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# Influence of body weight, gender and milking interval on venom yield of scorpion *Heterometrus swammerdami* (Simon 1872) (Scorpionidae) from Jaffna peninsula

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Scorpion venom contains many biologically and medically important compounds. Thus there is a strong demand to obtain venom from various species of scorpions for research purposes. Objective of the present study is to determine the optimal conditions for scorpion *Heterometrus swammerdami* (Simon 1872) in order to maximize venom yield available for research. Scorpions were collected from Thirunelvely in Jaffna. Morphological identification of the collected scorpions was done employing identification keys. All scorpions were maintained alive in the laboratory in individual glass tanks and fed with 1-3 cockroaches once a week. Venom was collected by using electrical stimulation (5- volts) of the telson for a period of 5-10 seconds. The body weight of scorpion and wet weight of venom were weighed. In total, 170 rounds of milking were carried out using 50 individual *H. Swammerdami* (25 female, 25 male). Collected venom was stored at -20°C until further use. All statistical tests were analysed by using ANOVA. Gender and body weight were found to cause a major effect on the venom yield. Male scorpion yielded significantly less ($p<0.05$) venom (3.7 ± 0.51 mg) than female scorpion (4.0 ± 0.07 mg). However, venom yield correlated linearly with scorpion weight for scorpion weighing up to 25g with maximum yield 4.0 ± 0.20 mg. Furthermore, a significant reduction (2.5 ± 0.02 mg; $p<0.0001$) in the venom yield was found during two week time interval. On the other hand, starvation and state of nutrition did not significantly affect ($p>0.05$) the venom yield. These findings can reveal the optimal condition to increase the venom yield and lead the field of venom research.

Key words: *Heterometrus swammerdami*, milking of venom, scorpion venom

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