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New genus of Rhyparini (Coleoptera: Scarabaeidae: Aphodiinae)
in amber from the Dominican Republic

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New genus of Rhyparini (Coleoptera: Scarabaeidae: Aphodiinae) in amber from the Dominican Republic

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Abstract. *Priscyparus quisqueyensis* Skelley, **new genus and new species** (Coleoptera: Scarabaeidae: Aphodiinae: Rhyparini), is described in amber from the Dominican Republic. An updated key to New World genera of Rhyparini is presented.

Key words. Caribbean, West Indies. *Rhyparus*, *Termitodiellus*, *Termitodius*, fossil.

Resumen. *Priscyparus quisqueyensis* Skelley, **género nuevo y especie nueva** (Coleoptera: Scarabaeidae: Aphodiinae: Rhyparini), se describe de ámbar de la República Dominicana. La clave a los Rhyparini del Nuevo Mundo es enmendada para incluir el nuevo género.

Palabras clave. Mar Caribe, las Antillas, *Rhyparus*, *Termitodiellus*, *Termitodius*, fósil.

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Introduction

There are only three fossil taxa of Rhyparini (Coleoptera: Scarabaeidae: Aphodiinae) preserved in copal or amber from the New World. There have been brief listings of a *Termitodius* Wasmann in Colombian copal (Penney and Green 2011; various websites) which is being described in a separate paper. From Dominican amber a “*Rhyparus*” Westwood and “*Termitodius*” Wasmann have been reported (Poinar 1992; Wu 1996; Poinar and Poinar 1999; Krell 2007). The “*Rhyparus*” of Wu (1996) was described as *Leptorhyparus quadricornis* Skelley (Skelley 2021), and an amber fossil close to “*Termitodius*” is discussed here.

The three currently described species of *Termitodius* are restricted to the New World (Skelley 2008). Poinar and Poinar (1999) list a “*Termitodius*” in amber from the Dominican Republic, with no illustration. Robert Woodruff, a fossil hound and amber insect dealer, gave me three specimens of what initially appears to be a “*Termitodius*” in Dominican amber. However, Skelley (2007) defined different tibial types that occur in rhyparines. This fossil has a different tibial type than true *Termitodius* and cannot be placed in that genus. While it possesses some characters similar to other genera of rhyparines, it has a unique combination of features and cannot be placed in any current genus. It is possible the references listing “*Termitodius*” from Dominican Republic amber may represent this new genus. However, I cannot confirm the identity of those specimens until they are examined.

For now, the following generic diagnosis and species description will suffice to distinguish the new genus from all other genera of Rhyparini worldwide, making the name available for future works.

Materials and Methods

Material studied are deposited in the Florida State Collection of Arthropods, Gainesville, FL, USA (FSCA). Photographs of *Priscyparus* and paratypes in the FSCA were taken using a Syncroscopy Auto-Montage system with a JVC 3-CCD, KY-F75U digital camera through a Leica Z16 APO lens. The holotype was submerged in mineral oil to remove optical distortion caused by the rounded surfaces. A layer of glass beads in the bottom of the mineral oil pool allowed the piece to be positioned at different angles to get the optimum views of the specimen. Terminology for dorsal carinae follows Krikken and Huijbregts (1987) and Howden (2003).

Key to New World genera of Rhyparini

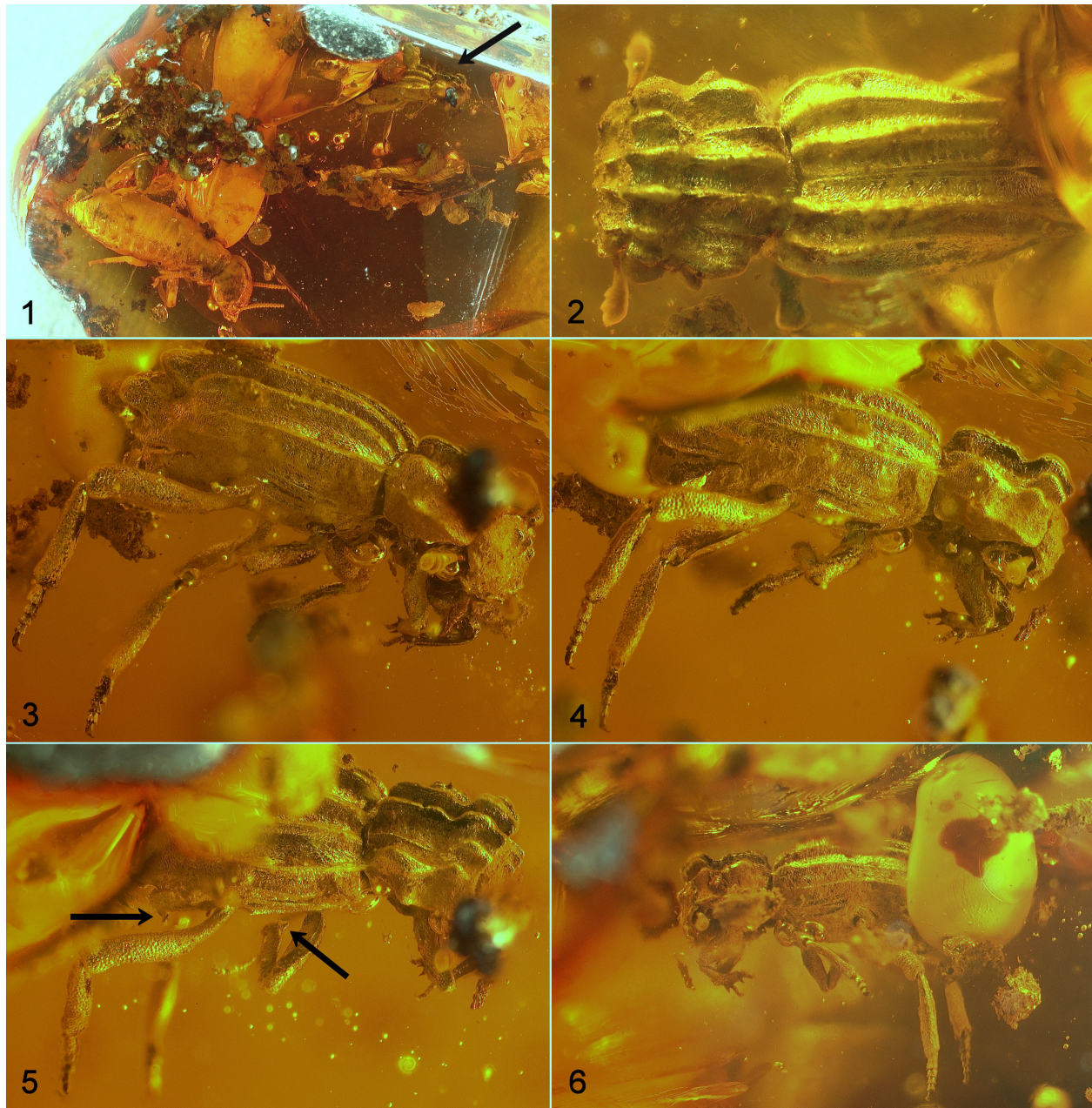
(Modified from Skelley 2008, images for many characters are in Skelley 2007)

1. Elytron with apex of discomedian costa bearing a distinct erect tuft of setae; caudal bulb and trichome on elytral apex deeply divided into an inner and outer lobe; small species, length < 3.5 mm; Costa Rica, Nicaragua, Panama, Ecuador, French Guiana, Brazil, Peru, and Dominican Republic (amber fossil) **Leptorhyparus Howden**
- Elytron with apex of discomedian costa lacking distinct erect tuft of setae, few with a short prostrate tuft; caudal bulb of elytral apex often with large tubercles, but bulb and trichome not deeply divided into an inner and outer lobe; larger, length of most species greater than 3.0 mm **2**
- 2(1). Mesotibia with subapical notch on inner margin (weak in some females), male with pronounced subapical tooth (*Termitodius*-type tibia, Skelley 2007) **3**
- Mesotibia lacking subapical notch, males with tooth at apex **4**
- 3(2). Meso- and metatibia elongate and cylindrical; pronotal costae prominent, anteriorly bulbous; Mexico to Brazil **Termitodius Wasmann**
- Meso- and metatibia flattened, dilated with sharp inner margin; pronotal costae sharp anteriorly, not prominent; Mexico to Bolivia **Aschnarhyparus Makhan**
- 4(2). Pronotal and elytral costae greatly raised, blade-like; pronotal costae lobed on anterior margin; elytra with discomedian costa and caudal bulb projecting posteriorly beyond apex of elytra; Dominican Republic (amber fossil) **Priscyparus Skelley, new genus**
- Pronotal and elytral costae raised, but not blade-like; pronotal costae bluntly rounded, absent or weakly raised at anterior margin; elytra with discomedian costa and caudal bulb normal, not projecting posteriorly beyond apex of elytra; widespread **5**
- 5(4). Metaventrite with deep fossae covering surface, discal fossa distinct, no large flattened areas; metatibia of males with inner apical tooth projecting parallel with tibia; Mexico (Oaxaca) **Nanotermitodius Howden**
- Metaventrite with few small deep fossae near mesocoxae, main discal area each side of midline lacking or with indistinct depression, surface mostly flattened; metatibia of male with inner apical angle unmodified or with inwardly projecting tooth perpendicular to tibia (*Rhyparus*-type tibia, Skelley 2007); widespread **Rhyparus Westwood**

Priscyparus Skelley, new genus**Type species.** *Priscyparus quisqueyensis* Skelley, new species, present designation.**Diagnosis.** *Priscyparus* is easily recognized by a combination of characters, including shorter body, broader anteriorly, narrowing posteriorly; pronotal lateral marginal lobes with anterior lobe much larger than dentate intermediate lobe; elytron with discomedian costa lacking caudal tuft of setae; elytron with discomedian costa and caudal bulb projecting posteriorly; metaventrite flattened, lacking discal fovea on each side of midline; protibia with 3 apical teeth; mesotibia the *Rhyparus*-type, with male having an inwardly projecting apical spine; meso- and metatarsi shortened, thickened; and the unique potential male dimorphism of a prominent peg on each side of the abdomen. It is a fossil preserved in amber from the Dominican Republic (Fig. 1).**Etymology.** The genus name is derived from combining the adjective *priscus*, which is Latin for ancient, former or early, with the ending *-yparus* from *Rhyparus*. It is masculine in gender.***Priscyparus quisqueyensis* Skelley, new species**

Figures 1–6

Description. Male holotype. Length 4.5 mm, greatest elytral and pronotal width 1.8 mm. Body with encrustations preventing study of some surface details; shape elongate, narrowing posteriorly (Fig. 2). **Head.** Head one-third wider than long, clypeus anteriorly with inflexed lower margin, upper margin quadridentate, inner tooth on each side at lateral third, outer tooth on each side adjacent to edge of gena; other characters obscured in



Figures 1–6. *Priscyparus quisqueyensis*, new species, holotype. 1) Amber piece with host termite, holotype indicated by arrow. 2) Dorsal view. 3) Right lateral view showing elytral apex. 4) Right lateral view showing pronotal development. 5) Right lateral view, arrows point to suspected sexual dimorphisms on mesotibia and abdomen. 6) Left lateral view.

encrustation. Vertex with 4 short longitudinal costae, 2 median costae slightly closer. Gena rounded, hidden in encrustation. **Pronotum.** Pronotum with 6 irregularly longitudinal carinae. Paramedian costa complete, nearly parallel, tall and blade-like entire length, anterior lobe greatly enlarged but not swollen (Fig. 4–6), in lateral view anterior lobe flattened above and sloping anteriorly, posterior part of costa slightly swollen and lobe-like over posterior pronotal margin, abruptly declivous at margin, surface between costa punctate; discolateral costa interrupted in anterior third by deep irregular pits, anterior lobe similar development but small than paramedian lobe, posterior part of costa low and complete from base to pit; submarginal costa prominent, anterior lobe similar but

smaller than discolateral anterior lobe, posterior part of costa prominently swollen and laterally arched, obscuring structures beneath; all costae extending to posterior pronotal margin; lateral margin of pronotum with two lobes, anterior lobe circular and more prominent than tooth-like median lobe, posterior lateral margin and angle obscure. **Elytron.** Elytron with 3 equally sharply elevated keel-like costa and a weak marginal costa; discomedian costa separated from sutural ridge by transverse rugulae, costa straight and narrow to slightly swollen apex projecting over trichome; discolateral costa weakly arched at base, narrow and straight, not swollen as approaching and touching trichome; posthumeral costa prominent at humerus, sharply elevated on basal half, abruptly declivous and reducing in size, obsolete as nearing trichome; marginal costa fine from base to caudal bulb; caudal bulb prominently projecting posteriorly beyond elytral apex (Fig. 3). **Venter.** Postprosternal apophysis hastate. Metaventricle with distinct median impression and smaller impressions behind mesocoxae (evident by encrustations), visible surface smooth and punctate. Abdomen mostly encrusted, not visible; two sharp tubercles at the base of the last ventrite (Fig. 5). **Legs.** Profemur robust; meso- and metafemur narrow, not swollen; metafemur long, reaching elytral apex. Protibia narrow, apically tridentate, each tooth fine, 1 tooth present on each side of apex and 1 medially; mesotibia narrow, weakly enlarging toward apex, inner margin weakly sinuate, inner apical angle with small inwardly projecting tooth (Fig. 5); metatibia narrow, encrusted obscuring details. Protarsus short; meso- and metatarsus short, half-length of tibia, tarsomeres thickened, basal tarsomeres long as next two combined.

Materials examined. Holotype fossil in amber labeled: “[red paper] /HOLOTYPE / *Priscyparus / quisqueyensis / Skelley /*”, deposited FSCA. Two paratype specimens labeled to be from “Alto de las Piedras, Dominican Republic” (FSCA) were also studied. These paratypes are mostly enclosed in bubbles (Fig. 7), making structural details poorly visible.

Etymology. The species epithet comes from Hispaniola, which was called Quisqueya by the aboriginal Taíno people. The species name is Latinized with *-ensis*, so the full name of this species means the “ancient *Rhyparus* from Quisqueya.”

Comments. This species is unusual in its combination of characters, as well as having a few unique characters. The pronotal costae are greatly raised, even more than is seen in *Termitodius*. Most other characters are similar to *Termitodiellus* Nakane from SE Asia, Indonesia and New Guinea. The elongate, posteriorly projecting discomedian costa and caudal bulb of the elytra are seen in *Termitodiellus besucheti* (Paulian) and *Termitodiellus hammondi* (Krikken and Huijbregts) from Borneo and Sumatra (Krikken and Huijbregts 1987, fig. 13–14). However, *Termitodius* and *Termitodiellus* have different tibial types than *Priscyparus* which has a mesotibia with an inwardly directed spine on inner apex. This is the *Rhyparus*-type tibia found in *Rhyparus* and closely related genera (Skelley 2007).



7
Figure 7. *Priscyparus quisqueyensis*, new species, paratypes.

The holotype is in a piece of amber with a host termite (Fig. 1). Other rhyparine species are guests in termite colonies (Reyes-Castillo and Martínez 1979). Amber *Coptotermes* Wasmann (Isoptera: Rhinotermitidae) are reported from the Dominican Republic by Krisna and Grimaldi (2009).

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