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Darevskia and *Iberolacerta* (Reptilia, Lacertidae): Arribas, 1997 or 1999? The correct dating of two nomenclatural acts affecting Palearctic lizards, and validation of the name *Caucasilacerta* Harris, Arnold & Thomas, 1998

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Abstract

A doctoral thesis presented in the late 1990s by Óscar J. Arribas has been frequently cited as the authority for the nomenclatural status of two generic names in the lizard family Lacertidae, *Darevskia* and *Iberolacerta*. These names were again introduced, along with the addition of the subgeneric name *Pyrenesaura,* in 1999 via publication in an international, peer-reviewed journal. We discuss nomenclatural aspects of how these taxon names were presented, detail inconsistencies in the use of publication dates associated with these names, and resolve nomenclatural problems by demonstrating that the date of their first publication, in compliance with the *International Code of Zoological Nomenclature,* was 1999. This renders the name *Darevskia* Arribas, 1999 a junior invalid synonym of *Caucasilacerta* Harris, Arnold & Thomas, 1998, which, contrary to previous assessment, is not a *nomen nudum*, and must replace *Darevskia* as the valid name for this genus.

Keywords: nomenclature, Óscar J. Arribas, *Iberolacerta*, *Darevskia*, *Pyrenesaura*, *Caucasilacerta*, date of valid publication, *International Code of Zoological Nomenclature*

Introduction

Lizard populations formerly considered representative of *Lacerta muralis* (Laurenti, 1768) have been subject to intensive study since Boulenger (1905, 1913) published his views on 'varieties' within this '*difficult group of lizards*'. Between 1996 and 1999, taxa heretofore considered members of the genus *Lacerta*, namely *L. monticola* Boulenger, 1905 (Fig. 1), *L. cyreni* (L. Müller & Hellmich, 1937) and *L. martinezricai* (Arribas, 1996*a*), were re-assigned to *Iberolacerta* by Óscar J. Arribas, who also described the genus *Darevskia*, and a subgenus (*Pyrenesaura*) for *Iberolacerta.* Whereas the definitions of these new taxa were taxonomic decisions that have by now gained wide acceptance (e.g., Uetz & Hošek 2015), the date of publication for *Darevskia* and *Iberolacerta* has been variously cited as 1997 or 1999.

FIGURE 1. *Iberolacerta monticola* (Boulenger 1905). Photo by Pedro Galán.

Nomenclatural issues are typically not uncovered, and certainly not generally addressed, in the course of preparing book reviews. However, while addressing taxonomic changes affecting nomenclature among Spanish lizards in the genus *Lacerta*, as part of a review of *Guía de Reptiles de España - Identificación, Historia Natural y Distribución* (Busack 2014), SDB uncovered inconsistencies regarding the assignment of proper authority for the genus *Iberolacerta*. In a serendipitous turn of events, the editor for the book review manuscript (AMB) had received a copy of Arribas (1999) with a note appended to a copy of the journal cover. This note reads as follows, reproduced verbatim with formatting intact:

> "The genus *Darevskia* and *Iberolacerta* shall bear 1997 data, as they were described with nearly the same text in the Ph. Dr. Thesis of the author, published as:
> **Arribas, O. J. (1997): Morfología, filogenia y biogeografía de las lagartijas de alta montaña de los Pirineos. Publicacions de la Universitat Autònoma de Barcelona. 8 pp and microfiche (353 pp). Ballaterra.**
> which fulfils the criteria of publication of the ICZN. Art 9 (2), Art 9 (4), 8 (1) and 9 (2).
> Thus correct reference is: ***Iberolacerta*** **Arribas, 1997** and ***Darevskia*** **Arribas, 1997**. The subgenus ***Pyrenesaura*** **Arribas, 1999** has data of the Russian Journal of Herpetology publication."

As part of the book review, SDB used the authorship designation 'Arribas 1997' with a parenthetical comment '(see Arribas 1999)' for the genus *Iberolacerta*, to recognize the ambiguity of the nomenclatural attribution (Busack 2014).

Prompted by lingering questions regarding the correct date, we conducted a detailed investigation into the timeline for these nomenclatural acts. Results from our investigation are presented and discussed below with regard to nomenclatural procedures (as we interpret and understand them) outlined by the versions of the *International Code of Zoological Nomenclature* (hereafter, the *Code*; Anonymous 1985) in force at the time these nomenclatural acts occurred, as well as those in the version in force today (Anonymous 1999, 2012).

The dissertation of Óscar J. Arribas

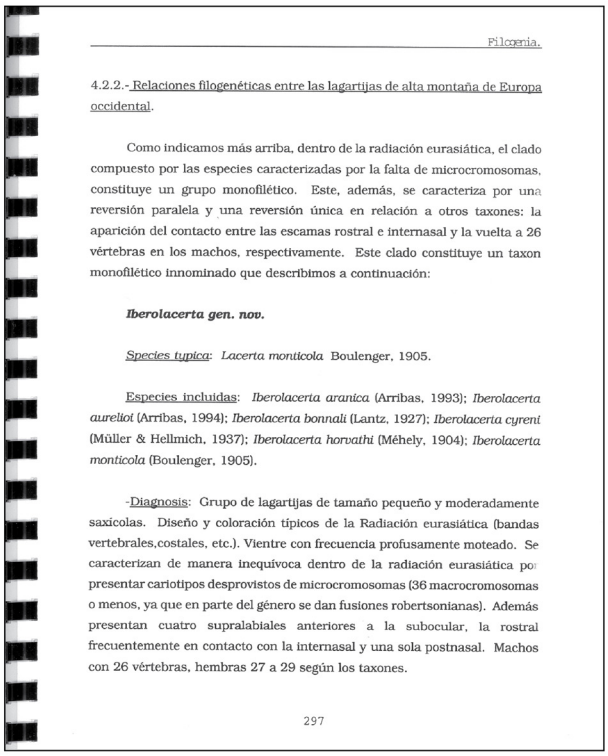
In tracing the names *Iberolacerta* and *Darevskia*, we attempted to locate their earliest mention in a publicly accessible medium, and to determine overall availability of that medium, both upon its original production and today. To analyze details for publications mentioned herein, we examined a copy of Arribas (1996b; signed by J. Matallanas, thesis Director), currently deposited at the Universitat Autònoma de Barcelona (registration number 1500588386), as well as a copy of the microfiche edition (Arribas 1997), deposited at the same university (registration number 1500477997). To the best of our knowledge, the first use of *Iberolacerta* appears on page 297 of the thesis (Fig. 2a), and of *Darevskia* on page 305 (Fig. 2b) of *Morfología, filogenia y bibliografía de las lagartijas de alta montaña de los Pirineos*, a *Tesis Doctoral* [doctoral thesis] of 353 pages, presented on 19 December 1996 to an examining committee at the Facultat de Ciències, Universitat Autònoma de Barcelona, by Óscar J. Arribas (Fig. 2c). The inside cover of the document shows (top center) a stamp with a date of 11 Març [March] 1997 for thesis accession into library holdings (Fig. 2d). The thesis was subsequently transferred to microfilm and presented as MIF 59 Arr, an *edició microfotogràfica* of the *Edicions Microfotogràfiques de la Universitat Autònoma de Barcelona* (Fig. 3a), which, after inclusion of eight printed pages, was filed with the Servei de Publicacions, Publications de la Universitat Autònoma de Barcelona, Bellaterra (Cerdanyola del Vallès), Spain, and became referred to as Arribas (1997). On 18 September 1998 the ISBN number 84-490-0830-1 was assigned, and the document was accessioned with institutional registration number 1500677997 (Fig. 4, upper left).

An unusual thesis supplement

The eight printed pages included in the *Edició microfotogràfica* of the thesis (Arribas, 1997) consist of an unnumbered introductory page for the thesis, a thesis title page, a page providing ISBN and *Dipòsit legal* numbers (Fig. 4, lower left) and a page identifying the *Tesi Doctoral* (Fig. 3b). On page 3, the first numbered page (Fig. 4, right), members of the doctoral committee are introduced, followed by a Spanish language *Resumen* (pages 4–5), an English language Abstract (pages 6–7) and on page 8 an *Indice* (table of contents). On pages 4 and 6, Arribas stated that *Iberolacerta* 'g. nov.' included species found in the Iberian Peninsula (*I. monticola*, *I. cyreni*), the Pyrenees Mountains (*I. bonnali*, *I. aurelioi*, *I. aranica*) and *I. horvathi*. No type species for *Iberolacerta* was designated in the eight printed pages, nor was there the then required (1985 *Code*, Article 8.d.ii) statement that the "*nomenclatural act within it is intended for permanent, public, scientific record*", which most recently has become, "*it must be issued for the purpose of providing a public and permanent scientific record*" (2012 Amendment of the *Code*, Article 8.1.1).

Institutional holdings of Arribas' thesis

When we conducted an ISBN number search on 5 October 2015 at <www.isbnsearch.org> to further document the publication history of this thesis, the system returned: "*Sorry, we could not find any information for this book. This is unusual; please try a different book*." A follow-up search conducted on the same date using the Online Computer Library Center World Catalogue (<www.worldcat.org>, search identity number 434000503) using "*Tesis doctorals de la Universitat Autònoma de Barcelona*" as the search item, did not include the thesis as either a 'print book' or in 'microform' among the 4166 thesis identified, but found five institutions holding the document. These included four libraries in Spain (Biblioteca Nacional de España, Universidad Complutense de Madrid [item for local use only], Universidad de Alicante, Universidad de Salamanca) and one in Germany (Universitätsbibliothek Johann Christian Senckenberg, Goethe-Universität, Frankfurt am Main). Examination of the nature of these holdings, and one copy in the herpetological library of the Zoologisches Forschungsmuseum Alexander Koenig, Bonn, Germany, revealed each to be "*1 microficha (390 fotogramas): negativo ; 11 × 15 cm + 1 v. (8 p.)*" or similar.



Filogenia.

4.2.2.- Relaciones filogenéticas entre las lagartijas de alta montaña de Europa occidental.

Como indicamos más arriba, dentro de la radiación eurasiática, el clado compuesto por las especies caracterizadas por la falta de microcromosomas, constituye un grupo monofilético. Este, además, se caracteriza por una reversión paralela y una reversión única en relación a otros taxones: la aparición del contacto entre las escamas rostral e internasal y la vuelta a 26 vértebras en los machos, respectivamente. Este clado constituye un taxon monofilético innominado que describimos a continuación:

Iberolacerta gen. nov.

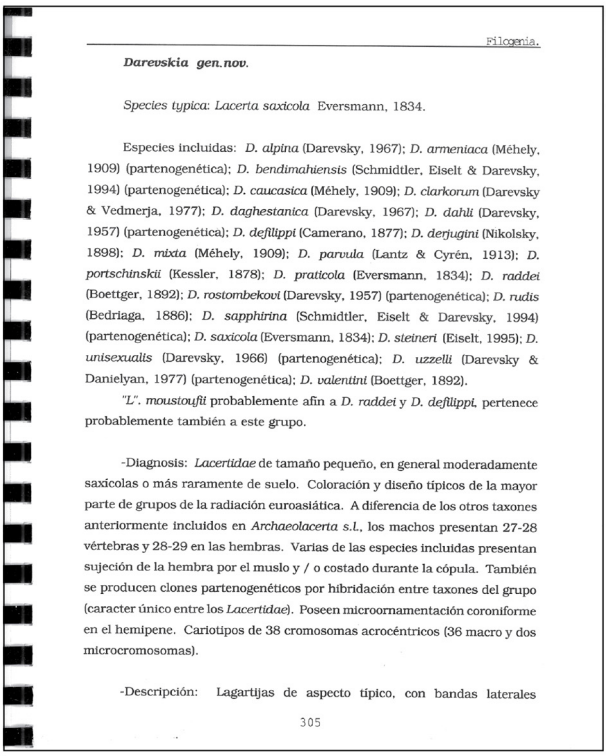
Species typica: *Lacerta monticola* Boulenger, 1905.

Especies incluidas: *Iberolacerta aranica* (Arribas, 1993); *Iberolacerta aurelioi* (Arribas, 1994); *Iberolacerta bonnali* (Lantz, 1927); *Iberolacerta cyreni* (Müller & Hellmich, 1937); *Iberolacerta horvathi* (Méhely, 1904); *Iberolacerta monticola* (Boulenger, 1905).

-Diagnosis: Grupo de lagartijas de tamaño pequeño y moderadamente saxícolas. Diseño y coloración típicos de la Radiación eurasiática (bandas vertebrales,costales, etc.). Vientre con frecuencia profusamente moteado. Se caracterizan de manera inequívoca dentro de la radiación eurasiática por presentar cariotipos desprovistos de microcromosomas (36 macrocromosomas o menos, ya que en parte del género se dan fusiones robertsonianas). Además presentan cuatro supralabiales anteriores a la subocular, la rostral frecuentemente en contacto con la internasal y una sola postnasal. Machos con 26 vértebras, hembras 27 a 29 según los taxones.

297

a



Filogenia.

Darevskia gen.nov.

Species typica: *Lacerta saxicola* Eversmann, 1834.

Especies incluidas: *D. alpina* (Darevsky, 1967); *D. armeniaca* (Méhely, 1909) (partenogenética); *D. bendimahiensis* (Schmidtler, Eiselt & Darevsky, 1994) (partenogenética); *D. caucasica* (Méhely, 1909); *D. clarkorum* (Darevsky & Vedmerja, 1977); *D. daghestanica* (Darevsky, 1967); *D. dahli* (Darevsky, 1957) (partenogenética); *D. defilippi* (Camerano, 1877); *D. derjugini* (Nikolsky, 1898); *D. mixta* (Méhely, 1909); *D. parvula* (Lantz & Cyrén, 1913); *D. portschinskii* (Kessler, 1878); *D. praticola* (Eversmann, 1834); *D. raddei* (Boettger, 1892); *D. rostombekovi* (Darevsky, 1957) (partenogenética); *D. rudis* (Bedriaga, 1886); *D. sapphirina* (Schmidtler, Eiselt & Darevsky, 1994) (partenogenética); *D. saxicola* (Eversmann, 1834); *D. steineri* (Eiselt, 1995); *D. unisexualis* (Darevsky, 1966) (partenogenética); *D. uzzelli* (Darevsky & Danielyan, 1977) (partenogenética); *D. valentini* (Boettger, 1892).

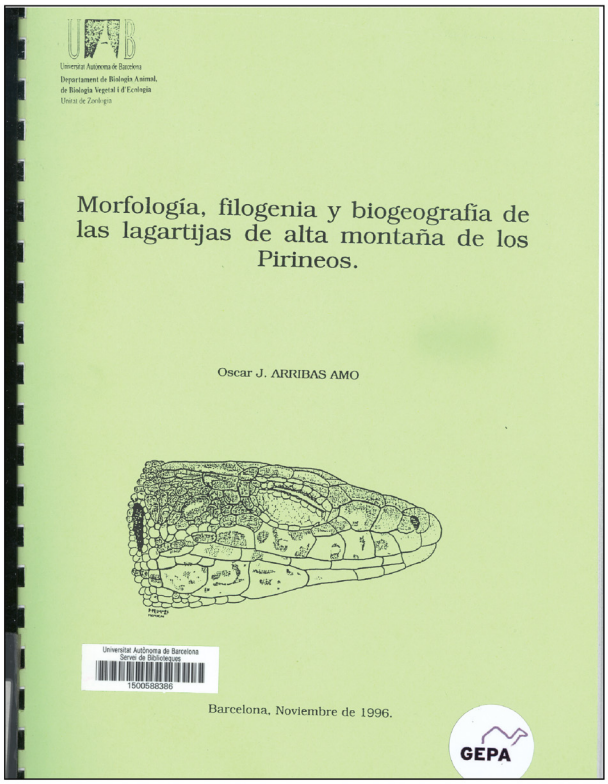
"L". mousloufi probablemente afín a *D. raddei* y *D. defilippi*, pertenece probablemente también a este grupo.

-Diagnosis: *Lacertidae* de tamaño pequeño, en general moderadamente saxícolas o más raramente de suelo. Coloración y diseño típicos de la mayor parte de grupos de la radiación euroasiática. A diferencia de los otros taxones anteriormente incluidos en *Archaeolacerta s.l.*, los machos presentan 27-28 vértebras y 28-29 en las hembras. Varias de las especies incluidas presentan sujeción de la hembra por el muslo y / o costado durante la cópula. También se producen clones partenogenéticos por hibridación entre taxones del grupo (caracter único entre los *Lacertidae*). Poseen microornamentación coroniforme en el hemipene. Cariotipos de 38 cromosomas acrocéntricos (36 macro y dos microcromosomas).

-Descripción: Lagartijas de aspecto típico, con bandas laterales

305

b



Universitat Autònoma de Barcelona
Departament de Biologia Animal, de Biologia Vegetal i d'Ecologia
Unitat de Zoologia

Morfología, filogenia y biogeografía de las lagartijas de alta montaña de los Pirineos.

Oscar J. ARRIBAS AMO

Barcelona, Noviembre de 1996.

GEPA

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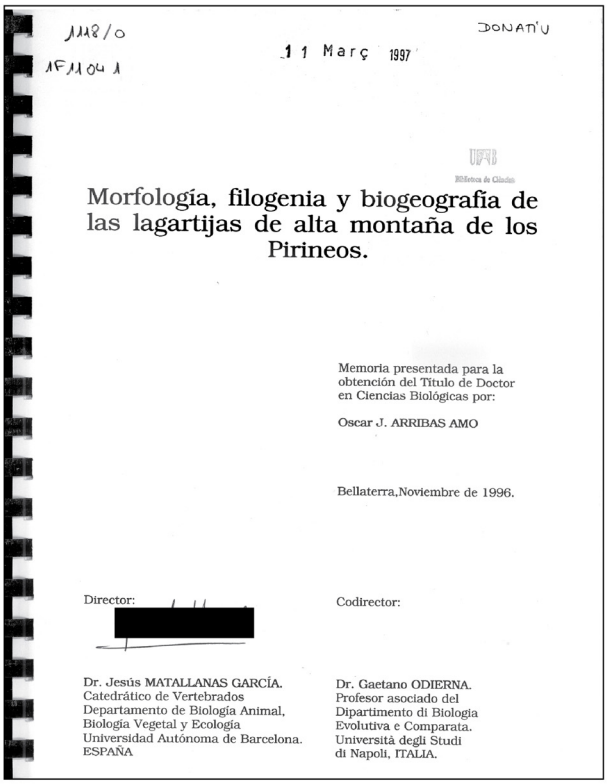

Morfología, filogenia y biogeografía de las lagartijas de alta montaña de los Pirineos.

Memoria presentada para la obtención del Título de Doctor en Ciencias Biológicas por:

Oscar J. ARRIBAS AMO

Bellaterra,Noviembre de 1996.

Director:

[redacted]

Dr. Jesús MATALLANAS GARCÍA.
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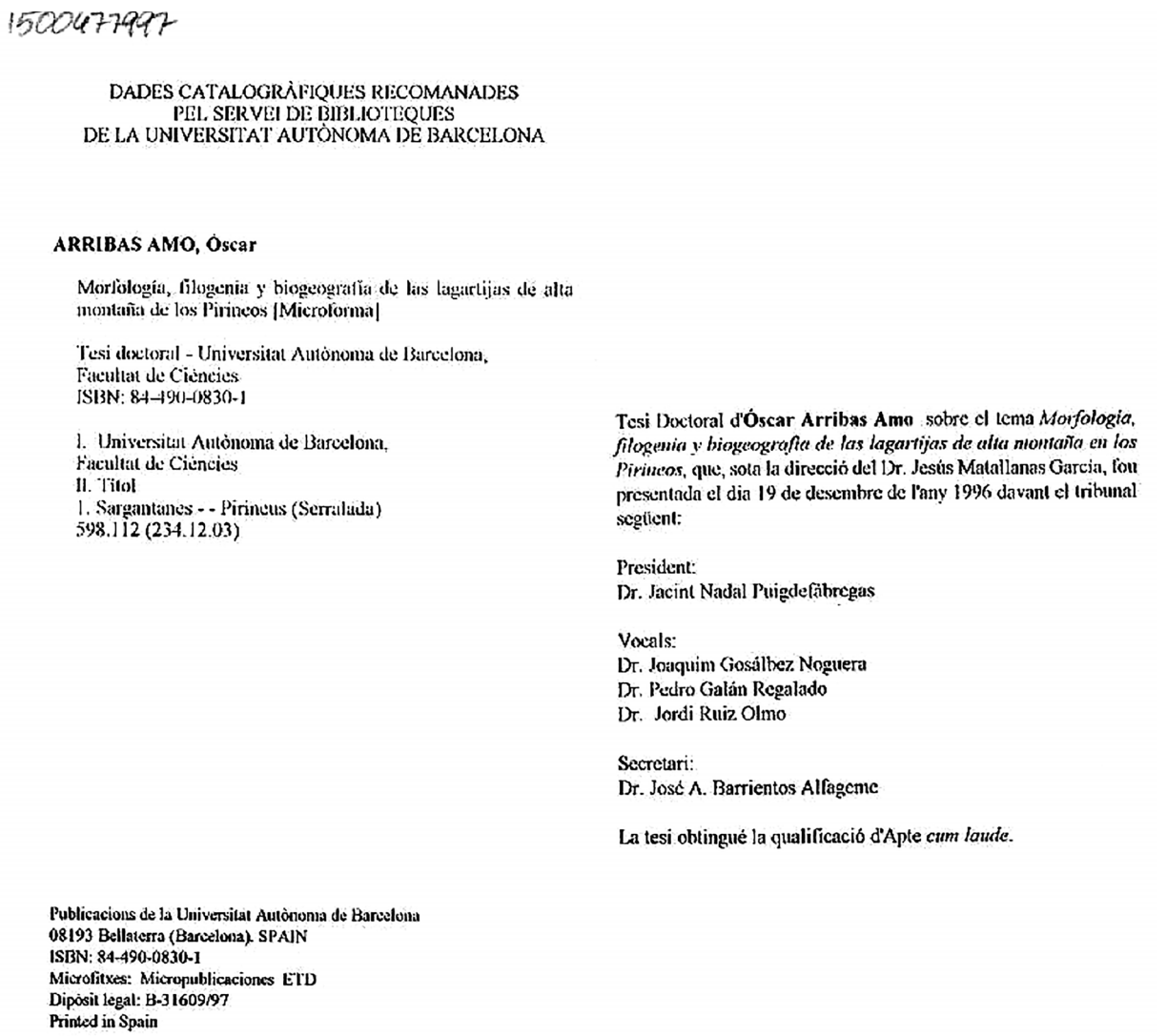
Dr. Gaetano ODIERNA.
Profesor asociado del Dipartimento di Biologia Evolutiva e Comparata.
Università degli Studi di Napoli, ITALIA.

d

FIGURE 2. Pages 297 (a) and 305 (b), outside cover (c) and inside cover (d: Signature Redacted) of Arribas (1996b).

FIGURE 3. *Edició microfotogràfica* (Arribas 1997): supplement 'cover' and title page.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Tesi Doctoral d'**Óscar Arribas Amo** sobre el tema *Morfología, filogenia y biogeografía de las lagartijas de alta montaña en los Pirineos*, que, sota la direcció del Dr. Jesús Matallanas Garcia, fou presentada el dia 19 de desembre de l'any 1996 davant el tribunal següent:

President:
Dr. Jacint Nadal Puigdefàbregas

Vocals:
Dr. Joaquim Gosálbez Noguera
Dr. Pedro Galán Regalado
Dr. Jordi Ruiz Olmo

Secretari:
Dr. José A. Barrientos Alfageme

La tesi obtingué la qualificació d'Apte *cum laude*.

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FIGURE 4. *Edició microfotogràfica* (Arribas 1997): (left, not numbered) second page showing ISBN and *Dipòsit legal* numbers; (right, numbered '3') third page listing doctoral committee members.

A United States Library of Congress search (query 9642928, answered on 11 June 2014 by Science Reference Specialist M. C. Bradley) found no copies of either the 1996 or 1997 version of the thesis available in the United States, but her search of TESEO (Spanish thesis management and monitoring system at <http://www.educacion.gob.es/teseo/irGestionarConsulta.do>) located a copy of the thesis (1997; reference number 184998), although not available in a full text version, filed with Universitat Autònoma de Barcelona. Additional searches, in the *Catàleg Col·lectiu de les Universitats de Catalunya* (<http://ccuc.cbuc.cat>), located three copies of the thesis at Universitat Autònoma de Barcelona, Hospitalet (1998-8-7103-M; MIF 59 Arr, T UAB/M 4455; UAB/M 4456) and one copy at the Biblioteca de Catalunya DG, Hospitalet (1998-8-7103-M). In addition, a search of *Red de Bibliotecas Universitarias* (<http://www.rebiun.org>) retrieved information for copies at the Universidad Autónoma de Madrid (SC/Tesis/5604), Universidad Complutense de Madrid (Mf598.112[234.1] ARRmor), Universidad Nacional de Educación a Distancia (043 ARR UAB 00001219608), as well as the universities of Alicante (DP T/UAB/0405), Cantabria (tm UAB 231), Extremadura (T.1841), Illes Balears (TESI UAB 1348), Murcia (MF-TD 1230), Navarra (MF.m.LEG.C 001.036), Oviedo (BTM-008 30) and A Coruña (T-1407). A supplementary search of the *Consejo Superior de Investigaciones Científicas* (<http://bvirtual.bibliotecas.csic.es>) located no additional copies. Of holdings we were able to locate, each presumably being "*1 microficha (390 fotogramas): negativo ; 11 × 15 cm + 1 v. (8 p.)*" or similar, interlibrary loan is available only for copies held at Universitat Autònoma de Barcelona, Universidad Autónoma de Madrid, Universidad de Cantabria, Universidad de Murcia, and Universidade da Coruña.

A journal article

An article in the *Russian Journal of Herpetology* (*RJH*) detailing the concepts initially presented in the thesis was published in 1999 with Óscar Arribas as the sole author (Arribas 1999). The manuscript had been submitted for publication on 1 October 1997 and appeared in Volume **6**, Number 1 of the journal, with a publication date of 15 April 1999. It should be noted that the original date of 1998 printed on the journal cover had been corrected manually to 1999 prior to mailing of the journal itself (though not on the reprint sent out by the author; this correction is not evident on the copy in the collection of AMB), whereas on SDB's pdf copy the text "*1026-2296/99/0601-0001 © 1999 Folium Publishing Company*" is printed at the bottom of the first page. The original journal cover, and separate reprint covers (Fig. 5), indicated "*Volume 6. No. 1, January–April 1998*," rather than 1999. The *RJH*, founded in 1993, and first published in 1994 (currently publishing volume **22**), continues to be issued in both print and electronic formats by Folium Publishing, Moscow, Russia. Journal contents are abstracted in *Science Citation Index Expanded*, *Current Contents - Agriculture, Biology & Environmental Sciences*, *Zoological Record*, *Scopus* and *Russian Science Citation Index*.

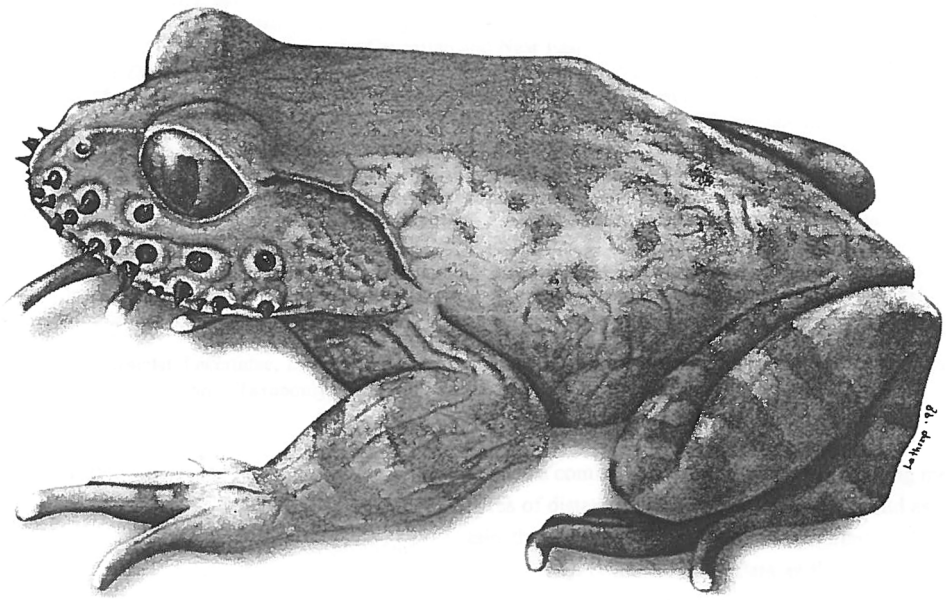
In his *RJH* article, Arribas (1999: 3) stated, "*Our objectives are to describe the limits and relationships between the species currently assigned to* Archaeolacerta *s. l. and to sketch the relationships between these species and the remainder taxa* [sic] *of the group of the Eurasian Radiation...*", followed on page 13, under the sub-heading "*Phylogenetic relationships among the mountain lizards from western Europe*", by the statement "*This clade constitutes a monophyletic unnominated taxon that we described now* [sic]: Iberolacerta *gen. nov. Type species.* Lacerta monticola *Boulenger, 1905*." We interpret the use of 'our' and 'we' in the publication to be representative of the *plural mayestático* [the 'Royal we'] rather than an indication that this work may have been a cooperative endeavour.

From the two statements cited above, and from the supporting evidence presented along with them, it would appear that Arribas intended the *RJH* article to serve as the nomenclatural act establishing *Iberolacerta* as a genus within the family Lacertidae. Thus, the note (Fig. 5) appended to reprint copies of the 1999 paper directly by (or by instruction from) the author, suggests a misunderstanding of the rules of zoological nomenclature, with particular reference to the role of unpublished theses, in an apparent attempt to redirect the date of this nomenclatural act, and we here present a brief reminder of historical issues, current procedures, actions and concerns arising from such misunderstanding.

Volume 6, No. 1, January – April 1998 ISSN 1026-2296

Russian Journal of Herpetology

Article reprints



The genus *Darevskia* and *Iberolacerta* shall bear 1997 data, as they were described with nearly the same text in the Ph. Dr. Thesis of the author, published as:

Arribas, O.J. (1997): Morfología, filogenia y biogeografía de las lagartijas de alta montaña de los Pirineos. Publicacions de la Universitat Autònoma de Barcelona. 8 pp and microfiche (353 pp). Bellaterra.

which fulfils the criteria of publication of the ICZN. Art 9 (2), Art 9 (4), 8 (1) and 9 (2).

Thus correct reference is: ***Iberolacerta*** **Arribas, 1997** and ***Darevskia*** **Arribas, 1997**. The subgenus ***Pyrenesaura*** **Arribas, 1999** has data of the Russian Journal of Herpetology publication.

FIGURE 5. *Russian Journal of Herpetology* cover for reprints of Arribas (1999). Note advisory note and (incorrect) date, top left.

Nomenclatural acts and the *Code*

The International Commission on Zoological Nomenclature ('the Commission') was established during the heyday of early zoological exploration in 1895, at a time when taxonomy was a rapidly growing branch of science. There was no unified system by which taxonomists could access each other's publications, especially those that contained nomenclatural acts (Melville 1995). As a consequence of the rapid production of taxon names with a lack of oversight, and without researchers having the benefit of timely communication, the Commission was tasked with establishing a type of formal, consensus jurisprudence to provide taxonomists with a platform to discuss and resolve nomenclatural issues. The mission of the Commission today remains to safeguard the stability of zoological nomenclature and the integrity of nomenclatural processes and, to achieve its goals, the Commission publishes, and, periodically revises, the *Code*. Publication of a formal description that uniquely defines an animal population and gives it a taxon name represents a nomenclatural act that falls under the purview of the Commission.

Nomenclatural acts in the late 1990s, which include assignment of the names *Iberolacerta*, *Darevskia* and *Pyrenesaura*, were then regulated by the third edition of the *Code* (in effect 1985–1999), and such acts were required to meet criteria for publication and availability as specified in Articles 8 (what constitutes publication), 9 (what does not constitute publication), 10 (general provisions) and 11 (requirements). Article 8 provided some specific criteria for how a work including a nomenclatural act should be presented, including:

> 8.a.1. "it must be issued publicly for the purpose of providing a permanent scientific record,"
> 8.a.2. "it must be obtainable, when first issued, free of charge or by purchase, and"
> 8.a.3. "it must have been produced in an edition containing simultaneously obtainable copies by a method that assures numerous identical copies" […], and
> 8.d.i. "A work produced after 1985 by a method that does not employ ink on paper in conventional printing is to be accepted as published within the meaning of the code if it meets the other requirements of this Article and is not excluded by the provisions of Article 9."
> 8.d.ii. "For a work produced after 1985 by a method other than conventional printing to be accepted as published within the meaning of the Code, it must contain a statement by the author that any new name or nomenclatural act within it is intended for permanent, public, scientific record."
> 8.d.iii. "For a work produced after 1985 by a method other than conventional printing to satisfy the criterion ... that it was produced in an edition containing simultaneously obtainable copies, the relevant information must be given in words in the work itself. […]"

In contrast to Article 8, Article 9 elaborated what did not constitute a publication; such means of presentation, among others, included:

> 9.3. "photocopies as such [...];"
> 9.4. "**microfilm** [emphasis added];"
> 9.11. "deposit of a document (e.g., a thesis) in a collection of documents, a library, or other archive."

Article 10 specified how names in publications had to be presented in order to be considered available for the purposes of nomenclature, beginning as follows:

> 10a. "**Provisions to be satisfied**. A name or nomenclatural act is available, and takes authorship and date, only when it has satisfied the provisions of Article 11 and, when relevant, of Articles 10 and 12 to 20 (for author and date see Articles 50 and 21)",

while Article 11 reiterated:

> […] "the name or nomenclatural act must have been published, in the meaning of Article 8 […]",

and Article 21 (determination of date) required (section 'a' in this case):

> "[…] the date to be adopted as the date of publication […] is to be determined […] as […] (ii) the last day of the year when only the year is specified […]"

When Arribas' *Tesi Doctoral* was presented to the dissertation committee on 19 December 1996, it was not issued for the purpose of providing a public and permanent scientific record (Article 8.a.1), because theses are not in and of themselves public documents, nor was this thesis produced according to the other provisions of Article 8. Instead, its purpose was to complete the requirements for a university degree. Even though the thesis includes language suggesting that taxon names were deliberately defined, these sentences cannot be misconstrued to enact nomenclatural change through the thesis. There is a sentence immediately preceding the new name *Iberolacerta* ("*Este clado constituye un taxon monofilético innominado que describimos a continuación*" [This clade forms an unnamed monophyletic taxon that we describe as follows]) and a similar sentence preceding the new name *Darevskia* ("*describimos este taxon innominado a continuación como*" [We describe this unnamed taxon as follows as]), and both names are followed by the designation 'gen. nov.' We infer that relevant parts of the thesis were written in the form of a scientific paper, inclusive of the proper language to create taxon names, but their status as part of the thesis did not allow their formal recognition as nomenclatural acts (Article 8.d.iii).

When subsequently filed with the university office of publications, and as legal deposit B-31609/97 with the Office of Legal Deposit (*Dipòsit Legal*) Library of Catalonia (<http:/www.publicacions.ub.edu/diposit.aspx>), the thesis (1997) was not recorded as a book, but as a microfilm ("*Microfitxes. Micropublicaciones ETD*"). Depending on type of material, the legal deposit procedure requires deposition of four copies of anything produced representing the bibliographic heritage of Catalonia (visual, sound, audiovisual, etc.). Once deposited, units are made available to readers in the Biblioteca de Catalunya (1998-8-7103-M), but for local use only. A search at <http://cataleg.bnc.cat> did not locate the document, nor does it appear in the *Publicacions i Edicions* catalogue of the University of Barcelona (<http://www.publicacions.ub.edu/release/catalPub_esp.pdf>), the Biblioteca Nacional de España, Madrid, or various provincial public libraries.

In 1997, with regard to Articles 8.a.2 and 8.a.3, whereas the availability of the thesis (1997; *edició microfotogràfica* of the *Edicions Microfotogràfiques de la Universitat Autònoma de Barcelona*) in 15 libraries in Spain and two in Germany may have met the requirement of the work having been issued in an edition of multiple copies, Article 8.d.iii required a statement by the author, and Article 9.3 precluded microfilms from being considered, which is still true under Article 9.6 of the current *Code*. Close examination of the nature of library holdings we uncovered revealed that all but three were the *edició microfotogràfica* of the *Edicions Microfotogràfiques de la Universitat Autònoma de Barcelona*, which the *Code* explicitly excluded then and still excludes as published work for nomenclatural purposes. The three non-microfilm copies (dated 1996; a spiral-bound paper copy identified by barcode as 1500588386 [Fig. 2c, lower left] from the Servei de Biblioteques, Universitat Autònoma de Barcelona; another copy at the same university [T UAB/03692]; and a third copy at Magatzem cooperatiu GEPA Lleida, 0001F11041) are all presumed to have been prepared for the use of the Ph.D. examining committee rather than having been issued "[...] *publicly for the purpose of providing a permanent scientific record* [...]"; the copy we examined bears the original (not a copied) signature of Jesús Matallanas García, advisor for Arribas' thesis work (see Fig. 2d, lower left). We therefore conclude that neither Arribas (1996b) nor Arribas (1997) were *Code*-compliant, then or now, for establishing *Darevskia* or *Iberolacerta* as available names for purposes of zoological nomenclature.

Mayer & Arribas (2003), Arnold *et al*. (2007) and Speybroeck *et al*. (2010; in a tentative list of European species) cited Arribas (1997), whereas Almeida *et al*. (2002) and Crochet *et al*. (2004) cited Arribas (1999) as authority for *Iberolacerta*. Eighty-nine citations for *Iberolacerta*, and 95 citations for *Darevskia* recorded in *The Zoological Record* (accessed 22 November 2015) demonstrate a relatively frequent use of these names, and render resolution of the dating issue important to a significant segment of the systematic herpetology community. As this confusion affects both professionals and laypersons involved with herpetology, we also

accessed (8 October 2015) a popular online reference. Comments in the *Reptile Database* (a listing of extant reptiles with a major focus on taxonomy; Uetz & Hošek 2015) in reference to the eight species listed within *Iberolacerta* included:

> "L. cyreni *species status could not be verified.* […] Lacerta (Iberolacerta) horvathi *is isolated from the other members of the (sub-) genus* Iberolacerta"

and

> "Iberolacerta aranica *and* Iberolacerta bonnali*, names proposed by Arribas 1997 have not been adopted yet because they have been published in a thesis*."

The status of *Iberolacerta* remains uncertain in one of the most up-to-date and frequently visited sites where interested parties go to find taxonomic information about reptiles.

Governmental and other organizations charged with preserving the natural environment rely upon the systematics community to provide them with defensible listings of the Earth's taxa. These listings, source documents for the *Convention on International Trade in Endangered Species (CITES)* and other species management initiatives, provide a scientific basis, and documented support, for legislation directed at protecting threatened, rare or endangered species. One such respected source, *The IUCN Red List of Threatened Species*, published by the International Union for the Conservation of Nature, includes all species of *Iberolacerta*. There is no mention of Arribas (1997) in the Taxonomic Notes section for any of the species. Arribas (1999), however, is cited extensively (Arribas 2009; Pérez-Mellado *et al*. 2009*a–e*, 2015; Vogrin *et al*. 2009).

We suspect that the misunderstanding with regard to the valid publication of the name *Iberolacerta* may be related to the fact that the thesis was filed with the Servei de *Publicacions* in the Department of *Publicacions* de la Universitat Autònoma de Barcelona (emphasis added), suggesting a *Code*-compliant publication function. Whereas this filing takes the thesis from the realm of the private and places it into the 'public' arena, Arribas (1997), an *Edició microfotogràfica* of the 1996 thesis that includes eight printed pages, remains a thesis, not readily available as required by the *Code,* to even the professional user, and therefore, in our opinion, meets neither publication (Article 10.a) nor availability requirements of the *Code. Iberolacerta* and *Darevskia* therefore cannot be considered established names in zoological nomenclature until their *Code*-compliant publication in the *RJH* in 1999.

We conclude our investigation with the opinion that the proper authority for the genera *Iberolacerta, Darevskia* and *Pyrenesaura*, according to both the 1985 and the current *Code*, must be Arribas (1999). The date of publication (1997 *versus* 1999) has no nomenclatural implications for either *Pyrenesaura* (unambiguously dated to 1999) or *Iberolacerta* (no putative synonyms established between 1997 and 1999). However, in the case of *Darevskia*, another name was proposed in the intervening period and its status must be clarified.

Caucasilacerta Harris, Arnold & Thomas, 1998

Harris *et al.* (1998: 1947) proposed *Caucasilacerta* (type species by original designation *Lacerta saxicola* Eversmann, 1834) as a subgenus for the *Lacerta saxicola* group. *Caucasilacerta* was employed (as a subgenus of *Archaeolacerta* Mertens, 1921) by Sindaco *et al.* (2000: 456–460), who expressly stated that this name had priority over '*Darevskia* Arribas, 1999', and this appears to be its only subsequent use in the literature. In contrast, Sindaco & Jeremčenko (2008: 245) implied that *Darevskia* had priority over *Caucasilacerta*, their consideration apparently based on the assumption that *Darevskia* had been validly described in 1997.

Arnold *et al.* (2007: 40) incorrectly stated that the name *Caucasilacerta* was a *nomen nudum.* Harris *et al.* (1998: 1945) did indeed provide the following diagnostic elements for the '*Lacerta saxicola* group', for which they proposed the name *Caucasilacerta*: "*Rock-dwelling lacertids in the Caucasus and surrounding regions, together with more disparate forms such as* L. praticola*,* L. derjugini *and* L. chlorogaster*, share some morphological features that are not common in other archaeolacertas. These include a single postnasal scale and a relatively high number of presacral vertebrae*." Even though these characters are of only limited use from a diagnostic point of view and constitute a rather poor effort in terms of contemporary taxonomy, they are sufficient to validly establish the name *Caucasilacerta*. Rules of nomenclature imply no judgment on the quality of taxonomic works, they merely provide instructions. In this case, for better or worse, the minimal description in Harris *et al.* (1998) serves to satisfy these instructions to render the name *Caucasilacerta* available. The name *Caucasilacerta* therefore cannot be rejected under Article 23.9, as it was used as valid at least once after its original description, namely in the paper by Sindaco *et al.* (2000). We conclude that under the Principle of Priority outlined in the *Code*, *Caucasilacerta* Harris, Arnold & Thomas, 1998 must replace *Darevskia* Arribas, 1999 as the valid genus name for rock-dwelling lacertids of the Caucasus and neighbouring regions.

While our research into dates of publication for Arribas' taxon names serves to clarify nomenclature regarding these lacertid lizards, we find the necessary replacement of *Darevskia* by *Caucasilacerta* to be a regrettable example of how the *Code* sometimes fails to promote nomenclatural stability. Non-*Code* compliant allocation of *Darevskia* to an earlier date was not readily apparent prior to in-depth evaluation of evidence provided through investigation of an entirely different taxon and, adding to the confusion, one of the authors of the name *Caucasilacerta* later declared (Arnold *et al.* 2007) *Caucasilacerta* to be a *nomen nudum*. We find ourselves in an uncomfortable position in that by correctly applying the *Code* we are forced to substitute the genus name *Caucasilacerta*, seemingly all but forgotten, for *Darevskia*, a name that has been used dozens of times in the literature and become an established name. It is certainly unusual, and quite unfortunate, that in this modern, Internet-assisted era of taxonomy a name was somehow lost so quickly, even though it had been published in a widely accessible journal. This series of events demonstrates that prospective authors of taxon names, especially of generic names, need to be exceptionally cautious and vigilant with regard to uncovering potential synonyms for groups they wish to name.

Note added in proof

We were recently made aware that our discussion regarding the status of microforms (9.2 and 9.4 of the Third Edition of the *Code*; Anonymous 1985) necessitated some additional comment to prevent confusion. By accepting 'microfiche' (Article 9.2) while eliminating 'microfilm' (Article 9.4) as potentially valid sources for availability of nomina after 1985, the *Code* failed to address the relatively minor differences between these types of microform. We assume that a sheet-like, rather than a rolled, microform may have conformed more closely to how the creators of the 1985 *Code* visualized a publication to be presented, and understand how our not specifying these differences might lead to confusion. We do not, however, see the *Code*'s inclusion of microfiche as a potentially permissible vehicle for making taxon names available as a fatal flaw in our argument. As implied in the introduction, and further supported throughout the balance of our argument Article 8.d (Anonymous 1985) applied in 1997, and Article 8.4 of the *Code* in force in 2016 (Anonymous 2012) now applies; the 1997 documents could not then and cannot now be considered acceptable for making nomina proposed therein available for the purposes of nomenclature.

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