Two new genera of Lacertid lizards (Reptilia: Squamata: Lacertidae) from the Middle-east.

RAYMOND T. HOSER

488 Park Road, Park Orchards, Victoria, 3134, Australia. Phone: +61 3 9812 3322 Fax: 9812 3355 E-mail: snakeman (at) snakeman.com.au

Received 1 August 2015, Accepted 8 Aug 2015, Published 10 November 2015.

ABSTRACT

In spite of the excellent reclassification of the Lacertidae by Arnold et al. (2007), now widely accepted by most herpetologists, two genera as widely recognized consist of taxa sufficiently divergent to warrant being placed in their own genera.

Molecular studies indicate that the most divergent species within the genera Phoenicolacerta Arnold et al. 2007 and Timon Tschudi, 1836 as recognized to date, diverged from other species within their genus about 10 Million years ago.

Coupled with significant morphological differences, this makes a compelling case for the divergent taxa to be placed in new genera.

As there are no available names, the relevant taxa are herein placed within genera newly named according to the rules of the International Code of Zoological Nomenclature (Third edition) (Ride et al. 1999).

The species Atlantolacerta andreanskyi (Werner, 1929) is also sufficiently divergent from others within the tribe Eremiadiini to warrant being placed within its own monotypic tribe, which is where Arnold et al. (2007) had placed the taxon. It is therefore placed in a new tribe, namely Atlantolacertiini tribe nov.

Keywords: Taxonomy; snakes; nomenclature; lizards; Lacertidae; Atlantolacerta; Phoenicolacerta; Timon; andreanskyi; genus; genera; new genera; Duboislacerta; Greerlacerta; new tribe; Atlantolacertiini.

INTRODUCTION

As part of an ongoing audit of the world’s reptiles, including snakes and lizards, a review of the generic level placement of species within the Lacertidae as of 2015 found that the excellent reclassification of the Lacertidae by Arnold et al. (2007), largely resolved the issue of species assigned to wrong genera (prior to that publication).

Their paper reassigned species to various genera and when none were available, several were erected.

In spite of the excellent reclassification of the Lacertidae by Arnold et al. (2007), now widely accepted by most herpetologists, two genera as widely recognized, consist of taxa sufficiently divergent to warrant being placed in their own genera.

Molecular studies (e.g. Pyron et al. 2013, Tamar et al. 2015) indicated that the most divergent species within the genera Phoenicolacerta Arnold et al., 2007 and Timon Tschudi, 1836 as recognized to date, diverged from other species within their genus about 10 Million years ago.

Coupled with significant morphological differences that have been known for a long time, this makes a compelling case for the divergent taxa to be placed in new genera.

As there are no available names, the relevant taxa are herein placed within genera newly named according to the rules of the International Code of Zoological Nomenclature (Third edition) (Ride et al. 1999).

The species Atlantolacerta andreanskyi (Werner, 1929) is also sufficiently divergent from others within the tribe Eremiadiini to warrant being placed within its own monotypic tribe, which is where Arnold et al. (2007) had placed the taxon. It is therefore placed in a new tribe, namely Atlantolacertiini tribe nov.

The relevant materials and methodology used as a basis for the taxonomic decisions herein include inspection of specimens when in Europe in 1980 as well as a review of all the relevant and available literature available to me in Australia as of mid 2015 and earlier.

Unfortunately records, including photos, notes, computers, disks and the like (all we held at the time) was seized during an illegal armed raid on 17 August 2011 and most of the material relevant to this paper was not returned to me (Court of Appeal, 2014, Magistrates Court of Victoria 2014, VCAT 2015).

I should note that the Court of Appeal, 2014 made a costs order in my favour and in contempt of the court the rogue government department officials have yet to pay me a cent in costs, damages, restitution or compensation.

Rather than delay publication indefinitely in the hope this
material is eventually returned, something that in 2015 I think is unlikely, or that I find time to go on a collecting or research trip to Europe and the currently politically unstable Middle-East or North Africa, the following descriptions are published herein to enable other taxonomists to properly assign the relevant taxa and for conservation agencies to better plan management of the relevant taxa, noting the greater degree of uniqueness of the relevant species.

The literature relevant to the taxonomy of the three genera subject to taxonomic actions in this paper, namely *Phoenicolacerta* Arnold et al. 2007, *Timon* Tschudi, 1836 and *Atlantolacerta* Arnold et al. 2007 is extensive. Publications directly relevant to the taxonomic decisions herein include the following:


In terms of the descriptions that follow, the spellings of the names should not be changed unless mandatory under the relevant rules of the *International Code of Zoological Nomenclature*.

**GENUS DUBOISIALACERTA GEN. NOV.**

*Type species*: *Lacerta princeps* Blanford, 1874.

*Currently widely known as Timon princeps* (Blanford, 1874).

*Diagnosis*: The genus *Duboisialacerta* gen. nov. and *Timon* Tschudi, 1836 differ from all other Lacertidae by the following suite of characters: larger adult body sizes (100-210 mm or more from snout to vent); maxillary-jugal suture not stepped, medial loop of clavicle more often interrupted posteriorly, occipital scale more frequently very broad, dorsal body scales not always keeled; no narrow light stripes in an dorsal pattern, often well defined blue ocelli on flanks, hemipenial microornamentation of hook-shaped spines, 32 single-armed and 2 double-armed macrochromosomes and two microchromosomes.

The genus *Duboisialacerta* gen. nov. is separated from *Timon* by having long recurved spines occurring on the hemipenal lobe flanks, a state not seen in *Timon*. In *Duboisialacerta* gen. nov. the nasal process of premaxilla is slender, versus broad in the genus *Timon*.

*Arnold* et al. (2007) wrote: “*Timon* consists of two distinct units: the *Timon lepidus* group of the western Mediterranean region (*T. lepidus*, *T. pater*, *T. tangitanus*) and *T. princeps* of southwest Asia. It is this second identified group that consists *Duboisialacerta gen. nov.*.”

**Distribution**: Iran, Iraq, Turkey, Syria.

**Etymology**: Excluding the obvious reference in the name to the genus being within the Lacertidae, the genus is named in honour of Dr Alain Dubois, who in 2014 was working at Muséum National d'Histoire Naturelle, Department of Systematics and Evolution, in Paris, France.

This is in recognition for his defence of the zoological code (Ride et al. 1999) and previous versions of the same document from taxonomic vandalism by others who set to operate outside of the code and use their own coined names in favour of properly proposed scientific names.

Dubois publicly supported the works of Wells and Wellington (1983 and 1985) in the face of unwarranted attacks from others who sought to steal the work of these authors and put their own coined names on the taxa first scientifically described by Wells and Wellington (*Duboisia* et al. 1988). More recently, he defended the code from similar actions by others and highlighted improper actions within the ICZN secretariat by people who had apparently hijacked the organisation to further their own unscientific, code violating activities (*Dubois* 2005).

In 2014, Dubois came in support of myself against the reckless and unwarranted attacks by the Wüster gang, as stated via the documents Kaiser (2012a, 2012b, 2013, 2014a, 2014b) and Kaiser et al. (2013). (*Dubois* 2014).

I have no hesitation in having etymologies for species in honour of people who have made significant and lasting contributions to science and in this case the actions of Alain Dubois are clearly worthy of such recognition.

I also make no apologies for naming more than one species or genus in honour of such a person and in recognition of the work of such worthy people.

**Content**: *Duboisialacerta princeps* (Blanford, 1874) (type species); *D. kurdistanica* (Suchow, 1936).

**GENUS GREERLACERTA GEN. NOV.**

*Type species*: *Lacerta kuizeri* Müller and Wettstein, 1932.

*Diagnosis*: Treated here as a monotypic genus, there are quite likely three full species within the *Greerlacerta kuizeri* complex based on the findings of Tamar et al. 2015.

*Greerlacerta gen. nov.* and *Phoenicolacerta* Arnold et al., 2007 are separated from all other Lacertidae by the following suite of characters:

Ptetrogid teeth sometimes present, sternal fontanelle occasionally weakly heart-shaped, occipital scale often broad; five upper labial scales in front of subocular, apical sections of hemipenial lobes longer than basal ones, their sulcal lips large. Other more widely distributed features include: head and body not or moderately depressed, seven to eleven premaxillary teeth in adults, usual number of presacral vertebrae 26 in males, inscriptive ribs frequently absent, tail not brightly coloured in hatchlings; hemipenial microornamentation of crownsnapped tubercles. They are small to medium-sized Lacertini up to about 90 mm from snout to vent; adult males larger than females. Head and body not or moderately depressed and head very large in some male *Phoenicolacerta laevis*.

There are seven to eleven premaxillary teeth; pterygoid teeth sometimes present; nasal process of premaxilla slender;
postfrontal and postorbital bones separate and postorbital often relatively short; maxillary-jugal suture not stepped. Supraocular osteoderms often complete in adults, occasionally fenestrated. The post-cranial skeleton is characterised as follows: Usual number of presacral vertebrae 26 in males and 27 in females (ranges 25-26 and 26-28 respectively); usually six posterior presacral vertebrae with short ribs; medial loop of clavicle often continuous but sometimes interrupted posteriorly; lateral arms of interclavicle more or less perpendicular to sagittal axis; sternal fontanelle oval or sometimes weakly heart-shaped; inscriptional ribs frequently absent; pattern of caudal vertebrae A- or B-type. Scaling is as follows: Rostral separated from frontal nasal scale; row of supraciliary granules often complete but not always so; outer edge of parietal scale reaching lateral border of parietal table posteriorly, and sometimes also anteriorly in Greerlacerta gen. nov.; two postnasal scales; no contact between supranasal and anterior loreal above nostril; five upper labial scales in front of subocular; first upper temporal scale large; masseteric scale often but not always present (absent in some Greerlacerta gen. nov.). Dorsal body scales small but clearly keeled, especially in males. Collar more or less smooth, six or eight longitudinal rows of ventral scales; preanal scale relatively large, bordered by one semicircle of smaller subequal scales; scales under toes smooth or tubercular; whorls of scales on tail often more or less subequal.

In colour the flanks are often dark, sometimes with pale spots, and the back plain or dark-speckled with these markings sometimes confined to a broad ventral band. Dorsal ground colour often brown. No blue occelli in the shoulder region. Underside white, green, greenish-blue or red; throat colour sometimes differentiated; dark spotted ventrally; blue spots often present on outer row of ventral scales; tail not brightly coloured in hatchlings. Distinctive internal features are the insertion of retractor lateralis anterior muscle in front of vent lateral, away from mid-line.

Hemipenis is characterised as follows: Lobes with plicate, apical section of each longer than basal one (less so than in Podarcis Wagler, 1830), their sulcal lips large; no armature or folding of lobes in retracted hemipenis; microornamentation consisting of crown-shaped tubercles. There is a diploid number (2n) of chromosomes = 38; 36 single-armed macrochromosomes and 2 microchromosomes; sex chromosomes ZW-type; nucleolar organizer in a medium-small macrochromosome (MS-type). When mating the males have been observed to bite the flank of females during copulation; clutches consisting of about 2-6 eggs. These lizards are often climbing on rocks, walls, and sometimes trees, including human habitation and ruins when available and including montane areas. Greerlacerta gen. nov. is separated from Phoenicolacerta Arnold et al., 2007 by the following characters: females are larger than the males (reversed in Phoenicolacerta; Arnold et al., 2007). The mean values of the masseteric / parietal index is small in Greerlacerta gen. nov. being 15-27, versus 31-40 in Phoenicolacerta. Young specimens of Greerlacerta gen. nov. display bluish or greenish (turquoise) tails, never present in Phoenicolacerta. Adult Phoenicolacerta always display blue points on the outer ventrals. Throat and belly are mostly blue, green, yellow or red, especially in adult males (less pronounced in females, missing in juveniles), invariably in all in that genus. However in Greerlacerta gen. nov. none of these colours occur at these areas.

Distribution: Higher regions of the Lebanon Mountains including the Antilbanon, at Mount Hermon, at Djabal Druz in Syria, and near Petra in Jordan, and areas occupied by Israel.

Ethymology: Named in honour of Dr. Allen E. Greer in recognition of his work on Lizards from various parts of the world and also more significantly for his spirited defence of the International Code of Zoological Nomenclature in the 1980’s when he caught the wrath of a group now known as the Wüster gang after making a submission published in the Bulletin of Zoological Nomenclature (Greer 1988) against the illegal attempt by Richard Shine and others to suppress the works of Wells and Wellington (1984, 1985). The ICZN in 1991 and again in 2001, accepted the submission of Greer and others and ruled in favour of the works of Wells and Wellington (1984, 1985) in two separate judgements in order to defend the rules of zoology from unscientific attacks. In the 30 years since 1985, most times other herpetologists have revisited the taxa classified by Wells and Wellington they have upheld the validity of the taxonomic judgements the men made at the time and the nomenclature has followed from this, with these two men properly being cited as the “name authority” for the relevant taxa.

Content: Greerlacerta kulzeri Müller and Wettstein, 1932 (treated herein as monotypic, but most likely consisting at least three full species).

TRIBE ATLANTOLACERTINI TRIBE NOV. (Terminal taxon: Lacerta andreanskyi Werner, 1929)

Diagnosis: The tribe is monotypic for the genus Atlantolacerta Arnold et al. and therefore the current diagnosis for the tribe is as for the genus. Atlantolacerta tribe nov. species are separated from all other Lacertinae by the following suite of characters: lacks a derived condition of the ulnar nerve, an armature and folded lobes in the hemipenis and from all genus groups except Omanosaura Lutz, Bischoff and Mayer, 1986 in possessing a clavicle loop that is sometimes interrupted behind, and A and B-type caudal vertebrae. Other features that in combination distinguish it from other genera of tribes Eremiadini and of Laceritini (the only others in the Lacertinae) include the following: small body size, often high numbers of presacral vertebrae (26-28 in males, 29 in females), sternal fontanelle sometimes weakly heart-shaped, edge of parietal scale reaching lateral border of parietal table both posteriorly and anteriorly, one postnasal scale, supranasal scale contacting anterior loreal above nostril; narrow light supraciliary stripes often present; no blue spots on outer ventral scales; outer sulcal lips on lobes of hemipenis large. Other more widely distributed features found in all of Atlantolacertini tribe nov., Eremiadini and Laceritini include: head and body not strongly depressed and supraocular osteoderms complete in adults, seven premaxillary teeth in adults, inscriptive ribs often present, tail brightly coloured in hatchlings, hemipenial microornamentation of hooked shaped spines. Atlantolacertini tribe nov. are smallish lizards being up to about 55 mm from snout to vent; adult females often larger than males; head and body not strongly depressed. The skull of Atlantolacertini tribe nov. is described as follows: Seven premaxillary teeth in adults; pterygoid teeth absent; nasal process of premaxilla slender; postfrontal and postorbital bones separate, subequal in length; maxillary-jugal suture not stepped. Supraocular lamellae complete in adults. The postcranial skeleton of Atlantolacertini tribe nov. is described as follows: Number of presacral vertebrae 26, 27 or 28 in males and 29 in females; six or seven posterior presacral vertebrae with short ribs; medial loop of the clavicle continuous or interrupted posteriorly; lateral arms of interclavicle more or less perpendicular to the sagittal axis; sternal fontanelle oval or weakly heart-shaped; inscriptive ribs often present; pattern of tail vertebrae A- and B-type. The scaling of Atlantolacertini tribe nov. is described as follows:


Kaiser, H. 2012a. SPAM email sent out to numerous recipients on 5 June 2012.

Kaiser, H. 2012b. Point of view. Hate article sent as attachment with SPAM email sent out on 5 June 2012.


CONFLICT OF INTEREST

The author has no known conflicts of interest in terms of this paper and conclusions within.