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Systematics of the *Podarcis hispanicus* complex (Sauria, Lacertidae) III: valid nomina of the western and central Iberian forms

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Abstract

Recent genetic works have suggested that the Iberian wall lizard *Podarcis hispanicus* (Steindachner, 1870) sensu lato is a species complex. Several forms have already been elevated to species rank and linked to available nomina, but at least three still have to be formally named, including the western Iberian forms currently designated as *Podarcis hispanicus* "type 1A", "type 1B" and "type 2". The aim of the present work is to assign a valid nomen to these taxa. Using multivariate analyses, we first checked that the morphological differences reported in Portugal between type 1 and type 2 are maintained over their distribution range. We then investigated phenotypic differentiation between type 1A and type 1B, which were found to be so similar that identification based on phenotype is currently not advisable. We propose to treat type 1 and type 2 as distinct species because of their level of genetic and phenotypic divergence, large area of distribution and ample evidence for reduced or absent introgression in contact zones. We maintain type 1A and 1B as subspecies for the time being, pending further analyses of their contact zone. The valid nomen for "*Podarcis hispanica* type 1 (sensu lato)" is *Lacerta muralis guadarramae* Boscá, 1916 which becomes *Podarcis guadarramae* (Boscá, 1916). Lineage type 1A is here described as a new taxon: *P. guadarramae lusitanicus* ssp. nov., inhabiting northern Portugal and northwestern Spain. The type 1B lineage corresponds to the nominotypical subspecies that inhabits Spain, mostly the Central Iberian Mountains. We were unable to locate an available nomen for "*Podarcis hispanica* type 2", which is here described as *Podarcis*

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virescens sp. nov. This species is widely distributed in the plains and plateaus of central and parts of south-western Spain as well as central and southern Portugal.

Key words: reptiles, wall lizards, Spain, Portugal, morphology, systematics, nomenclature

Introduction

Recent genetic and morphological data indicate that *Podarcis hispanicus* (Steindachner, 1870) is currently composed of several genetically distinct lineages, many of which warrant specific rank (Oliverio *et al.* 2000; Sá-Sousa 2000; Harris & Sá-Sousa 2001, 2002; Harris *et al.* 2002a, 2002b; Sá-Sousa *et al.* 2002; Busack *et al.* 2005; Pinho 2007, Pinho *et al.* 2006, 2007, 2008; Renoult *et al.* 2009; Kaliontzopoulou *et al.* 2011). Few systematic changes have formally been proposed, however: *Podarcis hispanicus* (sensu stricto) has been restricted to the Spanish Levant form (Geniez *et al.* 2007); the form occurring in the Baetic mountains and adjacent areas south of the Rio Guadalquivir, which is conspecific with North-African populations, has been elevated to species rank as *Podarcis vaucheri* (Boulenger, 1905) (Oliverio *et al.* 2000; Busack *et al.* 2005); the north-eastern Iberian form that extends as far as southern France (= "*Podarcis hispanica* type 3" in e.g. Pinho *et al.* 2007) should be called *Podarcis liolepis* (Boulenger, 1905) (Speybroeck & Crochet 2007; Renoult *et al.* 2010a). Note that the insular populations from the Columbretes islands (Catalonia; Spain) were formally raised to species rank under the binomen *Podarcis atratus* (Boscá, 1916) by Castilla *et al.* (1998) (as *Podarcis atrata,* see footnote about the gender of *Podarcis*[1]). They are in fact conspecific with *P. liolepis* (Harris & Sá-Sousa 2001; Busack *et al.* 2005).

In Portugal, two morphotypes first identified by Guillaume & Geniez (1986, see also Geniez 2001) have been later shown to constitute distinct evolutionary lineages with an essentially parapatric distribution (Sá-Sousa 2000; Harris & Sá-Sousa 2001; Sá-Sousa *et al.* 2002). The northern half of the country is inhabited by *Podarcis hispanicus* type 1 while *P. hispanicus* type 2 occurs in the centre of Portugal with some sparse populations known in southern Portugal. Both type 1 and type 2 lineages have deeply divergent mitochondrial DNA clades (corresponding to a divergence estimated of at least six million years: Kaliontzopoulou *et al.* 2011), highly differentiated allozymes (Pinho *et al.* 2007) and multilocus estimates of gene flow are close to zero (Pinho *et al.* 2008). Additional data established that *P. hispanicus* type 1 also occurs in central and north-western Spain while type 2 inhabits south-central Spain south of the Iberian Central Mountains (Pinho *et al.* 2007). Pinho *et al.* (2006, 2007, 2008) have further revealed two deeply divergent clades in *P. hispanicus* type 1: one, type 1A, occurs in northern Portugal and north-western Spain while type 1B is only found in the Central Iberian Mountains (Spain). Carretero (2008) provides a comprehensive summary of the distribution of the various forms of the *Podarcis hispanicus* complex (but see Renoult *et al.* 2009, 2010a for updates on the situation in eastern Spain). To sum up, Iberian populations of the *P. hispanicus* complex currently include five named species (*Podarcis bocagei*, *P. carbonelli*, *P. hispanicus*, *P. liolepis* and *P. vaucheri*) and three unnamed lineages (type 1A, type 1B and type 2) which are clearly not conspecific with any of the five named species[2]. The main objective of the present paper is to formally name these three lineages following the rules of zoological nomenclature as detailed in the International Code of Zoological Nomenclature (the Code hereafter, International Commission on Zoological Nomenclature 1999).

While the distribution and morphology of both type 1 and type 2 lineages have been well studied in Portugal (Sá-Sousa et al. 2002), only scant genetic data are available for the rest of the Iberian Peninsula. The first step of this work was thus to check if the differences established in Portugal between type 1 and type 2 remain valid in the rest of the Iberian Peninsula. We also wanted to investigate the amount of morphological variation existing within type 1 and type 2, and especially between type 1A and type 1B. We thus performed several morphological analyses to support formal systematic and nomenclatural changes for "*Podarcis hispanica* type 1A", "type 1B" and "type 2", using published genetic evidence and new multivariate analyses of morphological variation. We also refine their distribution range and ecology based on published studies and additional unpublished data.

1. For systematics and nomenclature we follow Speybroeck *et al.* (2010), which see for the masculine gender of *Podarcis*.
2. See Renoult *et al.* (2009) for correspondence between these lineages and the mtDNA clades of Kaliontzopoulou *et al.* (2011). The new "Albacete/Murcia" mtDNA clade of Kaliontzpoulou *et al.* (2011) might constitute an additional evolutionary unit but has so far not been characterized morphologically and lacks support from nuclear markers.

Material and methods

Morphology: materials examined, specimen identification. Morphological comparisons are based on a large database comprising more than 2,700 specimens of the *P. hispanicus* complex. Most specimens belong to the collection of the team "Biogéographie et Écologie des Vertébrés de l'École Pratique des Hautes Études" housed in the UMR 5175—CEFE in Montpellier, France (BEV). Other specimens were borrowed from the Museu Bocage, Lisbon, Portugal (MBL); Estación Biológica de Doñana, Seville, Spain (EBD); Netherlands Centre for Biodiversity Naturalis, Leiden, the Netherlands (formerly Rijksmuseum van Natuurlijke Historie) (RMNH.RENA, see Hoogmoed *et al.* 2010) and Muséum national d'Histoire naturelle, Paris, France (MNHN). These specimens have been measured by PG except for the MBL specimens measured by PSS. Additional data have been obtained by PG based on his iconographic collection (specimens labelled PGe.xxxx). Last, biometric and photographic data obtained by PSS in Portugal have also been included (PSS). See Appendix 1 for a complete list of specimens examined.

For multivariate analyses, we excluded specimens with incomplete data, and those from imprecise or uncertain localities. We also only retained specimens measured by PG as preliminary analyses revealed a strong observer effect which precluded comparisons of specimens measured by PG and PSS. Among these animals we then selected a series of reference specimens for the lineages type 1 (further separated between type1A and type1B when possible) and type 2. The strategy for allocation of specimens to lineages was the same as in Renoult *et al.* (2009, 2010a): when no genetic data was available for a given locality, we allocated samples from this locality to a given lineage if it had the typical morphology from that lineage, was located inside the distribution of this lineage and far from potential contact zones with other lineages. All specimens were examined morphologically to detect possible out-of-range occurrence (such as documented by Renoult *et al.* 2010b).

Morphology: characters analysed. Four categories of characters were measured: (i) quantitative morphometric variables (*SVL* = snout-vent length; *Lpil* = pileus length; *Wpil* = pileus width; *Htet* = head height), (ii) quantitative pholidosis variables (*Dors* = number of longitudinal rows of dorsal scales at mid-body; *Venl* = number of transversal rows of ventral plates; *Guls* = number of gular scales between chinshields and collar; *Porf* = number of femoral pores [mean of left and right side]; *Lame* = number of lamellae under 4th toe; *Temp* = number of temporal scales including the masseteric shield; *Ecte* = number of temporal scales touching the masseteric shield, *ID10* = mean size of the masseteric shields of the two sides as computed from Guillaume [1988]), (iii) qualitative ordinal variables (numerically coded) and quantitative variables describing colour pattern not modified in the preserved specimens (*Vert* = prominence of the dark vertebral line [0 = absent, 1 = on part of the back only, 2 = complete, broken or unbroken]; *Dola* = prominence of the pale dorsolateral stripes [1 = absent, 2 = weakly prominent, 3 = strongly prominent]; Frag = fragmentation of the pale dorsolateral stripes [0 = no, 1 = yes]; *Sdla* = width of the dark supradorsolateral3 stripes [1 = absent, 2 = less than 4 scales wide, 3 = 4 scales wide or more]; *Ponc* = prominence of the belly punctuation [0 = no punctuation, 1 = punctuation present only under the marginal rows of ventral plates, 2 = punctuation present on the marginal and intermediate ventral plates, 3 = punctuation present on the six rows of ventral plates]; *Cpil* = prominence of dark pigmentation of the pileus [1 = no dark spots, 2 = thin dark spotting, 3 = well marked dark dots]); *Ldos* = number of scales separating the dark supra-dorsolateral lines; *Nspot* = number of pale spots constituting pale dorsolateral stripes; *Nfrag* = number of complete interruption of the dark supradorsolateral stripes, and (iv) qualitative ordinal variables (numerically coded) describing colour pattern visible only on live specimens because they disappear on preserved animals (*Cdos* = intensity of green on dorsal colouration [1 = no green, 2 = slight green tints, 3 = clear green coloration], *Iris* = intensity of orange coloration in iris [1 = whitish, 2 = orange, 3 = reddish]; *Yell* = intensity of yellow on lower belly and under tail base [1 = no yellow, 2 = yellowish, 3 = clear yellow].

Morphology: data analyses. The main analyses used were normalized Principal Component Analysis (PCA) and Discriminant Analysis (DA) on quantitative and qualitative ordinal variables. Results of PCA do not depend on *a priori* identification so the taxonomic units defined *a priori* (see below) are only used to make the graphic presentation of the results easier to interpret. Conversely, results of DA are dependent on the ways individuals are grouped prior to computation, and DA interpretation is very sensitive to the ratio between number of variables and number of individuals. As a rule of thumb, the number of variables included in a DA (which is closely related to a logistic regression) should not be more than a tenth of the number of individuals (van Belle 2008) and increasing number of variables can lead to spurious group separation. We avoided such problems by reducing the number of

variables (see below). Males and females were treated separately in all analyses as sexual dimorphism is pronounced in most traits studied in these lizards. Sample size for each taxon varies according to analyses as some variables are missing for some specimens. All multivariate analyses were done with the Statistica software (StatSoft, Inc., Tulsa).

TABLE 1. Contribution of the morphological variables to the four first components (PC1 to PC4) of the PCA run on 94 males of type 1 and type 2. The nine variables contributing most to PC1 (in bold) were used for the DA.

	PC1	**PC2**	**PC3**	**PC4**
DORS	-0,20	-0,03	-0,72	0,20
VENL	0,32	0,01	-0,13	0,23
GULS	-0,13	-0,20	-0,68	0,05
PORF	-0,28	-0,34	-0,45	0,06
LAME	-0,42	0,11	-0,41	0,12
TEMP	-0,33	-0,20	-0,68	-0,05
ECTE	0,39	0,37	-0,06	0,55
ID10	0,42	0,42	0,06	0,51
SVL	**-0,75**	0,51	-0,05	-0,02
LPIL	**-0,73**	0,60	0,00	0,02
WPIL	**-0,64**	0,68	0,02	-0,08
HTET	**-0,54**	0,73	-0,17	0,01
VERT	-0,37	0,22	0,16	0,12
DOLA	-0,07	-0,29	-0,08	0,56
FRAG	-0,04	-0,49	-0,42	0,14
SDLA	**-0,56**	-0,34	0,42	0,27
PONC	-0,20	-0,39	0,19	-0,04
CPIL	**-0,52**	-0,04	0,25	0,51
CDOS	0,08	0,13	-0,12	0,32
IRIS	**0,54**	0,37	-0,25	0,10
YELLOW	**0,59**	0,29	-0,30	0,20
LDOS	0,27	0,44	-0,38	-0,49
NSPOT	-0,24	-0,36	-0,24	-0,17
NFRAG	**0,65**	0,53	-0,04	-0,08
% variance explained	19	15	11	07

To investigate if morphological differences between type 1 and type 2 persist over their distribution range, we first performed a PCA on 93 male specimens of type 1 (1A and 1B) and type 2 using all 24 variables. We then selected 9 variables that were most strongly correlated with PCA axis that separate the different taxa (see Table 1) and performed a DA on the same specimens, using 29 type 1 and 17 type 2 as reference specimens and the others (26 type 1 and 21 type 2) as supplementary individuals (see appendix 1). We selected as reference specimens our specimens that originate from sampling localities where we have genetic information or surrounded by localities where genetic information is available. Reference specimens were treated as active observations (they are used to compute the DA) while other specimens where treated as supplementary observations: they do not participate in the DA computation but they are classified using the discriminant function computed using the active observations. While the results for the reference specimens can be spurious dues to the low number of specimens compared to number of variables, classification of the supplementary individuals is unaffected by our a priori grouping and thus totally insensitive to that problem. For females our sample size was smaller (41 individuals) so we only used a PCA using 22 variables (*Cdos, Nspot* and *Ponc* show no variation, or not meaningful variation, in females).

Preliminary analyses indicated a lack of clear separation between lineages type 1A and type 1B in PCA, for

males as well as females. We therefore turned to DA, which is more powerful to identify axes of variations separating pre-set groups. We only included individuals collected in areas where their identification was not contentious (assuming that both types have fully allopatric range), i.e. collected well within the range defined by samples with genetic data. The first step was to reduce the number of morphological variables, by discarding variables that showed no difference between type 1A and type 1B. Body size (SVL) was also dropped because size effects should be taken into account by head measurements variables. As the outcome of this step 10 variables were selected for the DA: *Lpil*, *Wpil*, *Htet*, *Dors*, *Venl*, *Guls*, *Porf*, *Temp*, *Dola* and *Frag*.

Results

Morphological differences between *Podarcis hispanicus* type 1 and type 2

No single character was found to be diagnostic alone or in combination to identify all specimens of either sex. The PCA on male specimens with complete morphological data for the 25 variables (Fig. 1a) confirmed that type 1 and type 2 have largely different characters though the scatterplots overlap somehow. As expected, the DA was able to better separate the specimens (Fig. 1b). Interestingly, this is true also for the specimens used for the cross validation (whose classification is not affected by our a priori grouping): only two males type 1 and one type 2 were misclassified (but remained close to the classification threshold, suggesting their represent extremes from their species and not misidentified specimens; indeed one of the misidentified type 1 has been genotyped and found to carry typical 1A mtDNA, unpublished results). Females also differ in PCA scores but are not completely separated, just like males (Appendix 2 & 3). Examination of variables loadings on principal components (PCs) indicate that males type 2 differ from type 1 by narrower dark supradorsolateral stripes, which are more fragmented, less densely black-spotted pileus, more orange iris and more frequent presence of yellow on rear belly and under tail base. Females are more difficult to separate but females type 2 tend to have narrower dark supradorsolateral stripes and less densely black-spotted pileus like males. See systematic account below for more detailed analysis of morphological characters.

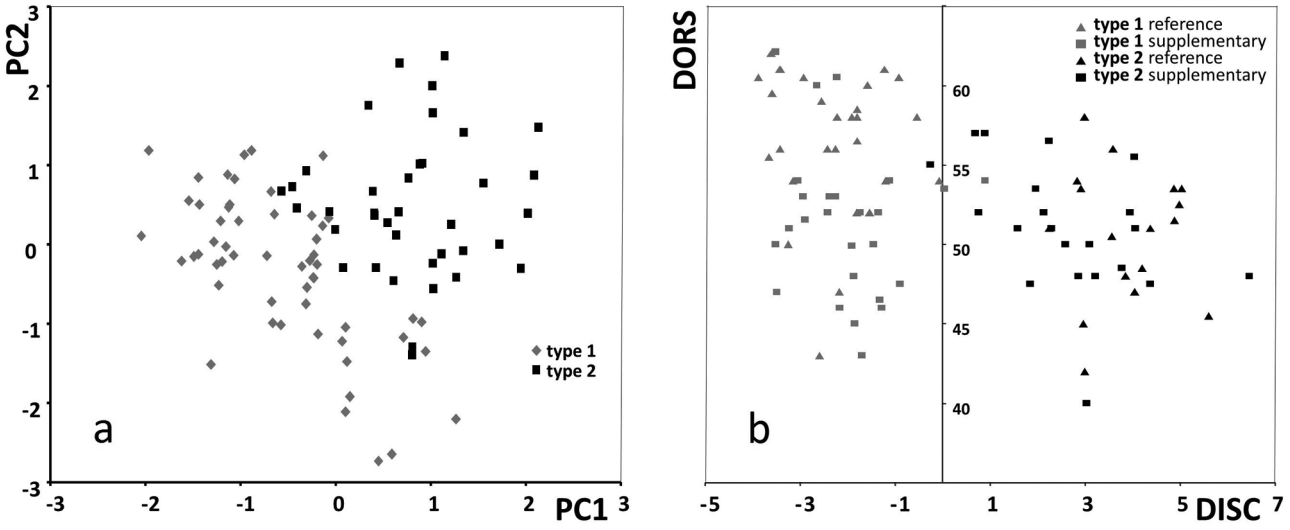

FIGURE 1. Scatterplots of multivariate analyses of *Podarcis* males type 1 (A & B) and type 2. **a**: First and second axis of a PCA. **b:** First axis of a DA with reference specimens as active individuals and the others as supplementary (see methods) and dorsal number; number of dorsal scales is merely used for representative purpose on a two dimension plan as a DA on two groups returns only one axis.

Morphological differences between *Podarcis hispanicus* type 1A and type 1B

For males, we retained 117 specimens with complete morphological data. The DA shows a substantial separation between the groups, but 11 individuals type 1A (out of 58) and seven individuals type 1B (out of 59) are

misclassified. Based on the variables we examined, there is thus currently no way to separate these two lineages with a high level of confidence. Population-level identification might be possible though, as suggested by mean population DA scores (Appendix 4). We looked for additional morphological characters that could be diagnostic or at least informative for separating male specimens between type 1A and type 1B, but we couldn't find any, neither on preserved specimens nor on photographs of live specimens. Variables that differ on average between these two lineages are detailed in the systematic account. For females, 106 individuals were included and the results were similar to males (results not shown): five females type 1A and one type 1B were misclassified (a better score than for males but note that the ratio of number of variables over number of individuals is higher so conditions are more liberal and could induce spurious results). As for males, variables that differ on average between groups are detailed in the systematic account.

Systematic ranks of the new taxa

Multiple lines of evidence indicate that many evolutionary lineages of the *Podarcis hispanicus* complex are better treated as valid species under most species concepts (see Carretero 2008, Table 2). Concerning types 1A, 1B and 2, classifying them in the same species would result in a spurious polyphyletic species as neither mitochondrial data (Kaliontzopoulou *et al.* 2011) nor nuclear data (Pinho *et al.* 2007) suggest that they form a monophyletic group unless *P. bocagei* and *P. carbonelli* would also be included in the same species. This latter option would be untenable since *P. bocagei* and *P. carbonelli* are well-supported biological species (Sá-Sousa & Harris 2002), and both species are wholly or widely sympatric with either type 1A or type 2 (see Pleguezuelos *et al.* 2002, Loureiro *et al.* 2010) from which they clearly differ in several ecological and morphological traits as well as genetically. Types 1A and 2 behave as valid biological species in Portugal (summarized in Carretero 2008). Type 1B and type 2 also seem to exhibit reproductive isolation in Central Spain: although we found them in close proximity in several areas, we never identified mixed or visibly introgressed populations. This is admittedly only based on expert identification by morphology, but similar observations were made by Martín & López (2006), who also documented differences in behaviour of males of types 1 and 2 when confronted with males of the same type or of the other type. Last, there is essentially no estimated nuclear gene flow between type 2 and either type 1A or 1B (Pinho *et al.* 2008). Given their level of genetic divergence, evidence of reproductive isolation in Portugal and lack of visible intergradation in field situation in multiple contact zones, we prefer to treat types 1 (including types 1A and 1B) and 2 as distinct species. For the same reasons, none of them can be conspecific with any of the other currently recognised species in the *Podarcis hispanicus* complex (*P. vaucheri*, *P. liolepis* and *P. hispanicus*, see Renoult *et al.* 2010a and references herein).

It is more difficult to reach an informed decision on the status of types 1A and 1B. Mitochondrial DNA strongly supports they are close relatives (Kaliontzopoulou *et al.* 2011), with a level of mitochondrial divergence only marginally lower than between undisputed species such as *P. carbonelli* and type 2, and marginally higher than between lineages currently retained in *P. vaucheri*. Nuclear DNA data also indicate a high level of genetic divergence between types 1 A and 1B (allozymes: Pinho *et al.* 2007) and essentially no nuclear gene flow between them (nuclear introns: Pinho *et al.* 2008), mirroring the situation between lineages that we recognize as distinct species. The main difference from the other pairs of species in the complex is the lack of external morphological identification features leading to a lack of information on contact zones. Given the ambiguous evidence regarding whether these two lineages constitute a monophyletic unit or not, the inconclusive level of genetic divergence and lack of information about their contact zones, we tentatively treat them as conspecific here. We wish to stress that we see this as a parsimonious hypothesis based on current evidence and not necessarily as a definitive choice. Indeed we anticipate rapid change in the status of these forms as data accumulate in the next years.

Nomenclature

We only managed to identify two nomina that appear to be available and pertain to Iberian species of typical lizards (Lacertinae). The first one is *Lacerta maculata* Daudin, 1802. This nomen was included in the synonymy of *Podarcis muralis* by Mertens & Wermuth (1960). However, Daudin's text enables to firmly place *L. maculata* in

the synonymy of *Timon lepidus* (Daudin, 1802): firstly, Daudin himself states that his *Lacerta maculata* is very similar to his "lézard gentil du Languedoc" (= *Timon lepidus*), differing from this species only in details of coloration and the number of femoral pores; secondly, the description mentions the presence of ten rows of hexagonal or rhomboidal longitudinal ventral plates, a proper character of the genus *Timon*, and the illustration also shows other proper features of *Timon* such as a large triangular occipital plate and the tail base without the alternate dark and light squares usually present in the genus *Podarcis*. The discovery that *Lacerta maculata* is a subjective synonym of *L. lepida* Daudin, 1802 could make it necessary to establish precedence between these two nomina to stabilize the use of *Lacerta lepida* for the ocellated Lizard since they have been described in the same work. However, availability of *Lacerta maculata* Daudin, 1802 is threatened by its primary homonym *Lacerta maculata* Shaw, 1802 (currently the valid nomen of the American salamander *Ambystoma maculata*) which, if published before *Lacerta maculata* Daudin, would make it permanently unavailable (see the Code Art. 57.2).

It's more difficult to elucidate the identity of *Lacerta muralis guadarramae* Boscá, 1916. Boscá's succinct description, based on an adult male (which is the holotype by monotypy) from "San Ildefonso" (= La Granja de San Ildefonso, Sierra de Guadarrama, province of Segovia) gives the following characters: "*Lacerta muralis* with five supralabials in front of the subocular supralabial on each side of the mouth instead of four supralabials as usual; temporal area covered by polygonal scales of unequal size, with neither granular scales nor masseteric shield; coloration very bright, dorsum blackish with six yellowish longitudinal stripes, most marked on the sides, those starting from the temple reach the tail where they fade away; some yellow spots also are present in the dark area of the vertebral region, which is the narrowest, and in the dark band along the flanks; ventral face uniform, white with slight yellowish hue, without points neither marks; total length, 16 cm". Only three species formerly classified in *Lacerta* and bearing some resemblance to *Podarcis muralis* can be found around San Ildefonso: *P. hispanicus* type 1, *P. muralis* and *Iberolacerta cyreni*. Polygonal and unequal scales on the temporal area correspond mostly to *P. muralis*, but also to some *Iberolacerta cyreni*; five supralabials in front of the subocular is a rare character for type 1 but is almost absent in *P. muralis* or *I. cyreni*; lack of a masseteric shield seems to be diagnostic for "*Podarcis hispanica* type 1" in the local context (all *P. muralis* or *I. cyreni* we have examined possess one masseteric shield on each side); the description of the dorsum coloration seems to correspond better to "*Podarcis hispanica* type 1" which is the only lizard in this region with yellowish longitudinal stripes (in fact white on live animals) while neither adult males of *P. muralis* or *I. cyreni* can exhibit such longitudinaly stiped pattern; last adult males of *P. muralis* have dark-spotted underparts. The succinct diagnosis given by Boscá (1916) thus excludes that the name-bearing type of *Lacerta muralis guadarramae* was a *P. muralis*. A male of *I. cyreni* seems excluded by the temporal scalation and dorsal coloration, leaving *P. hispanicus* type 1B as single candidate for the identity of the type (type 1A does not occur in the area; see Fig. 2) as acknowledged by Salvador (1986), Alonso-Zarazaga (1998) and (tentatively) Mertens & Wermuth (1960) who all list this nomen in the synonymy of *P. hispanicus* (sensu lato). One detail does not fit this species, however: type 1B adults have at most four pale longitudinal lines along the body. In fact, the description would also fit a specimen of *Acanthodactylus erythrurus*, even if it seems odd for Boscá to confuse this species with a wall lizard. It is thus obvious that the identity of *Lacerta muralis guadarramae* can only be resolved by examination of the name-bearing type. According to Boscá (1916), this specimen was in the collections of the Botanical Garden of the University of Valencia when he described it. J. E. Gonzáles Fernández (pers. com.) informed us that a fire occurred in the Faculty of Biology of the University of Valencia long ago, probably destroying this and other Boscá's specimens and despite enquiries to other Spanish collections, we have been unable to locate this holotype. The holotype of *Lacerta guadarramae* is thus currently lost. Given the contradictory characters present in the description and the consequent uncertainty about the specimen identity, we feel that unambiguous fixation of this nomen in the nomenclature of Iberian Lacertidae requires designation of a neotype, as the description is not sufficient to dispel doubt on its own. We opted for a specimen of *Podarcis hispanicus* type 1B as it follows the most common allocation of the nomen in the synonymy and saves us the need to create a new name. We therefore here designate as neotype of *Lacerta muralis guadarramae* Boscá, 1916 the specimen MNHN 2012.0262, formerly BEV.1958, an adult male collected in the village of Lozoya, Sierra de Guadarrama, province of Madrid, Spain, coordinates WGS84 = 40.951°N / 3.792°W, 1,110 m above sea level, on 25th June 2001 by P. Geniez, P.-A. Crochet and O. Chaline (Fig. 3). As discussed above, this neotype designation is the only way to clarify the taxonomic status of *Lacerta muralis guadarramae* Boscá, 1916. Lozoya is 18 km from the original terra typical of *guadarramae*, and is the closest locality from where we could find a suitable specimen.

We couldn't find available nomina for the two other lineages type 1A and type 2. A number of nomina have been created by Guillaume (1987) as well as by Geniez (2001) but both theses are unpublished in the sense of the Code as they were not available when first issued (see Article 8.1.2). Instead a small number of copies were issued and distributed to members of the theses committees (see also the example for the amended version of Art. 9 of the Code, published in the Bulletin of Zoological Nomenclature 60: 263 and available at http://iczn.org/content/declaration-44-amendment-article-7473). None of these nomina are therefore available for the purpose of zoological nomenclature. We thus describe below type 1A and type 2 respectively as *Podarcis guadarramae lusitanicus* subsp. nov. and *Podarcis virescens* sp. nov.

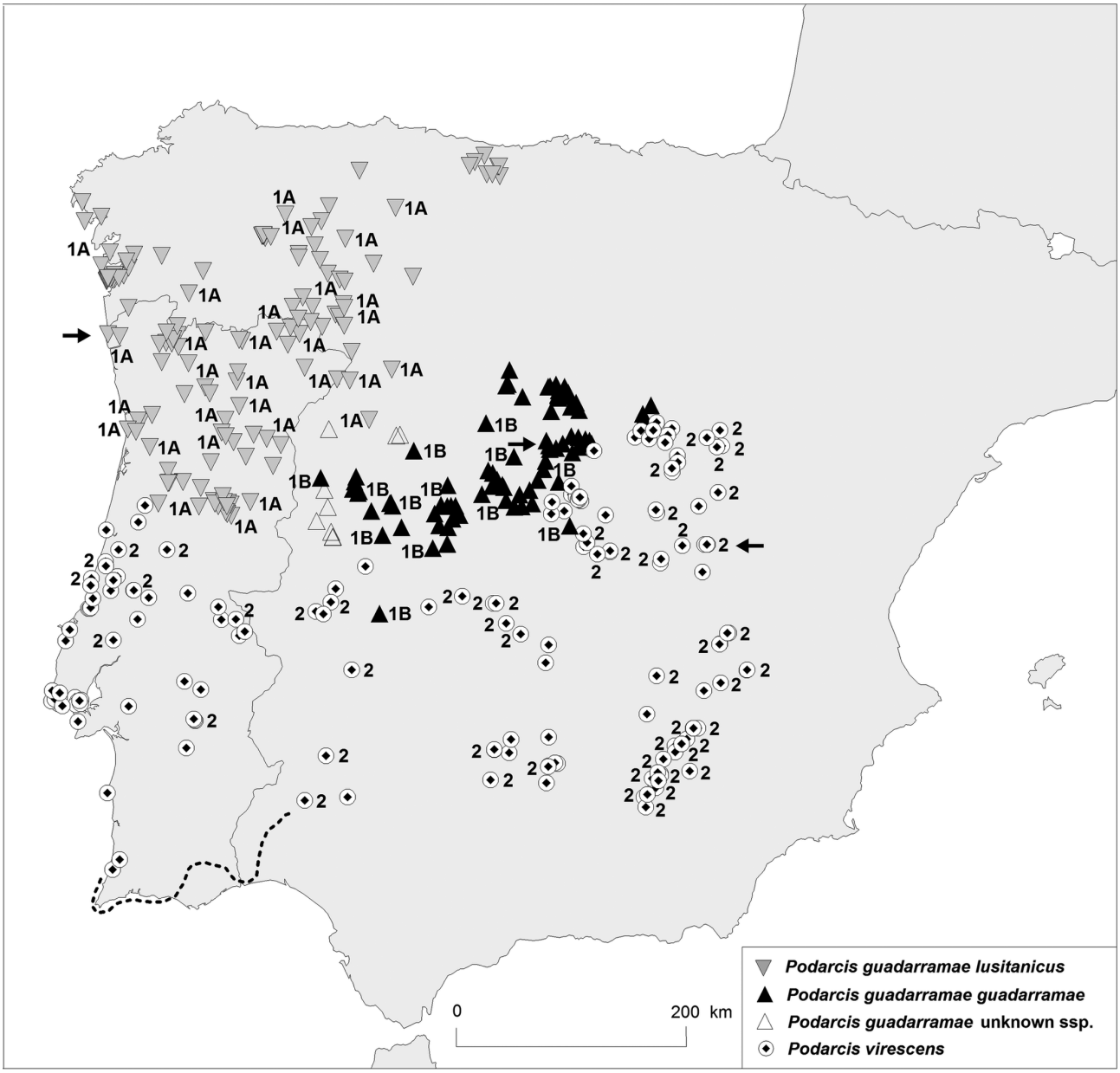

FIGURE 2. Distribution of *Podarcis* types 1A, 1B and 2 based on specimens examined by the authors or on published or unpublished genetic data. See appendix 1 for list of records. Dashed line identifies the south-western limit of type 2 in areas where we have few records, based on published maps (see text). "1A", "1B" and "2" indicate records supported by genetic data. Arrows identify type localities.

Systematic account

Podarcis guadarramae guadarramae (Boscá, 1916)

Lacerta muralis guadarramae Boscá, 1916, Boletín de la Real Sociedad Española de Historia Natural 16: 330.

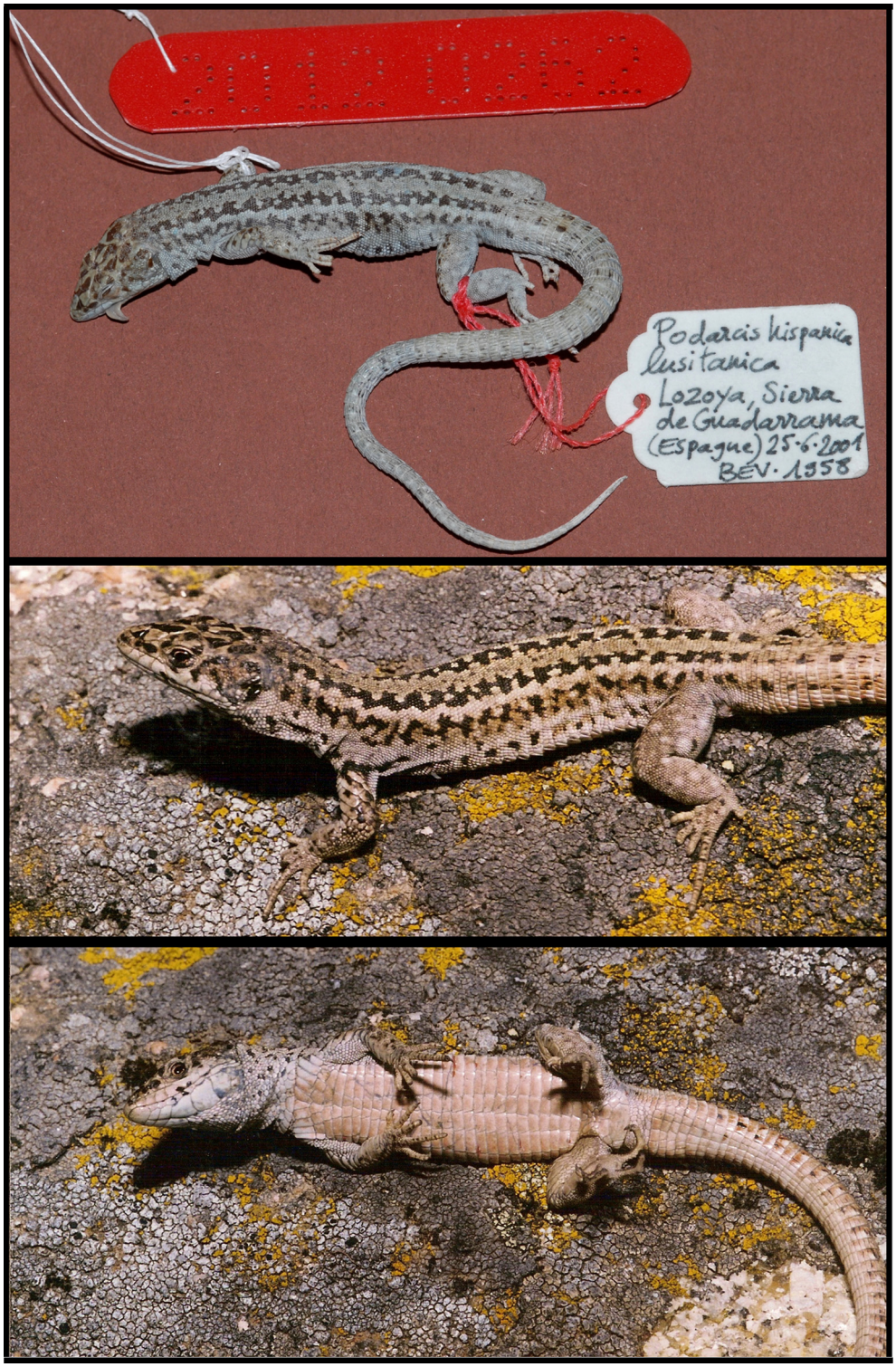

FIGURE 3. Neotype of *Lacerta muralis guadarramae* Boscá 1916 MNHN 2012.0262 from the village of Lozoya, Sierra de Guadarrama (province of Madrid, Spain). Note the well flattened head, the strongly black-spotted pileus, the lack of vertebral stripe, the wide light dorsolateral and black supradorsolateral stripes on the dorsum, continuing on tail, and the light orange iris. Photos P. Geniez.

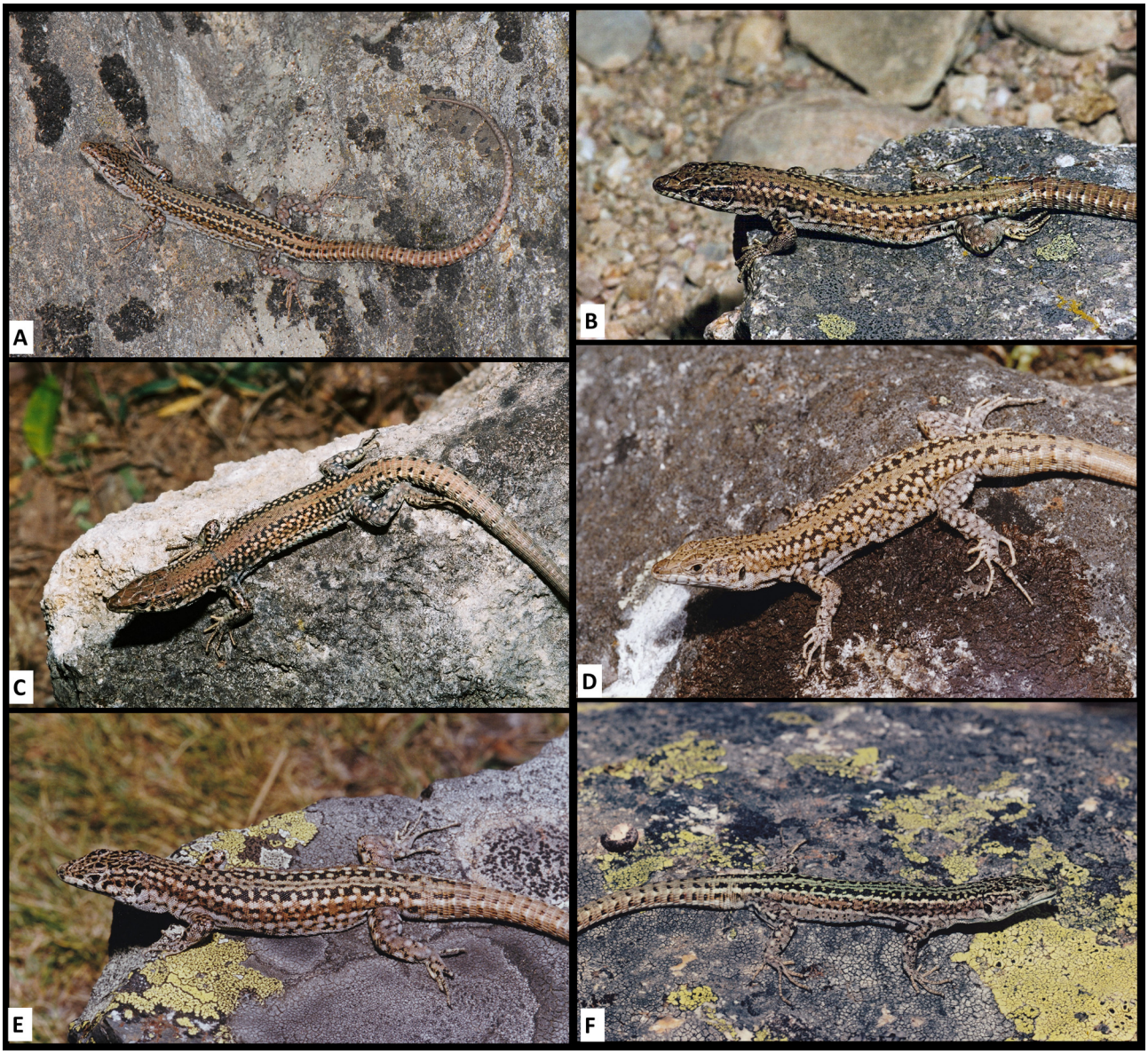

FIGURE 4. Variation in males of *Podarcis guadarramae guadarramae*. For GPS coordinates (WGS84 in decimal degrees), see Appendix 1. **A)** Spain, Sierra de Gredos, 1.5 km N. Laguna Grande, 1,897 m (province of Ávila), 17.08.2007 (PGe.1107). Photo O. Buisson. **B**) Spain, Sierra de Guadarrama, Boca del Asno, 7 km past La Granja de San Ildefonso towards Puerto de Navacerrada (province of Segovia), 19.08.1990 (PGe.1028). Photo P. Geniez. **C)** Spain, Hiendelaencina, in the village, Plaza Major, 1,080 m (province of Guadalajara), 17.07.2010 (BEV.10983). Photo P. Geniez & P.-A. Crochet. **D)** Spain, San Martín de Valdeiglesias (province of Madrid), 27.06.2001 (BEV.2021). Photo P. Geniez. **E)** Spain, El Tiemblo (province of Ávila), 27.06.2001 (BEV.2009). Photo P. Geniez. **F)** Specimen with greenish tint on the back. Spain, Sierra de Gredos, 4 km NE. Laguna Grande, 2000 m (province of Ávila), 16.07.1992 (PGe.1035). Photo P. Geniez.

Name-bearing type: Muséum National d'Histoire Naturelle MNHN 2012.0262, neotype by present designation (Fig. 3). Originally an adult male from "San Ildefonso" (= La Granja de San Ildefonso, Sierra de Guadarrama, province of Segovia, Spain), holotype by monotypy, currently lost. Type locality: Village of Lozoya, Sierra de Guadarrama, province of Madrid (Spain) [WGS84 = 40.951°N / 3.792°W] after present neotype designation. Originally "San Ildefonso".

Diagnosis. This is the lineage referred to as *Podarcis hispanicus* "type 1B" by Pinho *et al.* (2006, 2007), Carretero (2008) and Kaliontzopoulou *et al.* (2011, 2012). A typical Iberian wall lizard of the *Podarcis hispanicus* complex characterized by the following features (see also Figs. 4 & 5): large proportion of black elements in body coloration; medium body size (average of adult male SVL: 53.8 mm, range 41 to 64, with 83% of adult males above 50 mm SVL, average of adult female SVL: 51.6 mm, range 43 mm to 59 mm, with 67% of adult females

above 50 mm SVL); head distinctly flattened, body slender and flattened; vertebral stripe generally absent or vestigial, and then usually limited to the anterior part of the dorsum; pale dorsolateral stripes in males bright and contrasting, narrower than the dark supradorsolateral stripes, and reaching the anterior part of the tail, usually made of series of elongated whitish spots on a very pale background; many females with pale dorsolateral stripes straight and uninterrupted, without irregular pattern (called here "guadarramae striped pattern", cf. Fig. 5B), other females with pale dorsolateral stripes fragmented in series of elongated spots like males (Fig. 5A); juveniles with similar pattern (Figs. 5E & 5F); pileus strongly spotted with black; ground color of the dorsum generally brown, rarely with green hue except in mountains (Fig. 4F), with a pale area between the two dark supra-dorsolateral bands usually moderately wide (more than 5 scales in 77% of males and 84% of females); throat normally whitish, exceptionally pink, with numerous black points especially in males; ventral face whitish, pink or salmon, sometimes brick red (never yellow or yellowish), frequently with the anterior part of the underside whitish becoming progressively reddish toward the belly (Fig. 5C), underside often white in females, infrequently so in males (Fig. 5D); marginal ventral plates, and more rarely medium and central plates, with a quadrangular or roundish, more rarely triangular, black mark; iris whitish to pale orange; masseteric shield generally small, absent in 34% of males and 43% of females; numerous longitudinal rows of dorsal scales at midbody (52 to 72 for males, average: 59.9 and 48 to 68 for females, average 57.9); large number of femoral pores (15 to 23 for males, average 18.5, 15 to 20 for females, average 17.7). Diagnostic positions in the DNA sequence of the mitochondrial NADH dehydrogenase subunit 4 (ND4) gene relative to other lineages of the *P. hispanicus* complex include a C at position 10888, T at position 10929, A at position 11097, A at position 11365 and A at position 11418 (positions numbered according to the *P. muralis* mitochondrion complete genome GenBank accession number NC_011607).

Range and ecology. *Podarcis guadarramae guadarramae* occurs only in Spain, in the Spanish Central System mountains, including Sierras de Guadarrama, Béjar, Gredos, Peña de Francia and Gata and the smaller sierras around these main massifs, and in siliceous plains with *Pinus pinaster* forests north of the Central System mountains. Range limits to the north-west are still poorly known due to difficulty of morphological separation from *P. g. lusitanicus*, north-westernmost localities confirmed with genetic analysis (mtDNA sequencing) are Alba de Tormes and Ciudad Rodrigo in province of Salamanca (Kaliontzopoulou *et al.* 2011) while western limit is currently La Alberca, Salamanca (Pinho *et al.* 2007). Further east, populations assigned to *P. g. guadarramae* by their typical morphology and their location reach the north of the province of Segovia where they abruptly meet *P. liolepis* (see contact zones below). Eastern and southern limits better known as the adjacent *P. virescens* and *P. liolepis* are reasonably easy to separate morphologically (see below). The limit of the distribution south of the Spanish Central System seems to follow closely the transition between the dry, sparsely vegetated plateau of Central Spain (inhabited by *virescens*) and the more vegetated foothills of the Central System massifs (pers. obs.). *Podarcis guadarramae guadarramae* is mostly a rock lizard adapted to rupicolous habitats including granite rocks, artificial stone walls, rubbles and detritus etc., mostly on siliceous substratum. It reaches at least 2,000 m a.s.l. in the Sierra de Gredos (pers. obs.). In parts of its range where there is no competitors (e.g. *P. muralis* or *P. carbonelli*), it can also live on the ground, especially in pine *Pinus pinaster* forests on siliceous sandy soils. An (apparently) isolated population inhabits the Castillo de Trujillo (province of Cáceres, Spain), surrounded by localities where only type 2 has been documented; first photographed by V. Joubert in 1995 (photos in PG photo collection, see Appendix 1), this occurrence was later confirmed by genetic data (Pinho *et al.* 2006, specimen Trj1, collected exactly at the same location as confirmed by Pinho pers. com.). This occurrence seems to be linked with the ecological situation of Trujillo which is built on a rocky outcrop emerging from the surrounding plains. In addition, Kaliontzopoulou *et al.* (2011) report an isolated occurrence of *P. g. guadarramae* in Torrejón de la Calzada (province of Madrid), a locality surrounded by *P. virescens* populations and in a typical ecological situation for that species. Further sampling would be needed to fully exclude a mistake in sample labeling or sample processing in the lab.

Situation in contact zones with other taxa. *Podarcis guadarramae guadarramae* can coexist (sometimes in syntopy) with two other *Podarcis* species: *P. muralis* (e.g. Sierra de Guadarrama) and *P. carbonelli* (e.g. Sierra de la Peña de Francia). It is parapatric with *P. virescens* south of the Central System (cf. below), and with *P. liolepis* along a contact zone that runs from the north of the province of Segovia (Villaverde de Iscar, Remondo, Chañe, Arroyo de Cuéllar, Campo de Cuéllar, Valleruela de Sepúlveda et Duruelo) to the easternmost foothills of the Central Spanish System south of Atienza (province of Guadalajara). The contact zone in the province of Segovia runs precisely along the border between cultivated calcareous plateau in the north (home of *P. liolepis*) and sandy

siliceous plains with *Pinus pinaster* woods (home of *P. g. guadarramae*). We have identified very few localities where *P. g. guadarramae* coexists with these species, as populations are usually a few kilometres apart. Within the abrupt contact zone with *P. liolepis* in the north of the province of Segovia pure populations of either species were found only tens to hundreds of meters apart and local syntopy has even been observed in one spot between cultivated lands on calcareous substratum and pinewoods on sand (Geniez 2001) (see Fig. 6). No visible morphological introgression has been observed there or in any other population close to the contact zones with *P. virescens* or with *P. liolepis*, althoug detailed analysis of morphological variation accross contact zones remain to be done. We have no personal information on contact zones with *lusitanicus* (but see "systematic ranks of the new taxa" above).

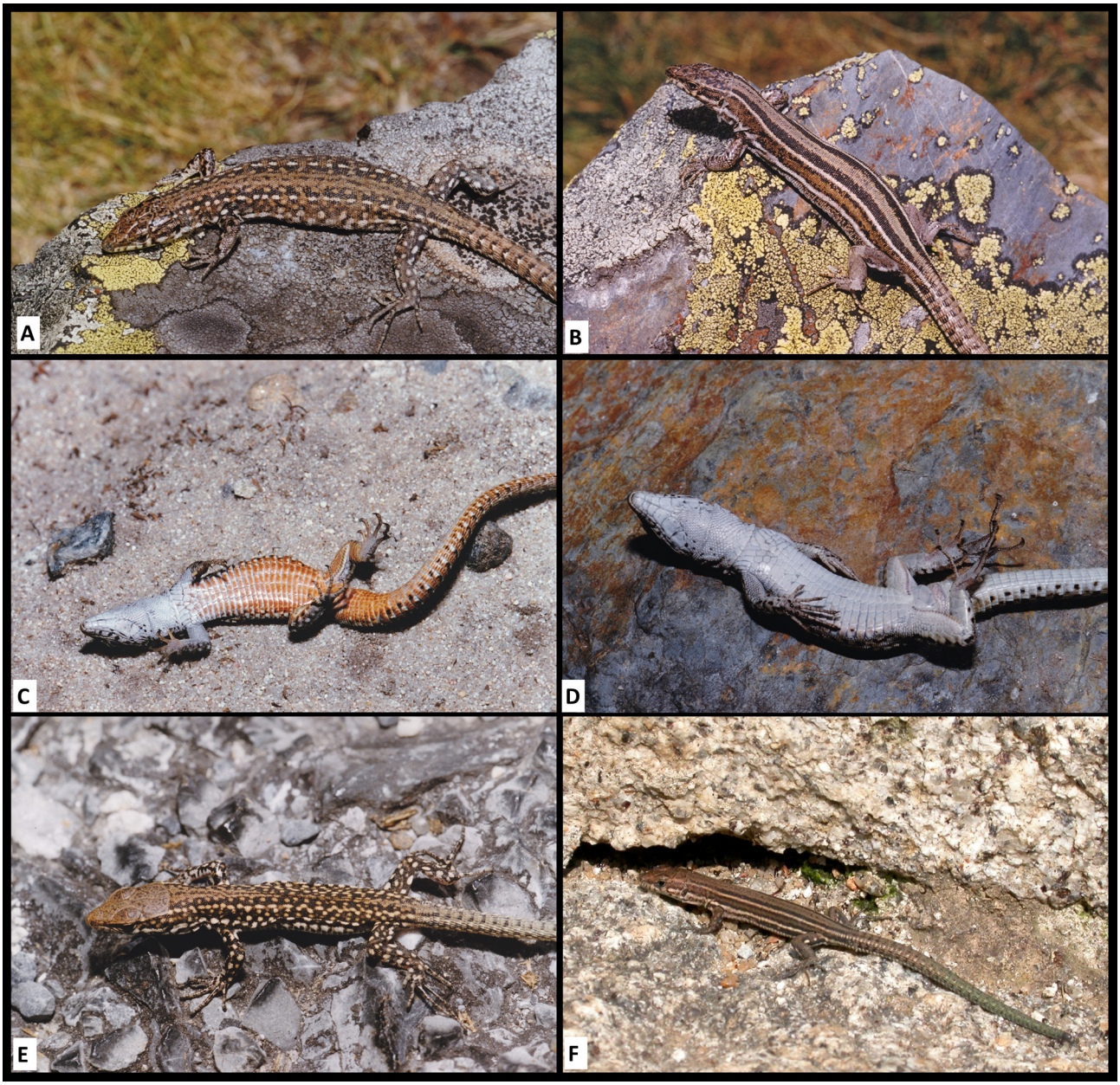

FIGURE 5. Variation in females, undersides and juveniles of *Podarcis guadarramae guadarramae*. **A)** Female. Spain, El Tiemblo (province of Ávila). 27.06.2001 (BEV.2007). Photo P. Geniez. **B)** Female with the "guadarramae striped pattern". Spain, Navalmoral (province of Ávila), 27.6.2001 (BEV.1999). Photo P. Geniez. **C)** Typical underside of a male, Spain, Navalilla, in the village (province of Segovia), 13.05.1996 (BEV.4487). Photo P. Geniez. **D)** Male with a white underside. Spain, San Martin de Valdeiglesias (province of Madrid), 27.06.2001 (BEV.2018). Photo P. Geniez. **E)** Juvenile male. Spain, San Martin de Valdeiglesias (province of Madrid), 27.06.2001 (BEV.2025). Photo P. Geniez. **F)** Juvenile female. Spain, La Alberca, Iglesia de Nuestra Señora de la Asunción (province of Salamanca), 18.09.2007 (PGe.790). Photo P.-A. Crochet.

FIGURE 6. *Podarcis liolepis* BEV.4122 (above) and *Podarcis guadarramae guadarramae* PGe.1006, two males found in strict syntopy. Spain, Road C.603, 1.4 km past San Miguel de Bernuy towards Cantalejo (province of Segovia), 7.05.1986. Photos P. Geniez. Note in *P. liolepis* the complete vertebral stripe, the unbroken pale dorsolateral stripes, the less flattened head, the big masseteric shield and the less minute temporal and dorsal scales.

Geographical variation. none evident to us but mountain populations tend to have a more contrasted coloration with larger proportion of dark elements, more contrasted pale dorsolateral lines and sometimes a green hue on the dorsum.

Comparison with other species within the *Podarcis hispanicus* complex. Separation of *Podarcis bocagei* and *P. carbonelli* from the other forms of the *P. hispanicus* complex has been well treated in e.g. Engelmann *et al.* (1993), Salvador & Pleguezuelos (2002), Kwet (2009), Arnold & Ovenden (2010), Glandt (2010). Separation of *P. hispanicus* has been covered in Geniez *et al.* (2007) and Glandt (2010), separation from *P. liolepis* in Renoult *et al.* (2010a). See *P. virescens* account below for separation from that species. *Podarcis guadarramae guadarramae* is most similar to *P. g. lusitanicus* but many populations can be separated by coloration patterns of adult males. Average differences in pholidosis and morphometry (see Kaliontzopoulou *et al.* 2012 and *lusitanicus* account below) are of little use for identification, even if *lusitanicus* is often a visibly more flattened lizard. In *P. g. lusitanicus*, pale spots in the light dorsolateral stripes are usually more obvious and better separated from each other because they stand out from a very dark background; the dark supradorsolateral stripes are broader and more fragmented, often reducing the pale background coloration to a narrow mid-dorsal band (dark supradorsolateral bands are narrower with more regular inner edges in *guadarramae*), in some males the dark coloration invades the whole dorsum, pale coloration being limited to isolated round spots or ocelli, green-backed males more frequent than in *guadarramae*; north-eastern populations of *lusitanicus* (Cantabria, Asturias, north of the province of León, see "geographical variation" in *lusitanicus* account) are better differentiated as they are paler with less developed, sometimes strongly reduced dark supradorsolateral stripes. Many specimens of the wholly allopatric *P. vaucheri* can be separated from both *P. g. guadarramae* and *P. g. lusitanicus* by their greener back (especially males from mountain populations), less flattened head and body, narrower dark supradorsolateal stripes, and rounder pale dorsolateral spots (more elongated in *P. guadarramae*), although some specimens can bear an almost identical dorsal pattern; *P. vaucheri* generally exhibits some obvious yellow coloration on the underside which *P. guadarramae* always lacks.

Description of the neotype. Adult male showing the following morphological features (Fig. 3): 59 longitudinal rows of dorsal scales at midbody, 28 gular scales counted along a longitudinal fictive line from the contact between the fourth pair of maxillary scales to the collar, 27 transversal rows of ventral plates from the collar to the anal plates, 16 and 17 femoral pores (left and right), 29 subdigital lamellae beneath the fourth toe, 4 supralabials in front of the subocular but a small further plate inserted between the third and the fourth supralabials, 87 scales on the temporal area, one small masseteric shield on each side, snout-vent length 58 mm, tail length 107 mm, pileus length 15.0 mm, pileus width 6.8 mm, pileus high 6.4 mm, pileus strongly marked by 12 large black blotches, dorsum grey brown with two continuous paler dorsolateral stripes, each bordered on their inner edge by a wide supra-dorsolateral black stripe with light ocelli, reaching the base of the tail; no vertebral stripe, throat whitish with a few dark dots on the sides; belly uniform pale pinkish in life (with no dark markings, a rare character in males of this form but matching the description of the holotype of *Lacerta muralis guadarramae* given by Boscá).

Podarcis guadarramae lusitanicus subsp. nov.

Holotype: Muséum national d'Histoire naturelle MNHN 2012.0263 (formerly BEV.3987), holotype by present designation; an adult male collected 1 km past Âncora towards Póvoa de Varzim (south of Caminha, Portugal, district of Viana do Castelo) [41.794°N / 8.864°W], 30 m a.s.l. in May 1985 by C.P. Guillaume, P. Geniez, U. Mathis and J. Magraner (Fig. 7). Paratypes: RMNH.RENA 35253, 35297, 35317, males from a quarry in Coto de Caza San Martin near Ardia (Spain, province of Pontevedra) [42.4553°N / 8.8744°W]; EBD.16033, female from Hío, near Cangas (Spain, province of Pontevedra) [42.271°N / 8°.830°W]; EBD.9247, 9252, males, EBD.9249-9251, females, from Pouso da Serra, Donón (province of Pontevedra) [42.275°N / 8.847°W]; BEV.6299-6307, males, BEV.6308, female, from Vila Real (Portugal, district of Vila Real) [41.310°N / 7.839°W].

Etymology. the adjectival epithet *lusitanicus* refers to the Lusitanians (latin *Lusitani*), an ancient pre-Roman people inhabiting the centre and east of present-day Portugal (and adjacent area of Spain).

Diagnosis. This is the lineage referred to as *Podarcis hispanicus* "type 1A" by Pinho *et al.* (2006, 2007), Carretero (2008) and Kaliontzopoulou *et al.* (2011, 2012). A typical wall lizard of moderate size (adult males 41.5 mm to 62.5 mm, mean 51.5, adult females 40.0 mm to 60.0 mm, mean 48.7), very similar to *Podarcis guadarramae guadarramae* (see Fig. 8) and often not safely identifiable based on present knowledge. On average

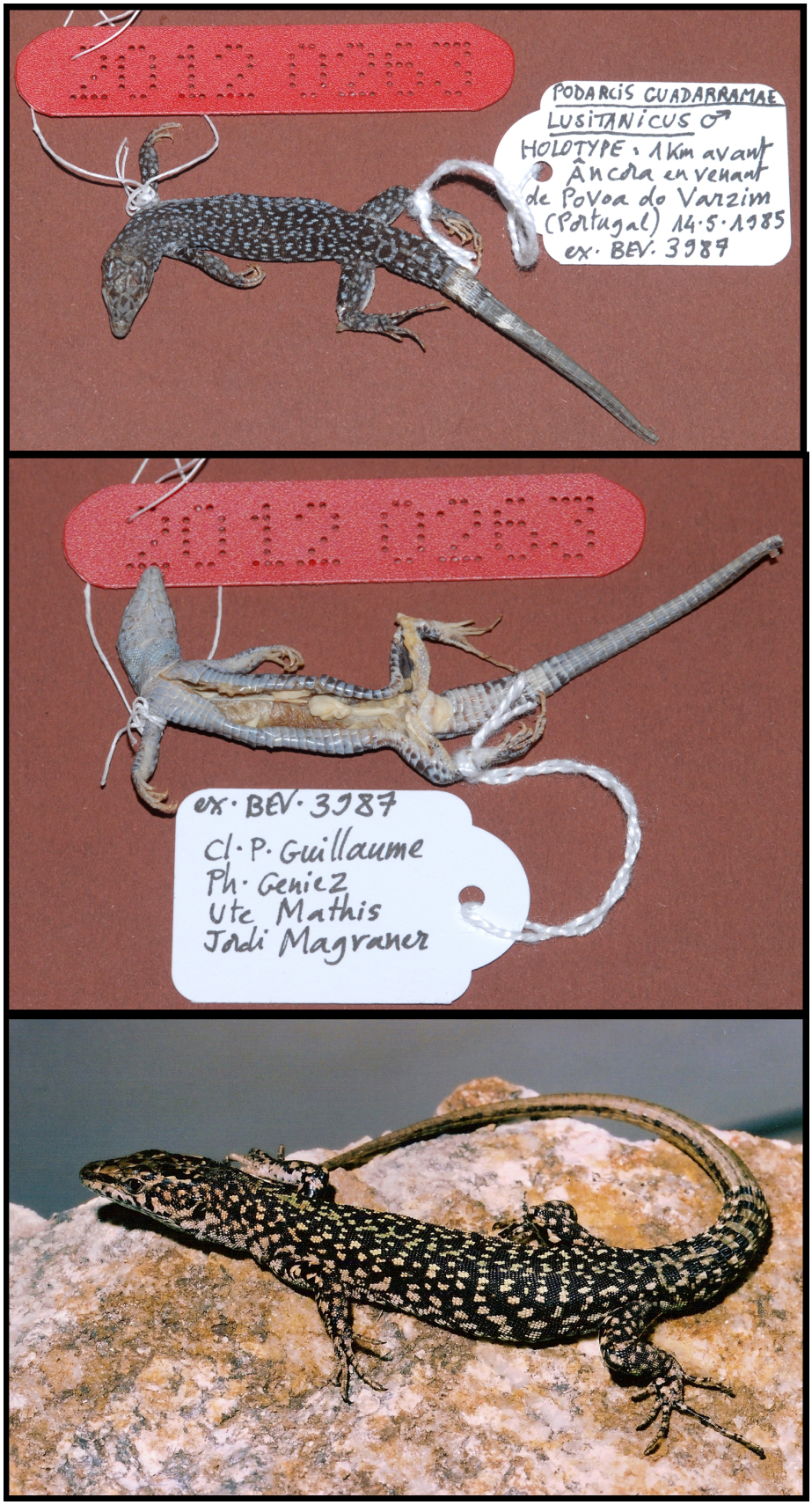

FIGURE 7. Holotype of *Podarcis guadarramae lusitanicus*, male MNHN 2012.0263. Portugal, 1 km past Âncora towards Póvoa do Varzim (district of Viana do Castelo), 14.05.1985. Photos P. Geniez. Note the very flattened head, the very large black spots on the pileus, the lack of vertebral stripe, the very broad black supradorsolateral stripes invading a large part of the pale green dorsum and the light dorsolateral stripes made of weakly elongated spots.

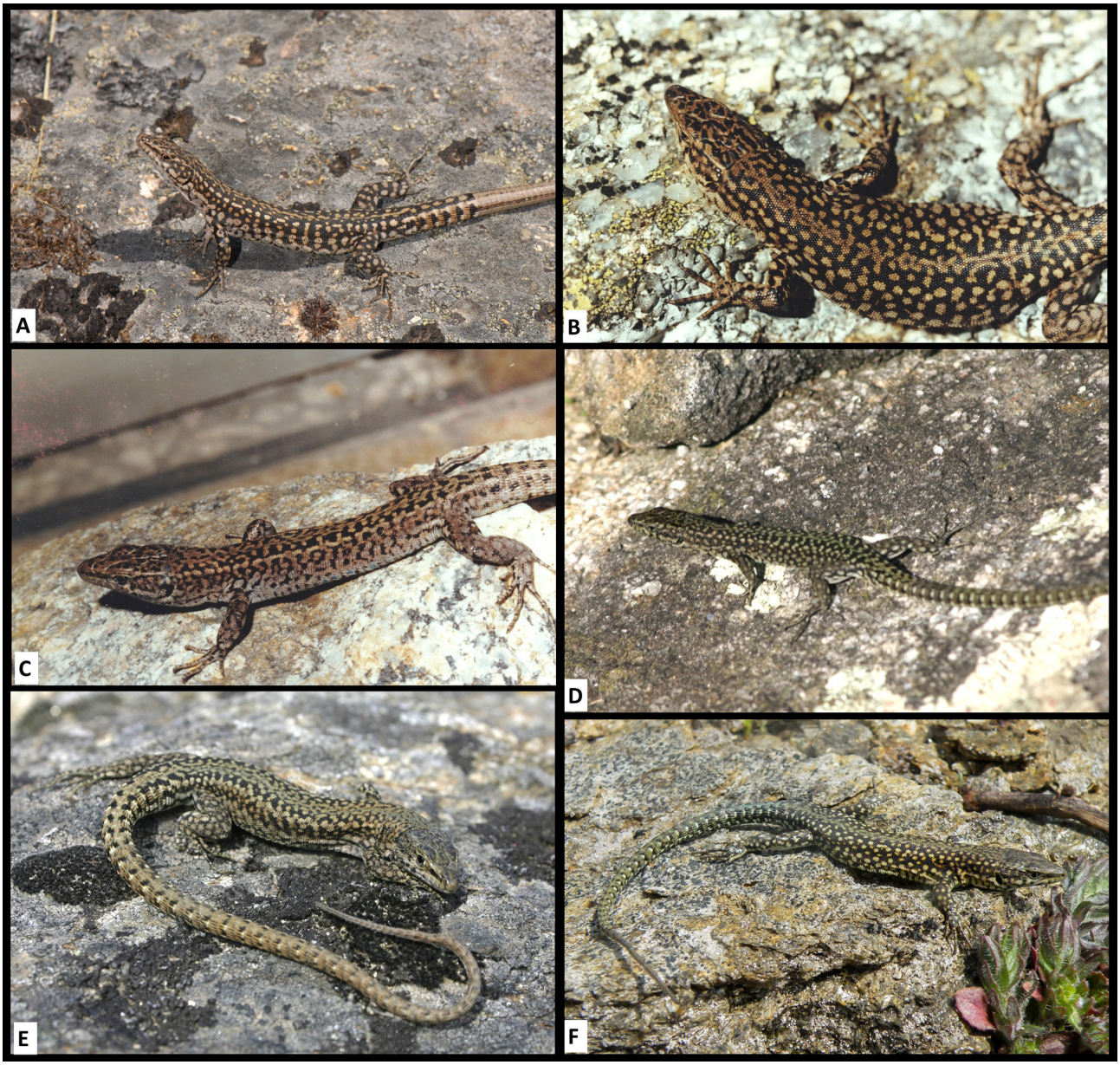

FIGURE 8. Variation in males of *Podarcis guadarramae lusitanicus*. **A)** Portugal, Serra da Estrela, just north of the Lagoa de Viriato (district of Castelo Branco), 1579 m, 21.08.2008 (PGe.796). Photo O. Buisson. **B)** and **C)** Portugal, Serra da Estrela, top of the Vale Glacirio do Zêzere, crossroad N 338 x N 339, 1800 m (district of Guarda), 10.05.1985 (respectively BEV.3982 and 3981). Photos P. Geniez. **D).** Spain, 200 m E. Castro Baroña (42 km SW. Santiago, province of Pontevedra), 12.10.2006 (PGe.1035). Photo J. Speybroeck. **E)** and **F).** Spain, 1 km ESE. Viana do Bolo (province of Orense), 734 m, 1.05.2012 (respectively PGe.1134 and 1132). Photos J. Speybroeck (E) and W. Beukema (F).

has a slightly more flattened appearance with a flatter head (Fig. 9B); a lower number of femoral pores (13 to 21 for males, average 16.5, 12 to 19 for females, average 15.6) and lower number of dorsal scales (47 to 66 for males, average 56.9, 46 to 61 for females, average 53.4); "guadarramae striped pattern" rare in females, when present pale dorsolateral stripes are narrower and less obvious than in *P. g. guadarramae* (compare Fig. 10B with Fig. 5B), dark supradorsolateral stripes usually wider, leaving a narrower area of pale coloration in the middle of the back, in many adult males the dark supra-dorsolateral stripes can be very wide and very fragmented, invading the dorsal region, where they create a reticulated, dappled or ocellated pattern of light green, white or creamy spots on black back devoid of stripes (this pattern is typical to *P. g. lusitanicus* and seems to be unknown in other taxa of the *Podarcis hispanicus* complex, see Figs. 7 & 8B), pale spots inside the light dorsolateral stripes more contrasting and isolated as they are often positioned on a darker background, green-backed individuals not rare especially in

mountains but also along the Atlantic coast. Diagnostic positions in the DNA sequence of the mitochondrial NADH dehydrogenase subunit 4 (ND4) gene relative to other lineages of the *P. hispanicus* complex include an A at position 10905, C at position 11395 and A at position 11448 (positions numbered according to the *P. muralis* mitochondrion complete genome GenBank accession number NC_011607).

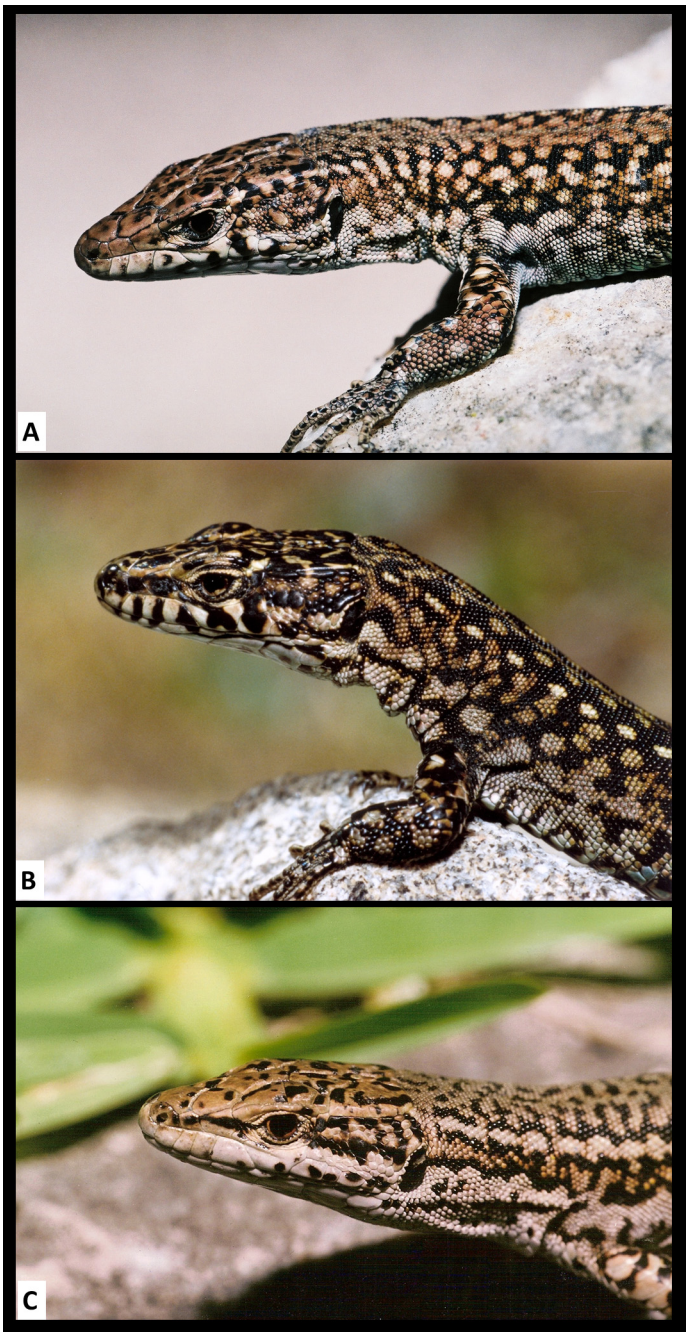

FIGURE 9. Portraits of males of **A)** *Podarcis guadarramae guadarramae*. Spain, El Berrueco, in the village, 940 m (province of Ávila), 14.06.2010 (BEV.10937). Photo P. Geniez & P.-A. Crochet. **B)** *Podarcis guadarramae lusitanicus*. Portugal, Serra da Estrela, Lagoa Comprida (district of Guarda) (PGe.1024). Photo P. Geniez. **C)** *Podarcis virescens*. Spain, 1 km past Villanueva de los Escuderos towards Cuenca (province of Cuenca), 23.06.2001 (holotype MNHN 2012.026). Photo P.Geniez.

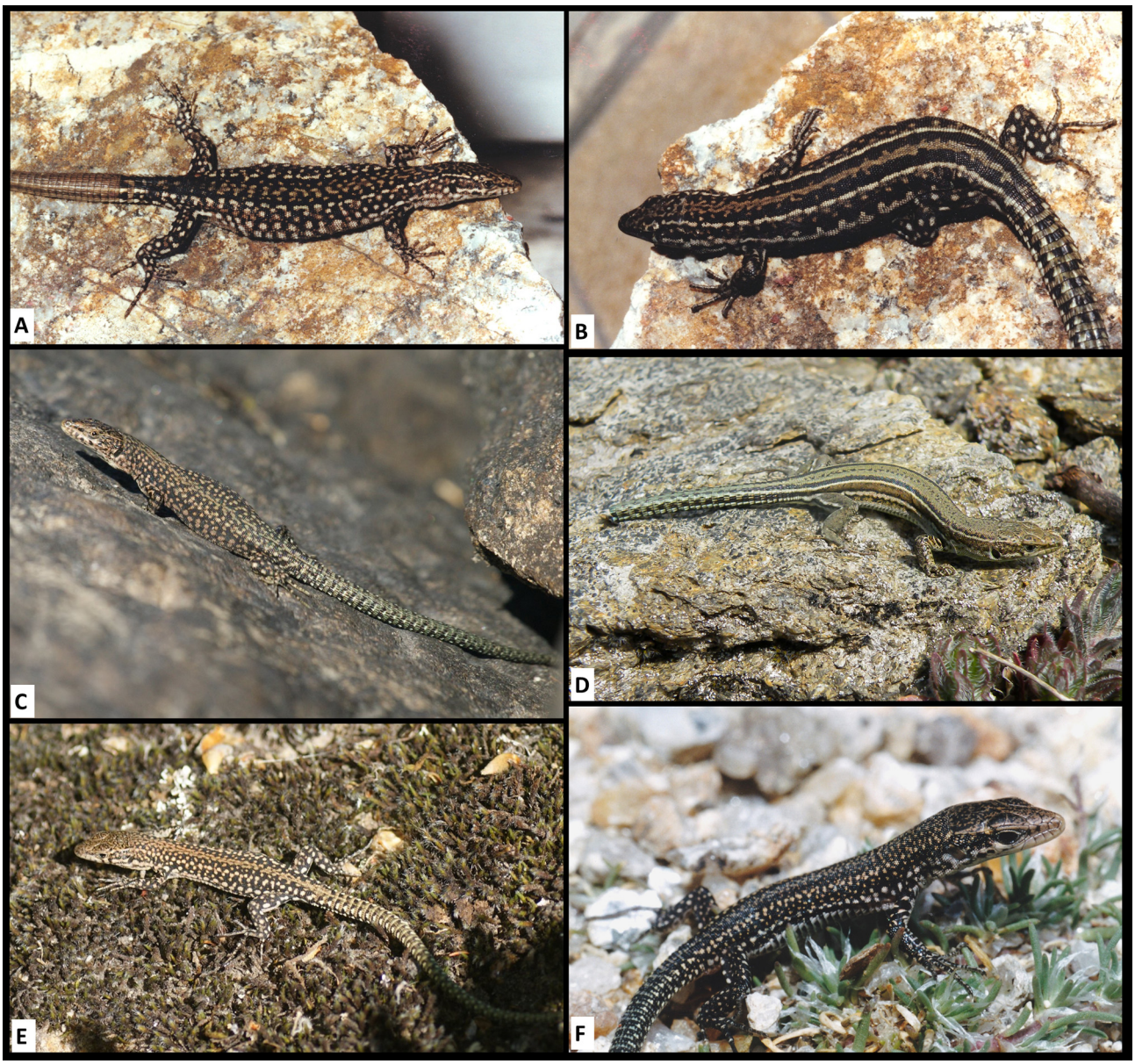

FIGURE 10. Variation in females and juveniles of *Podarcis guadarramae lusitanicus*. **A)** and **B)** Females. Portugal, Serra da Estrela, top of the Vale Glaciário do Zêzere, crossroad N 338 x N 339, 1,800 m (district of Guarda), 10.05.1985 (respectively BEV.3986 and 3984). Photos P. Geniez. **C)** Female. Spain, Sierra de la Cabrera, Lago de Sanabria (province of Zamora), 23.10.2009 (PGe.1105). Photo M. Berroneau. **D)** Subadulte female. Spain, 1 km ESE. Viana do Bolo (province of Orense), 734 m, 1.05.2012 (PGe.1133). Photo W. Beukema. **E)** Juvenile. Spain, Sierra de la Cabrera, Lago de Sanabria (province of Zamora), 23.10.2009 (PGe.1117). Photo M. Berroneau. **F)** Newborn individual. Portugal, small hydroelectric power, 1 km above Montesinho, 1,000 m (district of Bragança), 14.08.2003 (PGe.782). Photo P. Geniez.

Range and ecology (Fig. 2): only in north-western Iberia: northern third of Portugal, reaching the Serra da Estrela southwards (*cf.* also "*Podarcis hispanicus* 1" in Sá-Sousa 2000), whole part of the Galicia region except the north, and north-western part of Castilla-y-León, reaching its northern limits near Ezaro (E of Cape Finisterre) along the Galician coast. Eastern limits poorly known but currently include the western slopes of the Puerto de Manzanal near Manzanal del Puerto (Léon, Spain) in the south and Oriñon (Santander, Spain) along the northern coast of Spain. The north-western limit of the range of "*Podarcis hispanicus*" (sensu lato) in Sá-Sousa & Pérez-Mellado (2002) coincides with the limit of the range of *Podarcis guadarramae lusitanicus* (see also Galán 1986 for details on the northern-western limit in Spain). Pérez-Mellado (2010) provides a detailed account on the distribution in Portugal (as *Podarcis hispanicus* "morfotipo 1": all Portuguese populations of type 1 should be this

taxon). Its ecology is very similar to the ecology of *P. g. guadarramae* but it reaches sea level along the coasts. Competition with *P. bocagei* in the northwestern part of its range often excludes it from terrestrial and man-made habitats (stone walls for example), restricting it to natural rocky habitats in these areas (pers. obs., see also Galán 1986). On small islands off Galicia the two species usually exclude each other (Arntzen & Sá-Sousa 2007).

Geographical variation. Populations in the north-eastern part of the range of *Podarcis guadarramae lusitanicus,* including most of the Cantabrian Mountains area, roughly from Medulas and Carrucedo in Spain and eastern piedmonts of the Serra de Montesinho in north-east Portugal to Picos de Europas, especially north of Caín in the Ruta del Cares, in Spain, are on average smaller (41.5 to 58 mm of SVL for males, average 49.6, 40 to 57 mm for females, average 47.2), with a lower number of dorsal scales (47 to 63 for males, average 54.5, 46 to 58 for females, average 52.2) and a larger number of transverse rows of ventral plates (25 to 30 for males, average 27.3, 29 to 35 for females, average 30.9); coloration is often quite distinctive, with a more finely dappled or punctuated and less contrasted dorsal pattern with reduced dark supradorsolateral stripes, pale dorsolateral stripes less contrasted (see Fig. 11).

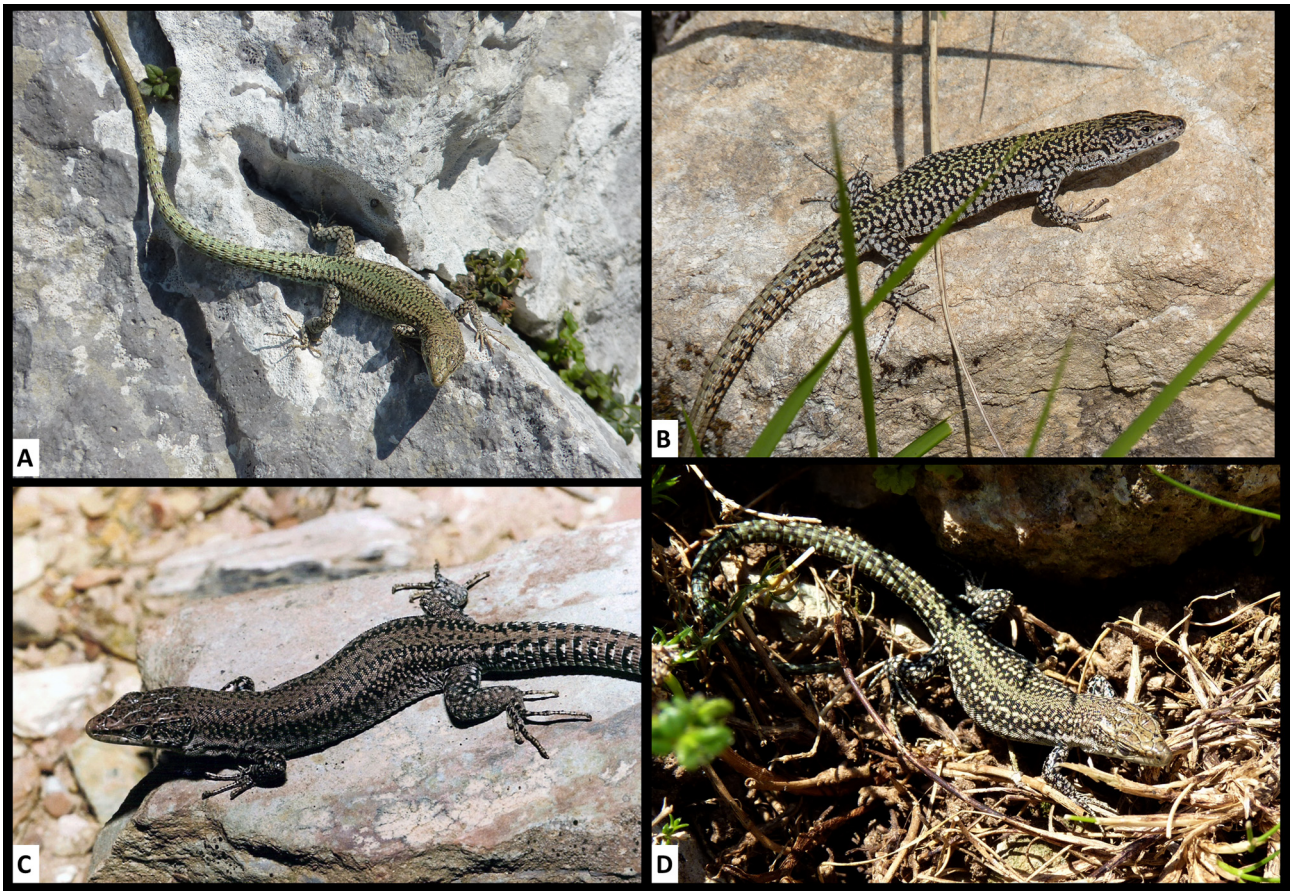

FIGURE 11. *Podarcis guadarramae lusitanicus*, Cantabric form. **A), B)** and **D)** Respectively two males and a juvenile. Spain, Picos de Europa, Desfiladero de Cares (= Senda del Cares), in the province of Santander, 25.04.2013 (respectively PGe.1088, 1087 and 1090). Photos M. Ricordel. **C)** Male. Portugal, eastern piedmonts of the Serra de Montesinho, 8 km past Rio de Onor towards Varge (district of Bragança), 15.8.2003 (BEV.8331). Photo P. Geniez.

Situation in contact zones with other taxa. Largely sympatric with *Podarcis bocagei* in the north-west of its range (see Loureiro *et al.* 2010 for Portugal and Pleguezuelos *et al.* 2002 for Spain). Reproductive isolation relative to this species is nearly complete but a few individuals of recent mixed ancestry have been detected, as well as some evidence of ancient introgression (Arntzen & Sá-Sousa 2007; see also Pinho *et al.* 2007, 2008). Sympatric, sometimes syntopic, with *P. carbonelli* in the north of Portugal (pers. obs., see also Loureiro *et al.* 2010). Globally parapatric with *P. virescens* in Portugal (Sá-Sousa 2000, Harris & Sá-Sousa 2001, Sá-Sousa *et al.* 2002) but a few syntopic populations have been described (see Pérez-Mellado 2010). In spite of this, Pinho *et al.* (2008) detected no trace of nuclear gene flow between *P. g. lusitanicus* and *P. virescens*. Sá-Sousa *et al.* (2002) found specimens with

type 2 morphological characters in the Serra da Estrela but as this population is far from the contact zone with this species, it is unlikely that this results from introgression. We have no information on contact zones with *P. g. guadarramae* or *P. liolepis*.

Comparison with other species. See *guadarramae* and *virescens* accounts.

Description of the holotype. An adult male (Fig. 7) measuring 52 mm of snout-vent length, 11.4 mm of pileus length, 5.5 mm of pileus width, 5.1 mm of head height (giving a height / length head ratio of 0.93), and having the following scalation features: 60 longitudinal rows of dorsal scales at mid-body, 32 gular scales counted along a line from the contact between the fourth pair of maxillary scales to the collar, 27 transversal rows of ventral plates from the collar to the anal plates, 16 femoral pores on each side, 23 subdigital lamellae beneath the fourth toe, 93 scales on the temporal area, one small but well-defined masseteric shield on each side. Coloration on the live animal: iris whitish; pileus strongly black-marked; dorsum mainly black with a vestigial pale central area showing as a row of pale green spots along mid-dorsum, a row of pale cream spots along the dorsolateral area and flanks black with numerous large creamy spots; tail mainly regenerated, with basis not strongly widened and coloration similar to the body for the original tail, mainly pale brown with a black longitudinal lateral stripe for the regenerated part; central and median ventral plates uniform, marginal ventral plates with triangular black marks. Ventral coloration on the live specimen has not been photographed. Coloration of the preserved specimen is similar but pale areas on the back and flanks now have various shades of light grey.

Podarcis virescens sp. nov.

Holotype: Muséum National d'Histoire Naturelle MNHN 2012.0264, formerly BEV.1898, holotype by present designation; an adult male caught by P. Geniez, P.-A. Crochet and O. Chaline on 23rd June 2001, 1 km past Villanueva de los Escuderos towards Cuenca by the road CUV-7037 (Spain, province of Cuenca) [40.0436°N / 2.2916°W], 1,014 m. a.s.l. (Fig. 12). Paratypes: BEV.1899, 1901, males, BEV.1900, female from Villanueva de los Escuderos, in the village (Spain, province of Cuenca) [40.0417°N / 2.3025°W] (see Fig. 14 for BEV.1900); BEV.1909, 1911-1912, males, BEV.1910, female, from Albalate de Zorita, in the village (NNE. Tarancón, Spain, province of Guadalajara) [40.308°N / 2.845°W] (see Fig. 13 for BEV.1911); BEV.7525, male from the motorway service area 4 km SW. of Ciempozuelos (between Aranjuez and Valdemoro, Spain, province of Madrid) [40.1341°N / 3.6563°W] (see Fig. 15); BEV.10940-941, males from 2.4 km NW. of Torrelaguna (province of Madrid) [40.8404°N / 3.5634°W]; BEV.10979, male from San Andres del Congosto, cultivated plaine 500 m east of the village (province of Guadalajara) [40.9994°N / 3.0213°W], 840 m. above sea level.

Etymology. The epithet *virescens* is a participle derived from the Latin verb "*viresco*" meaning "turning green, becoming green".

Diagnosis. This is the lineage referred to as *Podarcis hispanicus* "type 2" by Pinho *et al.* (2006, 2007), Carretero (2008) and Kaliontzopoulou *et al.* (2011, 2012). A typical Iberian wall lizard of the *Podarcis hispanicus* complex characterized by the following features (Figs. 12, 13 & 14): moderate size (adult males 40 to 62 mm, mean 54.3, adult females 41 mm to 63 mm, mean 53.5); head and body relatively robust and not particularly flattened especially in males (Figs. 12 & 13); vertebral stripe often absent or, if present, usually limited to the anterior part of the dorsum; light dorsolateral stripes in males variably marked, usually visible but varying from only marginally paler than the ground color to nearly white, and fragmented or continuous but with irregular dark border, often including series of paler spots, when fragmented these pale dorsolateral lines are generally not broken by any intrusion from the black supradorsolateral stripe but by the brown ground color of the body; in females (Fig. 14) the light dorsolateral stripes are usually continuous with straight edges, their color varying from whitish to nearly the same color as back, some females bear rows of pale ocelli instead of continuous pale dorsolateral stripes (Fig. 14E); black supradorsolateral stripes in males highly fragmented, of same width or wider than the pale dorsolateral stripes, sometimes vestigial or absent, and carrying on the anterior part of the tail; in females dark supradorsolateral stripes narrower than the pale dorsolateral stripes or of same width, usually straight, continuous or interrupted; sometimes vestigial or absent; flanks in males dark with a row of pale ocelli often present along the flanks, in females flanks are dark bordered below by a pale stripe; pileus often uniform or weakly dark spotted, (sometimes strongly spotted); ground coloration of the dorsum in males frequently tinted green or greenish in spring, especially on the posterior part, this green coloration disappearing during summer; throat whitish, sometimes yellow, yellowish or orange, with black dots especially in males; ventral face whitish, yellowish or

orange (Figs. 15A & B), sometimes brick red, with marginal ventral plates, more rarely medium and central plates, with a black quadrangular or roundish mark, rarely triangular mark; underside of the tail and rear body usually with a distinctly yellower coloration (Fig. 15A); masseteric shield generally medium-sized, sometimes absent (in 12.6% and 24.6% of males and females respectively); very numerous dorsal scales (average of the number of longitudinal rows counted at midbody 62.3 and 59.7 for males and females respectively, minimum 49 and maximum 74 for both sexes); iris pale orange to high orange (Fig. 9C). Diagnostic positions in the DNA sequence of the mitochondrial NADH dehydrogenase subunit 4 (ND4) gene relative to other lineages of the *P. hispanicus* complex include a T at position 11181 and T at position 11274; the combination of C at position 10911 and A at position 11033 is also diagnostic (positions numbered according to the *P. muralis* mitochondrion complete genome GenBank accession number NC_011607).

FIGURE 12. Holotype MNHN 2013.0264 of *Podarcis virescens* **n. sp.** from 1 km past Villanueva de los Escuderos towards Cuenca (province of Cuenca, Spain) Photos P. Geniez. Note the less flattened head compared with *P. guadarramae*, the green tint on the dorsum and the orange-yellowish tint of the tail.

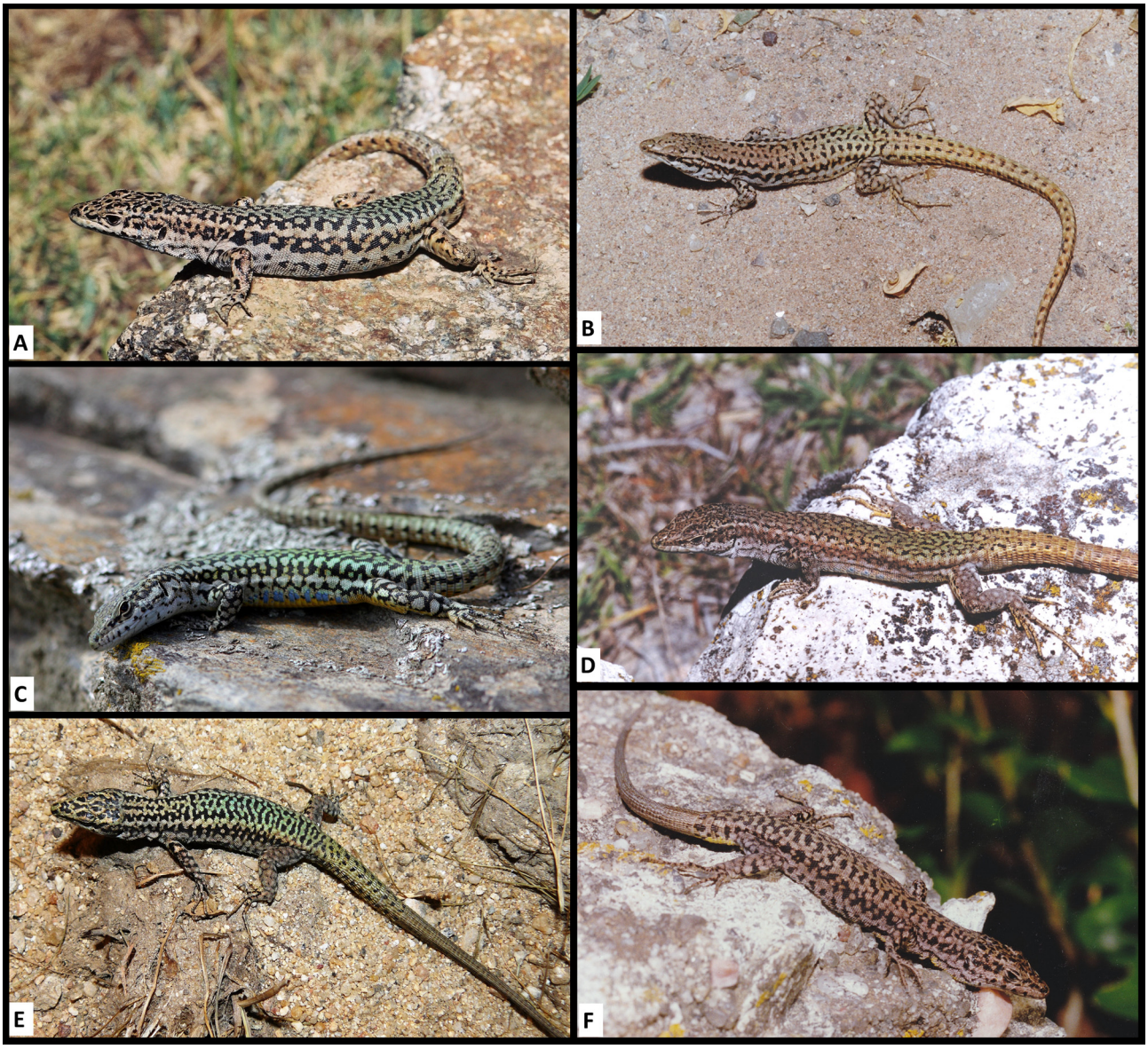

FIGURE 13. Variation in males of *Podarcis virescens*. **A)** Spain, Torrelaguna (NNE. Madrid, province of Madrid), 26.06.2001 (BEV.1968). Photo P. Geniez. **B)** Spain, Albalate de Zorita (province of Guadalajara), 24.06.2001 (BEV.1911). Photo P. Geniez. **C)** Spain, 1 km WSW. Charca de los Pocitos, 8 km WSW. Talaván, 330 m (province of Cáceres), 7.04.2009 (PGe.890). Photo V. Delcourt. **D)** Spain, Cazorla, Castillo de la Iruela, 906 m (province of Jaén), 21.04.2002 (BEV.7405). Photo P. Geniez. **E)** Portugal, Évora (district of Évora), December 2008 (BEV.12662). Photo P. Sá-Sousa. **F)** Portugal, Vila Nova de Ourem (W. Tomar, district of Leiria), 14.09.1995 (PGe.1075). Photo P.-A. Crochet.

Range and ecology. *Podarcis virescens* occurs in a large area of south-central Spain from west of Sigüenza along the southern foothills of the Central System to the south side of the Tagus River valley in Spanish Extremadura and in western Portugal (Carretero 2008, pers. obs.). From there it spreads north along the Atlantic plains to Espinho (south of the Duero River mouth, see Pérez-Mellado 2010); in Portugal it reaches south as far as the whole of the Algarve coast (Loureiro *et al.* 2010). The southern limits of its range in Spain are still imperfectly documented due to confusions with *P. vaucheri*: it runs through the sierras north of the Guadalquivir river valley (see Pinho *et al.* 2008, Kaliontzopoulou *et al.* 2011) to Cazorla (Renoult *et al.* 2009). From there the eastern limit runs approximately through Albacete and the western foothills of the Serranía de Cuenca to Cifuentes and a few kilometers west from Sigüenza (while Sigüenza city is inhabited by *P. liolepis*). It mainly inhabits plains and low plateaus where it often lives in open, agricultural landscapes. Like many species of Iberian *Podarcis*, it is mainly linked to human habitats (villages, isolated traditional buildings, bridges, etc…) in these open landscapes. It also

inhabits more natural habitats in woody hills with rocky outcrops, and enters mountainous massifs especially in the south of its range (for example Sierra de Cazorla, Sierra Morena and other Andalusian sierras north of the Guadalquivir River). Its ecology is similar to many species of Iberian *Podarcis*, with a rather wide niche but a strict dependency upon hard substratum and micro relief (walls, outcrops, etc.), often in relatively humid situations.

Geographical variation. No clear geographically structured morphological variations, but genetic data indicate substantial mitochondrial diversity (Pinho *et al.* 2006, Kaliontzopoulou *et al.* 2011).

FIGURE 14. Variation in females of *Podarcis virescens*. **A)** Spain, Villanueva de los Escuderos, road CU.704 (province of Cuenca), 23.06.2001 (BEV.1900). Photo P. Geniez. **B)** and **C)** Spain, La Montaña (just N. of Aranjuez), along the road M-305 (Aranjuez – Madrid) 200 m south of the "Calle Granada", 495 m (province of Madrid), 14.07.2010 (respectively BEV.10946 and 10945). Photos P. Geniez & P.-A. Crochet. **D)** Spain, 1 km WSW. Charca de los Pocitos, 8 km WSW. Talaván, 330 m (province of Cáceres), 7.04.2009 (PGe.1136). Photo V. Delcourt. **E)** Spain, Sierra de Andújar, track de la Lancha, ca. 5 km NW. Los Escoriales, 427 m (province of Jaén), 29.03.2011 (PGe.1128). Photo P. Geniez. **F)** Portugal, 5 km past Leiria towards Coimbra (district of Leiria), 14.04.1987 (PGe.1084). Photo P. Geniez. Note that these two latter females show a strong resemblance with *Podarcis guadarramae* (including *lusitanicus*) but the light spots of the supradorsolateral stripes are roundish, not elongated, and the tail has a yellowish hue.

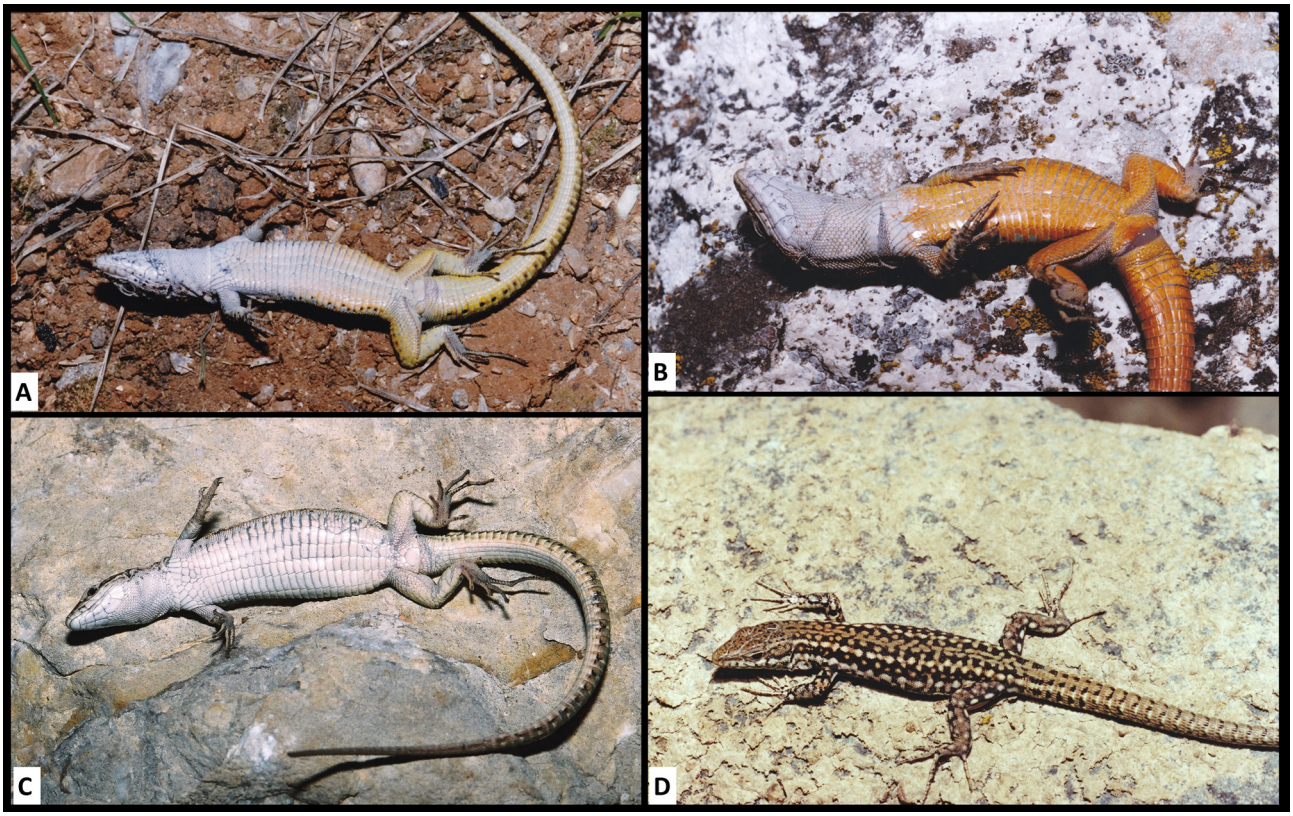

FIGURE 15. Variation in undersides and subadult of *Podarcis virescens*. **A)** Male underside. Spain, motorway service area 4 km SW. of Ciempozuelos, 622 m (between Aranjuez and Valdemoro, province of Madrid), 26.04.2002 (BEV.7525). Photo P. Geniez. **B)** Male underside. Spain, Cazorla, Castillo de la Iruela, 906 m (province of Jaén), 21.04.2002 (BEV.7403). Photo P. Geniez. **C)** Female underside. Spain, La Montaña (just N. of Aranjuez), along the road M-305 (Aranjuez – Madrid) 200 m south of the "Calle Granada", 495 m (province of Madrid), 14.07.2010 (BEV.10946). Photo P. Geniez & P.-A. Crochet. **D)** Subadult. Bridge on the Arroyo de la Vid, 10 km N. Torrejón el Rubio (province of Cáceres), 20.08.1990 (PGe.1029). Photo P. Geniez.

Situation in contact zones with other taxa. *Podarcis virescens* is widely sympatric with *P. carbonelli* in coastal Portugal (Carretero 2008). In the north part of its distribution, it is largely parapatric with *P. g. lusitanicus* (= Portuguese populations of type 1, Harris & Sá-Sousa 2001, Sá-Sousa 2000) with at most limited morphological introgression (Sá-Sousa *et al.* 2002, see also above). Along the southern foothills of the Spanish Central System, for example around Madrid or in the north of the province of Guadalajara, west of Sigüenza, *P. virescens* and *P. g. guadarramae* replace each other abruptly again with no evidence of morphological introgression or syntopic populations (pers. obs.). The BEV collection, however, holds one female with the "guadarramae striped pattern" in a sample from Torrelaguna (Madrid, immediately south of the Central System foothills) which is suggestive of limited morphological introgression as this pattern has not been found in any other *P. virescens* populations (pers. obs.). Around Mandayona (province of Guadalajara), populations of typical *virescens* phenotypes were found only 2 km from populations of typical *liolepis* phenotype. Further south, *P. virescens* and *P. hispanicus* replace each other abruptly in the Sierra de Cazorla (the former on the north side and the latter on the south side). Further south along the Guadalquivir River it is replaced by *P. vaucheri* but we have no information on interaction in contact zones even if both species have been identified by their mtDNA in close proximity near Jaén and Córdoba (pers. obs., Pinho *et al.* 2006, Kaliontzopoulou *et al.* 2011).

Comparison with other species. See *guadarramae* account (above) for references dealing with separation from members of the *Podarcis hispanicus* complex not considered here. Males of *P. virescens* are usually quite easy to separate from *P. g. guadarramae* and *P. g. lusitanicus* (that are better treated together here as they are so similar: see also Sá-Sousa *et al.* 2002, Glandt 2010): less flattened, pileus usually less dark-spotted (uniform or with smaller dots but exceptions occur), pale dorsolateral stripes made of rounder pale dots (more elongated in

guadarramae and *lusitanicus*), dark supradorsolateral stripes either narrow or, when wide, usually highly fragmented and appearing as rows of dark dots, in spring often a distinct green coloration on the rear dorsum sometimes the whole back, underparts almost always with a distinctly yellower coloration at the rear, under the thighs and the tail, iris usually more orange (often yellow or whitish in *guadarramae* or *lusitanicus*). Females of *P. virescens* differ from females of *P. g. guadarramae* and *lusitanicus* by their generally paler coloration, narrower dark supradorsolateral stripes (of usually the same width as the pale dorsolateral stripes), pale dorsolateral stripes usually with well visible round pale spots inside (more elongated in *P. g. guadarramae* and *lusitanicus*, or very straight and continuous in the "guadarramae striped pattern") and often more uniform flanks. *Podarcis virescens* is extremely similar to *P. vaucheri*, and often very difficult to separate from this species without genetic data. In the lowland populations, *P. vaucheri* is generally larger (up to 69 mm SVL instead of 63 mm for *P. virescens*), slightly more robust and the back usually lacks green coloration, exhibiting at most greenish hues on the rear of the back. In Baetic Mountains, males of *P. vaucheri* are smaller but are usually bright green on the back (duller green in *P. virescens*). In addition, the yellow coloration of the underside in *P. virescens* is more intense under the tail, the hind legs and the rear belly, whereas it is more uniform, or more intense under the throat and chest, in *P. vaucheri*.

Description of the holotype (Fig. 12): adult male measuring 53.5 mm of snout-vent length, 13.4 mm of pileus length, 6.22 of pileus width, 5.80 of head high (giving a high / length head ratio of 0.43), and having the following scalation features: 51 longitudinal rows of dorsal scales at mid-body, 28 gular scales counted along a line from the contact between the fourth pair of maxillary scales to the collar, 25 transversal rows of ventral plates from the collar to the anal plates, 18 femoral pores on each side, 23 subdigital lamellae beneath the fourth toe, 4 supralabials in front of the subocular, 67 scales on the temporal area, one large masseteric shield on each side. Coloration of the live animal: iris orange; pileus light brown with well-marked black spots; dorsum light greyish brown with slight greenish coloration on its posterior parts, finely black-spotted without vertebral band, with fragmented dark supradorsolateral bands much narrower than the pale area between them but wider than the pale dorsolateral stripes, pale dorsolateral stripes whitish and fragmented; a dark longitudinal band on each flank with rufous spots; tail very wide at its basis, regenerated, with a distinct orange-yellow coloration; throat white with very few small black dots on the sides; belly whitish turning yellowish on its posterior area, with undersides of thighs and tail distinctly yellow tinged; marginal ventral plates alternatively turquoise and yellowish, some of them marked with small round dark spots. Preserved specimen has the same pattern but the green coloration on the back has disappeared, and the yellow portions of the underparts are duller and less contrasting.

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Appendix 1. Complete list of the examined specimens and published genetic data. Lat.° and Long.° are geographical coordinates in WGS84 decimal degrees (absent when we could not locate a locality). "[REF]" (and numbers in bold) in the "Vouchers" column identifies specimens used as reference specimens in morphological analysis (see text)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae guadarramae	7.1963	- Spain	San Martin de Valdeiglesias, Navas del Rey (Madrid)	40.358	-4.410	no	E.B. Doñana (Sevilla)	EBD.4281-4285
Podarcis guadarramae guadarramae	20.4.1965	- Spain	Bustarviejo, 1,200 m (Madrid)	40.862	-3.709	no	E.B. Doñana (Sevilla)	EBD.69-04-20.15, 18, 21, 22
Podarcis guadarramae guadarramae	15.5.1966	- Spain	Sierra de Gredos, '"Chalet de Pacage", 1,600 m (Ávila)	40.366	-5.103	no	Naturhistorisches Museum Basel	MB16382-383
Podarcis guadarramae guadarramae	20.5.1966	- Spain	Sierra de Guadarrama, Monasterio El Paular, 1,145 m (Madrid)	40.889	-3.881	no	E. Kramer / Naturhistorisches Museum Basel	MB16333
Podarcis guadarramae guadarramae	12.5.1967	- Spain	Sierra de Gredos, Pantano de Rosarito, 700 m (Ávila)	40.202	-5.232	no	E.B. Doñana (Sevilla)	EBD.4848
Podarcis guadarramae guadarramae	28.7.1967	- Spain	Peñalara (Madrid)	40.85	-3.953	no	E.B. Doñana (Sevilla)	EBD.67-07-28.2-5
Podarcis guadarramae guadarramae	27.8.1967	- Spain	Paramera de Ávila (Ávila)	40.534	-4.654	no	E.B. Doñana (Sevilla)	EBD.6964
Podarcis guadarramae guadarramae	8.1967	- Spain	Cercedilla, 1,185 m (8 km NNE. Guadarrama, Madrid)	40.743	-4.068	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	8.1967	- Spain	Valsain (= Balsain) (Segovia)	40.874	-4.030	no	E.B. Doñana (Sevilla)	EBD. without number (12 individuals)
Podarcis guadarramae guadarramae	12.11.1967	- Spain	Montemayor de Pinilla (Valladolid)	41.507	-4.460	no	J.A. Valverde / E.B. Doñana (Sevilla)	EBD.4261-4263, 4263b, 4264
Podarcis guadarramae guadarramae	6.10.1968	- Spain	Fuente del Cura, close to Miraflores de la Sierra (Madrid)	40.815	-3.775	no	E.B. Doñana (Sevilla)	EBD.68-10-16.3
Podarcis guadarramae guadarramae	17.4.1969	- Spain	Candelario, 4 km S. Béjar (Salamanca)	40.366	-5.743	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	15.6.1969	- Spain	Bustarviejo, 1,000 m (Madrid)	40.862	-3.709	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	20.7.1969, 14.6.1970	- Spain	Valsain (= Balsain) (Segovia)	40.874	-4.030	no	M. Meijide / E.B. Doñana (Sevilla)	EBD.69-07-20.5, 8, 9, 70-06-14.3, 15.2
Podarcis guadarramae guadarramae	20.7.1969	- Spain	Robledo, La Granja (Segovia)	40.915	-4.057	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	16.8.1970	- Spain	Robledo de Chavela (Madrid)	40.499	-4.242	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	6.4.1974	- Spain	Lagunilla (Salamanca)	40.323	-5.972	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	4 to 16.7.1975	- Spain	Béjar (Salamanca)	40.391	-5.759	no	E.B. Doñana (Sevilla)	EBD. without number

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae guadarramae	1.5.1981	- Spain	Between El Maillo and El Cabaco (Salamanca)	40.571	-6.156	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	7.1982	- Spain	Los Peñascales, Torrelodones (Madrid)	40.566	-3.910	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae guadarramae	7.5.1985	- Spain	Bridge on the río Yeltes, road SA 204, north of El Cabaco (N. La Alberca, Salamanca)	40.611	-6.140	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.**3961 [REF]**, 3962-3964
Podarcis guadarramae guadarramae	7.5.1985	- Spain	First crossraod to the Peña de Francia, between El Cabaco and La Alberca (Salamanca)	40.543	-6.145	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.3965-3978
Podarcis guadarramae guadarramae	7.5.1985	- Spain	Road SA-204 north of El Cabaco, 910 m (Salamanca)	40.61	-6.14	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.4057
Podarcis guadarramae guadarramae	8.5.1986	- Spain	San Lorenzo del Escorial (Madrid)	40.584	-4.151	no	Cl.P. Guillaume	BEV.4123
Podarcis guadarramae guadarramae	7.5.1986	- Spain	0.5 km past Fuenterrebollo towards Segovia (Segovia)	41.289	-3.929	no	Cl.P. Guillaume, P. Geniez, M. Geniez, P. Escudié	PGe.1007-1012
Podarcis guadarramae guadarramae	7.5.1986	- Spain	Road C.603, 1.4 km past San Miguel de Bernuy towards Cantalejo (Segovia) (syntopy with *Podarcis liolepis*)	41.3862	-3.9533	no	Cl.P. Guillaume, P. Geniez, M. Geniez, P. Escudié	PGe.1006
Podarcis guadarramae guadarramae	8.5.1986	- Spain	10 km past Candelada towards Arenas de San Pedro (Ávila)	40.186	-5.134	no	Cl.P. Guillaume, P. Geniez, M. Geniez, P. Escudié	PGe.1014
Podarcis guadarramae guadarramae	8.5.1986	- Spain	Exit of Cuevas del Valle towards Arenas de San Pedro (Ávila)	40.289	-5.010	no	Cl.P. Guillaume, P. Geniez, M. Geniez, P. Escudié	PGe.1013
Podarcis guadarramae guadarramae	8.5.1986	- Spain	Road AV. 562, 3 km past the río Cofio towards Cebreros (Ávila)	40.462	-4.351	no	Cl.P. Guillaume	photo
Podarcis guadarramae guadarramae	8.5.1986	- Spain	500 m past the Arrebatacapas pass towards Ávila (Ávila)	40.524	-4.524	no	Cl.P. Guillaume	photo
Podarcis guadarramae guadarramae	8.5.1986	- Spain	Exit of San Bartolomé de Pinares, between Ávila and Cebreros (Ávila)	40.542	-4.538	no	Cl.P. Guillaume	PGe.1049
Podarcis guadarramae guadarramae	8.5.1986	- Spain	Road AV.503, 4 km past Herradon de Pinares, between Cebreros and Ávila (Ávila)	40.587	-4.596	no	Cl.P. Guillaume	PGe.1034
Podarcis guadarramae guadarramae	8.5.1986	- Spain	Crossraod C.505 x AV.503, 4 km past Ávila towards Madrid (Ávila)	40.641	-4.647	no	Cl.P. Guillaume	PGe.1050-1051
Podarcis guadarramae guadarramae	1988	- Spain	Castillo de Turégano (Segovia)	41.159	-4.007	no	Cl.P. Guillaume, P. Geniez	PGe.1054

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae guadarramae	10.4.1990	- Spain	Some km west of Béjar, road to the Peña de Francia (Salamanca)	40.516	-6.163	no	P.-A. Crochet	PGe.1063-1066
Podarcis guadarramae guadarramae	17.4.1990	- Spain	Sierra de Gredos, road "Monte n°11" between Arriba and El Hornillo, 792 m (near La Fancisca, Ávila)	40.259	-5.087	no	P.-A. Crochet	PGe.1067-1073
Podarcis guadarramae guadarramae	16.8.1990	- Spain	4 km past El Cabaco C.505 x AV.503 Sierra de la Peña de Francia (Salamanca)	40.516	-6.163	no	P. Geniez, S. Boissinot, Th. Menut	PGe.1026
Podarcis guadarramae guadarramae	17.8.1990	- Spain	Sierra de Gredos, 5-6 km north of Pico de Almanzor, 1,785 m (Ávila)	40.303	-5.281	no	P. Geniez, S. Boissinot, Th. Menut	PGe.1027
Podarcis guadarramae guadarramae	29.8.1990	- Spain	La Boca del Asno, 7 km past La Granja de San Ildefonso towards Puerto de Navacerrada, la Boca del Asno (Segovia)	40.843	-4.023	no	P. Geniez, S. Boissinot, Th. Menut	PGe.1028
Podarcis guadarramae guadarramae	14.7.1992	- Spain	San Martin del Pimpollar campsite (NE Sierra de Gredos, Ávila)	40.367	-5.051	no	P. Geniez, J. Viglione	PGe.1031
Podarcis guadarramae guadarramae	16.7.1992	- Spain	Sierra de Gredos, at the end of the road AV.931 from Hoyos de Espino, path to the Laguna Grande de Gredos, 2,000 m (Ávila)	40.303	-5.281	no	P. Geniez, J. Viglione	PGe.1035
Podarcis guadarramae guadarramae	5.1995	- Spain	Ruins of the castle of Trujillo, 575 m (Cáceres)	39.4633	-5.8828	no	V. Joubert	PGe.773-775
Podarcis guadarramae guadarramae	5.1995	- Spain	Southeast of El Portillo, 2 km south of La Alberca, 1,250 m (Salamanca)	40.472	-6.120	no	V. Joubert	PGe.776-778
Podarcis guadarramae guadarramae	19.5.1996	- Spain	2 km past Castroserna-de-Arriba towards Pradena (near Sepúlveda, Segovia)	41.170	-3.701	no	P. Geniez	PGe.1033
Podarcis guadarramae guadarramae	16.5.1996	- Spain	2 km W. Valle de Tabladillo (NE Cantalejo, Segovia)	41.367	-3.858	no	P. Geniez, J. Viglione	BEV.4510
Podarcis guadarramae guadarramae	15.5.1996	- Spain	4 km past Sebúlcor towards Sepúlveda (Segovia)	41.292	-3.835	no	P. Geniez, J. Viglione	BEV.4504-4505
Podarcis guadarramae guadarramae	13.5.1996	- Spain	Halfway between Fuente de Olmo de Fuentidueña and Torrecilla del Pinar (Segovia)	41.369	-4.017	no	P. Geniez, J. Viglione	BEV.4488-4489
Podarcis guadarramae guadarramae	13.5.1996	- Spain	Fuenterrebollo, in the village (N. Cantalejo, Segovia)	41.297	-3.931	no	P. Geniez, J. Viglione	BEV.4490-4492, PGe.1032
Podarcis guadarramae guadarramae	21.5.1996	- Spain	Gomezserracín, in the village (S. Cuéllar, Segovia)	41.282	-4.318	no	P. Geniez	BEV.4523-4527
Podarcis guadarramae guadarramae	25.5.1996	- Spain	La Matilla, in the village (S. Sepúlveda, Segovia)	41.198	-3.79	no	P. Geniez, F. Geniez	BEV.4541
Podarcis guadarramae guadarramae	13.5.1996	- Spain	Navalilla, in the village (N. Cantalejo, Segovia)	41.334	-3.925	no	P. Geniez, J. Viglione	BEV.4487
Podarcis guadarramae guadarramae	5.1996	- Spain	Pedrajas de San Estebán (SW Iscar, Segovia)	41.389	-4.478	no	P. Geniez, J. Viglione	BEV.4537
Podarcis guadarramae guadarramae	22.5.1996	- Spain	Bridge on the Rio Cega, road C. 112, between Iscar and Cuéllar (Segovia)	41.389	-4.478	no	P. Geniez	BEV.4528-4530

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae guadarramae	22.5.1996	- Spain	Pta Blanca, bridge on the Rio Malucas, crossroad C.112 x SG.334, 4 km E. Iscar, 748 m (W. Cuéllar, Valladolid)	41.3702	-4.4972	no	P. Geniez	BEV.4531-4536
Podarcis guadarramae guadarramae	15.5.1996	- Spain	Sebúlcor, in the village (E. Cantalejo, Segovia)	41.286	-3.892	no	P. Geniez, J. Viglione	BEV.4503
Podarcis guadarramae guadarramae	15.5.1996	- Spain	Exit of Cantalejo towards Sebúlcor (Segovia)	41.272	-3.922	no	P. Geniez, J. Viglione	BEV.4498-4502
Podarcis guadarramae guadarramae	13.5.1996	- Spain	Torrecilla del Pinar (near Cantalejo, Segovia)	41.366	-4.036	no	P. Geniez, J. Viglione	BEV.4493-4494
Podarcis guadarramae guadarramae	5.1996	- Spain	Villafranca, in the village (S. Sepúlveda, Segovia)	41.233	-3.734	no	P. Geniez, J. Viglione	BEV.4513
Podarcis guadarramae guadarramae	15.5.1996	- Spain	Villaseca, in the village (NE. Cantalejo, Segovia)	41.317	-3.818	no	P. Geniez, J. Viglione	BEV.4506
Podarcis guadarramae guadarramae	1.6.2001	- Spain	Road to the Sierra de la Peña de Francia from El Cabaco, eastern slope, 1,250 m (Salamanca)	40.512	-6.152	no	V. Joubert	PGe.768
Podarcis guadarramae guadarramae	25.6.2001	- Spain	Lozoyuela, in the village (Madrid)	40.927	-3.631	no	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1815-1817
Podarcis guadarramae guadarramae	25.6.2001	- Spain	Sierra de Guadarrama, Lozoya, in the village, 1,110 m (Madrid)	40.951	-3.792	no	P. Geniez, P.-A. Crochet, O. Chaline	MNHN **2012.0262**, BEV.**1956-1957, 1959-1960, 1962-1964 [REF]**
Podarcis guadarramae guadarramae	26.6.2001	- Spain	Sierra de Gredos, 12 km southwest of Hoyos del Espino, 1,900 m (Ávila)	40.303	-5.281	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.1961
Podarcis guadarramae guadarramae	26.6.2001	- Spain	Sierra de Gredos, 4 km past Hoyos del Espino towards Navacepeda, 1,675 m (Ávila)	40.374	-5.210	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.1974, 1992-1995
Podarcis guadarramae guadarramae	27.6.2001	- Spain	Navalmoral, road C.500, south of Ávila (Ávila)	40.464	-4.763	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.**1998-1999 [REF]**, 2000, **2001-2003 [REF]**
Podarcis guadarramae guadarramae	27.6.2001	- Spain	El Tiemblo, ciudad (Ávila)	40.415	-4.498	**yes**	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.2004, **2005-2016 [REF]**, 2017
Podarcis guadarramae guadarramae	27.6.2001	- Spain	San Martin de Valdeiglesias, in the village (Ávila)	40.358	-4.410	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.**2018-2024 [REF]**, 2025

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae guadarramae	27.6.2001	- Spain	Pelayos de la Presa (E. San Martin de Valdeiglesias, Madrid)	40.362	-4.328	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.2031
Podarcis guadarramae guadarramae	27.6.2001	- Spain	Chapinería, in the village (Madrid)	40.385	-4.213	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.2035, **2036-2037 [REF]**
Podarcis guadarramae guadarramae	22.4.2003	- Spain	Embalse de Navalcán, 370 m (Toledo)	40.049	-5.142	no	P. Dubois (Web)	PGe.771
Podarcis guadarramae guadarramae	30.4.2003	- Spain	Sierra de Gredos (Ávila)	40.366	-5.103	no	P. Dubois (Web)	PGe.772
Podarcis guadarramae guadarramae	5.2003	- Spain	Mountains north of Jarandilla de la Vera, 1200 m (Cáceres)	40.186	-5.642	no	V. Prié	PGe.769
Podarcis guadarramae guadarramae	5.2006	- Spain	Extremadura			no	J. Speybroeck	PGe.788
Podarcis guadarramae guadarramae	18.9.2007	- Spain	La Alberca, Iglesia de Nuestra Señora de la Asunción, 1,060 m (Salamanca)	40.4882	-6.1103	no	P.-A. Crochet	PGe.790
Podarcis guadarramae guadarramae	before 2006	- Spain	Trujillo (Cáceres), 575 m	39.4633	-5.8828	**yes**	Pinho *et al.* 2006	Trj1
Podarcis guadarramae guadarramae	before 2007	- Spain	La Alberca, 1,060 m (Salamanca)	40.489	-6.111	**yes**	Pinho *et al.* 2007, 2008	LA, HLA1
Podarcis guadarramae guadarramae	before 2007	- Spain	Gredos (Ávila)	40.37	-5.14	**yes**	Pinho *et al.* 2007	Gre
Podarcis guadarramae guadarramae	before 2006	- Spain	Oropesa, Castilla La Mancha, 420 m (Toledo)	39.92	-5.17	**yes**	Pinho *et al.* 2006	Oro1
Podarcis guadarramae guadarramae	before 2007	- Spain	Guadarrama, 955 m (Madrid)	40.673	-4.091	**yes**	Pinho 2007, Pinho *et al.* 2008	Gual1
Podarcis guadarramae guadarramae	before 2007	- Spain	Villacastin, 1,110 m (Segovia)	40.780	-4.414	**yes**	Pinho *et al.* 2007, 2008	Vil, Vil3, Vil8
Podarcis guadarramae guadarramae	14.6.2010	- Spain	El Berrueco, in the village centre, 940 m (Madrid)	40.8883	-3.5624	no	P.-A. Crochet	BEV.10937
Podarcis guadarramae guadarramae	14.6.2010	- Spain	Road M-604, 500 m west of the start of the road to Garganta de Los Montes (between Lozoya and El Cuadron), 1,040 m (Madrid)	40.9418	-3.7065	no	P.-A. Crochet	BEV.10938-939
Podarcis guadarramae guadarramae	14.6.2010	- Spain	road M-131, NW exit of Sieteiglesias (between Lozoya and Torrelaguna), 955 m (Madrid)	40.9127	-3.5873	no	P.-A. Crochet	BEV.10956
Podarcis guadarramae guadarramae	17.7.2010	- Spain	Hiendelaencina, in the village, Plaza Mayor, Calle Carmen and Calle Corduente, 1,080 m (Guadalajara)	41.0825	-3.0042	no	P.-A. Crochet, Y. Mansier	BEV.10982-984
Podarcis guadarramae guadarramae	17.7.2010	- Spain	Naharros, exit of the village, 1,040 m (Guadalajara)	41.1620	-2.9148	no	P.-A. Crochet, Y. Mansier	BEV.10985
Podarcis guadarramae guadarramae	2010	- Spain	Western extremity of the Embalse de Navalcán, 371 m (NW. Talavera la Reina, Toledo)	40.0463	-5.1463	no	F. Deschandol	PGe.1055
Podarcis guadarramae guadarramae	before 2011	- Spain	Alba de Tormes, 842 m (Salamanca)	40.83	-5.51	**yes**	Kaliontzopoulou *et al.* 2011	5.203
Podarcis guadarramae guadarramae	before 2011	- Spain	Arévalo, 830 m (Ávila)	41.06	-4.72	**yes**	Kaliontzopoulou *et al.* 2011	DB8614
Podarcis guadarramae guadarramae	before 2011	- Spain	Béjar, 930 m (Salamanca)	40.39	-5.77	**yes**	Kaliontzopoulou *et al.* 2011	DB8461

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Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae guadarramae	before 2011	-	Spain	Ciudad Rodrigo, 645 m (Salamanca)	40.6	-6.53	**yes**	Kaliontzopoulou *et al.* 2011	5.194 & 5.198
Podarcis guadarramae guadarramae	before 2011	-	Spain	El Piornal, 1,185 m (Cáceres)	40.12	-5.85	**yes**	Kaliontzopoulou *et al.* 2011	DB8621
Podarcis guadarramae guadarramae	before 2011	-	Spain	Las Ventas de San Julián, 320 m (Toledo)	40.01	-5.3	**yes**	Kaliontzopoulou *et al.* 2011	DB8615
Podarcis guadarramae guadarramae	before 2011	-	Spain	Torrejón de la Calzada, 630 m (Madrid)	40.2	-3.8	**yes**	Kaliontzopoulou *et al.* 2011	DB8903
Podarcis guadarramae guadarramae	2009	-	Spain	Trujillo, 575 m (Cáceres)	39.4633	-5.8828	no	H. Bringsoe	natureswindow,dk
Podarcis guadarramae guadarramae	2009	-	Spain	Sierra de Gredos, Barajas, 1,557 m (Ávila)	40.364	-5.144	no	H. Bringsoe	natureswindow,dk
Podarcis guadarramae guadarramae	27.9.2011	-	Spain	Ávila city, 1,200 m (Ávila)	40.663	-4.696	no	M. Cuadrado	PGe.1091-1093
Podarcis guadarramae guadarramae	24.9.2009, 4.6.2011	-	Spain	Sierra de la Peña de Francia, near the top of the mountain, 1,496 m (Salamanca)	40.5089	-6.1763	no	M. Berroneau	PGe.1098, 1107, 1118, 1119
Podarcis guadarramae guadarramae	10.5.2006	-	Spain	Cercedilla, 1,185 m (8 km NNE. Guadarrama, Madrid)	40.743	-4.068	no	D. Donaire	PGe.1099-1102
Podarcis guadarramae lusitanicus	9.5.1985	-	Portugal	Serra da Estrela, top of the Vale Glaciário do Zêzere, crossroad N 338 x N 339, 1,800 m (districts of Guarda / Castelo Branco)	40.320	-7.568	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.3981-3986
Podarcis guadarramae lusitanicus	10.5.1985	-	Portugal	Serra da Estrela, track to Poço do Inferno from Manteigas (district of Guarda)	40.378	-7.516	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.3979-3980
Podarcis guadarramae lusitanicus	15.8.2003	-	Portugal	Serra de Montesinho, 8 km past Rio de Onor towards Varge, 848 m (district of Bragança)	41.9113	-6.6395	**yes**	P. Geniez	BEV.**8331-8332 [REF]**
Podarcis guadarramae lusitanicus	before 2006	-	Portugal	Montesinho, 850 m (district of Bragança)	41.864	-6.859	**yes**	Pinho *et al.* 2006, 2007, 2008	Mon8, MonH, Mon1, Mon2
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Covilhã (district of Castelo Branco)	40.282	-7.508	no	Museu Bocage (Lisboa)	Bocage-C275
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Serra da Estrela, Lagoa do Viriato, 1,750 m (Covilhã, district of Castelo Branco)	40.316	-7.563	no	P. Sá-Sousa	Sa SEm01-05 (n = 5).
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Serra da Estrela, Lagoa Comprida (Seia, district of Guarda)	40.363	-7.651	no	Museu Bocage (Lisboa)	Bocage-C214
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Serra da Estrela, Lagoa Comprida surroundings (district of Guarda)	40.36	-7.65	no	Museu Bocage (Lisboa)	Bocage-C238, 256am, bm, af, bf
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Serra da Estrela, Torralta (Seia, district of Guarda)	40.387	-7.684	no	Museu Bocage (Lisboa)	Bocage-C193
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Crasto de Campia (Vouzela, district of Viseu)	40.66	-8.20	no	Museu Bocage (Lisboa)	Bocage-C237a-b
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Douro Calvo (Sátão, district of Viseu)	40.734	-7.73	no	Museu Bocage (Lisboa)	Bocage-C177
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Moimenta da Beira (district of Viseu)	40.982	-7.612	no	Museu Bocage (Lisboa)	Bocage-C239, 265m, f

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Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Fafião (Montalegre, district of Braga)	41.7	-8.085	no	Museu Bocage (Lisboa)	Bocage-C210m, 216m, 216f, SA SGf09
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Serra da Nogueira (district of Bragança)	41.72	-6.887	no	Museu Bocage (Lisboa)	Bocage-C181, 206am, af, b, 229, 229a, b
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Terras de Bouro (district of Braga)	41.726	-8.295	no	Museu Bocage (Lisboa)	Bocage-C195, 198
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Bragança (district of Bragança)	41.81	-6.76	no	Museu Bocage (Lisboa)	Bocage-C227
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Verdozelho, Ermida (Ponte da Barca, district of Viana do Castelo)	41.822	-8.214	no	Museu Bocage (Lisboa)	Bocage-C218am, bm, af, bf
Podarcis guadarramae lusitanicus	before 1950	-	Portugal	Comigal			no	Museu Bocage (Lisboa)	Bocage-C191
Podarcis guadarramae lusitanicus	ca 1965	-	Portugal	Valença de Miño (= Valença de Minho, district of Viana do Castelo)	42.030	-8.632	no	E.B. Doñana (Sevilla)	EBD.9037
Podarcis guadarramae lusitanicus	ca 1970	-	Portugal	Pedra de Aguia (= Penha de Aguia?) (district of Guarda)	40.70	-7.05	no	MNHN Paris	MNHN 1970.1268
Podarcis guadarramae lusitanicus	ca 1970	-	Portugal	Serra de Caramulo, Cabeço da Neve, 900 m (district of Viseu)	40.557	-8.199	no	MNHN Paris	MNHN 1970.1269-1270
Podarcis guadarramae lusitanicus	ca 1970	-	Portugal	Sabugosa (district of Viseu)	40.567	-8.035	no	MNHN Paris	MNHN 1970.1259,62-64
Podarcis guadarramae lusitanicus	ca 1970	-	Portugal	Agua da Pala, near Ribeira de Madorno, 933 m (district of Braga)	41.801	-8.093	no	MNHN Paris	MNHN 1970 1276-1278
Podarcis guadarramae lusitanicus	15.7.1971, 3.8.1972	-	Portugal	Penhas da Saude, Serra da Estrela (district of Castelo Branco)	40.300	-7.552	no	P.W. Hopkins / E.B. Doñana (Sevilla)	EBD.5511, 5521, 6039, 6040, 6040A, 6041
Podarcis guadarramae lusitanicus	8.4.1977	-	Portugal	Serra da Estrela (district of Guarda)	40.363	-7.650	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.9208, 9210
Podarcis guadarramae lusitanicus	5.7.2002	-	Spain	Quarry in Coto de Caza San Martin near Ardia (Pontevedra)	42.4553	-8.8744	no	P. Sá-Sousa	Paratypes RMNH.35253, 35297, 35317
Podarcis guadarramae lusitanicus	18.10.1983	-	Portugal	Cheeze Mountains" (?) (= Mountain Cheeze, at Azeitão ou Serpa, or in the Serra da Estrela)			no	G. Pasteur, M. Cheylan, M. King	BEV.4104
Podarcis guadarramae lusitanicus	10.1983	-	Portugal	A few km south of Nelas, road N.321 towards Seia (district of Viseu)	40.517	-7.839	no	G. Pasteur, M. Cheylan, M. King	BEV.4105
Podarcis guadarramae lusitanicus	8.1984	-	Portugal	Vila Real (district of Vila Real)	41.310	-7.743	no	G. Pasteur, M. Cheylan, M. King, L. Vicente	Paratypes BEV.6299-6308

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	14.5.1985	- Portugal	1 km past Âncora towards Póvoa do Varzim (district of Viana do Castelo)	41.794	-8.864	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	MNHN 2012.0263 (ex BEV.3987)
Podarcis guadarramae lusitanicus	14.5.1985	- Portugal	Espinho (district of Aveiro)	41.007	-8.639	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.4080
Podarcis guadarramae lusitanicus	10.5.1985	- Portugal	Serra da Estrela, 1.5 km past Sabugueiro towards Seia (district of Guarda)	40.407	-7.659	no	Cl.P. Guillaume, P. Geniez, J. Magraner, U. Mathis	PGe.1004-1005
Podarcis guadarramae lusitanicus	13.4.1987	- Portugal	Serra da Estrela, track to Poço do Inferno from Manteigas (district of Guarda)	40.378	-7.516	no	P. Geniez, M. Geniez, F. Melki	PGe.1017
Podarcis guadarramae lusitanicus	13.4.1987	- Portugal	Thermal spa of Luso (district of Aveiro)	40.386	-8.371	no	P. Geniez, M. Geniez, F. Melki	PGe.1018
Podarcis guadarramae lusitanicus	14.8.1990	- Portugal	Serra da Estrela, Lagoa Comprida (Seia, district of Guarda)	40.363	-7.651	no	P. Geniez, S. Boissinot, Th. Menut	PGe.1024
Podarcis guadarramae lusitanicus	15.8.1990	- Portugal	Serra da Estrela, Valo Glaciário do Zêzere, above Manteigas (district of Guarda)	40.363	-7.554	no	P. Geniez, S. Boissinot, Th. Menut	PGe.1025
Podarcis guadarramae lusitanicus	11.9.1995	- Portugal	Caldas de Manteigas, 800 m (district of Guarda)	40.391	-7.542	no	P.-A. Crochet	PGe.1074
Podarcis guadarramae lusitanicus	13.9.1995	- Portugal	Douro river mouth, southern shore near the first dam, down the rio Sousa mouth (district of Porto)	41.082	-8.529	no	P.-A. Crochet	PGe.1019
Podarcis guadarramae lusitanicus	13.9.1995	- Portugal	Lages (SW. Covelo, district of Porto)	41.130	-8.373	no	P.-A. Crochet	PGe.1039-1041
Podarcis guadarramae lusitanicus	8.1998	- Portugal	Ca 20 km NE. Fafe (district of Braga)	41.563	-7.974	no	G. Pottier	PGe.1057
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	N. Sª Desterro (Seia, district of Guarda)	40.408	-7.697	no	P. Sá-Sousa	SEm31-32
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Serra da Estrela, Vale Rossim, 1,400 m (Gouveia, district of Guarda)	40.450	-7.600	no	P. Sá-Sousa	Sa SEm06-30, SEf01-12
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Serra do Caramulo, Caramulinho, 1,000 m (Tondela, district of Viseu)	40.562	-8.187	no	P. Sá-Sousa	Sa SCm01-26, SCf01-13
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Faia (Sernancelhe, district of Guarda)	40.90	-7.48	no	P. Sá-Sousa	Sa SLm21-26
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Vila da Rua (Moimenta da Beira, district of Viseu)	40.950	-7.568	no	P. Sá-Sousa	Sa SLm01-20, SLf01-13
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Serra do Alvão, Barragem de Olo, 1,100 m (Vila Real, district of Vila Real)	41.304	-8.018	no	P. Sá-Sousa	Sa SAm10-24, SAf05-15
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Póvoa de Lanhoso (district of Braga)	41.574	-8.27	no	P. Sá-Sousa	Sa SGf08
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Covide (Terras de Bouro, district of Braga)	41.734	-8.218	no	P. Sá-Sousa	Sa SGf07, 10-11

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Serra do Gerês, Leonte, 810 m (Terras de Bouro, district of Braga)	41.7654	-8.1437	no	P. Sá-Sousa	Sa SGm01-24, SGf01-05
Podarcis guadarramae lusitanicus	ca 1998	- Portugal	Lagoa do Marinho (Montalegre, district of Vila Real)	41.823	-7.787	no	P. Sá-Sousa	Sa SGf06, 12, Bocage-C182, 291, 363a, b
Podarcis guadarramae lusitanicus	11.8.2003	- Portugal	Serra do Gerês, Casa de Leonte, 6 km N. Gerês towards Portela do Homen, 862 m (district of Braga)	41.7654	-8.1437	no	P. Geniez, A. Loureiro, J.C. Brito, P.A. Crochet, F. Geniez	PGe.1020
Podarcis guadarramae lusitanicus	14.8.2003	- Portugal	Serra de Montesinho, small hydroelectric power, 1 km above Montesinho, 1,000 m (district of Bragança)	41.939	-6.773	no	P. Geniez, F. Geniez	PGe.781-782
Podarcis guadarramae lusitanicus	14.4.2004	- Portugal	Macedo de Cavaleiro, Talhinhas, 550 m (district of Bragança)	41.527	-6.702	no	A. Loureiro	PGe.779
Podarcis guadarramae lusitanicus	3.5.2004	- Portugal	Trancoso, 865 m (district of Guarda)	40.778	-7.349	no	A. Loureiro	PGe.770
Podarcis guadarramae lusitanicus	7.5.2004	- Portugal	Meda, 740 m (district of Guarda)	40.963	-7.263	no	A. Loureiro	PGe.780
Podarcis guadarramae lusitanicus	18.6.2004	- Portugal	Murça, Jou, 675 m (Penabeice, district of Vila Real)	41.487	-7.432	no	A. Loureiro	PGe.784
Podarcis guadarramae lusitanicus	6.2004	- Portugal	Lauro natural park, 800 m (Figueira de Castello del Rodriguo, district of Guarda)	40.877	-6.965	no	J.-F. Noblet	PGe.783
Podarcis guadarramae lusitanicus	before 2007	- Portugal	Vila de Rua (Moimenta da Beira, district of Viseu)	40.950	-7.568	**yes**	Pinho *et al*. 2006	Rua1
Podarcis guadarramae lusitanicus	Before 2006	- Portugal	Vila Real (District of Vila Real)	41.310	-7.743	**yes**	Pinho *et al*. 2006	Ph1
Podarcis guadarramae lusitanicus	before 2007	- Portugal	Tua, 120 m (district of Viseu)	41.204	-7.421	**yes**	Pinho *et al*. 2007, 2008	Tua, FT12
Podarcis guadarramae lusitanicus	before 2007	- Portugal	Pendilhe, 766 m (district of Viseu)	40.91	-7.84	**yes**	Pinho *et al*. 2007, 2008	Pen, Pen2, Pen8
Podarcis guadarramae lusitanicus	21.8.2008	- Portugal	Serra da Estrela, just north of the Lagoa de Viriato, 1,579 m (district of Guarda)	40.3153	-7.5665	no	O. Buisson & J.-C. de Massary	PGe.796-798, 1097
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Alvão NP, next to dumm, 1,075 m (district of Vila Real)	41.36	-7.79	**yes**	Kaliontzopoulou *et al.* 2011	5.143
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Barrocal do Douro, 700 m (district of Bragança)	41.43	-6.35	**yes**	Kaliontzopoulou *et al.* 2011	DB8653
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Chavães, 850 m (district of Vila Real)	41.09	-7.57	**yes**	Kaliontzopoulou *et al.* 2011	DB8671
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Chelos, Gaia, 500 m (district of Castelo Branco)	40.4	-7.3	**yes**	Kaliontzopoulou *et al.* 2011	DB8398
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Cidadelhe, 475 m (district of Guarda)	40.93	-7.12	**yes**	Kaliontzopoulou *et al.* 2011	DB8609
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Crestuma Castle (district of Porto)	41.07	-8.50	**yes**	Kaliontzopoulou *et al.* 2011	DB1734
Podarcis guadarramae lusitanicus	before 2007	- Portugal	Gerês, 385 m (district of Braga)	41.73	-8.16	**yes**	Pinho *et al*. 2007, Kaliontzopoulou *et al.* 2011	Ger, DB8322
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Lourosa, 210 m (district of Porto)	40.99	-8.55	**yes**	Kaliontzopoulou *et al.* 2011	DB8669
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Murça, 475 m (district of Vila Real)	41.41	-7.45	**yes**	Kaliontzopoulou *et al.* 2011	DB8411
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Oliveira do Hospital, 490 m (district of Guarda)	40.36	-7.86	**yes**	Kaliontzopoulou *et al.* 2011	DB8399
Podarcis guadarramae lusitanicus	before 2011	- Portugal	Serra d'Arga, 275 m (district of Viana do Castelo)	41.79	-8.73	**yes**	Kaliontzopoulou *et al.* 2011	DB8612

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Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	before 2011	-	Portugal	Sobreira, 775 m (Chaves, district of Vila Real)	41.75	-7.39	**yes**	Kaliontzopoulou *et al.* 2011	DB8400
Podarcis guadarramae lusitanicus	before 2011	-	Portugal	Sto. Estevão, 390 m (district of Vila Real)	41.76	-7.42	**yes**	Kaliontzopoulou *et al.* 2011	DB8672
Podarcis guadarramae lusitanicus	before 2011	-	Portugal	Vale do Rossim, 1,430 m (district of Guarda)	40.4	-7.59	**yes**	Kaliontzopoulou *et al.* 2011	And3
Podarcis guadarramae lusitanicus	before 2011	-	Portugal	Vila Chã (Vale de Cambra), 275 m (district of Aveiro)	40.86	-8.40	**yes**	Kaliontzopoulou *et al.* 2011	DB8401
Podarcis guadarramae lusitanicus	before 2011	-	Portugal	Vinhais, 655 m (district of Bragança)	41.83	-7.01	**yes**	Kaliontzopoulou *et al.* 2011	DB8403
Podarcis guadarramae lusitanicus	26.8.1966	-	Spain	Ponferrada (León)	42.553	-6.595	no	E.B. Doñana (Sevla)	EBD. without number
Podarcis guadarramae lusitanicus	15.4.1968	-	Spain	Alto Sil (León)	42.882	-6.437	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	9.6.1968	-	Spain	Morla (León)	42.249	-6.268	no	J.A. Valverde / E.B. Doñana (Sevilla)	EBD.3921, 3923
Podarcis guadarramae lusitanicus	19.6.1968, 2.4.1969, 8.1969, 18.10.1972	-	Spain	Manzaneda (León)	42.266	-6.319	no	Severino / E.B. Doñana (Sevilla)	EBD.3942, 3947, 3949-3950, 3956, 4155-4156, 4158-4159, 4161, 4164, 4170-4173, 4175-4177, 4185-4192, 4195-4196, 4353, 6166, 6945b
Podarcis guadarramae lusitanicus	15.8.1968	-	Spain	Corporales (León)	42.317	-6.452	no	E.B. Doñana (Sevilla)	EBD.3919
Podarcis guadarramae lusitanicus	20.8.1968	-	Spain	Garganta de río Cares, near the Montaña de Cavadonga N.P. border (Oviedo)	43.307	-4.735	no	E.B. Doñana (Sevilla)	EBD.337-42
Podarcis guadarramae lusitanicus	4, 8 & 18.8.1968	-	Spain	Manzaneda (León)	42.266	-6.319	no	J.A. Valverde / E.B. Doñana (Sevilla)	EBD.3902-3906, 3908-3913
Podarcis guadarramae lusitanicus	9.10.1968 & 8.1971	-	Spain	Manzaneda (León)	42.266	-6.319	no	E.B. Doñana (Sevilla)	EBD.3941, 5745
Podarcis guadarramae lusitanicus	8.10.1969	-	Spain	Peñalba de Santiago (León)	42.432	-6.535	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	7.1970, 23.5.1971, 27.5.1972	-	Spain	Matarrosa del Sil (León)	42.755	-6.522	no	Solis / E.B. Doñana (Sevilla)	EBD.70-07-00.15, 71-05-23.2, 72-05-27.10
Podarcis guadarramae lusitanicus	27.3.1972	-	Spain	Turieno (Santander)	43.151	-4.650	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	6.3.1976	-	Spain	Tebergo - Gradura, 660 m (Asturias, Oviedo)	43.180	-6.103	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	5.6.1976	-	Spain	Sierra de Caín (León)	43.220	-4.896	no	E.B. Doñana (Sevilla)	EBD. without number

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	21.7.1976	- Spain	Cabezón de Liebana (near Potes, Santander)	43.133	-4.567	no	E.B. Doñana (Sevilla)	EBD.10255
Podarcis guadarramae lusitanicus	5.8.1976	- Spain	Senda de Cain (León)	43.220	-4.896	no	E.B. Doñana (Sevilla)	EBD.10229-232, 235, 243, 245-247
Podarcis guadarramae lusitanicus	5.8.1976	- Spain	Senda del Cares, 340 m (Santander)	43.253	-4.842	no	E.B. Doñana (Sevilla)	EBD.10233, without number
Podarcis guadarramae lusitanicus	10.7.1977	- Spain	Las Médulas (León)	42.45	-6.769	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	5.3.1978, 19.9.1978	- Spain	Lebraña (= Lebeña), 300 m (Santander)	43.216	-4.576	no	C. Castro / E.B. Doñana (Sevilla)	EBD.10257, without number (4 individuals)
Podarcis guadarramae lusitanicus	7.9.1980	- Spain	Carrucedo (León)	42.482	-6.769	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	18.5.1985	- Spain	Railway track at the exit of Astorga towards León (León)	42.401	-5.951	no	Cl.P. Guillaume, P. Geniez, J. Magraner, U. Mathis	PGe.728
Podarcis guadarramae lusitanicus	5.1985	- Spain	Valencia de Don Juan, crossroad to Villar de Yermo, 768 m (León)	42.2902	-5.5192	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.3988
Podarcis guadarramae lusitanicus	9.8.1986	- Spain	Carbazal, Manzaneda (León)	42.266	-6.319	no	E.B. Doñana (Sevilla)	EBD.3922-4
Podarcis guadarramae lusitanicus	4.1989	- Spain	Gorge of the rio Cares, 1 km N. Caín (Picos de Europa, N. Riaño, León)	43.220	-4.896	no	V. Joubert	PGe.729
Podarcis guadarramae lusitanicus	28.6.2001	- Spain	Road LE.711, 1 km past Ocero towards El Espino (N. Ponferrada, León)	42.706	-6.630	**yes**	P. Geniez, P.-A. Crochet, O. Chaline	BEV.2052
Podarcis guadarramae lusitanicus	4.8.2003	- Spain	Road to Brañuela, 12 km past Bembibre towards Astorga, above the road N.VI, 1,045 m (León)	42.6087	-6.2588	**yes**	P. Geniez, P.-A. Crochet	BEV.8346
Podarcis guadarramae lusitanicus	15.8.2003	- Spain	1 km past Ungilbe towards Puebla de Sanabria, 975 m (Zamora)	42.0376	-6.6195	**yes**	P. Geniez	BEV.8333, **8334 [REF]**
Podarcis guadarramae lusitanicus	5.11.2005	- Spain	Mogrovejo, 640 m (Santander)	43.149	-4.709	no	D. Donaire	PGe.801-802
Podarcis guadarramae lusitanicus	6.11.2005	- Spain	Lebeña, 290 m (Santander)	43.214	-4.587	no	D. Donaire	PGe.800
Podarcis guadarramae lusitanicus	ca 1965	- Spain	Cangas surroundings (Pontevedra)	42.270	-8.781	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	ca 1970	- Spain	Province of Pontevedra	42.418	-8.656	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17482, 17571-581, 583
Podarcis guadarramae lusitanicus	28.4.1974	- Spain	Vilanova, Hío, Cangas (Pontevedra)	42.282	-8.837	no	E.B. Doñana (Sevilla)	EBD.16032

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	16.4.1974	- Spain	En Pedregales, Domayo (= Domaio), Moaña (Pontevedra)	42.300	-8.685	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	6.1974, 5.1976	- Spain	Donón, Cangas (Pontevedra)	42.272	-8.858	no	E.B. Doñana (Sevilla)	EBD.16016, without number
Podarcis guadarramae lusitanicus	24.4.1977	- Spain	Pared de piedra, Mte Facho, Donón, Cangas (Pontevedra)	42.279	-8.861	no	E.B. Doñana (Sevilla)	EBD.16029
Podarcis guadarramae lusitanicus	28.8.1977	- Spain	Pedra Daedra, S. Cosme, Cangas (Pontevedra)	42.298	-8.782	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.9245
Podarcis guadarramae lusitanicus	25.8.1977	- Spain	En Pedregales, monte "Pozo da Serra", Donón (Pontevedra)	42.275	-8.847	no	C. Carballo / E.B. Doñana (Sevilla)	Paratypes EBD.9247, 9249-9252
Podarcis guadarramae lusitanicus	21.5.1978	- Spain	Cabo Home, Donón (Pontevedra)	42.257	-8.866	no	E.B. Doñana (Sevilla)	EBD.11611
Podarcis guadarramae lusitanicus	11.8.1978	- Spain	Mercurin, Seoane del Caurel, 800 m (Lugo)	42.636	-7.167	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	13.8.1978	- Spain	En Yelstar, borde camino, 1,000 m, Pizarra, Caurel (Lugo)	42.616	-7.136	no	E.B. Doñana (Sevilla)	EBD.13-8-78.9
Podarcis guadarramae lusitanicus	13.8.1978	- Spain	Encinas, El Calejas, Seoane del Caurel (Lugo)	42.631	-7.153	no	E.B. Doñana (Sevilla)	EBD.13-8-78.19
Podarcis guadarramae lusitanicus	13.8.1978	- Spain	Seoane del Caurel, 640 m (Lugo)	42.641	-7.151	no	E.B. Doñana (Sevilla)	EBD.13-8-78.18
Podarcis guadarramae lusitanicus	2.8.1978	- Spain	Ferreria, Vella Mercurin, Seoane del Caurel , 665 m (Lugo)	42.632	-7.167	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	13.8.1978	- Spain	Castillo Carbedo, Esperante, Caurel, 1,000 m (Lugo)	42.631	-7.153	no	E.B. Doñana (Sevilla)	EBD.13-8-78.12-14
Podarcis guadarramae lusitanicus	8.9.1978	- Spain	Hío, Cangas, 60 m (Pontevedra)	42.271	-8.830	no	E.B. Doñana (Sevilla)	Paratype EBD.16033
Podarcis guadarramae lusitanicus	7.9.1978	- Spain	Darbo, Cangas (Pontevedra)	42.2627	-8.8019	no	C. Carballo / E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	15.10.1978	- Spain	Magros - Beariz (Ourense)	42.465	-8.268	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	15.10.1978	- Spain	San Lorenzo, Domayo (= Domaio) (Pontevedra)	42.278	-8.739	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.16018, without number
Podarcis guadarramae lusitanicus	15.4.1977 & 15.4.1979	- Spain	Muro en camino, Mte Facho, Donón, Cangas (Pontevedra)	42.276	-8.861	no	E.B. Doñana (Sevilla)	EBD. without number (3 individuals)
Podarcis guadarramae lusitanicus	3.6.1979	- Spain	Costa da Vela, Donón, Cangas (Pontevedra)	42.262	-8.864	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	5.6.1982	- Spain	El Cachamiñas, Lamela, 450 m (Ourense)	42.337	-7.816	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.R.1846
Podarcis guadarramae lusitanicus	25.9.1983	- Spain	Viño-Doñon, Cangas (Pontevedra)	42.277	-8.855	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17227
Podarcis guadarramae lusitanicus	25.9.1983	- Spain	Gandón, Aldán, Cangas (Pontevedra)	42.289	-8.812	no	E.B. Doñana (Sevilla)	EBD.17245

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	25.8.1977, 2.10.1983	- Spain	Monte Pozo da Serra, Coiro, Doñon-Cangas (Pontevedra)	42.279	-8.847	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.9252, 17241
Podarcis guadarramae lusitanicus	26.2.1984	- Spain	Sm Lorenzo, Mte Faro, Moaña (Pontevedra)	42.278	-8.739	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17228-229, 234
Podarcis guadarramae lusitanicus	8.4.1984	- Spain	Fragoso, Geve, 104 m (Pontevedra)	42.474	-8.571	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17236, 239, 242
Podarcis guadarramae lusitanicus	20.4.1984	- Spain	Herbello, Aldán, Cangas (Pontevedra)	42.283	-8.806	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17231, 240, 243
Podarcis guadarramae lusitanicus	7.4.1984	- Spain	Acuña, Vilaboa (Pontevedra)	42.367	-8.633	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17230
Podarcis guadarramae lusitanicus	16.6. & 29.7.1984	- Spain	Isla de Ons (Pontevedra)	42.385	-8.930	no	C. Carballo / E.B. Doñana (Sevilla)	EBD.17232-233, 235, 237-238
Podarcis guadarramae lusitanicus	before 1986	- Spain	Sierra de Xurés, río Mao (Ourense)	41.877	-8.099	no	Galan-Regalado, 1986	published picture
Podarcis guadarramae lusitanicus	before 1986	- Spain	Ezaro (La Coruña)	42.915	-9.137	no	Galan-Regalado, 1986	published picture
Podarcis guadarramae lusitanicus	before 1986	- Spain	Sierra de Caurel (Lugo)	42.626	-7.073	no	Galan-Regalado, 1986	published picture
Podarcis guadarramae lusitanicus	1986	- Spain	Padornello, road N.525, km point 398 (Zamora)	42.039	-6.835	no	Cl.P. Guillaume	BEV.6284
Podarcis guadarramae lusitanicus	14.4.1988	- Spain	Carballido-Menduiña, Aldán (Pontevedra)	42.305	-8.782	no	E.B. Doñana (Sevilla)	EBD.18932-933
Podarcis guadarramae lusitanicus	30.8.1988	- Spain	Isla Sagres, Ribeira (La Coruña)	42.794	-8.930	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae lusitanicus	before 2007	- Spain	Ria de Arosa Is. (Pontevedra)	42.55	-8.87	**yes**	Pinho 2007, Pinho et al. 2008	PG2
Podarcis guadarramae lusitanicus	before 2007	- Spain	Los Ancares (Lugo)	42.883	-7.007	**yes**	Pinho 2007, Pinho *et al.* 2008	Anc2
Podarcis guadarramae lusitanicus	2010	- Spain	Embalse de Valparaiso, near Cional, 833 m (Zamora)	41.9547	-6.3284	no	F. Deschandol	PGe.1056
Podarcis guadarramae lusitanicus	before 2011	- Spain	Celanova, 660 m (Ourense)	42.15	-7.97	**yes**	Kaliontzopoulou *et al.* 2011	DB8409
Podarcis guadarramae lusitanicus	before 2011	- Spain	Fornillos (de Aliste), 800 m (Zamora)	41.66	-6.19	**yes**	Kaliontzopoulou *et al.* 2011	DB1730
Podarcis guadarramae lusitanicus	before 2011	- Spain	Ledesma, 760 m (Salamanca)	41.09	-6.00	**yes**	Kaliontzopoulou *et al.* 2011	5.247 & 5.259
Podarcis guadarramae lusitanicus	before 2011	- Spain	Near Sta. Eulalia, 817 m (Zamora)	42.03	-6.27	**yes**	Kaliontzopoulou *et al.* 2011	DB1751 & 1763
Podarcis guadarramae lusitanicus	before 2011	- Spain	Rio Casares, 1,070 m (León)	42.87	-5.71	**yes**	Kaliontzopoulou *et al.* 2011	DB1753 & 1760
Podarcis guadarramae lusitanicus	before 2011	- Spain	Rio Negro, Peque, 835 m (Zamora)	42.06	-6.28	**yes**	Kaliontzopoulou *et al.* 2011	DB1758
Podarcis guadarramae lusitanicus	before 2011	- Spain	Santa Eulalia, 817 m (Zamora)	42.03	-6.27	**yes**	Kaliontzopoulou *et al.* 2011	5.262
Podarcis guadarramae lusitanicus	before 2011	- Spain	Tudera, 747 m (Zamora)	41.42	-6.21	**yes**	Kaliontzopoulou *et al.* 2011	5.225 & 5.232
Podarcis guadarramae lusitanicus	before 2011	- Spain	Zamora, 647 m (Zamora)	41.51	-5.75	**yes**	Kaliontzopoulou *et al.* 2011	DB8416
Podarcis guadarramae lusitanicus	11.10.2010	- Spain	Cabo de Home (WNW. Vigo, Pontevedra)	42.2528	-8.8700	no	R. Lepoittevin, L. Tarbouriech	PGe.1036-1037
Podarcis guadarramae lusitanicus	13.10.2010	- Spain	Punta Louro (= Punta de Lens), on the wall of the lighthouse (near Muros, La Coruña)	42.7563	-9.1128	no	R. Lepoittevin, L. Tarbouriech	PGe.1038
Podarcis guadarramae lusitanicus	12.4.2005	- Spain	South of the Embalse de Valparaiso, 1 km SE. Cional (Zamora)	41.9500	-6.3297	no	J. Barataud	PGe.799

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Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis guadarramae lusitanicus	25.4.2013	-	Spain	Picos de Europa, Desfiladero de Cares, 340 m (Santander)	43.253	-4.842	no	M. Ricordel	PGe.1087-1090
Podarcis guadarramae lusitanicus	23.10.2009	-	Spain	Lago de Sanabria, 1020 m (Sierra de la Cabrera, Zamora)	42.115	-6.722	no	M. Berroneau	PGe.1103-1105, 1117
Podarcis guadarramae lusitanicus	2011	-	Spain	7 km EENE. Cional, 797 m (Zamora)	41.9725	-6.3653	no	M. Berroneau	PGe.1120-1124
Podarcis guadarramae lusitanicus	25.9.2013	-	Spain	2.5 km E. Degaña, 944 m (Asturias)	42.9408	-6.5369	no	T. Couturier, F. Veyrunes, G. Astruc, L. Maire	PGe.1131
Podarcis guadarramae lusitanicus	11.7.2011	-	Spain	Valley along a river at Figueruela, near the Portugal border, 650 m (Zamora)	41.87	-6.51	no	I. Girault	PGe.1094
Podarcis guadarramae lusitanicus	1.5.2012	-	Spain	1 km EESE. Viana do Bolo, 734 m (Orense)	42.1768	-7.0971	no	W. Beukema, J. Speybroeck	PGe.1132-1134
Podarcis guadarramae lusitanicus	12.10.2006	-	Spain	200 m E. Castro Baroña (42 km SW. Santiago, La Coruña)	42.6945	-9.0292	no	J. Speybroeck	PGe.1135
Podarcis guadarramae unknown subspecies	23.5.1970	-	Spain	Salamanca	40.963	-5.659	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae unknown subspecies	10.1970	-	Spain	Vitigudino, 769 m (Salamanca)	41.011	-6.437	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis guadarramae unknown subspecies	6.5.1985	-	Spain	Sierra de Gata, Robledilla de Gata, between Pastores and Martiago, beside the dam, 600 m (Ciudad Rodrigo)	40.502	-6.487	no	Cl.P. Guillaume, P. Geniez, U. Mathis, J. Magraner	BEV.3957-3960
Podarcis guadarramae unknown subspecies	6.5.1985	-	Spain	Sierra de Gata, 2 km past Puerto Viejo towards Robledilla de Gata (Cáceres)	40.359	-6.449	no	Cl.P. Guillaume, P. Geniez, J. Magraner, U. Mathis	PGe.1003
Podarcis guadarramae unknown subspecies	12.4.1987	-	Spain	Exit of Salamanca city towards Ciudad Rodrigo (Salamanca)	40.958	-5.701	no	P. Geniez, M. Geniez, F. Melki	PGe.1015-1016
Podarcis guadarramae unknown subspecies	7.12.1987	-	Spain	Salamanca city, public square of the Facultad de biología (Salamanca)	40.963	-5.659	no	P. Geniez	PGe.1021-1023
Podarcis guadarramae unknown subspecies	14.8.2008	-	Spain	Sierra de Gata, Laguna de La Almenara, 910 m (Cáceres)	40.2400	-6.5736	no	O. Buisson	PGe.791-792
Podarcis guadarramae unknown subspecies	22.7.2006, 22.8.2007, 26.8.2008, 30.7.2007	-	Spain	Pozuelo de Zarzón, 465 m (near Plasencia, Cáceres)	40.1491	-6.4153	no	O. Buisson	PGe.785-787, 1095, 1113-1114
Podarcis guadarramae unknown subspecies	14.8.2007	-	Spain	Guijo de Galisteo, 443 m (near Montehermoso, Cáceres)	40.1054	-6.3971	no	J.-C. de Massary	PGe.1106
Podarcis guadarramae unknown subspecies	31.7, 1, 9, 13 and 19.8.2008	-	Spain	Guijo de Galisteo, 450 m (near Montehermoso, Cáceres)	40.1089	-6.3939	no	O. Buisson	PGe.793-795, 1096, 1108-1112
Podarcis virescens	before 1950	-	Portugal	Alpalhão (Nisa, district of Portalegre)	39.412	-7.617	no	Museu Bocage (Lisboa)	Bocage C.298am, bm, cm, af, bf, cf
Podarcis virescens	before 1950	-	Portugal	Damaia (Amadora, district of Lisboa)	38.76	-9.22	no	Museu Bocage (Lisboa)	Bocage-C223

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Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	before 1950	-	Portugal	Espinhaço de Cão (Aljezur, district of Faro)	37.314	-8.807	no	Museu Bocage (Lisboa)	Bocage-C189
Podarcis virescens	before 1950	-	Portugal	Guincho (Cascais, district of Setúbal)	38.727	-9.476	no	Museu Bocage (Lisboa)	Bocage-C283, 283a, b, c
Podarcis virescens	before 1950	-	Portugal	Lisboa (district of Lisboa)	38.73	-9.17	no	Museu Bocage (Lisboa)	Bocage-C179, 276
Podarcis virescens	before 1950	-	Portugal	Malveira da Serra (Cascais, district of Setúbal)	38.744	-9.440	no	Museu Bocage (Lisboa)	Bocage-C201
Podarcis virescens	before 1950	-	Portugal	Maxieira (Proença-a-Nova, district of Santarém)	39.633	-7.984	no	Museu Bocage (Lisboa)	Bocage-C257
Podarcis virescens	before 1950	-	Portugal	Mealhada (district of Aveiro)	40.370	-8.453	no	Museu Bocage (Lisboa)	Bocage-C222
Podarcis virescens	before 1950	-	Portugal	Papagouvas (Lourinhã, district of Lisboa)	39.233	-9.320	no	Museu Bocage (Lisboa)	Bocage-C209, 209a, b
Podarcis virescens	before 1950	-	Portugal	Parede (district of Lisboa)	38.686	-9.356	no	Museu Bocage (Lisboa)	Bocage-C129b, 219am, af
Podarcis virescens	before 1950	-	Portugal	Pavia (Arraiolos, district of Évora)	38.893	-8.020	no	Museu Bocage (Lisboa)	Bocage-C272, 281a, b
Podarcis virescens	before 1950	-	Portugal	Valado de Frades (Nazaré, district of Leiria)	39.590	-9.022	no	Museu Bocage (Lisboa)	Bocage-C296
Podarcis virescens	before 1950	-	Portugal	Vale Lobos (Sintra, district of Lisboa)	38.798	-9.386	no	Museu Bocage (Lisboa)	Bocage-C260
Podarcis virescens	before 1950	-	Portugal	Vimieiro (Arraiolos, district of Évora)	38.825	-7.840	no	Museu Bocage (Lisboa)	Bocage-C261, 261a, b
Podarcis virescens	13.6.1982	-	Portugal	Vale de Paredes (district of Leiria)	39.700	-9.046	no	Museu Bocage *in* Sá-Sousa, 2000 b	Museu Bocage (Lisboa)
Podarcis virescens	10.1983	-	Portugal	Lisboa (district of Lisboa)	38.725	-9.188	no	G. Pasteur, M. Cheylan, M. King, L. Vicente	BEV.4100-4101, 6278
Podarcis virescens	14.4.1987	-	Portugal	5 km past Lleiria towards Coimbra (district of Leiria)	39.774	-8.752	no	P. Geniez, M. Geniez, F. Melki	PGe.1084
Podarcis virescens	15.4.1987	-	Portugal	Exit of Praia de Maças towards Colarès (district of Lisboa)	38.817	-9.468	no	P. Geniez, M. Geniez, F. Melki	PGe.1085
Podarcis virescens	14.9.1995	-	Portugal	Tomar (S. Coimbra, district of Santarém)	39.597	-8.410	no	P.-A. Crochet	PGe.1061
Podarcis virescens	14.9.1995	-	Portugal	Vila Nova de Ourem (W. Tomar, district of Santarém)	39.659	-8.574	no	P.-A. Crochet	PGe.1075
Podarcis virescens	15.9.1995	-	Portugal	11 km past Alcobaça towards Alfeizerão (district of Leiria)	39.506	-9.071	no	P.-A. Crochet	PGe.1076
Podarcis virescens	15.9.1995	-	Portugal	Serra del Rei, near Peniche (district of Leiria)	39.327	-9.277	no	P.-A. Crochet	PGe.1077
Podarcis virescens	15.9.1995	-	Portugal	Road N8 between Alcobaça and Caldas da Rainha, 3 km past the road to Cela dir. Caldas da Rainha (district of Leiria)	39.5049	-9.0763	no	P.-A. Crochet	BEV.4449, PGe.1060
Podarcis virescens	15.9.1995	-	Portugal	Batalha (Lleiria)	39.654	-8.827	no	P.-A. Crochet	PGe.1062
Podarcis virescens	16.9.1995	-	Portugal	Lisboa, Calouste Gulbenkian Museum (intersection of Av. de Berna and Av. António Augusto de Aguiar) (district of Lisboa)	38.7377	-9.1545	no	P.-A. Crochet	PGe.1080

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	16.9.1995	- Portugal	Lisboa, Mosteiro dos Jeronimos (district of Lisboa)	38.698	-9.206	no	P.-A. Crochet	PGe.1081-1083
Podarcis virescens	ca 1995	- Portugal	Buarcos (Figueira da Foz, district of Coimbra)	40.163	-8.874	no	P. Sá-Sousa	Sa BUm01-24, BUf01-19
Podarcis virescens	ca 1995	- Portugal	Estoril (Cascais, district of Lisboa)	38.706	-9.400	no	P. Sá-Sousa	Sa ETm01-24, ETf01-14
Podarcis virescens	ca 1995	- Portugal	Évora, 275 m (district of Évora)	38.5777	-7.9194	no	P. Sá-Sousa	SA EVm01-27, Evf01-14
Podarcis virescens	ca 1995	- Portugal	Fonte da Telha (Almada, district of Setúbal)	38.555	-9.184	no	P. Sá-Sousa	Sa FTm01, FTf01-02
Podarcis virescens	ca 1995	- Portugal	Leiria (district of Leiria)	39.743	-8.797	no	P. Sá-Sousa	SA LRm01-02, LRf01-02
Podarcis virescens	ca 1995	- Portugal	Paúl de Boquilobo (Golegã, district of Santarém)	39.414	-8.535	no	P. Sá-Sousa	Sa PBm01-03, PBf01-03
Podarcis virescens	ca 1995	- Portugal	Pégões Novos (district of Setúbal)	38.684	-8.633	no	P. Sá-Sousa	Sa PGm01-02, PGf01-02
Podarcis virescens	ca 1995	- Portugal	Portalegre (district of Portalegre)	39.279	-7.422	no	P. Sá-Sousa	Sa PTm01-25, PTf01-20
Podarcis virescens	ca 1995	- Portugal	Sines (district of Setúbal)	37.958	-8.863	no	P. Sá-Sousa	Sa SIm01-25, Sif01-15
Podarcis virescens	ca 1995	- Portugal	Viana do Alentejo (district of Évora)	38.336	-7.998	no	P. Sá-Sousa	Sa VAm01-02, Vaf01
Podarcis virescens	3.2002	- Portugal	Lisboa (district of Lisboa)	38.725	-9.188	no	M. Günther	PGe.891
Podarcis virescens	28.4.2003	- Portugal	Coimbrão (Leiria, district of Leiria)	39.899	-8.885	no	R. Ribeiro	PGe.893
Podarcis virescens	10.2004	- Portugal	S. Silvestre (Coimbra, district of Coimbra)	40.2303	-8.5237	no	R. Ribeiro	PGe.894
Podarcis virescens	before 2006	- Portugal	Beja, 275 m (district of Beja)	38.02	-7.87	**yes**	Pinho *et al.* 2006	Phv4
Podarcis virescens	before 2007	- Portugal	Castelo de Vide, 555 m (district of Portalegre)	39.415	-7.457	**yes**	Pinho 2007, Pinho *et al.* 2008	CV1
Podarcis virescens	before 2007	- Portugal	São Mamede, 1,020 m (Portalegre, district of Portalegre)	39.313	-7.361	**yes**	Pinho 2007, Pinho *et al.* 2008	SM1
Podarcis virescens	12.2008	- Portugal	Évora, 275 m (district of Évora)	38.5684	-7.9111	**yes**	P. Sá-Sousa	BEV.10147, 12662
Podarcis virescens	before 2011	- Portugal	Almoster (district of Santarém)	39.24	-8.80	**yes**	Kaliontzopoulou *et al.* 2011	DB9647
Podarcis virescens	before 2011	- Portugal	Castanheira de Pêra, 500 m (district of Leiria)	40.00	-8.21	**yes**	Kaliontzopoulou *et al.* 2011	DB9669
Podarcis virescens	before 2011	- Portugal	Louriçal (district of Leiria)	40.00	-8.74	**yes**	Kaliontzopoulou *et al.* 2011	DB8905
Podarcis virescens	before 2007	- Portugal	Monte Real (district of Leiria)	39.86	-8.88	**yes**	Pinho *et al* 2007, Kaliontzopoulou *et al.* 2011	MR, DB9607
Podarcis virescens	before 2011	- Portugal	Ourém, 160 m (district of Santarém)	39.66	-8.58	**yes**	Kaliontzopoulou *et al.* 2011	DB8904
Podarcis virescens	before 2011	- Portugal	S. Pedro de Moel (district of Leiria)	39.76	-9.04	**yes**	Kaliontzopoulou *et al.* 2011	DB9658

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Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	26.12.2008	-	Portugal	Lisboa, O. Santos railway station (district of Lisboa)	38.7061	-9.1560	no	J. Speybroeck	PGe.892
Podarcis virescens	1995	-	Portugal	Ribeira de Seixe valley near Zambujueira de Baixo (Odemira, district of Beja)	37.3968	-8.7297	no	P. Sá-Sousa	PGe.1115
Podarcis virescens	23.1.1994	-	Portugal	Nisa, in the village, near the fire station, 300 m (district of Portalegre)	39.5144	-7.6521	no	P. Sá-Sousa	PGe.1130
Podarcis virescens	18.4.1960	-	Spain	Sierra de Cazorla, Bejaraiza (Jaén)	38.116	-2.806	no	J.A. Valverde / E.B. Doñana (Sevilla)	EBD.4234
Podarcis virescens	5.1962	-	Spain	Navalcarnero (Madrid)	40.298	-4.007	no	J.A. Millan / E.B. Doñana (Sevilla)	EBD.4271-4272, 4276-4277, 4279
Podarcis virescens	24.4.1963	-	Spain	Madrid, ciudad (Madrid)	40.42	-3.71	no	A. Cobos / E.B. Doñana (Sevilla)	EBD.4242, 4244, 4246
Podarcis virescens	30.3.1964	-	Spain	15 km E Villanueva de Córdoba (Córdoba)	38.293	-4.465	no	J.A. Valverde / E.B. Doñana (Sevilla)	EBD. without number
Podarcis virescens	1.4.1964	-	Spain	El Villar, Santuario de la Cabeza, 686 m (near Andújar) (Jaén)	38.184	-4.035	no	J.A. Valverde / E.B. Doñana (Sevilla)	EBD.4221-4228
Podarcis virescens	6.3.1969	-	Spain	Museum of Natural history of Madrid (Madrid)	40.4404	-3.6902	no	E.B. Doñana (Sevilla)	EBD.69-03-06.3-4
Podarcis virescens	20.4.1969	-	Spain	Madrid, ciudad, El Pardo (Madrid)	40.5323	-3.7842	no	M. Meijide / E.B. Doñana (Sevilla)	EBD.69-04-20.11, 13, 14
Podarcis virescens	15.9.1969	-	Spain	Aravaca (Madrid)	40.460	-3.787	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis virescens	12.3.1970	-	Spain	Madrid, E.T.S.I.M. (=Escuela Técnica superior de Ingenieros de Minas de Madrid, UPM., Calle de Ríos Rosas) (Madrid)	40.4422	-3.7004	no	Adolfo Ruéda / E.B. Doñana (Sevilla)	EBD.70-03-12.2
Podarcis virescens	26.3.1970	-	Spain	Canal oc. Isabel II, Madrid ciudad (Madrid)	40.4435	-3.7075	no	E.B. Doñana (Sevilla)	EBD.70-03-26.1
Podarcis virescens	24.5.1970	-	Spain	Mostoles (Madrid)	40.323	-3.863	no	E.B. Doñana (Sevilla)	EBD.70-05-24.2
Podarcis virescens	30.3.1972	-	Spain	Madrid 3, Ciudad universitaria, C.M. Cisneros (Madrid)	40.12	-3.71	no	M. Delibes / E.B. Doñana (Sevilla)	EBD.72-03-30.4
Podarcis virescens	10.3 & 4.5.1973	-	Spain	Riopar (Albacete)	38.499	-2.453	no	J.L. Gonzalez Monsalve / E.B. Doñana (Sevilla)	EBD.6618-6619
Podarcis virescens	8.5.1974	-	Spain	La Roda (Albacete)	39.205	-2.163	no	A. Carcelen / E.B. Doñana (Sevilla)	EBD. without number
Podarcis virescens	15.5.1974	-	Spain	Villagordo (Albacete)	39.301	-2.076	no	A. Carcelen / E.B. Doñana (Sevilla)	EBD. without number
Podarcis virescens	1960, 1974	-	Spain	Villanueva de Córdoba (Córdoba)	38.323	-4.631	no	E.B. Doñana (Sevilla)	EBD.21745, 749
Podarcis virescens	7.1976	-	Spain	El Jardín, 52 km W. Albacete (Albacete)	38.817	-2.335	no	Cl.P. Guillaume, M. Aymerich	BEV.3620-3621
Podarcis virescens	8.9.1979	-	Spain	Albacete, 695 m	38.986	-1.865	no	E.B. Doñana (Sevilla)	EBD. without number

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	6.1980	- Spain	Picón (Ciudad Real)	39.051	-4.068	no	E.B. Doñana (Sevilla)	EBD. without number
Podarcis virescens	15.4.1981	- Spain	F. Fuentes del Villar (Sierra Morena north of Andújar, Jaén)	38.131	-3.979	no	F. Muñoz / E.B. Doñana (Sevilla)	EBD. without number
Podarcis virescens	1982, 8.4.1983	- Spain	Guedea, Almedina (Ciudad Real)	38.620	-2.958	no	C. Landres / E.B. Doñana (Sevilla)	EBD.26843-844, 26837-838
Podarcis virescens	1985	- Spain	El Cotillo, ca 8 km NNNE. Alcolea (Sierra Morena, Córdoba)	38.01	-4.65	**yes**	J.-P. Baron	BEV.3989-3997
Podarcis virescens	8.5.1986	- Spain	Road N.630, exit of Santa Olalla towards Merida, 517 m (Huelva)	37.913	-6.232	no	Cl.P. Guillaume, P. Geniez, M. Geniez, P. Escudié	BEV.4132
Podarcis virescens	10.8.1986	- Spain	Bridge on the Tajo-Segura, road N.420, 1 km SW. Belmontejo (Cuenca)	39.8129	-2.3525	no	Cl.P. Guillaume	BEV.4124-4125
Podarcis virescens	5.1986	- Spain	Road C.600, exit of Brunete towards Navalcarnero (Madrid)	40.398	-3.996	no	Cl.P. Guillaume	BEV.4131
Podarcis virescens	10.8.1986	- Spain	Roman ruins of Segóbriga, road CU.304 (W. Cuenca)	39.888	-2.811	no	Cl.P. Guillaume	PGe.1052
Podarcis virescens	11.8.1986	- Spain	Cañaveras, in the village, crossroad N.320 x C.202 (Cuenca)	40.365	-2.390	no	Cl.P. Guillaume	BEV.4129-4130
Podarcis virescens	25.8.1986	- Spain	Sierra Madrona, Fuencaliente (Ciudad Real)	39.200	-4.034	no	E.B. Doñana (Sevilla)	EBD.24438-440
Podarcis virescens	6.8.1986	- Spain	Road N.III, southwestern exit of Arganda, km point 29 (Madrid)	40.293	-3.425	no	Cl.P. Guillaume	PGe.1053
Podarcis virescens	14.8.1989	- Spain	La Coma, 665 m (Madrid)	40.408	-3.680	no	E.B. Doñana (Sevilla)	EBD.69-08-14.2
Podarcis virescens	20.8.1990	- Spain	Bridge on the Arroyo de la Vid, 10 km N. Torrejón el Rubio (Cáceres)	39.857	-6.040	no	P. Geniez, S. Boissinot, Th. Menut	PGe.1029
Podarcis virescens	5.1991	- Spain	Sierra de Cazorla (Jaén)			**yes**	P.-A. Crochet	BEV.4609-4610
Podarcis virescens	16.9.1995	- Spain	Along the Road EX-118 north of Guadalupe, a few km before the road to Navatrasierra, along a stream, 710 m (Cáceres)	39.517	-5.348	no	P.-A. Crochet	PGe.1078-1079
Podarcis virescens	4.1996	- Spain	Bridge on the Arroyo de la Vid, 10 km N. Torrejón el Rubio (Cáceres)	39.857	-6.040	no	F. Veyrunes, V. Rufray	PGe.1030
Podarcis virescens	5.1996	- Spain	Gualda, near the Mar de Castilla (S. Sigüenza, Guadalajara)	40.684	-2.686	no	P. Geniez	BEV.4542
Podarcis virescens	27.5.1996	- Spain	Mar de Castilla, 3 km S. Gualda (Guadalajara)	40.652	-2.682	no	P. Geniez, F. Geniez	PGe.1044
Podarcis virescens	3.4.1999	- Spain	Road R4, ca 30-40 km S. Madrid (Madrid)	40.025	-3.649	no	P.-A. Crochet	PGe.1045-1046

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	23.6.2001	- Spain	2 km past Villanueva de los Escuderos towards Abia de la Obispalía (Cuenca)	40.042	-2.327	no	P. Geniez, P.A. Crochet, O. Chaline	PGe.1086
Podarcis virescens	23.6.2001	- Spain	Road CU.704, 1 km past Villanueva de los Escuderos towards Cuenca, 1,014 m (Cuenca)	40.0436	-2.2916	no	P. Geniez, P.-A. Crochet, O. Chaline	MNHN **2012.0264 [REF]**
Podarcis virescens	23.6.2001	- Spain	Villanueva de los Escuderos, in the village, 980 m (Cuenca)	40.0417	-2.3025	**yes**	P. Geniez, P.-A. Crochet, O. Chaline	Paratypes BEV.**1899-1900 [REF]**, 1901
Podarcis virescens	24.6.2001	- Spain	Horcajada de la Torre, road N.400 (Cuenca)	40.032	-2.569	**yes**	P. Geniez, P.-A. Crochet, O. Chaline	BEV.**1903 [REF]**, 1904-1908
Podarcis virescens	24.6.2001	- Spain	Albalate de Zorita, in the village, 760 m (NNE. Tarancón, Guadalajara)	40.308	-2.845	no	P. Geniez, P.-A. Crochet, O. Chaline	Paratypes BEV.1909, **1910-1912 [REF]**
Podarcis virescens	24.6.2001	- Spain	Almonacid de Zorita, in the village, 696 m (SSW. Sacedón, Guadalajara)	40.328	-2.851	**yes**	P. Geniez, P.-A. Crochet, O. Chaline	BEV.**1914 [REF]**, 1915-1916, **1917 [REF]**
Podarcis virescens	24.6.2001	- Spain	Gualda (N. Sacedón) (Guadalajara)	40.684	-2.686	**yes**	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1918
Podarcis virescens	24.6.2001	- Spain	Road C.204, 1 km past Gargoles de Abajo towards Durón (Guadalajara)	40.729	-2.630	no	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1919
Podarcis virescens	24.6.2001	- Spain	Gargoles de Abajo (Guadalajara)	40.732	-2.619	no	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1920-1921
Podarcis virescens	24.6.2001	- Spain	Cifuentes (Guadalajara)	40.788	-2.625	no	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1922-1927
Podarcis virescens	24.6.2001	- Spain	Bridge on the rio Dulce, road C.204 esat of Mandayona, 887 m (Guadalajara)	40.962	-2.728	no	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1928-1929
Podarcis virescens	24.6.2001	- Spain	La Cabrera, SW. of Sigüenza (Guadalajara)	41.018	-2.685	no	P. Geniez, P.-A. Crochet, O. Chaline	BEV.1930-1931
Podarcis virescens	26.6.2001	- Spain	Torrelaguna (Madrid)	40.829	-3.536	no	P. Geniez, P.-A. Crochet, O. Chaline, Cl.P. Guillaume	BEV.1965-1973
Podarcis virescens	21.4.2002	- Spain	Sierra de Cazorla, Burunchel, in the village, 945 m (Jaén)	37.9446	-2.9537	**yes**	P. Geniez, P.-A. Crochet, A. Cluchier, M. Siol	BEV.7371
Podarcis virescens	21.4.2002	- Spain	Sierra de Cazorla, headwater of the Guadalquivir, 1,384 m (Jaén)	37.838	-2.972	**yes**	P. Geniez, P.-A. Crochet, A. Cluchier, M. Siol	BEV.**7372-7373 [REF]**, 7374
Podarcis virescens	21.4.2002	- Spain	Cazorla city, Castillo de la Iruela, 906 m (Jaén)	37.9218	-2.9897	**yes**	P. Geniez, P.-A. Crochet, A. Cluchier, M. Siol	BEV.**7403-4708 [REF]**
Podarcis virescens	26.4.2002	- Spain	Motorway service area, 4 km southwest of Ciempozuelos, 622 m (between Aranjuez and Valdemoro, Madrid)	40.1341	-3.6563	**yes**	P. Geniez, P.-A. Crochet, A. Cluchier, M. Siol	Paratype BEV.7525

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	26.4.2002	- Spain	Motorway N.II, service area, 1 km past the exit to Sigüenza towards Madrid, 1,065 m (35 km NE.Guadalajara, Guadalajara)	40.8976	-2.7587	no	P. Geniez, P.-A. Crochet, A. Cluchier, M. Siol	BEV.7526
Podarcis virescens	before 2006	- Spain	Madrid	40.42	-3.70	**yes**	Pinho *et al.* 2006, 2008	Mad1, Mad2
Podarcis virescens	before 2007	- Spain	Embalse de Saucedilla, 607 m (Ciudad Real)	38.403	-4.433	**yes**	Pinho 2007, Pinho *et al.* 2008 (P.Sá-Sousa leg)	And9
Podarcis virescens	before 2006	- Spain	Benatae, Andalucia (Jaén) 870 m	38.353	-2.651	**yes**	Pinho *et al.* 2006	And10
Podarcis virescens	before 2006	- Spain	Tielmes, 600 m (Madrid)	40.25	-3.31	**yes**	Pinho *et al.* 2006	Tie1
Podarcis virescens	before 2007	- Portugal	Cartaxo, 50 m (district of Santarém)	39.16	-8.79	**yes**	Pinho *et al.* 2007	Car
Podarcis virescens	before 2007	- Portugal	Évora (district of Évora)	38.58	-7.92	**yes**	Pinho *et al.* 2007, 2008	Ev, Ev4
Podarcis virescens	before 2007	- Spain	Castaño del Robledo, 735 m (Huelva)	37.895	-6.704	**yes**	Pinho 2007, Pinho *et al.* 2008	CR1
Podarcis virescens	14.6.2010	- Spain	2.4 km NW. Torrelaguna, 875 m (Madrid)	40.8404	-3.5634	no	P.-A. Crochet	Paratypes BEV.10940-10941
Podarcis virescens	14.6.2010	- Spain	Southern exit of Cogolludo, chapel along the road CM-1001 (= road to Humanes), 855 m (Guadalajara)	40.9433	-3.0903	no	P.-A. Crochet	BEV.10942-943, PGe.1125
Podarcis virescens	14.6.2010	- Spain	La Montaña (just N. of Aranjuez), along the road M-305 (Aranjuez – Madrid) 200 m south of the "Calle Granada (Madrid)"	40.0589	-3.6124	no	P.-A. Crochet	BEV.10944-946
Podarcis virescens	18.7.2010	- Spain	Angon, eastern exit of the village, 980 m (Guadalajara)	41.0666	-2.853	no	P.-A. Crochet, Y. Mansier	BEV.10978
Podarcis virescens	18.7.2010	- Spain	San Andres del Congosto, cultivated plaine 500 m east of the village, 840 m (Guadalajara)	40.9994	-3.0213	no	P.-A. Crochet, Y. Mansier	Paratype BEV.10979
Podarcis virescens	18.7.2010	- Spain	Sanctuary 1.4 km northwest of Cendejas del Padastro, 930 m (Guadalajara)	41.0011	-2.8874	no	P.-A. Crochet, Y. Mansier	BEV.10980
Podarcis virescens	18.7.2010	- Spain	Jadraque, road in front of the railway station, 800 m (Guadalajara)	40.9280	-2.9349	no	P.-A. Crochet, Y. Mansier	BEV.10981
Podarcis virescens	before 2011	- Spain	Albacete city, 695 m	38.99	-1.86	**yes**	Kaliontzopoulou *et al.* 2011	6.131
Podarcis virescens	before 2011	- Spain	Area recreativa de Gil Cobo, 1,260 m (Jaén)	38.079	-2.898	**yes**	Kaliontzopoulou *et al.* 2011	DB2862 & 2871
Podarcis virescens	before 2011	- Spain	Area recreativa de Gil Cobo 2, 1,275 m (Jaén)	38.08	-2.90	**yes**	Kaliontzopoulou *et al.* 2011	DB2911
Podarcis virescens	before 2011	- Spain	Area recreativa de los Estrechos (Toledo)			**yes**	Kaliontzopoulou *et al.* 2011	DB1779
Podarcis virescens	before 2011	- Spain	Arroyo Brezoso, 625 m (Cáceres)	39.29	-4.34	**yes**	Kaliontzopoulou *et al.* 2011	PH76
Podarcis virescens	before 2011	- Spain	Arroyo de la Luz, 350 m (Cáceres)	39.48	-6.58	**yes**	Kaliontzopoulou *et al.* 2011	DB1728

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Appendix 1. (Continued)

Taxon	Date	Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	before 2011	- Spain	Arroyo del Chorro - Los Navalucillos, 1,215 m (Toledo)	39.55	-4.64	**yes**	Kaliontzopoulou *et al.* 2011	PH50
Podarcis virescens	before 2011	- Spain	Balazote, 770 m (Albacete)	38.88	-2.15	**yes**	Kaliontzopoulou *et al.* 2011	PH80
Podarcis virescens	before 2011	- Spain	Casar de Cáceres, 372 m (Cáceres)	39.56	-6.42	**yes**	Kaliontzopoulou *et al.* 2011	DB9667
Podarcis virescens	before 2011	- Spain	Cobeta, 1,133 m (Guadalajara)	40.87	-2.14	**yes**	Kaliontzopoulou *et al.* 2011	DB2642
Podarcis virescens	before 2011	- Spain	Cornalvo NP, 305 m (Badajoz)	38.99	-6.19	**yes**	Kaliontzopoulou *et al.* 2011	6.128
Podarcis virescens	before 2011	- Spain	Cortijo de Angelita, 830 m (Jaén)	37.68	-3.39	**yes**	Kaliontzopoulou *et al.* 2011	DB1776
Podarcis virescens	before 2011	- Spain	Cortijo de los Petrolos, 1,100 m (Jaén)	38.30	-2.65	**yes**	Kaliontzopoulou *et al.* 2011	DB1769 & 1778
Podarcis virescens	before 2011	- Spain	Cortijo El Maguillo, 1,020 m (Jaén)	38.24	-2.78	**yes**	Kaliontzopoulou *et al.* 2011	DB1783
Podarcis virescens	before 2011	- Spain	Cueva del Santillo, 795 m (Jaén)	37.59	-3.92	**yes**	Kaliontzopoulou *et al.* 2011	DB1736
Podarcis virescens	before 2011	- Spain	El Chorro, 800 m (Cabañeros NP, Toledo)	39.38	-4.50	**yes**	Kaliontzopoulou *et al.* 2011	PH87
Podarcis virescens	before 2011	- Spain	El Laminador, Sierra de Aljubar, 930 m (Albacete)	38.50	-2.40	**yes**	Kaliontzopoulou *et al.* 2011	DB9676
Podarcis virescens	before 2011	- Spain	Fuente de Cueva Ahumada, 975 m (Albacete)	38.14	-2.49	**yes**	Kaliontzopoulou *et al.* 2011	DB1837
Podarcis virescens	before 2011	- Spain	Fuente del Macho, 687 m (Jaén)	38.07	-2.83	**yes**	Kaliontzopoulou *et al.* 2011	DB1787
Podarcis virescens	before 2011	- Spain	Fuente Nueva - Villarubia de Santiago, 760 m (Toledo)	39.98	-3.36	**yes**	Kaliontzopoulou *et al.* 2011	PH55
Podarcis virescens	before 2011	- Spain	Fuente Vieja - Villarubia de Santiago, 750 m (Toledo)	39.99	-3.36	**yes**	Kaliontzopoulou *et al.* 2011	PH53
Podarcis virescens	before 2011	- Spain	Fuertescusa, 995 m (Cuenca)	40.48	-2.18	**yes**	Kaliontzopoulou *et al.* 2011	PH89
Podarcis virescens	before 2011	- Spain	La Roda, 710 m (Albacete)	39.21	-2.16	**yes**	Kaliontzopoulou *et al.* 2011	PH95
Podarcis virescens	before 2011	- Spain	Laguna de Arroyofrío (Albacete), 933 m	38.409	-2.52	**yes**	Kaliontzopoulou *et al.* 2011	DB1832
Podarcis virescens	before 2011	- Spain	Lagunas de Ruidera, 830 m (Albacete)	38.94	-2.85	**yes**	Kaliontzopoulou *et al.* 2011	PH91
Podarcis virescens	before 2011	- Spain	Mazarete, 1,210 m (Guadalajara)	41.00	-2.16	**yes**	Kaliontzopoulou *et al.* 2011	DB2641
Podarcis virescens	before 2011	- Spain	Ocaña, 743 m (Toledo)	39.96	-3.5	**yes**	Kaliontzopoulou *et al.* 2011	PH66
Podarcis virescens	before 2011	- Spain	Olmeda de Cobeta, 1,150 m (Guadalajara)	40.86	-2.19	**yes**	Kaliontzopoulou *et al.* 2011	DB9603
Podarcis virescens	before 2011	- Spain	Villagordo del Júca, Palacio Gosalvez, 690 m (Albacete)	39.30	-2.06	**yes**	Kaliontzopoulou *et al.* 2011	DB1876 & 1877
Podarcis virescens	before 2011	- Spain	Peña del Olivar, 787 m (near Siles, sierra de Segura) (Jaén)	38.37	-2.58	**yes**	Kaliontzopoulou *et al.* 2011	DB1781
Podarcis virescens	before 2011	- Spain	Piedra de los Endrinales (Albacete)			**yes**	Kaliontzopoulou *et al.* 2011	DB1828
Podarcis virescens	before 2011	- Spain	Rio Borosa (La Iruela), 822 m (Jaén)	38.00	-2.86	**yes**	Kaliontzopoulou *et al.* 2011	DB2960
Podarcis virescens	before 2011	- Spain	Rio Estena Hontanar, 1,038 m (Toledo)	39.55	-4.61	**yes**	Kaliontzopoulou *et al.* 2011	PH49
Podarcis virescens	before 2011	- Spain	Rio Frio - Sevilleja de la Jara, 640 m (Toledo)	39.61	-4.98	**yes**	Kaliontzopoulou *et al.* 2011	PH52
Podarcis virescens	before 2011	- Spain	Rio Linares - Riba de Saelices, 1,020 m (Guadalajara)	40.94	-2.30	**yes**	Kaliontzopoulou *et al.* 2011	DB1890
Podarcis virescens	before 2011	- Spain	Riopar del Viejo, 1,120 m (Albacete)	38.50	-2.45	**yes**	Kaliontzopoulou *et al.* 2011	6.313
Podarcis virescens	before 2011	- Spain	Saelices, 926 m (Cuenca)	39.921	-2.805	**yes**	Kaliontzopoulou *et al.* 2011	PH72

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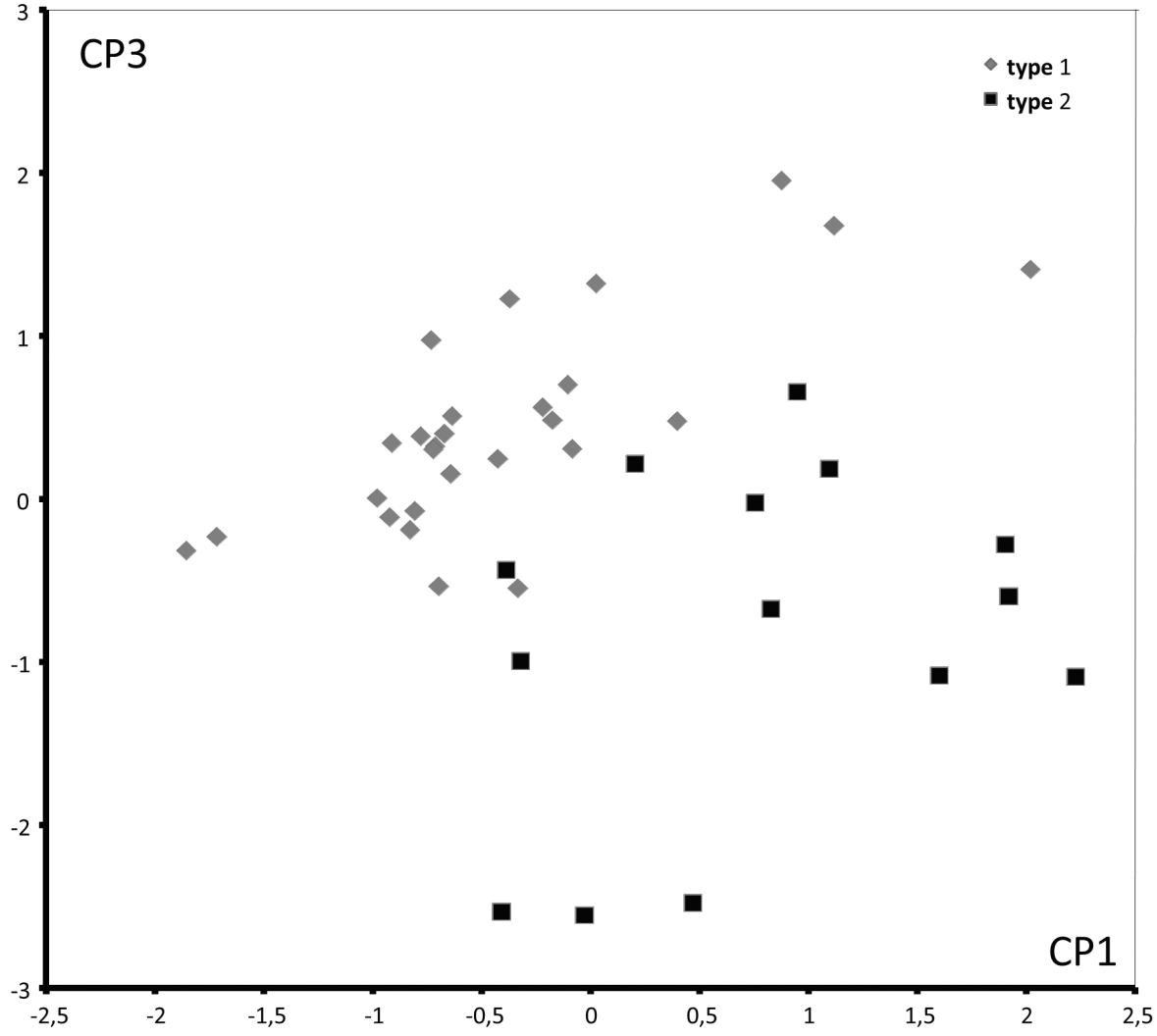
Appendix 1. (Continued)

Taxon	Date		Country	Locality	Lat. °	Long. °	mtDNA	Source	Vouchers
Podarcis virescens	before 2011	-	Spain	Sierra de Segura, 5km west of the Embalse del Tranco, 1,235 m (Jaén)	38.13	-2.84	**yes**	Kaliontzopoulou *et al.* 2011	DB2866
Podarcis virescens	before 2011	-	Spain	SW. of Embalse del Tranco, 660 m (Jaén)	38.06	-2.83	**yes**	Kaliontzopoulou *et al.* 2011	DB2785 & 2846
Podarcis virescens	before 2011	-	Spain	Valencia del Ventoso, 500 m (Badajoz)	38.27	-6.47	**yes**	Kaliontzopoulou *et al.* 2011	PH98
Podarcis virescens	before 2011	-	Spain	Villanueva de Córdoba, 730 m (Córdoba)	38.32	-4.63	**yes**	Kaliontzopoulou *et al.* 2011	6.317 & 6.320
Podarcis virescens	before 2011	-	Spain	Andújar, Virgen de la Cabeza, 625 m (Jaén)	38.18	-4.04	**yes**	Kaliontzopoulou *et al.* 2011	6.36
Podarcis virescens	22.9.1993	-	Spain	Sierra de Cazorla, along the Guadalquivir near the embalse del Tranco, opposite the Cabeza de la Vina island, 690 m (Jaén)	38.104	-2.809	no	P. Escudié, V. Robert	PGe.1047-1048
Podarcis virescens	4.2001	-	Spain	Malpartida de Cáceres city, 380 m (Cáceres)	39.459	-6.501	no	A. Ravayrol	PGe.889
Podarcis virescens	7.4.2009	-	Spain	1 km WSW. Charca de los Pocitos, 8 km WSW. Talaván, 330 m (Cáceres)	39.6719	-6.3653	no	V. Delcourt	PGe.890, 1136
Podarcis virescens	7.4.2011	-	Spain	Between Guadalupe and Berzocana (Cáceres)	39.4687	-5.4013	no	G. Grieco	PGe.1126
Podarcis virescens	28.3.2011	-	Spain	Sierra de Andújar, Pista de la Lancha, ca 3.5 km northwest of Los Escoriales, 616 m (NE. Andújar, Jaén)	38.204	-3.938	no	P. Geniez & M. Geniez	PGe.1127
Podarcis virescens	29.3.2011	-	Spain	Sierra de Andújar, Pista de la Lancha, ca 5 km NW. Los Escoriales, 427 m (NE. Andújar, Jaén)	38.209	-3.964	no	P. Geniez & M. Geniez	PGe.1128
Podarcis virescens	30.3.2011	-	Spain	Bridge on the rio Robledillo, road CR.501 south of Portollano, 490 m (Ciudad Real)	38.4254	-4.0359	no	P. Geniez & M. Geniez	PGe.1129

APPENDIX 2. Scatterplot of first and third axis of a PCA on females type 1 (A&B) and type 2.



APPENDIX 3. Contribution of the morphological variables to the four first components (PC1 to PC4) of the PCA ran on 41 females of type 1 and type 2.

	PC1	PC2	PC3	PC4
DORS	-0,41	-0,77	-0,11	0,10
VENL	-0,22	-0,35	0,26	0,20
GULS	0,24	-0,72	0,01	0,18
PORF	-0,33	-0,67	-0,25	-0,09
LAME	-0,47	-0,63	0,11	0,01
TEMP	-0,21	-0,82	0,08	0,00
ECTE	-0,14	-0,06	-0,67	0,50
ID10	-0,08	0,20	-0,62	0,51
SVL	-0,86	0,15	-0,25	-0,15
LPIL	-0,83	0,19	-0,38	-0,08

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APPENDIX 3. (Continued)

	PC1	PC2	PC3	PC4
WPIL	-0,75	0,22	-0,41	-0,15
HTET	-0,67	0,07	-0,55	-0,27
VERT	-0,12	0,12	0,05	0,67
DOLA	0,08	0,25	-0,21	-0,05
FRAG	0,05	0,07	0,15	0,65
SDLA	-0,62	-0,05	0,62	0,22
CPIL	-0,60	0,16	0,15	0,25
IRIS	0,37	-0,08	-0,57	-0,10
YELLOW	0,43	-0,17	-0,52	0,30
LDOS	0,50	-0,50	-0,41	-0,28
NFRAG	0,52	0,01	-0,41	0,05
% variance explained	23	16	15	09

APPENDIX 4. Map of population means for the discriminant scores of a DA between male specimens of types 1A and 1B.