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The Primitive Weevils of Florida (Coleoptera: Brentidae: Brentinae)[1]

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INTRODUCTION: The Brentinae (Brentidae of earlier authors) or primitive weevils is a relatively small, primarily tropical group represented in the eastern United States by only four species, three of which are restricted to extreme southern Florida. The fourth species ranges from Florida north to Canada and is sometimes an economic pest of oaks. The family recently has been redefined (*e.g.*, Anderson 1992) and now includes several other groups formerly treated as separate families or included in the Curculionidae. The species treated here all belong to the subfamily Brentinae and comments refer to the members of that subfamily only.

IDENTIFICATION: Primitive weevils are usually extremely elongate with straight snouts and non-elbowed antennae. Adults are usually medium-sized beetles, with one Florida species attaining a length of more than 50 mm, and often exhibit striking sexual dimorphism. Larvae possess legs, unlike most other weevil larvae, and are very elongate. The only eastern US species whose larva has been described is *Arrhenodes minutus* (Drury). All four Florida species belong to different tribes and different genera; Warner (1960) and Arnett (1973) provide keys to the US genera. The Florida species can easily be identified using the illustrations. Distribution records were compiled from Anderson (1992) and specimens in the Florida State Collection of Arthropods.

***Brentus anchorago* Linell.** Length, 15 mm - 52 mm. Color black with longitudinal yellow marking on elytra. Males and females are strikingly different (Fig. 1).

This widespread Neotropical species is known from Dade and Monroe counties in Florida. It seems to be primarily associated with gumbo-limbo, *Bursera semiruba* L. (Sarg.), throughout its range. Larvae bore in dead wood and adults sometimes occur in large numbers under the bark of dead logs. Specific Florida localities are: **Dade**: Miami, Matheson Hammock, Castellow Hammock, Royal Palm Hammock (Everglades National Park); **Monroe**: Key Largo, Elliot's Key, Islamorado, Key West.

***Paratrachelizus uncimanus* (Boheman).** Length, 11 mm - 20 mm. Color reddish-brown, legs darker (Fig. 2). There is sexual dimorphism exhibited in the beak and elytral apices, but it is not as dramatic as that exhibited by *B. anchorago*. A female is figured; in the male the apex of the rostrum is expanded laterally and the elytral apices are prolonged.

This species has been recorded from Cuba and the West Indies. It apparently occurs only in the Keys in Florida. I have seen specimens from Key Largo, and Anderson (1992) recorded specimens from Big Pine Key and Elliot's Key. It has been collected at light and in flight-intercept traps. Two specimens were collected feeding on the fruits of *Solanum erianthum* D. Don (Anderson 1992); there are two specimens in the Florida State Collection of Arthropods collected on *Flaveria linearis* Lag., a native composite, and one on *Thuja* sp., an exotic gymnosperm.

***Arrhenodes minutus* (Drury)**, the oak timberworm. Length, 13 mm - 35 mm. Color red-brown with yellow markings on elytra. Males and females are strikingly different (Fig.).

This is the only species for which detailed biological information is available. Not coincidentally, this species is an economic pest of oaks in the eastern U.S. It infests oaks, especially black and scarlet oaks, elm, poplar, beech, and aspen. "Economically damaging losses are primarily to standing timber grown for wood products . . . losses result from the small wormholes made by feeding larvae" (Solomon 1995). Beetles are attracted to wounds on living trees and oviposit only on exposed wood; up to 78 percent of wounded trees in one study were attacked (Buchanan 1960). Life cycle requires three years for most individuals, but development time ranged from two to four years (Buchanan 1960). Males are territorial and guard females during egg-laying; battles between males sometimes last 10 minutes or more, with the victor assuming the job of guarding the female (Sanborne 1983). Riley (1874) reported that the male helped the female remove her beak if stuck in the wood while drilling an egg hole by "stationing himself at a right angle with her body and pressing his heavy prosternum

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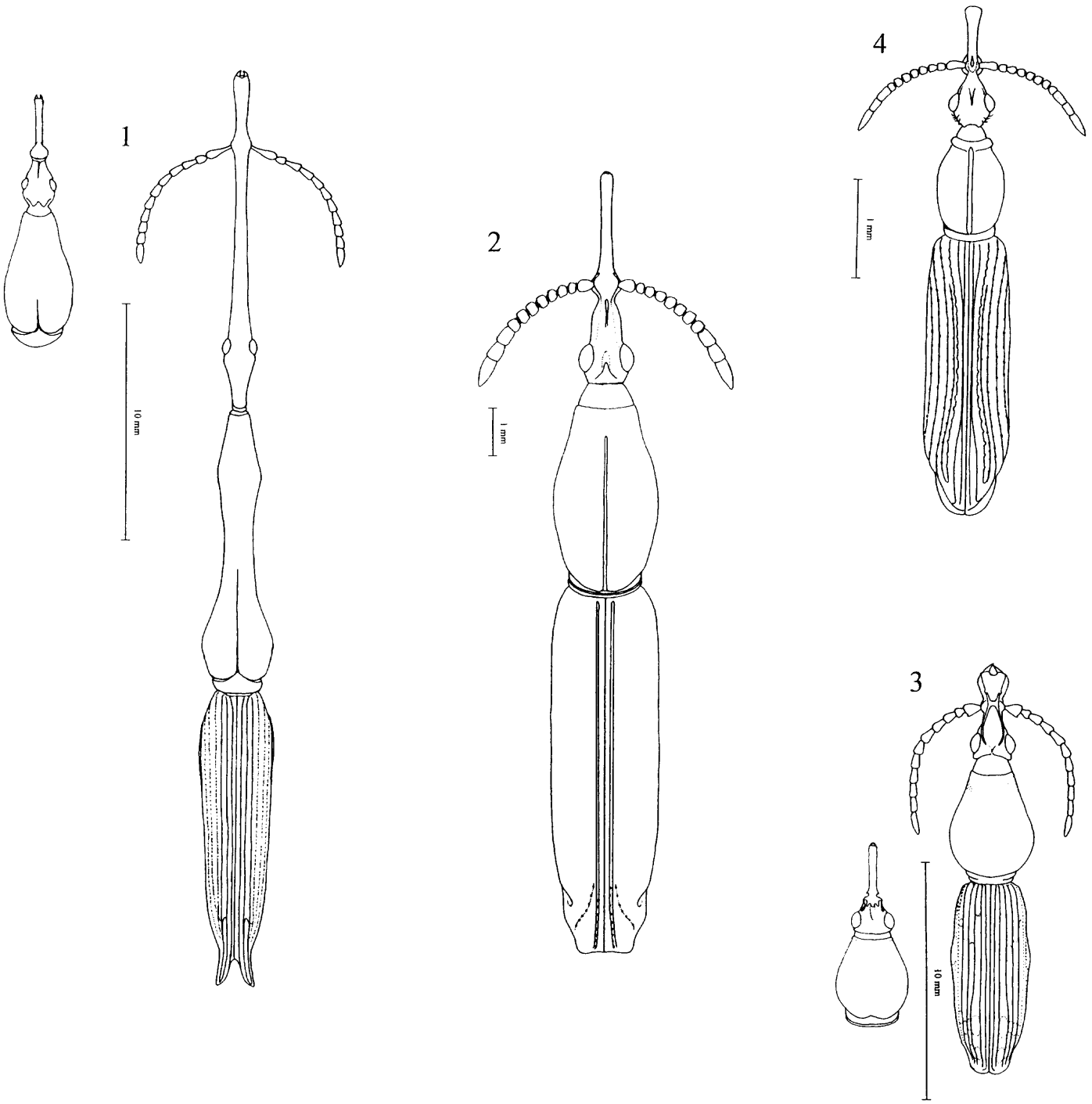

Figures 1-4. Fig. 1) *Brentus anchorago* Linell, male habitus, female head and prothorax; 2) *Paratrachelizus uncimanus* (Boheman), female habitus; 3) *Arrhenodes minutus* (Drury), male habitus, female head and prothorax; 4) *Stereodermus exilis* Suffrian, habitus.

against the tip of her abdomen, her stout fore legs thus serving as a fulcrum and her long body as a lever." This is one of very few instances of tool use by insects. However, Sanborne (1983) did not observe this behavior. These beetles also serve as vectors for oak wilt fungus (*Ceratocystis fagacearum* (Bretz) Hunt) (Solomon (1995).

This species ranges from southeastern Canada, throughout the eastern US to Florida. Specific Florida localities are: **Alachua**: Gainesville; **Columbia**: Lake City; **DeSoto**: 1 mile west of Brownville; **Dixie**: 3.5 miles north of Old Town, Pine Landing; **Gadsden**: Hardaway; **Lake**: Clermont; **Leon**: Tall Timbers Research Station; **Okaloosa**: Ft. Walton Beach, Shalimar; **Orange**: Windermere; **Polk**: Lake Garfield. Adults have been collected in Florida from February through November.

***Stereodermus exilis* Suffrian**. Length, 5 mm - 7 mm. Color brown without markings. No sexual dimorphism present (Fig. 4).

All the specimens I have seen of this rarely collected species were collected at light. Anderson (1992) also recorded specimens taken in flight-intercept traps and in Berlese samples of leaf litter from hardwood hammocks. Nothing is known of its biology or immature stages. It occurs also in the West Indies (Anderson 1992). Warner (1960) first recorded it from Florida based on specimens from Key West. Other localities include: **Dade**: Camp Mahachee; **Monroe**: Key Largo, Long Key State Recreation Area, Stock Island.

LITERATURE CITED

Anderson, R. 1992. Curculionoidea of southern Florida: An annotated checklist (Coleoptera: Curculionoidea [excluding Curculionidae: Scolytinae, Platypodinae]). Insecta Mundi 6(3-4): 193-248.

Arnett, R.H., Jr. 1973. The beetles of the United States. American Entomological Institute. Ann Arbor, Mich. 1112 pp.

Buchanan, W.D. 1960. Biology of the oak timberworm, *Arrhenodes minutus*. Journal of Economic Entomology 53(4): 510-513.

Blatchley, W.S., and Leng, C.W. 1916. Rhynchophora or weevils of north eastern America. The Nature Publishing Co., Indianapolis. 682 pp.

Riley, C.V. 1874. The northern brenthian - *Eupsalis minutus* (Drury). (Ord. Coleoptera; Fam. Brenthidae). Sixth Annual Report on the Noxious, Beneficial, and Other Insects, of the State of Missouri. Began and Carter. Jefferson City. 169 pp.

Sanborne, M. 1983. Some observations on the behaviour of *Arrhenodes minutus* (Drury) (Coleoptera: Brentidae). The Coleopterists Bulletin 37(2): 106-113.

Solomon, J.D. 1995. Guide to insect borers in North American broadleaf trees and shrubs. U.S. Department of Agriculture Forest Service. Washington, D.C. Agriculture Handbook AH-706. 735 pp.

Warner, R.E. 1960. The genus *Stereodermus* new to America north of Mexico with a revised key to the genera of Brentidae. The Coleopterists Bulletin 14: 29.