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## 1056

# Review of North American *Eucnemis* Ahrens, 1812 (Coleoptera: Eucnemidae: Eucneminae: Eucnemini) with description of a new species from eastern United States and Canada

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1056: 1–10 **INSECTA MUNDI** 2024

# Review of North American *Eucnemis* Ahrens, 1812 (Coleoptera: Eucnemidae: Eucneminae: Eucnemini) with description of a new species from eastern United States and Canada

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**Abstract.** *Eucnemis* Ahrens, 1812 (Coleoptera: Eucnemidae: Eucneminae: Eucnemini) is reviewed from the Nearctic region. *Eucnemis americanus* Horn is redescribed and illustrated and a **new species**, *Eucnemis piceous* Muona and Otto, is described and illustrated from Ontario, Canada and the United States from Wisconsin south to Kentucky, east to Massachusetts and West Virginia, north to Connecticut and Rhode Island. Thus, *E. americanus* is restricted to the western coastline of northern North America from northern California to northern Washington. A key is provided for the two species.

**Key words.** False click beetles, taxonomy, new species, Nearctic region, Eucnemini.

**ZooBank registration.** urn:lsid:zoobank.org:pub:00D66817-BDB5-4AEF-B703-CFA479510B81

## Introduction

Publication of the senior author's revision of *Eucnemis* Ahrens (Muona 2019) allowed us to ascertain the status of a large series of *Eucnemis* collected in northeastern North America. Information provided in that treatment and a number of correspondences between us have led us to believe that the eastern and western populations are quite different. Furthermore, the structure of dissected genitalia from one of the male specimens affirmed our belief that the eastern population belongs to a new species herein described.

## Materials and Methods

Specimens were examined by RLO under a goose neck table lamp, through a Wild M3C 6.4–40× zoom stereo binocular microscope with 20× oculars. Habitus and other structural 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 Synchroscopy 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 a paint program and Photoshop Elements 10® software on a Toshiba Satellite® C55 series laptop computer and all were collated into plates through the computer's paint program. Size of each plate was modified to 300 dpi.

Adult measurements were taken using a standard wooden ruler under magnification. Body length was measured from the apex of the head to the apex of the elytra. Body width was measured across the humeri, just below the base of the pronotum. Pronotal lengths were measured along the meson from the apex to the base above the scutellar shield. Pronotal widths were measured across the base of the pronotum above the elytral humeri.

The aedeagus was dissected following immersion of the abdomen in KOH for three hours at a concentration of one tablet in 40 ml of water. The aedeagus was suspended in Germ-X® hand-sanitizer for imaging. The abdomen was secured on cardstock and pinned beneath the corresponding specimen. The dissected aedeagus was stored in a microvial filled with glycerin and pinned beneath the abdomen and corresponding specimen.

Label data for all specimens are presented verbatim, with text for each individual label placed inside quotation marks and separated from an underlying label by a slash (/). Each line on an individual label is separated by a semicolon (;). Observed metadata for some labels are placed inside parenthesis and/or brackets. Each specimen deposited in the collection of the Global Eucnemid Research Project (GERP) bears a green framed white label, "Collection of the Global, Eucnemid Research Project, (Robert L. Otto)".

The study was based on the examination of 72 dry mounted and pinned specimens either through images or borrowed from a small number of collections as noted below:

**ABSC** Archbold Biological Station Collection, Venus, FL, USA
**CDFA** California Department of Food and Agriculture, Sacramento, CA, USA
**CMNH** Carnegie Museum of Natural History, Pittsburgh, PA, USA
**FMNH** Field Museum of Natural History, Chicago, IL, USA
**FSCA** Florida State Collection of Arthropods, Gainesville, FL, USA
**JMC** Jyrki Muona Collection, at Finnish Museum of Natural History, Helsinki, Finland
**GERP** Global Eucnemid Research Project, University of Wisconsin Department of Entomology, Madison, WI, USA
**KDKC** Ken D. Karns Collection, Lancaster, OH, USA
**MCZ** Museum of Comparative Zoology, Harvard University, Cambridge, MA, USA
**UMSP** Department of Entomology, University of Minnesota, St. Paul, MN, USA
**WIRC** Wisconsin Insect Research Collection, University of Wisconsin, Department of Entomology, Madison, WI, USA

# Systematics

## Subfamily Eucneminae Eschscholtz, 1829

### Tribe Eucnemini Eschscholtz, 1829

**Diagnosis.** Form elongate; frons with median keel; protibiae each with one apical spur; tarsomere IV simple; male first prothoracic tarsomere without sex combs; flagellomeres I–IX gradually more or less serrate and transverse apically; hypomera each with secretory pit; metasternum with tarsal grooves; metacoxal plates parallel-sided to medially 3.0–6.0 times wider than laterally; basal piece dorsally closed; median lobe divided in apical and basal parts; ventral basal struts apically fused; fused basal portion of lateral lobes dorsally attached to basal piece; lateral lobes transversely divided dorsally, apices turned dorsocaudad, with basally placed apical tooth; bursa simple, divided; spermatheca sclerotized, divided, globular (Muona 1993; Otto 2016).

### Genus *Eucnemis* Ahrens, 1812

**Diagnosis.** Apical margin of frontoclypeal region excavate and less than twice as wide as the base; basally closed, lateral antennal grooves present; secretory pit present at basolateral corner of hypomera; mesothoracic and metathoracic sternites laterally with well-developed grooves for reception of mesothoracic tibiae and mesothoracic tarsi at rest; metathoracic coxal plates medially 3.0–6.0 times wider than laterally; last visible ventrite rounded; tarsomeres I–V simple; pretarsus with tarsal claws simple; lateral surfaces of mesothoracic and metathoracic tibiae with setae only (Muona 2019).

**Diversity and distribution.** This small Holarctic genus now consists of five species. *Eucnemis capucinus* Ahrens is a European species distributed in Austria, Croatia, Czech Republic, Denmark, England, France, Germany,

Hungary, Romania, Spain, Switzerland, Sweden, Poland, Ukraine and southwestern Russia. The widely distributed *Eucnemis zaitsevi* Mamaev is known from Finland, Estonia, Belorussia, Ukraine and Kazakhstan through Siberia and the Far East regions of Russia (Muona 2019; Kovalev and Nikitsky 2022). Recently Kovalev and Nitkitsky (2022) described a third Palearctic species, *Eucnemis anachoreta* from the Russian island Kunashiri, some 30 km west of Hokkaido in the Pacific Ocean. In the Nearctic, *Eucnemis americanus* Horn is now understood to be restricted to the west coast of the North American continent from northern California to northern Washington, whereas the new species is widespread from Wisconsin south to Kentucky, east to West Virginia and north through southern Ontario in Canada.

## Key to the species of *Eucnemis* in North America

1. Secretory pit well-developed at basolateral area of each hypomeron (Fig. 1) . . . . . ***Eucnemis americanus* Horn**

— Secretory pit poorly-developed at basolateral area of each hypomeron (Fig. 2) . . . . . ***Eucnemis piceous* Muona and Otto, new species**

## *Eucnemis americanus* Horn, 1886

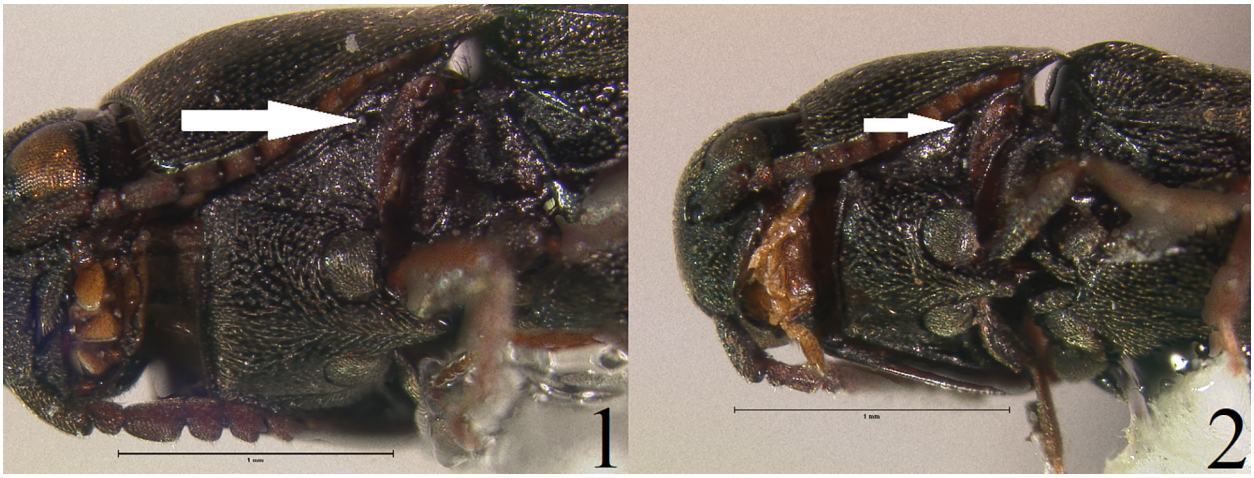
Fig. 1, 3–5

*Eucnemis americana* Horn 1886: 14–15.
*Eucnemis americanus* Horn, 1886 (Muona 2019)

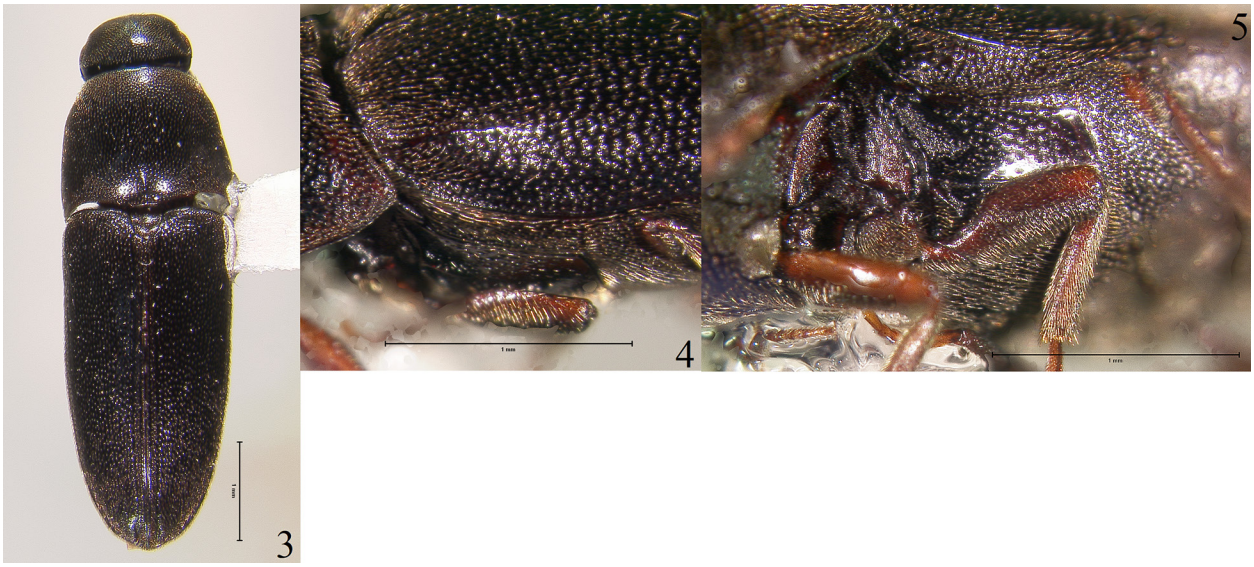
**Differential diagnosis.** The presence of a well-developed secretory pit at the basolateral corner of each hypomeron will distinguish *E. americanus* from *E. piceous*.

**Specimens examined.** Two specimens were available for study: **UNITED STATES: CALIFORNIA:** "**USA: California:** Amador Co.; 7 mi E. of Fiddleton; 13.VI.2003 Ex. Ethanol; Coll. Larson, Lye, & Osborne" (1, CDFA); "USA: Washington Yakima Co." (1, JMC)". The excellently digitized holotype can be accessed online at Museum of Comparative Zoology (2024).

**Description.** Length 5.0–5.7 mm. Width, 1.5–1.7 mm. Body oblong, elongate, slightly narrowed, females slightly more robust and parallel-sided than males; uniformly dark black; antennae dark brown; femora and tibiae dark brown; tarsi dark brown; head, pronotum and elytra clothed with short, recumbent, sparse yellowish setae (Fig. 3). **Head:** Subspherical, with weak median carina extending from vertex to the base of the frontoclypeal region; surface shiny, punctures deep, evenly dispersed, more crowded at frontoclypeal region; apical margin of frontoclypeal region deeply excavate, less than 2 times wider than base; mandibles stout, bidentate, densely punctate.




**Figures 1–2.** *Eucnemis* species. **1)** *E. americanus*, California, well-developed hypomeral secretory pit. **2)** *E. piceous* **new species**, Ohio, poorly-developed hypomeral secretory pit. (Scale: 1–2 = 1.0 mm.).



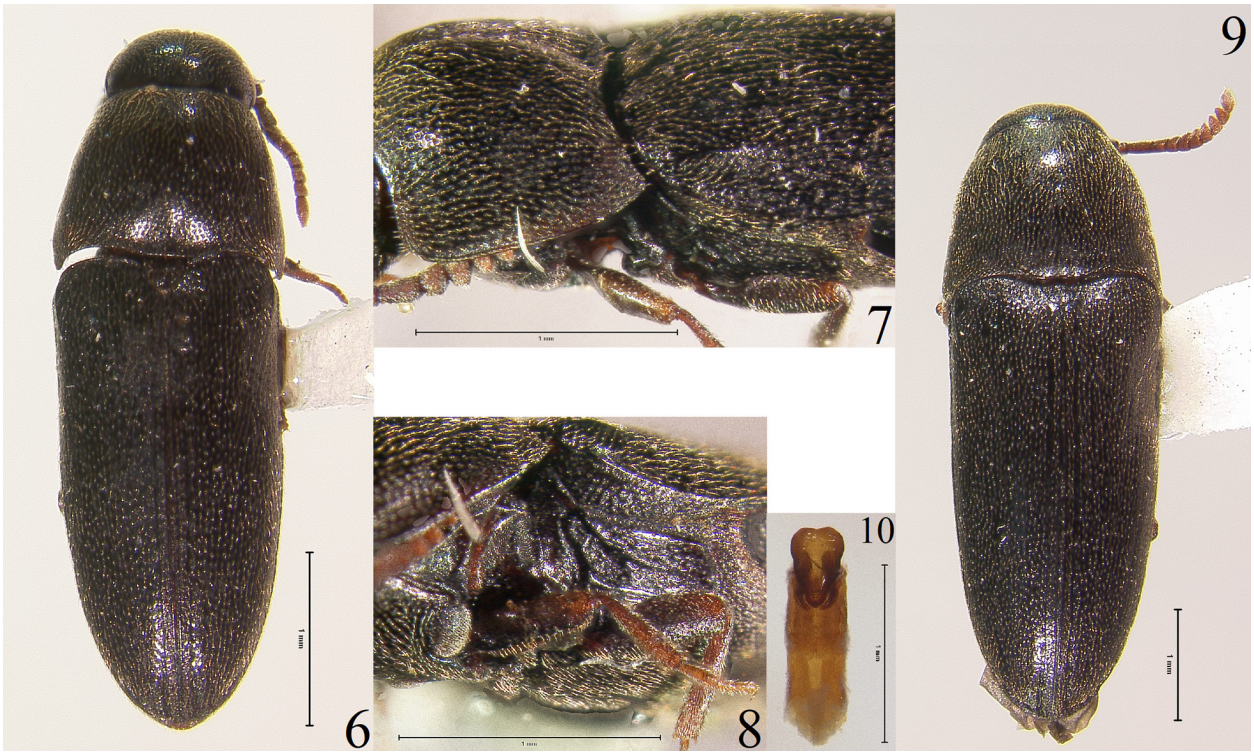

**Figures 3–5.** *Eucnemis americanus* Horn. **3)** Male (CDFA), California, dorsal habitus. **4)** Male (CDFA), California, dorsolateral view of elytral humeri. **5)** Male (CDFA), California, medial tarsal ridge. (Scale: 3–5 = 1.0 mm.).

**Antennae:** ♂**:** Flagellomeres I–IX serrate about ⅓ of body length; flagellomere I longer than II; flagellomeres II–III sub-equal, quadrate; flagellomeres IV–VIII transverse; flagellomere IX two times longer than VIII; ♀: flagellomeres I–IX serriform, almost ⅓ of body length; flagellomere I longer than II; flagellomeres II–III quadrate, sub-equal; flagellomeres IV–VIII transverse; flagellomere IX two times longer than VIII. **Pronotum:** Surface shiny; punctures shallow, evenly dispersed, more crowded along lateral sides; quadrate, with moderately enlarged, sharp hind angles; sides gradually narrowed craniad; disc convex, with short, median groove at base above scutellar shield; base sinuous. **Scutellar shield:** Sub-triangular-shaped, quadrate, shallowly punctate and distally rounded. **Elytra:** Striae present along elytral suture only, absent elsewhere; interstices flattened; surfaces shiny; punctures somewhat deep, closely spaced; deep V-shaped specialized secretory groove present at apex of each elytron; basolateral carina (Fig. 4) somewhat developed at side of elytral humeri. **Legs:** First tarsomere as long as the combined length of remaining four on mesothoracic and metathoracic tarsi; tibiae flattened in cross section; lateral surface of mesothoracic and metathoracic tibiae with setae only; metathoracic tarsomeres I–IV simple; metathoracic tarsomere V elongate; pretarsal claws simple. **Venter:** Punctures somewhat deep, closely spaced; surface with recumbent yellowish setae; hypomera each with basally closed, lateral antennal grooves; metathoracic episterna caudally wide; metathoracic coxal plates medially 3.0–6.0 times wider than laterally; metathoracic ventrite above medial tarsal ridges sparsely punctate, with elongate punctures; medial tarsal ridges elongate (Fig. 5), more than ½ the length of metathoracic ventrite; hypomera impressed; secretory pit at basolateral corner of each hypomeron well-developed.

**Aedeagus** (Illustration from Muona 2019): Basal piece longer than wide, parallel-sided, dorsally closed, apically rounded; remaining section of aedeagus elongate, narrow, parallel-sided; parameres short, apically rounded; median lobe apically enlarged and basally narrowed, cordate, much longer than the parameres.

**Distribution.** *Eucnemis americanus* is restricted to the western coastline of North America. The species is confirmed from California, Oregon and Washington (Muona 2000).

**Biology.** One specimen was taken from EtOH traps placed in Amador County, California. Larvae and pupae are unknown.




**Figures 6–10.** *Eucnemis piceous* Muona and Otto, **new species**. **6)** Male holotype (CMNH), Ohio, dorsal habitus. **7)** Male holotype (CMNH), Ohio, dorsolateral view of elytral humeri. **8)** Male holotype (CMNH), Ohio, medial tarsal ridge. **9)** Female allotype (CMNH), Connecticut, dorsal habitus. **10)** Male paratype (CMNH), New Jersey, aedeagus. (Scale: 6–10 = 1.0 mm.).

### *Eucnemis piceous* Muona and Otto, new species

Fig. 2, 6–10

**Differential diagnosis.** The poorly-developed secretory pit at the basolateral corner of each hypomeron will distinguish the new species from *E. americanus*.

**Type material. Male holotype:** "OHIO: Lorain County; 1.7km NNE Elyria, 193m; 41.3824, -82.1009; 24 May–6 Jun 2019" / "cross-vane panel; trap, C. Mitchell; BSF# 87406" / "HOLOTYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (red printed label). **Female allotype:** "CONNECTICUT: Hartford; Co., 3.5km NW East Windsor; 41.93812, -7258841, 34 m; 6–18 Jun 2018, LFT; E. Chamberlain, BSF# 79707" / "ALLOTYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label). Holotype and allotype are deposited in CMNH.

**Paratypes.** 36 ♀♀, 32 ♂♂: **CANADA: ONTARIO:** 1 ♀, "ONTARIO: Kent; Co., Tibury; July 1967; K.Stephen leg." ("7" handwritten on label) / "Eucnemis; americana; Horn; Muona det. 1980" ("80" handwritten on label) / "Eucnemis; FSCA; americana" (handwritten) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (FSCA); **UNITED STATES: CONNECTICUT:** 1 ♂, "CONNECTICUT: Hartford; Co, 4.8 km NNE Enfield; 42.01717N, 72.5281W,; 64m, 15–28 May 2013" / "Lindgren funnel trap; Col: K. DiVito; BSF Database; sample ID# 49413" / "Eucnemis, americana Horn; [from series Det.; RL Otto, 2017]" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "CONNECTICUT: New Haven; Co., 3.4 km E Woodbridge; West Rock Ridge State Park; 41.35022, -72.96877, 74m; 6–20 June 2017" / "intercept panel trap; K. Divito; BSF# 73104" / "*Eucnemis*, *americana*; Horn; Det. R.L. Otto; 2018" (folded; '18' handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "CONNECTICUT: Fairfield; Co., 3.5 km NW Shelton; 41.338143, -73.124133; 25m, 2–16 May 2018, LFT; K. DiVito, BSF# 78940" / "PARATYPE:; *Eucnemis*; *piceous* ♂;

Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "CONNECTICUT: Hartford; Co., 3.6km NE East Hart-; ford, 41.78293, -72.57864; 42 m, 23 May–6 Jun 2018" / "intercept panel trap; K. Bjarnason; BSF# 79141" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "CONNECTICUT: Fairfield; Co., 3.5km NW Shelton; 41.338143, -73.124133; 25m, 8–22 Jun 2018, LFT; K. DiVito, BSF# 79678" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "CONNECTICUT: Hartford Co.; 7.3 km S of New Britain, 62m; 41.5953288, -72.7810432; 17 May–21 June 2019, K. Dugas; J. Gross, LFT, BSF# 85543" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "CONNECTICUT: Hartford; Co., 5.6km ENE Enfield, 58m; 41.9986122, -72.531464; 23 May–6 Jun 2019, K. Dugas; J. Gross, LFT, BSF# 85984" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "CONNECTICUT: Hartford; Co., 2.5 km SE of Windsor; Locks, 41.91084, -72.60915; 32 m, 24 May–7 Jun 2019; K. DiVito, LFT, BSF# 84688" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "CONNECTICUT: Fairfield; Co., 2.1km N Old Greenwich; 32 m, 41.04147, -73.56358; 30 May–13 Jun 2019, LFT; K. Bjarnason, BSF# 85220" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀, "CONNECTICUT: Fairfield; Co., 2.8 km E of Monroe; 41.332025, -73.174403; 143m, 1–18 Jun 2020" / "Lindgren FT; S. Carson; G. Magana; BSF# 93774" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); **ILLINOIS:** 1 ♂, "ILLINOIS: McHenry Co.,; 5.0 km WSW Solon Mills; 42.41999, -88.33006, 249m; 14 May–10 Jun 2014, LFT; R. Van Duzor, BSF# 58652" / "*Eucnemis*; *americana*; Horn; Det. R.L. Otto; 2017" (folded; '17' handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂ & 1 ♀, "ILLINOIS: McHenry Co.,; 5.0 km WSW Solon Mills,; 42.42323, -88.32851, 258m; 14 May–10 Jun 2014, LFT; R. Van Duzor, BSF# 58647" / "Eucnemis; americana Horn; [from series det.; R.L. Otto, 2017]" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♂ (or ♀); Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "ILLINOIS: Cook Co.; 1.6 km SSE of; Willow Springs; 41.72683, -87.85607; 10–24 June 2021" / "Lindgren FT; L. Godfrey; BSF# 106156" / "PARATYPE:; Eucnemis; piceous ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀; "IL: St Clair Co." "PARATYPE; *Eucnemis piceous*; Muona & Otto; Muona det 2022" (red printed label) (JMC); **INDIANA:** 1 ♀, "INDIANA: Wells Co.; Uniondale V-20-1972; Berlesed from corn; on cob – in field; R.F. Wilke" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CDFA); 1 ♂, "W. Lafayette; Tippecanoe Co. IND.; 5 June 1981; M. & N. Deyrup" ('5 June' and '1' handwritten on label) / "In pan trap; below Malaise; trap" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2023" (ABSC); 1 ♂, "IN: TIPPECANOE CO.; WEST LAFAYETTE; 20 MAY 1982; M. & N. DEYRUP" / "CAPTURED IN; TOWNES; FLIGHT TRAP" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2023" (ABSC); **MASSACHUSETTS:** 1 ♀, "MASSACHUSETTS: Hamp-; den Co., 5.4 km W Westfield; 42.13234, -72.81419, 85m; 2–16 Jun 2016" / "intercept panel; trap, N. Carrier; BSF# 67331" / "*Eucnemis*; *americana*; Horn; Det. R.L. Otto; 2017" (folded; '17' handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "MASSACHUSETTS: Bristol; Co., 4.5km SE Seekonk; 41.78086, -71.29552, 5 m; 23 May–6 Jun 2018, LFT; D. Hirsch, BSF# 79072" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "MASSACHUSETTS:; Norfolk County; 0.4 km NE Milton; 42.25252, -71.06277" / "3–17 June 2020; Lindgren funnel; trap, C. Perry; BSF# 94488" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); **NEW JERSEY:** 1 ♂, "NEW JERSEY: Warren Co.; 1 km SSE Delaware,; 40.884264, -75.0613958, 87m; 17 May–1 Jun 2016" / "Lindgren FT; K. Moore; A. Pappas; BSF# 66715" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀, "NEW JERSEY: Warren Co.; 1 km SSE Delaware,; 40.884261, -75.061395, 87m; 17 May–1 Jun 2016" / "Lindgren FT; K. Moore; A. Pappas; BSF# 66715" / "*Eucnemis*; *americana*; Horn; Det. R.L. Otto; 2017" (folded; '17' handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂ & 2 ♀♀, "NEW JERSEY: Warren Co.; 1 km SSE Delaware; 40.883932, -75.062183, 87m; 17 May–1 Jun 2016" / "Lindgren FT; K. Moore; A. Pappas; BSF# 66718" / "Eucnemis; americana Horn; [from series det.; R.L. Otto, 2017]" (folded) /

"PARATYPE:; *Eucnemis*; *piceous* ♂ (or ♀); Muona & Otto; Det. R.L. Otto; 2022) (yellow printed label) (CMNH); 1 ♀, "NEW JERSEY: Morris Co.; 1 km SW Boonton, 135m; 40.896689, -74.415849; 15 Jun–8 Jul 2016, LFT; K. Moore, BSF# 67608" / "Eucnemis; americana Horn; [from series det.; R.L. Otto, 2017]" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "NEW JERSEY: Somerset; Co., 1.6km N Branchburg; 40.6014, -74.6976, 39 m; 11 May–6 Jun 2018, LFT; S. Coachman, BSF# 78893" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀, "NEW JERSEY: Morris Co.; 2km SSE Netcong, 324m; 40.882025, -74.697199; 29 May–15 Jun 2018; K. Pinto, LFT, BSF# 79375" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "NEW JERSEY: Morris Co.; 2km SSE Netcong, 324m; 40.882025, -74.697199; 29 May–15 Jun 2018; K. Pinto, LFT, BSF# 79375" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♂, "NEW JERSEY: Warren Co.; 2.1km NE Columbia, 105m; 40.939258, -75.076126; 1–13 Jun 2018, P. Rocker-; mann, LFT, BSF# 79385" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "NEW JERSEY: Morris Co.; 4km N of Flanders; 40.881165, -74.696459, 327m; 12 May–3 Jun 2020; B. Cerione, LFT, BSF# 92109" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); **NEW YORK:** 1 ♂, "NEW YORK: Albany Co.; 3.8 km SSW of Colonie; 42.685429, -73.846001, 74m; 5–22 Jun 2020, E. Caruso; Lindgren FT, BSF# 93412" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀; "Pine Is'd; N.Y. (Orange Co.)" "C.L. Pollard; June 19-12; No" "Fornax; sp '3'; det. J. Knull" "J. N. Knull; collection" "Eucnemis; americana; Horn; J. Muona det." / "PARATYPE; *Eucnemis piceous*; Muona & Otto; J. Muona det. 2022" (red printed label) (FMNH); **OHIO:** 1 ♀, "OHIO: Mahoning Co.; 3.0 km NE Cornersburg; 41.0859N, 80.6937W,; 316m, 11–24 May 2012" / "Lindgren funnel trap; Col: R. Freeborn; BSF Database; Sample ID# 46205" / "Eucnemis; americana Horn; [from series det.; R.L. Otto, 2017]" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 2 ♂♂, "OHIO: Athens County; Waterloo State Forest; 4.0 km South of Mineral; off Route 356; 39 18.246N, 82 16.518W; 18–25 May-2013, K.D. Karns" / "Lindgren Funnel Trap; Alpha Pinae Lure Pack; Pine Forest, *Pinus strobus*; Eastern White Pine; 39 16.298N, 82 21.047W" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♀, "OHIO: Cuyahoga County; 1.3 km SE Euclid; 41.5848, -81.5146, 202m; 17–30 May 2014, LFT; R. Freeborn, BSF# 57409" / "Eucnemis; americana Horn; [from series det.; R.L. Otto, 2017]" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "OHIO: Stark County; 3.1 km SW Homeworth; Lindgren Funnel Trap; Ethanol Lure at Nature Ctr.; 40.8197N, 81.098W; 23-May to 05-June-2014; R. Freeborn. Ohio EBB S." / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♂, "OHIO: Vinton County; 72660 Gambill Hollow Rd.; 6.5 km SE of Zaleski; 39 15.218N, 82 19.641W; 25-May to 13-June-2014; K.D. Karns Coll." / "Lindgren Funnel; Trap. Ethanol Lure Pack; Upland Hardwoods; Oak, Maple, Hickory." / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♂, "OHIO: Crawford County; 1.3 km SW Bucyrus; 40.8003N, 82.9854W; 19-June to 09-July-2014; LFT: Ethanol Lure; C. Poe Coll." / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♀, "OHIO: Morrow County; 0.3 km NE Cardington; LFT: Ethanol lure; 40.50289N, 82.8914W; 19-June to 09-July-2014; C. Poe Coll." / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♀, "OHIO: Ottawa County; 3.6 km NNE Lacarne,; 41.54788, -83.03358, 177m; 19 May–2 Jun 2015, LFT; C. Poe, BSF# 63501" / "Eucnemis; americana; Horn; Det. R.L. Otto; 2016" (folded; '16' handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "OHIO: Stark County; 3.1 km W Alliance; 40.9123, -81.1425, 261m; 14–28 May 2016, LFT; R. Freeborn, BSF# 66770" / "Eucnemis; americana Horn; [from series det.; R.L. Otto, 2017]" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "OHIO: Stark County; 3.1 km W Alliance; 40.9123, -81.1425, 261m; 14–28 May 2016, LFT; R. Freeborn, BSF# 66770" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♂, "OHIO: Vinton County; 72660 Gambill Hollow

Rd.; 6.5 km SE of Zaleski; 39 15.218N, 82 19.641W; 25-June to 01-July-2017; K.D. Karns Coll." / "Lindgren Funnel; Trap. Ethanol Lure Pack; Upland Hardwoods; Oak, Maple, Hickory." / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♀, "OHIO: Huron County; 2.1 km ENE Norwalk; 41.2391, -82.5915, 228m; 1–17 May 2018, LFT; C. Poe, BSF# 80013" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "OHIO: Lorain County; 1.5 km NNE Elyria; 41.3809, -82.1024, 193m; 8–24 May 2019, LFT; C. Mitchell, BSF# 87415" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀, "OHIO: Lorain County; 1.3 km WSW Grafton; 41.2696, -82.0699, 245m; 24 May–6 Jun 2019, LFT; C. Mitchell, BSF# 87456" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀, "OHIO: Vinton County; Knox Township; 72660 Gambill Hollow Rd.; 6.5 km SE of Zaleski; 39 15.218N, 82 19.641W; 15–22-May-2021; K.D. Karns" / "Lindgren Funnel Trap; Ethanol Lure Pack; Upland Hardwoods with; Rocky/gravel Streams" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♀, "OHIO: Vinton County; Knox Township; 72660 Gambill Hollow Rd.; 6.5 km SE of Zaleski; 39 15.218N, 82 19.641W; 07–13-May-2022; K.D. Karns" / "Lindgren Funnel; Trap. Ethanol Lure Pack; Upland Hardwoods; Oak, Maple, Hickory." / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (KDKC); 1 ♀, "OHIO: Stark Co.; 2.6 km S of Canton; 40.77620, -81.38441; 20 May–3 Jun 2022" / "Lindgren funnel; trap, J. Schlote" / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2023" (yellow printed label) (CMNH); **PENNSYLVANIA:** 1 ♂, "Alleghen.; Pa" / "Carn. Mus.; Acc. 349" ('349' handwritten on label) / "Eucnemis; americana; Horn; J. Muona det. -86" (folded; species, author and year handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♂, "Jeannette; V-30, Pa.; H.G. Klages." (date handwritten on label left of 'Pa.') / "4046." (handwritten on label) / "H. Klages coll'n; C. M. Acc. 11414" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); 1 ♀; " Jeanette, Pa (Westmoreland Co.)" "PARATYPE; *Eucnemis piceous*; Muona & Otto; Det. Muona det 2022 (red printed label)" (JMC); **RHODE ISLAND:** 1 ♂, "RHODE ISLAND: Provi-; dence Co., 3.3km E Pawtuc-; ket, 41.874624, -71.343665; 38m, 9–23 May 2018, LFT; K. DiVito, BSF# 79111" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (CMNH); **WEST VIRGINIA:** 1 ♂, "WEST VIRGINIA:; Ritchie Co., 0.7 km WSW; of Pennsboro, 247m; 39.28379, -80.97581" / "11–24 May 2022; LFT, R. Braud" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2023" (yellow printed label) (CMNH); **WISCONSIN:** 1 ♂, "WI: Richland Co.; LWRSWA Lone Rock; T8N R2E sec 3; 15–30 May 1998; Jeffrey P. Gruber" / "Unbaited Lindgren; funnel trap in; oak savanna" / "*Eucnemis*; *americana*; Horn; Det. R.L. Otto; 2014" (folded; '14' handwritten on label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L Otto; 2022" (yellow printed label) (WIRC); 1 ♂, "USA: WI: Sauk Co.; Hemlock Draw; 43° 21'07"N/89° 57'08"W; June 1–7, 2000; Col. Alistair S. Ramsdale" / "flight intercept trap; Mesic Hardwoods; Forest" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀, "WI: Jefferson Co.; Circle K Campground; N42.90354964°; W-088.60280966°; EABT105937; 16 June 2010; Jay Watson" / "Taken from EAB; prism trap baited; with Manuka oil" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀, "WI: Dodge Co.; along Filmore Road; N43.26769589°; W-088.43764569°; EABT104085; 17 June 2010; Evan Slocum" / "Taken from EAB; prism trap baited; with Manuka oil" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♂, "WI: Dodge Co.; along Filmore Road; N43.26769589°; W-088.43764569°; EABT104085; 17 June 2010; Evan Slocum" / "Taken from EAB; prism trap baited; with Manuka oil" / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (WIRC); 1 ♂, "WI: Jefferson Co.; along South Street; N42.97565287°; W-088.62868259°; EABT105596; 19 July 2010; Jay Watson" / "Taken from EAB; prism trap baited; with Manuka oil" / "*Eucnemis*; *americana*; Horn; Det. R.L. Otto; 2011" (folded) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (WIRC); 1 ♀, "WI: Shawano Co.; along Industrial Drive; N44.77023°; W-088.57802°; EABT012938D; 13 June 2011; Robert L. Otto" / "Taken from EAB; prism trap baited; with manuka

oil; & Z3-Hexen-1-ol" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♂, "WI: Winnebago Co.; along Mary Lane; N44.21207°; W-088.50566°; EABT100275B; 18 July 2011; Robert L. Otto" / "Taken from EAB; prism trap baited; with manuka oil; & Z3-Hexen-1-ol" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♂; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀; "WI: Grant Co.; along Mill Dam Road; N42.9322490°; W-090.508277°; EABT106332; 30 August 2011; Andy Anderson" / "Taken from EAB; prism trap baited; with manuka oil; & Z3-Hexen-1-ol" / "Collection of the Global; Eucnemid Research Project; (Robert L. Otto)" (green framed white label) / "PARATYPE:; *Eucnemis*; *piceous* ♀; Muona & Otto; Det. R.L. Otto; 2022" (yellow printed label) (GERP); 1 ♀; "Platteville, Wis. (Grant Co.)" "Eucnemis; americana Horn; Muona det. 1980" / "PARATYPE; *Eucnemis piceous*; Muona & Otto; J. Muona det. 2022" (red printed label) (UMSP). Paratypes are deposited in ABSC, CDFA, CMNH, FMNH, FSCA, GERP, JMC, KDKC, UMSP and WIRC.

**Description. Male holotype:** Length 4.0 mm. Width 1.0 mm. Body oblong, elongate, slightly narrowed front to back; uniformly dark black; antennal scape and flagellum dark brown; femora and tibiae dark brown-black; tarsi yellowish-brown; head, pronotum and elytra clothed with short, recumbent, sparse yellowish setae (Fig. 6). **Head:** Subspherical, with delicate median carina extending from vertex to the base of the frontoclypeal region; surface somewhat shiny, punctures deep, evenly dispersed; apical margin of frontoclypeal region deeply excavate, less than 2 times wider than base; mandibles stout, bidentate, densely punctate. **Antennae:** Flagellomeres I–IX serriform, about ⅓ of body length; flagellomere I longer than II; flagellomeres II–III sub-equal, quadrate; flagellomeres IV–VIII transverse; flagellomere IX two times longer than VIII. **Pronotum:** Surface shiny; punctures shallow, evenly dispersed; quadrate, with moderately enlarged, sharp hind angles; sides gradually narrowed craniad; disc convex, without median groove or carina; base sinuous, medially depressed above scutellar shield. **Scutellar shield:** Sub-triangular-shaped, quadrate, shallowly punctate and distally rounded. **Elytra:** Striae present along elytral suture only, absent elsewhere; interstices flattened; surfaces shiny; punctures somewhat deep, evenly spaced; deep V-shaped specialized groove present at apices of each elytron; sharp carina (Fig. 7) present at basolateral side of elytral humeri. **Legs:** First tarsomere as long as the combined length of remaining four on mesothoracic and metathoracic tarsi; tibiae flattened in cross section; lateral surfaces of mesothoracic and metathoracic tibiae with setae only; metathoracic tarsomeres I–IV simple; metathoracic tarsomere V elongate; pretarsal claws simple. **Venter:** Punctures somewhat deep, evenly dispersed; surface with recumbent yellowish setae; each hypomeron with basally closed, lateral antennal grooves; metathoracic episterna caudally wide; metathoracic coxal plates medially 3.0–6.0 times wider than laterally; metathoracic ventrite above medial tarsal ridge sparsely punctate, instead with elongate punctures; medial tarsal ridge elongate (Fig. 8), more than ½ the length of metathoracic ventrite; hypomera deeply impressed; secretory pit at basolateral corner of hypomeron poorly-developed.

**Female allotype** (Fig. 9)**:** 5.5 mm long, 1.5 mm wide; body more robust, parallel-sided; antennae darker; antennae serriform, almost ⅓ of body length; flagellomere I longer than II; flagellomeres II–III quadrate, subequal; flagellomeres IV–VIII transverse; flagellomere IX two times longer than VIII; sides of pronotum gradually narrowing craniad.

**Aedeagus (paratype)** (Fig. 10)**:** Basal piece longer than wide, parallel-sided, dorsally closed, apically rounded; remaining section of aedeagus elongate, narrow, parallel-sided; parameres short, apically rounded; median lobe apically enlarged and basally narrowed, cordate and much longer than the parameres.

**Variations.** Thirty-six female and 32 male paratypes were examined. Female paratypes measured 4.5–6.0 mm long and 1.2–2.0 mm wide. Male paratypes measured 3.5–5.5 mm long and 1.0–1.7 mm wide. Five female and two male paratypes have a more defined median carina present on the frons. Median carina present in all remaining paratypes are just as delicate as the holotype. No other exoskeletal differences were observed between these paratypes and the holotype.

**Distribution.** This newly described species was taken in southeastern Canada (southern Ontario) and a number of states and commonwealths from the western Great Lakes region (Wisconsin) south to Kentucky, east to Massachusetts and West Virginia, north to Connecticut and Rhode Island.

**Biology.** Forty-seven adults were taken from Lindgren funnel traps deployed in nine states. One specimen was taken from a cross-vane panel trap in Ohio. Three specimens were taken from intercept panel traps placed in two states. One specimen was taken from a pan trap placed beneath the Malaise trap in Indiana. One specimen was captured in a Townes Malaise trap placed in Indiana. Four specimens were taken from purple prism traps baited with Manuka oil in Wisconsin during the 2010 survey year. Three specimens were taken from purple prism traps baited with the combination of Manuka oil and Z3-Hexen-1-ol during the 2011 survey year in Wisconsin. One specimen was taken from a flight intercept trap placed in a mesic hardwoods forest in southern Wisconsin. One specimen was taken from a Berlese funnel from corn cobs in the middle of the corn field in Indiana. Larvae and pupae are unknown.

**Etymology.** The specific epithet comes from the Latin '*piceu*s' + '*ous*' (suffix forming adjective denoting presence of a quality), which means pitch-black, named for the dark black coloration of its integument.

**Note.** Horn (1886: 14) remarked that he had seen another specimen of *Eucnemis* in LeConte's collection and it was smaller, of somewhat different shape and had sparser pronotal punctuations. Horn was inclined to view it as another species, especially as it was taken from Kentucky but decided against it. We now know his original instinct was correct. Although the specimen was not examined, but given its location, it is likely the species is that of *Eucnemis piceous*.

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