



A new termite species (Isoptera: Termitidae: Termitinae: *Amitermes*) and first record of a Subterranean Termite from the Coastal Desert of South America

RUDOLF H. SCHEFFRAHN¹ & JEAN-BERNARD HUCHET²

¹Fort Lauderdale Research and Education Center, Institute for Food and Agricultural Sciences, 3205 College Avenue, Davie, Florida 33314 USA. E-mail: rhsc@ufl.edu

²Ecole Pratique des Hautes Etudes, Laboratoire de Paléanthropologie, LAAP, UMR 5199, Université Bordeaux I, Bât. B 8, Avenue des Facultés, 33405 Talence Cedex France. E-mail: jb.huchet@anthropologie.u-bordeaux1.fr

At about one hundred species (Scheffrahn & Su 1987), *Amitermes*, is the second largest genus after *Microcerotermes* in the subfamily Termitinae. This cosmopolitan genus is found in a wide variety of habitats from rainforests e.g., *Amitermes excellens* (Silvestri) from Guyana (Emerson 1925) and *Amitermes dentatus* (Haviland) from Sumatra (Gathorne-Hardy *et al.* 2001) to deserts, e.g. *Amitermes emersoni* Light from Coachella, California (Light 1930) and *Amitermes desertorum* Desneux from Egypt (Sands 1992). Only eight species of *Amitermes* are known from the Neotropics and only five occur across mainland South America. Soldiers of *Amitermes* are characterized by a bulbous head capsule and sickle-shaped mandibles, each with a single tooth of various shapes on their inner margins. Soldiers of all species have a large cephalic gland opening to a circular fontanelle on the frons. When confronted by an agonist, the soldier emits a terpenoid secretion which oozes onto setae around and below the fontanelle (Scheffrahn *et al.* 1983). Herein, is described a new *Amitermes* from Peru and the first record of a subterranean termite along the Pacific coastal desert of South America.

Specimens of a single foraging group of *Amitermes lunae* sp. nov. were collected at the type locality (Fig. 1) from dry bamboo that was in soil contact for several days. Laboratory images of preserved specimens in 85% ethanol (Figs 2) were made using an Olympus SZX9 stereomicroscope fitted by a LM Scope camera tube to an Olympus E-410 digital camera. The worker enteric valve was exposed by dissecting out the P2, removing muscle, slitting the valve tube longitudinally, and mounting it in PVA slide medium (Bioquip Products). The enteric valve photographs (Fig. 3) were taken with an Olympus BH-2 compound microscope with phase-contrast optics using the camera attachment above.

Description. *Amitermes lunae* Scheffrahn sp. nov.

Imago unknown. Soldier (Fig. 2). Monomorphic. Head capsule pale yellow on vertex above cephalic gland grading to light ferruginous orange away from gland. Mandibles ferruginous at base becoming darker beyond labrum. Body and legs pale yellow. Head capsule quadrate with rounded corners in dorsal and ventral views, thick and bulbous in lateral view. Mandibles curved ~100° with greatest curvature beyond marginal tooth. Mandibles narrowing gradually from marginal teeth to apex. Marginal teeth sub triangular; teeth projecting from edge of blade, not notched from behind. Antennae with 15 articles, 2>3<4=5. Measurements in mm, holotype and paratype, respectively: maximum head width 1.09, 1.07; maximum head length (posterior to left mandible condyle) 1.33, 1.33; maximum head height (postmentum to vertex) 0.86, 0.84; left mandible maximum length (lateral condyle to point) 0.80, 0.79; pronotum maximum width 0.72, 0.69; pronotum maximum length 0.35, 0.35; hind tibia length 0.99, 0.94.

Worker (Fig. 3). Head capsule pale or very pale yellow. Antennae with 15 articles, 2>3<4<5. Enteric valve with six flattened elongate pads lining entire length of P2. Pads covered with minute spines; spines more dense near anterior of pads and becoming larger near the posterior. P2 relatively long and narrow, enteric valve not everted into paunch. Maximum head width (n = 10), mean±SD (range): 1.04mm±0.020 (1.01–1.09).

Of the nine species of *Amitermes* known from the Neotropics (Fig. 2), the *A. lunae* soldier is closest to those of *A. foreli* Wasmann and *A. amifer* Silvestri as all three have a median, subtriangular marginal tooth. *A. lunae* is smaller than the latter two and unlike *A. foreli*, does not build an epigeal mound. *A. amifer* is also a larger pasture species that nests in logs and mounds of other termites in the Matto Grosso of southern Brazil, Paraguay, and Argentina (Araujo 1970). *Amitermes* workers cannot be identified externally, however a critical comparison of enteric valve morphology has not been conducted on this group and may be useful for worker identification. Sands (1992) did not illustrate this character in