

Rhopalurus princeps
(Karsch 1879)

By
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Rhopalurus princeps adult ♀

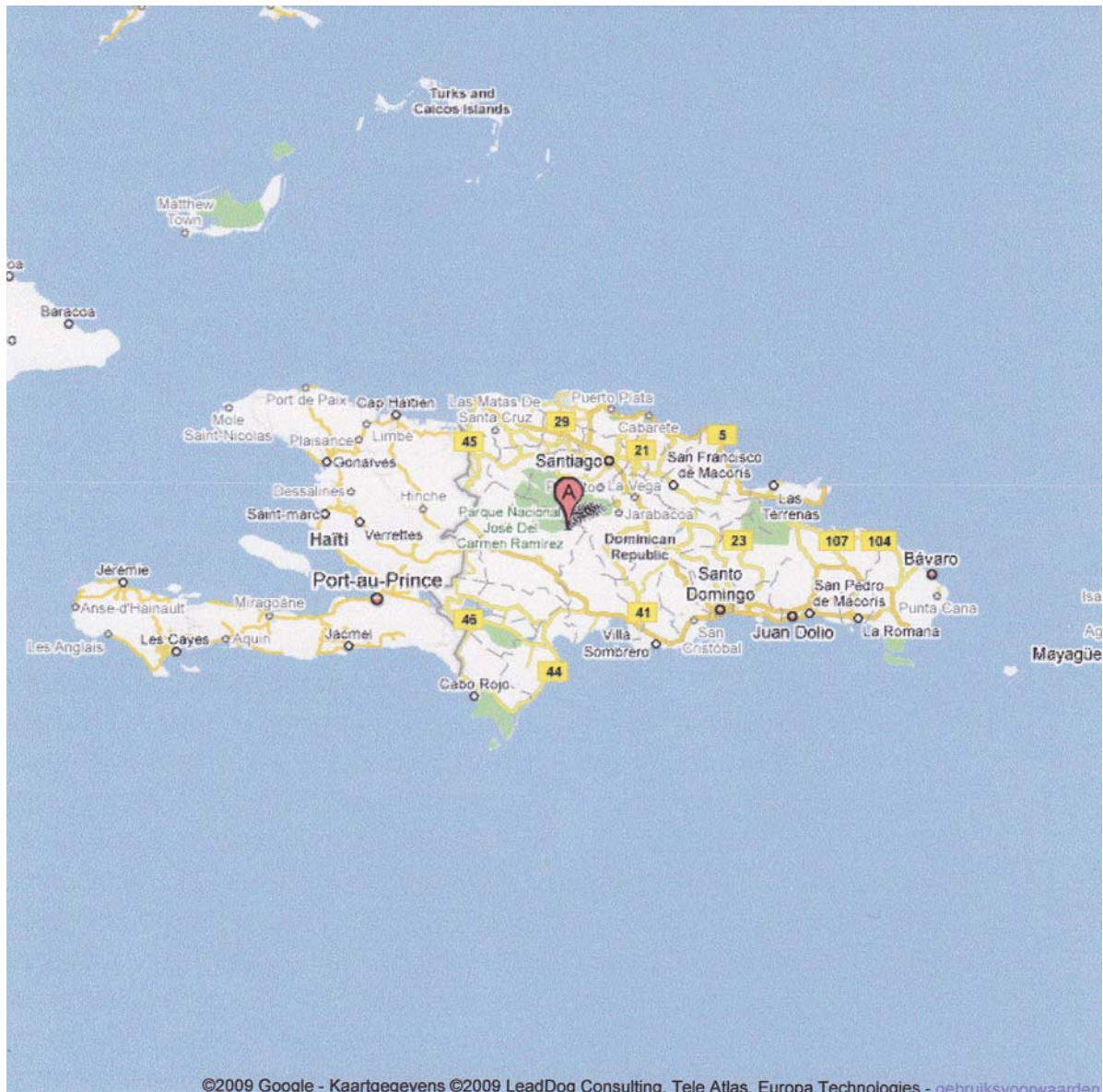
What's in a name?

This scorpion has no generally accepted common name as far as I know.

Etymology:

Rhopalurus males all have distally widened metasoma's, hence their genusname, which translated from Greek means literally 'club like tail' (*Rhopalos* = club, *uros* = tail). The species name '*princeps*' means the first, the most important one or the leader (as in a person), '-ceps' is derived from the Greek word 'cephalos', meaning head).

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The main island of Hispaniola

Distribution

Endemic to Hispaniola (Dominican Republic, Haiti). The type locality is Port-au-Prince, Haiti. All records from outside Hispaniola are to be considered as erroneous (*R. Teruel, pers.comm*). It occurs in the central part of Hispaniola (including the valley of the Yaque del Norte River), the Neiba Valley, the Sierra de Baoruco, Sierra de Martín García and Sierra de Ocoa (Teruel 2006). The specimens in the pictures originate from the arid area north of the city of Barahona, near the shore (Dominican Republic).

Natural habitat

Hispaniola has a tropical warm climate all year round. The winter lasts from november-april, with the coldest and driest months January and February (average daytemp. 28 ° C, nighttemp. 20 ° C). From may-october the temperatures are higher (average daytemp. 31 ° C, nighttemp. 22 ° C) and most rain falls in these months. Because of the northeastern tradewinds, most rain falls in the east and in the central mountains. The coastal areas experience warmer temperatures than the mountainous interior. The average relative humidity is around 70%, but during sunrise it can reach 90%, especially from may-october.

Rhopalurus princeps inhabits arid (semi-desert) environments, with savannahlike open vegetation formations of shrubs, grasses, cacti and spiny bushes and it lives on diverse substrata. They can be found under bark, wood, rocks and in dead agave plants. Most hurricane activity takes place in august-september.

Venom

Although this scorpion is from the family *Buthidae* (Koch, 1837), it is not considered as medically important. This applies to all species of the genus *Rhopalurus*. The sting itself is painfull, but in general these local pains subside within 24 hours. There is no data available to me on the LD50 value of the venom of this species, but for *R.laticauda* 30 mg/ kg (DeSouza et al, 2000) is recorded, for *R.junceus* 8.0 mg/ kg, and for *R.agamemnon* 36.363 mg/ kg (Lourenço et al, 1995).



Rhopalurus princeps adult ♂

Morphological information

The genus *Rhopalurus* currently contains 19 species. All Caribbean species of *Rhopalurus* are closely related and appear to represent a monophyletic group, where *R. abudi* and *R. bonettii* are more closely related to each other than to *R. princeps* (*R.Teruel, pers.comm*). *R.princeps* seems more closely related to the Cuban *Rhopalurus* species (Prendini et al, 2009).

Scorpions of medium size for the genus, 45-69 mm. Pectinal tooth count is 22-23. Subaculear tooth is either absent or very small.



The lobe-notch combination of pedipalp fingers in the ♂

The basic coloration is yellow to greenish yellow. The chela and fingers are light to dark brownish and always darker than the rest of the pedipalp. There is a yellow triangle shaped area on the anterior part of the carapace, the rest of the carapace is darker yellow. The tergites are yellow at the posterior and anterior edges and the areas in the middle are lightbrown to darkyellow. A single longitudinal dark band crosses the middle of the tergites. Metasomal segments I-III yellow, segment IV reddishbrown, segment V darkbrown to blackish. Vesicle is dark red to brown. Legs are yellow. Males have more bulbous pedipalps, a conspicuous lobe-notch combination of the pedipalp fingers (see picture above), distally widened metasoma's and are smaller than females.



Spermatophore



Above: mating couple, ♂ on the left, beneath: female with instar 1 young



Keeping in captivity

The latter of the following information is based on my own experience and should be regarded as an example of how to keep this species in captivity. In my opinion the minimum size for keeping a pair of adults is around 20x20x20 cm (8x8x8 inch). Juveniles can be kept in all kind of deli cups. I keep my juveniles in separate containers to avoid the risk of cannibalism and I keep adults in pairs or small groups. For housing a group of one male and two females I use plastic boxes of 40x30x20 cm (16x12x8 inch). I keep this species between 26-30 Celsius (79-86 F) in the daytime, and around 20 C (68 F) at night. Because this species comes from semi-arid regions, the relative humidity should be low. I mist two corners of the enclosure once a week. Provide adequate ventilation to prevent too high humidity levels. When the humidity level is too high for a longer period of time, there is a risk that mycoidal infections can develop. When it is too low, moulting problems can occur. When the scorpions are close to ecdysis, make sure the relative humidity is sufficient to prevent problems.

Sand (70%) mixed with dry humus (30%) is in my opinion a good basic substrate. This species does not dig burrows and pieces of cork bark or stones will be accepted as a retreat. Provide a small bottle cap or filmroll cap of water, for drinking. Adults can be fed one or two appropriate sized prey items once a week. I feed my scorpions crickets twice a week until they are passed the third instar. Prey is killed by a (couple of) quick sting(s), depending on the size of the prey item and on the size of the scorpion.



Female with instar 2 young

This species breeds without difficulty in captivity. *R.princeps*, like all other species of the genus, does not produce iteroparous litters. On the 17th of April 2009 two pairs (I and II)

where mated. Female II gave birth to 27 young after a gestation period of 108 days. Five days later the young molted to instar 2 and after 9-12 days the young dispersed. On the 8th of august female I gave birth to 30 young after a gestation period of 113 days. Five days later, the young molted to instar 2 and after 11-13 days the young dispersed.

According to Lourenço (2000) embryonic development takes 2-7 months (average 4,5), postembryonic development takes 13-25 months, average brood size is 15-30 young and the life span is up to 52 months.

Acknowledgements

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