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More new distribution records for Florida water beetles (Coleoptera: Dytiscidae, Elmidae, Hydrophilidae, Scirtidae), with additional notes on *Scirtes oblongus* Guérin-Méneville

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More new distribution records for Florida water beetles (Coleoptera: Dytiscidae, Elmidae, Hydrophilidae, Scirtidae), with additional notes on *Scirtes oblongus* Guérin-Méneville

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Abstract. New distribution records for the State of Florida are given for several genera and species of water beetles. These include Dytiscidae: *Acilius confusus* Bergsten; *Dytiscus carolinus* Aubé; *Matus bicarinatus* (Say); Elmidae: *Oulimnius nitidulus* LeConte; *Stenelmis mera* Sanderson; *S. morsei* White; Hydrophilidae: *Laccobius minutoides* d'Orchymont; Scirtidae: *Sarabandus robustus* (LeConte); *Scirtes oblongus* Guérin-Méneville. Additional information is provided on the distribution, morphology and three color forms of *S. oblongus* which is considered to be a senior synonym of *Scirtes sexlineatus* Chevrolat and *S. interruptus* Chevrolat.

Introduction

An ongoing revision of my earlier identification manual for Florida's water beetles (Epler 1996) has included gathering new distribution information for the state's water beetles. Examination of newly collected material, including material housed at Florida A & M University, Tallahassee (FAMU), material in the Florida Department of Environmental Protection (FDEP) reference collection and material recently deposited in the Florida State Collection of Arthropods (FSCA) in Gainesville, FL, has revealed numerous new distribution records since the last paper on new distribution records (Epler et al. 2005) Several of these represent the first records for several genera previously unrecorded for Florida; one is a new record for the United States and the Nearctic. The majority of these records have been posted on my web site (http://home.comcast.net/~johnepler3/index.html); this paper provides more detailed information for those records.

Dytiscidae

Acilius confusus Bergsten. A male and female were collected in Jackson Co., Little Dry Creek near Alford, 19-xi-1984, leg. W.R. Karsteter. This species, previously confused with *A. fraternus* (Harris) and *A. semisulcatus* Aubé, was recently described in Bergsten and Miller (2005). Their southernmost record was from South Carolina; this is the first state record for Florida and the southernmost record for this species.

Dytiscus carolinus Aubé. A single female was collected at Liberty Co., Apalachicola Bluffs and Ravines Preserve, 30.49423N 84.97740W, blacklight in sandhill habitat near ravine, 12-iv-2007, leg. D.T. Almquist; as part of the Florida Natural Areas Inventory Invertebrate Survey. This is the first record for this genus and species from Florida. This beetle was expected in Florida, since records from just across the state line in southern Alabama and Georgia are given in Roughley (1990: fig. 31).

Matus bicarinatus (Say). Numerous males and females were studied from Santa Rosa Co., Escambia River at Molina Boat Ramp Park, UV pan trap, 14-iv-2007, leg. D.R Denson; and Santa Rosa Co., Blackwater River hiking trail ~ 300 m. Deaton Bridge Road, UV pan trap, 13-vi-2007, leg A.K. Rasmussen. These are the first records for this species from Florida; thus three of the four North American species of *Matus* are now recorded from Florida.

Elmidae

Oulimnius nitidulus LeConte. There are now several records of this minute beetle from the Florida Panhandle, including one specimen, Santa Rosa Co., McCostill Mill Creek at Ebenezer Church Road, 29-i-2004, leg. D. Ray, F. Butera; four specimens, Santa Rosa Co., McCostill Mill Creek, 11-vi-2006, leg. L.

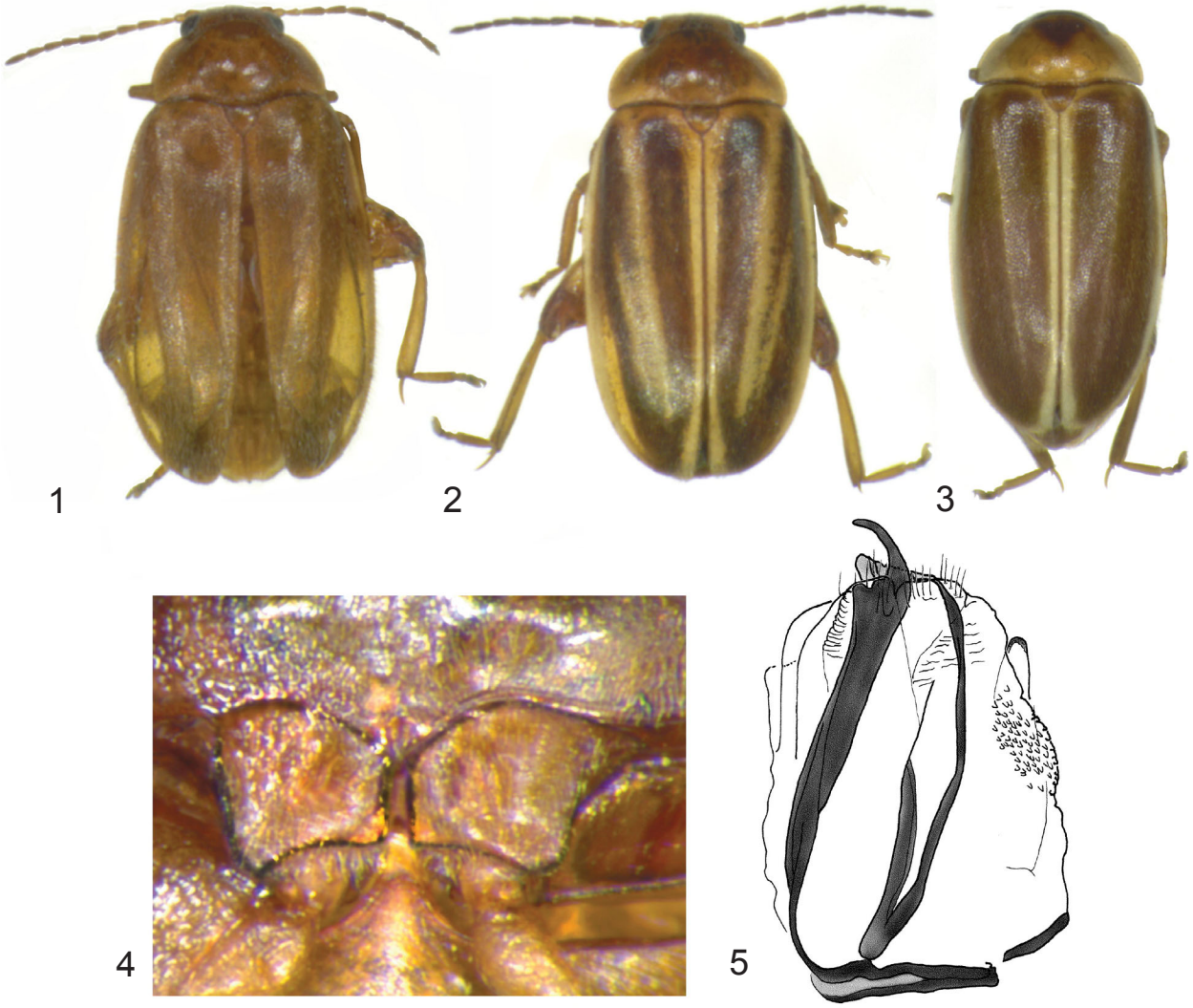

Figure 1-5. *Scirtes oblongus*. **1)** Immaculate form, Palm Beach County, FL. **2)** Vittate form, Highlands County, FL. **3)** Broadly striped form, Vera Cruz, Mexico. **4)** Hind coxae, vittate form, Palm Beach County, (margins emphasized). **5)** Male genitalia, Havana, Cuba.

Donelan; and two specimens collected by dipnet, Santa Rosa Co., Weaver Creek headwaters W of Base Rd 724, 11-i-2006, leg. A.K. Rasmussen, B.A. Richard, B. Tate, M. Tongue.

Stenelmis mera Sanderson. This beetle has been collected at several sites in the Florida Panhandle, including 17 specimens, Escambia Co., Brushy Creek at Pineville Road, W of Enon, UV light, 14-iv-2007, leg. A.K. Rasmussen, D.R. Denson; two specimens, Escambia Co., McDavid Creek at CR 99, UV light, 14-vi-2007, leg. A.K. Rasmussen, D.R. Denson; one specimen, Escambia Co., Pine Barren Creek below US 29, UV light, 14-vi-2007, leg. A.K. Rasmussen, D.R. Denson. These are the first Florida state records for this species; the previous southernmost record was from Conecuh County in Alabama (Schmude 1992).

Stenelmis morsei White. Six specimens were collected from Escambia Co., Brushy Creek at Pineville Road, W of Enon, UV light, 14-iv-2007, leg. A.K. Rasmussen, D.R. Denson. This is the first Florida state record for this species; the previous southernmost record was from Monroe County in Alabama (Schmude 1992).

Hydrophilidae

Laccobius minutoides d'Orchymont. A single female of this species was collected at UV light at Escambia Co., Big Escambia Creek at Fannie Road, 15-iv-2007, leg. A.K. Rasmussen & D.R. Denson. This is the first record for this genus and species from Florida. The closest previous record of this species was from Monroe County in southwestern Alabama (Steiner 1980).

Scirtidae

Sarabandus robustus (LeConte). A single male specimen of this large scirtid was found in a tray of unsorted material in the FSCA: Alachua Co., Paynes Prairie State Preserve, Malaise trap in swamp, 10-iv-1999, leg. Randall W. Lundgren. This is the first, and southernmost, record for this genus and species from Florida. Ciegler (2003) had previously recorded it from Myrtle Beach in South Carolina.

Scirtes oblongus Guérin-Méneville. Champion (1897) considered there to be two forms of this species: the "pallid form" (Fig. 1) originally described by Guérin-Méneville (1861: 546) and a vittate form (Fig. 2) described and illustrated by Champion (1897: 609 and Plate 26, figs. 28, 28a). I follow Champion (1897) in considering these as two forms of a single species. Florida records for the immaculate form include: one female, Osceola Co., Lake Gentry boat ramp, 12-v-2007, leg. D.R. Denson; one female, Palm Beach Co., Delray Beach, Country Lake, mercury vapor light, 1-vi-1993, leg. Vince Golia. Florida records for the vittate form include: one specimen, Highlands Co., Lake Placid, Archbold Biological Station, mercury vapor light, 4-vi-1994, leg. Vince Golia; one specimen, Palm Beach Co., Delray Beach, Country Lake, mercury vapor light, 4-vi-1993, leg. Vince Golia; one male, Palm Beach Co., Lake Worth, Harbour Greens Drive, mercury vapor light, 21-vi-2007, leg. Vince Golia. Originally described from Mexico (Yucatan) and also recorded from Mexico (Vera Cruz and Yucatan) and Guatemala (Champion 1897); these are the first records for this species from the United States and the Nearctic.

There is also material of this species from the Cayman Islands in the FSCA. Through the kindness of Warren Steiner (National Museum of Natural History, Smithsonian Institution, Washington, D.C.), I have examined material from Cuba identified as *Ora sexlineata* (Chevrolat). I am considering *S. oblongus* to be a senior synonym of *Scirtes sexlineatus* Chevrolat and *S. interruptus* Chevrolat (Chevrolat 1870: 69), both placed by Pic (1914: 40) in *Ora*.

I have also examined specimens from Cuba, Mexico and Costa Rica of a third form (Fig. 3) in which the vittae are coalesced into a single broad dark stripe on each elytron, with a thin light sutural stripe and light outer margin; there are also intermediates between the vittate and this broadly striped form. Male genitalia of the vittate form (Fig. 5) and broadly striped form are similar; only females of the immaculate form were available and thus are not comparable.

Guérin-Méneville's original description mentions three weak costae on each elytron. These costae are more evident on the immaculate form and the broadly striped form; they are very weak or absent on most of the vittate forms.

Its elongate shape is unusual for a *Scirtes*, which are usually more broadly oval. In general habitus, this species resembles an *Ora* or, at a quick glance, a chrysomelid. In his description of *S. sexlineatus*, Chevrolat (1870: 69) noted "... ressemblant beaucoup à certaines Alticites du genre *Oedionychis*."

As in species of *Ora*, *S. oblongus* also has a large laminate prosternal process that reaches the apices of the fore coxae, and the pronotum and elytra are moderately explanate laterally. The hind coxae (Fig. 4) are more typical for a *Scirtes*; they are not contiguous but are narrowly separated and opposed along their entire inner margin, with the base of the trochanter partially hidden by the posteroventral margin of coxae (the trochanter base is fully exposed in *Ora* species).

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ERRATUM

After final acceptance and formatting, but before posting this paper, the following error was discovered.

The species originally identified herein as *Laccobius minutoides* is *L. reflexipenis* Cheary, 1971.

Additional material, consisting of a male with definitive genitalia and a female, was collected from Escambia County, Perdido River above Brushy Creek, UV-blacklight pan trap, 22-iv-2009, leg. D. Ray and R. Abad.

This is a considerable range extension for this species; the closest previous record is from Macon County in North Carolina (Ciegler 2003).

The female from Big Escambia Creek is externally similar to the one from the Perdido River, and is basically indistinguishable externally from specimens of *L. minutoides* (based on male genitalia) I have from Alabama and Mississippi. This demonstrates the difficulties involved in identifying female *Laccobius* without accompanying male specimens!

John Epler
July 23, 2009