# On the syntopy of *Saurodactylus brosseti* and *Saurodactylus fasciatus*, a new record

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**Resumen:** La presente nota proporciona el segundo registro sobre sintopía entre *Saurodactylus fasciatus* y *Saurodactylus brosseti*. Ambas especies fueron encontradas separadas por escasos metros en las inmediaciones de Oulad Ayad, provincia de Beni Mellal (Marruecos).

It is not unusual that species of the same genus co-occur in the same habitat (Rivas, 1964). Among sauropsids, there are numerous examples of intra-genus syntopy, showing ecological segregation depending on several factors such as prey preferences (Robles & Halloy, 2008) or microhabitat selection (Faria & Araujo, 2004; Martínez-Freiría, 2009; Galán *et al.*, 2013). Syntopy among species of the same genus in Morocco has been recorded for species within the genera *Mesalina*, *Acanthodactylus*, *Natrix*, among others, which shows different microhabitat use or different ecological requirements (Bons & Geniez, 1996).

To understand patterns of clades' distribution it is required an understanding of speciation modes (Martínez-Freiría, 2009). Geological barriers like the uplift of the Atlas and Rif mountains in Morocco drives populations toward vicariant process in many species (Brown *et al.*, 2002; Fritz *et al.*, 2006; Sanchez & Escoriza, 2014). Nevertheless within *Saurodactylus*, little is known about the processes that have promoted the species formation. Rato & Harris (2008) suggest that speciation among *Saurodactylus* predates these geological barriers.

The genus *Saurodactylus* contains three small gecko species endemic to the Magreb: *Saurodactylus mauritanicus* (Duméril & Bibron, 1836), *Saurodactylus brosseti* (Bons & Pasteur, 1957) and *Saurodactylus fasciatus* (Werner, 1931). The taxonomic status of each species is well supported. However the relationships within the genus and between *Saurodactylus* (*S. fasciatus* especially) and the other sphaerodactyl geckoes remains unclear (Gamble *et al.*, 2008; Rato & Ha-


**Figure 1:** *S. fasciatus* in the syntopic area.
**Figura 1:** *S. fasciatus* en la zona de sintopía.

rris, 2008; Pyron *et al.*, 2013). According to Rato & Harris (2008) and Pyron *et al.* (2013), the genus *Saurodactylus* is paraphyletic, with *S. fasciatus* more closely related to the genus *Teratoscincus*. Nevertheless, the monophyly of the genus *Saurodactylus* is obtained by Gamble *et al.* (2011).

*S. mauritanicus* is the only member of the genus that can be found out of Morocco and Western Sahara, with its distribution encompassing the north east of Morocco to western Algeria. *S. brosseti* and *S. fasciatus* are Moroccan endemics (including Western Sahara), the first one with a western range in Morocco, through the Atlantic coastal areas to the western slopes of the Atlas Mountains, and extending to the Draa Valley; it also ranges accross the northern coastal part of the Western Sahara (Bons & Geniez, 1996; Geniez *et al.*, 2004). The distribution of *S. fasciatus* fits between those of *S. brosseti* and *S. mauritanicus*, consisting of a few areas situated north and west of the High and Middle Atlas and south west of the Rif (Bons & Geniez, 1996; Scheilch *et al.*, 1996).

*S. fasciatus* and *S. mauritanicus* are separated by the Rif, with the distances between the closest localities of both species being about 75 km (Bons & Geniez, 1996). While the only locality known with syntopy of *S. fasciatus* and *S. brosseti* is in Afouer (Bons, 1967), these taxa have been also recorded less than 25 km from each other in the Khénifra region (Mellado & Mateo, 1992; Bons & Geniez, 1996).

In this note we provide a new record, 25 km east to Afourer, where *S. fasciatus* occurs in syntopy with *S. brosseti*. On the 19th of April 2014 at 20:00 h, both species were found around Oulad Ayad (gps data: 32.18° N / 6.794° W) 100 m from each other. The habitat structure where we found *S. fasciatus* consists on grassland with many stones, dispersed shrubs and cultivated trees, while *S. brosseti* was occupying a sloping surface characterized by a highly rocky area with shrubs. The locality is 670 masl with semi-arid stage, where the annual rainfall average is 415 mm and 19 ºC of average annual temperature; the warmest month of the year is August while January is the coldest one, with an average temperature of 27.8 ºC and 11.2 ºC respectively (Climate-data.org, 2014).

Generally, *S. brosseti* inhabits more arid stages than *S. fasciatus*; Saharan, semi-arid and arid bioclimatic zones are occupied by *S. brosseti*, whereas *S. fasciatus* inhabits semi-arid and sub-humid localities (Bons & Geniez, 1996; Fahd & Pleguezuelos, 1996; Harris *et al.*, 2008; Barata *et al.*, 2011). Thus, semi-arid regions are suitable for the presence of both species. Syntopy between these two species should be investigated in the Khènifra region (Mellado & Mateo, 1992) as well as in the area between Beni Mellal and Bzou. Likewise, in the area that comprises Boulaouane and Had Mzoura, where their distribution patterns overlap in a semi-arid stage, new fieldwork should also be carried out.


**Figure 2:** *S. brosseti* in the syntopic area.
**Figura 2:** *S. brosseti* en la zona de sintopía.

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# New records of *Chelonia mydas* off the Spanish Mediterranean coast


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**Resumen:** La mayoría de las observaciones de *Chelonia mydas* en las costas españolas corresponde a ejemplares juveniles procedentes de las distintas zonas de puesta existentes en el Océano Atlántico. En la presente nota se proporciona información sobre dos observaciones (una de ellas fotografiada)