

Centruroides platnicki Armas, 1981 (Scorpiones: Buthidae), a new addition to the scorpion fauna of Hispaniola, Greater Antilles

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Abstract: The Buthid scorpion *Centruroides platnicki* Armas 1981 is recorded for the first time from the Caribbean island of Hispaniola. The species was so far known only from the southern Bahamas (including the Turks and Caicos Islands). Numerous adult and juvenile specimens of both sexes were found at two localities of Montecristi province (north-western Dominican Republic), always in desert vegetation on alluvial clayey soils.

Key words: Scorpiones, Buthidae, *Centruroides*, first record, Hispaniola, Greater Antilles.

Centruroides platnicki Armas, 1981 (Scorpiones: Buthidae), nuevo para la escorpiofauna de La Española, Antillas Mayores

Resumen: Se registra por primera vez la presencia en la isla antillana de La Española del escorpión bútido *Centruroides platnicki* Armas 1981, conocido hasta el presente de las Bahamas más meridionales (islas Turcas y Caicos incluidas). Se observaron numerosos ejemplares adultos y juveniles de ambos sexos en dos localidades de la provincia de Montecristi (noroeste de la República Dominicana), siempre en vegetación desértica sobre suelos arcillosos aluviales.

Palabras clave: Scorpiones, Buthidae, *Centruroides*, primer registro, La Española, Antillas Mayores.

The buthid scorpion *Centruroides platnicki* was described by Armas (1981) on the basis of eight specimens from four islands and cays of the Bahamas Archipelago *sensu lato*: the holotype female and four juveniles from Mayaguana (Bahamas *sensu stricto*), plus one male from Long Cay, another female from West Caicos and one subadult of undisclosed sex from a cay southwest of North Caicos (all from Caicos Islands, in Turks & Caicos). After this, the single documented finding of this apparently rare species was published 20 years later by Armas (2001), who recorded an additional male and female pair from Salt Cay, in Turks Islands, thus, *C. platnicki* remains so far the single endemic scorpion from Bahamas, being widespread across its southeastern distribution (fig. 1). Armas (1981, 2001) emphasized the remarkable morphological resemblance of *C. platnicki* to *Centruroides nitidus* (Thorell, 1876), an endemic species from the nearby island of Hispaniola, even though the morphological characters stated as diagnostic for both, sound reliable enough to their accurate distinction.

During early September 2016, we found populations of the genus *Centruroides* Marx, 1899 in two localities of Montecristi Province, northwestern Dominican Republic: 1) El Morro (also named Islote del Fraile, a barren coastal hill north of San Fernando de Montecristi city, in homonymous municipality, 19°53'38"N - 71°39'26"W; 50–80 m), and 2) Hato del Medio (near Villa Sinda, in Villa Vásquez municipality, 19°41'35"N - 71°18'12"W; 65 m). These specimens were similar at first sight to *C. nitidus*, but showed several discordant characters that immediately suggested they belonged to a different species.

Using a Nikon Coolpix S8100 digital camera, we took high-resolution, full-color photographs of all specimens, which were later compared to our voucher specimens and photo banks. This process revealed that those Hispaniolan specimens are conspecific with *C. platnicki*, whose occurrence in Hispaniola had been overlooked so far; see for example, the most recent catalog of the scorpions from this island: Santos *et al.*, (2016). Herein we present several of these photos (fig. 2): two adult males and three adult females of different size-classes, plus one subadult. For comparison purposes, we include also one adult male and female pair of *C. platnicki* (fig. 3) from the personal collection of František Kovařík,

with the following label data: BAHAMAS: Eleuthera Island (**new record**); May 2000; J. Křeček.

Both species are indeed very similar to each other on morphological grounds: they both share the same basic size, coloration, degree of robustness of pedipalps and metasoma, pectinal tooth counts, shape of sternite V, and armature of pedipalp chelae (carnation, intercarinal sculpture, setation and number of denticle rows of fingers). Thus, it is not difficult to understand that the occurrence of *C. platnicki* in Hispaniola has gone unnoticed so far due to its misidentification as *C. nitidus*, despite its presence in voucher collections for more than 30 years (see below). Nevertheless, both species can be distinguished on the basis of three non-sexually dimorphic characters:

1. Development of metasomal carinae: very strong and coarsely crenulate to dentate in *C. platnicki*; absent to very weak and smooth to subcrenulate in *C. nitidus*. This is especially evident on dorsolateral and lateral supramedian carinae of segments II–IV.

2. Intercarinal sculpture of metasoma: densely and coarsely granulose in *C. platnicki*; essentially smooth to sparsely granulose in *C. nitidus*.

3. Shape of pedipalp fingers: long, with lobe/notch combination moderately strong in *C. platnicki*; short, with lobe/notch combination very strong in *C. nitidus*. This character can be evaluated in adult specimens only.

Very scarce data are available on the natural history of *C. platnicki*, only that it has been collected under rocks in sandy scrub (Armas, 2001), and implicitly that no other scorpion species have ever been recorded in literature from the same Bahaman islands and cays where it is known to occur. In both Hispaniolan localities where we found *C. platnicki*, it lives in desert scrub and seems to be a microhabitat generalist (fig. 4): individuals were observed in similar numbers on the ground (under rocks and fallen palm leaves) and in the vegetation (under barks of trees, bushes and fence posts, inside dry cacti), and also in cracks and crevices of rock walls of inhabited houses. At both localities it lives syntopically with the buthid *Rhopalurus princeps* (Karsch, 1879) and the scorpionid *Cazierius politus* (Pocock, 1898).

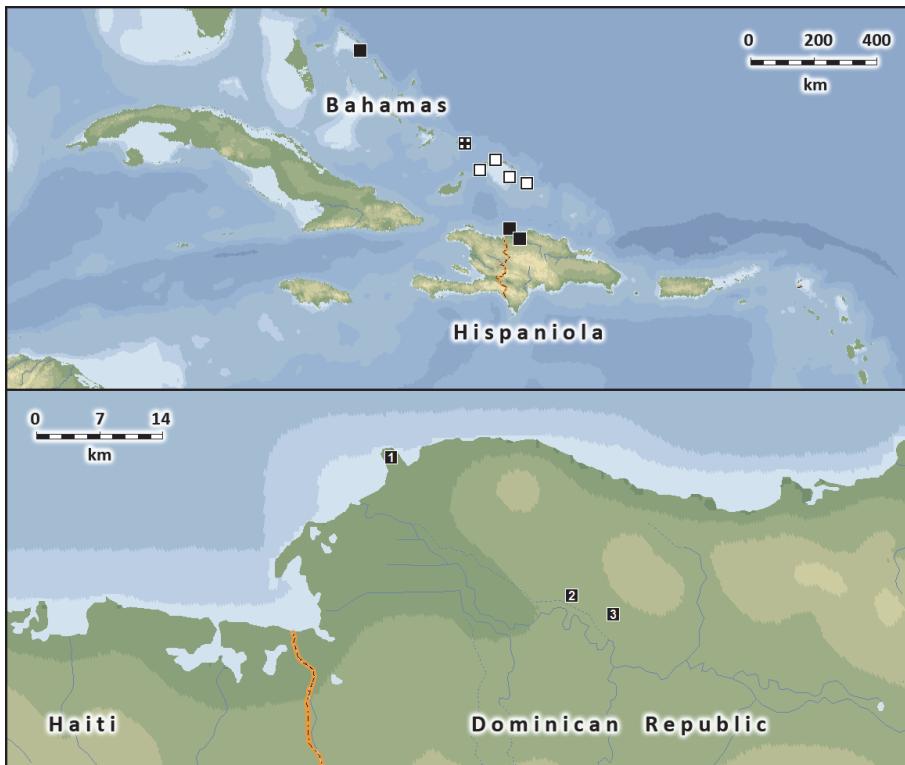


Fig. 1. Known geographical distribution of *Centruroides platnicki*: type locality (white square with black cross), other previous literature records (white squares), and present new records from Eleuthera and Hispaniola (black squares, the former corresponds to the northernmost one). The Hispaniolan localities are depicted in greater detail in the close-up below: El Morro (1), Botoncillo (2) and Hato del Medio (3).

Actually, *C. platnicki* had long been collected from this area of Hispaniola, but it went overlooked so far because it was misidentified as *C. nitidus*: we examined an adult female from the collection of Instituto de Ecología y Sistemática, which was collected in the mid 1980's at Botoncillo (a small village in the outskirts of Villa Vásquez, only about 5 km northwest of Hato del Medio), with such identification label handwritten by L. F. de Armas in 1987. Thus, most if not all literature records of *C. nitidus* from Montecristi Province are most likely based upon actual misidentifications of *C. platnicki*: La Solitaria, Guayubín municipality (Armas & Marcano Fonseur, 1987: 13), 3 km south of Montecristi, homonymous municipality (Armas, 2002: 64), Villa Vásquez, homonymous municipality (Armas, 2002: 64), Gozuela and 3 km south of Copey, Pepillo Salcedo municipality (Armas, 2002: 64); the same holds true also for those records from the arid lowlands of the adjacent part of Valverde Province (Armas & Marcano Fonseur, 1987; Armas, 2002). Its presence is also predictable and expected at least in adjacent parts of Haiti, taking into account that all this northern part of Hispaniola is a continuous of landscape and vegetation.

With the hereby presented records of *C. platnicki* from Hispaniola, the Bahamas archipelago loses its single endemic scorpion species. Consequently, it becomes as well the second non-endemic scorpion known from Hispaniola and the eight member of the genus confirmed to occur here. It further increases the total number of Recent Hispaniolan scorpions and members of Buthidae to 47 and 38, respectively.

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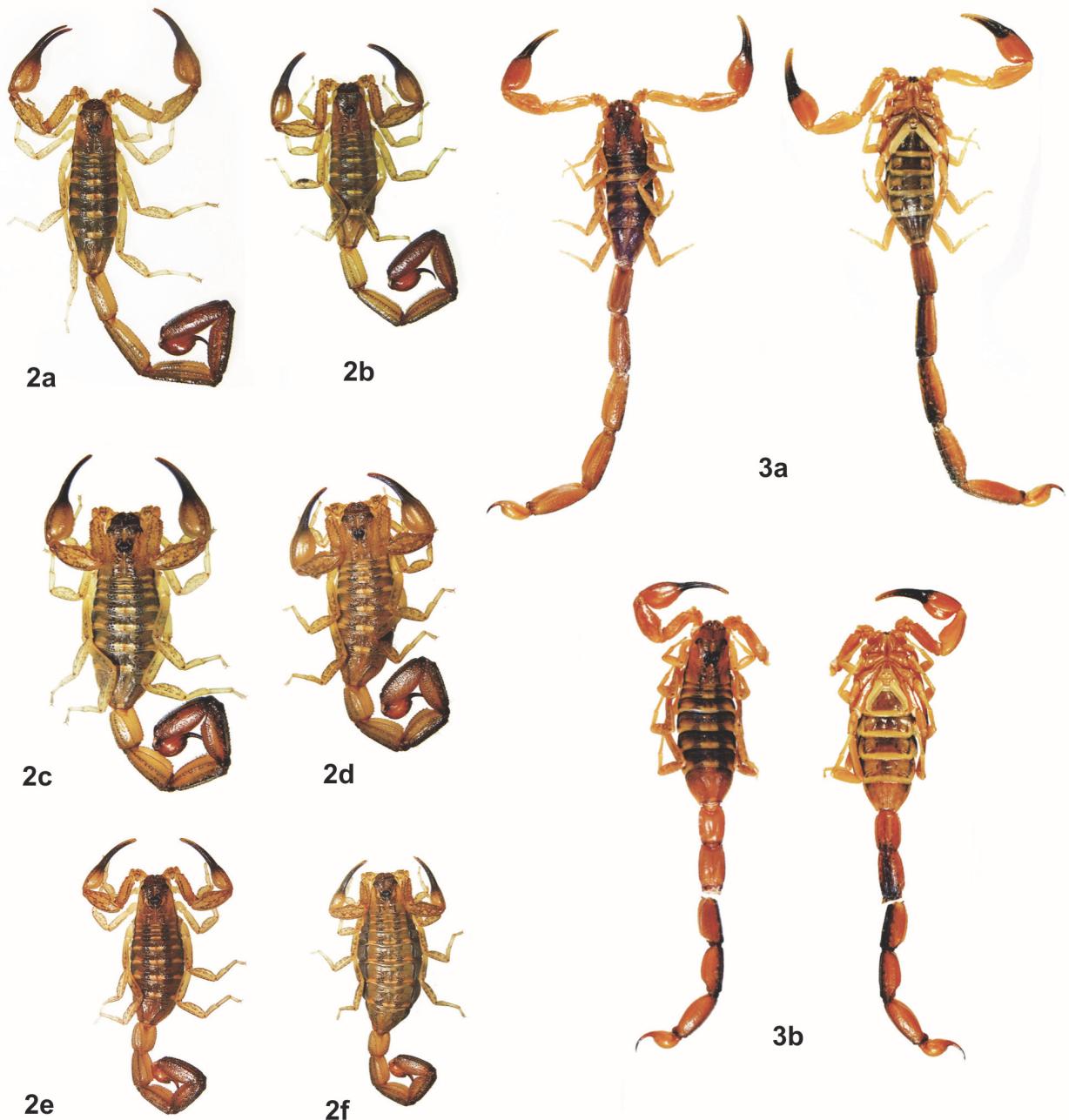


Fig. 2. Live individuals of *Centruroides platnicki* from Hispaniola, complete dorsal view: **a)** large adult male from Hato del Medio; **b)** standard adult male from El Morro; **c)** large adult female from Hato del Medio; **d)** standard adult female from El Morro; **e)** small adult female from El Morro; **f)** juvenile female from Hato del Medio. **Fig. 3.** Standard adult topotypes of *Centruroides platnicki*, complete dorsal and ventral views: **a)** male; **b)** female. Photos courtesy František Kovářík. **Fig. 4.** Habitat and microhabitat of *Centruroides platnicki* in Dominican Republic: **a)** coastal desert scrub at El Morro; **b)** tree barks at Hato del Medio.