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A new species of *Drapetes* Megerle (Coleoptera: Elateridae), with taxonomic summaries and a key to the species of northern North America

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of northern North America

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A new species of *Drapetes* Megerle (Coleoptera: Elateridae), with taxonomic summaries and a key to the species of northern North America

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Abstract. Seven species of *Drapetes* Megerle (Coleoptera: Elateridae) are recognized from northern North America. *Drapetes chiricahua* **new species** is described from southeastern Arizona and north-central New Mexico. *Drapetes parallelus* Van Dyke is a **senior homonym** of *Drapetes paralellus* Cobos by variant spelling, and a **new synonym** of *Drapetes cylindricus* Fall. *Drapetes paralellus* Cobos is replaced with *Drapetes cobosi* **new name**. *Drapetes clarki* Bonvouloir is not a North American species and is given a redesignated type locality in Brazil. *Drapetes plagiatus* (Boheman) is not a California species and is given a redesignated type locality in Panama. New state records are reported for *Drapetes exstriatus* (Say) from Arkansas, Colorado, Nebraska, and Oklahoma. A key to the species of the region is provided and each species is illustrated.

Key words. click beetle, taxonomy, new name, homonym, synonym, new state record, Arizona, New Mexico

Introduction

Drapetes Megerle (Dejean 1821) is primarily a circumtropical, subtropical, and warm temperate group of beetles with 124 described species; 104 of these species are reported from the Americas. The *Drapetes* fauna of northern North America, i.e. Canada and the continental United States of America (USA), was reviewed by Schaeffer (1916) and Blanchard (1917), and is biotically continuous with the fauna of Mesoamerica last revised by Horn (1890). The South American species were never taxonomically reviewed and were most recently catalogued by Blackwelder (1944).

Drapetes species are found most commonly in forest and ecotone areas, including tree-fall openings, along trails, and other forest edges. Adults can be under loose bark, on foliage of trees, shrubs, and herbs, where they feed on small and soft arthropods, and at excretory trichomes, extrafloral nectaries, and weeps. Occasionally, specimens are collected at light sheets, by various flight intercept and Malaise traps, or handpicked from the upper surfaces of leaves and small branches in sun flecks. Some species, such as *Drapetes plagiatus* (Boheman) are sometimes found in male dominated aggregations where they are probably attracted to one or more females. Known larvae are few (Hyslop 1917; Böving and Craighead 1931; Peterson 1960; Burakowski 1973, 1975; Costa et al. 1988; Becker 1991), and are saproxylic under loose bark or within decayed wood. Their mandibular structure and habits are consistent with zoophagic and saprophagic feeding modes.

Seven species of *Drapetes* are here given from the region, primarily in the USA. *Drapetes niger* Bonvouloir is the only one of 20 species reported from Mexico and recorded from localities north of the USA border. Of the species treated here, one new species is described from southeastern Arizona and north-central New Mexico. *Drapetes plagiatus* is considered introduced to southern Florida. Two species are newly synonymized, one extralimital name is a homonym, two species have redesignated type locations, and four new state records are reported for *D. exstriatus* (Say). *Drapetes clarki* Bonvouloir is removed from the regional fauna. A key to the species known from Canada and the USA is provided and each species is illustrated.

Materials and Methods

The primary types of each nominal species were examined over a number of years, except those of Say and Randall, which may be lost (LeConte 1859a; Bousquet 1993; Mawdsley 1993), or may occur

as unrecognized syntypes in European collections (e.g., Lindroth and Freitag 1969; Prena 2014). No specimens directly or reasonably attributable to Say or Randall were found in their remaining materials during a 2013 search at the Museum of Comparative Zoology (MCZ), including the Melsheimer/Zeigler and Harris collections. Recognition of types not already determined (Horn 1886) may be extremely difficult. Material was studied from the National Museum of Natural History (USNM), California Academy of Sciences (CAS), Field Museum of Natural History (FMNH), Florida State Collection of Arthropods (FSCA), Texas A&M University (TAMU), University of Oklahoma (OMNH), University of Wisconsin-Madison (WIRC), Illinois Natural History Survey (INHS), Louisiana State University (LSAM), Natural History Museum (BMNH), Museum National d'Histoire Naturelle (MNHN), and University of Nebraska (UNSM). The scientific literature survey for recorded citations of taxonomic names applied to any species of *Drapetes* was augmented with searches of the Biodiversity Heritage Library (biodiversitylibrary.org). Collection abbreviations used are from Evenhuis (2012).

Basic measurements were taken with an ocular micrometer at 0.1 mm and 0.01 mm increments. Body length was measured from the anterior margin of the frons to the elytral apices, and width measured across the elytral humeri. Pronotal length was measured along the midline from the anterior margin to the antescutellar emargination, and width across the base of the hind angles.

Dissections were made as needed by soaking each specimen in ammonia for 1.0–1.5 hr, removing the abdomen, determining the sex, and, if male, extracting the aedeagus. Abdominal ventrites were glued to the specimen point adjacent to the beetle. Dissected genitalia and lightly sclerotized terminal abdominal sclerites were preserved in plastic microvials with a drop of glycerine and attached below each specimen.

Label data are presented verbatim, except dates are converted to the d.m.y format. Data from different labels are separated by a slash (/) bracketed by spaces.

Taxonomy

Drapetes chiricahua new species

(Fig. 1–2)

Description. Male. Body length 3.3–5.3 mm, width 1.4–1.8 mm; length-width ratio 2.8–2.9 ($n = 2$). Body elongate ovoid; shining black; mouthparts, antennomeres 1–3, anterior angle of pronotum, and legs light brown, with infuscate highlights; elytra black basally, becoming dark infuscate apically, each with an elongate-ovoid translucent green-yellow discal macula. Pubescence dark throughout, except becoming grey laterally on head and pronotum.

Head evenly rounded on vertex; frons depressed, with two shallow longitudinal impressions reaching frontal margin; punctation fine to moderate, setigerous, sparse on vertex, becoming denser toward frontal margin. Antennae short, reaching to base of pronotal hind angles; antennomeres 2–3 as long as wide, 4–10 subpectinate, 11 elongate-oval.

Thorax with pronotum subparallel at mid-length, length 0.8–0.9 times width, hind angles slightly reflexed; integument with punctures deep, setose, separated by own diameter on disc, becoming finer and sparser anteriorly, coarser and denser posteriorly. Hind angles each with a fine dorsal carina near to lateral margin, obsolete basally, extending anteriorly *ca.* 0.6 times pronotum length. Pronotal base with shallowly arcuate transverse carina at base of each elytron, and a short transverse carina each side of antescutellar lobe, these carinae fitting against elytral bases. Scutellar shield subpentagonal with broadly rounded angles, disc smooth, sparsely punctate, with shallow median impression.

Elytra narrowing from base, length 1.8–1.9 times width across base; humeri forming elevated, elongate-oval boss dorsally; striae of irregularly aligned fine, setose punctures; intervals flattened, except interval 8 shallowly convex in basal half, interval 9 finely carinate in basal 6/10 of elytral length; apex broadly, subtruncate rounded, sutural angle with short spine. Hypomera with punctation similar to pronotum; with deep crural impression laterally at base; medial margin with deep antennal groove extending 0.5 times distance to prothoracic coxa. Thoracic ventrites with fine, sparse, setose punctures, except punctures becoming larger and denser laterally.

Abdomen with ventrites finely, sparsely, setosely punctured, becoming coarser and denser laterally and apically. Ventrite 5 broadly rounded apically, coarsely, closely, deeply punctured throughout. Aedeagus as in Fig. 2; basal piece subquadrate; median lobe attenuate, apex acute; lateral lobes sinuate, narrow, mid-length, shallowly arcuate apically.

Female (n = 1) externally similar to male; slightly broader in silhouette.



Figures 1–2. *Drapetes chiricahua*, new species. **1)** Adult male, dorsal habitus. **2)** Aedeagus, dorsal aspect.

Type material. Holotype, male, labeled: ARIZONA, Portal, 22.vii.[19]46, W.W. Jones, 148, 45-14999 (USNM).

Paratypes: ARIZONA, Cochise Co., Cave Ck Cyn, Chiricahua Mtns, Herb Marty Dam, 5800', 31°51'N 109°14'W / 25.vii.1981, H.A. Hespenheide / Oak (1 male, TAMU). NEW MEXICO, Sandoval Co., Jemez Mnts, Hwy 485, past tunnel, Rio Guadeloupe, 7.vii.2009, under bark, M.S. Romero (1 female, UNMC).

Etymology. The species epithet “*chiricahua*” is a noun in apposition to honor the Chiricahua Apache indigenous peoples of the region of origin of this species.

Distribution. United States: Arizona, New Mexico.

Notes. Two of the known specimens were collected in association with oak (*Quercus* spp.). The Cave Creek Canyon specimen was collected by beating branches (H. Hespenheide, *in litt.*) and the Jemez Mountains specimen was collected under bark of a dead oak, probably *Quercus gambelii* Nuttall (M. S. Romero, *in litt.*).

This species is related to *D. plagiatus* and *D. taeniolatus* Horn (1890), and resembles both species in general facies. The distributions of these species are highly disjunct, with *D. plagiatus* and *D. taeniolatus*

reported widely from Belize and Guatemala to Brazil. Both latter species are narrowly fusiform, with the integument shiny black and the elytral discs as translucent dull-yellow maculae usually subtruncate apically, and with a lateral subhemispherical broadening of the lateral dark vitta. *Drapetes chiricahua* has a proportionately shorter and broader pronotum, and the head, pronotal, and ventral punctation is coarse, and the elytral lateral vitta gradually narrows anteriorly.

***Drapetes cylindricus* Fall**

(Fig. 3)

Drapetes cylindricus Fall 1932: 61

Drapetes parallelus Van Dyke, 1953: 100 **new synonym**

Distribution. United States: Arizona.

Notes. *Drapetes cylindricus* and *D. parallelus* were both described from Arizona, with the former from the Sierra Ancha and the latter from the Catalina Mountains. Curiously, there is no indication that Van Dyke (1953) was aware of Fall's (1932) description. These species do not differ in any morphological characteristics indicative of different species. *Drapetes parallelus* Van Dyke is here treated as a **new synonym** of *D. cylindricus* Fall.

Cobos (1975) named *D. paralellus* as a new species from "Gutierrez, Chiapas, Mexico." Although Cobos' name could be considered a misspelling there is an additional use of the same spelling in a figure legend within his paper and no evidence of an attempted correction within that publication. In accordance with Article 58 (ICZN, 1999) *D. paralellus* Cobos is here considered a homonym by variant spelling involving double consonants (Art. 58.7). This homonymy requires replacement with a new name, here proposed as *Drapetes cobosi* **new name**.

***Drapetes exstriatus* (Say)**

(Fig. 4)

Elatер geminatus Say 1825: 264 (homonym of *E. geminatus* Germar 1824: 43); Randall 1838a: 10, 1838b: 37

Elatер exstriatus Say 1834: 80, 1839: 177 (replacement for *E. geminatus* Say 1825: 264); Haldeman and LeConte 1853: 49

Elatер basalis Randall, 1838a: 9, of Haldeman and LeConte 1853: 49; Lacordaire 1857: 94; Gerstäcker 1860: 162 (synonymy); Leng 1920: 177; Schenkling 1928: 8

Lissomus nitidus Melsheimer, 1844: 149 (not Melsheimer 1806: 43, *nomen nudum*); Erichson 1847: 94; Haldeman and LeConte 1853: 49, Lacordaire 1857: 94; Gerstäcker 1860: 162; LeConte 1863a: 44; Horn 1885: 207

Lissomus geminatus, of Haldeman and LeConte 1853: 49; Gerstäcker 1860: 162; Bonvouloir 1860: 367

Lissomus exstriatus, of Haldeman and LeConte 1853: 49 (as synonym of *D. geminatus* Say); LeConte 1863a: 44; Leng 1920: 177; Schenkling 1928: 8

Drapetes geminatus, of Lacordaire 1857: 94; Bonvouloir 1859: 70, 1860: 367; LeConte 1859a: 398; Gerstäcker 1860: 162; LeConte 1863a: 44; Evett 1863: 32; Crotch 1873: 66; Dury 1879: 169, 1906: 144; Hubbard and Schwarz 1878: 656; Henshaw 1885: 72; Horn 1885: 206; Kilman 1889: 135; Smith 1890: 166; Evans 1895: 146; Hamilton 1895: 334; Scott and Fiske 1902: 30; Ulke 1903: 47; Haimbach 1906: 38; Morse 1909: 290; Blatchley 1910: 774; Leng 1911: 214, 1920: 177; Schaeffer 1916: 62; Hyslop 1917: 243, 251; Blanchard 1917: 5; Leng 1926: 354; Schenkling 1928: 7; Fattig 1937: 8; Kirk 1970: 54; Nixon and McPherson 1977: 217; Bousquet 1991: 186, 1993: 9; Downie and Arnett 1996: 823

Elatер exstriatus, of LeConte 1859b: 614 (misspelling, referred to *Lissomus*)

Drapetes nitidus, of Crotch 1873: 66; Horn 1885: 207; Henshaw 1885: 72; Leng 1920: 177 (as synonym of *D. geminatus*); Blanchard 1917: 5 (as variety of *D. geminatus*); Downie and Arnett 1996: 823 (as subspecies of *D. geminatus*)

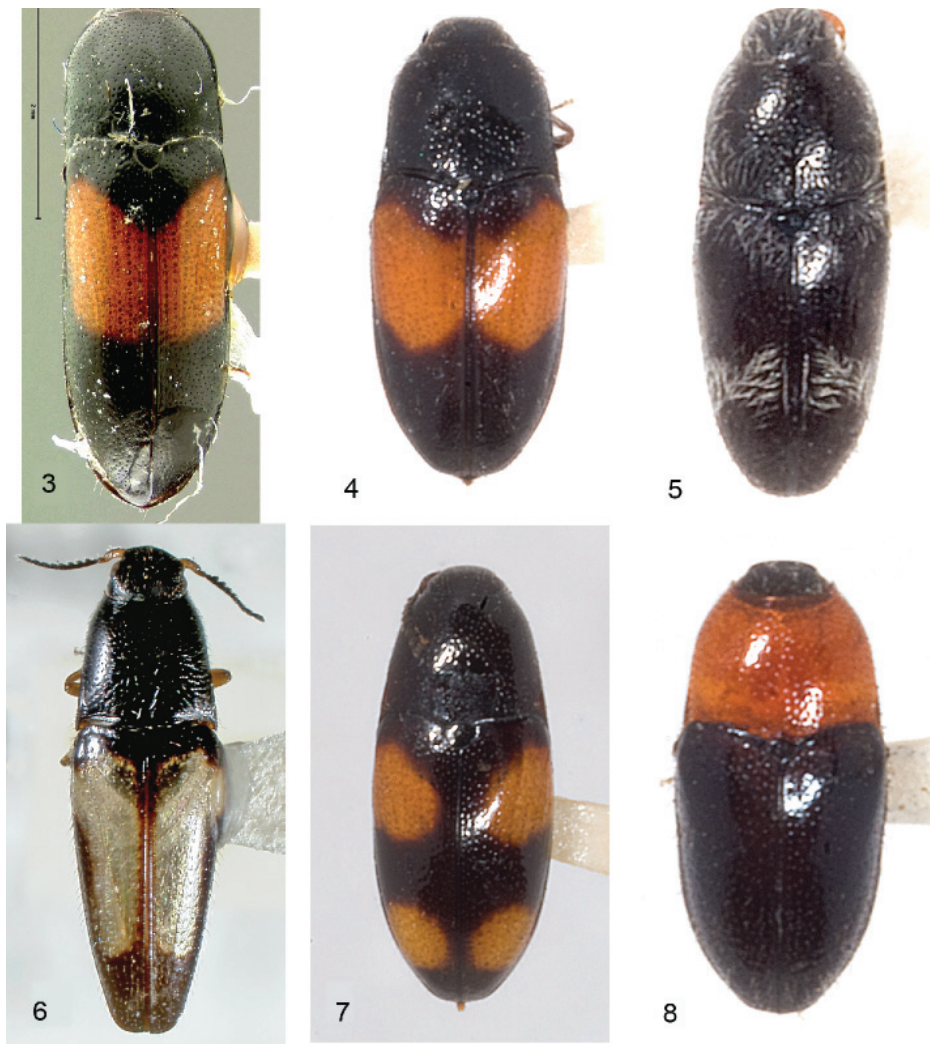
Lissomus basalis, of Haldeman and LeConte 1853: 49

Drapetes exstriatus, of Horn 1885: 208 (misspelling, as synonym of *L. geminatus*)

Drapetes exstriatus, of Bousquet 1993: 9; Bousquet et al. 2013: 182

Distribution. Canada: Ontario, Quebec; United States: Arkansas (**new state record**: Hope, 7.vi.1926, L. Knobel (1, FSCA)); Colorado (**new state record**: Pueblo, 18.vi.1957, G.H. Nelson / beating Salix (1, FSCA)); Florida; Iowa; Illinois; Indiana; Georgia; Kansas; Kentucky; Louisiana; Massachusetts; Maryland; Maine; Michigan; Missouri; North Carolina; Nebraska (**new state record**: Sioux County, Monroe Canon, 14.viii.[19]12 / R.W. Dawson collection (1, UNSM)); New Hampshire; New Jersey; New York; Ohio; Oklahoma (**new state record**: Latimer Co., vi.1986, K. Stephan (3, FSCA), same, v.1986 (2, FSCA), same, vi.1985 (3, FSCA), same, vi.1984 (2, FSCA)); Pennsylvania; South Carolina; Tennessee; Texas; Virginia; Vermont; Wisconsin; West Virginia.

Notes. *Drapetes exstriatus* has a somewhat convoluted nomenclatural history as seen above. This led to continued use of *D. geminatus* (e.g., Bonvouloir 1859; Gerstäcker 1860; Schaeffer 1916; Blanchard 1917; Leng 1920; Schenkling 1928; Downie and Arnett 1996), a name lost to homonymy in 1834. An important aspect of the nomenclatural confusion of this species is that several authors published names that were *nomina nuda* or are unavailable because they were given only as synonyms (ICZN 1999,



Figures 3–8. *Drapetes* species, dorsal habitus. **3)** *Drapetes cylindricus*, holotype (image courtesy of the Museum of Comparative Zoology, Harvard University, with permission). **4)** *Drapetes exstriatus*. **5)** *Drapetes niger*. **6)** *Drapetes plagiatus*. **7)** *Drapetes quadripustulatus*. **8)** *Drapetes rubricollis*.

Art. 11.6). These are documented here solely for the clarification of historical names, indicating their disposition, and are not intended for validation:

1. *Elater bimaculatus* by Melsheimer (1806: 43) is a *nomen nudum*. This name was also given as a synonym by Say (1825) and Gerstacker (1860), and is not available (ICZN 1999, Art 11.6).

2. *Elater americanus* by both Harris (1833, 1835) and Dejean (1833, 1836) is a *nomen nudum* in all instances.

3. *Elater rufinotatus* by Harris (1835) was published as a synonym and is not available (ICZN 1999, Art 11.6)

4. *Drapetes americanus* by Dejean (1833, 1836) is a *nomen nudum*. Gerstacker (1860) listed the name as a synonym and is not available (ICZN 1999, Art 11.6).

5. *Lissomus cinctellus* by Gerstacker (1860) was listed as a synonym and is not available (ICZN 1999, Art 11.6).

When Say (1825) described *E. geminatus* he listed *E. bimaculatus* Melsheimer (1806), a *nomen nudum*, as a synonym and compared it to the then *E. bimaculatus* Rossi of Europe. The homonymy correction was made when Say (1834) published *E. exstriatus* and stated “I change the name, as that of *geminatus* was previously given by Germar [1824] to a Brazilian species.”

Elater nitidus F. V. Melsheimer (1806) *nomen nudum*, was validated by his son F. E. Melsheimer (1844). The use of “*nitidus*” as a subspecies name by Downie and Arnett (1996) is without foundation as it represents only a color variation, as recognized for over 210 years, and not a definable geographically or otherwise delimited population.

***Drapetes niger* Bonvouloir**

(Fig. 5)

Drapetes niger Bonvouloir 1859: 78; Horn 1890: 207; Fleutiaux 1894: 689, 1895: 160; Schaeffer 1902: 176, 1916: 62; Blanchard 1917: 6; Leng 1920: 177; Schenkling 1928: 8

Drapetes nigra, of Blackwelder 1944: 304 (incorrect gender change)

Distribution: Belize; Costa Rica; Guatemala; Mexico; Panama; United States: Texas.

Notes. *Drapetes niger* is a small lowland Mesoamerican species that enters the United States only in the southernmost coastal woodlands in Cameron Co., Texas. The species is immediately recognized in our fauna by its elongate shape and long cinereous pubescence giving a grizzled appearance, usually elytra with pubescence forming a band just posterior of mid-length.

***Drapetes plagiatus* (Boheman)**

(Fig. 6)

Lissomus plagiatus Boheman, 1858: 66

Lissomus plagiatus, of LeConte 1859c: 289; Gerstacker 1860: 174; *Drapetes plagiatus*, of LeConte 1863a: 44; Gemminger and Harold 1869: 1458; Steinheil 1875: 107; Horn 1890: 203; Fleutiaux 1894: 689, 1895: 160; Woodworth 1913: 196; Hyslop 1916: 16; Schenkling 1928: 9; Thomas 2007: 6

Drapetes praeustus Bonvouloir 1859: 79; LeConte 1863a: 78; Gerstacker 1860: 174; Gemminger and Harold 1869: 1458; Horn 1890: 203; Schenkling 1928: 9

Drapetes praeusta, of Blackwelder 1944: 304 (incorrect gender change)

Drapetes plagiata, of Blackwelder 1944: 304 (incorrect gender change)

Distribution. Belize; Brazil; Colombia; Costa Rica; Guatemala; Panama; Venezuela; United States of America: Florida

Notes. *Lissomus leuconotus* Gerstacker (1860) was first given as a synonym of *L. plagiatus* and is not available (ICZN 1999: Art 11.6).

Drapetes plagiatus has the broadest range of any described *Drapetes* species (Blackwelder 1944). It was originally described from “San Francisco, California”, but Horn (1889) regarded Boheman published localities as “notoriously badly mixed, and no reliance can be placed upon them.” Persson (1971) documented the unreliability of Boheman locality data, and Liebherr et al. (2010) substantiated these prior assessments for some ground beetles ostensibly from Hawai’i. It is untenable that *D. plagiatus* natively occurs in California and no records or specimens of any *Drapetes* are known from California in the nearly 160 years since Boheman’s report. Woodworth (1913) merely repeated Boheman’s attribution. Persson (1971) showed that the San Francisco visit occurred following two stops in Panama in late April 1852, and stops in the Galapagos Islands and Hawai’i. This species is not known from either of the latter two regions. The known habitats and distribution for *D. plagiatus*, indicate that the most likely collecting location was in Panama, either St. Joseph Island [= San Jose] in the Pearl Archipelago, or Panama City. Neither specific location is definitive, so that the revised type locality is here given broadly as Panama.

Drapetes plagiatus is introduced and recorded from four counties in southern Florida. The earliest specimen seen to date is labeled: Florida, Dade Co., Old Cutler Hammock, May 9, 1990, coll. E.G. Riley (1, TAMU). A specimen was swept from a *Ligustrum* sp. at Port Everglades, Broward County, Florida by Thomas (2007), then from Collier County, Florida by Smith and Dixon (2007). This species has also been repeatedly collected from Palm Beach County, Florida (B. Mathison, pers. comm.). Thomas (2007) correctly stated the low probability of this species being a potential agricultural or horticultural pest.

***Drapetes quadripustulatus* Bonvouloir**

(Fig. 7)

Drapetes quadripustulatus Bonvouloir 1859: 74, 1860: 367 (not Dejean 1833, 1836 *nomen nudum*); LeConte 1863a: 44; Crotch 1873: 66; Schwarz 1878: 452; Dury 1879: 169, 1906: 144; Henshaw 1885: 72; Horn 1885: 207, 1890: 204; Blatchley 1910: 774; Schaeffer 1916: 62; Blanchard 1917: 7; Leng 1920: 177; Leng 1926: 354; Schenkling 1928: 8; Kirk 1969: 52; Downie and Arnett 1996: 823 *Lissomus quadripustulatus*, of Gerstacker 1860: 165; Bonvouloir 1860: 367

Distribution. United States: Florida, Georgia, Indiana, Kansas, Louisiana, Maryland, Missouri, Mississippi, North Carolina, Ohio, Wisconsin, Texas.

Notes. This is the only species in the region with four elytral maculae, two on each elytron.

***Drapetes rubricollis* LeConte**

(Fig. 8)

Drapetes rubricollis LeConte 1863b: 82 (not Dejean, 1833: 84, 1836: 95; not LeConte 1863a: 44 *nomen nudum*); Crotch 1873: 66; Schwarz 1878: 452; Henshaw 1885: 72; Horn 1885: 207; Trumbull 1893: 151; Blatchley 1910: 774; Haimbach 1906: 38; Wickham 1908: 401; Schaeffer 1916: 62; Blanchard 1917: 6; Leng 1920: 177; Schenkling 1928: 8; Kirk 1969: 52; Peck and Thomas 1998: 71

Distribution. United States: Alabama, Arkansas, Florida, Georgia, North Carolina, South Carolina.

Notes. This is a poorly known species in the southeastern states. With its red and black coloration it is sometimes misidentified as *Drapetes bicolor* (Laporte de Castelnau). *Drapetes rubricollis* has the head black and the body is smaller and more evenly oval, while *D. bicolor* has strong blue reflections on the elytra, the head is concolorous with the pronotum, and it is known authoritatively from Cuba, Hispaniola, and The Bahamas (Andros I.).

A Key to the Species of *Drapetes* of Northern North America

- 1. Elytral integument bicolored **2**
- Elytral integument entirely piceous to black **6**

- 2(1). Elytra with one macula each **3**
- Elytra with one basal and one subapical maculae each ... ***D. quadripustulatus* Bonvouloir**

- 3(2). Body smaller (ca. 4.0 mm or less) **4**
- Body larger (ca. 6.0 mm) elongate, subparallel; elytral maculae red, subrectangular, transverse, forming a basal band on conjoined elytra; Arizona ***D. cylindricus* Fall**

- 4(3). Elytral maculae elongate, translucent green-yellow to yellow-white **5**
- Elytral maculae yellow to orange, circular, oval to subquadrate, opaque; southeastern Canada, eastern U.S.A ***D. exstriatus* (Say)**

- 5(4). Body elongate-ovoid; pronotal punctures evenly spaced discally, denser posteriorly; Arizona and New Mexico ***D. chiricahua* n.sp.**
- Body narrow, subfusiform; pronotal punctures evenly spaced throughout; Florida ***D. plagiatus* (Boheman)**

- 6(1). Body oval; integument shining piceous to black; pubescence fine, inconspicuous **7**
- Body elongate; integument sub-shining black; pubescence cinereous, relatively long and dense, with a band of denser pubescence at mid-length; coastal southern TX..... ***D. niger* Bonvouloir**

- 7(6). Pronotum yellow-orange to orange-red; elytra black; southeastern U.S. ***D. rubricollis* LeConte**
- Pronotum black, as elytra; southeastern Canada, eastern U.S. ***D. exstriatus* (Say)**

Species Excluded***Drapetes clarki* Bonvouloir**

(Fig. 9–10)

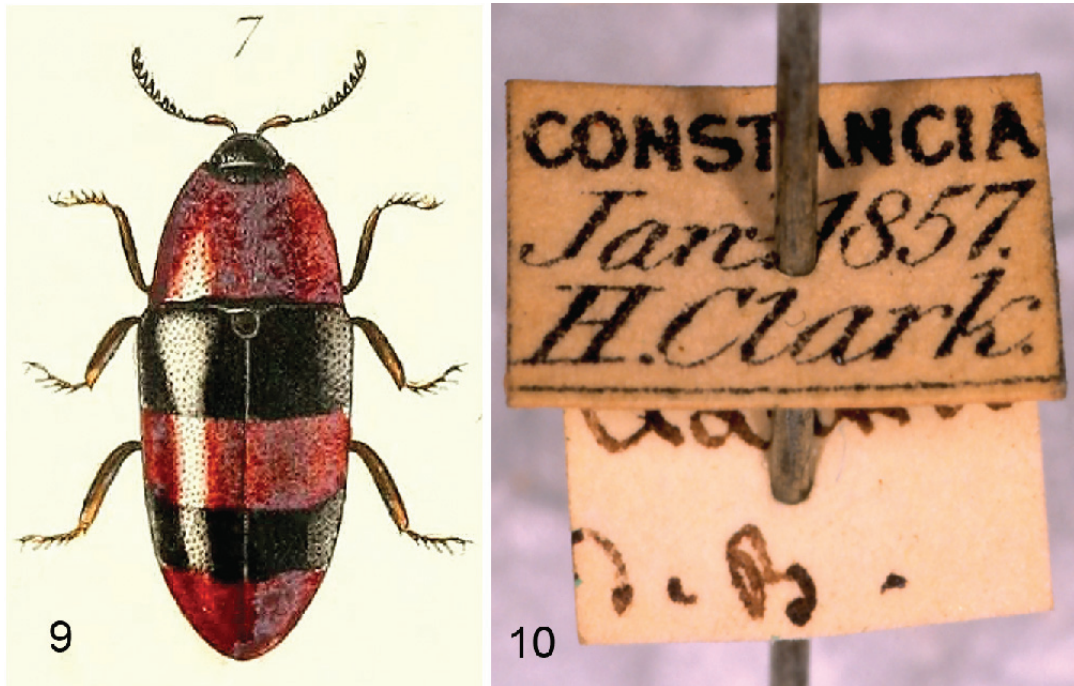
Drapetes clarkii Bonvouloir, 1861: 359; Schenkling 1928: 7**Distribution.** Brazil: Rio de Janeiro**Specimens examined.** Syntype, [Brazil] Constancia, Jan 1857, H. Clark / Clarkii H. Bon.” (MNHN).

A second similar specimen associated with the syntype, but without locality label and with only “clarkii” handwritten on a label was also examined. This second specimen was determined to represent *Drapetes variegatus* Bonvouloir and may have been placed during a comparison of these species.

Notes. *Drapetes clarki* was described (Fig. 9–10) from an unspecified number of specimens sent to Victor Henri de Bonvouloir by the Reverend Hamlet Clark. The original description was published with the comment: “Elle a été découverte à Constantia, dans les États-Unis, par M. Hamlet Clark, à l’obligeance duquel j’ai dû sa communication.” This provenance was repeated by Schenkling (1928). Blackwelder (1944) did not include this species, presumably because of the Bonvouloir remark about it being from the United States.

The Reverend Clark never visited the United States, but he did write at length about his extensive collecting in and around the vicinity of “Constancia” in the Serra dos Órgãos [Organ Mountains] and other sites in the then “Province of Rio Janeiro” (Clark 1857a-b, 1867; Newman 1867a-b; Staines 2002).

The “Constancia” reported by Clark (1857a-b, 1867) was determined as the former village of Constância, as located at the present coordinates of 22°22′01″S and 042°55′58″W, in the central portion of the state of Rio de Janeiro. Google Earth® locates these coordinants at the suburban community of Fazenda Boa Fé, approximately 6 air km north-northeast of Teresópolis. At this and other sites, the Reverend Clark collected extensively. Within the elateroid beetles alone, in addition to *D. clarki*, *Fornax clarki* Bonvouloir (Eucnemidae), *Esthesopus clarki* Candèze, and no fewer than 11 other Elateridae representing four genera were described by Candèze (1860, 1863) soon after Clark’s return to England.



Figures 9–10. *Drapetes clarki*. **9)** *Drapetes clarki* drawing from Bonvouloir (1861). **10)** Original labels from syntype at MNHN.

The reporting of *D. clarki* from the United States by Bonvouloir (1861) is unexplained except by error. Given Clark’s (1857a-b, 1867) descriptions of collecting in the Constância area in 1856, the structural similarity of this beetle to other neotropical species of *Drapetes*, e.g., *D. variegatus* Bonvouloir, and over 150 years of no attributable specimens subsequently found in the United States or adjacent countries, the type locality for *D. clarki* is here redesignated to Constância, Rio de Janeiro, Brazil.

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Literature Cited

- Becker, E. C. 1991.** Elateridae (Elateroidea) (including Dicronychidae, Lissomidae), p. 410–417. *In*: F. W. Stehr (ed.). *Immature Insects*, vol. 2. Kendall/Hunt Publishing Company; Dubuque, IA. xvi + 975 p.
- Blackwelder, R. E. 1944.** Checklist of the coleopterous insects of Mexico, Central America, The West Indies, and South America. United States National Museum Bulletin 185 (Part 2): 189–341.
- Blanchard, F. 1917.** Revision of the Throscidae of North America (Coleoptera). *Transactions of the American Entomological Society* 43: 1–26.
- Blatchley, W. S. 1910.** An illustrated descriptive catalogue of the Coleoptera or beetles (exclusive of the Rhynchophora) known to occur in Indiana, with bibliography and descriptions of new species. The Nature Publishing Co.; Indianapolis, IN. 1386 p.
- Boheman, C. H. 1858.** Coleoptera. Species Novas Descripsit, pp. 1–112. *In*: Kongliga Svenska Fre-gatten Eugenies resa omkring Jorden under Befäl af C.A. Virgin Åren 1851–1853. Vetenskapliga Iakttagelser På H.M. Kongung Oscar Des Förstes Befallnning utgifna af Andra Delen. Zoologi. I. Insecta. P.A. Norstedt & Soner, Stockholm; Sweden. 617 p.
- Bonvouloir, H. de. 1859.** Essai monographique sur la Famille des Throscides. A. Deyrolle; Paris, France. xviii + 144 p., 5 pl.
- Bonvouloir, H. de. 1860.** Descriptions de plusieurs espèces nouvelles de la Famille des Throscides. *Annales de la Société entomologique de France*, ser. 3, 8(1–2): 351–367.
- Bonvouloir, H. de. 1861.** Descriptions de plusieurs espèces nouvelles de la Famille des Throscides. *Annales de la Société entomologique de France*, ser. 4, 1: 349–360.
- Bousquet, Y. 1991.** Family Throscidae throscid beetles, p. 186. Checklist of beetles of Canada and Alaska. Research Branch, Agriculture Canada Publication 1861/E; Ottawa, Canada. vi + 430 p.
- Bousquet, Y. 1993.** On Thomas Say's entomological publications printed in New Harmony, Indiana. *Entomological News* 104(1): 1–12.
- Bousquet, Y., P. Bouchard, A. E. Davies, and D. S. Sikes. 2013.** Checklist of beetles (Coleoptera) of Canada and Alaska, 2nd edition. Pensoft; Sofia-Moscow, Bulgaria and Russia. 402 p.
- Böving, A. G., and F. C. Craighead. 1931.** An illustrated synopsis of the principal larval forms of the Order Coleoptera. Brooklyn Entomological Society; Brooklyn, NY. 351 p.
- Burakowski, B. 1973.** Immature stages and biology of *Drapetes biguttatus* (Piller) (Coleoptera, Lissomidae). *Annales Zoologici* 30(10): 335–347.
- Burakowski, B. 1975.** Development, distribution and habits of *Trixagus dermestoides* (L.), with notes on the Throscidae and Lissomidae (Coleoptera, Elateroidea). *Annales Zoologici* 32(17): 375–405.
- Clark, H. 1857a.** Proceedings of natural-history collectors in foreign countries [Correspondence dated February 18, 1857 describing localities visited]. *The Zoologist* 15: 5561–5565.
- Clark, H. 1857b.** Proceedings of natural-history collectors in foreign countries [Correspondence dated March 14, 1857 describing methods of collecting and costs]. *The Zoologist* 15: 5649–5652.
- Clark, H. 1867.** Letters home from Spain, Algeria, and Brazil, during past entomological rambles. John Van Voorst; London, U.K. iv + 178 p.
- Cobos, A. 1975.** Estudios sobre Throscidae, IV. *Archivos del Instituto de Aclimatacion* 20: 121–153.
- Costa, C., S. A. Vanin, and S. A. Casari-Chen. 1988.** Larvas de Coleoptera do Brasil. Museu de Zoologia, Universidade de Sao Paulo; Sao Paulo, Brazil. 282 p. + 165 pl.
- Crotch, G. R. 1873.** Check list of the Coleoptera of America, north of Mexico. Naturalists' Agency; Salem, MA. 136 p.
- Dejean, P. M. F. A. 1821.** Catalogue de la Collection de Coléoptères. Crevot; Paris, France. viii + 136 p.
- Dejean, P. M. F. A. 1833.** Catalogue des Coléoptères de la Collection. Méquignon-Marvis Père; Paris, France. 443 p.
- Dejean, P. M. F. A. 1836.** Catalogue des Coléoptères de la Collection. Méquignon-Marvis Père; Paris, France. xiv + 503 p.
- Downie, N. M., and R. H. Arnett, Jr. 1996.** The beetles of northeastern North America, Vol. 1: Introduction; Suborders Archostemata, Adephaga, and Polyphaga, thru Superfamily Cantharoidea. The Sandhill Crane Press; Gainesville, FL. 880 p.

- Dury, C. 1879.** List of the Coleoptera observed in the vicinity of Cincinnati. *Journal of the Cincinnati Society of Natural History* 2: 162–178.
- Dury, C. 1906.** A revised list of the Coleoptera observed near Cincinnati, Ohio, with notes on localities, bibliographical references, and description of new species. *Journal of the Cincinnati Society of Natural History* 20: 107–198.
- Erichson, W. F. 1847.** Bericht über die wissenschaftlichen Leistungen in der Naturgeschichte der Insecten, Arachniden, Crustaceen und Entomostraceen während des Jahres 1846. *Archiv für Naturgeschichte* 11(2): 65–208.
- Evenhuis, N. 2012.** Abbreviations for insect and spider collections of the world. Available at: <http://hbs.bishopmuseum.org/codens/codens-inst.html> [Last accessed March 2015].
- Evans, J. D. 1895.** The insect fauna of the Sudbury District, Ontario. *The Canadian Entomologist* 27: 141–146.
- Evelt, W. 1863(1861).** [Report on the capture of Coleoptera near Philadelphia]. *Proceedings of the Entomological Society of Philadelphia* 1: 32.
- Fall, H. C. 1932.** New Coleoptera, XV. *The Canadian Entomologist* 64: 56–62.
- Fattig, P. W. 1937.** The Coleoptera or beetles of Georgia. *Entomological News* 48(1): 4–10.
- Flautiaux, E. 1894.** Supplément au “Catalogus Coleopterorum” de Gemminger et Harold, vol. V, 1869. *Annales de la Société entomologique de Belgique* 38: 687–691.
- Flautiaux, E. 1895.** Liste des Trixagidae, Monommidae, Eucnemidae et Elateridae Importés dans les Tabacs des Manufactures et Recueillis par M. Ant. Grouvelle. *Annales de la Société entomologique de Belgique* 39: 157–172.
- Gemminger, M., and E. de Harold. 1869.** *Catalogus Coleopterorum, hucusque descriptorum synonymicus et systematicus*. Tom. V. Buprestidae, Trixagidae, Monommidae, Eucnemidae, Elateridae, Cebionidae. Berlin; Germany. 1347–1608 [+ 5] p.
- Germar, E. F. 1824.** *Coleopterorum species novae aut minus cognitae, descriptionibus illustratae*. Volumen Primum. Coleoptera. J.C. Hendelii et Filii, Halae, Germany. xxiv + 1–624 p., 2 pl.
- Gerstäcker, A. 1860.** Die Arten der Gattung *Lissomus* Dalm., nach dem Material der Königl. Entomologischen Sammlung zu Berlin. *Linnaea Entomologica* 14: 129–179.
- Haimbach, F. 1906.** Doings of Societies [Notes on the Feldman Collecting Social of Philadelphia]. *Entomological News* 17(1): 37–38.
- Haldeman, S. S., and J. L. LeConte. 1853.** *Catalogue of the described Coleoptera of the United States* by Friedrich Ernst Melsheimer, M.D. Smithsonian Institution; Washington, D.C. xvi + 174 p.
- Hamilton, J. 1895.** *Catalogue of the Coleoptera of southwestern Pennsylvania, with notes and descriptions*. *Transactions of the American Entomological Society* 22: 317–381.
- Harris, T. W. 1833.** VIII. Insects. p. 566–595. *In*: E. Hitchcock. Report on the geology, mineralogy, botany, and zoology of Massachusetts. J. S., and C. Adams; Amherst, MA. xii + 692 p.
- Harris, T. W. 1835.** VIII. – Insects. p. 553–602. *In*: E. Hitchcock. Report on the geology, mineralogy, botany, and zoology of Massachusetts. J. S., and C. Adams; Amherst, MA. xii + 14–702 p.
- Henshaw, S. 1885.** List of the Coleoptera of America, north of Mexico. American Entomological Society; Philadelphia. 161 p.
- Horn, G. H. 1885.** Synopsis of the Throscidae of the United States. *Transactions of the American Entomological Society* 12: 198–208.
- Horn, G. H. 1886.** Notes from the Museum at Cambridge. *Transactions of the American Entomological Society and proceedings of the monthly Meetings of the Entomological Section of the Academy of Natural Sciences* 13: xi.
- Horn, G. H. 1890.** Fam. Throscidae. p. 193–209, Tab. 10. *In*: F.D. Godman and O. Salvin (eds.). *Biologia Centrali-Americana, Insecta, Coleoptera, Vol. III, Pt. 1. Serricornia*. R.H. Porter; London, U.K. xv + 690 p. + 27 pl.
- Hubbard, H. G., and E. A. Schwarz. 1878.** The Coleoptera of Michigan. 3. Contribution to a list of the Coleoptera of the Lower Peninsula of Michigan. *Proceedings of the American Philosophical Society* 17: 643–669.
- Hyslop, J. A. 1916.** Elateridae and Throscidae of the Stanford University Expedition of 1911 to Brazil. *Psyche* 23: 16–21.

- Hyslop, J. A. 1917.** The Phylogeny of the Elateridae based on larval characters. *Annals of the Entomological Society of America* 10: 241–263.
- ICZN [International Commission on Zoological Nomenclature]. 1999.** International code of zoological nomenclature, Fourth Edition. The International Trust for Zoological Nomenclature; London, U.K. xxix + 306 p.
- Kilman, A. H. 1889.** Additions to the list of Canadian Coleoptera. *The Canadian Entomologist* 21: 134–137.
- Kirk, V. M. 1969.** A list of beetles of South Carolina. Part 1 – Northern Coastal Plain. South Carolina Agricultural Experiment Station Technical Bulletin 1033: 1–124 p.
- Kirk, V. M. 1970.** A list of beetles of South Carolina. Part 2 – Mountain, Piedmont, and Southern Coastal Plain. South Carolina Agricultural Experiment Station Technical Bulletin 1038: 1–117 p.
- Lacordaire, T. 1857.** Famille XXXIII. Thrôscides, p. 90–94, 564. *In: Histoire Naturelle des Insectes. Genera de Coléoptères ou Exposé Méthodique et Critique de Tous les Genres Proposés Jusqu'ici dans cet Ordre D'Insectes. Tome Quatrième.* Librairie Encyclopédique de Roret, Paris; France. 579 p.
- LeConte, J. L. 1859a.** The complete writings of Thomas Say on the Entomology of North America, with a memoir of the author, by George Ord. Volume I. Balliere Brothers; New York, NY. xxiv + 412 p.
- LeConte, J. L. 1859b.** The complete writings of Thomas Say on the Entomology of North America, with a memoir of the author, by George Ord. Volume II. Balliere Brothers; New York, NY. 814 p.
- LeConte, J. L. 1859c.** Additions to the Coleopterous fauna of northern California and Oregon. *Proceedings of the Academy of Natural Sciences, Philadelphia* 11: 281–292.
- LeConte, J. L. 1863a.** List of the Coleoptera of North America, Part I. *Smithsonian Miscellaneous Collections* 6(140): 1–78.
- LeConte, J. L. 1863b.** New species of North American Coleoptera, Part I. *Smithsonian Miscellaneous Collections* 6(167): 1–92.
- Liebherr, J. K., A. Casale, T. L. Erwin, and G. E. Ball. 2010.** On the provenance of Boheman's "Eugenies resa" Carabidae (Coleoptera) allegedly described from Hawaii. *The Coleopterists Bulletin* 64(3): 221–229.
- Leng, C. W. 1911.** Notes on Coleoptera collected in northern Georgia – II. *Journal of the New York Entomological Society* 19(4): 209–216.
- Leng, C. W. 1920.** Catalogue of the Coleoptera of America, north of Mexico. John D. Sherman, Jr.; Mount Vernon, New York. x + 470 p.
- Leng, C. W. 1926.** Order Coleoptera. p. 203–520. *In: M. D. Leonard (ed.). A list of the insects of New York : with a list of the spiders and certain other allied groups.* Cornell University Agricultural Experiment Station Memoir 101: 1–1121.
- Lindroth, C. H., and R. Freitag. 1969.** North American ground-beetles (Coleoptera, Carabidae, excluding Cicindelinae) described by Thomas Say: Designation of lectotypes and neotypes. *Psyche* 76: 326–361.
- Mawdsley, J. R. 1993.** The entomological collection of Thomas Say. *Psyche* 100: 163–171.
- Melsheimer, F. V. 1806.** A catalogue of insects of Pennsylvania. Part First. Privately Published; Hanover, PA. vi + 60 p.
- Melsheimer, F. E. 1844.** Descriptions of new species of Coleoptera of the United States 2: 134–160.
- Morse, S. R. 1909.** Annual report of the New Jersey State Museum, including a report of the insects of New Jersey. MacCrellis & Quigley; Trenton, NJ. 888 p.
- Newman, E. 1867a.** Death of the Rev. Hamlet Clark. *The Zoologist* 25: 340.
- Newman, E. 1867b.** The late Rev. Hamlet Clark, M.A., F.L.S. *Entomologist's Monthly Magazine* 4: 43–44.
- Nixon, P. L., and J. E. McPherson. 1977.** An annotated list of phytophagous insects collected on immature black walnut trees in southern Illinois. *Great Lakes Entomologist* 10(4): 211–222.
- Peck, S. B., and M. C. Thomas. 1998.** A distributional checklist of the beetles (Coleoptera) of Florida. *Arthropods of Florida and Neighboring Land Areas* 16: 1–180.
- Persson, P. I. 1971.** "Eugenies resa". Localities, dates and labels of the insects collected during the voyage around the world by the Swedish frigate "Eugenie" in the years 1851–1853. *Entomologisk Tidskrift* 92: 164–172.

- Peterson, A. 1960.** Larvae of Insects, an introduction to Nearctic species. Part II, Coleoptera, Diptera, Neuroptera, Siphonaptera, Mecoptera, Trichoptera. Privately Published: Columbus, Ohio. v + 416 p.
- Prena, J. 2014.** Thomas Say's weevils, with special reference to his Curculionites pamphlet and the extant type material. *Proceedings of the American Philosophical Society* 157(4): 393–408.
- Randall, J. W. 1838a.** Description of new species of coleopterous insects inhabiting the State of Maine. *Boston Journal of Natural History* 2(1): 1–33.
- Randall, J. W. 1838b.** Descriptions of new species of coleopterous insects inhabiting the State of Massachusetts. *Boston Journal of Natural History* 2(1): 34–52.
- Say, T. 1825.** Descriptions of new American species of the genera *Buprestis*, *Trachys*, and *Elater*. *Annals of the Lyceum of Natural History of New York* 1(2): 249–268.
- Say, T. 1834.** Descriptions of new species of North American insects, and observations on some of the species already described. School Press; New Harmony, IN. 81 p.
- Say, T. 1839.** Descriptions of new North American insects and observations on some already described. *Transactions of the American Philosophical Society* 6(n.s.): 155–190.
- [Schaeffer, C.] 1902.** [Coleoptera from Brownsville, Texas] *Proceedings of the New York Entomological Society, Meeting of February 4, 1902. Journal of the New York Entomological Society* 10: 176.
- Schaeffer, C. 1916.** New species of Throscidae (Col.). *Bulletin of the Brooklyn Entomological Society* 11: 62–63.
- Schenkling, S. 1928.** Throscidae. *Coleopterorum Catalogus auspiciis et auxilio W. Junk* 11, pars 101: 1–26.
- Schwarz, E. A. 1878.** The Coleoptera of Florida: list of species. *Proceedings of the American Philosophical Society* 17: 353–472.
- Scott, W. M., and W. F. Fiske. 1902.** Jarring for the curculio on an extensive scale in Georgia, with a list of the insects caught. *Proceedings of the Thirteenth Annual Meeting of the Association of Economic Entomologists. U.S. Department of Agriculture, Division of Entomology Bulletin* 31(n.s.): 24–36.
- Smith, J. B. 1890.** Catalogue of insects found in New Jersey. The John L. Murphy Publishing Company; Trenton, NJ. 486 p.
- Smith, T., and W. Dixon. 2007.** Florida Cooperative Agricultural Pest Survey Program, Quarterly Report No. 1-2007. Florida Department of Agriculture and Consumer Services, Gainesville. 25 p. [also http://freshfromflorida.s3.amazonaws.com/pdf_caps_qtr_1-2007.pdf. (Last accessed October 2013)]
- Staines, C. L. 2002.** Hamlet Clark: publications and proposed taxa. *Proceedings of the Entomological Society of Washington* 104(2): 468–478.
- Thomas, M. C. 2007.** [*Drapetes plagiatus* (Boheman)] Entomology Section, Florida Department of Agriculture and Consumer Services. *Tri-ology* 46(1): 1–11.
- Trumbull, A. 1893.** Spring collecting in northern Florida. *Journal of the New York Entomological Society* 1(4): 147–152.
- Ulke, H. 1903.** A list of the beetles of the District of Columbia. *Proceedings of the United States National Museum* 25: 1–57.
- Van Dyke, E. C. 1953.** New Coleoptera from western North America. *The Pan-Pacific Entomologist* 29(2): 98–101.
- Wickham, H. F. 1908.** A list of the Van Duzee collection of Florida beetles. *Bulletin of the Buffalo Society of Natural Sciences* 9: 399–405.
- Woodworth, C. W. 1913.** Guide to California Insects. The Law Press; Berkeley, CA. v + 360 p.

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