180. Increased Incidence of *Tityus trivittatus* Envenoming in the City of Buenos Aires

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Background: *Tityus trivittatus* is the scorpion of highest medical importance in Argentina. It is present in the majority of the big cities of the country favouring the contact man – scorpion due its characteristic of adapting to live in human constructions and environments. In recent years, both the number of scorpion sighting reports, as well the number of envenomings increased in the country. We undertook this study to determine if the population of *Tityus trivittatus* has expanded its geographical area during the last decade in the city of Buenos Aires and whether or not there has also been an increase in the frequency of envenoming cases within the affected geographical areas**.**

Methods: the reported cases recorded in our institutions during 2001-2011 were classified by date and location, further geo-referenced in a digital map and analyzed in a geographic information system (GIS). Reported cases were modeled as points and buffer areas were created 250 m around each case to define an arbitrary measure of geographical influence. When reported *Tityus* events occurred close to each other (less than 500m), overlapping areas became merged into a single area containing all points representing those events. These areas were differentially plotted for increasing time intervals from 2001 to 2011. The total area associated with reported findings in square km and the number of events per square km was computed for each time interval.

Time interval (Years)	Compromised Area (km^2)	Reported findings	Reported findings/km^2
2001-2002	0.78	16	20.49
2001-2004	2.43	60	24.68
2001-2006	3.03	82	27.08
2001-2008	3.63	126	34.68
2001-2011	6.00	251	41.81

Results:

Discussion: The geographical area within the city of Buenos Aires, where some *Tityus trivittatus* findings have been reported, has increased at about 0.5 km^2 per year since 2001. The incidence of sightings of scorpions computed by area has also consistently increased since 2001, suggesting the presence of the species has become permanent. Despite the increasing number of sightings of *Tityus trivittatus*, the number of envenoming cases in Buenos Aires city did not increase in the last five years. There have been no deaths and only one moderate envenoming occurred in the city. The toxicity of the venom of these scorpions in the city of Buenos Aires is lower regarding that from other regions of the country. However, the increased geographic area where these scorpions can be found, indicates the need to focus attention to prevent potential envenomings in zones of the city where the presence of *T. trivittatus* has not been historically registered.

Keywords: *Tityus trivittatus,* scorpion, epidemiology, finding, Argentina
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181. Evaluation of a Four-Hour Endpoint for Use in Scorpion Envenomation Studies in Morocco

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Background: Scorpion stings in Morocco are a significant public health issue and children under the age of 15 are the most severely affected. The Moroccan poison center (Centre Anti Poison du Maroc, CAPM) uses a systematic four level envenomation classification system. Scorpion antivenom in North Africa has been controversial in the past and is not currently in use in Morocco. The objective of this study was to characterize a population for which effective antivenom treatment might have the greatest impact and to characterize potential endpoints for use in a subsequent prospective scorpion antivenom trial**.**

Methods: This was a retrospective review of CAPM records representing patients admitted for scorpion envenomation across Morocco. Patients included in the study were 6 months to 10 years old, admitted for a scorpion sting between March 2007 and November 2009. Patients presenting to the hospital more than 4 hours after a sting or with an envenomation class IIa or below were excluded. Indicators of patient outcome were observed hourly for the first five hours after admission seeking evidence of change for these parameters during that time. Final patient outcome at hospital discharge was recorded. No patient received antivenom**.**

Results: Out of 349 cases, 244 met the study inclusion and exclusion criteria. 18.4% ($n = 45$) of the patients progressed to a class III envenomation at some time during their hospital stay. Out of 223 patients for whom final outcome was available, mortality was 11.2% ($n = 25$). Younger patients had the most severe clinical syndrome. Out of the 244 patients, only 3 (1.2%) had clinical improvement documented within 4 hours of admission**.**

Discussion: Our findings are consistent with past reports that scorpion envenomation syndrome without