

The nursery trade: A stowaway gecko for a no return trip outside its natural range

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RESUMEN: Esta nota describe la observación de un ejemplar adulto de *Tarentola mauritanica* en la costa atlántica francesa, varios cientos de kilómetros fuera de su distribución natural. La traslocación parece causada por el comercio de viejos olivos para jardinería. Ejemplos recientes han demostrado que el comercio de árboles y su depósito en viveros es un importante medio de introducción de anfibios y reptiles en el Mediterráneo.

Animals, especially rodents, have been dispersed worldwide since the expansion of mankind. To a minor extent, reptiles have also been so since the antiquity along the commercial routes. With globalization and the intensification of commercial exchanges on earth, the plants and animals' translocations are accelerating with, for some of them, important detrimental effects on natural biota, cultures, livestock, human health and economy (Nentwig, 2007).

In the Mediterranean, there is growing evidences of such herps' introductions using the pathway of "nursery trade", i.e. commercial translocation of old -especially olive-trees for ornamental purposes (Silva-Rocha *et al.*, 2012). The species concerned are mostly Sauria such as *Podarcis sicula* in Spain (Barcelona [Rivera *et al.*, 2011], La Rioja [Valdeón *et al.*, 2010]), Hyères in Southern France (Bruekers, 2003), Lake Garda in Northern Italy (Bruekers, 2006); and *Tarentola mauritanica* in Lake Garda (Bruekers, 2006) (*T. mauritanica* colonizing the Hyères islands did not come with olive trees [M. Cheylan, personal communication] as stated by mistake

by Valdeón *et al.* [2010]); and also snakes such as *Malpolon monspessulanus*, *Hemorrhoids hippocrepis* and *Rhinechis scalaris* in the Balearics (Álvarez *et al.*, 2010; Pinya & Carretero, 2011).

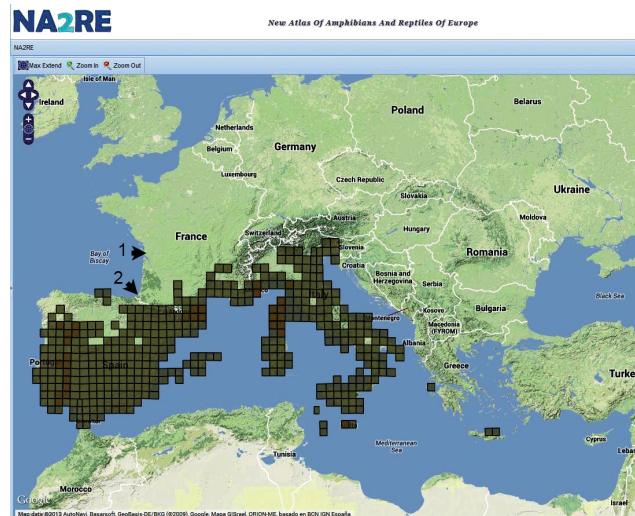


Figure 1: Distribution of *T. mauritanica* in Southern Europe according to the preliminary data of the New Atlas of Amphibians and Reptiles of Europe (Sillero *et al.*, 2012). 1: location of the translocated gecko; 2: Biarritz transient population.

Figura 1: Distribución de *T. mauritanica* en el sur de Europa, según los datos preliminares del New Atlas of Amphibians and Reptiles of Europe (Sillero *et al.*, 2012). 1: localidad donde se encontró el ejemplar traslocado; 2: localidad de Biarritz donde se localizó la población transitoria.



Photo J. Holthof

Figure 2: Adult *T. mauritanica* observed in Beaugeay.

Figura 2: Ejemplar adulto de *T. mauritanica* observado en Beaugeay.

We report and discuss a new observation performed in Beaugeay (Figure 1), located on the Atlantic coast of France (Département of Charentes Maritimes, 45°52'3.16"N; 1° 0'19.87"W; 5 masl). A single adult individual of *T. mauritanica* (Figure 2) has been repeatedly observed by one of us (JH) from the 14th August till the 31st of October 2012 (also 22/09, 23/09, 22/10, 28/10), foraging on the external wall of a house next to a plant nursery. Despite accurate investigations, this gecko was no longer sighted in 2013 and we believe that it did not survive winter. The plant nursery next door imports olive trees (Figure 3) and palm trees from Cordoba (Spain) and it is very likely that this animal travelled with the plants. The old olive trees gnarly trunks have lots of holes and crevices used for shelter and thermoregulation by the small fauna (vertebrates and invertebrates).

According to Geniez & Cheylan (2012), *T. mauritanica* is not recorded from the French Atlantic coast. Worth mentioning the possible existence of a transient population of this species in the 70's in Biarritz, plateau de

l'Atalaye (SW France). A juvenile had been collected by Gérard Thiberghien in December 1971 in a subterranean blockhaus under limestone cliffs. This specimen, belonging to the L.P. Knoepffler collections donated to the Paris National Natural History Museum, could not be found in 2013 in the MNHN collections (I. Ineich, personal communication) and might have been lost. A second individual (not collected) was sighted 18 months later and despite investigations no other *T. mauritanica* was further observed in the surroundings (G. Thiberghien, personal communication). Beside the presence on the plateau de l'Atalaye of a research laboratory



Photo J. Holthof

Figure 3: Old olive trees in the Beaugeay's nursery.

Figura 3: Viejos olivos en el vivero de Beaugeay.

(INRA) and an aquarium, the geckos did not seem to have escaped from a terrarium because no breeding of such species had been undertaken there (B. Pouvreau, personal communication). Berronneau (2014) confirms the sighting of this species in Biarritz in the early seventies.

The closest known locality in France is Toulouse (Defos du Rau & Crochet, 1994) where it has probably been introduced (Albinet *et al.*, 2013). The French distribution of this gecko displays a recent geographic expansion in villages and cities such as Toulouse (Geniez & Cheylan, 2012) and even further North (Berronneau, 2014). This sighting falls far outside the natural range of the species in Southern Europe (Figure 1) according to the preliminary data of the New Atlas of Amphibians and Reptiles of Europe (Sillero *et al.*, 2012).

This anecdotal observation suggests that more *Tarentola* (and many other propagules) might be translocated within a wide geogra-

phic range using the pathway of nursery trades, though remaining undetected most of the time. If the translocation occurs within the Mediterranean range of the species (between Italy, Southern France and Spain for instance), it will likely remain undetected. In the near future, the acclimatization of such introduced animals might be facilitated by climate change. Animal introductions (not only reptiles) induced by the nursery trade is of great concern for the conservation of natural biota (Valdeón *et al.*, 2010; Silva-Rocha, 2012), especially in islands. According to Rabitsch (2010), 29% of the terrestrial alien arthropods species in Europe were introduced through the ornamental/horticultural pathway. This strongly suggests a need to intensify the quarantine surveys, to strengthen the regulation of ornamental trade (e.g. import ban or special obligatory and certified treatments) (Roques *et al.*, 2009; Rabitsch, 2010) aiming at reducing propagule pressure.

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Malla metálica de cerramiento, posible amenaza para galápagos

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Con cierta frecuencia se describen casos de anfibios y reptiles atrapados en infraestructuras que actúan como trampas de caída, como es el caso de pozos, albercas, aljibes, piscinas o acequias, y que constituyen graves amenazas para ciertas especies a nivel local. Aunque más escasamente conocidos, también existen trabajos que describen el enredo de reptiles en mallas de origen humano, como serpientes atrapadas en mallas para control de la erosión y mallas antipájaros (Stuart *et al.*, 2001; Barton & Kinkead, 2005; Kapfer & Paloski, 2011), mortalidad de serpientes marinas por enmallamiento en artes de pesca (Wassenberg *et al.*, 2001), saurios enredados en redes para invernaderos (Šmíd, 2012) o galápagos atrapados en nasas cangrejerías abandonadas en ríos (Barko *et al.*, 2004; Grosse *et al.*, 2009). Menos común es la detección de ejemplares atrapados en vallados metálicos como es el caso de un ejemplar adulto de *Malpolon monspessulanus* muerto tras quedar atrapado en una malla conejera o de gallinero (Figura 1) en la provincia de Toledo (Sierra de Nambroca, Burguillos de Toledo; coordenadas UTM (ETRS89): X: 417269, Y: 4402817; 777 msnm) el día 19 de junio de 2008 (P.L. Hernández-Sastre, datos no publicados). No se ha encontrado bibliografía en la que se describa dicha situación, aunque a raíz de los casos descritos en foros herpetológicos parece ser relativamente frecuente.

El 17 de abril de 2012, durante la realización de muestreos de campo orientados a la detección de ejemplares de *Emys orbicularis* en los márgenes del arroyo de Benferre (término municipal de Jerez de los Caballeros, Badajoz; UTM 29SPC9239; 282 msnm), localizamos un ejemplar subadulto de *Mauremys leprosa* atrapado en un vallado situado en paralelo al curso del arroyo, a una



Figura 1: Ejemplar de *M. monspessulanus* muerto en malla conejera.