900, UTCI000006901, UTCI000006909, UTCI000006910, UTCI000006920, UTCI000006926, UTCI000006929, UTCI000006930, UTCI000006937, UTCI000006939, UTCI000006950, UTCI000006961, UTCI000006968, UTCI000006974, UTCI000006978, UTCI000006982, UTCI000006984, UTCI000006988, UTCI000006996, UTCI000006997, UTCI000006998, UTCI000007001, UTCI000007003, UTCI000007007, UTCI000007008, UTCI000007014, UTCI000007036, UTCI000007052, UTCI000007061, UTCI000007137, UTCI000007144, UTCI000007148, UTCI000007167, UTCI000007171, UTCI000007177, UTCI000007185, UTCI000007189, UTCI000007193, UTCI000007201, UTCI000007204, UTCI000007211, UTCI000007217, UTCI000007229, UTCI000007236, UTCI000007238, UTCI000007241, UTCI000007245, UTCI000007247, UTCI000007254, UTCI000007265, UTCI000007268, UTCI000007271; • (151); same data except 29 Jun–31 Jul 2015; Chatzimanolis, Sanders leg.; UTCI000007888, UTCI000007902, UTCI000007903, UTCI000007906, UTCI000007908, UTCI000007916, UTCI000007917, UTCI000007919, UTCI000007921, UTCI000007922, UTCI000007933, UTCI000007934, UTCI000007935, UTCI000007936, UTCI000007937, UTCI000007938, UTCI000007940, UTCI000007941, UTCI000007942, UTCI000007950, UTCI000007951, UTCI000007955, UTCI000008078, UTCI000008079, UTCI000008099, UTCI000008100, UTCI000008106, UTCI000008109, UTCI000008110, UTCI000008115, UTCI000008118, UTCI000008119, UTCI000008129, UTCI000008133, UTCI000008135,

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UTCI000009096, UTCI000009109, UTCI000009110. First record for Georgia and Tennessee. This is an adventive species from the Palearctic.

***Stethusa dichroa* (Gravenhorst, 1802)**

**New Records.** USA: **Tennessee** • (4); Coffee Co., May Prairie State Natural Area; 35.4569°, -86.0253°; 17 Jun 2010; Chatzimanolis leg.; blacklight; UTCI000002450, UTCI000002455, UTCI000002460, UTCI000002464; • (1); Franklin Co., Tims Ford State Park; 35.2223°, -86.2533°; 14 Jun 2010; Chatzimanolis leg.; blacklight; UTCI000001341. First record for Tennessee.

***Trimiomelba dubia* Casey, 1897** (Fig. 5G)

**New Records.** USA: **Tennessee** • (3); Grundy Co., Savage Gulf Natural Area; 35.4468°, -85.6606°; 549 m; 4 Oct 2009; Chatzimanolis leg.; dead tree litter; UTCI000000982, UTCI000000995, UTCI000001036; • (5); Marion Co., Racoon Mtn.; 35.0406°, -85.3969°; 499 m; 24 Feb 2013; Chatzimanolis leg.; leaf litter; UTCI000004370, UTCI000004372, UTCI000004373, UTCI000004374, UTCI000004375. First record for Tennessee.

TENEBRIONIDAE

***Hymenorus obscurus* (Say, 1826)** (Fig. 5H)

**New Records.** USA: **Georgia** • (13); Walker Co., Lula Lake; 34.9299°, -85.3701°; 444 m; 29 Jun–31 Jul 2015; Chatzimanolis leg.; Lindgren trap; UTCI000009865, UTCI000009870, UTCI000009893, UTCI000009895, UTCI000009902, UTCI000009923, UTCI000009928, UTCI000009931, UTCI000009932, UTCI000009955, UTCI000009956, UTCI000009958, UTCI000009962; • (1); same data except 31 Jul–7 Sep 2105; UTCI000010108; • (32); same data except 26 May–29 Jun 2015; Chatzimanolis, Sanders leg.; UTCI000006630, UTCI000006654, UTCI000006663, UTCI000006669, UTCI000006671, UTCI000006672, UTCI000006673, UTCI000006680, UTCI000006681, UTCI000006683, UTCI000006684, UTCI000006685, UTCI000006686, UTCI000006688, UTCI000006689, UTCI000006693, UTCI000006694, UTCI000006697, UTCI000006698, UTCI000006706, UTCI000006711, UTCI000006712, UTCI000006715, UTCI000006717, UTCI000006718, UTCI000006719, UTCI000006720, UTCI000006722, UTCI000006723, UTCI000006724, UTCI000006725, UTCI000006726; • (2); same data except 34.9312°, -85.3733°; 444 m; 16 Jul 2015; Chatzimanolis leg.; blacklight; UTCI000010905, UTCI000010911; • (1); same data except 34.9273°, -85.3716°; 451 m; 29 Jun–31 Jul 2015; Chatzimanolis, Sanders leg.; Malaise trap; UTCI000007811; • (3); same data except 34.9303°, -85.3710°; 444 m; 29 Jun–31 Jul 2015; Chatzimanolis, Sanders leg.; FIT; UTCI000007882, UTCI000007883, UTCI000007885. **Tennessee** • (1); Hamilton Co., 105 Meadowbrook Dr.;

35.1246°, -85.2848°; 17 Jun–25 Jul 2012; Chatzimanolis leg.; Lindgren trap; UTCI000003702; • (1); same data except 12 Jun–16 Jul 2013; UTCI000004105. First record for Tennessee.

TROGOSSITIDAE

***Corticotomus parallelus* (Melsheimer, 1844)** (Fig. 5I)

**New Records.** USA: **Tennessee** • (1); Hamilton Co., Chattanooga, UTC Campus; 35.1246°, -85.2848°; 3–15 May 2013; R. Jibrin leg.; Lindgren trap; UTCI000004558. First record for Tennessee.

DISCUSSION

The new records for the states of Tennessee and Georgia presented above stemmed primarily from the concentrated collecting efforts over a 12-month period in two different localities, the Tennessee River Gorge Land Trust, Tennessee and Lula Lake Land Trust, Georgia. While parts of the state of Tennessee are relatively well collected due to large scale biological inventories such the All Taxa Biodiversity Inventories in Great Smoky Mountains National Park (Carlton and Bayless 2007; Ferro *et al.* 2012a, b, c), many other areas of the state remain relatively unknown, especially along the Cumberland Plateau. In addition to the new records reported here, several taxa collected as a result of this research may be new to science (Chatzimanolis, unpublished data). Most of these unidentified taxa are microscopic beetles that will require considerably more time to confirm species or even generic level identifications.

Whether the data provided above constituted new records came from examining the original literature (or revisions) for each species and additionally by checking online databases such as GBIF and iDigBio for other recent additions. It is possible that some of these species might have already been collected from TN or GA and are currently housed in natural history museums around the country. However, as these museum collections are not fully digitized for Coleoptera as it was not feasible to visit and check many museums for such disparate groups of beetles. While some of the 53 species have widespread distributions (*e.g.*, *Tritoma humeralis*) and were expected to eventually be found in Tennessee or Georgia, little is known about the distribution of other species (*e.g.*, *Selonodon perplexus*). Undoubtedly, many more species records will be uncovered, and potentially many more taxa could be described as new, when large regional museums, such as the University of Georgia Collection of Arthropods or the Clemson University Arthropod Collection, fully database their specimen holdings.



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