

On the genus *Anchonus* Schönherr in Florida (Coleoptera: Curculionidae)

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Abstract. Four species of *Anchonus* Schönherr occur in Florida: *A. floridanus* Schwarz, *A. duryi* Blatchley, *A. blatchleyi* Sleeper, and *A. suillus* (Fabricius), which is recorded from Florida and the continental United States for the first time. The species are distinguished in a key and illustrated. A lectotype is selected for *A. floridanus*.

Introduction

The predominantly Neotropical weevil genus *Anchonus* Schönherr is represented in Florida by three endemic species and a widespread Caribbean species that occur mostly in the coastal counties of the southern part of the state. They are frequently collected in association with driftwood, in which they are known to breed (Kovarick and O'Brien, unpublished data), and in the litter of coastal hardwood hammocks. Larvae of *Anchonus* were described from the Canal Zone attacking telephone poles and from the Bahamas in dead mulberry wood (Andersen 1952).

Jean-François Voisin has published extensively recently on the tribe Anchonini, but has not yet dealt in detail with *Anchonus* (*sens. str.*). Voisin (1992) retained the four Florida species in *Anchonus* (*sens. str.*), along with 15 Neotropical species, but assigned them to two different species groups, depending on the presence or absence of a tubercle at the apex of the elytra.

Specimens are difficult to identify. The literature pertaining to the Florida species consists of isolated species descriptions; there are no keys and the sole illustration (Blatchley and Leng 1916) is of poor quality and could apply to more than one species. Compounding the problem is the fact that adults usually are covered with a thick brownish-grey incrustation which obscures surface characters (fig.

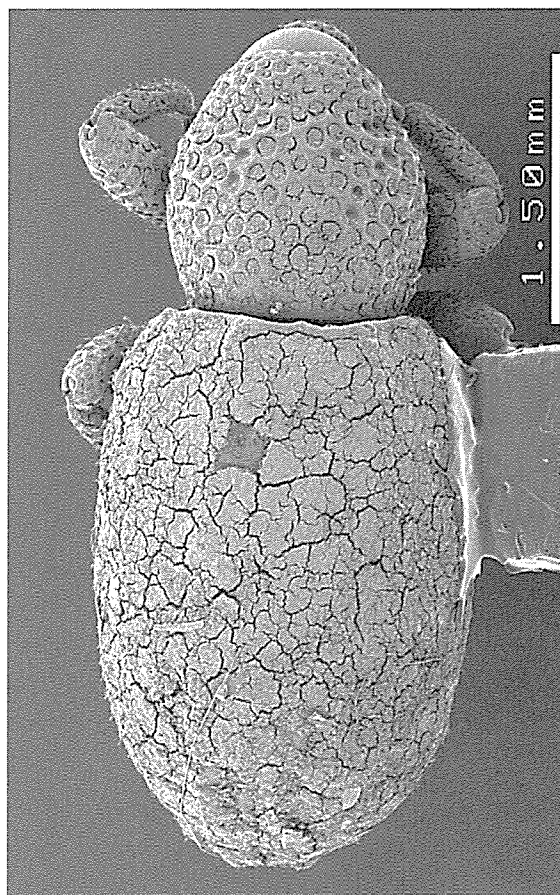
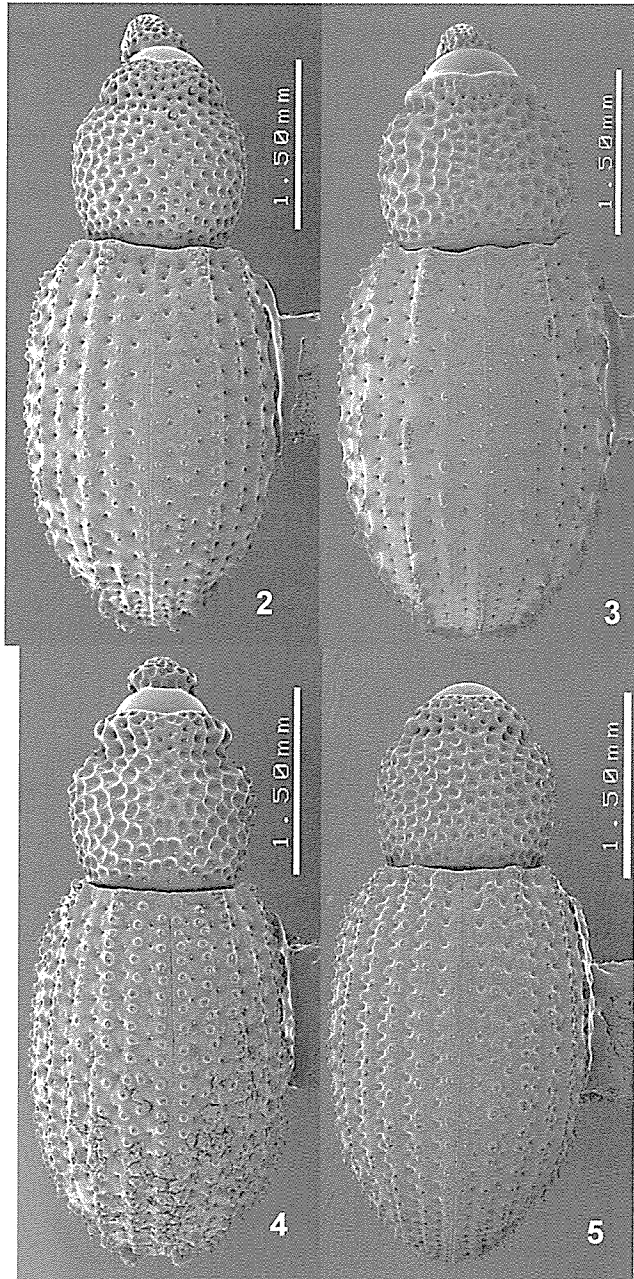


Figure 1. Incrustated specimen of *Anchonus* sp. Note how incrustation obscures virtually all surface features.



Figures 2-5. *Anchonus* spp., habitus, dorsal view. 2. *A. blatchleyi*; 3. *A. floridanus*; 4. *A. duryi*; 5. *A. suillus*.

1). To remedy this situation, we undertook a study of the large number of specimens in the Florida State Collection of Arthropods (FSCA) and the collection of the second author (CWOB).

Materials and Methods

Study material consisting of 1725 Florida specimens came from the Florida State Collec-

tion of Arthropods and from the private collection of C.W. O'Brien, except for a small series of *Anchonus suillus* from the collection of R.H. Turbow, Jr., Enterprise, AL. The type series of *A. floridanus* Schwarz from the U.S. National Museum of Natural History was examined and a lectotype designated.

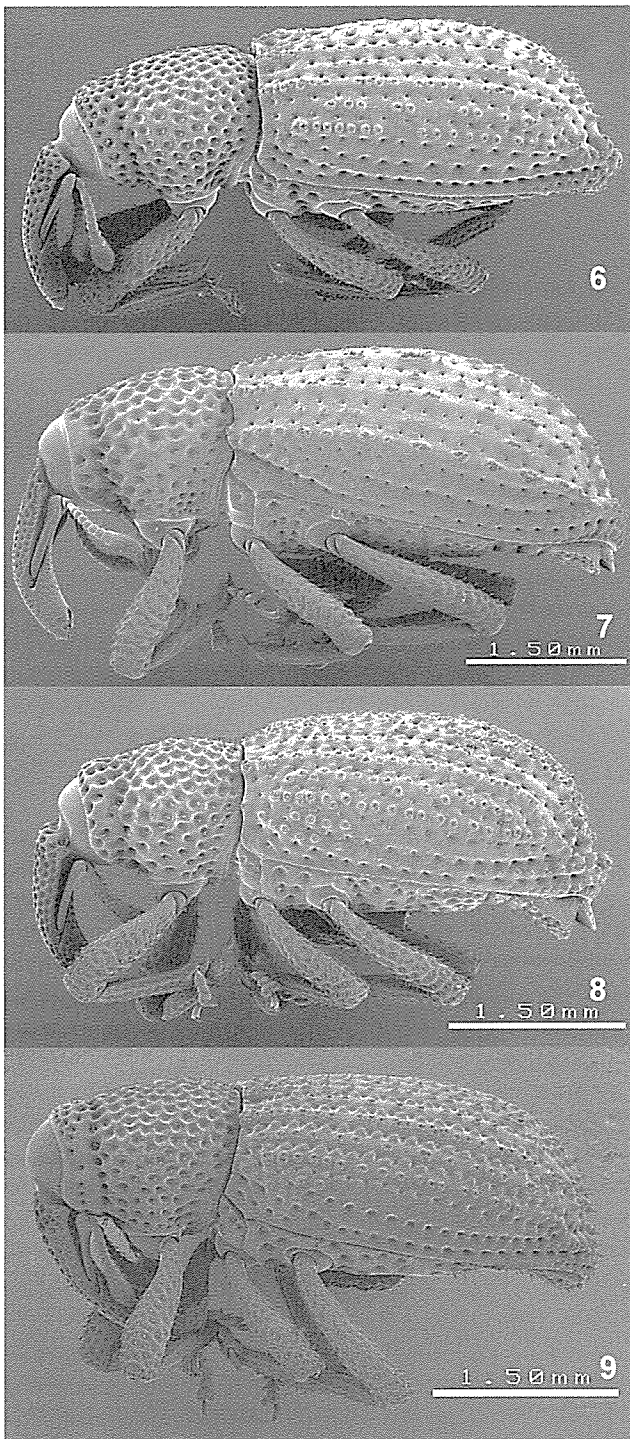
To remove the incrustation, specimens were boiled in dilute detergent solution, brushed, and then placed in an ultrasonic cleaner to remove the last bits of crust. The adults are quite robust and will take fairly rough treatment without apparent damage. The genitalia were examined for both sexes of each species by removing the abdomen of relaxed specimens, and treating the contents in a solution of KOH at room temperature until the soft tissue disappeared. Genitalia were mounted in a drop of dimethyl hydantoin formaldehyde on a paper card pinned beneath the specimen. Drawings were done under a dissecting microscope fitted with a camera lucida. Specimens prepared for scanning electron microscopy were gold sputter-coated.

Results

After cleaning, there are abundant surface characters visible which distinguish the four Florida species, as well as distinct genitalic differences, especially in the spermatheca of the female. Once familiar with the characters, even moderately incrustated specimens can be identified without cleaning although heavily incrustated specimens still will need to be cleaned.

Key to adults of the Florida species of *Anchonus*

- 1. Base of rostrum not to moderately incised (fig. 7, 9); elytral apices without tubercle (fig. 3, 5, 7, 9, 11, 13) 3
- Base of rostrum deeply incised (fig. 6, 8); elytral apices with tubercle (fig. 2, 4, 6, 8, 10, 12) 2
- 2(1). All intervals more or less regularly, evenly tuberculate; scutellar area of elytra not impressed (fig. 4, 8); surface between pronotal punctures subcarinate, shining (fig. 4); spermatheca as in fig. 16 *Anchonus duryi* Blatchley
- All intervals not more or less regularly, evenly tuberculate (fig. 2, 6); sutural interval flat basally; 3rd and 5th intervals elevated basally;



Figures 6-9. *Anchonus* spp., habitus, lateral view. 6. *A. blatchleyi*; 7. *A. floridanus*; 8. *A. duryi*; 9. *A. suillus*.

surface between pronotal punctures rounded, dull (fig. 2); spermatheca as in fig. 14 *Anchonus blatchleyi* Sleeper

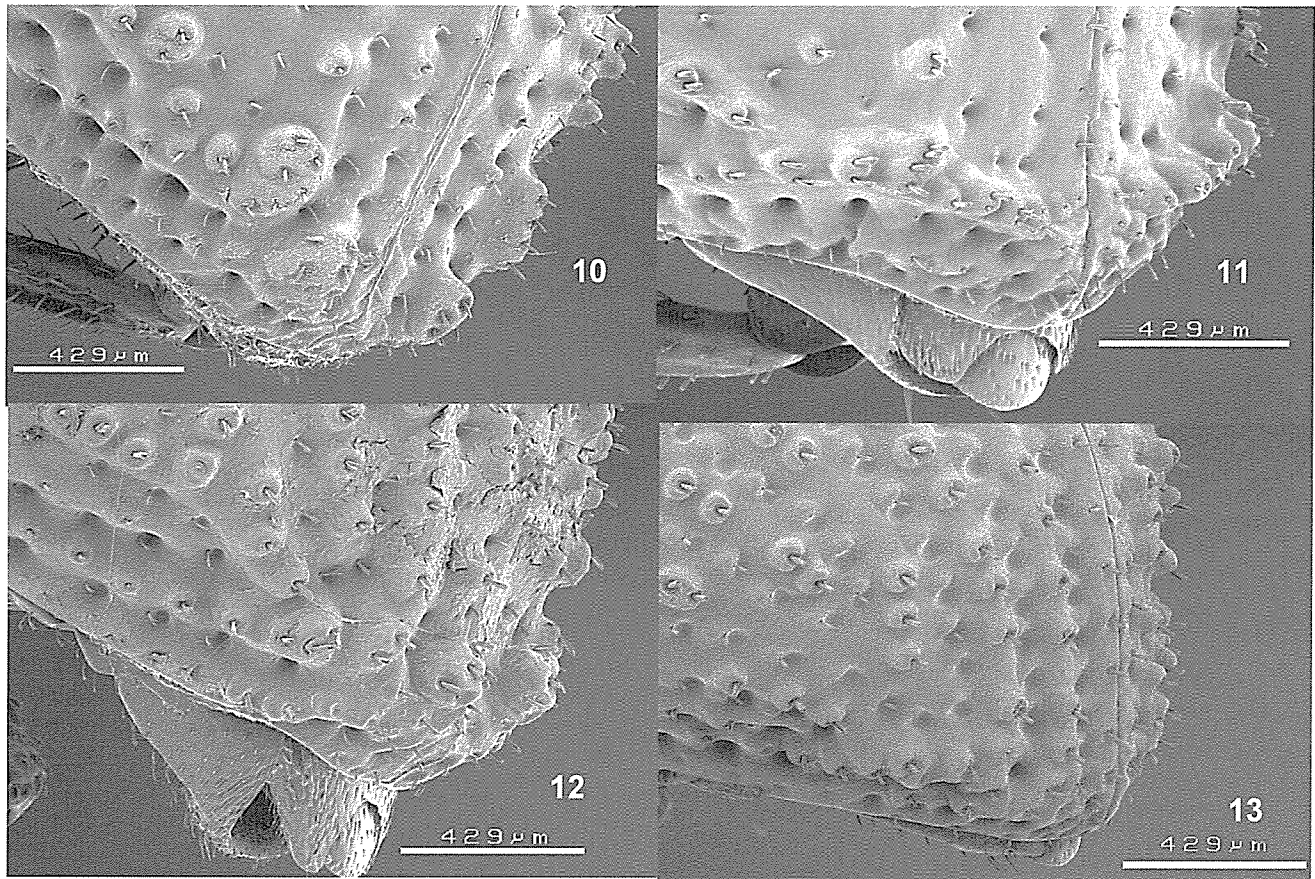
- 3. 3rd and 5th intervals strongly elevated throughout; tubercles throughout often elongate, with multiple erect setae (fig. 3, 7); spermatheca as in fig. 15 *Anchonus floridanus* Schwarz
- 3rd and 5th intervals barely elevated basally; 2nd and 4th intervals tuberculate throughout; most tubercles discrete with a single erect seta (fig. 5, 9); spermatheca as in fig. 17 *Anchonus suillus* (Fabricius)

Anchonus floridanus Schwarz 1896: 42 - This species was described from "Cocoanut Grove, Fla., on the inner shore of Biscayne Bay." We have seen 545 specimens from the following Florida counties and localities: **Dade**: Miami; Matheson Hammock; **Indian River**: Vero Beach; **Monroe**: Key West; Big Pine Key; 5 mi N. Flamingo, Snake Bight Trail. **Months collected**: II, III, V, VI, VII, VIII, X, XI, XII. **Habitat data**: under driftwood; sweeping weeds; in wine cellar. Schwarz (1896) reported it as occurring "...in great abundance...under deep layers of seaweed."

Type specimens: Lectotype male, here designated and so labelled, in USNM, "Biscayne Fla 4.5"/"CollHubbard & Schwarz"/"Type No. 4236 U.S.N.M."/"*Anchonus floridanus* Sz." [black on red]; 7 paralectotypes, as follows: 2, same data as lectotype; 2, same except date "13.5"; , same except date "21.5"; 1, same except date "30.4"; 1, same except date "26.4". There are six other specimens in the USNM labelled "Biscayne, Fla." that are not labelled as part of the type series.

Anchonus duryi Blatchley 1916: 521 - This species was described from Sarasota, West Palm Beach, and St. Petersburg. We have seen 615 specimens from the following Florida counties and localities: **Dade**: Fairchild Tropical Gardens; Matheson Hammock; **Indian River**: Roseland; **Martin**: Jensen Beach; **Monroe**: Bahia Honda Key; Big Pine Key, Boca Chica Key; Upper Sugar Loaf Key; **Palm Beach**: Palm Beach Is. **Months collected**: III, IV, V, VI, XI. **Habitat data**: in sand and debris near ocean beach; *Hymenocallis* sp.; sweeping; under driftwood; under board on dunes; *Helianthus debilis*.

Anchonus blatchleyi Sleeper 1954: 185 - This species was described from four specimens, two from "Dade Co. (near Matheson Hammock)" and two with label data of "Dade Co." only. We have seen 262 specimens, including one of the paratypes, from the



Figures 10-13. *Anchonus* spp., oblique view of elytral apices. 10. *A. blatchleyi*; 11. *A. floridanus*; 12. *A. duryi*; 13. *A. suillus*.

following Florida counties and localities: **Broward**: Hallandale; Plantation; **Collier**: Naples; **Dade**: Brickle Hammock; Coral Gables; Fairchild Tropical Gardens; Homestead; Matheson Hammock; Miami; Miami Beach; Montgomery Botanical Center; North Miami Beach; **Indian River**: Vero Beach; **Martin**: Jensen Beach; **Monroe**: Big Pine Key; Stock Island; **Palm Beach**: Boca Raton; West Palm Beach. **Months collected**: II, IV, V, VI, VII, VIII, IX, X, XI, XII. **Habitat data**: in house; in house around baseboards; under bark; *Dracaena marginata*; in bathroom; *Scaevola plumieri*; *Syzygium jambos*; in roots and soil about roots of turnips; Berlese Sabal palm litter; Berlese Brazilian pepper and Sabal palm litter; under dead branches *Schinus* (Brazilian pepper).

Of the four Florida species, *A. blatchleyi* usually is collected away from the immediate area of the shoreline or beach. It is not normally associated with driftwood. Specimens have been collected miles from the coast (e.g., Homestead). This species has been collected repeatedly inside buildings, some-

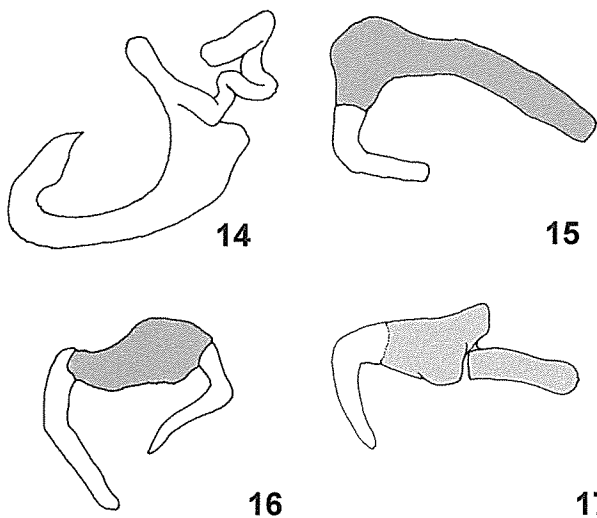
times in numbers. We feel that such infestations may be the result of weevils ovipositing in construction lumber left lying on the ground during construction.

Anchonus suillus (Fabricius) 1792: 402 - Adults of this species superficially resemble those of *A. duryi* in their regularly tuberculate elytra, but they differ in the less incised rostral base and lack of apical elytral tubercles. The female spermatheca also is diagnostic. It has been recorded from the Bahamas, Cuba, Dominican Republic, Guadeloupe, Puerto Rico, and St. Barthelemy (O'Brien and Wibmer 1982). It has not been recorded previously from Florida. Whether it occurs naturally in Florida, having dispersed without the aid of humans (e.g., via driftwood), or whether it was introduced unintentionally, perhaps in soil with plants from the Caribbean, is unknown.

The earliest Florida specimens known to us were collected in Key West in 1953. We have seen 303 Florida specimens of this species from the following counties and localities: **Dade**: Key Biscayne;

counties and localities: **Dade**: Key Biscayne; Fairchild Tropical Gardens; Matheson Hammock; Montgomery Botanical Center; **Indian River**: Vero Beach; **Monroe**: Big Pine Key; Key West; Marathon; **Palm Beach**: Palm Beach Island. **Months collected**: II, IV, V, VI, VIII, X, XI, XII; **Habitat data**: under driftwood; under dead branches *Schinus* (Brazilian pepper); under board on dunes; sweeping; berlese sifted Sabal palm hardwood shrub; from soil and leaf litter below *Ficus aurea*.

Acknowledgements



Figures 14-17. *Anthonus* spp., spermathecae. 14. *A. blatchleyi*; 15. *A. floridanus*; 16. *A. duryi*; 17. *A. suillus*.

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