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"NEW KID ON THE BLOCK": THE WEST AFRICAN SCORPION *HOTTENTOTTA HOTTENTOTTA* (FABRICIUS, 1787) (SCORPIONES: BUTHIDAE) MAY HAVE BECOME ESTABLISHED IN SPAIN

Rolando Teruel[1, 2] & Carlos Turiel[3]

[1] Grupo de Sistemática y Ecología de Artrópodos Caribeños. Calle 200 # 3759 entre 37 y 45, Reparto Versalles; La Lisa; La Habana 13500. Cuba. teruelrolando6@gmail.com
[2] Instituto de Ecología y Sistemática (Subdirección de Colecciones Zoológicas), Carretera de Varona # 11835 entre Oriente y Lindero, Reparto Calabazar, Boyeros; La Habana 11900, Cuba.
[3] Niederrheinstrasse 49, 41472 - Neuss, Germany. Centruroides@gmx.de

Abstract: The present note reports on the occurrence of the buthid scorpion *Hottentotta hottentotta* (Fabricius, 1787) at two localities in north-western Spain: Nieves (Galicia) and Gijon (Asturias). This species is markedly synanthropic and native to western Africa, where it is widespread and consists largely of parthenogenetic populations. The finding of three live adult females independently at two different localities, but within the same geographical region (the Iberian northwest), suggests that this species could have successfully become established there. Spain now harbours four introduced scorpion species: one confirmed as established and two others seemingly so as well.
Key words: Scorpiones, Buthidae, *Hottentotta*, introduced species, first records, Europe.

"La chica nueva del barrio": el escorpión africano-occidental *Hottentotta hottentotta* (Fabricius, 1787) (Scorpiones: Buthidae) parece haberse establecido en España
Resumen: La presente nota registra la presencia del escorpión bútido *Hottentotta hottentotta* (Fabricius, 1787) en dos localidades del noroeste de España: Nieves (Galicia) y Gijón (Asturias). Esta especie es marcadamente sinantrópica y nativa de África occidental, donde presenta una distribución muy amplia y constituida mayormente por poblaciones partenogenéticas. El hallazgo de tres hembras adultas vivas de manera independiente en dos localidades distintas, pero de la misma región geográfica (el noroeste ibérico), sugiere que esta especie pudiera haberse establecido allí de manera exitosa. España cuenta ahora con cuatro especies introducidas de escorpiones: una confirmada como establecida y otras dos aparentemente también.
Palabras clave: Scorpiones, Buthidae, *Hottentotta*, especie introducida, primeros registros, Europa.

In 2011, the present authors started a thorough revision of the scorpion genus *Buthus* Leach, 1815 in the Iberian Peninsula, which is still in progress (Teruel & Turiel, 2020, 2021a–b, in preparation). As a key part of this monumental task, intensive collecting trips have been conducted to 71 localities covering all Portugal and Spain; additionally, we have also received from unselfish collaborators the donation of samples from other 10 localities in the study area.

In late June 2018, one of us (CT) conducted a field trip to the village of Nieves (= As Neves), in southwestern Galicia. While searching for scorpions there, a local resident of the neighboring village of Rubiós named Roberto, donated to him a small bottle with four adult scorpions perfectly preserved in absolute ethanol, which he kept for medicinal rubbing (a traditional, home-made, pain-relief remedy there, see Fernández de la Cigoña Núñez & Fernández de la Cigoña Rodríguez, 2001). Two of the scorpions were females of the expected, target species *Buthus* cf. *halius* (C. L. Koch, 1838), but the other two (figs. 1–2) were a big surprise for us: females of a very different member of Buthidae, not native to Europe and never recorded before from there: *Hottentotta hottentotta* (Fabricius, 1787).

During a thorough conversation with Roberto, he declared to have collected the four scorpions in different dates before 2015, but always inside a woodpile at his carpenter's workshop. He also did not know the precise origin of the wood pieces and thus, the potential source of the specimens of *H. hottentotta*. Thus, an intensive search around the village was attempted, but the entire area had just been devastated few weeks ago by a huge wildfire and no scorpions were found (not even the common and widespread *Buthus* cf. *halius*).

Two years later, while searching in the well-known iNaturalist website for additional records to enhance our *Buthus* taxonomic project, we surprisingly came across another independent finding of *H. hottentotta* in northwestern Spain. It involved another adult female, reportedly found alive on December 16, 2020 inside the container of a cargo truck coming from Gijon Harbor (= El Musel, one of the greatest and most active harbors in the Atlantic east coast).

The complete data of the above-given records of *H. hottentotta* from Spain follow:

1. GALICIA: Pontevedra Province: Nieves Municipality: Nieves [= As Neves] (42°05'27"N 08°25'02"W / 205 m a. s.l.); before 2015; found in a woodpile at a carpenter's workshop; Roberto, coll. and legt.; 2♀♀ (RTO).

2. ASTURIAS: Asturias Province: Quirós Municipality: Salcedo [= Salcéu] (43°31'39"N 06°4207"W / 90 m a.s.l.); 16/December/2020; photo of 1♀ found alive inside a truck container coming from Gijon Harbor (https://www.inaturalist.org/observations/66666783).

Some facts suggest that this species may have become established in the Iberian northwest: three live adult females were found during two independent events at least (maybe three, i.e., it is quite possible that both from Nieves were collected in different dates along the four years time-lapse), and in two distinct localities within the same geographical region. In fact, *H. hottentotta* is the perfect candidate for a successful colonization: it is widespread and locally common

all over tropical West Africa (including the Cabo Verde islands) due to its high ecological plasticity, markedly synanthropic character and largely asexual reproduction by parthenogenesis; the interested reader is referred here for information to the following sources: Vachon & Stockmann (1968), Kovařík (2007), Lourenço & Ythier (2007), Lourenço *et al.* (2007) and Kovařík & Ojanguren Affilastro (2013).

Spain now accounts for four introduced scorpion species, being the others the buthids *Centruroides gracilis* (Latreille, 1804) and *Isometrus maculatus* (DeGeer, 1778), plus the vaejovid *Vaejovis mexicanus* C. L. Koch, 1836; see Kraepelin (1899), Armas & Báez (1988), Teruel & Biurrun Baquedano (2015), and Teruel & Melic (2015). Of them, only *C. gracilis* is confirmed as established in the Canary island of Tenerife (there are many repeated and independent records from various localities, available at iNaturalist website), while *V. mexicanus* is likely so too in Bidaurreta, central Navarra (Teruel & Biurrun Baquedano (2015: 126). As opposite, *I. maculatus* was recorded only once, more than 120 years ago from coastal Huelva (Kraepelin, 1899: 67), thus, it either did not settled there or became extinct, as most introduced populations all over the world (Kovařík & Ojanguren Affilastro, 2013).

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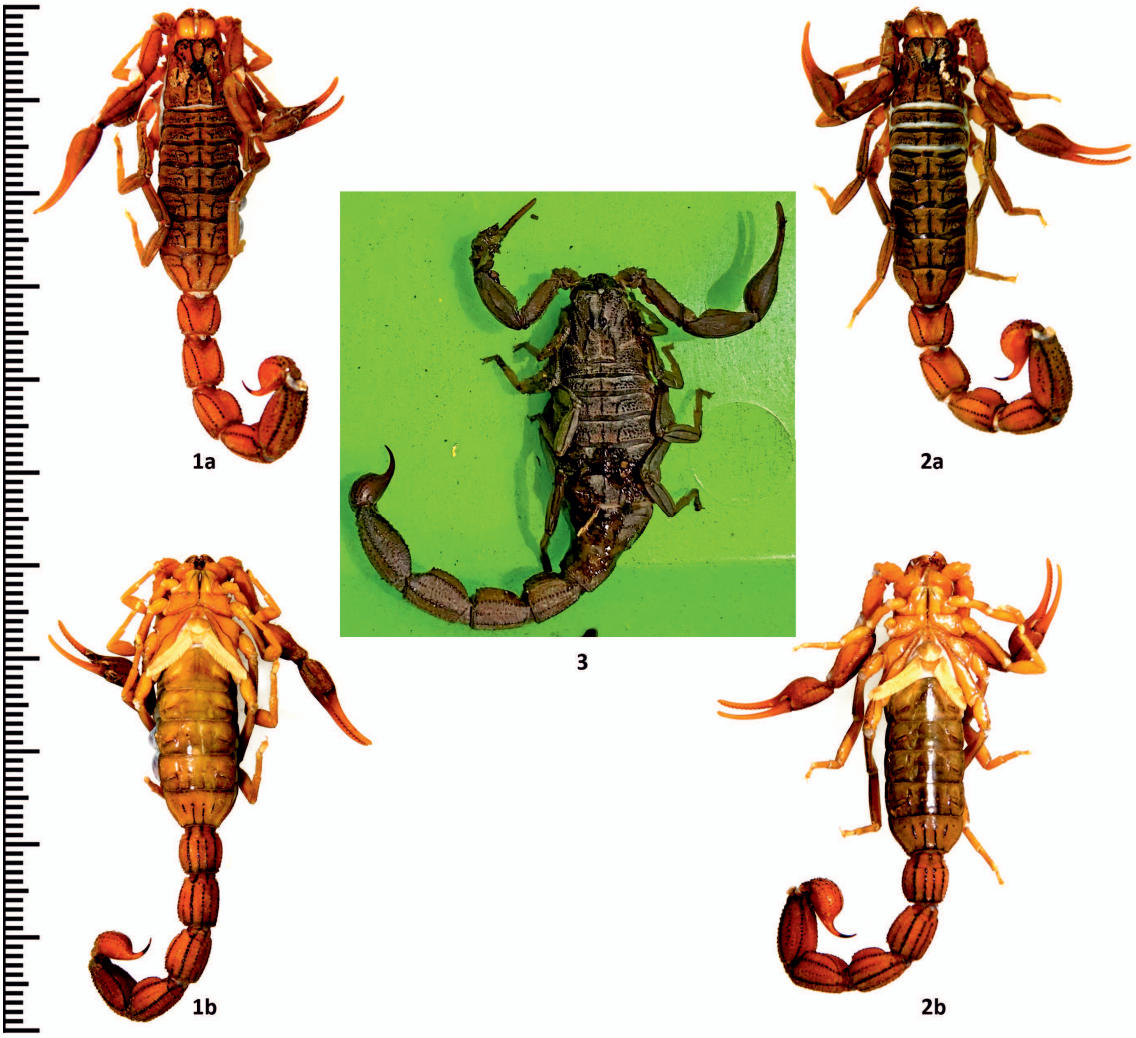
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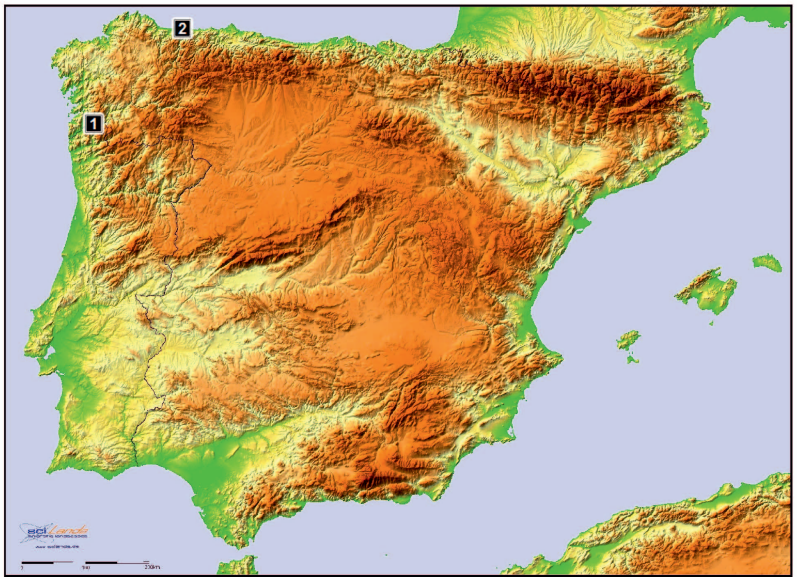
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Fig. 1–2. *Hottentotta hottentotta*, adult females from Nieves, habitus: **a)** dorsal; **b)** ventral. Scale bar in millimeters. **Fig. 3.** *Hottentotta hottentotta*, adult female from Salcedo, habitus dorsal (modified from iNaturalist). Image resized not to scale. **Fig. 4.** Iberian Peninsula, showing the two independent finding sites of *Hottentotta hottentotta* in northwestern Spain: Nieves, Galicia (1) and Salcedo, Asturias (2).