Two newly detected bark and ambrosia beetles from southern Florida
(Coleoptera: Curculionidae, Scolytinae)

THOMAS H. ATKINSON¹, ROBERT J. RABAGLIA² & ANTHONY I. COGNATO³

¹5005 Red Bluff Road Austin, TX 78702. E-mail: thatkinson@pestmanagementresearch.com
²USDA Forest Service, Forest Health Protection, 1601 N Kent St, RPC–7 Arlington, VA 22209
³Department of Entomology, Michigan State University, 243 Natural Science Bldg. East Lansing, MI 48824

Abstract

Coptoborus pseudotenuis (Schedl) and Cryptocarenus diadematus Eggers, two species of Neotropical Scolytinae, are reported from Florida and the U.S. for the first time. This is the first report of the genus Coptoborus from the U.S. We provide descriptions, figures, distribution maps and keys.

Specimens collected in southern Florida of Coptoborus pseudotenuis (Schedl) and Cryptocarenus diadematus Eggers were recently found in Florida State Collection of Arthropods and via the USDA Forest Service survey for non-native scolytines (Rabaglia et al. 2008). These widespread Neotropical species of Scolytinae have not been reported previously from the United States.

At first glance, these would appear to be two more entries on the growing list of introduced exotic bark and ambrosia beetles detected in the U.S. (Haack 2006, Rabaglia et al. 2006). While it is possible that they have been introduced, it is also just as plausible that they have been present for much longer or might even occur in southern Florida naturally (i.e., without any human intervention: sensu Atkinson and Peck 1994). Most species of Scolytinae are very small (< 2mm), not attracted to light traps and seldom collected outside their host plants. Consequently, most species are rarely collected and it is possible that these two species have been overlooked until now. As an example, Peck (1989) was the first to use flight intercept traps extensively in southern Florida, resulting in detection of several undescribed species, numerous new records from Florida, as well as the first records in over 100 years of some uncommonly collected species (Atkinson et al. 1991, Atkinson and Peck. 1994). Recent USDA Forest Service and APHIS programs to detect non-native bark and ambrosia beetles utilizing funnel traps baited with ethanol or pheromone lures (Rabaglia et al. 2008) are accelerating the discovery of new records and range extensions of seldom collected native species (unpublished observations). In summary, whether or not these are recent introductions can probably not be resolved at this time.

The following abbreviations are used for museums where specimens are deposited: FSCA (Florida State Collection of Arthropods), MSUC (Michigan State University Collection).

Coptoborus pseudotenuis (Schedl)
(Figs. 1–4)

Xyleborus pseudotenuis Schedl 1936: 109
Xyleborus tenuis Schedl 1948: 269 (Synonymy: Wood 1976a)

Diagnosis. This small xyleborine ambrosia beetle is most easily distinguished from relatives found in the U.S. by the elytra which are tapered posteriorly (Figs. 3, 4). The presence of 2 sutures on the posterior face of the
antennal club is diagnostic and is shared only with *Theoborus* and *Dryocoetoides* (Atkinson, 2009) among genera known from the U.S. The genus *Coptoborus* (Hulcr et al. 2007) includes 10 Neotropical species, of which *C. pseudotenuis* is the most widely distributed (Fig. 5). This species is a polyphagous inbreeding ambrosia beetle.


**Description.** Female: 1.8–2.2 mm long, 2.9 times as long as wide. Color yellowish brown. Frons convex, surface reticulate, shining. Punctures in central area between eyes sparse, shallow. Frontal vestiture of fine, sparse setae, most abundant near epistomal margin. First segment of antenna corneous, occupying less than 1/3 of club; 2nd and 3rd segments pubescent. Antennal sutures almost straight, slightly recurved. Pronotum 1.16 times as long as wide, anterior margin rounded, unarmed. Summit in middle of pronotum. Anterior asperities low, less pronounced in postero-lateral areas, forming triangular area. Disc smooth, shining, punctures shallow. Elytra 1.6 times as long as pronotum. Sides parallel on basal 2/3, tapering to approximately 1/3 of maximum width at narrowly rounded apex. Striae not impressed, punctures small. Interstriae nearly flat, shining on disc and declivity, 3–4 times as wide as striae. Vestiture of erect, uniseriate interstrial setae and recumbent strial setae, becoming more abundant posteriorly and on declivity. Declivity gradual, convex in profile, conspicuously narrowed behind in dorsal view. Interstria 2 slightly impressed, 1 and 3 with 3–5 small granules or denticles. Apical margin of interstriae 1–2 elevated, with 1–3 small granules.

Male: not known.

**Distribution.** Florida: Broward Co., Ft. Lauderdale, IFAS Research & Education Center, 6–V–2004, ex *Delonix regia* “with fungus”, S. Ortiz (1, FSCA). The single specimen was reared out along with several other species of ambrosia beetles (*Theoborus ricini* (Eggers), *Euwallacea fornicatus* (Eichhoff), *Ambrosiodmus lecontei* Hopkins, *Premnobius cavipennis* Eichhoff, and *Xyleborus ferrugineus* (F.)). Florida: Palm Beach Co.,
West Palm Beach, Winding Waters Natural Area, 30–IV–2008, Lindgren funnel trap baited with ethanol lure, B. Mayfield (1, MSUC). This species is known from lowland areas of Mexico, Costa Rica, Panama, Venezuela and Brazil.

The following modified key to genera of Xyleborina of the U. S. is based on Rabaglia et al. (2006). In addition to Coptoborus, three genera are added to the key: Anisandrus, following resurrection of the genus for several native and exotic species (Hulcr et al. 2007) plus newly detected exotic species (Rabaglia et al. 2009); Ambrosiophilus, a new genus for certain previously established exotic species (Hulcr and Cognato, 2009); and Dryocoetoides, to include a new species for Florida (Atkinson, 2009).

**FIGURE 5.** Known collection localities for Coptoborus pseudotenuis in the Caribbean Basin. Also known from Brazil (Wood and Bright 1992a).

**Key to Genera of Female American Xyleborina North of Mexico**

1. Antennal club strongly flattened, basal corneous area small, its margin procurred; pregula expanded and flush with ventral surface of head .......................................................... Premnobius
   - Antennal club obliquely truncate, not strongly flattened, basal corneous portion larger, margin recurved; pregula impressed ........................................................................................................................................... 2

2 (1). Scutellum conical, base of elytra at suture notched, with abundant setae .......................................................... Xyleborinus
   - Scutellum moderately large, its surface flush with adjacent elytra, glabrous ........................................................................................................................................................................... 3

3 (2). Procoxae moderately to widely separated, intercoxal piece continuous, not longitudinally emarginate........................
   - Procoxae contiguous, intercoxal piece longitudinally emarginate .................................................................................................................. 4

4 (3). Posterior face of antennal club marked by two sutures on apical third; anterior face with segment two comparatively large, sclerotized, slightly recurved sutures. ........................................................... 5
   - Posterior face of antennal club with no sutures visible at or near apex, anterior face with segment 2, if visible, not sclerotized, strongly recurved ........................................................................................................ 7

5 (4) Posterior 1/3 of elytra narrowed or acuminate, narrowly curved behind, suture weakly to strongly emarginated ....
   - Posterior of elytra parallel sided, broadly rounded behind; suture not emarginated .......................................................................................................................... 6

6 (5) Posterior face of protibiae smooth. .......................................................................................................................... Theoborus
   - Posterior face of protibiae rugose ........................................................................................................................................................................ Dryocoetoides

7 (4). Antennal club distinctly obliquely truncate, with segment 1 corneous, its distal margin forming a complete circle extending from anterior face to apex, suture on apical area of posterior face not visible, segment 2 on anterior face not visible ..........................
Cryptocarenus diadematus Eggers

Cryptocarenus diadematus Eggers 1937: 80

Diagnosis. Cryptocarenus consists of 13 Neotropical species (Wood and Bright 1992b). Most are borers of twigs and small-diameter host material and are not host specific. Two other species are known from the U.S., from Florida and southern Texas. C. diadematus is most easily distinguished from the other species known from the U.S. by its larger size and the numerous teeth on anterior margin of pronotum.

Description. Female: Length 2.3 – 3.0 mm; approximately 2.7 times as long as wide. Color yellowish to reddish brown. Frons convex, with a low, longitudinal median elevation above upper level of eyes. Surface coarsely granulate-punctate, becoming longitudinally rugose above eyes. Frontal vestiture sparse. Anterior margin of pronotum with 14–16 teeth, approximately equal in size. Prominent gap immediately behind marginal teeth before numerous anterior rugosities begin and continue to summit. Abundant, erect, hairlike setae interspersed with asperities on anterior area. Pronotal rugosities form a distinct triangular pattern. Posterior and lateral areas of pronotum, smooth, shining. Elytra 1.7 times as long as wide, 1.6 times as long as pronotum. Sides parallel, broadly rounded behind. Elytral surface smooth, shining on disc and declivity. Strial punctures distinct but shallow, interstrial punctures weak or absent. Declivity steep, convex. Vestiture consists of sparse, erect, spatulate interstrial setae. Setae longer and more abundant on declivity, especially on odd-numbered interstriae.

Male: Similar to female in color and proportions, but smaller (1.4 mm long).

Distribution: (Fig. 9). Florida: Palm Beach Co., West Palm Beach, Pine Jog Env. Educ. Ctr., 20–IX–2003, Lindgren funnel trap baited with ethanol, S. Krantz (2, FSCA). This species is known from lowland Mexico, Central America, Jamaica, Colombia, Venezuela, and Brazil.

The following key is modified from Wood (1982).

Key to species of Cryptocarenus found in the U.S.

1. Anterior margin of pronotum armed with 10–24 teeth; frons convex (Fig.6). 2.3–3.0 mm ...... diadematus Eggers
   - Anterior margin of pronotum armed with 5–9 teeth; frons impressed or concave above epistoma (Figs. 7,8). ...... 2

2 (1). Row of 5 longitudinally elongate tubercles at upper level of eyes; median one largest, extended dorsad (Fig. 7). 2.0–2.4 mm .......................................................... seriatus Eggers
Frons coarsely punctate, longitudinally strigose, only 1 well defined tubercle at upper level of eyes (Fig. 8). 1.4–1.8 mm. 

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FIGURE 9. Known collection localities for *Cryptocarenus diadematus* in the Caribbean Basin. Also known from Brazil (Wood and Bright 1992b).

Literature cited


