

NOTES ON THE MARSH BEETLE GENUS *ORA* CLARK (COLEOPTERA: SCIRTIDAE) IN THE SOUTHEASTERN USA AND CENTRAL AMERICA

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ABSTRACT

New distribution records for the genus *Ora* Clark, 1865 in the USA and Mesoamerica are given, with notes on variations in markings in *Ora discoidea* Champion, 1897. New country records are provided for *Ora depressa* (Fabricius, 1801) (Mexico) and *O. discoidea* (USA). A key is provided for identification of the *Ora* species known from the USA.

Key Words: distribution, identification, color pattern, New World

DOI.org/10.1649/0010-065X-73.3.521

The family Scirtidae (marsh beetles) remains relatively unstudied in the Nearctic. Although Tetrault (1967) revised the family (as Helodidae) for the Nearctic and described many new species, his dissertation was never published; his names remain unavailable. Several of those species were subsequently described by Klausnitzer (1976) without any reference to Tetrault's taxa. Only a few species of Scirtidae have been described or redescribed from the Nearctic in the past 30 years (Epler 2012; Klausnitzer 2016a, b; Young and Stribling 1990; Zwick 2010, 2015). Epler (2009) recorded the first examples of *Scirtes oblongus* Guérin-Méneville from North America.

Tetrault (1967) dealt with three species of *Ora* Clark, 1865 (*O. hyacintha* Blatchley, *O. texana* Champion, and *O. roberti* Guérin-Méneville). He did not describe any new species for this genus.

Epler (2010) provided the first key for scirtid larvae in North America that included *Ora*, based on larvae of *O. texana* that he had reared from northern Florida. The immature stages of some *Ora* species were described by Yoshitomi (2005), Libonatti *et al.* (2018), and Jorge *et al.* (2019).

MATERIAL AND METHODS

Abbreviations used repositories of material studied are:

| | |
|--------|---|
| EGRC | Edward G. Riley Collection, College Station, TX |
| FSCA | Florida State Collection of Arthropods, Gainesville, FL |
| LSAM | Louisiana State Arthropod Museum, Baton Rouge, LA |
| TAMU | Texas A&M University Insect Collection, College Station, TX |
| USNMNH | US National Museum of Natural History, Washington, DC |

RESULTS

Ora depressa (Fabricius, 1801) (Figs. 8, 16)

Although not known from north of Mexico, this species may eventually be found in the southern USA. A male syntype of this species was redescribed by Ruta (2013), who placed the species in *Ora* (it was previously placed in *Cyphon* Paykull and *Scirtes* Illiger). Libonatti (2015) described the female extensively and offered more figures of the male. Libonatti *et al.* (2018) described the immature stages of *O. depressa* in great detail. Ruta (2013) noted that it was "widely distributed in South America". Libonatti (2015) examined material from Argentina and Brazil. When examining *Ora* specimens from the USNMNH, JHE found a series of specimens from the state of Tabasco in southern Mexico. These represent the northernmost record

for this species; it was not included in Champion (1897).

MEXICO: TAB.[asco]/Villahermosa/VII-6.1964/ Paul J. Spangler (10♂♂, 3♀♀, USNMNH). **New country record.**

Ora discoidea Champion, 1897

(Figs. 1–7, 17, 19)

There appear to be two basic forms of this species: one with bicolored, vittate elytra; the other with primarily testaceous elytra or testaceous with some dark spotting on the basal half of the elytra. In material from Louisiana, all individuals of the vittate form proved to be male, and all testaceous forms were female. However, in material from Costa Rica, Mexico, and Texas, some males possessed unmarked, or lightly marked, testaceous elytra. No differences could be discerned between the genitalia of these lightly marked specimens and the bicolored forms.

Champion (1897) described this species as a vittate form based on material from Mexico, Guatemala, and Honduras. He also noted two varieties: “Var. α”, with the “discoidal vitta of the elytron obliterated or reduced to a narrow streak, the elytra sometimes with irregularly scattered brownish spots” and “Var. β” which is “Above and beneath, the legs, and antennae testaceous, the head, prothorax, scutellum, and posterior knees brown or reddish-brown; the elytra as in α.”

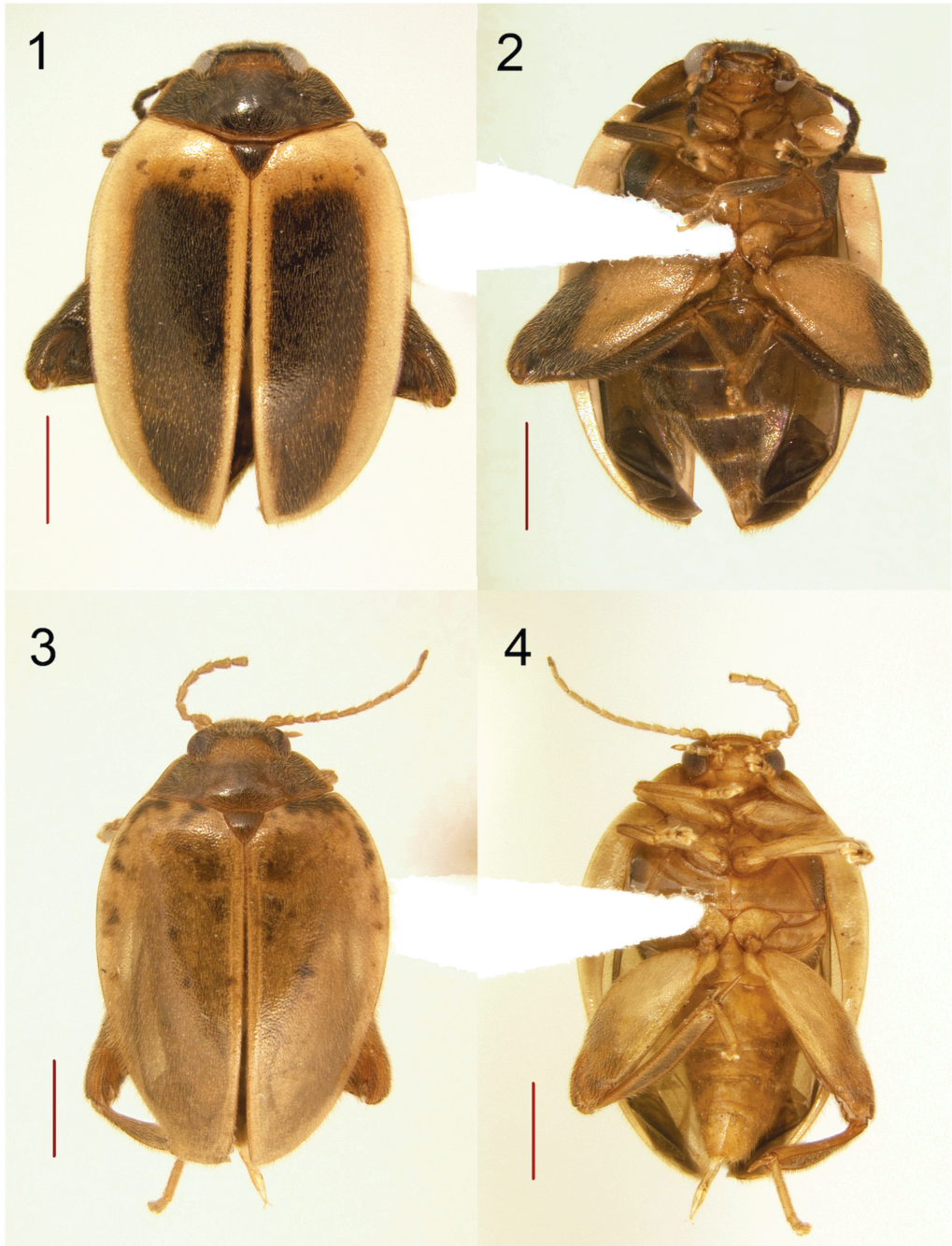
Champion (1897) made no mention of sexual dimorphism in his description. All known USA female specimens would fit Champion’s “Var. α”; there are several males in the USNMNH’s Central American material that would also fit there. One specimen that fit his “Var. β”, from Dueñas, Guatemala, is in the USNMNH; it may be a teneral specimen. Another specimen from Dueñas was a male mislabeled as a female.

Following a request for scirtid specimens by JHE in 2009, MLG reported that he had several specimens of an unknown *Ora* that he had collected in Louisiana; JHE identified these as *O. discoidea*. MLG also reported that similar material from Alabama existed in LSAM. JHE first noted this species in Florida when contacted by Michael Thomas at the FSCA with an identification request in 2012; further examination of the collection at FSCA revealed a Florida specimen collected in 2007. Louisiana specimens were externally compared by MLG with the syntypes of *O. discoidea* located in The Natural History Museum, London, and agreed in essential respects. Records from BugGuide (bugguide.net) of the species in southeastern Texas led to a request of TAMU material of *Ora*. Edward Riley made TAMU material available, along with material from EGRC. This resulted in

additional records of *O. discoidea*, some dating back to the 1960s, and an additional species of *Ora* previously unknown from the USA.

In the material listed below, the following abbreviations are used to describe the appearance of the elytra: [V] = vittate; [L] = lightly marked; [U] = unmarked. It was not possible to determine the sex of the BugGuide material. A single slash (/) indicates a line break, two slashes (//) indicate a different label.

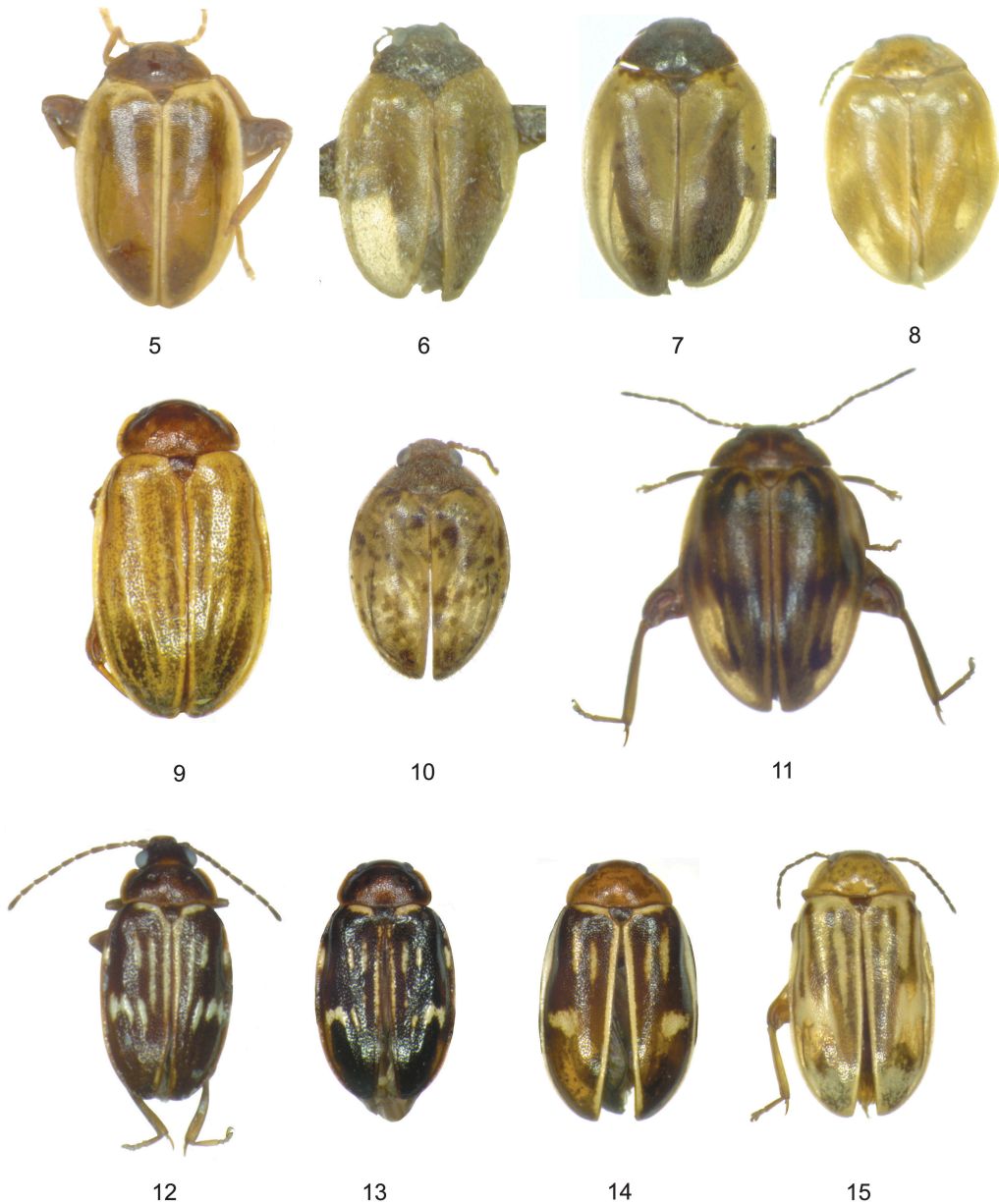
COSTA RICA: Turrialba/ Sept. 1953/ NLH Krauss (1♂ [U], USNMNH). Turrialba/ VII-15-1965/ P.J. Spangler (1♂ [U], USNMNH). **GUATEMALA:** Dueñas/Guatemala/G.C. Champion// B.C.A.Col.III. (1). (1♂ [mislabeled as ♀][V], 1♀ [U], USNMNH). **MEXICO:** TAB.[asco]/ Villahermosa/VII-6.1964/ Paul J. Spangler (1♂ [U], USNMNH). Pureza Ver.[acruz]/ Mex Apr 13 ‘35/ J. Camelo G/ 3038/ 5th r.r. sta/ Veracruz/ to Jalapa (1♂ [L], USNMNH). Veracruz/ Los Tuxtlas area, seeps/ at “Las Cabanas”/ 8-15 May 1981/ C.M & O.S Flint, Jr. (2♂♂ [intermediate between V and L], USNMNH). On banana/ ship from Mex/ Jun. 21, 1934/ WW Chapman/ Phila 23082 (1♂ [L], USNMNH). **USA: ALABAMA:** Baldwin Co.: Bon Secour National Wildlife Refuge, 30°15’46”N, 87°45’27”W, 12 May 1994, blacklight and mercury vapor, coll. M.E. Oard, William H. Cross Expedition (1♂ [V], LSAM). **FLORIDA:** Collier Co./ Immokalee, SW FL REC/14-20-IX-2007/ coll. S. Halbert/ suction trap (1♂ [V], FSCA); Collier Co./ Immokalee, SW FL REC/1/XI/20112/8/XI/2012/ Coll. Susan Halbert/ Suction Trap – MIDDLE (1♂ [light V], FSCA). **LOUISIANA:** Lafourche Par.: Golden Meadow, 29°23.559’N, 90°16.474’W, 03 September 2009, at light, coll. M. Gimmel & J.-S. Park (9♂♂ [V], 15♀♀ [L,U], LSAM); Saint Tammany Par.: 4.2 mi NE of Abita Springs, sec 24, T6S, R12E, 30 September 2006, coll. V.A. Brou (1♂ [V], LSAM). **TEXAS:** Aransas Co., Goose Island State Park, 30 November 1973, W.E. Clark (3♂♂ [V], TAMU); Bastrop Co., Bastrop State Park, 23 July 1988, E.G. Riley (1♂ [V], EGRC); Bastrop Co., Lost Pines Boy Scout Camp, 20 October 2012 (1 [V], [bugguide.net/node/view/717278]); Brazoria Co., Brazoria NWR, 20 July 2010, Graham Montgomery (1 [V], [bugguide.net/node/view/429916]); Brazos Co., Bryan, 17 June 1988, E.G. Riley (1♂ [V], 1♀ [L], EGRC); same except 19 June 1988 (1♀ [L], EGRC); same except 26 June 1988 (1♀ [L], EGRC); Brazos Co., College Station, 11 June 1989 (1♂ [V], EGRC); same except June 1989 (2♂♂ [V], EGRC); Brazos Co., College Station, 14 June 1995, UV light, E.G. Riley (1♀ [L], TAMU); Brazos Co., College Station, Riley Estate, 30°35’18”N, 96°15’12”W, 16 September 2004, E.G. Riley (1♀ [L], EGRC); same except 22 September 2004 (1♀ [L], EGRC); Brazos Co., College



Figs. 1–4. *Ora discoidea* from Louisiana. 1) Male vittate form, dorsal habitus; 2) Same male, ventral habitus; 3) Female, dorsal habitus; 4) Same female, ventral habitus. Scale bar = 1 mm.

Station, Riley Estate, 30.58849°N, 96.25366°W, 5 September 2015, UV, E.G. Riley (1♂ [V], EGRC); same except March 2016 (1♀ [L], EGRC); same except October 2016 (1♂ [V], EGRC); Cameron

Co., Sabal Palm Grove, 9 June 1994, E.G. Riley (1♂ [V], EGRC); Chambers Co., High Island, 3 October 1992, blacklight in sand dunes, Wm. Godwin (1♀ [L], TAMU); Chambers Co., 15 April 2017, Jose



Figs. 5–15. *Ora* species, dorsal habitus. *O. discoidea*: 5) Male vittate form, Guatemala; 6) Male unmarked form, Mexico; 7) Male lightly marked form, Mexico. 8) *O. depressa*, Mexico; 9) *O. hyacintha*, Florida; 10) *O. cf. marmorata*, Texas; 11) *O. texana*, Florida. *O. troberti*: 12–14) Specimens from Florida; 15) Specimen from Texas. Figs. 9 and 11–15 from Epler (2010). Not to scale.

Hernandez (1 [L], [bugguide.net/node/view/1362125]); Fort Bend Co., Brazos Bend State Park, 4 April 2004, E.G. Riley & B.T. Raber (1♂ [L], TAMU); Kaufman Co., Forney, 32.7670°, -96.4601°, September 2009, blacklight, B. Hayes (1♂ [V], 1 [L], TAMU); San Patricio Co., Lake Corpus Christi State Park, 13 April 1974, G.H.

Nelson (1♂ [V], FSCA); San Patricio Co., Corpus Christi State Park, 9 June 1969, Board & Hafernik (5♂♂ [V], TAMU); San Patricio Co., Welder Wildlife Refuge, 27 June 1969, Board & Hafernik (11♂♂ [V], TAMU); same except 28 April 1969, blacklight (4♂♂ [V], TAMU); same except 30 November – 3 December 1973, C.W. & L.B.



16

17

18

Figs. 16–18. *Ora* species, apex of male genitalia, penis shaded. **16)** *O. depressa*, Mexico; **17)** *O. discoidea*, Florida; **18)** *O. cf. marmorata*, Texas.

O'Brien, Marshal, Riek (2 ♂♂ [V], 2 ♀♀ [L], EGRC); same except 30 November 1973, at night, G.B. Marshall (1♂ [V], 1♀ [L], EGRC).

Ora hyacintha Blatchley, 1914

(Fig. 9)

To date, this species is known only from the following counties in Florida: Alachua, Collier, Hernando, Highlands, Palm Beach, and Pinellas. Ciegler (2003) recorded this species from South Carolina, but examination of the specimen by JHE revealed it to be a general or light-colored example of *O. texana*.

Blatchley (1914) described this species from specimens from the southeastern shore of Lake Okeechobee in southern Florida. He noted “They were found only in and beneath the hollow stems of decaying water hyacinth (*Piaropus crassipes* Mart.) [now placed in *Eichhornia*] next to the water’s edge. When the stems were broken open the beetles would emerge and jump about in a grotesque manner. Supposing they were some form of Halticini, I recorded them at the time as ‘flat, jumping Chrysomelids.’ ”

Ora cf. marmorata Champion, 1897

(Figs. 10, 18)

A single male specimen from southern Texas in the EGRC appears to be *O. marmorata*, but it is smaller (length = 2.9 mm, width = 1.9 mm) than

the two specimens described from Panama by Champion (4.0–4.5 mm; 2.5–3.0 mm). Champion (1897) did not illustrate this species; its genitalia are undescribed. Champion also did not give the sex of his specimens, but did note they were “both somewhat immature”. This Texas specimen is most likely a small example of *O. marmorata*; more positive identification must wait until Champion’s material is examined.

This species is within a group of *Ora* species that are broadly oval with explanate lateral margins on the elytra. It resembles *O. depressa* or *O. semibrunnea* Pic, 1922 but has a very different penis with a simple apex that is not sharply delimited (Fig. 18; also see Libonatti 2014, 2015).

USA: TEXAS: Hidalgo Co., Bentson Rio Grande Val[ley] St[ate] P[ar]k, Oct. 6, 1986, E. Riley & J. Negrón (1♂, EGRC).

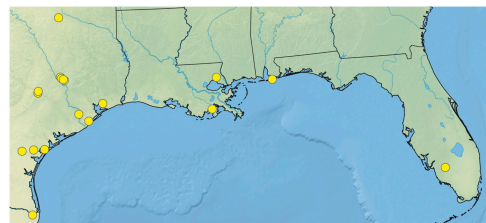


Fig. 19. Distribution of *Ora discoidea* in the USA.

***Ora texana* Champion, 1897**

(Fig. 11)

JHE reared this species from larvae collected from water at the margin of a black gum swamp in northern Florida. Epler (2010) provided illustrations of the larval hypopharynx, mandible, labrum (all labral setae not shown), maxilla, base of the antenna, and lateral margin of the abdomen. Nyholm (1972) illustrated the aedaeagus.

This species is widespread and appears to be the most common species of the genus in the south-eastern USA. It is known from Virginia to Texas. Some additional records are given below.

COSTA RICA: Puntarenas (USNMNH). **MEXICO:** Chiapas; Oaxaca (USNMNH). **USA:** **GEORGIA:** Camden Co.; **LOUISIANA:** Assumption, East Baton Rouge, Iberville, Saint John the Baptist, Saint Martin, Saint Tammany, and West Baton Rouge parishes. **TEXAS:** Cameron Co. (USNMNH).

***Ora troberti* (Guérin-Méneville, 1861)**

(Figs. 12–15)

This brightly marked, variably colored species is known from Alabama, Florida, and Texas in the USA (Epler 2010), Guatemala, Mexico, and Grand Cayman in the West Indies (Thomas *et al.* 2013). Additional records are given below.

CUBA: Granma (USNMNH). **MEXICO:** Vera Cruz (USNMNH). **USA:** **TEXAS:** Cameron, Hidalgo, Live Oak, San Patricio Counties (FSCA; LSAM; USNMNH).

KEY TO THE SPECIES OF *ORA* OF THE USA

(*O. depressa* is not known from the USA but is included for comparison to *O. discoidea* and *O. cf. marmorata*)

1. Head, pronotum, and elytra pubescent; body form wider and more convex 2
- 1'. Head, pronotum, and elytra mostly glabrous; body form more slender and slightly depressed 5
2. Elytron with brownish longitudinal vittae, with 3 faint, irregular, transverse fasciae, and a light area on a dark background near the scutellar shield (Fig. 10); common over the entire Gulf region of the USA, south to Costa Rica ***O. texana* Champion**
- 2'. Elytron with large, dark brown discal vitta, bordered on all sides by broad, testaceous margin, no light area on a dark background near scutellar shield; OR elytra yellow/testaceous, sometimes with some faint darker spots in basal half or scattered over entire elytron 3
3. Pronotum light brown to reddish brown; male elytron usually with broad, dark brown discal vitta, bordered on all sides by broad testaceous margin (Figs. 1, 5), elytron of female and some males predominantly testaceous, often with some faint darker spots in basal half (Figs. 3, 6, 7); penis apically bifurcated in Y-shape (Fig. 17); Florida to eastern Texas (Fig. 19), south to Costa Rica ***O. discoidea* Champion**
- 3'. Pronotum yellow or testaceous, sometimes with faint discal darkening; elytron yellow/testaceous, never with dark vitta, sometimes with scattered dark spots (Figs. 8, 10); penis not apically bifurcated in Y-shape 4
4. Elytra mostly yellow, sometimes with scattered dark spots (Fig. 8); penis with subapical process at right angle to main shaft (Fig. 16); southern Mexico, Argentina, Brazil ***O. depressa* (Fabricius)**
- 4'. Elytra darker yellow/testaceous, with numerous spots, many coalesced, over entire elytron (Fig. 10); penis without subapical process (Fig. 18); southern Texas ***O. cf. marmorata* Champion**
5. Elytra moderately to weakly costate, without definite pattern of vittae, but may be irregularly infuscated between costae (Fig. 9); all known specimens from Florida ***O. hyacintha* Blatchley**
- 5'. Elytra not costate, variably patterned with partial or complete longitudinal vittae, with a light, transverse bar adjacent to scutellar shield; body flatter (Figs. 12–15); known from southern Florida, southern Texas, and Alabama, south to Mexico, Guatemala, and Cuba ***O. troberti* (Guérin-Méneville)**

ACKNOWLEDGMENTS

We thank Ed Riley (EGRC, TAMU), Warren Steiner (USNMNH), and Mike Thomas and Paul Skelley (FSCA) for the loan of specimens. Amateur collector Vince Golia provided a wealth of finely curated material from southern Florida. Thanks also to the reviewers whose comments improved this paper.

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(Received 11 February 2019; accepted 2 June 2019. Publication date 22 September 2019.)