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A new species of sand racer, *Psammodromus* (Squamata: Lacertidae), from the Western Iberian Peninsula

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Abstract

A new species of lacertid lizard of the genus *Psammodromus* is described from the Iberian Peninsula. Genetic and recently published phenotypic data support the differentiation of *Psammodromus hispanicus* into three, and not as previously suggested two, distinct lineages. Age estimates, lineage allopatry, the lack of mitochondrial and nuclear haplotype sharing between lineages, ecological niche divergence, and the current biogeographic distribution, indicated that the three lineages correspond to three independent species. Here, we describe a new species, *Psammodromus occidentalis* **sp. n.**, which is genetically different from the other sand racers and differentiated by the number of femoral pores, number of throat scales, snout shape, head ratio, green nuptial coloration, and number of supralabial scales below the subocular scale. We also propose to upgrade the two previously recognized subspecies, *Psammodromus hispanicus hispanicus* Fitzinger, 1826 from central Spain and *Psammodromus hispanicus edwardsianus* (Dugès, 1829) from eastern Spain, to the species level: *Psammodromus hispanicus* stat. nov. and *Psammodromus edwardsianus* stat. nov. Given that the holotype of *Psammodromus hispanicus* was lost, we designate a neotype. We also analysed museum specimens of *P. blanci*, *P. microdactylus* and *P. algirus* to describe differentiation of the *Psammodromus hispanicus* lineages/species from their closest relatives.

Key words: *Psammodromus hispanicus*, *Psammodromus edwardsianus*, *Psammodromus occidentalis* **sp. n.**, *Psamodromus blanci*, *Psammodromus microdactylus*, mitochondrial and nuclear differentiation, phenotypic differentiation

Introduction

The *Psammodromus* genus consists of four species: the Spanish Sand Racer *P. hispanicus* (Fitzinger 1826), *P. blanci* (Lataste, 1880), which is closest to *P. hispanicus* (estimated split at 20 ± 0.2 Mya; Carranza *et al.* 2006), *P. algirus* (Linneaeus, 1758) (estimated split at 25 ± 0.27 Mya; Carranza *et al.* 2006), and *P. microdactylus* (Boettger, 1881), whose phylogenetic relationship is unknown. The Spanish Sand Racer, *P. hispanicus* consists of two subspecies, *P. hispanicus hispanicus* (Fitzinger 1826) and *P. hispanicus edwardsianus* (Dugès 1829), that can be easily distinguished by the absence or presence of a supralabial scale below the subocular scale, respectively (Boulenger 1921, Mertens 1925, Pérez-Mellado 1998). Described formerly as separate species, they were considered a single species by Duméril & Bibron (1839). Boulenger (1921) was the first to consider two subspecies based on their distribution and morphological differences (e.g. presence/absence of supralabial scale below subocular scale), but he discarded this possibility by concluding "I […] do not deem it advisable, for the present at least, to separate *P. edwardsianus* as a variety or subspecies, although I have felt tempted to do so". Mertens (1925) definitively split *P. hispanicus* into two subspecies; *P. hispanicus edwardsianus* (type locality: "South of France"; Dugès, 1829) was reported from the Spanish east coast and its northern distribution reaches Saint Raphaël, France (crossing the Rhone River; Bons 1989), whereas *P. hispanicus hispanicus* (Terra typica restricta: south of Spain; 'Restricta' indi-

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