



Cryptotermes camelus (Isoptera: Kalotermitidae), a new drywood termite species from the Bolivian Chaco

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Cryptotermes Banks, 1906 is the third most diverse kalotermitid genus worldwide after *Glyptotermes* Froggatt, 1897 and *Neotermes* Holmgren, 1911, with its greatest diversity found in the Neotropics (Krishna *et al.* 2013a). Furthermore, the greatest number of species of *Cryptotermes* are known from the Caribbean Basin (Scheffrahn & Křeček 1999, Casala *et al.* 2016, Scheffrahn 2019). Although Araujo (1977) and Bacchus (1987) list *Cryptotermes domesticus* (Haviland, 1898) from Trinidad (treated as mainland) and Panama, respectively, Scheffrahn & Křeček (1999) and Scheffrahn *et al.* (2009) doubt the existence of this Asian species in the New World. Without *C. domesticus*, the total extant Neotropical diversity of *Cryptotermes* is 29 endemic and three exotic species (Constantino 2020).

The mainland South American tally includes thirteen species: *C. aequicornis* Scheffrahn & Křeček, 1999, *Cryptotermes brevis* (Walker, 1853) (exotic), *C. chacoensis* Roisin, 2003, *C. colombianus* Casalla *et al.*, 2016, *C. contognathus* Constantino, 2000, *C. cubioiceps* (Emerson, 1925), *C. cylindroceps* Scheffrahn & Křeček, 1999, *C. dudleyi* Banks, 1918 (exotic), *C. havilandi* (Sjöstedt, 1900) (exotic), *C. mangoldi* Scheffrahn & Křeček, 1999, *C. rhinocephalus* Bacchus, 1987, *C. venezolanus* (Holmgren, 1911, nomen dubium, Krishna *et al.* 2013b), and *C. verruculosus* (Emerson 1925) (Krishna *et al.* 2013b, Casalla *et al.* 2016). Bolivia, the fourth largest South American country entirely encompassed by tropical latitudes, has only recently yielded the occurrence of species of *Cryptotermes* including *C. brevis* (Scheffrahn 2018), *C. chacoensis*, *C. verruculosus*, and a new species (Scheffrahn 2019). Herein, I describe this new *Cryptotermes* as *C. camelus*, the 10th South American species of *Cryptotermes* and the 30th endemic species described from the Neotropics.

Photomicrographs were taken as multi-layer montages using a Leica M205C stereomicroscope controlled by Leica Application Suite version 3 software. The preserved soldier was taken from 80% ethanol and suspended in a pool of Purell® Hand Sanitizer to position the specimen on a transparent Petri dish background.

Cryptotermes camelus sp. n.

Imago. Unknown.

Soldier (Fig 1). Head, in lateral view, grading from light orange at cervical margin to almost black at frontal flange; in dorsal view, coloration light orange at posterior margin grading to black at frontal flange; epicranial spot diffusely lighter. Mandibles concolorous with frons. Anterior margin of pronotum brown, grading to yellow at posterior. In lateral view, head capsule punctuated by massive hemispherical frontal flange with parallel sides; frontal horns and genal horns large, hemispherical; equal in size and shape. In dorsal view, head capsule constricted; spherical from constriction behind frontal flange to occiput; widening from constriction to frontolateral lateral margins of frontal flange. In frontal view, frons deeply concave and rugose; frontal flange forming two lateral orbitals with small, elliptical concavities at base of frontal horns. Pilosity sparse throughout head; denser on anterolateral margins of pronotum. In ventral view, margin of frontal flange squarely incised; forming 140° angle. Eye spots faint, narrowly elliptical. Labrum projecting over length of mandibles; in ventral view, tip squarely pointed, mirroring angle of frons. Mandibles projecting moderately for genus, squarely angled along outer margin about 120°; basal humps weakly rugose, barely detectable. In dorsal view, span of frontal flange slightly broader than that of genal horns; span of frontal horns narrower than genal horns. Antenna with 13 articles; formula 2>3>4=5. Anterior margin of pronotum incised with weak irregular sinuosity; anterolateral corners nearly square, lateral margins and posterior margin form an evenly rounded outline.

Measurements (mm, single holotype soldier). Head length to tip of mandibles 1.46; head length to tip of genal horns 1.19, frontal flange width 1.01; frontal horns, outside span 0.81; genal horns, outside span 0.94; head width, maximum

1.14; head width, minimum (behind frontal horns) 1.01; head height, excluding postmentum 0.62; pronotum, maximum length 0.79; pronotum, maximum width 1.06; left mandible length, tip to ventral condyle 0.57; total length 3.8.

Material examined. Holotype soldier in vial no. BO590 of the University of Florida Termite Collection, Davie, Florida. Vial labelled “Hwy 4 *Tauritermes* Mennonite site, SCCMNKM col., Site 18; 30-May-2013”. In addition to the single *C. camelus* soldier placed in a separate two-cm centrifuge tube, the vial also contains two soldiers and pseudergates of *Tauritermes taurocephalus* (Silvestri), and one soldier, nymphs, and pseudergates of *Neotermes fulvescens* (Silvestri), both new records for Bolivia.

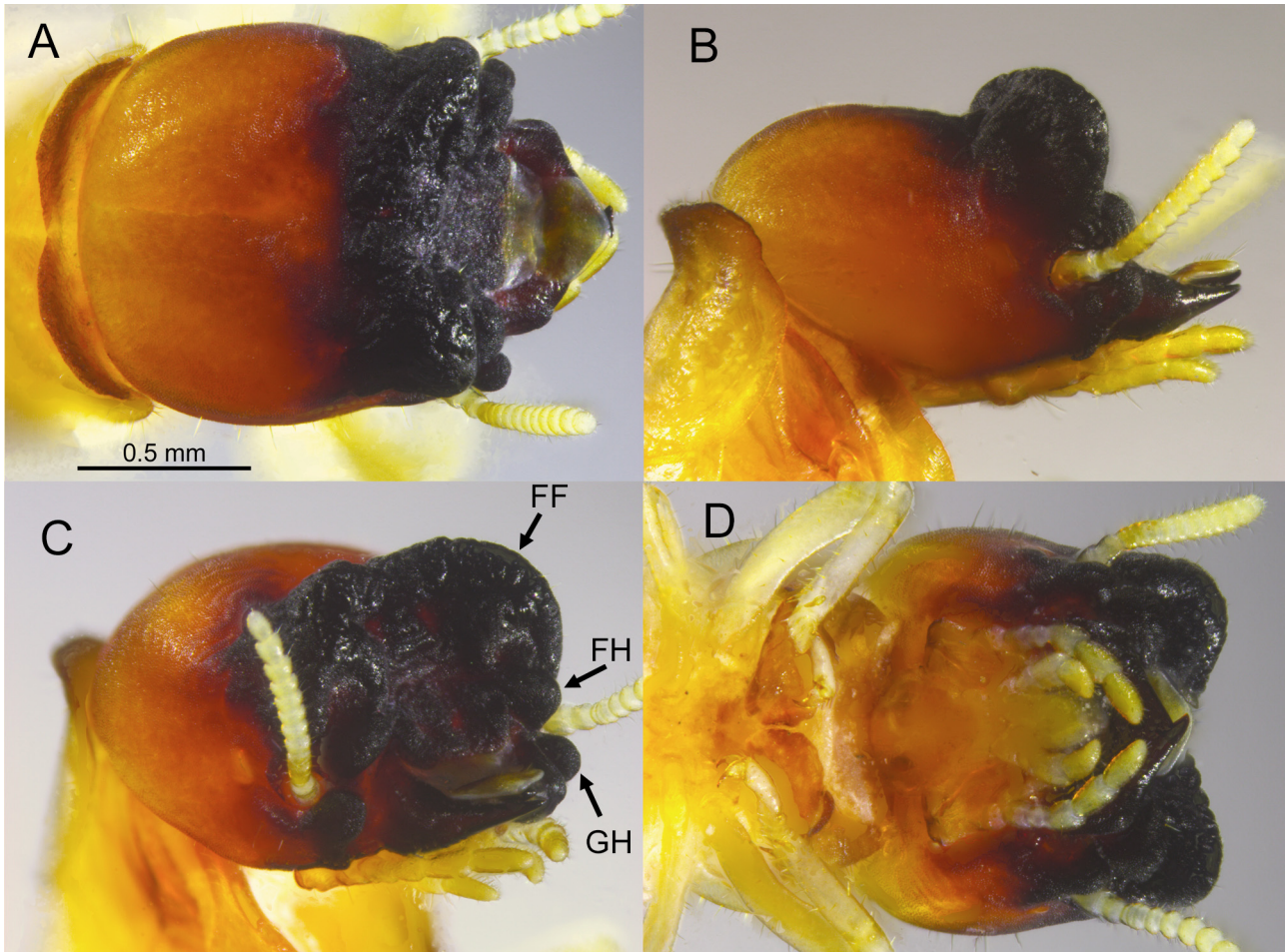


FIGURE 1. Head capsule of the soldier of *Cryptotermes camelus* sp. n.: A) dorsal, B) lateral, C) oblique frontal (FF = frontal flange, FH = frontal horn, GH = genal horn), and D) ventral view.

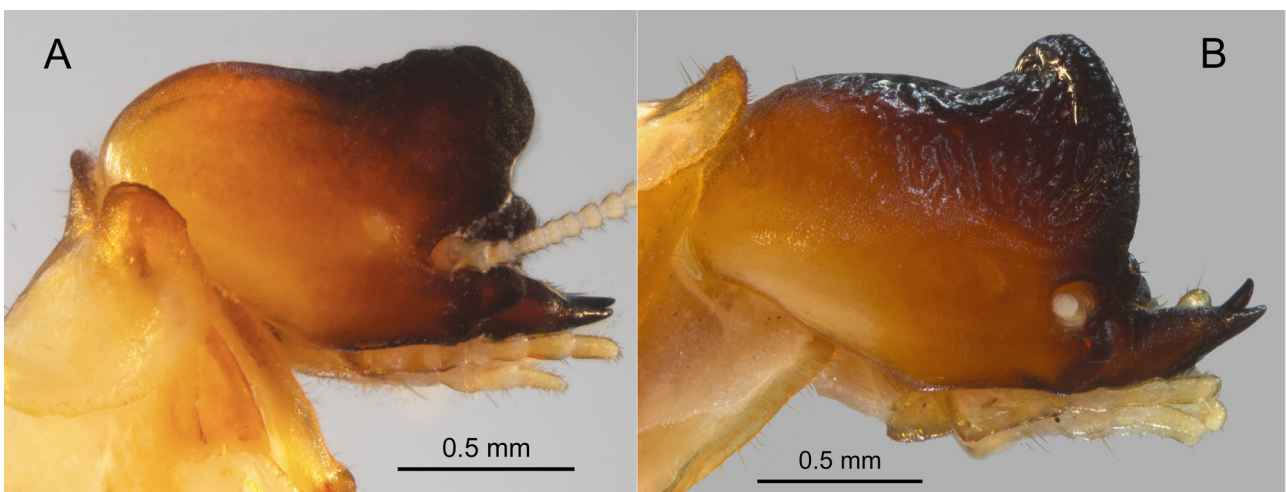


FIGURE 2. Lateral views of the soldier head capsules of A) *Cryptotermes verruculosus* and B) *C. garifunae*.

Type locality. Bolivia, Santa Cruz; -17.5899 S, -62.4423 W; elev. 278 m.

Etymology. Named “camelus”, the Latin name for camel, referring to the protruding hemispherical “hump” of the frontal flange in lateral view.

Diagnosis. No other species of *Cryptotermes* worldwide has a massive hemispherical frontal flange hump as seen in profile. Of all South American species, *C. verruculosus* has a large rounded flange leaning to the anterior but its sides are not near parallel (Fig 2a). Of all Neotropical *Cryptotermes*, *C. garifunae* Scheffrahn has a steep angular flange and very small genal horns (Fig 2b).

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