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# INSECTA MUNDI

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A review of the *Colaspis suilla* species group,  
with description of three new species from Florida  
(Coleoptera: Chrysomelidae: Eumolpinae)

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# A review of the *Colaspis suilla* species group, with description of three new species from Florida (Coleoptera: Chrysomelidae: Eumolpinae)

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**Abstract.** The *Colaspis suilla* species group (Coleoptera: Chrysomelidae: Eumolpinae) is defined relative to other species of the genus *Colaspis* Fabricius occurring in the United States. The group is composed of five species, of which three from Florida are described as **new species**: *C. ansa* Riley from the Florida Panhandle, *C. skelleyi* Riley from Central Florida, and *C. thomasi* Riley from the southern Lake Wales Ridge. *Colaspis suilla borealis* Blake is reduced to a full synonym of *C. suilla* Fabricius, **new synonymy**. Comparative remarks, habitus images, images of male and female genitalia, range maps, specimen data, and a key to species are presented.

**Key words.** Leaf beetle, taxonomy, Atlantic coastal plain, Gulf coastal plain, sand ridge, Lake Wales Ridge endemic.

**ZooBank registration.** urn:lsid:zoobank.org:pub:CA3621AC-1E54-464E-8096-5A17F605F67E

## Introduction

Identification of the North American species of the leaf beetle genus *Colaspis* Fabricius (Coleoptera: Chrysomelidae: Eumolpinae) has long been challenging, with the earliest authors treating the problematic brown costate species as a single variable species (Crotch 1873; Horn 1892). Charles Schaeffer began the process of segregating the more distinctive forms, naming nine additional *Colaspis* species (Schaeffer 1906, 1920, 1934) including several costate species. Barber (1937) followed, proposing two additional species-group names (one species, one subspecies) in a work that for the first time employed the male genitalia as a taxonomic character. Finally, Doris Blake reviewed most of the *Colaspis* occurring in United States in a series of papers treating different species complexes (Blake 1974, 1976, 1977a, 1977b), where 18 new species-group names were proposed (15 species, three subspecies). Three of the USA species described in *Colaspis* by these authors were later transferred to other genera (Barber 1943; Riley et al. 2001, 2003) and one was synonymized (Clark 2000).

The species dealt with in the present work fall into the broad division of the genus that Blake (1974) referred to as the “costate species,” or those species that possess variably developed elytral costae separated by geminate or semi-geminate striae punctation. For a review of the taxonomic history of the costate species, see her introductory remarks. In that work, Blake reported on her review of the Fabrician type material for *C. brunnea* (F.) and *C. suilla* F., the two oldest North American *Colaspis* names, firmly establishing their identities through lectotype fixation, illustration, and redescription. In doing so, she was the first author to apply these names with certainty. She divided the costate *Colaspis* species occurring in the United States into the *C. brunnea* group, a well-defined group of five species having eight more-or-less well-developed elytral costate and unique male genitalia, and the *C. suilla* group, represented by what she termed “4-costate specimens” from the eastern states. She excluded from the *C. suilla* group the remaining described four-costate eastern species, including *C. costipennis* Crotch, *C. flavocostata* Schaeffer and *C. pini* Barber (see her discussion, p. 2). The definition given below for the *C. suilla* group is more rigorous than that provided by Blake and will serve to distinguish the species treated here from other *Colaspis* species of the United States. In addition to *C. suilla*, this definition will include *C. costipennis* Crotch, as well as the three new species described here. This definition will exclude the *C. flavocostata* and *C. pini* complexes of four-costate eastern North American *Colaspis*.

## Materials and Methods

Body and elytral length were measured in dorsal aspect from the vertex of the head, or base of the scutellum, to the sutural apex of the elytra. Body width was measured across the elytral humeri. Pronotal length and width were measured in anterodorsal aspect (as in Fig. 11–18). Elytral intervals are counted at the elytral mid-length from the suture to the lateral margin for a total of eight intervals (sutural interval and lateral marginal bead are not counted). In this work, the costae occupying even-numbered intervals are referred to as the primary costae, while those occupying odd-numbered intervals are referred to as secondary costae. Terminology for the genitalia largely follows Askevold and Flowers (1994) and Flowers (1995, 1999). The term “en-face view” is used for the distal-end view of the male median lobe in Chrysomelidae that have this structure curved, a view that best expresses the outline of the surface that includes the base of the retracted endophallus. The relative length of the post-orifical region of the male median lobe (post-orifical length) is diagrammed in Fig. 31–32. Habitus images were taken with a Macropod Photographic System, using a Canon EOS 6D camera fitted with a Canon EF 100mm f/2.8 macro lens and stacked with Zerene Stacker. Additional images and the measurements were taken with a Keyence VHX-7000 digital imaging system. Final image manipulation and plate construction was accomplished with Adobe Photoshop Elements (version 14). Localities were georeferenced with Google Earth (Pro) and maps were prepared using ArcGIS Desktop (version 10.5). Several thousand *Colaspis* specimens were examined leading up to this study, including the name-bearing types for those species described from the United States by Barber, Schaeffer and Blake. Specimens cited in this work are deposited in the following collections (ordered by acronym): Arthur J. Gilbert Collection (private), Clovis, California [AJGC]; Brigham Young University, Provo, Utah [BYUC]; Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario [CNC]; Edward G. Riley Collection (private), College Station, Texas [EGRC]; Florida State Collection of Arthropods, Gainesville, Florida [FSCA]; Kyle Schnepf Collection (private), Gainesville, Florida [KESC]; Louisiana State Arthropod Museum, Baton Rouge, Louisiana [LSUC]; Museum of Comparative Zoology, Cambridge, Massachusetts [MCZ]; Mississippi Entomology Museum, Starkville, Mississippi [MEM]; North Dakota State University, Fargo, North Dakota [NDSU]; Robert H. Turnbow (private), Enterprise, Alabama [RHTC]; Texas A&M University Insect Collection, College Station, Texas [TAMU]; University of New Hampshire, Dover, New Hampshire [UNHC]; University of Nebraska State Museum, Lincoln, Nebraska [UNLC]; United States National Museum of Natural History, Washington, DC [USNM]; and University of Wisconsin Research Collection, Madison, Wisconsin [UWRC]. Specimens cited from CNC and NDSU were examined via images.

### Genus *Colaspis* Fabricius

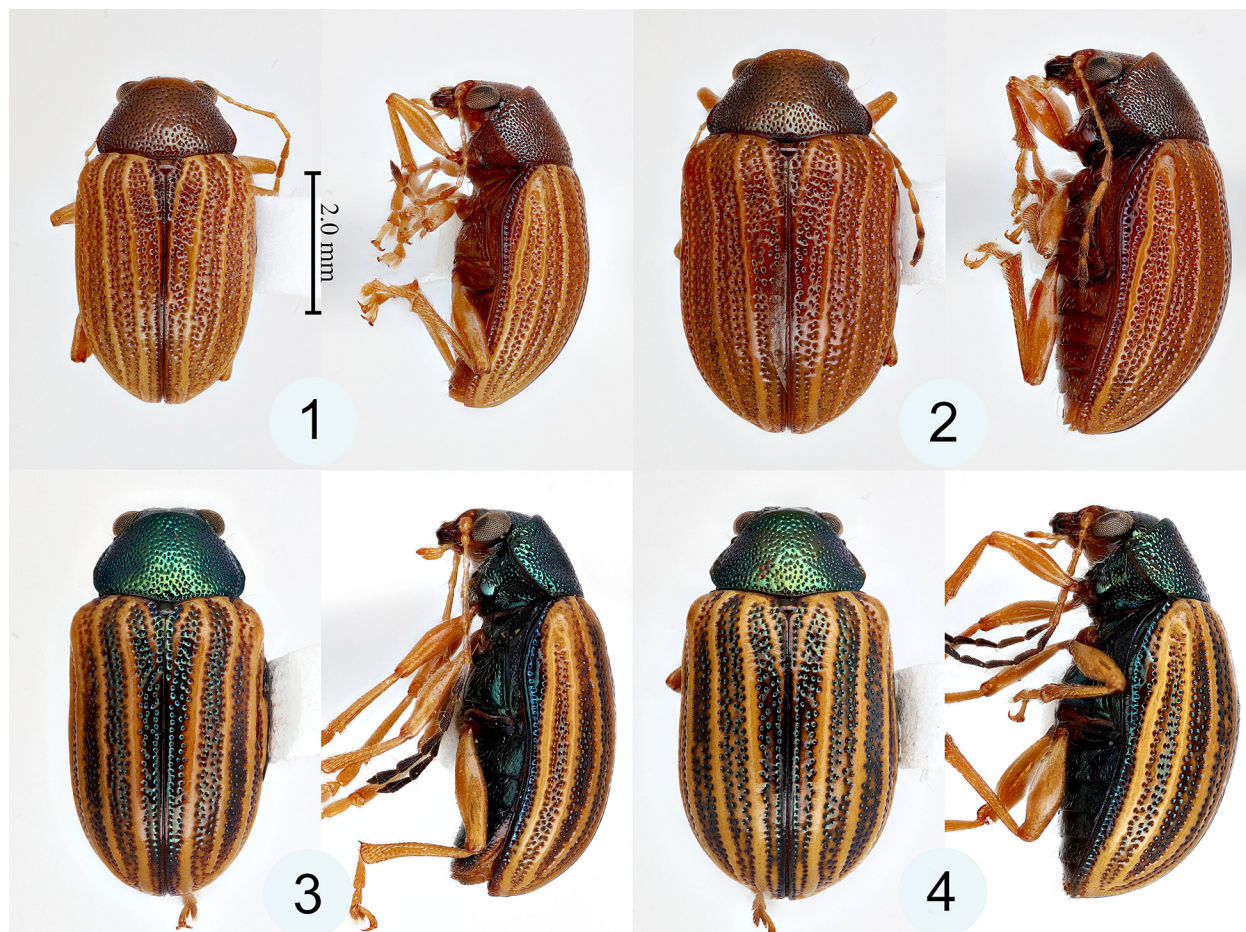
*Colaspis* Fabricius 1801: 411. Type species *Chrysomela flavicornis* Fabricius 1787, by designation of Latreille 1810: 432.

*Maecolaspis* Bechyné 1950: 275. Type species *Chrysomela occidentalis* Linnaeus 1758, by original designation. Brown 1961: 973 [note on synonymy with *Colaspis* F.].

**Remarks.** The key characters distinguishing *Colaspis* from many similar genera are summarized in the generic keys for the Eumolpinae of Central American (Flowers 1996) and America north of Mexico (Riley et al. 2002).

### *Colaspis suilla* species group

**Diagnosis.** Body color brown to partially or almost entirely dark metallic; if largely dark, then part of costa on interval VIII and extreme elytral apex pale. Body comparatively short in most species, elytral length not more than three times pronotal length in most species (longer than three times pronotal length in some specimens of *C. costipennis*). Elytra costate; primary costate usually well-developed (except in *C. thomasi* n. sp.), if not well developed on disc, then present at elytral declivity; secondary costae weakly indicated or absent; sutural costae at apical declivity evenly convex to apex, not inflated and raised (Fig. 22–24). Posterior portion of mesosternum flat between coxae. Male pro- and meso-basitarsi elongate, subparallel-sided (Fig. 28–30). Metafemur pale, unicolorous. Male metatibia weakly curved, otherwise unmodified and not differing significantly from female (Fig. 25–27). Last visible abdominal ventrite of male flat, without transverse swelling or median tubercle. Male genitalia with shaft of median lobe short to moderate in length, not longer than basal hood; margins evenly curved in en-face view, of one simple curve in lateral view; female ovipositor short, about three to four times as long as wide.



**Figures 1–4.** Habitus of *Colaspis* species, dorsal and lateral. 1) Male, *C. suilla* F. (Lake Claiborne St. Pk., LA). 2) Female, *C. suilla* F. (Lake Claiborne St. Pk., LA). 3) Male, *C. costipennis* Crotch (Sand Hill St. Forest, SC). 4) Female, *C. costipennis* Crotch (Sand Hill St. Forest, SC). All figures to scale.

**Discussion.** The above combination of characters will distinguish the members of the *Colaspis suilla* species group from other *Colaspis* occurring in the United States. At the present time, I am not aware of any Neotropical *Colaspis* that should be assigned to this group. This group is probably an unnatural assemblage, at least in-part, defined more by what characters the species lack than by unique characters they possess.

**Color.** Coloration is helpful in recognizing all members of the *C. suilla* species group. The three new species described herein are primarily dark metallic above, and the other included species have some degree of metallic coloration on the elytral striae areas (except most specimens of *C. suilla*), lateral elytral margins, and most ventral areas. With the exception of *C. thomasi* **new species**, the pronota range in color from bright metallic green to dark brown with faint metallic reflection, with the intensity of the metallic reflection generally darker or equal to that of the striae intervals of the elytra. *Colaspis thomasi* is highly unusual in having a dark red pronotum, contrasting with the dark metallic elytra. In *C. ansa* **new species**, the entire dorsum is dark metallic blackish-green, although the outer-most costa and the extreme elytral apex are tinged with reddish in most specimens.

**Elytral costae.** In members of the *C. suilla* species group, the costae on secondary elytral intervals are absent or poorly developed compared to the primary costae. The extreme of this condition is common in the group, where the adjacent punctate striae merge into a single punctate field with no indication of the intervening interval. Members of the group generally have the primary elytral intervals with raised costae, or if not raised, they are at least well-defined by the alignment of punctures in adjacent punctate striae. There are two exceptions. *Colaspis*

*thomasi* n. sp. is atypical in that the discal costate are poorly defined and sometimes completely lacking, where intervals that are normally costate are represented by flat spaces between semi-geminate punctuation; only the outer-most costa on interval VIII and those at the elytral apex are developed. *Colaspis skelleyi* n. sp. is also atypical, having primary costate unequally developed, with those on intervals II and VIII, and sometimes VI, distinct, while those on interval IV, and usually VI, are greatly reduced or absent.

**Male abdominal ventrite V.** In the *C. suilla* species group, the surface of male abdominal ventrite V is flat, lacking a median tubercle or low transverse swelling. Blake (1974) omitted reporting the condition of the last male ventrite in her descriptions of *C. carolinensis* Blake, *C. flavocostata* Schaeffer, and *C. keyensis* Blake. The male holotype specimens for these species have a distinct tubercle present on ventrite V similar to but less strongly developed than she described for *C. recurva* Blake. Some costate *Colaspis* of the southeastern United States are likely to be routinely mis-identified if this important male character is not checked.

**Male genitalia.** Male genitalia of the *C. suilla* species group conform to Division II of Flowers (1999), having a long basal hood separated from the shaft of the median lobe by a strong basal constriction, and the base of the median lobe with a fenestra and well-developed basal spurs. The endophalli of *Colaspis* species possess complex armature, including a complex apical sclerite (Fig. 34, 36, 38: AS). These endophallic structures were not studied in detail in the present work. The shape of one endophallic sclerite was used by Chapin (1979) to distinguish two morphologically close species of the *C. brunnea* group, thus, it is possible the endophallic armature may possess some unexploited taxonomic utility in the *C. suilla* group. The shape of the median lobe in en-face view is a useful taxonomic character previously employed in *Colaspis* by Barber (1937) and Blake (1974). It should be noted, however, that further examination has revealed some notable variation within one species treated here (see comments under *C. costipennis*).

**Female genitalia.** The ovipositor and spermatheca of the five species of the *C. suilla* group were examined. The ovipositors are short to moderately long, about three to four times as long as wide, and are uniform in structure, with the apodeme of sternite VIII long and narrow, with the hemisternites and paraprocts of segment IX possessing elongate, narrow basal rods (Fig. 41–46). These structures and the baculum and gonocoxae are typical of those seen in other *Colaspis* and related genera (Flowers 1995, 1999; Riley unpublished). The shape of the spermathecae is similar among four of the five included species, being u- or j-shaped, narrow and uniformly cylindrical with an abrupt duct connection (Fig. 49–53). The spermatheca of *C. suilla*, however, is differently formed, being bulbous distally and gradually narrowed from the gland connection, thus appearing to lack a discrete connection point with the spermathecal duct (Fig. 47–48).

### Key to species of the *Colaspis suilla* species group

1. Pronotum dark red without strong metallic reflection, contrasting with dark metallic elytra (Fig. 9–10); primary intervals of elytral disc flat, only interval VIII and those at extreme elytral apex costate ..... ***C. thomasi* Riley, n. sp.**
- Pronotum metallic green or blackish-green, ranging to brownish with weak aeneous reflection (Fig. 1–8); primary intervals of elytral disc with partially or completely developed costae ..... **2**
- 2(1). Dorsum unicolorous, entirely blackish-green, pronotal color not contrasting with color of elytra costae (Fig. 5–6) ..... ***C. ansa* Riley, n. sp.**
- Dorsum multicolored, pronotal color contrasting with pale color of elytral costate (Fig. 1–4, 7–8) ... **3**
- 3(2). Primary elytral costae well developed and pale throughout, nearly as wide as intervening striae (Fig. 3–4); body of male more elongate (as in Fig. 3) ..... ***C. costipennis* Crotch**
- Primary elytral costae well developed or some unequally developed or incomplete, if all are well developed, then much narrower than intervening striae (Fig. 1–2, 7–8); body of male shorter (as in Fig. 1, 7) ..... **4**
- 4(3). Costae of primary elytral intervals equally developed; elytral color generally pale or (rarely) suffuse with dark aeneous reflections; costae uniform in color, pale, not strongly contrasting with color of striae (most specimens) (Fig. 1–2); apex of median lobe of male genitalia drawn-out, post-orificial

- length long (Fig. 39); spermatheca bulbous distally, gradually tapering to duct connection (Fig. 47–48) . . . . . ***C. suilla* Fabricius**
- Costae on primary intervals unevenly developed; elytral color generally dark greenish with costae on intervals II and VIII (and rarely IV) pale, sharply contrasting in color with strial areas (Fig. 7–8); apex of median lobe of male genitalia broadly rounded with distinct nodule, post-orifical length short (Fig. 35); spermatheca uniformly narrow, cylindric, with abrupt duct connection (Fig. 52) . . . . . ***C. skelleyi* Riley, n. sp.**

### ***Colaspis suilla* Fabricius**

(Fig. 1–2, 14–16, 39, 42, 47–48, Map 1)

*Colaspis suilla* Fabricius 1801: 417; type locality: ‘Carolina’. Lefèvre 1885: 52 [catalogue]. Blake 1974: 8, fig. 7–9 [redescription, lectotype designation].

*Colaspis suilla borealis* Blake 1974: 9, fig. 11; type locality: Toronto, Canada. **New Synonymy**

**Type material.** Of *C. suilla*, male lectotype [Fabricius collection, Copenhagen], designated and figured by Blake (1974), not examined.

Of *C. suilla borealis*, holotype [USNM], examined, a male labeled “Toronto Canada [hand-written, black on white] || Type no. 26913 U. S. N. M. [printed and hand-written, black on red] || Holotype *Colaspis suilla* ssp. *borealis* Blake [printed and hand-written, red and black on white with red border]. The specimen is point-mounted and was dissected through the abdominal tergites. It is in poor condition, missing various legs and tarsi, with ventral areas mostly obscured by glue. One hind tibia and one antenna are viewable. The shaft of the median lobe is glued to the base of the point with distal portion viewable. The length of the holotype was measured at 3.9 mm, a detail Blake omitted from her original description. Two paratypes at the USNM were also examined.

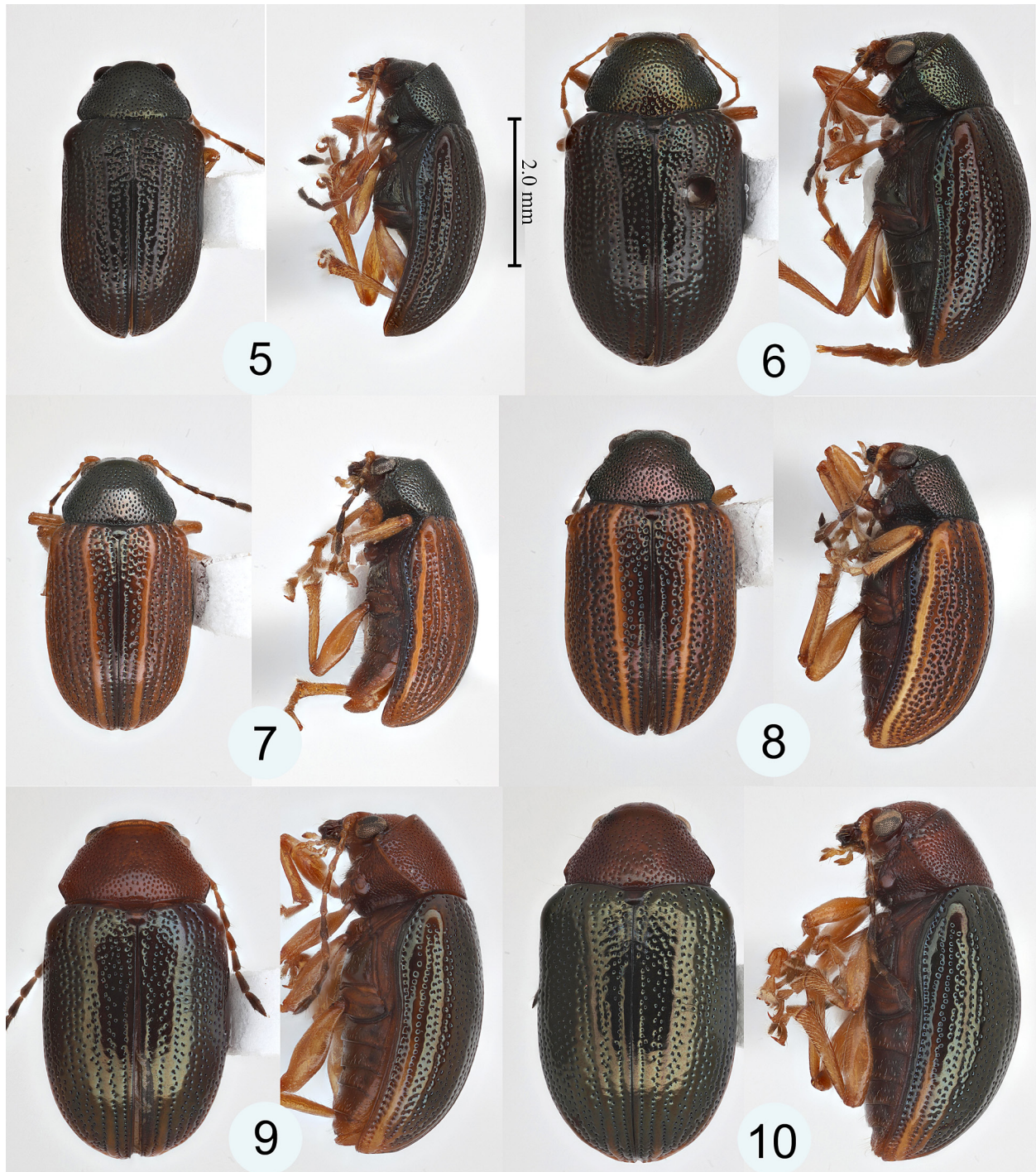
**Remarks.** The uniformly developed and narrow primary elytral costae, dark pronotum, flat surface of male ventrite V, shape of the male genitalia, and shape of the spermatheca will distinguish this species. The median lobe in en-face view is unlike other members of the group, having the tip tapered with a relatively long post-orifical length (Fig. 39). The spermatheca is also unique within the group, and appears to be a stable, reliable diagnostic character (Fig. 47–48). The unique spermatheca shape will not only distinguish females of *C. suilla* from the other members of the *C. suilla* species group, but also from those females of similar-appearing, co-occurring *Colaspis* species where the males possess a tubercle on ventrite V.

Most specimens examined from the southeastern states of Georgia and Florida are darker, with the punctate strial areas darkened (as in Fig. 15). In specimens from other regions, these intercostal areas are rarely darkened, except usually immediately posterior to the scutellum. *Colaspis suilla* exhibits considerable variation in size, more so than other *Colaspis* species occurring in the USA. Blake noted that her specimens from Alabama and North Carolina (both examined) were small, and this is true for some other specimens examined in the present study, with males as small as 3.7 mm. Blake reported the length of the Fabrician lectotype at 3.5 mm, the smallest specimen she examined. Series of specimens from Nebraska and South Dakota show considerable variation in size, with some females up to 5.7 mm and some males as small as 3.7 mm. A male from Schenectady, New York, at 3.7 mm, is also among the smallest specimens observed in this study. The size is more stable in series from Louisiana, Missouri, and Texas. Blake named *C. suilla borealis* based on specimens from Toronto, Canada, stating that they were somewhat larger and more rotund than those from the Southeast. Given the amount of observed variation in body size, there seems little justification for maintaining a subspecies distinction.

**Range.** Map 1. This is the only species of the *C. suilla* species group whose range extends broadly inland from the Atlantic coastal plain. Its range extends as far north as Ontario, Manitoba and Maine, and as far west as North Dakota and Texas. Blake (1974) reported very little locality data for this species, specifically mentioning only Alabama, North Carolina and Ontario. I have seen specimens from Canada: MB, ON; and the United States: AL, FL, GA, IA, IN, IL, LA, MA, MD, ME, MI, MN, MO, MS, ND, NE, NH, NJ, NY, SD, TX, WI. Ciegler (2007) reported *C. suilla* from South Carolina, Clark (2000) reported it from Virginia, and Barney et al. (2010) reported it from Kentucky.

**Biological notes.** The species appears to be uncommonly encountered throughout most of its range, and this seems to be especially true for the southeastern states. In most collections, it is represented by few specimens or





**Figures 5–10.** Habitus of *Colaspis* species, dorsal and lateral. 5) Male holotype *C. ansa* n. sp. 6) Female *C. ansa* n. sp. (Eastpoint, FL). 7) Male holotype *C. skelleyi* n. sp. 8) Female *C. skelleyi* n. sp. (Lake Marion Estates, FL). 9) Male holotype *C. thomasi* n. sp. 10) Female *C. thomasi* n. sp. (Archbold Biol. Sta., FL). All figures to scale.

singletons. However, it can be locally abundant at times and appears most abundant in the northwestern portion of its range. Habitats with sandy soils or deposits seem to be preferred. I have collected it in fair numbers at locations with sandy soils in Louisiana, Missouri, and Texas. The Louisiana and Texas localities are long-leaf pine communities; the southeastern Missouri locality (Stoddard County) is at Crowley's Ridge, an area with sand deposits. It is frequently encountered and sometimes abundant in the sandhill areas of western Nebraska and adjacent South Dakota. Some specimens from Wisconsin are labeled "Sandy Urban RR Pr." [sandy urban railroad prairie], "sand prairie", and "... sandy oak barrens".

Plant data from specimen labels indicate multiple associations with legumes (Fabaceae): *Tephrosia* sp. (one specimen, Louisiana), soybean (one specimen, Wisconsin), flower of *Chamaecrista fasciculata* (Michx.) Greene (two specimens, Florida), *Lespedeza hirta* (L.) Hornem. (one specimen, Maryland), and "at night on *Lespedeza* sp., either *L. hirta* (L.) Hornem. or *L. stuevei* Nutt." (four specimens, North Carolina). Label data also cite traps in oak savanna (multiple collections, Wisconsin) and from oak (one specimen, Georgia).

**Specimens examined.** 517 total, see Appendix 1.

### *Colaspis costipennis* Crotch

(Fig. 3–4, 17–18, 40, 43, 49, Map 2)

*Colaspis brunnea*, var. *costipennis* Crotch 1873: 44; type locality: not originally stated. Horn 1892: 224.

*Colaspis Crotchi* Lefèvre 1884: cxcix [as valid species, unnecessary replacement name for *Colaspis brunnea*, var. *costipennis* Crotch, 1873]. Lefèvre 1885: 52 [catalogue].

*Colaspis costipennis* Crotch. Blake 1974: 14, fig. 23.

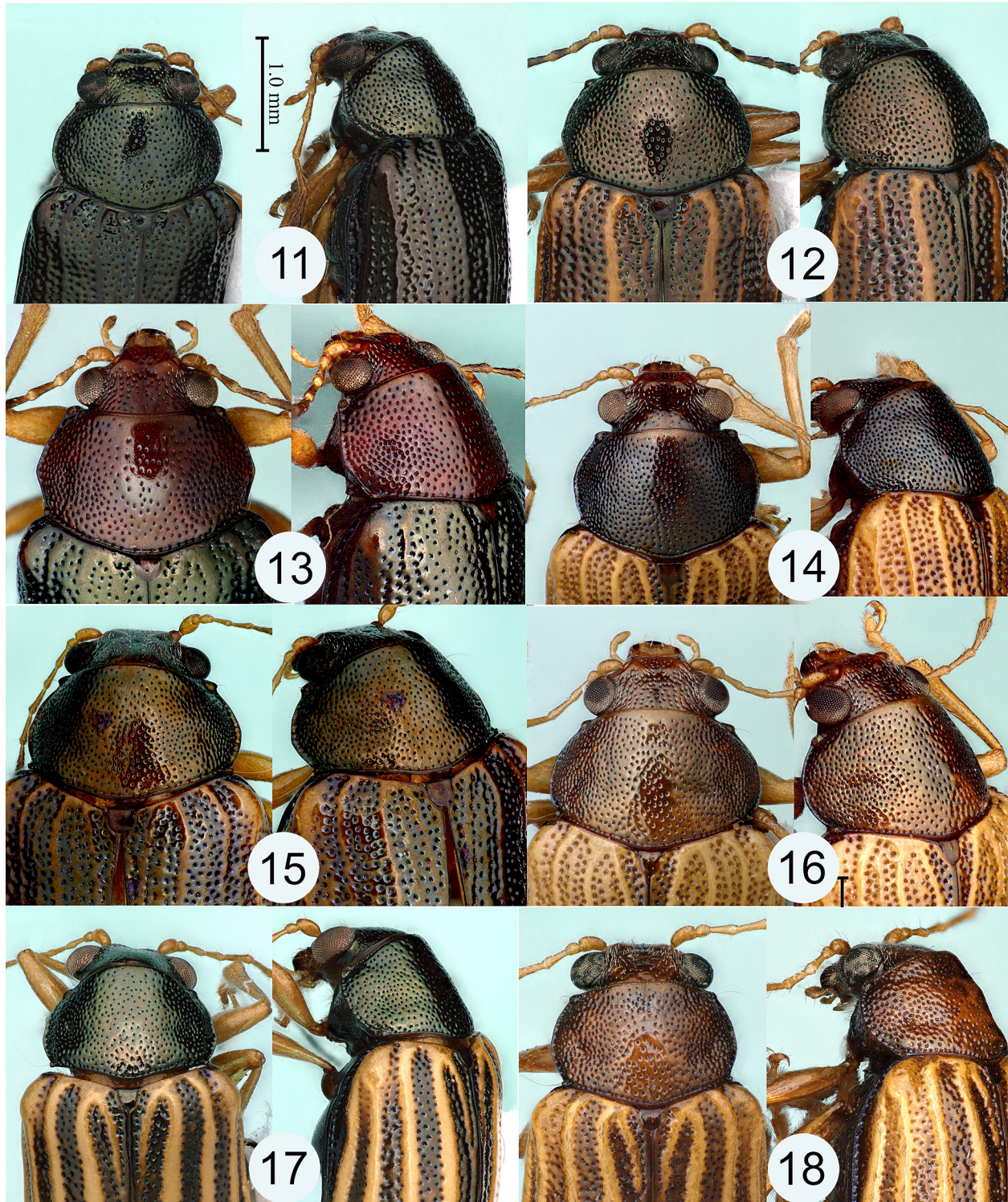
**Type material.** Images of a syntype (MCZ Type Database) examined. The imaged syntype is a male (determined by shape of pro- and meso-basitarsi), labeled "[orange disc = southern and Gulf states] || *C. costipennis* | (2) + Dej. || [red label] M.C.Z. | Type | 28447 || MCZ-ENT | 00028447 | [matrix barcode]". Blake (1974) examined this specimen. It is a model example of the species, having a bright metallic green head and pronotum and broad pale elytral costae.

**Remarks.** The broad, markedly raised, and pale primary costae are diagnostic. The pale costae contrast strongly with the darker punctate striae areas. Heavily marked specimens have the head, pronotum, elytral marginal trim and striae areas, and the venter distinctly metallic green. In less strongly marked specimens, these areas are brownish with a faint metallic reflection. Males tend to be more elongate than males of other species of the group and have the punctate striae intervals narrow, often not much wider than the primary costae are broad. In most male specimens, there is little trace of secondary costae, the striae punctation of these areas is combined into a single punctate field. Females are more robust than males with the costae more widely spaced, and the secondary costae usually partially developed. Body length ranges from 3.9–4.9 mm. Among the dissected males, there is notable variation in the shape of the median lobe (en-face view), more variation than seen in other species of *Colaspis*. The post-orifical length is moderately long, but the general shape may be evenly tapered (Fig. 40a, c) to sub-angulate (Fig. 40b, d) and the apical nodule distinct (Fig. 40a, c, d) or obsolete (Fig. 40b).

**Range.** Map 2. Previously recorded from several Atlantic coastal states ranging from Massachusetts to Louisiana (Blake 1974). It appears to be restricted to the Atlantic and eastern Gulf coastal plain, and the immediate coast in the northern-most portions of its range. In Florida, it occurs as far south as the Miami area on the east coast, and the Tampa area on the west coast. I have been unable to confirm its occurrence in Louisiana, although it is expected in the Florida parishes (southeastern Louisiana). Chapin (1979) reported one specimen from Natchitoches Parish (central Louisiana), but this specimen is a male *C. suilla* (LSUC, examined). I have been unable to locate the locality "Perdicto Beach", the single Louisiana locality cited by Blake (1974). The listings of *C. costipennis* from Ontario and Manitoba, Canada (LeSage 1991; Bousquet et al. 2013), are likely based on misidentifications. My examination of images of CNC specimens under the name *C. costipennis* show that they are examples of *C. suilla*. I have seen specimens from USA: AL, FL, GA, ME, MS, NC, NH, NY and SC.

**Biological notes.** Data from Blake (1974) and specimen labels indicate associations with many kinds of plants, with several references to oaks (all from Florida), including *Q. laevis* Walter, *Q. laurifolia* Michx., and *Q. nigra* L.

**Specimens examined.** 229 total, see Appendix 2.



**Figures 11–18.** Forebodies of *Colaspis suilla* species group, anterodorsal and dorsolateral views. 11) Male *C. ansa* n. sp. (Port St. Joe, FL). 12) Male *C. skelleyi* n. sp. (Lake Marion Estates, FL). 13) Male *C. thomasi* n. sp. (Archbold Biol. Sta., FL). 14) Male *C. suilla* F. (Kisatchie Nat'l. Forest, LA). 15) Female *C. suilla* F. (Torreya St. Pk., FL). 16) Male *C. suilla* F. (Merritt Reservoir, NE). 17) Male *C. costipennis* Crotch (Gainesville, FL). 18) Male *C. costipennis* Crotch (Pensacola, FL). All figures to scale.

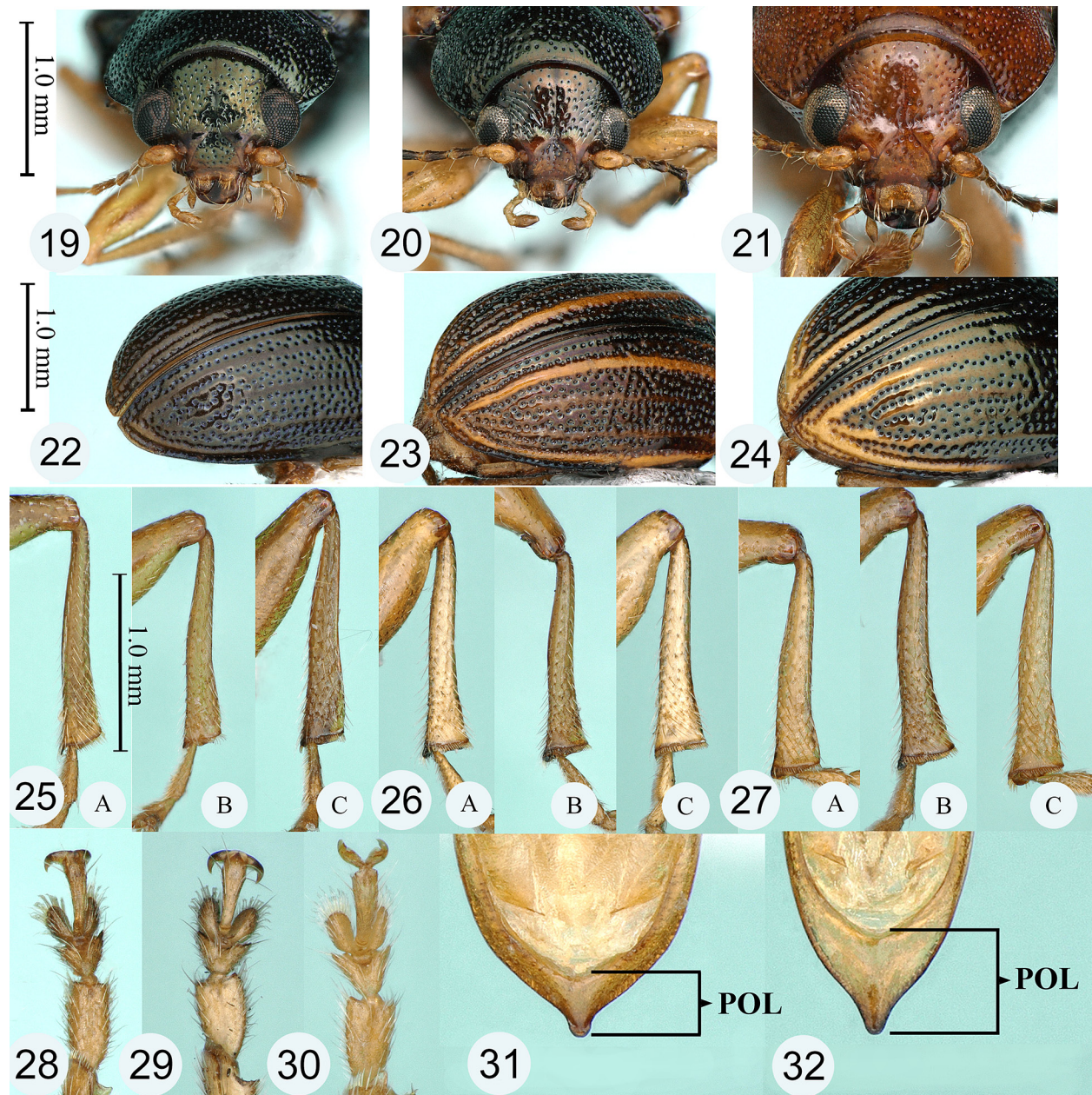
***Colaspis ansa* Riley, new species**

(Fig. 5–6, 11, 19, 22, 25, 28, 33–34, 44, 50–51, Map 3)

**Holotype** (Fig. 5, 19). Male, labeled “USA. Fla. Gulf Co. | 2 mi. s Port St. | Joe. on Quercus | 16. IV.80 GB Marshall || [red label] HOLOTYPE | *Colaspis* | *ansa* | Riley”. The holotype is in excellent condition, not dissected, with all appendages intact. Deposited in FSCA.

**Paratypes** (20 total). **FLORIDA:** Franklin Co. 3 mi. N Alligator Point, IV-17-1976, J. Schuh [1 ♂, EGRC]; East-point, IV-6-1972, N. M. Downie [1 ♀, EGRC]; same data, except IV-15-1977 [2 ♀♀, EGRC]; IV-16-1977 [2 ♂♂, 6 ♀♀, EGRC, FSCA, TAMU]; IV-18-1978 [1 ♀, EGRC]; IV-16-1979 [1 ♀, EGRC]; Ochlockonee River St. Pk., IV-23-1981, R. M. Brattain [1 ♀, EGRC]. Gulf Co. 2 mi. S Port St. Joe, IV-16-1980, G. B. Marshall, on *Quercus* sp. [1 ♂, FSCA]; same locality, IV-16-1980, C. W. O’Brien [2 ♂♂, 1 ♀, EGRC]. Liberty Co. Torreya State Park, IV-19-1978, N. M. Downie [1 ♀, EGRC].

**Description. General:** Body oblong, subparallel-sided, evenly convex in profile; integument of head, dorsum and venter dark metallic blackish-green (Fig. 5–6). Dimensions (in mm): Length, male 3.68–4.31 (ave. = 3.94, n = 6), female 3.79–4.99 (ave. = 4.38, n = 7). Width across humeri, male 1.78–2.05 (ave. = 1.92, n = 7), female 1.96–2.36 (ave. = 2.21, n = 9). **Color:** Dorsum unicolorous; head, pronotum, and elytra dark metallic blackish-green, humeral umbo sometimes reddish, and elytra at apex and posterior-most portion of costa VIII where the color is graded to dark reddish posteriorly. Antenna with scape, pedicel and most of flagellar segments orange-yellow, terminal three or four antennomeres mostly dark or partially infusate; coloration of antennomere VII usually not strongly contrasting with that of VI and VIII, in some specimens apically infusate contrasting with entirely pale VIII. Labrum and palpi orange-yellow; Venter and thoracic pleura dark metallic as dorsum, abdominal ventrites dark; edges of ventrite V and pygidium reddish brown. Legs, including entire femora, orange-yellow, except coxae dark with metallic reflection as on venter. **Form. Head:** Frons and vertex punctate, largest punctures separated on average by distance slightly greater than diameter of puncture; punctures on clypeus on average finer than those on frons and vertex, those on vertex smaller and more sparsely placed; surface between punctures smooth and shining; vertex and frons of most specimens with short longitudinal impression evident; antennal calli flat, smooth, impunctate; apical margin of clypeus with shallow, even emargination; antenna weakly sexually dimorphic, slightly shorter in female, extending to beyond middle of elytron in male. Male head width/inter-ocular distance = 1.87–1.99 (ave. = 1.92, n = 7); female head width/inter-ocular distance = 1.63–1.82 (ave. = 1.73, n = 9). **Pronotum:** Wider than long, length approximately 0.6–0.7 times as long as wide, widest at basal third. Disc moderately convex, flattened anteromedially; marginal flange of uniform width, weakly undulated at basal third with two vague angles to nearly evenly rounded. Punctuation of disc fairly uniform in coverage and spacing, slightly denser on lateral portion of disc; punctures round to weakly elliptic; interspaces smooth and shining. **Elytra:** Length approximately 1.4–1.6 times width across humeri, approximately 2.6–3.0 times as long as pronotum; sides subparallel, evenly and broadly rounded apically, evenly convex in profile. Each elytron with sutural costa and primary costae weakly raised throughout, smooth and shining, much narrower than striae intervals; costate equally developed, first primary costa not wider than others. Secondary costae not or only vaguely evident. Strial intervals punctate, punctures forming irregular or staggered rows, not or only partially geminate at places, more or less equal in size to those on sides of pronotum; puncture rows of striae intervals I and III narrowed to single rows near mid-length and beyond; interspaces between punctures smooth and shining. **Thoracic venter:** Prothoracic hypomeron punctate, size and spacing similar to that of pronotal disc; prosternum, procoxae and mesosternum bearing numerous setae; remaining venter with sparse setae. Metasternum medially smooth and shining, with sparse fine setae, laterally smooth to finely wrinkled. **Abdomen:** Surface of ventrites with sparse, fine punctuation. Lateral margin of ventrites IV–V with edge entire in males and females; outer posterior angle of female ventrite IV simple, not produced. Surface of male ventrite V flat and smooth. Female with hind margin of ventrite V deeply emarginate, with minute median tooth present within emargination. **Male genitalia:** (Fig. 33–34). Median lobe (n = 5) with shaft slightly shorter than basal hood (Fig. 34); broader in en-face view than in lateral view for most of length, flattened apically with margins gently curved in en-face view, of one even curve in lateral view. Apex broadly rounded in en-face view, with short, pointed, median nodule; post-orifical length short (Fig. 33). Endophallus not studied in everted condition, appearing complex in retracted condition, extended basally to near apex of basal hood; apical sclerite complex (Fig. 34). **Female genitalia:** Ovipositor (n = 4) as described for the *C.*



**Figures 19–21.** Head, frontal view. **19)** *C. ansa* n. sp., holotype. **20)** *C. skelleyi* n. sp., holotype. **21)** *C. thomasi* n. sp., holotype. **Figures 22–24.** Elytral declivity, postero-oblique view. **22)** *C. ansa* n. sp. (Port St. Joe, FL). **23)** *C. skelleyi* n. sp. (Tiger Creek Preserve, FL). **24)** *C. thomasi* n. sp. (Archbold Biol. Sta., FL). **Figures 25–27.** Hind tibia (outer surface). **25)** *C. ansa* n. sp. **a.** male (Port St. Joe, FL); **b.** male (Eastpoint, FL); **c.** female (Eastpoint, FL). **26)** *C. skelleyi* n. sp. **a.** male (Tiger Creek Preserve, FL); **b.** male (Lake Marion Estates, FL); **c.** female, (Lake Marion Estates, FL). **27)** *C. thomasi* n. sp. **a.** male (Archbold Biol. Sta., FL); **b.** male (Lake Jackson, FL); **c.** female (Archbold Biol. Sta., FL). **Figures 28–30.** Male protarsus. **28)** *C. ansa* n. sp. (Eastpoint, FL). **29)** *C. skelleyi* (Tiger Creek Preserve, FL). **30)** *C. thomasi* (Archbold Biol. Sta., FL). **Figures 31–32.** Apex male median lobe, en-face view, diagrammatic: POL = post orificial length. **31)** POL short. **32)** POL long. Figures to appropriate scale.

*suilla* group (Fig. 44). Spermatheca (n = 4) u- or slightly j-shaped, narrow and uniformly cylindrical with basal portion before gland connection point also subcylindrical, duct connection abrupt (Fig. 50–51).

**Etymology.** The name is a Latin noun meaning ‘handle’ and is a reference to the occurrence of this species in the Florida panhandle.

**Remarks.** The shape of the median lobe and uniformly dark metallic blackish-green body-color, set this species apart from other costate *Colaspis* species occurring in the southeastern USA. Some exceptionally dark specimens of *C. suilla* may be confused with *C. ansa* **new species**, but these may be distinguished with certainty by the male genitalia and female spermatheca. The outer-most costa and those at the elytral apices are tinged with dark reddish brown in some specimens, otherwise the costae are dark in color, matching the color of the punctate intervals. Two males and two females appear to be teneral and have the body dark reddish brown in color. The shape of median lobe is similar to that of the other two new species described here, all of which differ from those of *C. suilla* and *C. costipennis* in being more broadly rounded with a relatively short post-orificial length.

**Range.** Known from a small area of the Florida Panhandle (Map. 3).

**Biological notes.** The label data of the holotype and one paratype indicated they were associated with *Quercus*; nothing further is known about biology and methods of collection for this species.

**Specimens examined.** 21 total, see type data above.

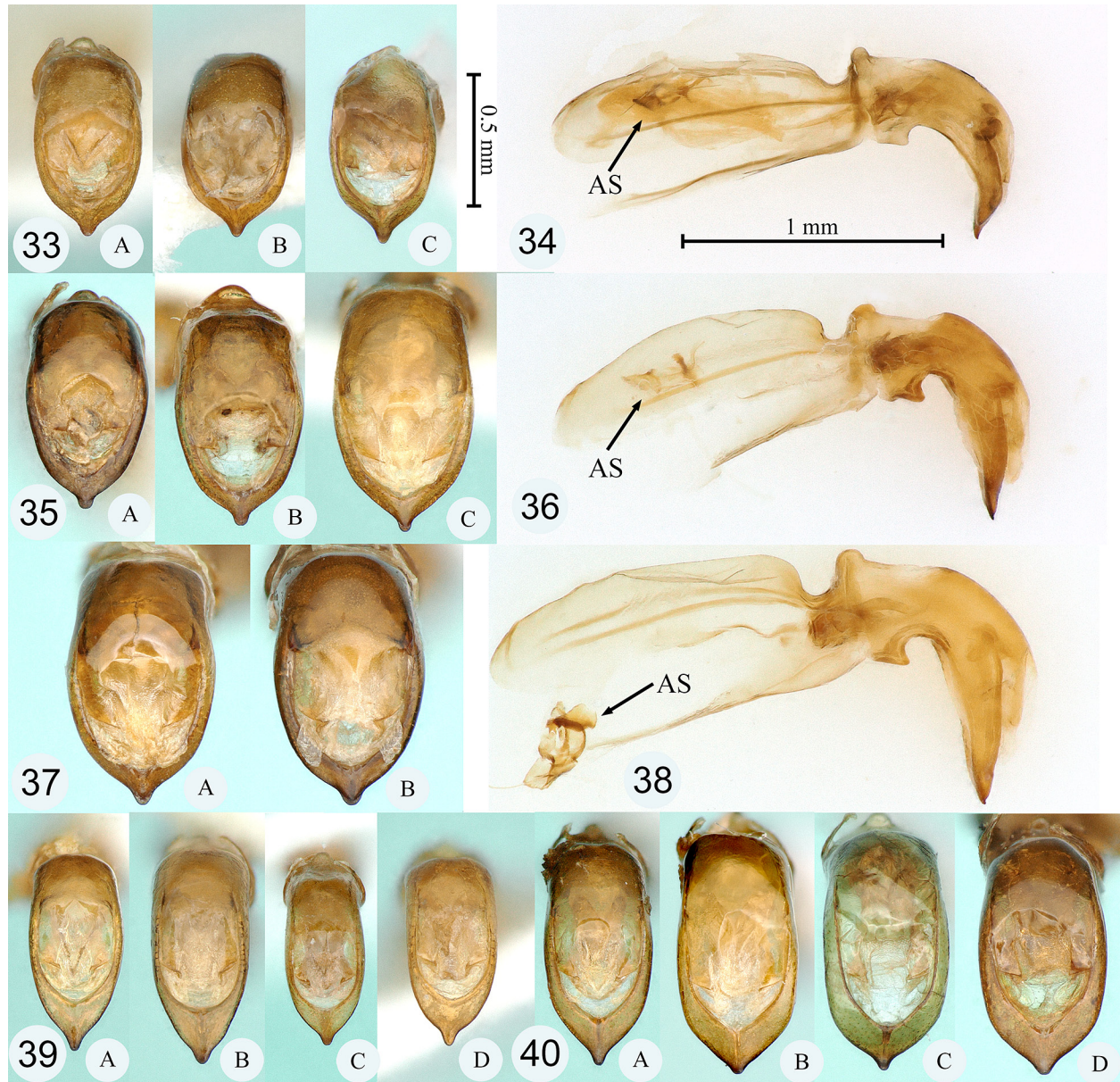
### ***Colaspis skelleyi* Riley, new species**

(Fig. 7–8, 12, 20, 23, 26, 29, 35–36, 45, 52, Map 3)

**Holotype** (Fig. 7, 20). Male, labeled “FLORIDA: Polk Co. | Tiger Creek Preserve | 2.5mi. SE. Babson Park | 18–19-V-2006, P. Skelley | ex. *Quercus chapmani* || [red label] HOLOTYPE | *Colaspis* | *skelleyi* | Riley”. The holotype is not dissected and is in good condition, except terminal antennomere of left antenna missing. Deposited in FSCA.

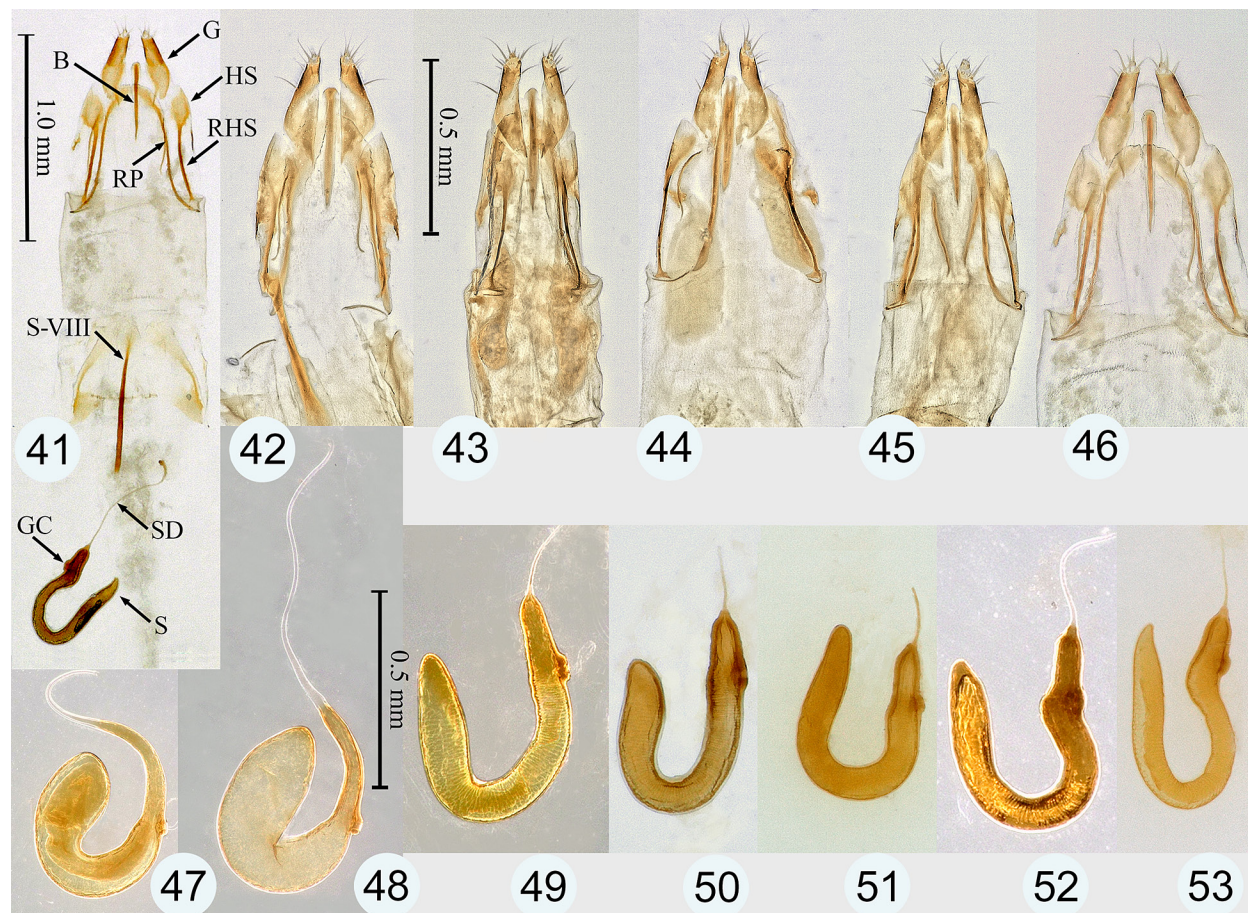
**Paratypes** (40 total). FLORIDA: Marion Co. ca. 3 mi. E County Road 314 on Hopkins Prairie Road/FR 86, Ocala Nat'l. Forest, V-1-2012, K. E. Schnepf, at light [1 ♀, KESC]; vicinity Hopkins Prairie, Ocala Nat'l. Forest, V-6-11-1979, G. B. Fairchild, insect flight trap [1 ♀, FSCA]; Hopkins Prairie, Ocala Nat'l. Forest, IV-29-1988, E. Riley & F. Whitford [2 ♂♂, EGRC]. Polk Co. 580 & Lake Marion Creek Road, V-7-2012, K. E. Schnepf, on grass at dusk [1 ♀, KESC]; 2.5 mi. SE Babson Park, Tiger Creek Preserve, V-18-19-2006, P. Skelley, ex. *Quercus chapmani* [4 ♂♂, FSCA, TAMU]; Lake Hamilton (east of), 7.5 mi. E Route 17 on Route 542, then 2.5 mi. N [= locality known as Lake Marion Estates], IV-28-1998, R. E. Woodruff & P. Skelley [1 ♂, 1 ♀, FSCA]; same locality, IV-28-1998, P. Skelley [2 ♀♀, FSCA]; same data, except V-7-1998 [2 ♀♀, FSCA]; V-15-1998 [1 ♀, FSCA]; same locality, V-24-1998, P. E. Skelley, eating gopher apple at night [13 ♂♂, 2 ♀, FSCA, TAMU]; Lake Marion Creek Estates, IV-22-23-1998, R. Morris, sweeping *Licania michauxii* [3 ♂♂, 1 ♀, EGRC]; same locality, V-1-1998, R. Morris [1 ♀, EGRC]; V-2-1998, R. Morris [1 ♀, EGRC]; Lake Marion Estates, V-7-1998, M. C. Thomas [1 ♀, FSCA]; same data, except, V-1-1999 [1 ♂, FSCA]; same data, except R. Turnbow [1 ♂ RHTC]. **Non-paratype:** Florida: Lake Co. E. Clermont, 2.2 mi. E jct. US-27 on Rt. 50, VI-8-1998, P. Skelley [1 sex not determined, all appendages and abdomen missing, FSCA].

**Description. General:** Body oblong, subparallel-sided, evenly convex dorsally (Fig. 7–8), integument of head, dorsum and venter dark metallic green; each elytron dark metallic green to brownish green with two (rarely three) pale costae. Dimensions (in mm): Length, male 3.67–4.23 (ave. = 3.85, n = 10), female 4.14–4.94 (ave. = 4.45, n = 9). Width across humeri, male 1.83–2.17 (ave. = 1.97, n = 10), female 2.12–2.58 (ave. = 2.3, n = 8). **Color:** Head metallic dark green; clypeus, antennal calli and gena dark reddish; pronotum dark metallic green; elytron with ground color ranging from dark metallic green to dark brownish-green with strong aeneous reflections; costae on intervals II and VIII broad, pale yellow brown throughout, rarely (two specimens) costa on interval IV also broad and pale; costae of intervals IV (most specimens) and VI, if evident, narrowly yellow brown. Antenna with scape, pedicel and flagellar segments II–III, and sometimes IV, partially or completely pale brownish, remaining flagellar segments darker to completely blackish; coloration of antennomere VII not contrasting with that of antennomeres VI and VIII. Labrum reddish, palpi pale brown. Most of venter, including prothoracic pleuron, dark metallic green; portions of thoracic and abdominal ventrites dark reddish brown usually with strong aeneous reflection; edges of abdominal ventrite V and pygidium brownish. Legs, including entire femora,



**Figures 33–40.** *Colaspis suilla* species group, male median lobe en-face view and male genitalia lateral view. **33)** *C. ansa* n. sp., **a.** Port St. Joe, FL; **b.** Eastpoint, FL; **c.** Port St. Joe, FL. **34)** *C. ansa* n. sp. (Eastpoint, FL). **35)** *C. skelleyi* n. sp., **a.** Tiger Creek Preserve, FL; **b.** Lake Marion Estates, FL; **c.** Hopkins Prairie, FL. **36)** *C. skelleyi* n. sp. (Lake Marion Estates, FL). **37)** *C. thomasi* n. sp., **a.** Archbold Biol. Sta., FL; **b.** Lake Jackson, FL. **38)** *C. thomasi* n. sp. (Archbold Biol. Sta., FL). **39)** *C. suilla* F. **a.** Kirby St. Forest, TX; **b.** Merritt Reservoir, NE; **c.** Hope Mills, NC; **d.** Schenectady, NY. **40)** *C. costipennis* Crotch, **a.** Sand Hill St. Forest, SC; **b.** Gainesville (airport), FL; **c.** Gadsden County, FL; **d.** Gainesville, FL. En-face views (dry preparations) to scale, lateral views (wet preparations) to scale. AS = apical sclerite.

yellow brown, except coxae similar in color to venter. **Form. Head:** Frons and vertex punctate, largest punctures separated on average by distance slightly greater or approximately equal to diameter of a puncture, often finer and more widely spaced medially on frons and vertex; punctures on clypeus located basally at center, subequal in size and spacing to those on adjacent frons; distal portion of clypeus impunctate; surface between punctures smooth and shining; short longitudinal impression evident on median of frons and vertex; vestiture inconspicuous, some



**Figures 41.** *Colaspis thomasi* n. sp., female genitalic tract (ventral): **B** = baculum, **HS** = hemisternite, **G** = gonocoxa, **GC** = gland connection, **RHS** = rod-like extension of hemisternite, **RP** = rod-like extension of paraproct, **S** = spermatheca, **SD** spermathecal duct, **S-VIII** = sternite VIII. **Figures 42–46.** Apex of ovipositor (ventral) of *Colaspis* spp. **42)** *C. suilla* F. (Merriman, NE). **43)** *C. costipennis* Crotch (Moss Bluff, FL). **44)** *C. ansa* n. sp. (Eastpoint, FL). **45)** *C. skelleyi* n. sp. (Lake Marion Estates, FL). **46)** *C. thomasi* (Archbold Biol. St., FL). **Figures 47–53.** Spermatheca of *Colaspis* spp. **47)** *C. suilla* F. (Hope Mills, NC). **48)** *C. suilla* F. (Kirby St. Forest, TX). **49)** *C. costipennis* Crotch (Moss Bluff, FL). **50)** *C. ansa* n. sp. (Eastpoint, FL). **51)** *C. ansa* n. sp. (Eastpoint, FL). **52)** *C. skelleyi* n. sp. (Lake Marion Estates, FL). **53)** *C. thomasi* n. sp. (Archbold Biol. Sta., FL). Figures to appropriate scale.

punctures of frons and vertex bearing simple short seta; antennal calli weakly raised, smooth, wedge-shaped and directed inward; apical margin of clypeus with shallow, even emargination; antenna weakly sexually dimorphic, slightly shorter in female, in male extending beyond mid-length of elytron. Male head width/inter-ocular distance = 1.66–1.84 (ave. = 1.74, n = 10); female head width/inter-ocular distance = 1.64–1.74 (ave. = 1.69, n = 4). **Pronotum:** (Fig. 12). Wider than long, length approximately 0.6–0.7 times as wide, widest at basal third; most specimens with margin weakly angled at basal third, or with one or two undulations at and before basal third, a few specimens with margin evenly rounded; disc moderately convex, slightly flattened anteromedially, flat to weakly impressed on lateral areas; punctuation of disc fairly uniform in coverage and spacing, slightly denser on lateral portion of disc; punctures round to weakly elliptic; interspaces smooth and shining. **Elytra:** Length approximately 1.3–1.5 times width across humeri; approximately 2.3–2.9 times as long as pronotum. Sides subparallel, evenly and broadly rounded apically, evenly convex in profile. Each elytron with primary costae variably developed: broad and distinctly raised on interval II and VIII; usually absent or very narrow and poorly developed on primary intervals IV and VI, rarely (two specimens) interval VI broad and similar to interval VIII for



middle portion of its length. Secondary costate not evident. Strial intervals punctate, punctures forming irregular or staggered rows on most of disc, not or only partially geminate at places, more or less equal in size to those on sides of pronotum; punctures of strial intervals I and III narrowed to single uniform row towards elytral apex; costae and interspaces between punctures smooth and shining. **Thoracic venter:** Prothoracic hypomeron punctate, size and spacing of punctures similar to that of pronotal disc; prosternum, procoxae and mesosternum bearing numerous setae; metasternum medially smooth and shining with fine, sparse setae. **Abdomen:** Surface of ventrites with fine punctation and fine, sparse setae; lateral marginal bead of ventrites IV–V entire in male and female; outer posterior angle of female ventrite IV simple, not produced; surface of male ventrite V flat and smooth. Female with hind margin of ventrite V with deep, broad emargination, with minute median tooth within emargination. **Male genitalia:** Median lobe ( $n = 9$ ) with shaft short, slightly shorter than basal hood (Fig. 36); shaft broader in en-face view than width in lateral view for most of length, flattened apically, not angled in lateral view; apex broadly rounded in en-face view, with short pointed median nodule; post-orifical length short (Fig. 35). Endophallus appearing complex in retracted condition (not studied in everted condition), extended basally to near apex of basal hood. **Female genitalia:** Ovipositor ( $n = 3$ ) as described for the *C. suilla* group (Fig. 45). Spermatheca ( $n = 4$ ) narrow, uniformly cylindrical, j-shaped, bent slightly near gland attachment, with basal portion before gland connection also subcylindrical; duct connection abrupt (Fig. 52).

**Etymology.** Named to honor Paul Skelley (FSCA) in recognition of his tireless dedication to Coleopterology. He also collected many of the known specimens and was the first to bring this uniquely-patterned Floridian *Colaspis* to my attention.

**Remarks.** This dark-colored, modest-sized *Colaspis* is at once recognized by its unique bivittate appearance in dorsal view (Fig. 7–8). Actually, the elytra of all specimens are quadrivittate, having at least the costae on intervals II and VIII of each elytron, raised, and yellow-brown in color, contrasting markedly against dark greenish background. In a few specimens, the costa on interval VI is also relatively well-developed and pale for most of its length, and there are traces of a costa on interval IV on some specimens. The costa on interval II is always strongly developed and more prominent than the other costate. This species could possibly be confused with *C. costipennis*, but those beetles are more elongate in the male, and all four primary costae are strongly, uniformly raised, and broad. The new species has the median lobe of the male genitalia broadly-rounded and with a short post-orifical length, whereas as in *C. costipennis*, the apex has a longer post orifical length (contrast Fig. 35 with Fig. 40).

**Range.** Map 3. This species appears to be a central Florida endemic, known from localities in Lake, Marion and Polk counties. Most specimens are from a small, unnamed sand ridge just east of Lake Marion (Polk County), a locality that is now mostly occupied by housing developments. The localities cited on specimen labels as “Lake Marion Estates” and “east of Lake Hamilton, ...” refer to this locality (Paul Skelley and Roy Morris, personal communications).

**Biological notes.** A series of 15 specimens is labeled as “eating gopher apple at night.” Gopher apple is a vernacular for *Licania michauxii* Prance (Chrysobalanaceae). Another series of four specimens is labeled as having been swept from this plant. The series that includes the holotype is labeled as having been collected on *Quercus chapmanii* Sarg.

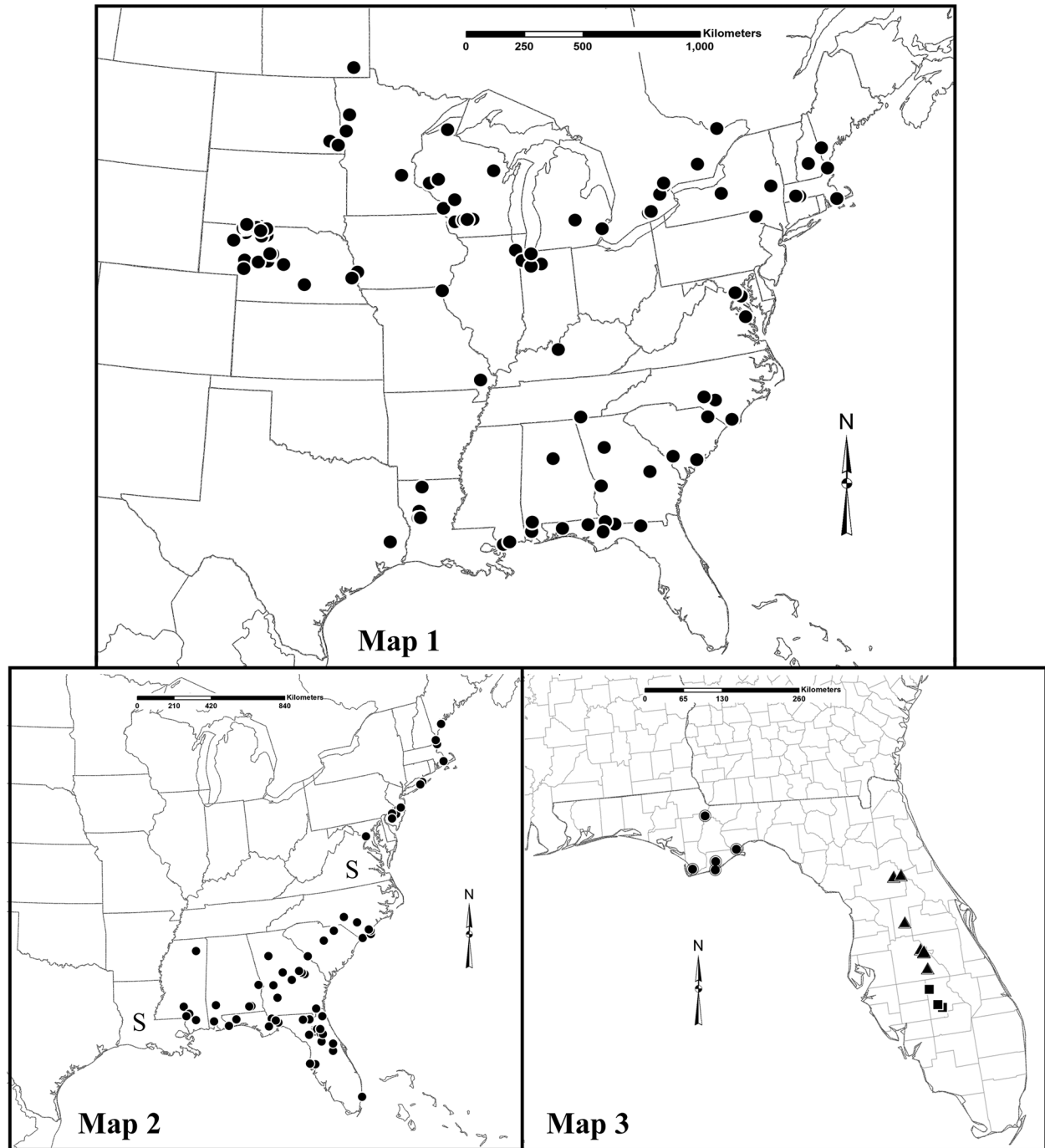
**Specimens examined.** 42 total, see type data above.

### *Colaspis thomasi* Riley, new species

(Fig. 9–10, 13, 21, 24, 27, 30, 37–38, 41, 46, 53, Map 3)

**Holotype** (Fig. 9, 13). Male, labeled “USA: FL: Highlands Co. | Archbold Biol. Station | nr. Archbold Tower | 27.18712°N, 81.33838°W | IV-14-2010, E. G. Riley || [red label] HOLOTYPE | *Colaspis* | *thomasi* | Riley”. The holotype is in excellent condition, not dissected, with all appendages intact. Deposited in FSCA.

**Paratypes** (131 total). Florida: Highlands Co. Archbold Biological Station, V-15-1974, J. E. Carrel, D. D. Kopp, M. A. McLaughlin, R. D. Heathcote, blacklight [1 ♂, 1 ♀, EGRC]; same data, except, V-19-1974 [1 ♂, 1 ♀, EGRC]; same locality, V-23-1978, H. V. Weems & L. K. Klein, insect flight trap [1 ♀, FSCA]; IV-10-1980, R. H. Turnbow [1 ♀, RHTC]; IV-16-1986, R. H. Turnbow [1 ♂, 2 ♀♀, RHTC]; IV-11-1991, L. R. Davis [1 ♂, FSCA]; III-30-2018,



**Maps 1–3.** Distribution of *Colaspis* species. 1) *Colaspis suilla* F., based on specimens examined and localities cited in Ciegler (2007), Clark (2000) and Barney et al. (2010). 2) *Colaspis costipennis* Crotch, based on specimens examined and localities cited in Blake (1974), S = state record only. 3) *Colaspis* spp., based on specimens examined: ●) *C. ansa* n. sp., ▲) *C. skelleyi* n. sp., ■) *C. thomasi* n. sp.

K. E. Schnepf, swept from vegetation, [1 ♂, KESC]; same data, except IV-1-10-2018, V-flight intercept trap, [1 ♂, KESC]; IV-20-27-2018, hanging flight intercept trap, [2 ♀♀, KESC]; V-5-21-2018, V-flight intercept trap, [1 ♂, KESC]; V-5-21-2018, hanging flight intercept trap, [1 ♂, KESC]; V-20-VI-2-2018, [3 ♂♂, KESC]; Archbold Biological Station, 5 mi. S Lake Placid & 1.8 mi. S SR 70/Old SR 8, IV-2004, J. M. Leavengood, J. C. Dunford, K.

Barbara [1 ♂, FSCA]; Archbold Biological Station, 8 mi. S Lake Placid, VI-12-16-1986, M. Deyrup, flight trap [1 ♂, FSCA]; Archbold Biological Station, nr. Archbold Tower, 27.18712°N, 81.33838°W, IV-14-2010, E. G. Riley [29 ♂♂, 19 ♀♀, AJGC, EGRC, FSCA, MCZ, TAMU, USNM]; same locality, IV-14-15-2010, E. G. Riley [11 ♂♂, 17 ♀♀ EGRC]; same data, except, 27.187°N, 81.338°W, IV-14-2010, S. M. Clark [19 ♂♂, 10 ♀♀, BYUC, FSCA]; 2 mi. N Archbold Biological Station, IV-26-1967, D. E. Bright [1 ♂, 1 ♀, CNC]; ca. 2 mi. W Lake Jackson, VI-27-2016, K. E. Schnepp [1 ♂, KESC]; Placid Lakes, IV-20-V-12-2019, K. E. Schnepp, flight intercept trap [1 ♂, KESC].

**Description. General:** Body oblong, subparallel-sided, evenly convex in profile; pronotum dark red, most of elytra metallic olive-green; elytral costate reduced on disc (Fig. 9–10). Dimensions (in mm): Length, male 4.21–4.78 (ave. = 4.34, n = 11), female 4.47–5.07 (ave. = 4.74, n = 10). Width across humeri, male 2.12–2.38 (ave. = 2.2, n = 11), female 2.22–2.63 (ave. = 2.44, n = 10). **Color:** Dorsum bicolored; head and pronotum dark red, non-metallic or with very faint aeneous luster at side and anterior margins; elytra dark metallic olive-green, with posterior half of outer-most costa on interval VIII, posterior-most portions of costae II and VI, and extreme apex of elytron graded to yellow-brown (Fig. 24). Thoracic pleuron dark reddish, most of remaining venter dark reddish with weak to strong metallic reflection; apex of abdomen and pygidium yellow-brown. Antennae with scape and pedicel yellow-brown; antennomeres of flagellum infuscate to some degree, becoming sequentially darker, terminal-most antennomeres darkest; antennomere VII not especially contrasting in color with antennomeres VI and VIII; labrum dark reddish; palpi yellow-brown. Legs, including entire femora, yellow-brown except coxae similar in color to most of venter. **Form. Head:** Frons and vertex punctate, punctures more densely placed on frons especially laterally near eyes, with largest punctures separated on average by distance subequal to slightly less than a diameter of puncture; most punctures of frons with inconspicuous short seta; punctures on clypeus and vertex finer than those on frons; surface between punctures smooth and shining; vertex and frons of most specimens with short longitudinal impression evident; antennal calli flat, impunctate; apical margin of clypeus broadly, shallowly emarginate; antenna displaying slight sexual dimorphism, slightly shorter in female, male antenna extending to beyond elytral mid-length. Male head width/inter-ocular distance = 1.75–1.87 (ave. = 1.8, n = 11); female head width/inter-ocular distance = 1.65–1.78 (ave. = 1.71, n = 10). **Pronotum:** (Fig. 13). Wider than long, length approximately 0.6–0.7 times width; widest at basal third. Disc moderately convex, flattened anteromedially; marginal flange of uniform width, weakly undulate at basal third with two vague angles varying to nearly evenly rounded throughout. Punctuation denser on lateral portion of disc and notably more distant at center of disc; punctures round to weakly elliptic; interspaces smooth and shining. **Elytra:** Length approximately 1.4–1.5 times width across humeri, approximately 2.5–2.8 times as long as pronotum; sides parallel, apices conjointly and evenly rounded. Surface with sutural and primary intervals on disc flat, not raised, indicated by impunctate strip between striae intervals; interval VIII costate for most of length, other primary intervals becoming costate at elytral apex; secondary intervals more or less not evident. Punctuation of striae areas forming irregular or staggered rows, not or only partially geminate, punctures more or less equal in size to those on sides of pronotum; punctures of striae intervals I and III narrowed to single rows at apical third and beyond; interspaces between punctures smooth and shining. **Thoracic venter:** Prothoracic hypomeron punctate, size and spacing nearly as dense as those on pronotal sides. Prosternum, procoxae and mesosternum bearing numerous setae; metasternum medially smooth and shining with fine sparse setae. **Abdomen:** Surface of ventrites with fine punctuation and sparse setae. Posterior marginal bead of ventrites IV–V entire in male, weakly irregular in female; outer posterior angle of female ventrite IV not produced. Male ventrite V flat and smooth. Female with hind margin of ventrite V deeply emarginate with a minute median tooth present within emargination. **Male genitalia:** Median lobe (n = 17) slightly shorter than basal hood (Fig. 38), broader in en-face view than in lateral view for most of length, not angled before apex in lateral view; flattened apically with margins gently curved in en-face view; apex broadly rounded, with short pointed median nodule; post-orifical length short (Fig. 37). Endophallus not studied in everted condition, appearing complex in retracted condition, retracted basally to apex of basal hood; apical sclerite complex (Fig. 38: AS). **Female genitalia:** Ovipositor (n = 5) as described for the *C. suilla* group (Fig. 41, 46). Spermatheca (n = 5) narrow and uniformly cylindrical, more-or-less u-shaped, with arms of subequal length, bent slightly near gland attachment; duct attachment abrupt (Fig. 53).

**Etymology.** This remarkable Floridian leaf beetle is named to honor Florida-born Coleopterist Michael C. Thomas (1948–2019) who throughout his career did much to advance the knowledge of Florida beetles.

**Remarks.** This species is at once recognized by its unique bicolored dorsum, the elytra being largely dark olive-green and metallic, contrasting with the dark red and largely non-metallic pronotum. It is the only *Colaspis* species occurring in the United States with this color scheme. The reduced elytral costae are unique within the *C. suilla* species group, the intervals on the elytral disc which are normally raised are usually flat and poorly defined in *C. thomasi* **new species**. The general shape of the male median lobe indicates a relationship to the other two species described in this paper.

**Range.** Map 3. This species appears to be a Lake Wales Ridge endemic, with the known localities on the southern end of the Lake Wales Ridge of peninsular Florida. This sand ridge is known to support numerous endemic species and has apparently served as a long-term refugium (Deyrup 1990).

**Biological notes.** Almost all collections are from the Archbold Biological Station, where it has been taken multiple times at light and in traps. There are no plant associations noted on specimen labels. Most of the series that includes the holotype was collected at night by sweeping low shrubs, mostly *Morella cerifera* (L.) Small (= *Myrica cerifera* L.).

**Specimens examined.** 132 total, see type data above.

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### Appendix 1. *Colaspis suilla* Fabricius, specimens examined (516 total).

**CANADA: MANITOBA:** Township 3, Range 9, E.1 mer., VII-5-1992, B. F. & J. L. Carr [1 CNC]. **ONTARIO:** “eastern Ontario” [2 CNC]. Chatterton, VII-2-1951, J. C. Martin [1 CNC]; Constance Bay, VIII-25-1954, W. J. Brown [1 CNC]; Humber Bay, Toronto, VII-1-194 [3 CNC]; Irondale, VII-15-1931, L. J. Milne [1 ♀, UNHC]; Roseland, VI-24-1954, S. D. Hicks [2 CNC]; same locality, VI-13-1986, S. D. Hicks [2 CNC]; Toronto, A. Fenyes

[1 ♂, 1 ♀, USNM]; same locality, R. J. Crew, [1 ♀, USNM]; VII-10-1933, L. J. Milne [2 ♂♂, EGRC]; VII-4-1995, [1 CNC]; VII-10-1995 [2 CNC]; Walsingham, VI-19-1944, W. J. Brown [2 CNC]; Walsingham Forestry Station, VII-27-28-1982, L. LeSage [11 CNC]. **UNITED STATES: ALABAMA:** Jefferson Co. Birmingham [1 ♀, USNM]. Mobile Co. Mobile [1 ♂, USNM]; same locality, VI-16-1893 [H. Soltau Collection], [2 ♀♀, USNM]; VII-4-1922, H. P. Loding [1 ♀, FSCA]; Mount Vernon, VI-26-27-1927, H. P. Loding [1 ♂, USNM]. **FLORIDA:** Gadsden Co. FL & Grady Co. GA, VII-21-22-1926, C. O. Handley [1 ♂, USNM]. Hamilton Co. 12 mi. E Madison, IX-28-2017, K. E. Schnepf, flower of *Chamaecrista fasciculata* [1 ♂, 1 ♀, KESC]. Liberty Co. 17 mi. S Bristol, Hwy. 12, V-29-1989, R. Turnbow [1 ♀, RHTC]. Okaloosa Co. 4.5 mi. NW Holt, Florida A&M Research Station, Blackwater River State Forest, IX-1978, L. A. Stange [1 ♀, FSCA]. Washington Co. Cniple [1 ♂, USNM]. **GEORGIA:** Chattahoochee Co. 3.4 mi. S Cussetta, Hwy. 27, VIII-12-1985, R. Turnbow [1 ♀, RHTC]. Decatur Co. Silver Lake WMA, 30°49'44"N, 84°45'14"W, VIII-27-2010, J. G. Hill, sweeping in longleaf pine savannah [1 ♀, MSEM]. Emanuel Co. 5.6 mi. SW Swainsborro, VIII-4-1976, R. Turnbow, beating *Quercus* sp. [1 ♂, EGRC]. Fulton Co. Atlanta [1 ♀, USNM]. **ILLINOIS:** "central Illinois" [1 ♀, USNM]. Cook Co. Chicago, [1 ♀, USNM]. **INDIANA:** Lake Co. (no further locality), VII-14-1904, W. S. Blatchley [1 ♂, 2 ♀♀, TAMU]; same data, except VI-4-1906 [1 ♂, TAMU]. Marshall Co. Culver, VII-17-1969, R. L. Jacques [1 ♀, FSCA]. Pulaski Co. Jasper-Pulaski St. Forest, [?]-1989, N. M. Downie [1 ♀, FSCA]. **IOWA:** Clinton Co. Deep Creek, VI-12-1905, H. S. Barber [1 ♀, USNM]. Pottawattamie Co. Council Bluffs, VI-1897, Wickham [1 ♂, USNM]. **LOUISIANA:** Claiborne Par. Lake Claiborne St. Pk., VII-6-1983, E. G. Riley [1 ♂, 1 ♀, EGRC]. Natchitoches Par. Kisatchie Nat'l. Forest, VI-9-1990, E. G. Riley, sweeping [1 ♂, 7 ♀♀, LSUC]; Natchitoches, VI-25-1969, L. D. Newson, coll. on *Tephrosia* sp. [1 ♂, LSUC]; Red Bluff Campgrd., Kisatchie Nat'l. Forest, VI-21-1984, E. G. Riley [1 ♀, TAMU]; Red Dirt Wildlife Management Area, VI-21-1984, E. G. Riley [6 ♂♂, 4 ♀♀, EGRC]; same data, except, VI-20-1986, [9 ♂♂, 9 ♀♀, EGRC]; VI-28-1987 [1 ♂, EGRC]; VI-8-9-1990 [11 ♂♂, 17 ♀♀, EGRC]. **MAINE:** Oxford Co. Hiram, VII-27 [1 ♀, UNHC]. **MARYLAND:** Anne Arundel Co. 1 mi. NW Bristol, VI-24-1952, G. H. Nelson, understory maple [1 ♂, FSCA]; Pasadena, VII-24-1984, M. C. Fenton [1 ♀, USNM]. Prince Georges Co. Beltsville, VIII-23-1978, M. J. Rothschild [1 ♀, USNM]; College Park, VII-24-1920, collected on *Lespedeza hirta* [1 ♂, USNM]. **MASSACHUSETTS:** Hampden Co. Chicopee [1 ♀, USNM]; Montgomery [1 ♂, USNM]. Plymouth Co. Marion [1 ♀, USNM]; same locality [1 ♀, FSCA]. **MICHIGAN:** Clinton Co. Rose Lake Wildlife Experiment Station, VII-15-1973, D. K. Young [1 ♀, EGRC]. Wayne Co. Detroit, Hubbard & Schwarz [2 ♂♂, 2 ♀♀, USNM]. **MINNESOTA:** Anoka Co. Anoka, VII-2-1972, E. J. Kiteley [5 CNC]. Clay Co. Bluestem site, T139N R46W Sec 15, VII-13-1995, G. Fauske, C. Locken, L. DeCock, dry prairie [2 NDSU]. Houston Co. Brownsville, VII-27-1927, F. M. Uhler [1 ♀, USNM]. Norman Co. Agassiz Dunes, 47°29'N, 96°18'W, VII-9-1999, P. Tinerella, G. Fauske, dry prairie [1 NDSU]. Polk Co. Agassiz Dunes, 47°30'N, 96°17'W, VII-27-1999, C. Davis, C. Jordan [2 NDSU]; Agassiz Dunes Scientific and Natural Area, T147N, R44W Sec. 32, VIII-12-1996, L. DeCock, J. Alberston [2 NDSU]. **MISSISSIPPI:** Hancock Co. Waveland, V-25-1992 [2 ♂♂, USNM]. Harrison Co. Gulfport, V-21-30-1938, R. E. Blackwelder [1 ♂, USNM]; same data, except, VI-10-30-1938 [1 ♀, USNM]. **MISSOURI:** Clark Co. 1 mi. SE Francisville, Steyermark Sand Prairie, VI-24-1995, D. G. LeDoux [1 ♂, TAMU]. Stoddard Co. 2.8 mi. NE Dexter, Holly Preserve, VI-10-1975, E. G. Riley [2 ♂♂, 2 ♀♀, EGRC]; same data, except VI-12-1975 [1 ♀, TAMU]; VI-22-1978 [3 ♂♂, 6 ♀♀, EGRC, LSUC]; VII-7-1979 [1 ♂, 1 ♀, EGRC]. **NEBRASKA:** (no further locality) [2 ♂♂, 2 ♀♀, USNM]. Arthur Co. 4.5 km. N Arthur, 41.6147°N, 101.6927°W, VI-28-2016, E. G. Riley [1 ♂, EGRC]. Cherry Co. Big Alkali Lake, V-27-1992, E. G. Riley [1 ♀, EGRC]; 2 km. E Crookston, 42.9281°N, 100.7765°W, VI-28-2016, E. G. Riley [2 ♂♂, EGRC]; jct. Leander Creek & Hwy. 61, 42.8767°N, 101.6880°W, VI-25-2018, E. G. Riley [3 ♀♀, EGRC]; jct. Niobrara River & Hwy. 61, 42.8120°N, 101.6888°W, VI-25-2018, E. G. Riley [4 ♂♂, 2 ♀♀, EGRC]; 4 km. N Kilgore, 42.9721°N, 100.9547°W, VI-28-2016, E. G. Riley [4 ♂♂, EGRC]; 26 km. S Merriman, 42.6906°N, 101.7165°W, VI-28-2016, E. G. Riley [16 ♂♂, EGRC]; 16.5 km. SW Merriman, 42.8546°N, 101.8729°W, VI-24-2018, E. G. Riley [1 ♂, EGRC]; 17 km. E Merriman, 42.9215°N, 101.4947°W, VI-25-2018, E. G. Riley [10 ♂♂, 5 ♀♀, EGRC]; 5 km. S Merriman, jct. Hwy 61 & Leander Creek, 42.8772°N, 101.6880°W, VI-28-2016, E. G. Riley [9 ♂♂, EGRC]; 2 mi. N Merriman, on Hwy. 6, VI-29-1992, E. G. Riley [2 ♂♂, EGRC]; Merritt Reservoir, Boardman Campground, VII-2-3-2006, E. G. Riley, prairie sweep [17 ♂♂, 10 ♀♀, EGRC]; 5.3 km. W Nenzel, 42.9302°N, 101.1689°W, VI-28-2016, E. G. Riley [17 ♂♂, EGRC]; North Loupe River & Hwy. 97, 42.4000°N, 101.0306°W, VI-26-2018, E. G. Riley [14 ♂♂, 10 ♀♀, EGRC]; 12 km. NW Valentine, 42.9034°N, 100.6973°W, VI-28-2016, E. G. Riley [12 ♂♂, EGRC]; 8 km. NW Valentine, 42.8865°N, 100.6487°W, VI-28-2016, E. G. Riley [17 ♂♂, EGRC];

20 mi. WSW Valentine, McKelvie Nat'l. Forest, VII-10-1998, A. Ramsdale, blacklight at forest margin, near sand-hill prairie [1 ♀, UWRC]. Hall Co. Eastern Nebraska Platte River Preserve, Nature Conservancy, 40°43'44.65"N, 98°34'28.57"W, VII-13-2012, K. Miwa [1 ♂, 1 ♀, UNLC]. Keith Co. 8.5 (air) km. E Lemoyne, 41.2684, 101.7082, VI-28-2016, E. G. Riley [1 ♂, EGRC]. Logan Co. 8 mi. N Dismal River, on Hwy. 83, VI-27-1992, E. G. Riley [3 ♂♂, 1 ♀, EGRC]. McPherson Co. Sandhills Agric. Lab., VII-8-14-1973 [1 ♀, UNLC]. Sheridan Co. 358 Trail, 5.8 km. W Hwy. 27, 42.3663°N, 102.2676°W, VI-23-2018, E. G. Riley [1 ♂, EGRC]; 358 Trail, 7.5 km. E Hwy. 250, 42.3592°N, 102.3385°W, VI-27-2018, E. G. Riley [1 ♂, EGRC]; 8.8-9.2 mi. E Sheridan, VI-30-2009, R. Turnbow [1 ♂, 3 ♀♀ RHTC]. Thomas Co. Halsey, VII-20-1912, T. J. Zimmer [1 ♀, UNLC]; same locality, VII-29-1957, P. Henalik, prairie shrub-level sweep [1 ♂, UNLC]; 11 km. W Hasley, 41.9066°N, 100.4054°W, VI-26-2018, E. G. Riley, night sweep [3 ♂♂, 3 ♀♀, EGRC]; Meadow, VII-3-1915, E. G. Anderson [1 ♀, UNLC]. **NEW HAMPSHIRE:** Merrimack Co. Webster, Fiskie [1 ♀, USNM]. Rockingham Co. Hampton, VII-14-1918, S. A. Shaw [1 ♀, UNHC]; same data, except, VII-30-1924 [1 ♂, UNHC]; VII-11-1926 [1 ♀, UNHC]. **NEW YORK:** Cayuga Co. Auburn, VII-24-1970, F. E. Kurczewski & R. C. Miller [2 ♂♂, USNM]. Schenectady Co. Schenectady, VII-1-1941, N. M. Downie [1 ♂, EGRC]. Sullivan Co. Callioon, [1 ♂, USNM]. **NORTH CAROLINA:** (no further data) [1 ♀, USNM]. Brunswick Co. Green Swamp Preserve, 34.0932°N, 78.2988°W, VI-14-2013, S. M. Clark [1 ♀, BYUC]. Cumberland Co. 3 mi. E Hope Mills, 34.9669°N, 78.8930°W, VI-14-2013, E. G. Riley, at night on *Lespedeza* sp. (either *L. hirta* (L.) Hornem. or *L. stuevei* Nutt.) [1 ♂, 3 ♀♀, EGRC]; 3 mi. E Hope Mills, 34.9669°N, 78.8930°W, VI-14-2013, S. M. Clark [1 ♀, BYUC]. Moore Co. Southern Pines, A. H. Manee [1 ♂, USNM]. **NORTH DAKOTA:** Ransom Co. (no further locality), VIII-6-1962, R. Gordon [3 NDSU]; same data, except VI-17-1964 [1 NDSU]; VII-1-1964 [1 NDSU]; Sheyanne Nat'l. Grasslands, orchid site B, T134N R53W SE5, VII-22-1992, D. Cuthrell [2 NDSU]. **SOUTH DAKOTA:** Bennett Co. Hwy. 73, at Nebraska border, 42.9985°N, 101.7121°W, VI-27-2016, E. G. Riley [27 ♂♂, EGRC]; 12.5 (rd.) km. S Martin, on Hwy. 73, 43.0661°N, 101.7031°W, VI-17-2016, E. G. Riley, sandhills [6 ♂♂, EGRC]; 10 mi N Merriman (Nebraska), VII-3-2006, E. G. Riley [3 ♂♂, 1 ♀, EGRC]; 11 km. N Merriman (Nebraska), 43.0179°N, 101.7022°W, VI-24-2018, E. G. Riley [21 ♂♂, 7 ♀♀, EGRC]. **TENNESSEE:** Hamilton Co. Chattanooga, VII-2-1933, H. R. Dodge [1 ♀, TAMU]. **TEXAS:** Tyler Co. Kirby State Forest, VI-8-2003, E. G. Riley [19 ♂♂, 22 ♀♀, EGRC]; Kirby State Forest, 30°34'30"N, 94°25'03"W, VI-8-2003, E. G. Riley [9 ♂♂, 11 ♀♀, TAMU]; Kirby State Forest, V-26-2007, E. G. Riley, [1 ♀, EGRC]. **WISCONSIN:** Bayfield Co. Bayfield, [Wickham Collection], [1 ♀, USNM]. Dane Co. Mazomanie, VII-8-1962, P. H. Thompson [1 ♀, USNM]; 3 mi. NNW Mazomanie, Lower Wisconsin River St. Nat. Ar., VII-4-1998, A. Ramsdale, sweeping field of grass [1 ♀, UWRC]. Dunn Co. NSP Dushame Creek, T26N/R13W/S21&22, VI-24-1999. E. Secrist [1 ♀, EGRC]. Eau Claire Co. Eau Claire Railroad Prairie, T27N/R9W/Sec4, VI-24-1999, E. Secrist, sandy urban railroad prairie [1 ♀, EGRC]. Grant Co. Boscobel, VII-1-1954, R. Shenefeld, lite [1 ♀, EGRC]. Monroe Co. 1.5 mi. E Badger Drop Zone, Fort McCoy, VI-30-VII-3-1997, J. A. Maxwell, flight-intercept trap, oak savanna mid-successional [1 ♀, UWRC]; same locality, VIII-4-8-1997, J. A. Maxwell, flight-intercept trap in oak savanna [1 ♂, UWRC]; Fort McCoy, Oak Savanna SNA, VIII-15-28-1996, J. A. Maxwell, malaise trap, oak savanna-sand prairie [1 ♂, 1 ♀, UWRC]; 1 mi. W Lafayette Pass, Fort McCoy-S. Post, VI-14-17-1997, J. A. Maxwell, flight-intercept trap in oak savanna [1 ♀, UWRC]; same data, except, VI-17-22-1997 [1 ♀, UWRC]; VI-22-25-1997 [1 ♀, UWRC]; VII-1-5-1997 [1 ♀, UWRC]. Oconto Co. Becker Road, T30N R17E sec. 28, VII-1-1997, R. L. Otto, collected on oak leaves [1 ♀, TAMU]. Richland Co. LWRNSA Lone Rock, VI-22-31-2001, J. P. Gruber, flight intercept trap in sandy oak barrens [1 ♂, 1 ♀, EGRC]. Sauk Co. Spring Green, VI-27-1981, soybean [1 ♂, 1 ♀, USNM]; Spring Green Pres. SNA, VII-8-22-2001, J. P. Gruber, flight intercept trap in sandy oak barrens [1 ♀, EGRC].

## Appendix 2. *Colaspis costipennis* Crotch, specimens examined (total 229).

**ALABAMA:** Coffee Co. 1 mi. E Enterprise, V-21-1983, R. Turnbow [1 ♀, RHTC]. Dale Co. Fort Rucker Mil. Res., V-7-1983, R. Turnbow [2 ♀♀, EGRC, FSCA]; same locality, V-13-1983, R. Turnbow [1 ♀, EGRC]; V-21-1983, R. Turnbow [1 ♂, 5 ♀♀, EGRC, FSCA, RHTC]; V-25-1983, R. Turnbow [2 ♀♀, EGRC, FSCA]; V-10-1984 [1 ♂, 2 ♀♀ RHTC]; Level Plains, V-25-27-2011, R. Turnbow, blacklight trap [1 ♀, FSCA]. Mobile Co. Mobile, V-5-1957, B. K. Dozier, beating oak [1 ♀, FSCA]. Russell Co. 3.5 mi. SSW Seale, 1 mi. W jct. Rt. 169 on CR-22, IV-12-VI-13-1999, P. W. Kovarik, FIT [1 ♂, 1 ♀, BYUC]. **FLORIDA:** Alachua Co. 2.5 mi. SW Archer, IV-1-10-1988, P. Skelley, window trap in old pasture [1 ♂, 1 ♀, FSCA]; Gainesville, IV-20-1924, T. H. Hubbell [3 ♂♂, 3 ♀♀, FSCA]; same locality, III-30-1933, G. B. Merrill [1 ♂, FSCA]; V-1-1936 [1 ♂, FSCA]; III-27-1937, G. Swaul [1

♀, FSCA]; III-30-1948, L. A. Hetrick, on oak [5 ♂♂, 6 ♀♀, FSCA]; IV-4-1948, R. Capelouto, *Quercus niger* (sic) [*Quercus nigra*], [1 ♂, FSCA]; IV-25-1959, H. V. Weems [2 ♀♀, FSCA]; IV-22-1986, N. M. Downie [2 ♂♂, 1 ♀, UNHC]; IV-14-1989, J. R. Watts, *Quercus laevis* [1 ♂, 1 ♀, FSCA]; 5 mi. E Gainesville, Hatchet Creek, V-27-1983, R. M. Reeves, UV light [1 ♀, UNHC]; Gainesville (Airport), 29.69963°N, 82.26230°W, IV-11-2010, E. G. Riley, on *Quercus laevis* Walter [13 ♂♂, 21 ♀♀, EGRC]; Gainesville, nr. Airport, 29.700°N, 82.262°W, IV-11-2010, S. M. Clark & E. G. Riley [9 ♂♂, 5 ♀♀, BYUC]; 1 mi. N Paynes Prairie, Gainesville, SE Kincaid Rd., IV-4-13-1998, B. Sutton, 6 meter malaise trap, old field/dry oak hammock [1 ♀, FSCA]; same data, except IV-28-V-4-1998 [1 ♀, FSCA]; R20E., T9S, S.11, V-28-1949, W. L. Jennings [2 ♀♀, FSCA]. Baker Co. Osceola Nat'l. Forest, IV-30-1981, J. R. Watts *Myrica cerifera* [2 ♂♂, FSCA]. Duval Co. Jacksonville, IV-15-1967, C. F. Zeigler [1 ♂, FSCA]. Escambia Co. Pensacola, V-17-1960, R. E. Woodruff, beating turkey oak at night [1 ♂, FSCA]. Gadsden Co. T.3N - R bW, IV-27-1927, T. H. Hubbell [1 ♀, FSCA]. Leon Co. 6 mi. S Tallahassee, IV-8-1973, C. W. O'Brien [2 ♂♂, 3 ♀♀, FSCA]; 4 mi. W Tallahassee, IV-30-1985, O'Brien & Marshall [2 ♀♀, FSCA]. Levy Co. Alachua County line, SR 24: V-3-1981, M. C. Thomas [1 ♂, FSCA]; same locality, IV-9-1980, R. Turnbow [2 ♀♀ RHTC]; 3.8 mi. SW Archer, IV-30-1987, Skelley & Lundgren [2 ♀♀, FSCA]; same locality, IV-16-1990, R. H. Turnbow, uv & bl [1 ♀, FSCA]; 3.9 mi. SW Archer Archer, IV-6-1991, P. E. Skelley, ex. oak [1 ♀, FSCA]. Liberty Co. (no further locality) IV-14-1961, H. V. Weems, *Quercus laevis* association [1 ♀, FSCA]. Marion Co. 3 mi. S 314A, Moss Bluff, 464C, IV-4-1992, F. W. Skillman, beaten/oak foliage [6 ♂♂, 4 ♀♀, FSCA]; 6.5 mi. N Eureka, Ocala Nat'l. Forest, IV-10-1948, F. N. Young [1 ♀, FSCA]; Lake Delancy, Ocala Nat'l. Forest, V-1-1993, F. Skillman & J. Kutis, MV light [1 ♀, FSCA]. Nassau Co. 1.5 mi. E Boulogne, St. Marys Riv. St. Forest WMA, IV-17-1997, P. E. Skelley [1 ♀, FSCA]. Okaloosa Co. Holt, IV-1936 [1 ♂, FSCA]. Pinellas Co. Dunedin, III-19-1913, W. S. Blatchley [1 ♂, 1 ♀, TAMU]; same data, except, III-27-1916 [1 ♀, TAMU]. Putnam Co. Ordway Swisher Biol. Sta., east of Melrose, 29.70555°N, 81.88361°W, IV-9-2010, M. J. Rothschild, sweeping *Quercus laurifolia* [1 ♀, BYUC]. Santa Rosa Co. 3.3 mi. E Munson, IV-22-2007, R. Turnbow, mv & bl [1 ♂, RHTC]; 4 mi. N Munson, IV-28-1984, R. Turnbow [3 ♂♂, RHTC]. Suwannee Co. 5 mi. N Wellborn, IV-15-1995, S. M. Clark [2 ♂♂, BYUC]. **GEORGIA:** Emanuel Co. 2.5 mi. SE Kite, V-11-1975, R. Turnbow [1 ♂, RHTC]; same data, except, V-16-1977 [1 ♂, FSCA]; Swainsboro, V-7-1937, P. W. Fattig [1 ♂, EGRC]. Johnson Co. 1 mi. E Kite, IV-27-1977, R. Turnbow [1 ♀, FSCA]; 6 mi. NE Wrightsville, IV-29-1976, R. Turnbow [1 ♀, FSCA]; same locality, IV-29-1983, R. Turnbow [1 ♂, EGRC]. Richmond Co. Augusta, V-3-1946, P. W. Fattig [2 ♀♀, AJGC]. Schley Co. Ellaville, V-18-1937, P. W. Fattig [1 ♂, EGRC]. **MAINE:** Cumberland Co. Portland, VII-25-1966, E. J. Kiteley [1 ♀, CNC]. **MISSISSIPPI:** Jefferson Davis Co. (no further locality) V-1-1970, W. L. Johnson, saturn yellow stickem coated trap [2 ♂♂, MSEM]. Lafayette Co. Oxford, V-25-1949, H. V. Weems, at light [1 ♂, FSCA]. Lamar Co. (no further locality) V-6-1974, J. R. McCoy [1 ♀, MSEM]. Marion Co. 7 mi. W Baxterville, IV-21-1974, W. H. Cross, in leggitt trap [1 ♂, 1 ♀, MSEM]. **NEW HAMPSHIRE:** Rockingham Co. Seabrook, VI-28-1989, D. S. Chandler, sweep forest vegetation, backdunes [2 ♂♂, 3 ♀♀, EGRC, UNHC]; same data, except, foredunes [1 ♂, 1 ♀, UNHC]; same data, except, backdunes [1 ♀, UNHC]; same locality, VII-7-1989, D. S. Chandler, foredunes, sweep [1 ♀, UNHC]; Seabrook Beach, VII-5-1920, S. A. Shaw [1 ♀, UNHC]; same data, except, VII-11-1920 [1 ♀, UNHC]. **NEW YORK:** Suffolk Co. Riverhead, VI-11-1948 [H. C. Miller Collection], [1 ♀, FSCA]. **NORTH CAROLINA:** Bladen Co. 3.5 mi. SSW Ammon, 34.7541°N, 78.6099°W: VI-13-2013, S. M. Clark & E. G. Riley [1 ♂, 1 ♀, BYUC]. Brunswick Co. 2.7 mi. N Ocean Isle Beach, 33.9286°N, 78.4471°W, VI-14-2013, E. G. Riley [1 ♀, EGRC]. Moore Co. Weymouth Woods, 35.1496°N, 79.3696°W, VI-15-2013, S. M. Clark & E. G. Riley [2 ♀♀, BYUC, EGRC]. New Hanover Co. Carolina Beach St. Pk., 34.0470°N, 77.9102°W, VI-13-2013, E. G. Riley [1 ♀, EGRC]; 5 mi. NNE Wilmington, 34.2943°N, 77.9739°W, VI-13-2013, S. M. Clark [1 ♀, BYUC]. **SOUTH CAROLINA:** Chesterfield Co. 4 mi. N Patrick, 34°34.8'N, 80°05.1'W, V-26-2006, S. M. Clark & E. G. Riley, [1 ♀, BYUC]; 2 mi. E Patrick, Sand Hill St. Forest, 34°34.24'N, 80°00.75'W, V-26-2006, E. G. Riley [3 ♀♀, TAMU]; Sand Hill State Forest, 34°33.2'N, 80°07.6'W, V-26-2006, S. M. Clark & E. G. Riley [2 ♂♂, 6 ♀♀, BYUC, EGRC]; Sand Hill State Forest, Hunter Pond, 34°34.19'N, 80°04.97'W, V-26-2006, S. M. Clark & E. G. Riley [10 ♂♂, 7 ♀♀, EGRC]; Sand Hill State Forest, TT-10 & Ruby Hartsville Rd., 34°33.21'N, 80°07.61'W, V-26-2006, E. G. Riley [5 ♂♂, 8 ♀♀, EGRC]; Sand Hill State Forest, Middlendorf Pond, 34°32.7'N, 80°08.6'W, V-26-2006, S. M. Clark & E. G. Riley [3 ♂♂, 4 ♀♀, BYUC, EGRC].



