

African viper taxonomy revisited. The classification of Hoser (2013) stands the tests of new technology and time; with a new subgenus and a new species from Southern Africa formally named (Serpentes: Viperidae).

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ABSTRACT

In 2013, I (Raymond Hoser) published a major revision of the African viperidae, which divided Puff Adders *Bitis arietans* (Merrem, 1820) and Berg Adders *Bitis atropos* (Linnaeus, 1758) into multiple species, as well as dividing Horned Adders *Bitis caudalis* (Smith, 1839) into three subspecies.

Two new subgenera were also erected for relatively divergent taxa.

A number of studies have been published since 2013 that have in effect completely validated and confirmed the taxonomic and nomenclatural position of Hoser (2013), e.g. Wittenberg *et al.* (2014) and Barlow *et al.* (2019), especially with respect of the species level divisions.

A recent study, that being of Ceriaco *et al.* (2020), again effectively confirming the Hoser species divisions, also provided molecular evidence that showed that the species *Bitis heraldica* (Bocage, 1889), placed by Hoser (2013) and other (cited) earlier authors in the subgenus *Calechidna* Tschudi, 1845 is sufficiently divergent from others in that subgenus and the other subgenera of *Bitis* Gray, 1842 to warrant being placed in its own subgenus.

Ceriaco *et al.* (2020) also provided a molecular basis to explain the well-known morphological divergence between the two main populations of putative *Bitis rubida* Branch, 1997.

With the preceding as a starting point, this paper formally erects a new monotypic subgenus to accommodate *B. heraldica* as well as formally dividing *B. rubida* into two and naming the new species *Bitis (Calechidna) benjaminswilei sp. nov.*

Keywords: Taxonomy; nomenclature; Africa; Viper; viperidae; snake; South Africa; *Bitis*; *Calechidna*; *Macrocerastes*; *Keniabitis*; *Klosevipera*; *Kuekus*; *somalica*; *arietans*; *atropos*; *tomcottoni*; *oflahertyae*; *brianwallacei*; *lourenceklosei*; *pintaudii*; *matteoae*; *swileae*; *kajerikbulliardi*; new subgenus; *Angolavipera*; new species; *benjaminswilei*.

INTRODUCTION

Following from extensive fieldwork in Southern Africa in 2009, I (Raymond Hoser) published a series of papers revising the taxonomy and nomenclature of African Vipers, including Hoser (2013a-c).

Hoser (2013a) specifically dealt with the genus *Bitis* Gray, 1842, excluding putative *Bitis (Macrocerastes) gabonica* (Duméril, Bibron and Duméril, 1854) and *Bitis (Macrocerastes) nasicornis* (Shaw, 1802) which were divided two and five ways in Hoser (2013b).

Via a discredited rambling document known as Kaiser *et al.* (2013) or “the anti-ICZN rant”, a group known as the Wolfgang Wüster gang of thieves, synonymised all the relevant taxa formally named by Hoser (2013a-c).

There was not a shred of evidence to support this highly unscientific act, but what the Wolfgang Wüster gang lacked in science, they more than made up for with their aggressive harassment of anyone who dared to use the relevant “Hoser-names” for these or any other taxa.

The Kaiser *et al.* (2013) manifesto, morphed many times to become a wholesale attack on numerous scientists and their

works.

This included for example any scientist or herpetologist of Russian origin (Uetz 2022).

More than 1,000 papers in one go, were in effect erased from the (his) published scientific record (his search engine optimised reptile database, claiming to be a “complete” archive of scientific names in herpetology), and ultimately came to be used by the Wolfgang Wüster gang of thieves as a veto in which they could do the following:

1/ Make a false and defamatory claim about a scientist and their work and then,

2/ Illegally and in breach of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999), they would simply lift the original author’s evidence from their paper, rebadge it as their own work and then rename the same taxon, followed by,

3/ Hijacking online databases and the like and using next level “black hat” “search engine optimisation” (AKA “SEO”) techniques online to make sure as many people as possible used the Wolfgang Wüster gang of thieves names instead of the correct ICZN ones, which they made sure were hidden when searched for via “Google” and other search engines, even when searched for by exact name.

4/ Critically important to the dishonest actions of the Wolfgang Wüster gang of thieves was control of Peter Uetz and his search engine optimised “The Reptile Database”, which was anything but, in that over 1,000 scientific papers, works and names were deliberately omitted from this database in order to corruptly peddle the Wolfgang Wüster gang of thieves names as the only and correct ones.

Significant is that almost without exception, the Wolfgang Wüster gang of thieves names on the Uetz site were illegally coined junior synonyms of correct ICZN names that Uetz and the Wolfgang Wüster gang of thieves had made sure did not appear either on their database or other sites they could hijack and control like the hate site “Wikipedia” and several others.

Eventually the Kaiser *et al.* (2013) war cry morphed into another anti ICZN document called Rhodin *et al.* (2015) which ironically was a formal application to the ICZN to have the works of myself, Raymond Hoser, erased from the scientific record, to allow the Wolfgang Wüster gang of thieves the right to rename all the same taxa and claim “name authority” and kudos for the work of others.

Rhodin *et al.* (2015) was always doomed to fail as it was in effect an application to the ICZN to destroy the *International Code of Zoological Nomenclature* and worse still for the couple of dozen scientists on the ICZN to surrender their authority to Wolfgang Wüster and his gang of thieves, which simply was never going to happen.

The ICZN formally squashed the Wolfgang Wüster gang of thieves plan in a near unanimous vote in 2020, the result of which was published by ICZN in April 2021.

Meanwhile in tandem with the unscientific attacks by the Wolfgang Wüster gang of thieves, various studies were continued on the relevant viper species. Other herpetologists revisited the Hoser papers and their results agreed with the findings of Hoser (2013a and 2013b) including for example Wittenberg *et al.* (2014) and Barlow *et al.* (2019),

In July 2020, Ceriaco *et al.* (2020) published their own findings on the genus, with specific reference to the little known Angolan Viper *Bitis heraldica* (Bocage, 1889).

That snake being morphologically similar to smaller southern African viper species, had previously been placed in the subgenus *Calechidna* Tschudi, 1845 including by myself in

Hoser (2013).

However Ceriaco *et al.* (2020) found that the species appeared to be more closely related to the large bodied species within *Macrocerastes* Reuss, 1939 and in their paper, effectively placed it within that subgenus.

Ceriaco *et al.* (2020) estimated a 11-15 MYA divergence of *Bitis heraldica* from others within their *Macrocerastes* group, in which they also placed *Bitis parviocula* Böhme, 1977, as the most divergent other member in that group.

Hoser (2013), placed *B. parviocula* in a newly erected subgenus *Kuekus* Hoser, 2013 based on obvious divergence from the other members of *Macrocerastes*.

The Wolfgang Wüster gang lampooned Hoser (2013) for erecting a monotypic genus for the putative species, but as foreshadowed by myself, a second species within the same subgenus was formally named *Bitis harensa* by Gower *et al.* (scooping myself) in the PRINO (peer reviewed in name only) online “journal” *Zootaxa* in 2016.

In its own right, 11-15 MYA divergence in snakes is usually sufficient grounds for subgenus-level recognition. Combined with the significant morphological divergence between *B. heraldica* and all other members of the subgenera *Macrocerastes* and *Kuekus* all of which are significantly larger and more heavily built snakes, the case for erecting a new subgenus for *B. heraldica* is compelling.

Therefore the subgenus *Angolavipera subgen. nov.* is formally erected to cover this taxon, which also happens to be endemic to Angola.

Ceriaco *et al.* (2020) also provided a phylogeny that showed in their words:

“*B. (Calechidna) rubida* is made paraphyletic by *B. (Calechidna) albanica*”.

They did not take this proposition further in their paper and no one else has done so since.

Ceriaco *et al.* (2020) was published before the ICZN formally squashed Kaiser *et al.* (2013), and Rhodin *et al.* in 2021 (ICZN 2021).

The significance here was that Ceriaco *et al.* (2020) was published in the *African Journal of Herpetology*, itself hijacked by the Wolfgang Wüster gang of thieves and therefore they were forced to pretend that the paper of Hoser (2013a) did not exist.

Notable in the context of the above comments about *B. rubida* was their other comment:

“*B. (Calechidna) caudalis* is rendered paraphyletic by *B. (Calechidna) schneideri* and *B. (Calechidna) peringueyi*, suggesting the presence of cryptic species within the arenicolous dwarf adders”.

That statement was wholly dishonest in that at all materially relevant times, the authors were wholly aware of the Hoser (2013) paper that had formally named their so-called “cryptic species” that in hindsight happened to be in exact synchronisation with their later published, newly published molecular results in their ‘Fig 3’.

One of the co-authors, Aaron Bauer, a morbidly obese dishonest man, given to regularly stealing works or concepts of others to rush into print and scoop others to name new species of reptiles, had even co-authored a formal petition to the ICZN, separate to Rhodin *et al.* (2015) or the predecessors to that being Kaiser (2012a, 2012b, 2013) and Kaiser *et al.* (2013) asking the ICZN to formally suppress all the works of myself (Hoser), identified by name and including Hoser (2013a-c), so as to allow him and his cohort the right to rename them and claim “name authority”.

That was:

“Case 3824: A special proposal to suppress certain names under the plenary powers of the Commission. Kevin R. Thiele, Paul M. Oliver, Aaron M. Bauer, Paul Doughty, Fred Kraus, Michael G. Rix and Hinrich Kaiser.”

published in volume 77: 2, of *Bulletin of Zoological Nomenclature* published on 30 April 2020,

(online at: <https://bioone.org/journals/the-bulletin-of-zoological-nomenclature/volume-77/issue-1/bzn.v77.a025/Notice-of-New-Applications-to-the-Commission-Case-38213826/10.21805/bzn.v77.a025.full>)

well predating the paper of Ceriaco *et al.* (2020) that was published on 8 July 2020.

Most of those co-authors had already stolen works of myself (Hoser) and renamed taxa in acts of egregious taxonomic vandalism, including for example Paul Oliver and Fred Kraus, while Paul Doughty and Hinrich Kaiser had also been busy stealing works of others and renaming the taxa they had already discovered and named (as per the war cries of Kaiser (2012a, 2012b, 2013), Kaiser *et al.* (2013) and Rhodin *et al.* (2015)), while Hinrich Kaiser and his sparring partner Larry Lee Grismer seemed also to have a bit of argy-bargy going on as they both engaged in taxonomic vandalism on an industrial scale, including against one another.

So in summary, Ceriaco *et al.* (2020) did a great job of publishing a molecular phylogeny, that in effect validated the taxonomy of Hoser (2013a and 2013b), with Hoser (2013c) not being applicable.

That is of course other than for the differences already raised herein, being:

1/ That *B. heraldica* should be in a different subgenus (flagged also by Wittenberg *et al.* (2014)) and,

2/ That putative *B. rubida* does in fact comprise two species.

I should also mention that in the case of putative *B. caudalis* (Smith 1839) split by Hoser (2013) into three subspecies, the molecular evidence of Ceriaco *et al.* (2020) showed that the two forms named by Hoser (2013), should in fact be treated as full species and that the treatment of Hoser (2013) had been far too conservative.

Agreeing with this more recent evidence from two sets of authors, being Wittenberg *et al.* (2014) and Ceriaco *et al.* (2020), I recommend the three taxa (all within the subgenus *Klosevipera* Hoser, 2013) should now be known as:

1/ *Bitis caudalis* (Smith, 1839)

2/ *Bitis swileae* (Hoser, 2013)

3/ *Bitis kajerikbulliardi* (Hoser, 2013)

Under the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999 as amended online since) whether the three taxa are treated as species of subspecies, the binomial or trinomial remains the same. However if they are elevated from subspecies to species as done here, the name “*caudalis*” is dropped and the author name and year are put in brackets to indicate a change of status since original publication.

In case it has been overlooked, in 2021, the ICZN in ICZN (2021) formally rejected all the various applications by the Wolfgang Wüster gang of thieves as previously cited to have the publications of myself (Raymond Hoser) or any other scientist erased from the scientific record to enable any of Hinrich Kaiser, Aaron Bauer, or gang leader Wolfgang Wu”ster to have the right to steal name authority with the stamp of approval by the ICZN.

In defiance of scientists worldwide, Wuster has since

published in multiple places an intent to attack and destroy both the *International Code of Zoological Nomenclature* and to set himself and his anti-science gang up as an alternative arbiter of scientific names and who gets to chose them.

Their stated plan is to depose the rulings of the ICZN and the over 200 years old set of rules governing scientists world-wide, known as the Linnaean Code.

MATERIALS AND METHODS

The flagging of an unnamed subgenus and an unnamed species of southern African vipers is already indicated in the abstract and preamble.

The differences between the forms in question is obvious and well-known and so there was little “new” investigation required, other than a routine check of literature for potential synonyms (of which none were found) and re-inspection of relevant specimens, including a search for potential intermediates, to confirm and identify known differences in a way that complies with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999 as amended online since).

All the relevant putative taxa are well-known to me from studies spanning decades, including in the wild in the relevant areas in 2009.

Of course the recommendations of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999 as amended online since) at Appendix A, part 2, states:

“A zoologist should not publish a new name if he or she has reason to believe that another person has already recognized the same taxon and intends to establish a name for it (or that the taxon is to be named in a posthumous work). A zoologist in such a position should communicate with the other person (or their representatives) and only feel free to establish a new name if that person has failed to do so in a reasonable period (not less than a year).”

With no explicit statement by anyone anywhere expressing an intent to name either of the relevant unnamed taxa identified herein, or for that matter any statement of intent, actual or implied by Ceriaco *et al.* (2020), even though their paper does by implication identify both (as well as other taxa previously named that are effectively ignored as well), and that paper having been published more than 18 months ago, I have no hesitation in formally naming the two taxa identified herein, being one subgenus and one species.

Specimens of the relevant taxa were inspected either live, dead, or via images sent to me from others in possession of them. Included were photos with good locality data of the said taxa.

Relevant descriptive literature was checked to confirm key characters of the relevant and comparable species.

This included Branch (1997, 1999), Branch and Bauer (1995), Barlow *et al.* (2019), Bocage (1889), Burger (1993), Ceriaco *et al.* (2020), Chippaux and Jackson (2019), Dobiey and Vogel (2007), FitzSimons (1946), Gonçalves *et al.* (2019), Haacke (1975), Hoser (2013a, 2013b, 2013c), Klose (2013), Kucharzewski (2011), Lenk *et al.* (1999), Marques *et al.* (2018), Martínez del Mármol (2020), McDiarmid *et al.* (1999), Mertens (1958), Phelps (2010), Ride *et al.* (1999), Spawls and Branch (1995), Visser (1979), Wallach *et al.* (2014), Wittenberg *et al.* (2014) and sources cited therein.

RESULTS

Following this above described process, as in confirming the differences between the putative forms and matching it with the molecular evidence of Ceriaco *et al.* (2020) the decision to formally name the relevant taxa was confirmed.

INFORMATION RELEVANT TO THE FORMAL DESCRIPTIONS THAT FOLLOW

There is no conflict of interest in terms of this paper or the conclusions arrived at herein.

Several people including anonymous peer reviewers who revised the manuscript prior to publication are also thanked as are relevant staff at museums who made specimens and records available in line with international obligations.

Wild specimens inspected in 2009 were done so with the express written permission of relevant government officials in South Africa.

In terms of the following formal descriptions, spellings should not be altered in any way for any purpose unless expressly and exclusively called for by the rules governing Zoological Nomenclature as administered by the International Commission of Zoological Nomenclature (ICZN).

This includes if gender assignment, suffixes or Latinisation seems incorrect, apparent spelling mistakes and so on.

Material downloaded from the internet and cited anywhere in this paper was downloaded and checked most recently as of 6 May 2022 (including if also viewed prior), unless otherwise stated and was accurate in terms of the content cited herein as of that date.

(Note for example that Peter Uetz, has made numerous edits to his website at:

<http://www.reptile-database.org/db-info/news.html>

since his 10 March 2022 publication, including a major re-write on 20 March 2022, which reflects the ephemeral nature of a lot of what is online).

Any online citations within this paper, including copied emails and the like, are not as a rule cited in the references part of this paper and have the same most recent viewing date as just given.

Unless otherwise stated explicitly, colour and other descriptions apply to living adult specimens of generally good health, as seen by day, and not under any form of stress by means such as excessive cool, heat, dehydration, excessive ageing, abnormal skin or reaction to chemical or other input.

While numerous texts and references were consulted prior to publication of this paper, the criteria used to separate the relevant genera, subgenera, species or subspecies has already been spelt out and/or is done so within each formal description and does not rely on material within publications not explicitly cited herein.

ANGOLAVIPERA SUBGEN. NOV.

LSIDurn:lsid:zoobank.org:act:9E8254E9-7544-4E5D-9E48-BE0F28E2F39A

Type species: *Vipera heraldica* Bocage, 1889.

Diagnosis: This subgenus (*Angolavipera subgen. nov.*) can be easily distinguished from other small species within the genus *Bitis* due to its heavily speckled venter, the presence of a "trident" on its forehead and absence of supraocular ornamentation (Mertens 1958).

This subgenus (*Angolavipera subgen. nov.*) is separated from all the larger species within the genus *Bitis* (including all *Macrocerastes*) by the presence of 25-27 mid-body rows, versus 29-41 in all other species.

Distribution: The known distribution of *Angolavipera subgen. nov.* is limited to the rocky slopes at high elevation in western regions of the Angolan central plateau, namely in the provinces of Kwanza Sul, Huambo, Bié, and northern Huíla, being known from no more than eight different localities (Marques et al. 2018).

Content: *Bitis (Angolavipera) heraldica* (Bocage, 1889). (Monotypic).

BITIS (CALECHIDNA) BENJAMINSWILEI SP. NOV.

LSIDurn:lsid:zoobank.org:act:5680B5F6-B694-4574-B8D3-0621EF34A3DA

Holotype: A preserved specimen at the Port Elizabeth Museum, Port Elizabeth, South Africa, specimen number: PEM R4347, collected on 22 September 1976 at Swartberg State Forest, Paardevelei, Western Cape Province, South Africa, Latitude 33.2059 S., Longitude 22.0°00 E. at an altitude of 1300 metres. This facility allows access to its holdings.

Paratypes: Two preserved specimens at the Ditsong National Museum of Natural History, formerly the Transvaal Museum, Pretoria, South Africa, specimen numbers TM 56634 and TM 56635 collected in August 1977 from Waterkloof, Swartberg Mountains, Western Cape Province, South Africa, Latitude 33.27 S., Longitude 21.17 E., at an altitude of 1006 metres.

Diagnosis: *Bitis (Calechidna) benjaminswilei sp. nov.* is readily separated from *Bitis (Calechidna) rubida* Branch, 1997, by having a bold pattern on the dorsum with two or three bold white or whitish stripes radiating from the eye (or just anterior to it for one stripe) to the lip, these widening slightly towards the labials and not necessarily being straight. In *B. rubida*, the pattern on the dorsum is subdued and not bold, while the white stripes radiating from the eye to the lip (if present) are heavily infused with red, orange or grey, making them relatively indistinct.

Contrasting markings on the head of *B. benjaminswilei sp. nov.* are bold and strongly contrasting, versus indistinct or semidistinct in *B. rubida*. In *B. benjaminswilei sp. nov.* dark blotches on the dorsum are bordered laterally with obvious light grey patches, versus either not so, or indistinctly so in *B. rubida*.

B. rubida and *B. benjaminswilei sp. nov.* both endemic to South Africa are separated from similar South African vipers as follows:

They are characterized by lacking, or having greatly reduced, elongate scales ('horns') in the supraorbital region, and by having a drab, usually reddish, dorsal colouration in *B. rubida* or a well-marked dorsal colouration in *B. benjaminswilei sp. nov.*

The two species can be readily separated from other small *Bitis* vipers by various scutellation features. They differs from *B. xeropaga* Haacke, 1975 in having fewer ASR (anterior scale rows, measured one head length behind the neck) than MSR (being mid-body scale rows) (ASR equal to or greater in number than MSR in *B. xeropaga*; Haacke 1975), and lower ventral scale counts in both sexes (*B. xeropaga*- males 147-154, mean 151.5; females 151-155, mean 152.4; Haacke 1975).

They differ from *B. atropos* Linnaeus, 1758 (and associated taxa as identified in Hoser 2013a) in having a raised supraorbital ridge. They differ from sympatric and southern populations of *Bitis cornuta* (Daudin, 1803) in having lower ventral scale counts in both sexes, fewer circumorbitals, and usually 29 mid-body scale rows. *Bitis cornuta* usually has 27 mid-body scale rows and a slightly higher number of dorsal blotches.

It also differs from *B. rubida* and *B. benjaminswilei sp. nov.* in always having prominent supraorbital 'horns' and usually a contrasting colour pattern of grey, white and black (reddish in a population near Lang Hoogte, 35 km east Kleinsee). *Bitis rubida* and *B. benjaminswilei sp. nov.* do not occur in sympatry with *B. armata* (Smith, 1826), which is restricted to coastal regions of the south-western Cape. The latter has

much lower ventral scale counts (115-128), slightly lower subcaudal counts and rictals, usually 27 mid-body scale rows, and a higher number of circumorbitals. *B. armata* also usually has obvious supraorbital 'horns' (although these are less well developed than in *B. cornuta*), as well as a grey-black-white colouration (that is less well defined than that of *B. cornuta*). *Bitis inornata* (Smith, 1838) and *B. albanica* (Hewitt, 1937) are restricted to the Eastern Cape Province and are well isolated from the western taxa, including *B. rubida* and *B. benjaminswilei* sp. nov.. The two eastern species are distinguished by having short tails in males, in which the hemipenes reach only the 6-7th subcaudal (9-10th subcaudal in the other taxa). Supraocular 'horns' are greatly reduced or absent in *B. albanica*, which also has a bold, contrasting, grey-black-white colour pattern, with fewer dorsal blotches than in the western taxa. *Bitis inornata* completely lacks supraorbital 'horns', and has a very drab yellowish-brown colouration, in which the dorsal blotches are greatly reduced or absent. The eastern taxa are allopatric and separated from one another by about 150 km (modified from Branch 1997).

Photos of the type form of *B. rubida* in life can be seen in Branch (1997) on page 38 (top), Marias 1994, pages 76 and 77 and online at:

<https://www.inaturalist.org/observations/91568853>

and

<https://www.inaturalist.org/observations/11163939>

Photos of *B. benjaminswilei* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/102106716>

and

<https://www.flickr.com/photos/cowyeow/6143433859/>

Distribution: *B. benjaminswilei* sp. nov. occurs in the Swartberg Mountains of South Africa. Morphologically similar specimens from Oudtshoorn are also assigned to this taxon.

B. rubida occurs from the type locality in the Cedarberg which is in the north-western extremity of the range. From there it extends south along the Piketberg and Skurweberg to the vicinity of Ceres. It is also found at lower altitudes to the vicinity of Anysberg.

Specimens found inland on the Roggeveldberg and Komsberg of the inland escarpment, reaching near Middelpas are not assigned to either species.

Specimens from Laingsburgh appear to be most similar morphologically to *B. benjaminswilei* sp. nov..

Conservation: The newly named species *B. benjaminswilei* sp. nov. does not appear to be threatened any more than all other reptiles are in South Africa due to the human population explosion in that country, but the comments regarding extinctions of newly identified or named reptile species in Hoser (2019a, 2019b) certainly apply in the case of this taxon.

Branch (1997) wrote when describing *B. rubida*:

"It is evident that some dwarf adders (e.g. the Namaqua dwarf adder, *B. schneideri*) are already threatened, in part, by illegal collecting for this trade (Branch 1988b). South Africa is a signator of the Rio Convention on Biodiversity, and also of the Convention on the International Trade in Endangered Species of Wild Fauna and Flora. It is important that new, localized and endemic species be described timeously to allow for their consideration and possible inclusion in conservation legislation and action."

This is one reason why I am not hesitating in formally describing and naming *B. benjaminswilei* sp. nov..

Etymology: The new species *Bitis (Calechidna) benjaminswilei* sp. nov. is named in honour of Benjamin Swile of Athlone, (Cape Town), Western Cape in South Africa in recognition of his services to herpetology in South Africa including assisting with my own field work in the region.

REFERENCES CITED

- Böhme, W. 1977. Eine neue Art der Gattung *Bitis* (Serpentes, viperidae) aus Äthiopien. *Monitore zool. ital.* (N.S.) Suppl. 9(3):59-68.
- Branch, W. R. 1997. A new adder (*Bitis*; Viperidae) from the Western Cape Province, South Africa. *South African Journal of Zoology* 32(2):37-42.
- Branch, W. R. 1999. Dwarf adders of the *Bitis cornuta-inornata* complex (Serpentes: Viperidae) in Southern Africa. *Kaupia* (Darmstadt) (8):39-63.
- Branch, W. R. and Bauer, A. M. 1995. The Herpetofauna of the Little Karoo, Western Cape, South Africa, with notes on life history and taxonomy. *Herpetological Natural History* 3(1):47-89.
- Barlow, A., Wuster, W., Kelly, C. M. R., Branch, W. R., Phelps, T. and Tolley, K. A. 2019. Ancient habitat shifts and organismal diversification are decoupled in the African viper genus *Bitis* (Serpentes: Viperidae). *J. Biogeogr.* 46:1234-1248.
- Bocage, J. V. B. de 1889. Mélanges erpétologiques. II. Sur une vipère apparemment nouvelle d'Angola. *Journ. Sci., Lisboa* (2):127-128.
- Burger, M. 1993. The herpetofauna of Anysberg Nature Reserve, Cape Province, South Africa. *J. Herp. Assoc. Africa* 42:1-12.
- Ceríaco, L. M. P., Tolley, K. A., Marques, M. P., Heinicke, M. P. and Bauer, A. M. 2020. A dwarf among giants: phylogenetic position of the elusive Angolan Adder (*Bitis heraldica*) and biogeographic affinities of Angolan Afromontane regions. *African Journal of Herpetology*, (8 July):1-11.
- Chippaux, J. and Jackson, K. 2019. *Snakes of Central and Western Africa*. Johns Hopkins University Press:448 pp.
- Daudin, F. M. 1803. *Histoire Naturelle Generale et Particuliere des Reptiles*. Vol. 6. F. Dufart, Paris, France:447 pp.
- Dobey, M. and Vogel, G. 2007. *Venomous Snakes of Africa - Giftschlangen Afrikas*. Edition Chimaira, Terralog 15:150 pp.
- Duméril, A. M. C., Bibron, G. and Duméril, A. H. A., 1854. *Erpétologie générale ou histoire naturelle complète des reptiles. Tome septième. Deuxième partie, comprenant l'histoire des serpents venimeux*. Paris, Librairie Encyclopédique de Roret: ixii+781-1536.
- FitzSimons, V. 1946. An account of the reptiles and amphibians collected on an expedition to the Cape Province, October to December, 1940. *Annals Transvaal Mus.* 20:351-377.
- FitzSimons, V. 1962. *Snakes of Southern Africa*. Purnell (Cape town and Johannesburg):423 pp.
- Gonçalves, F. M. P., Braine, D., Bauer, A. M., Valério, H. M., Marques, M. P. and Ceríaco, L. M. P. 2019. Rediscovery of the poorly known Angola Adder, *Bitis heraldica* (Bocage, 1889) (Serpentes: Viperidae): new records, live photographs and first case history of envenomation. *Herpetological Review* 50(2):241-246.
- Gower, D. J., Wade, E. O. Z., Spawls, S., Bohme, W., Buechley, E. R., Sykes, D. and Colston, T. J. 2016. A new large species of *Bitis* Gray, 1842 (Serpentes: Viperidae) from the Bale Mountains of Ethiopia. *Zootaxa* (PRINO) (Online)

- 4093(1):41-63.
- Gray, J. E. 1842. Monographic Synopsis of the Vipers or the family Viperidae. *Zoological Miscellany* 2:68-71.
- Haacke, W. D. 1975. Description of a new adder (Viperidae, Reptilia) from Southern Africa, with a discussion of related forms. *Cimbebasia* (A)4:115-128.
- Hewitt, J. 1937. *A guide to the vertebrate fauna of the Eastern Cape Province, South Africa, Part II: reptile, amphibians, and freshwater fishes*. Grahamstown:vii+141 pp.
- International Commission on Zoological Nomenclature (ICZN) 2021. Opinion 2468 (Case 3601) - *Spracklandus*
- Hoser, 2009 (Reptilia, Serpentes, Elapidae) and *Australasian Journal of Herpetology* issues 1-24: confirmation of availability declined; Appendix A (Code of Ethics): not adopted as a formal criterion for ruling on Cases. *Bulletin of Zoological Nomenclature* 78 (30 April 2021):42-45.
- Hoser, R. T. 2013a. African Adders (*Bitis* Gray, 1842), reviewed, including, two new subgenera, five new species of Puff Adder, all formerly *Bitis arietans* (Merrem, 1820) subspecific division of *Bitis caudalis* (Smith, 1839) and division of the Berg Adders *Bitis atropos* (Linnaeus, 1758) (Serpentes: Viperidae: Bitisini). *Australasian Journal of Herpetology* 16:3-24.
- Hoser, R. T. 2013b. A formal five-way division of the Gaboon Viper Species Complex: *Bitis* (*Macrocerastes*) *gabonica* (Duméril, Bibron and Duméril, 1854) and a two-way division of the Nose-horned Viper species complex *Bitis* (*Macrocerastes*) *nasicornis* (Shaw, 1802) (Serpentes:Viperidae:Bitisini). *Australasian Journal of Herpetology* 19:25-31.
- Hoser, R. T. 2013c. A new species of Night Adder (Serpentes: Viperidae) from central Africa. *Australasian Journal of Herpetology* 19:32-35.
- Hoser, R. T. 2019a. 11 new species, 4 new subspecies and a subgenus of Australian Dragon Lizard in the genus *Tympnocryptis* Peters, 1863, with a warning on the conservation status and long-term survival prospects of some newly named taxa. *Australasian Journal of Herpetology* 39:23-52.
- Hoser, R. T. 2019b. Richard Shine *et al.* (1987), Hinrich Kaiser *et al.* (2013), Jane Melville *et al.* (2018 and 2019): Australian Agamids and how rule breakers, liars, thieves, taxonomic vandals and law breaking copyright infringers are causing reptile species to become extinct. *Australasian Journal of Herpetology* 39:53-63.
- 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.
- Kaiser, H. 2013. The Taxon Filter, a novel mechanism designed to facilitate the relationship between taxonomy and nomenclature, vis-à-vis the utility of the Code's Article 81 (the Commission's plenary power). *Bulletin of Zoological Nomenclature* 70(4) December 2013:293-302.
- Kaiser, H., Crother, B. L., Kelly, C. M. R., Luiselli, L., O'Shea, M., Ota, H., Passos, P., Schleip, W. D. and Wüster, W. 2013. Best practices: In the 21st Century, Taxonomic Decisions in Herpetology are Acceptable Only When supported by a body of Evidence and Published via Peer-Review. *Herpetological Review* (Not peer Reviewed) 44(1):8-23.
- Klose, L. 2013. *Bitis rubida* (Branch, 1997) Reproduction. *African Herp News* (59):29-32.
- Kucharzewski, C. 2011. Old World Vipers. A natural history of the Azemiopinae and Viperinae von Tony Phelps – Anmerkungen, Ergänzungen, Korrekturen. *Sauria* 33(3):19-42.
- Lenk, P., Herrmann, H. W., Joger, U. and Wink, M. 1999. Phylogeny and taxonomic subdivision of *Bitis* (Reptilia: Viperidae) based on molecular evidence. *Kaupia* (Darmstadt) (8):31-38.
- Linnaeus, C. 1758. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Tomus I. Editio decima, reformata. Laurentii Salvii, Holmiae. 10th Edition:824 pp.
- Marias, J. 2004. *A complete guide to the snakes of southern Africa*. Struik New Holland, Cape Town, South Africa:312 pp.
- Marques, M. P., Ceriñaco, L. M. P., Blackburn, D. C. and Bauer, A. M. 2018. Diversity and Distribution of the Amphibians and Terrestrial Reptiles of Angola - Atlas of Historical and Bibliographic Records (1840–2017). *Proc. Cal. Acad. Sci.* (Ser. 4) 65:1-501 (Supplement II).
- Martínez del Mármol, G. 2020. The phenotypic variability of the Genus *Bitis* Gray 1842, with remarks in its resemblance to other vipers. in: Martínez del Mármol, G., León, R., Jiménez-Robles, O., González De la Vega, J. P., Gabari, V., Rebollo, B., Sánchez-Tójar, A., Fernández-Cardenete, J. R. and Gállego, J. (Eds.). *Amphibians and Reptiles of Morocco and Western Sahara*.
- McDiarmid, R. W., Campbell, J. A. and Touré, T. A. 1999. *Snake species of the world. Vol. 1. Herpetologists' League*:511 pp.
- Merrem, B. 1820. *Versuch eines Systems der Amphibien I (Tentamen Systematis Amphibiorum)*. J. C. Kriegeri, Marburg:191 pp.
- Mertens, R. 1958. *Bitis heraldica*, eine oft verkannte Otter aus Angola. *Senckenbergiana Biologica* 39(3/4):145-148.
- Phelps, T. 2010. *Old World Vipers*. Edition Chimaira, Frankfurt,Germany: 558 pp.
- Reuss, T. 1939. Berichtungen und Ergänzungen zu meinen Arbeiten über Toxicophilidier, 1938. *Zeitschrift für Aquarien- und Terrarien-Vereine*, Berlin (1)13-14 [14].
- Ride, W. D. L. (ed.) *et al.* (on behalf of the International Commission on Zoological Nomenclature) 1999. *International code of Zoological Nomenclature*. The Natural History Museum - Cromwell Road, London SW7 5BD, UK (also commonly cited as "The Rules", "Zoological Rules", "The Code" or "ICZN 1999").
- Rhodin, A. *et al.* (70 listed authors, with some later publishing that they had never read the document they allegedly co-authored) 2015. Comment on *Spracklandus* Hoser, 2009 (Reptilia, Serpentes, ELAPIDAE): request for confirmation of the availability of the generic name and for the nomenclatural validation of the journal in which it was published (Case 3601; see *BZN* 70: 234-237; 71: 30-38, 133-135, 181-182, 252-253). *Bulletin of Zoological Nomenclature* 72(1)65-78.
- Shaw, G. 1802. *Gen. Zool.* 3(2):313-615 [397, pl. 104].
- Smith, A. 1826. On the snakes of Southern Africa. *Edinburgh New Philos. J.* 1:248-254.
- Smith, A. 1838. *Illustrations of the Zoology of South Africa, consisting chiefly of Figures and Descriptions of the Objects of Natural History collected during an Expedition into the Interior of South Africa, in the years 1834, 1835, and 1836 . . . Vol. 3, Reptilia*. Smith, Elder and Co., London, UK.
- Smith, A. 1839. *Illustrations of the zoology of South Africa, Reptilia*. Smith, Elder, and Co., London, UK.
- Spawls, S. and Branch, B. 1995. *The Dangerous Snakes of*

Africa. Blandford, London, UK:192 pp.
 Underwood, G. 1968. On the status of some South African vipers. *Ann. Cape Prov. Mus.* 6(9):81-85.
 Thiele, K., Oliver, P. H., Bauer, A. M., Doughty, P., Kraus, F., Rix, M. G. and Kaiser, H. 2020. Case 3824: A special proposal to suppress certain names under the plenary powers of the Commission. *Bulletin of Zoological Nomenclature* 77(1):78.
 Tschudi, J. J. v. 1845. *Untersuchungen u"ber die Fauna Peruana*. Herpetologie, St. Gallen:80 pp.
 Uetz, P. 2022. What's new? (March 2022): 10 March 2022 — New Release! (See version from Google Cache dated 14 March 2022 at 10.48:03 GMT), posted at: <http://www.reptile-database.org/db-info/news.html>

Visser. J. 1979. New and reconfirmed records for the Cape Province with notes on some "rare" species (Sauria, Serpentes, and Anura). *J. Herp. Assoc. Africa* 21:40-50.
 Wallach, V., Williams, K. L. and Boundy, J. 2014. *Snakes of the World: A Catalogue of Living and Extinct Species*. Taylor and Francis, CRC Press:1237 pp.
 Wittenberg, R. D., Jadin, R. C., Fenwick, A. M. and Gutberlet Jr., R. L. 2014. Recovering the evolutionary history of Africa's most diverse viper genus: morphological and molecular phylogeny of *Bitis* (Reptilia: Squamata: Viperidae). *Organisms Diversity and Evolution* 15(1):115-125.
CONFLICTS OF INTEREST
 None.

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