Euscorpius

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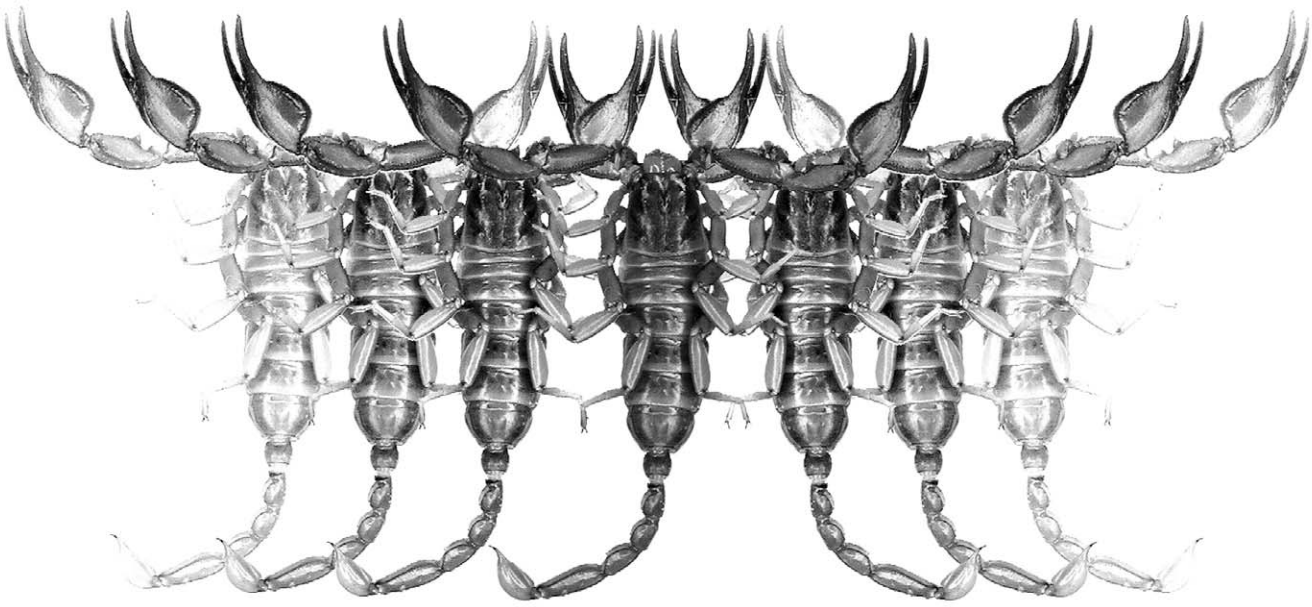

The Missing Piece of the Puzzle Solved: *Heteronebo* Pocock, 1899 (Scorpiones: Scorpionidae) Occurs at Isla de Pinos, Cuba

Rolando Teruel & Tomás M. Rodríguez-Cabrera

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EDITOR: **Victor Fet**, Marshall University, **'fet@marshall.edu'**
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The missing piece of the puzzle solved: *Heteronebo* Pocock, 1899 (Scorpiones: Scorpionidae) occurs at Isla de Pinos, Cuba

Rolando Teruel [1] & Tomás M. Rodríguez-Cabrera [2]

[1] Centro Oriental de Ecosistemas y Biodiversidad, Museo de Historia Natural "Tomás Romay". José A. Saco # 601, esquina a Barnada, Santiago de Cuba 90100, CUBA. E-mail: rteruel@bioeco.cu
[2] Pérez # 212, entre Luco y Villanueva, Reparto Luyanó, 10 de Octubre, La Habana 10700, CUBA. E-mail: tomasmichel.rodriguez@gmail.com

Summary

The diplocentrine scorpion genus *Heteronebo* Pocock, 1899 is recorded herein for the first time from Isla de Pinos, southwestern Cuba. A total of 15 specimens of *Heteronebo bermudezi* (Moreno, 1938) were collected in two nearby localities of the southern coast of the island, where it occurs in exactly the same habitat previously known for this species in Guanahacabibes Peninsula and two cays of Canarreos Archipelago. The allegedly polytypic status of this species is also revised and full species rank is restored to the subspecies *Heteronebo bermudezi morenoi* (Armas, 1973). An updated distribution map of *H. bermudezi* is provided.

One the most intriguing biogeographic puzzles and open debates in Cuban arachnology is the absolute lack of any records of *Heteronebo* Pocock, 1899 from Isla de Pinos. This is especially relevant, because this scorpion genus was known to occur in Guanahacabibes Peninsula and two small cays of Canarreos Archipelago, west and east of Isla de Pinos, respectively. The full story of this controversy can be tracked in chronological order from the following sources: Armas (1983, 1984, 1988), Teruel & Piorno (2006), Teruel & Kovařík (2012), and Armas & Alayón García (2014).

On December 10th, 2016, during an arachnological expedition conducted to Isla de Pinos we found specimens of *Heteronebo* at two localities of southwestern coast of the island (Figs. 1–2):

ISLA DE LA JUVENUTUD Special Municipality, Canarreos Archipelago, Isla de Pinos (**first record**), Cocodrilo [= Jacksonville], 21°29'38"N - 83°05'44"W, 1 juvenile (RTO). Punta Pepe, Caleta del Infierno, 5 km southeast of Cocodrilo, 21°28'12"N - 83°03'58"W, 1♂, 3♀♀, 10 juveniles (RTO).

Both localities are presumed to represent a single population, because there is only four kilometers air-distance in between, and this coastline is a continuum of soil and vegetation (Fig. 2). In each site, the specimens of *H. bermudezi* were found under rocks on sand, at the edge of the sea-grape forest (*Coccoloba uvifera* Linnaeus, 1759), less than 100 m away from the tide line (Fig. 3). According to the published literature (Armas, 1976; Teruel & Kovařík, 2012; Armas & Alayón García, 2014) and personal observations of the present authors (R. Teruel & T. M. Rodríguez-Cabrera, unpublished), this is the typical habitat of the species all over its distributional range, i.e., it is a strictly littoral scorpion.

On the other hand, our examination of more than 200 specimens revealed that the characters used as currently diagnostic for its two subspecies (Teruel & Kovařík, 2012) are stable, unambiguous and non-overlapping enough to warrant their distinction as separate species. Thus, the following nomenclatural changes are herein introduced accordingly: *Heteronebo bermudezi* (Moreno, 1938) is regarded back as monotypic and *Heteronebo morenoi* (Armas, 1973) is restored to a full species level, as originally recognized by Moreno (1938, 1940) and Armas (1973). Both species will be fully redescribed in a forthcoming paper (R. Teruel & T. M. Rodríguez-Cabrera), but herein we give in advance several new locality records that complete the known range of *H. bermudezi* (Fig. 3); the localities have been ordered from west to east:

PINAR DEL RÍO Province, SANDINO Municipality, Guanahacabibes Peninsula, Playa La Barca, Punta de Mangle, 21°52'21"N, 84°44'02"W (**first record**). Playa El Perjuicio [= Playa Sierra], 21°53'14"N, 84°42'17"W (**first record**). Playa Antonio, 21°53'51"N, 84°40'48"W (**first record**). Farallón de los Ingleses, 21°54'31"N, 84°38'47"W (**first record**). El Veral, 21°55'54"N, 84°31'48"W. La Bajada, 21°55'21"N - 84°28'38"W (**first record**). Playa La Botella, 3.2 km southeast of La Ba-

Figure 1: Live adults of *Heteronebo bermudezi*, photographed *in situ* at Punta Pepe, Isla de Pinos: a) male; b) female.

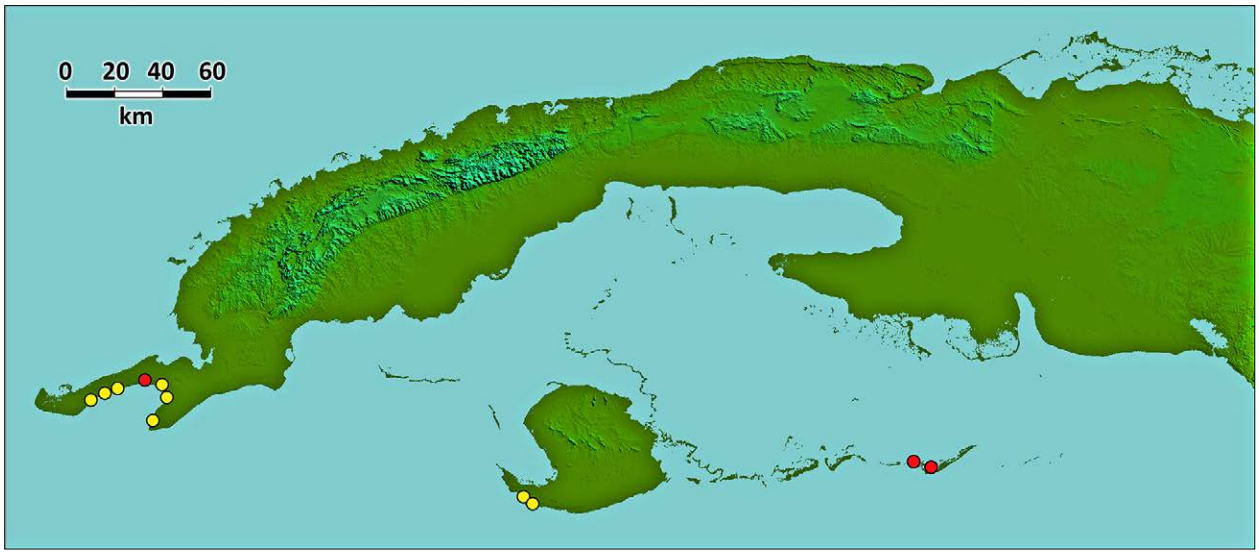

Figure 2: Western Cuba, showing geographical distribution of *Heteronebo bermudezi*: new records (yellow dots); previous records (red dots).

Figure 3: Habitat of *Heteronebo bermudezi* at Punta Pepe, Isla de Pinos.

jada, 21°53'47"N, 84°27'36"W (**first record**). María La Gorda, Punta Caimán, 21°47'56"N, 84°30'23"W (**first record**). ISLA DE LA JUVENTUD Special Municipality, Canarreos Archipelago, Cayo Majá del Medio, 21°37' 53"N - 81°35'49"W. Cayo Largo del Sur, Las Piedras [= Norita or Punta de Piedras], 21°37'18"N, 81°32'03"W.

According to Borhidi (1991), the southwestern part of Isla de Pinos has a thermobixeric tropical climate (subtype 5bTh), a two dry periods dry bixeric climate with 5–6 dry months, similar to that of the eastern part of the isthmus of Guanahacabibes. In addition, the soil and vegetation are quite homogeneous along the southern coast of this island (Sudpineroense Phytogeographic District), and again share many features with that of southern Guanahacabibes Peninsula (Guanahacabibense Phytogeographic District). This suggests a strong pattern of habitat preference by *H. bermudezi* and that it might potentially occur all over this coastal stripe, from Punta Francés through Punta del Este.

Last, but not least, we need to introduce here an essential clarification: the toponyms Isla de Pinos and Isla de la Juventud are both indistinctly applied and this leads to confusion. The former used to be the only name of the large island south of Cuba. With the administrative territorial reorganization in 1976, it acquired the status of a Special Municipality that includes the large island plus the rest of Canarreos Archipelago as well. On 3August 1978, a presidential decree arbitrarily changed the name of both the island and the municipality to Isla de La Juventud, which made precise geographical records ambiguous. To avoid this, we chose herein to resurrect the older, traditional toponym Isla de Pinos for the island, and leave Isla de la Juventud for the administrative entity than includes it. The present note illustrates this situation perfectly: the genus *Heteronebo* was so far unrecorded from Isla de Pinos, but already listed for Isla de la Juventud (after its records from Cayo Largo del Sur and Cayo Majá del Medio).

Except a few specimens from the collection of the Instituto de Ecología y Sistemática, Havana (IES), all material listed above is deposited in the first author's personal collection (RTO), preserved in ethanol 80%.

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