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Description of a new species of *Plesioclytus* Giesbert (Coleoptera: Cerambycidae: Cerambycinae) from Georgia, and transfer of the genus to Plesioclytini Wappes and Skelley, new tribe

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Abstract. *Plesioclytus morrisi* Wappes and Skelley **new species** (Coleoptera: Cerambycidae) from the Ohoopee dune system in central Georgia is described with comments on the biology of the new species. The taxonomic placement of *Plesioclytus* Giesbert in the tribe Clytini is questioned as key characters are found to differ from the current characters used to define the tribe in the New World, resulting in its transfer to the newly erected Plesioclytini Wappes and Skelley **new tribe,** defined herein. Habitat photos for the new species and habitus photos for it and *P. relictus* Giesbert are provided.

Key Words. Clytini, Plesioclytini, new tribe, adult hosts: *Chrysoma* and *Licania*.

Introduction

Collecting by Roy Morris in the relict sand dune system along the Ohoopee River (Fig. 8-9) in Emanuel and Tattnall counties of Georgia led to the discovery of a second species of *Plesioclytus* Geisbert, 1993 (Coleoptera, Cerambycidae). The first, *Plesioclytus relictus* Giesbert, 1993, was described from Florida with the holotype and allotype collected at the Archbold Biological Station in Highlands County. This location is in the southern end of the Lake Wales Ridge, a line of relict sand dunes in south-central Florida (Giesbert 1993). The new species, *P. morrisi*, like its predecessor, is diurnally active and has been found sitting on stems or flowers of low growing plants, including *Chrysoma pauciflosculosa* (Michx.) (Asteraceae), and *Licania michauxii* Prance (Chrysobalanaceae). Both species appear to be restricted in their distribution to widely separated (more than 600 km) relict sand dune systems.

Species of this genus have a unique combination of characters and the placement of *Plesioclytus* in the Clytini by Giesbert (1993) significantly changes the current definition of that tribe in the New World. Instead, a new tribe, based on differences in the key characters utilized by Linsley (1962) for the North American Clytini fauna, and Martins (2011) for the South American Clytini fauna is proposed. Although Clytini is a large and diverse worldwide tribe composed of more than 900 species and at least 87 genera no attempt is made to review the character makeup of genera or species outside the New World. That is clearly beyond the scope and purpose of this paper. It is recognized that there may well be genera in other geographical areas that have similar unique characters to the *Plesioclytus* and perhaps could be placed in the Plesioclytini or, if necessary, into other new tribes. However, that does not change the rational for proposing a new tribe for *Plesioclytus* based on its own uniqueness and differences with New World Clytini.

Materials

Specimens studied are deposited in the following collections:

ACMT – American Coleoptera Museum (James E. Wappes), San Antonio, TX, USA
CMNH – Carnegie Museum of Natural History, Pittsburgh, PA, USA
EMEC – Essig Museum of Entomology (University of California), Berkeley, CA, USA
FSCA – Florida State Collection of Arthropods**,** Gainesville, FL, USA
MNRJ – Museu Nacional, Universidade Federal do Rio de Janeiro, RJ, BRAZIL
MZSP – Museu de Zoologia da Universidade de São Paulo, SP, BRAZIL
RFMC – Roy F. Morris, II, Lakeland, FL, USA
RHTC – Robert H. Turnbow, Jr., Enterprise, AL, USA
UGAC – University of Georgia Arthropod Collection, Athens, GA, USA
USNM – National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Taxonomic placement

In the process of determining the proper taxonomic placement for *Plesioclytus* both *P. relictus* and *P. morrisi* new species were worked through "Key to the Tribes of North American Cerambycinae" (Linsley 1962) where they ended in the Clytini. Consequently, they were also worked through, "Key to North American Genera of Clytini" (Linsley 1964) and as mentioned by Giesbert (1993) in his paper describing *P. relictus*, ended at *Clytus*, which they clearly are not, as also detailed by Giesbert in his comments on the need for a new genus. Further investigation as to their correct placement has revealed significant structural differences with characters used by Linsley (1964), to define and characterize the tribe Clytini for the North American fauna, and by Martins (2011), to do the same for the South American fauna. Significant differences between Clytini and *Plesioclytus*, using only character states to define the Clytini, used by these authors, are compared in Table 1.

An examination of 83 Clytini species representing 28 genera from the New World supports the above character comparison. The authors believe it would be inappropriate to modify the current definition of this very large tribe (35 genera and 321 species in the New World) for a single unique genus and thereby propose *Plesioclytus* be placed in a new tribe defined by its unique physical structure.

Plesioclytini Wappes and Skelley, new tribe

Type genus. *Plesioclytus* Giesbert 1993, by present designation and monotypy.

Defining characters. Procoxae, cavities closed, or nearly so, behind. **Antennae** much shorter than body, not attaining middle of elytra, without sulcus, carina or spines, distal antennomeres thickened, more so in the females, 11 segmented. **Prothorax** wider than long, evenly rounded, dorsal surface without tubercles or longitudinal granules. **Elytra** with carinate margins, moderately short, narrowed distally, dehiscent along suture (most specimens have the underlying wings and/or tergites exposed), apices rounded, lacking spines or spicules. **Legs** moderately short, metafemora subclavate, apices ending well short of elytral apices, unarmed at apex.

Generic assignment. *Plesioclytus* Giesbert, 1993 and its two species *P. relictus* Giesbert and *P. morrisi* Wappes and Skelley are assigned to Plesioclytini.

Plesioclytus Giesbert

Plesioclytus Giesbert 1993: 129. Bezark 2015: 76; Peck and Thomas 1998: 119.

Type species: *Plesioclytus relictus* Giesbert, 1993: 129, by original designation.

Table 1. Character state comparison

	Clytini	Plesioclytini
Procoxal cavities	clearly open behind	closed or very nearly so
Elytra	long, covering the abdomen, contiguous from base to apex	moderately short, in most specimens, divergent from near base to apex exposing underlying wings and tergites
Elytral apices	external angle always spined	clearly rounded without spines or spicules
Metafemoral length	long, metafemoral apices attaining, or nearly so, elytral apices	short, end at 2/3– 3/4 length of elytra
Metafemoral spines	clearly visible, long apical spines	unarmed

Redescription (modified from Giesbert 1993). Size small, length 4-9 mm. Body narrow, slightly compressed from near the humeri distally to apex. **Head** with front subvertical, not carinate. **Antennae** short, segments from sixth thickened, subserrate; female with distal segments more robust. **Pronotum** rounded, slightly wider than long, disk convex. Prosternal process narrow, procoxal cavities closed, or nearly so, behind; mesosternum with intercoxal process sloping, apically subtruncate; metasternum convex; metepisternum large, broadly subtriangular, wide at front, strongly tapering toward rear. **Elytra** elongate, apically flattened, dehiscent; apices separately rounded. **Abdomen** with pygidium clearly exposed, extending beyond elytral apices. **Legs** moderately short.

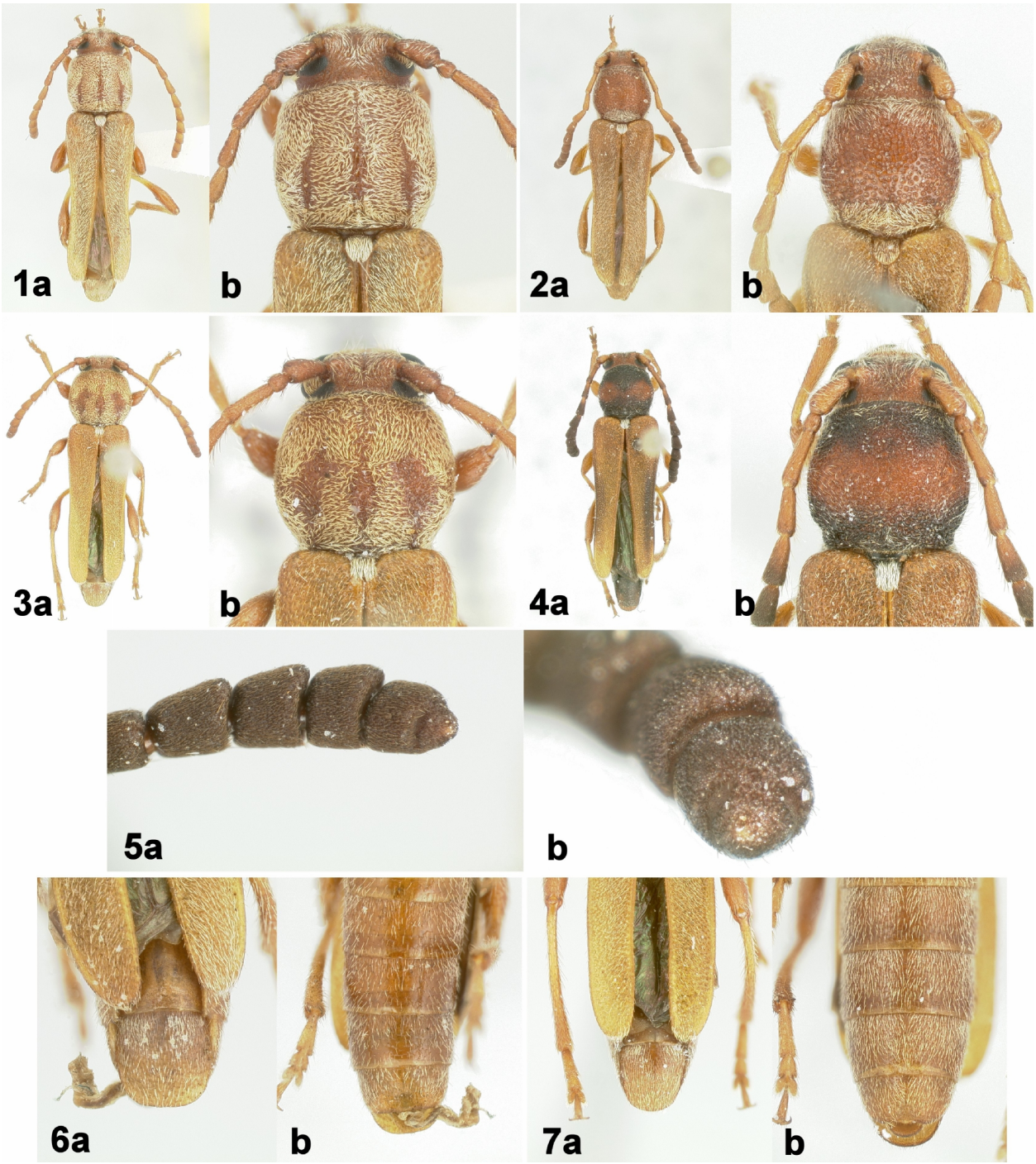
In Giesbert's 1993 description of *Plesioclytus* he stated: "antennae....with short, conical 12th segment cupped into apex of 11th segment." Later, in "Remarks" he commented on its relationship to *Clytus* Laicharting, 1784, adding: "....may be separated from that genus by the strongly sexually dimorphic antennae with an abbreviated 12th segment." However, a close examination of the last antennal segment in males and females of both *P. relictus* and *P. morrisi*, using the quality optics available today, indicates that this 12th segment is merely a modification of the 11th segment. What may appear as a dividing line on the 11th segment is a shallow incomplete trench or depression circling the tip (Fig. 5a-b) and not at all separate from it. Thus, there is no 12th antennal segment in *Plesioclytus*.

The sexes of *Plesioclytus* species can be separated readily by the appearance of the vestiture on the dorsal surface of the pronotum and by the pronotal width. Males of both species have densely, coarsely pubescent pronotum with medial width slightly wider than across the humeri. The pronotum of females is primarily devoid of coarse dorsal pubescence, with only a narrow pubescent band along the basal and apical margins, and the medial width of the pronotum slightly narrower than the humeri.

Plesioclytus morrisi Wappes and Skelley, n. sp.

(Fig. 1, 2, 6)

Diagnosis. Females of the two species are easily separated from each other by their color with *P. morrisi* uniformly pale orange-brown (Fig. 2a-b), while *P. relictus* females are similarly orange-brown, but also have contrasting dark brown to black areas on the head, pronotum and apical two-thirds of the elytra (Fig. 4a-b). *Plesioclytus relictus* females are also slightly larger and broader, including the distal antennomeres, than *P. morrisi*. Males are best separated by differences in the pubescent pattern of the pronotum. These patterns are composed of coarse pubescence, oriented in different directions, and bordered or separated by slightly shining impressions. In *P. morrisi* (Fig. 1a-b) the central third of the pronotum (from base to apex) has the pubescence oriented from side to side. This area is irregularly and narrowly delineated by slightly shining impressions, with the lateral pubescence outside this area oriented front to back. In *P. relictus* (Fig. 3a-b) the delineated area of primarily side to side oriented pubescence is confined to the basal half of the pronotum, with areas laterally and apically, covered in front to back oriented pubescence. Males of the two species can also be recognized by the shape of their last



Figures 1-7. *Plesioclytus* spp. **1**) *Plesioclytus morrisi*, paratype male, a) dorsal habitus, b) pronotal vestiture. **2**) *Plesioclytus morrisi*, allotype female, a) dorsal habitus, b) pronotal vestiture. **3**) *Plesioclytus relictus*, holotype male, a) dorsal habitus, b) pronotal vestiture. **4**) *Plesioclytus relictus*, allotype female, a) dorsal habitus, b) pronotal vestiture. **5**) *Plesioclytus relictus*, allotype female, a) distal antennomeres, b) tip of eleventh antennomere. **6**) *Plesioclytus morrisi* paratype male, a) fifth tergite (pygidium), b) fifth sternite. **7**) *Plesioclytus relictus* holotype male, a) fifth tergite (pygidium), b) fifth sternite.

abdominal tergite (pygidium) with *Plesioclytus morrisi* having a visibly wider and less rounded structure (Fig.6a-b) than *P. relictus* (Fig. 7a-b). They may also be separated simply by their geographic distribution.

Description. **Male** (Fig. 1a-b): Form small, elongate, feebly tapering. Integument unicolorous orange-brown. **Head** short; front and vertex longitudinally impressed in middle; coarsely, densely rugose-punctate, moderately sparsely golden pubescent, pubescence denser around eyes. **Antennae** (Fig. 1a) short, apices attaining mid-elytra, scape short, about twice as long as wide; third segment about 1.5 times as long as scape, fourth segment subequal in length to scape, remaining segments gradually decreasing in length, tenth segment subquadrate, eleventh segment nearly ringed with apical depression but not divided into another segment. **Pronotum** moderately inflated, broadly rounded, slightly wider than base of elytra; with three moderately large longitudinal discal impressions, one in middle, with irregular, longer and wider impressions on each side; entire surface densely, moderately coarsely, cribrate-punctate, clothed except on discal impressions with dense, subdepressed, coarse, golden pubescence, impressions with sparse, fine suberect setae. **Prosternum** short, moderately densely punctate, pubescence pale, suberect. **Metasternum** shining, moderately sparsely punctate, with pale golden pubescence somewhat less dense but longer than on prosternum. **Scutellum** subtruncate, densely clothed with longitudinally reclining, pale golden pubescence. **Elytra** slightly more than 2.5 times as long as width across humeri, apical 3/5 flattened, epipleural and sutural margins distinctly carinate, apices without spines; entire surface moderately densely, irregularly cribrate-punctate, pubescence sparse, pale subrecumbent. **Abdomen** moderately punctate and clothed with subdepressed golden pubescence; apex of terminal sternite emarginated-truncate. **Legs** subclavate, femoral clubs moderately stout, bases of meso- and metafemora curved; mesotarsi not elongate, mesotarsomere I about 1.5 times longer than wide. Length 5-8 mm.

Female (Fig. 2a-b): Similar to male except as noted. **Pronotum** evenly convex, shining, slightly narrower than elytral humeri, lacking discal impressions; pubescence sparse, fine, erect, with a fascia of coarser, pale recumbent pubescence across base and an indistinct fascia on each side near apex. **Abdomen** robust with apex of terminal sternite subtruncate. Length 5-9 mm.

Type Material. Male holotype and female allotype of *Plesioclytus morrisi* are labeled: "/ GA: Emanuel Co., Ohoopee Dunes NA, Hall's Bridge Rd., 10/VI/00, R. Morris / Sweeping *Chrysoma plauciflosculosa* ". They are deposited in FSCA.

Paratypes: 118 males and 27 females. **GEORGIA: Emanuel Co.:** same data as holotype (2m-ACMT, 14m, 1f – RFMC, 2m- USNM). Ohoopee Dunes NA, Halls Bridge Rd., 25/V/01, R. Morris (6m, 1f – RFMC); Ohoopee Dunes NA, Halls Bridge Rd., 11/V/02, Morris/Donaldson, UV/MV (2m, 1f – RFMC); Ohoopee Dunes Natural Area, 11 June 2000, R. Turnbow, on *Chrysoma pauciflosculosa* (Michx.) Greene (1f – RHTC); Ohoopee Dunes Natural Area, 10 June 2000, R. Turnbow, on *Chrysoma pauciflosculosa* (Michx.) Greene (2m - FSCA, 4m – RHTC, 1m,1f - UGAC); US1 & I-16, Gar Rd., 28/V/01, R.Morris (2m – RFMC); I-16 & US 1, 11/V/02, R. Morris (5m, 1f – RFMC); Jct. I-16 & Hwy. 1, 9 June 2000, R. Turnbow (1f – RHTC).**Tattnall Co.:** 3 mi E of 147 along Ohoopee riv., 7-V-1998, BLT, Morris/Donaldson (1m – RFMC); 3 mi E of 147 along Ohoopee riv., 12-VI-98, Roy and Graham Morris/Donaldson (1m, 1f – RFMC); 2 mi E of 147, Ohoopee River, 20-VI-1998, Morris/Wappes, sweeping *Licania michauxii* (2m, 1f – RFMC); 2 mi E of 147, Ohoopee riv., 25-IX-1999, R. Morris (1m, 1f – RFMC); 2 mi E of 147, Ohoopee riv., 5-VI-1999, R. Morris (7m – RFMC); 2 mi E of 147, Ohoopee riv., 11-VI-1999, R. Morris, on flowers of *Licania michauxii* (5m, 1f – RFMC); 2 mi E of 147, along Ohoopee Riv., 12-V-2001, Morris / Donaldson (1m, 1f – EMEC, 1m, 1f - MNRJ, 1m, 1f – MZSP, 8m, 3f – RFMC, 1f - USNM); 2 mi E of 147, along Ohoopee Riv., 20-V-2001, Morris / Donaldson (1f -ACMT, 1f – FSCA, 11m, 3f – RFMC); 2 mi E of 147, along Ohoopee Riv., 26-V-2001, Morris / Donaldson (4m – RFMC, 3m -ACMT); 2 mi E of 147, along Ohoopee Riv., 15-VI-2001, Morris (2m – RFMC); 2 mi E of 147, along Ohoopee Riv., 30/V/2004, Morris/Nearns/Skelley (1m – RFMC); Hwy 147 near Ohoopee River, 19-20-VI-1998, Wappes, Morris (2m, 2f – ACMT); 2 mi S of Reidsville, 10-V-2003, R. Morris (7m, 1f – RFMC); 3 mi S of Reidsville, 22-VI-2002, R. Morris (3m – RFMC); 3 mi S of Reidsville, 11-V-2002, R. Morris (2m -ACMT, 1m, 1f - CMNH, 2m- FSCA, 10m – RFMC); 4 mi S of Reidsville, 29 June 1998, R. Turnbow, on *Geobalanus oblongifolius* (Michx.) Small (2m – RHTC).

Figures 8-11. Ohoopee dune system. **8-9**) *Plesioclytus* habitat in Ohoopee Natural Area. **10**) Male *Plesioclytus morrisi* sitting on woody goldenrod. **11**) Small woody goldenrod plant, the size typically utilized for perching by *Plesioclytus morrisi* new species.

Etymology. It is our great pleasure to name this species for the collector of the holotype, Roy F. Morris, II. It should be noted that this is the second new species to be described that was discovered by Roy in the Ohoopee dune system of Georgia, the first being *Crossidius grahami* Morris and Wappes, 2013.

Biology. Most *Plesioclytus morrisi* specimens have been taken by sweeping or hand collecting from gopher apple, *Licania michauxii* Prance, or woody goldenrod, *Chrysoma pauciflosculosa* Michaux during May and June with an aberrant record from October. According to Roy Morris, who has collected the vast majority of the known specimens, they are most often associated with small and singular plants, rather than large or clusters, of plants (Fig. 10-11). Although Mr. Morris has investigated other areas of somewhat similar sandy habitats in Georgia and north Florida, where gopher apple and woody goldenrod are found, he has not been successful in finding the new species outside the relict sand dunes (Fig. 8-9) of Emanuel and Tattnall counties Georgia (for a further account of this habitat see Morris and Wappes 2013). One can speculate that the plants *P. morrisi* has been found sitting on and swept from may not be the host(s), or that other unknown biological factors are involved in limiting its distribution.

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