

TARENTOLA MAURITANICA (LINNAEUS, 1758), A NEW SPECIES OF LIZARD FOR CHILE (REPTILIA, PHYLLODACTYLIDAE)

Cristóbal Arredondo¹ and Herman Núñez²

¹ Programa Magister en Ciencias Animales y Veterinarias, Facultad de Ciencias Veterinarias y Pecuarias, Universidad de Chile; c.arredeq@gmail.com

² Área Vertebrados, Museo Nacional de Historia Natural, Casilla 787, Santiago, Chile; herman.nunez53@mnhn.cl

Tarentola mauritanica, salamanquesa común and Geco mediterráneo (in Spanish), Moorish Wall Gecko and Moorish Gecko (in English), is a widespread gecko around the Mediterranean African and European zones (Joger 1984; see also <http://maps.iucnredlist.org/map.html?id=61578>), including Greece and Crete (*ibid.*). The last source describes introduced populations in the north of Italy, Balearic Islands, and Tenerife. The Moorish Wall Gecko is a species that exploits human resources to inhabit areas beyond its original Mediterranean distribution. Outside Europe and north Africa, it has been introduced and established in San Diego County in the U.S. (Mahrtdt 1998; see more details in <http://reptile-database.reptarium.cz/species?genus=Tarentola&species=mauritanica>).

So far, in South America, this species has been reported from Uruguay for the first time by Achaval and Gudynas (1983). Baldo *et al.* (2008) analyzed the presence in South America of *Hemidactylus mabouia* and *Tarentola mauritanica*, and in that paper reported *Tarentola* just from Uruguay.

The first time *Tarentola* was detected in Chile was around 2005 by an employee in the dockyard workshops of Metro station Lo Ovalle, where materials for the construction of the Santiago metro arrived probably from France. After that, its presence was not reported again; therefore its occurrence there was considered anecdotal and non-permanent.

During 2013 the presence of an unknown lizard was reported from a human populated place near Ciudad del Niño metro station next to the Lo Ovalle Station. Two visits to that locality yielded collection of 13 specimens. Animals were trapped by hand, brought to the laboratory and killed by thiopental anaesthetic abdominal injection, then fixed in 80° ethanol and preserved in the same fluid. Then they were measured with calipers (0.01 mm precision). Samples of liver were taken and preserved in 80° alcohol in order to make future comparative DNA studies with the aim to elucidate its origin. We examined the animals and compared characters using data given by Joger (1984) as a basic reference. We conclude that the specimens collected belong to the *Tarentola* genus. Herein we report the presence of this allochthonous lizard in the city of Santiago, Metropolitan Administrative Region. Body and appendage measurements are given in Table 1.

According to Joger (1984), *Tarentola mauritanica* is the type species of the genus *Tarentola* and its close relationship must therefore be defined as subgenus with the same name. The subgenus *Tarentola* is characterized by [translated from German by Sven Nilsen from Universidad Austral, Valdivia, Chile]... a $\frac{3}{4}$ circle of 5-8 medium-sized scales similar to a rosette that, proximally and laterally surround each dorso-lateral tubercle. This horseshoe-shaped corona of scales consists of two large lateral scales, of usually half the diameter of a tubercle, three to four scales of about half that size in the proximal margin of the tubercle, and, on both sides (not always present) smaller scales as distal ends of the "horseshoe." Behind each rosette is a region of scales which appears compressed antero-posteriorly, with small scales that are elongated perpendicular to the body axis. At the center of the back, the usual tubercles are replaced by smaller ones, arranged in one or two antero-posterior lines without rosettes, closer spaced than the larger ones. All the tubercles have a prominent central keel, and additional other ones also are keeled (see Figure 1).

Joger (1984) gives the following set of diagnostic characters for *T. mauritanica*:

"Tubercles of the back with a central keel relatively prominent; variable bristled, but the tubercles never oriented backward; on the border of dorsal and ventral scales, no big tubercles; 13 to 17 interorbital scales.

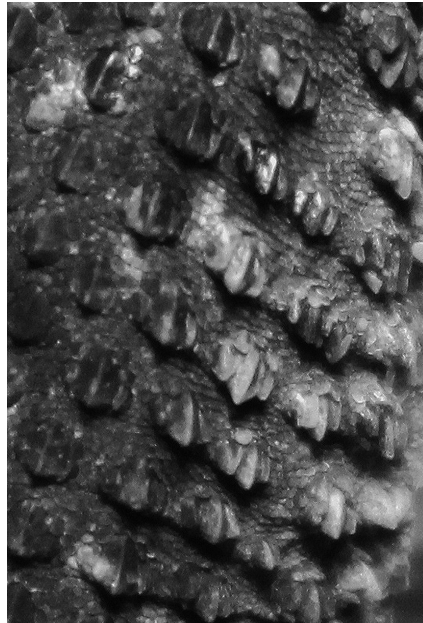


FIGURE 1. Dorso lateral view of *Tarentola mauritanica* MNHNCL-REP 5105. Photo by Jhoann Canto.

Gray color, to dark or grayish brown, with four to five dark stripes (extending from the nuchal area to the sacral region) and behind each stripe there is a pale dot. In live animals, gray iris color.”

The sample of 13 specimens in MNHNCL matches these features quite well. We also sent photographs of one of the specimens to Dr. Ulrich Joger, Director of the State Museum of Natural History, Braunschweig, Germany, who kindly replied (sic):

“... this gecko is clearly a member of the *Tarentola mauritanica* complex. In today’s nomenclature, it would be assigned to *T. mauritanica*, but subspecies is not clear, and there may be new species be described soon. If color in life is grey, it tends to be *T. m. mauritanica*, if it is grey-brown, it could be a subspecies from North Africa” (E-mail received on May 13th, 2014).

We can add that the animals in life exhibit a dark gray coloration (see Figure 2), so it should be *Tarentola mauritanica mauritanica*. Genetic evidence can be gathered to detect the subspecies or its origin. Our first hypothesis is that this group of animals has its origin in Europe, specifically in France, since they were detected originally in storehouses with materials imported from that country for the subway of Santiago.

Specimens present external parasites, Trombulid acarines (see Figure 3). There are strong suggestions that the animals have adopted an ecology just like the native *Liolaemus tenuis* and *L. lemniscatus*, the other two species of reptiles in the area.

So far, these animals have not been reported as a dangerous invader in any country where their presence has been documented. Domestic cats prey upon *T. mauritanica*. The current population of *T. mauritanica* in Santiago appears to be huge; we have testimonies that massive captures have been made from this nucleus of origin, and dispersion throughout Santiago is occurring because it is sold as a pet in the informal market.



FIGURE 2. *Tarentola mauritanica*, from Santiago de Chile. Photo by Juan Carlos Torres.



FIGURE 3. A close up of the *Tarentola mauritanica*, the same specimen as Figure 1. The red dots, in front, below the eye, and on the neck, there are acarines. Photo by Juan Carlos Torres.

TABLE 1. Measurements, in mm, of the sample, MNHNCL is Museo Nacional de Historia Natural de Santiago de Chile, F is female, M is male, LS is standard length, AGL is axilla-groin length, FLL is foreleg length, HLL is hind leg length and TL is tail length, REG is regenerated tail, and CUT is amputated tail.

MNHNCL	SEX	LS	AGL	FLL	HLL	TL
5101	F?	49.96	23.31	18.29	22.97	51
5102	F	49.39	20.31	17.56	23.49	52
5103	F?	36.66	13.14	15.29	19.76	41
5104	F	58.89	19.04	22.30	30.85	69
5105	M	67.50	23.01	26.83	28.87	REG
5106	F	57.22	20.25	23.38	28.97	REG
5107	M	64.36	23.20	26.81	30.28	CUT
5108	M	64.65	27.20	25.03	31.12	72
5109	F	57.14	21.47	22.26	28.93	REG
5110	F	49.34	25.25	21.31	25.30	59
5111	F	56.03	26.38	22.35	28.54	CUT
5112	?	36.67	14.46	13.08	17.70	CUT
5113	F	64.00	28.54	25.95	32.89	CUT

ACKNOWLEDGEMENTS

We are very grateful to Miss Denisse Donoso, who informed us about the presence of these lizards close to her home. Her cat Boni trapped several animals and presented them to her. We are deeply indebted to Dr. Ulrich Joger from the State Museum of Natural History, Braunschweig, Germany, who kindly identified the animal by a photograph. Also, we acknowledge the invaluable assistance of Sven Nielsen from the Department of Paleontology of Universidad de Valdivia, Chile, for the translation of part of the paper of Dr. Joger. Johann Canto and Juan Carlos Torres-Mura provided us with the photographic illustrations.

We thanks Stanley Fox to make this paper readable in English.

BIBLIOGRAPHIC REFERENCES

- ACHAVAL, F. and E. GUDYNAS
1983 Hallazgo de *Tarentola mauritanica* (L., 1758) (Lacertilia, Gekkonidae), en el Uruguay. Boletín de la Sociedad. Zoológica del Uruguay 1: 7-11.
- BALDO, D., C. BORTEIRO, F. GRUSQUETTI, J.E. GARCÍA, E. and C. PRIGIONI
2008 Reptilia, Gekkonidae, *Hemidactylus mabouia*, *Tarentola mauritanica*: Distribution extension and anthropogenic dispersal. Check List 4 (4): 434-438 (<http://www.checklist.org.br/getpdf?NGD103-08>).
- JOGER, U.
1984 Taxonomische Revision der Gattung *Tarentola* (Reptilia: Gekkonidae). Bonner Zoologische Beiträge 35(1-3): 129-174. (http://zfmk.de/web/Forschung/Buecher/Beitraege/Verzeichnis/Volume_35_1984/index.de.html)
- MAHRDT, C.R.
1998 Geographic Distribution. *Tarentola mauritanica* Herpetological Review 29(1): 52.