

## Painless Stings of Yellow Iranian Scorpions

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### Dear Editor,

With great interest, I read the letter to the editor by Azizi et al., recently published in your journal (1). The authors had compared the appearance of 2 yellow Iranian scorpion species, ie, *Mesobuthus eupeus* (Tosan) and *Hemiscorpius lepturus* (Gadim), and had introduced diagnostic keys to differentiate these species. Here, the question arises as to why they had only compared these 2 species. Only 12 out of 51 scorpion species reported in Iran are medically important (2-4), 7 of which are solid yellow (Figures 1 and 2). Cases stung by these species have been reported in various provinces of Iran with different prevalences (2).

In addition to *H. lepturus* species studied by Azizi et al., *H. acanthocercus* found in Hormozgan province, Iran is a seriously dangerous yellow scorpion, which is morphologically identical to *H. lepturus*. Similar to *H. lepturus*, this scorpion can cause acute renal failure and death (3). Diagnosis of the sting of these species is important, since unlike other yellow scorpions, their stings are painless and might not be considered important. Consequently, the patients may be discharged from the emergency department or be referred to hospital when it is too late for anti-venom administration.

Accordingly, a special characteristic must be identified to differentiate these species not only from *M. eupeus* scorpions, but also all other yellow scorpions which are medically important in Iran. As presented in Figure 1, ordinary people and the majority of medical personnel (not entomologists) assume that they are simple solid yellow scorpions, with a back similar to *M. eupeus*.

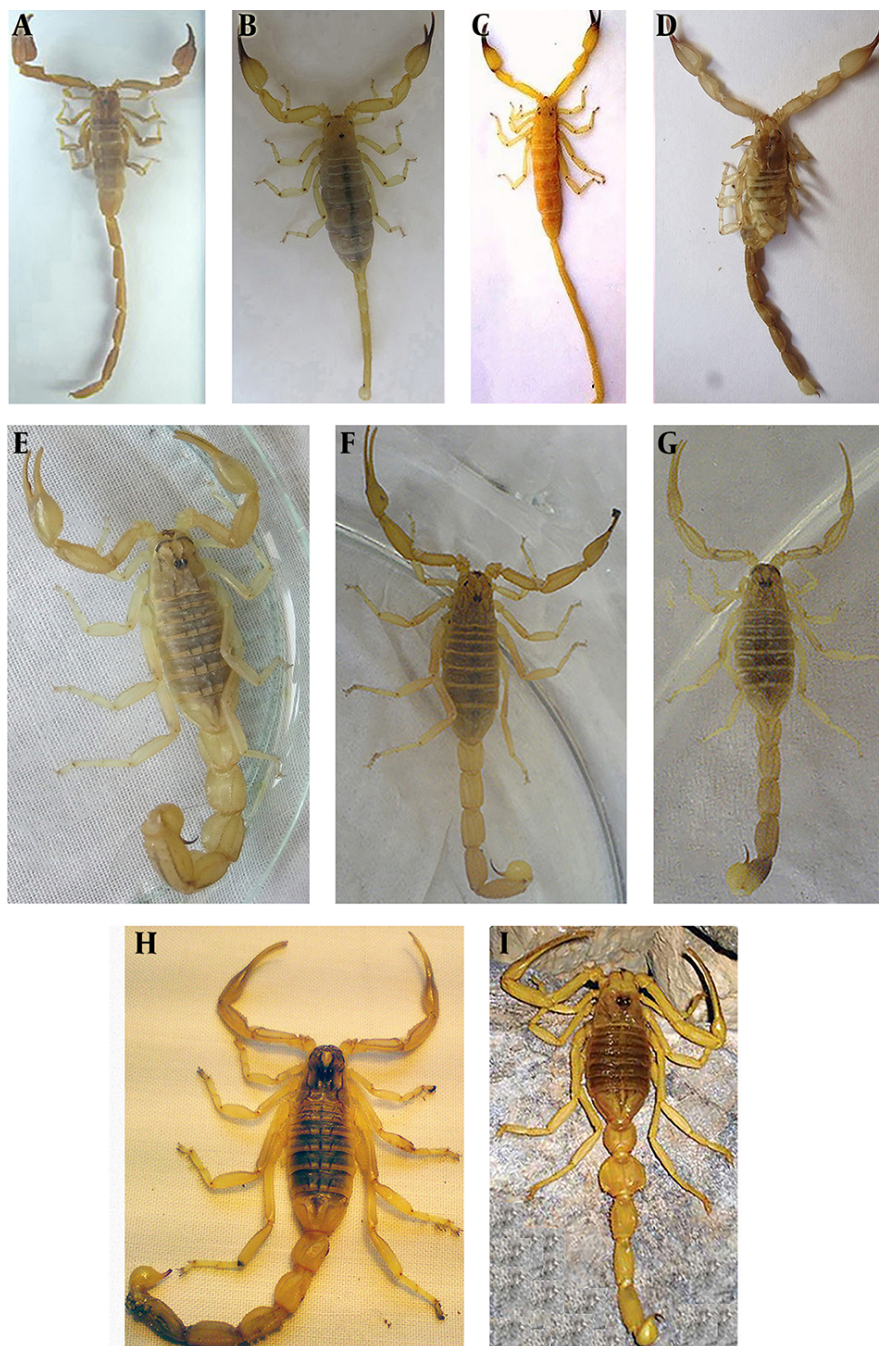
The size of scorpions is also helpful in distinguishing scorpions from one another. However, the size of mature and immature scorpions varies and is not comparable in different species. I believe that apart from the long tail of male *H. lepturus* and *H. acanthocercus* scorpions, their broad claws with dark tips distinguish them from other yellow Iranian scorpions. This feature is distinguishable for all individuals and health personnel and will undoubtedly contribute to timely and accurate diagnosis.

The sting of *H. lepturus* and *H. acanthocercus* scorpions is not common in Shiraz, the capital of Fars province, Iran. In this regard, Sagheb et al. reported 14 hospitalized patients stung by *H. lepturus* in Namazi Hospital of Shiraz; however, they were all stung in places other than Shiraz (5). Since the establishment of the Division of Medical Toxicology in the Emergency Section of Hazrat Ali-Asghar (p) Hospital in July 2012 (the only adult medical toxicology center in Shiraz) (4), we have only had 3 to 4 cases of scorpion sting by *H. lepturus* from villages around Darab and Borazjan in Fars and Bushehr provinces; however, none of the patients had brought the scorpion to the hospital.

Recently, during my educational toxicology round with medical interns, a young man was admitted with a scorpion sting; the patient had brought the scorpion to the hospital (Figure 2). He only had a slight burning sensation around the sting site. At first glance, all medical interns recognized *H. lepturus* scorpion, based on the characteristic I had taught them. In history taking, it was revealed that the patient was from Ahvaz, travelling to Shiraz. Reaching inside his bag, he was stung by a scorpion which had sneaked into the bag in Ahvaz. The patient was hospitalized and managed with intravenous anti-venom administration and several urinalysis tests (6). In conclusion, painless stings of scorpions with broad claws and dark tips should be taken seriously.

### References

1. Azizi K, Akbarzadeh A, Ghobadifar MA. Yellow Scorpion Bite: Ignore or Take it Seriously?. *Iranian Red Crescent M J*. 2016;18(12):919-33. doi: 10.5812/ircmj.28942.
2. Dehghani R, Fathi B. Scorpion sting in Iran: A review. *Toxicon*. 2012;60(5):919-33. doi: 10.1016/j.toxicon.2012.06.002.
3. Shahi M, Rafinejad J, Az-Khosravi L, Moosavy SH. First report of death due to *Hemiscorpius acanthocercus* envenomation in Iran: Case report. *Electron Physician*. 2015;7(5):1234-8. doi: 10.14661/1234. [PubMed: 26435822].
4. Sanaei-Zadeh H, Marashi SM, Dehghani R. Epidemiological and Clinical Characteristics of Scorpionism in Shiraz (2012-2016); Development of a Clinical Severity Grading for Iranian Scorpion Envenomation.. Accepted for publication in *Med J Islam Repub Iran*.



**Figure 1.** A, Male *H. acanthocercus* (image by Dr. Mehran Shahi); B, female *H. acanthocercus* (image by Dr. Mehran Shahi); C, male *H. lepturus*; D, female *H. lepturus*; E, *M. eupeus*; F, *M. caucasicus* (image by Dr. Rouhullah Dehghani); G, *Compsobuthus matthiesseni* (image by Dr. Rouhullah Dehghani); H, *Odontobuthus doriae* (image by Dr. Rouhullah Dehghani); and I, *Apistobuthus pterygocercus*.

5. Sagheb MM, Sharifian M, Moini M, Sharifian AH. Scorpion bite prevalence and complications: report from a referral centre in southern Iran. *Trop Doct.* 2012;**42**(2):90-1. doi: [10.1258/td.2011.110285](https://doi.org/10.1258/td.2011.110285). [PubMed: 22316623].
6. Valavi E. Step by Step Treatment of Scorpion Sting in South West of Iran [in Persian]. *Jundishapur Sci Med J.* 2016;**15**(1):117-24.



