Notes on the breeding of *Hottentotta pachyrurus* Pocock, 1897 (Scorpiones: Buthidae)

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Buthidae Koch, 1837 is one of the largest scorpion families with 82 genera (including one extinct) and 773 species having a tropical, subtropical, and partly temperate distribution, notably absent in Antarctica and New Zealand. Members of the family are of special interest due to their medical importance. Some genera from this family, for example *Androctonus*, *Centruroides*, *Hottentotta*, *Leurops*, *Parabuthus* and *Tityus* are lethal to man. They are small to medium-sized scorpions averaging 20mm to 120mm in length (Rein 2006). Despite their widespread distribution, members of the Buthidae family are poorly understood in terms of natural history and ecology. *Hottentotta*, earlier described as a subgenus, is one of the most widely distributed genera, with species present throughout Africa, the Arabian peninsula, and Asia including Pakistan and India (Kovačič 2007).

*Hottentotta pachyrurus* was initially described as *Buthus pachyrurus* and was later assigned to the genus *Mesobuthus* by Tikader & Bastawade (1983). Kovačič (2007) in his revision of the genus *Hottentotta* transferred *M. pachyrurus* to *Hottentotta*. It is a widely distributed species occurring at Sangli, Sholapur, Satara, Poona, Aurangabad and Nasik in the state of Maharashtra in India (Tikader & Bastawade 1983). Gour-Broome & Zambre (2007) reported *H. pachyrurus* to be found in wood, lofts, tree trunks, and roofing timbers, and as having a painful sting.

On 9 May 2007 we collected a live specimen of a female scorpion identified as *Hottentotta pachyrurus* (Image 1) from near Karla caves, Lonavala, Maharashtra from under a boulder with *Hemidactyulus cf. brookii* (Reptilia: Gekkonidae) being one of the sympatric species. The scorpion was black with the tarsus of the pedipalps distinctively reddish-brown; measuring ca. 25mm in total length.

The live scorpion was housed in a plastic box, the substrate of which was comprised of loose soil and bark pieces, and mealworms were introduced into the box for it to feed upon. The scorpion would hold the mealworms between its pedipalps, sting them, and then proceed to consume them once they were paralyzed. The scorpion grew to about 41.76mm with a distinctly bulging mesosoma. On 22 January 2008 at 2230hr the scorpion was observed in the corner of the box and on 23 January 2008 at 1100hr 16 hatchlings were observed on its back. The newly born young had dark rufous carapaces and mesosomas, with light colored legs that contrasted with their metasomas and pedipalps, which were a shade of orange. As they grow, the entire body color changes to dark brownish-black ultimately changing to overall black at adulthood. Gour-Broome & Zambre (2007) reported juvenile *Hottentotta pachyrurus* to have a reddish body and black legs. By 24 January 2008 three of the juveniles were found dead and were later consumed by their siblings. By 25 January most of the juveniles had abandoned their mother, molted, and were observed feeding upon their exoskeletons (Images 2 & 3). The juveniles ranged in size from 7.02 to 10.70mm and were active and alert, stingning at the slightest provocation. Later they were released at the site where the adult female was collected. During the prolonged gestation period of eight months and 13 days (under observation), the female did not molt. When the female was collected, she did not show any signs of aggression, but as the time of parturition approached she would get agitated and sting at the slightest provocation.

Members of the family Buthidae are known to have a minimum gestation period of 1 month (*Orthochirus innesi* Simon) and a maximum gestation period of 10 months (*Buthus occitanus* Amoreux). Litter sizes vary from 5 to 105 (Polis 1990). *Hottentotta pachyrurus* is presently reported to have a gestation period exceeding eight months and 13 days under laboratory conditions as mating did not occur in captivity.

During the period of captivity an individual of *Hottentotta tamulus* Fabricius 1798 was introduced (in the month of June 2007) into the housing box, agitating the female *H. pachyrurus*. As *H. tamulus* entered into the striking range of *H. pachyrurus* it was repeatedly stung, and after stinging *H. pachyrurus* once, immediately retreated into a corner. The scorpions were separated after this incident. The *H. tamulus* was retained and observed for a week after being stung and was then released. No sign of envenomation was evident in the form of abnormal behavior or swelling.

Since mating did not occur in captivity we assume that *H. pachyrurus* might be parthenogenic, similar to two other species of the genus *Hottentotta* namely, *H. hottentotta* and *H. caboverdensis* (Lourenço & Ythier 2007; Lourenço et al. 2007) but this needs further investigation. Lourenço et al. (2007) mentions 10 species of the family Buthidae to be parthenogenic, namely *Tityus serrulatus*, *Tityus uruguayensis*, *Tityus columnarius*, *Tityus trivittatus*,
The breeding biology of *Hottentotta pachyurus* adds some information on the natural history and ecology of this little known bithid.

**References**


