

REVIEW

Confronting taxonomic vandalism in biology: conscientious community self-organization can preserve nomenclatural stability

WOLFGANG WÜSTER^{1,*}, SCOTT A. THOMSON², MARK O'SHEA³ and HINRICH KAISER⁴

¹*Molecular Ecology and Fisheries Genetics Laboratory, School of Natural Sciences, Bangor University, Bangor LL57 2UW, UK*

²*Museu de Zoologia da Universidade de São Paulo, Divisão de Vertebrados (Herpetologia), Avenida Nazaré, 481, Ipiranga, 04263-000, São Paulo, SP, Brazil; and Chelonian Research Institute, 401 South Central Avenue, Oviedo, FL 32765, USA*

³*Faculty of Science and Engineering, University of Wolverhampton, Wulfruna Street, Wolverhampton WV1 1LY, UK*

⁴*Department of Vertebrate Zoology, Zoologisches Forschungsmuseum Alexander Koenig, Adenauerallee 160, 53113 Bonn, Germany; and Department of Biology, Victor Valley College, 18422 Bear Valley Road, Victorville, CA 92395, USA*

Received 28 October 2020; revised 17 January 2021; accepted for publication 19 January 2021

Self-published taxon descriptions, bereft of a basis of evidence, are a long-standing problem in taxonomy. The problem derives in part from the Principle of Priority in the *International Code of Zoological Nomenclature*, which forces the use of the oldest available nomen irrespective of scientific merit. This provides a route to 'immortality' for unscrupulous individuals through the mass-naming of taxa without scientific basis, a phenomenon referred to as taxonomic vandalism. Following a flood of unscientific taxon namings, in 2013 a group of concerned herpetologists organized a widely supported, community-based campaign to treat these nomina as lying outside the permanent scientific record, and to ignore and overwrite them as appropriate. Here, we review the impact of these proposals over the past 8 years. We identified 59 instances of unscientific names being set aside and overwritten with science-based names (here termed aspidonyms), and 1087 uses of these aspidonyms, compared to one instance of preference for the overwritten names. This shows that when there is widespread consultation and agreement across affected research communities, setting aside certain provisions of the *Code* can constitute an effective last resort defence against taxonomic vandalism and enhance the universality and stability of the scientific nomenclature.

ADDITIONAL KEYWORDS: aspidonym – *International Code of Zoological Nomenclature* – nomenclatural stability – nomenclature – taxonomic vandalism – taxonomy – Principle of Priority.

'Erfüllen wir eine Pflicht gegen die Wissenschaft, die H. v. M[otschulsky] zur Befriedigung seiner unbegrenzten Autoreitelkeit und Mihsucht missbraucht, wenn wir gewissenhaft die wenigen Körner der M.'schen Arbeitsspreu sammeln, seine Arten und Gattungen deuten, um dafür von ihm geschmäht zu werden, oder erfüllen wir eine Pflicht gegen uns selbst, wenn wir ihn in seinen Etudes zu seinem Privatvergnügen drucken lassen, was er will und die entomologischen Zeit- und Vereinsschriften rein von seinen Arbeiten halten, weil wir ihren Werth kennen gelernt haben?'

*Corresponding author. E-mail: w.wuster@bangor.ac.uk

[Are we fulfilling a duty towards science, [a subject] that [Mr von Motschulsky] abuses for the satisfaction of his unlimited author vanity and ego addiction, if we conscientiously pick the few grains out of the chaff that is M.'s [taxonomic] work, interpret his species and genera, only to then be abused by him for doing so, or do we fulfil a duty towards ourselves by letting him print in his Etudes whatever he wants for his private pleasure, and keep the entomological society journals free of his works, because we have recognized their true value?]

Ernst Gustav Kraatz, 1862

INTRODUCTION

The highly regarded evolutionary biologist and conservationist E. O. Wilson once described the species diversity of Planet Earth as one of a handful of ‘measurements [...] crucial to our ordinary understanding of the universe’, yet also the one which we are furthest from resolving (Wilson, 1985). In the intervening decades, we have succeeded only partially in addressing this knowledge gap, a task that has become all the more pressing due to the rapid loss of biodiversity caused by humanity’s accelerating destruction of natural habitats through direct exploitation, pollution and climate change (e.g. Isbell, 2010; Dirzo *et al.*, 2014; IBPES, 2019; Powers & Jetz, 2019). The branch of biology charged with filling this gap is taxonomy, the science of biodiversity discovery, description and classification.

TAXONOMIC STABILITY AND DEVELOPING KNOWLEDGE

Understanding species diversity and distributions forms the cornerstone for the formulation and prioritization of conservation policy and resources (Li & Quan, 2017; Woinarski *et al.*, 2017). Scientific names provide a universal labelling system for biodiversity, linking biological entities with relevant data and literature (Hillis, 2007). Agreed species lists, anchored in scientific nomenclature, underlie assessments of conservation threat status (e.g. accounts in the *IUCN Red List of Threatened Species*) and regulatory instruments, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as well as national legislation, such as the Endangered Species Act in the USA (Garnett *et al.*, 2020). Species lists produced by applying scientific methods are thus an evidence-based labelling system that facilitates information retrieval.

Any labelling system functions best when both the labels and the entities they designate are constant rather than changing. Alas, stable, agreed taxonomic lists have remained an elusive goal in most taxonomic disciplines (Garnett *et al.*, 2020). The lack of standardized taxonomic practice has been singled out as a hindrance to conservation (Garnett & Christidis, 2017), with a call for control of taxonomic judgement and practice from outside the immediate

discipline. While this proposal has met stiff resistance (e.g. Jackson *et al.*, 2017; Lambertz, 2017; Thomson *et al.*, 2018), it illustrates the desire for taxonomic and nomenclatural stability among user communities.

This desire for stability remains unfulfilled for several reasons, both scientific and procedural. The notion of unchanging definitions of units of biodiversity clashes with the scientific method that treats taxa as hypotheses to be tested and challenged with further evidence, revised and redefined as the science dictates (Camargo & Sites, 2013; Pante *et al.*, 2015). New methods or approaches may reveal cryptic diversity within previously widely recognized species, or cause us to redefine the contents of higher level taxa (Isaac *et al.*, 2004; Mace 2004). However, while this ongoing work of biodiversity discovery and description challenges the development of agreed, definitive species lists, and is not always immediately appreciated by conservation practitioners (e.g. Garnett & Christidis, 2017), it is essential for efforts to catalogue and conserve the diversity of life. Reconciling advances in knowledge with the requirement for stability in taxonomy and nomenclature has been a long-standing topic of discussion in taxonomy (Hillis & Wilcox, 2005; Hillis, 2007, 2019, 2020; Pauly *et al.*, 2009; Wallach *et al.*, 2009; Vences *et al.*, 2013; Carrasco *et al.*, 2016; Pinna *et al.* 2018; de Queiroz, 2020), with stability being one of several competing philosophical and practical priorities in the taxonomic community.

TAXONOMIC STABILITY, NOMENCLATURAL STABILITY, THE INTERNATIONAL CODE OF ZOOLOGICAL NOMENCLATURE, AND THE PROBLEM OF ‘TAXONOMIC VANDALISM’

Beyond the science-based changes in taxon names caused by our evolving knowledge of biodiversity, additional instability stems from the artefact of the administrative book-keeping process of zoological nomenclature (as distinct from the scientific discipline of taxonomy). The formal naming process of natural organisms is governed by three internationally agreed codes, the *International Code of Nomenclature for Algae, Fungi, and Plants* (Turland *et al.*, 2018), the *International Code of Nomenclature of Prokaryotes* (Parker *et al.*, 2019) and, in zoology, the *International*

Code of Zoological Nomenclature (hereafter ‘the Code’). The *Code*, currently in its 4th edition (ICZN, 1999), is administered by the International Commission on Zoological Nomenclature (ICZN; hereafter ‘the Commission’). The aims of the *Code*, as stated in its Preamble, ‘are to promote stability and universality in the scientific names of animals and to ensure that the name of each taxon is unique and distinct.’ The central importance of this aim is emphasized by the following sentence in the Preamble, which states that ‘All [of the *Code*’s] provisions and recommendations are subservient to those ends [...]’.

One of the foremost means of promoting stability is the Principle of Priority, whereby the oldest name for a taxon published in a manner consistent with the *Code* (i.e. the oldest ‘available’ name) must be used by subsequent authors, for example in species lists. Simultaneously, the Preamble of the *Code* emphasizes the separation between the science of taxonomy and the purely administrative nature of nomenclature: ‘none [of the *Code*’s provisions] restricts the freedom of taxonomic thought or actions’. This means that the requirements for publication and availability of scientific names laid out in the *Code* are purely procedural, and not related to the quality of the supporting scientific evidence: the science and ethics underlying the establishment of a new taxon name do not affect whether it is available or not – only adherence to the *Code*-mandated procedures counts. Nevertheless, the scientific work of subsequent authors becomes restricted because they are obliged to use the oldest available name by the *Code*.

The Principle of Priority, established on the assumption of good faith among taxonomists (Yanega in Jones, 2017), can thus become a loophole for unscrupulous authors who deliberately establish names by eschewing the scientific process while remaining consistent with the *Code*’s formal book-keeping requirements, usually in unreviewed and often self-published outlets. The Principle of Priority then forces later users to adopt these scientifically or ethically questionable names for taxa in need of a scientific name if no older available name exists. There is no other field of science in which the community of affected scientists is obliged to accept and follow the results of work produced outside a system of external critical review, and without supporting evidence. By making their nomenclatural creations available in perpetuity, the Principle of Priority thus bestows a degree of scientific immortality on authors of unscientific work that would simply be ignored in other disciplines. In other words, unethical use of the *Code* provides a loophole through which the nomenclatural products of unscientific and often unethical work can enter the scientific mainstream and acquire an unwarranted veneer of permanent scientific credibility.

This opportunity for self-immortalization has led a small number of authors to flood the literature on some organismal groups with large numbers of scientifically unfounded and often ethically objectionable new names for a plethora of taxa, but without providing adequate – or any – scientific justification. This taxonomic shotgun approach can involve the unsupported, speculative description of taxa based on distribution gaps or superficial differences, scooping the discoveries of other authors, or ‘clade harvesting’ from published phylogenies, in most cases without the generation of new data or new analyses, or even the examination of proposed type specimens. This phenomenon has existed throughout the history of taxonomy, often with long-lasting consequences. For instance, the notorious late 19th century ‘Nouvelle École’ in malacology continues to bedevil attempts to generate species lists of European molluscs (Dance, 1970; Bouchet, 2006). The exaggerated penchant for poorly justified taxon descriptions was termed the ‘mihi itch’ by the American coleopterist George Horn in 1884 (Anonymous, 1884; see history in Evenhuis, 2008), perhaps based on German entomologist Ernst Gustav Kraatz’s (1862) earlier use of the German term *Mihisucht* (= ego addiction). Later authors termed the phenomenon ‘nominomania’ (Trewavas, 1957), ‘nomenclatural nihilism’ (Bruun, 1950; Dubois, 2008) or ‘taxonomic vandalism’ (Wells & Wellington, 1984; Jäch, 2007), the last of these having become the most widely used.

Taxonomic vandalism, or the threat thereof, constitutes a significant impediment to taxonomic research and communication across the spectrum of biodiversity (Borell, 2007; Jäch, 2007; Pillon & Chase, 2007; Oliver & Lee, 2010; Kaiser *et al.*, 2013; Páll-Gergely *et al.*, 2019). While ignoring these names until they are later validated through evidence-based science is common practice (Davis, 2004; World Spider Catalog, 2020), this becomes problematic during the elaboration of checklists (Bouchet, 2006), when the question of which questionable taxa to recognize and which to synonymize becomes a central issue: the nature of these lists forces authors to make a choice, although there is a case for stronger representation of alternative viewpoints and explanations of the underlying evidence even in checklists (Pauly *et al.*, 2009). This can result in conflicting, parallel systems of nomenclature that hinder information retrieval (e.g. Meiri & Mace, 2007; Wüster & Bérnills, 2011; Pinna *et al.*, 2018), generate uncertainty regarding the status of taxa and the appropriate name to use (e.g. Inagaki *et al.*, 2010, 2012), complicate the compilation of authoritative checklists required by policymakers and other biodiversity stakeholders (Davis, 2004; Bouchet, 2006), and, given the widespread desire for a stable, universal system of nomenclature, ultimately erode the scientific credibility of taxonomy (Kaiser, 2013).

Beyond nomenclature, unethical vandalism can also distort the scientific practice of taxonomy and the communication of new findings. Publishing papers in high-impact journals is crucial for academic career advancement, but these journals prioritize broad, conceptual work, such as phylogenies coupled with evolutionary or biogeographical analyses, over revisionary or descriptive taxonomy. However, publishing results that hint at the existence of unnamed lineages incurs the risk of losing the descriptions of these taxa to taxonomic kleptoparasitism (Oliver & Lee, 2010). Critically and individually assessing what often amounts to a flood of unscientific names, as required by the *Code* (e.g. Iverson *et al.*, 2001), or even just publishing critiques (e.g. Denzer *et al.*, 2016), wastes precious time and resources that would be better spent on scientific biodiversity research (Dubois, 2008). Moreover, this unproductive endeavour is incompatible with the present-day exigencies of academic career progression. This in turn potentially discourages desperately needed revisions of afflicted taxa, and ultimately deters researchers from a career in taxonomy, undermining efforts to describe our planet's biodiversity (Werner, 2006; Ebach *et al.*, 2011). By giving nomenclatural precedence to unjustified taxon names through its focus on purely procedural matters, the *Code* thus unwittingly enables taxonomic vandalism, begetting a toxic legacy of unscientific and unethical names that taint and undermine the practice and reputation of taxonomy as a whole. However, despite the long-standing recognition of the phenomenon and the widely acknowledged burden of the resulting 'synonymy load' (Dubois, 2008), we still lack a widely accepted mechanism for overcoming the problem presented by the large-scale establishment of nomina without a basis of evidence.

TAXONOMIC VANDALISM IN HERPETOLOGY

Among zoological disciplines, herpetology has had to bear more than its fair share (i.e. its per-taxon name share) of unscientific taxonomy, from the 19th century to the present day. Some may say it is not possible to define what a 'fair share', or an expected share of taxonomic vandalism in a zoological discipline is. However, we argue that one may gauge the impact of taxonomic vandalism by considering what proportion of taxa in the entire discipline were illicitly created. Among reptiles, this number currently is c. 11% (1500 problem names out of a total of c. 14 000 reptile names listed on the *Reptile Database*), whereas it is estimated to be near 1% (c. 3000 problem names out of a total of c. 350 000 names; Stork *et al.*, 2015) in beetles. Note that these are 'name comparisons' (taking all taxon names collectively), not 'entity comparisons' (discriminating on the basis of taxon level).

This surfeit of unscientific taxonomy applies both to palaeoherpetology (e.g. Dalton, 2008) as well as to the study of extant amphibians and non-avian reptiles, this review being focused on the latter. Thus, Boulenger (1885) described the publications of Queensland Museum curator Charles Walter De Vis as 'painful' and likely to 'do much harm'. German amateur herpetologist Albert Franz Theodor Reuss described dozens of scientifically unfounded taxa of viperid snakes in the 1920s and 1930s (Krešák, 2007). Wells & Wellington (1984, 1985a, b) introduced industrial-scale mass naming of new taxa through a self-published and self-edited journal, naming 256 new taxa, including genera, species and subspecies, of Australian and New Zealand reptiles and amphibians. This resulted in attempts to suppress the works through a proposal to the ICZN (The President, Australian Society of Herpetologists, 1987), but the Commission declined to issue an opinion on this case, as it was taxonomic rather than nomenclatural in nature (ICZN, 1991). Every name proposed by Wells and Wellington must therefore be treated as published, and its availability assessed individually (e.g. Iverson *et al.*, 2001). This has resulted in a troublesome taxonomic burden with problems that persist to this day, including continuing controversy about the availability of some names, and in some cases dual, parallel nomenclatures for the same taxa (e.g. Williams *et al.*, 2006; Cogger, 2014; Maddock *et al.*, 2015; Wellington, 2016; Kaiser *et al.*, 2020; Wüster, *in press*).

More recently and ongoing, the Australian author Raymond Hoser has taken the phenomenon to new levels, reminiscent of the aforementioned 'Nouvelle École' in malacology. As of January 2021, Mr Hoser is responsible for 1795 new nomina since the year 2000, of which 1453 are for reptiles, but also including 290 for frogs, four for spiders, two for fish and 46 for mammals, at a mean rate of 191.7 names per annum since 2012 (Table 1). All of these are single-authored, and all but 41 appeared in the self-published, self-edited and unreviewed *Australasian Journal of Herpetology* (hereafter *AJH*). As a result of these articles not following normal scientific publication practice, we do not consider Hoser's self-published works part of the scientific literature but they are available in Appendix 1 for our readers' information. Furthermore, throughout this review, Hoser taxon names are placed in quotation marks and not italicized to indicate that they are not used as valid nomina.

A number of recent names have contained attempts at toilet humour (e.g. 'Colleeneremia dunnyseat') or offensive terms (e.g. *Simoselaps* 'fukdat'), sometimes explained with disrespectful references to members of indigenous communities and their languages, in clear breach of Section 4 of the *Code's* Code of Ethics. In addition, Hoser's papers are replete with

Table 1. New taxon names proposed by Raymond Hoser between 2000 and October 2020, by rank (left) and year (right)

Taxon descriptions by rank		Taxon descriptions by year	
Rank	Number of new names	Year (s)	Number of new names
Species	582	2000–2011	70
Subspecies	228	2012	282
Genus	340	2013	255
Subgenus	333	2014	149
Tribe	173	2015	134
Subtribe	113	2016	115
Family	11	2017	94
Subfamily	13	2018	147
Superfamily	2	2019	145
		2020	404
Total	1795		1795

defamatory comments and accusations against anyone critical of his work, using intemperate and incendiary language clearly unacceptable in published scientific discourse. Moreover, [Denzer et al. \(2016\)](#) have shown that a large proportion (up to 80%) of Hoser's diagnoses and other sections of text appear to be "plagiarized" from academic sources (see also [World Spider Catalog, 2020](#)). The problems of Hoser's work have been discussed extensively ([Aplin, 1999](#); [Wüster et al., 2001](#); [Kaiser et al., 2013](#); [Kaiser, 2014](#); [Rhodin et al., 2015](#); [Denzer et al., 2016](#)), and have also attracted considerable attention outside the specialist literature ([Borell, 2007](#); [Naish, 2013](#); [Jones, 2017](#)).

HERPETOLOGY FIGHTS BACK: KAISER ET AL. (2013)

The extent and rapid expansion of taxonomic vandalism in herpetology pose a critical threat to the viability of herpetological taxonomy and the reputation of the scientific enterprise in taxonomy. Given the lack of prospects for effective action by the Commission, a group of concerned herpetologists carried out a year-long consultation of herpetological stakeholders, and garnered widespread support across the community for an unprecedented, last resort call for action to defend the discipline. The resulting peer-reviewed Point of View ([Kaiser et al., 2013](#)) was formally endorsed (by membership or executive committee votes) by 11 major international herpetological associations, including the World Congress of Herpetology, prior to publication. At its heart lay an appeal to reflect the unscientific and unethical nature of Mr Hoser's publications and names by treating them as lying outside the

permanent scientific record (it is a requirement of the *Code* that taxonomic works must be produced for the permanent scientific record), and thus unavailable for nomenclatural purposes, pending a decision by the Commission. The recommendations of [Kaiser et al. \(2013\)](#) were also adhered to by the editorial teams of a multitude of scientific journals, either as a matter of policy (e.g. [Measey, 2013](#)) or in practice.

The publication of [Kaiser et al. \(2013\)](#) and a follow-up paper ([Kaiser, 2014](#)) led to multiple subsequent evidence-based taxon descriptions that treated Hoser's names as unavailable, and overwrote them with new, scientifically and ethically acceptable names. We propose the term *aspidonym*, or shielding name (from Greek *ασπίς* = shield, in reference to their role in shielding taxonomy and nomenclature from the impact of vandalism), for these names and use the term 'overwriting' for the act of replacing unscientific names with aspidonyms.

The proposals of [Kaiser et al. \(2013\)](#) and the subsequent overwritings of unfounded nomina caused understandable concerns over the possible weakening of the universal acceptance of the *Code* and the possibility of dual systems of nomenclature for many reptile taxa. Expressions of concern or disapproval appeared in the formal scientific literature ([Cogger, 2014](#); [Dubois, 2015](#); [Cogger et al., 2017](#); [Dubois et al., 2019](#)), but especially in email discussion lists related to taxonomy and the *Code*.

ASSESSING THE IMPACT OF KAISER ET AL. (2013)

The passing of 8 years since the publication of [Kaiser et al. \(2013\)](#), as well as the coming of age of the 4th edition of the *Code*, seems an opportune time to review

the impact of these recommendations on the stability and universality of the scientific nomenclature of reptiles and amphibians. We address this through surveys of the literature based on explicit, repeatable search criteria, designed to answer the following questions: (1) To what extent, in terms of establishment of taxon names and their subsequent usage, has the herpetological community rallied behind the recommendations of [Kaiser et al. \(2013\)](#)? (2) Have the recommendations of [Kaiser et al.](#) led to potentially confusing parallel systems of nomenclature, as feared by some critics, or has it produced a stable, science-based nomenclature?

To assess the reception of [Kaiser et al. \(2013\)](#) and [Kaiser \(2014\)](#), we searched for all publications citing these papers through Google Scholar, Web of Knowledge and ResearchGate, as well as opportunistic searches of books (e.g. [Cogger, 2014](#)). The discussion of these papers was scored for their overall tone (positive, neutral, negative), and any particularly pertinent comments were noted.

To assess the impact of the Kaiser papers' exhortation to ignore certain unscientific names coined since 2000, we compiled a list of overwritten names and their aspidonyms from the literature, as well as Hoser's website [<http://www.smuggled.com/2-6-Synonyms-table-2019.pdf>] and social media posts. For each taxon, we searched Google Scholar, the taxonomic index for *Herpetological Review* ([Society for the Study of Amphibians and Reptiles, 2020](#)), and published scholarly books such as field guides, volumes of peer-reviewed contributed papers, and faunal treatises available to us, for uses of both the overwritten name and the corresponding aspidonym as valid names for the taxon. In all cases, the full text of each paper was searched to verify that the name had been used as the valid name for a taxon, not as a synonym or in a discussion of the relative merits of different names. The few publications we were unable to source in full were not included in subsequent analyses. We included all papers published in the primary scientific literature, including papers published online as accepted manuscripts, and on preprint servers such as BioRxiv, but excluded theses and dissertations available solely from institutional repositories, reports by NGOs or government agencies, and conference abstracts. We also excluded deliberations over names in the *Bulletin of Zoological Nomenclature*.

As per [Kaiser et al. \(2013\)](#), we did not consider the *AJH* as part of the scientific literature and did not include it in our compilation. We compiled, but did not include in our analyses, data on two definite or potential aspidonyms that pre-date [Kaiser et al. \(2013\)](#), namely *Afronaja* [Wallach et al., 2009](#) (aspidonym for 'Spracklandus' as used by [Hoser,](#)

[2009](#)) and *Paralaudakia* [Baig et al., 2012](#) (aspidonym for 'Adelynkimberleyea' as used by [Hoser, 2012d](#)). [Skinner et al. \(2013\)](#) overwrote *Karma* and *Magmellia* [Wells, 2009](#) with the aspidonyms *Silvascincus* and *Tumbunascincus*, respectively. As the stated revision date of 11 February 2013 of the [Skinner et al.](#) paper pre-dates the publication of [Kaiser et al. \(2013\)](#) on 18 March 2013, we treat [Skinner et al. \(2013\)](#) as pre-dating, and thus independent of, [Kaiser et al. \(2013\)](#), and exclude it from the statistics presented here.

IMPACT OF [KAISER ET AL. \(2013\)](#)

Despite the inevitably controversial nature of the [Kaiser et al.](#) proposals, the reception in the published literature was overwhelmingly favourable. Of 103 articles citing [Kaiser et al.](#) ([Supporting Information, Appendix S1](#)), only six (6%), by two groups of authors, were mostly negative in tone. Several authors voiced concerns over the possible ramifications of the proposal (e.g. [Cogger et al., 2017](#)) or criticized [Kaiser et al.](#) for seeking to constrain taxonomic action or to set aside portions of the *Code* in circumstances other than those already allowed by the *Code* ([Dubois, 2015; Dubois et al., 2019](#)). [Cogger \(2014\)](#) highlighted that any science-based aspidonyms would be junior synonyms under the *Code*. A further eight citations were neutral, whereas the remaining 89 publications (86.4%) cited the paper in a broadly positive light, in support of the establishment of aspidonyms or in discussions about taxonomic issues.

The publication of [Kaiser et al. \(2013\)](#) was rapidly followed by several high-profile overwritings of listed unscientific names with aspidonyms, including for gerrhosaurid lizards ([Bates et al., 2013](#)), the reticulated and Lesser Sunda pythons ([Reynolds et al., 2014](#)), and a highly cited revision of typhlopod snake classification ([Hedges et al., 2014](#)). We identified 59 names listed by [Kaiser et al. \(2013\)](#) or [Kaiser \(2014\)](#), or subsequently proposed in the *AJH*, that were overwritten by later authors ([Table 2](#)). These aspidonyms were coined in 38 separate papers authored by a total of 153 authors from 24 countries, published in 18 different journals. The trend in publications overwriting unscientific names with aspidonyms shows evidence of a steady increase ([Fig. 1](#)). In what may be a unique occurrence in zoological nomenclature, but symbolic of the depth of feeling in the herpetological community, two patronyms honouring a living Australian herpetologist, [Hoser's](#) (2015b) 'Melvillesaurea' and *Diporiphora* 'melvillae', were overwritten with aspidonyms by that same zoologist ([Melville et al., 2018, 2019](#))!

Of the 59 overwritten names covered here, only four (7%) were used as valid before 2013. *Leiopython* 'hoserae' (as used by [Hoser, 2000](#)) was used as valid

Table 2. List of names overwritten by aspidonyms since 2013 and subsequent use of both

Overwritten name	Aspidonym	Authors	Country of authors	Grounds for aspidonym	Uses of aspidonym	Uses of overwritten name as valid
'Funkisaurus' Hoser 2013f	<i>Broadleysaurus</i>	Bates <i>et al.</i> , 2013	South Africa ×6	Unethical, cite Kaiser <i>et al.</i>	27	None
'Swilesaurus' Hoser 2013f	<i>Matobosaurus</i>	Bates <i>et al.</i> , 2013	South Africa ×6	Unethical, cite Kaiser <i>et al.</i>	13	None
'Altmantypophlops' Hoser 2012e	<i>Amerotypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	124	None
'Dannityphlops' Hoser 2012e	<i>Cubatypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	13	None
'Katrinahosertyphlops' Hoser 2012e	<i>Malayotypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	14	None
'Lenhosertyphlops' Hoser 2012e	<i>Xerotypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	116	None
'Maxhoserus' Hoser 2012e	<i>Indotypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	300	None
'Mosestyphlops' Hoser 2012e	<i>Antillotypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	18	None
'Ronhoserus' Hoser 2012e	<i>Madatypophlops</i>	Hedges <i>et al.</i> , 2014	USA ×3, France ×2	Older synonym not acknowledged	25	None
'Candoiidae' Hoser 2013a	Candoiinae	Pyron <i>et al.</i> , 2014	USA ×3	Older synonym not acknowledged	Unascertainable due to homonymy	Unascertainable due to homonymy
'Elliotttyphlopea' Hoser 2012d	<i>Lemuriatypophlops</i>	Pyron & Wallach, 2014	USA ×2	Cited Kaiser <i>et al.</i>	3	None
'Broghammerus' Hoser 2004	<i>Malayopython</i>	Reynolds <i>et al.</i> , 2014	USA ×3	Not published under Code, cite Kaiser <i>et al.</i>	205	84 references
<i>Leiopython albertisii</i> 'bennetti' Hoser 2000	<i>Leiopython montanus</i>	Schleip, 2014	Germany	Cited Kaiser <i>et al.</i>	3	Before Kaiser <i>et al.</i> : Schleip, 2008; Schleip & O'Shea, 2010; after Kaiser <i>et al.</i> : Boundy, 2020
<i>Leiopython 'hoseri'</i> Hoser 2000	<i>Leiopython meridionalis</i>	Schleip, 2014	Germany	Cited Kaiser <i>et al.</i>	4	Before Kaiser <i>et al.</i> : Schleip, 2008; Schleip & O'Shea, 2010; Natusch & Lyons, 2011, 2012; Reynolds <i>et al.</i> , 2014; after Kaiser <i>et al.</i> : Boundy, 2020

Table 2. Continued

Overwritten name	Aspidonym	Authors	Country of authors	Grounds for aspidonym	Uses of aspidonym	Uses of overwritten name as valid
<i>Macrochelys</i> 'maxhoseri' Hoser 2013b	<i>Macrochelys suwanniensis</i>	Thomas <i>et al.</i> , 2014	USA ×10	Holotype designation considered invalid	29	None
<i>Macrochelys temminckii</i> 'muscati' Hoser 2013b	<i>Macrochelys apalachicola</i>	Thomas <i>et al.</i> , 2014	USA ×10	Holotype designation considered invalid	12	None
'Daraninagama' Hoser 2014a	<i>Malayodracon</i>	Denzer <i>et al.</i> , 2015	Germany ×3, Spain ×1	Older synonym not acknowledged	8	None
'Oxysaurus' Hoser 2013g	<i>Solomonsaurus</i>	Bucklitsch <i>et al.</i> , 2016	Germany ×3	Cite Kaiser <i>et al.</i>	3	None
'Shireenhosersaurea' Hoser 2013g	<i>Hapturosaurus</i>	Bucklitsch <i>et al.</i> , 2016	Germany ×3	Cite Kaiser <i>et al.</i>	7	None
'Charlespiersonserpeniinae' Hoser 2013c	Ahaetuliinae	Figuerola <i>et al.</i> , 2016	USA ×5	Older synonym not acknowledged	20	None
'Chrismaxwellus' Hoser 2013e	<i>Mopanveldophis</i>	Figuerola <i>et al.</i> , 2016	USA ×5	Older synonym not acknowledged	12	None
'Cummingincineae' ('Cummingincineae') 'cummingae' Hoser 2015a	<i>Madascincus miafina</i>	Miralles <i>et al.</i> , 2016	France ×1, Germany ×3	Cite Kaiser <i>et al.</i>	1	None
'Rubercaudatus' 'edwardsi' Hoser 2015a	<i>Madascincus pyurus</i>	Miralles <i>et al.</i> , 2016	France ×1, Germany ×3	Cite Kaiser <i>et al.</i>	1	None
'Clarascincus' Hoser 2015a	<i>Flexiseps</i>	Erens <i>et al.</i> , 2017	Germany ×2, Netherlands	Cite Kaiser <i>et al.</i>	8	None
'Oxyscincus' Hoser 2015a	<i>Brachyseps</i>	Erens <i>et al.</i> , 2017	Germany ×2, France ×1, Netherlands	Cite Kaiser <i>et al.</i>	4	None
'Teretribolonotus' 'greeri' Hoser 2016a	<i>Tribolonotus parkeri</i>	Rittmeyer & Austin, 2017	USA ×2	Older synonym not acknowledged	2	None
<i>Montivipera</i> 'yeomansi' 'europa' Hoser 2016b	<i>Montivipera xanthina occidentalis</i>	Cattaneo, 2017	Italy	No mention	3	None
<i>Stegonotus</i> 'adelynhoserae' Hoser 2012b	<i>Stegonotus melanolabiat</i>	Ruane <i>et al.</i> , 2018	USA ×3, Australia ×1, Indonesia ×2	No mention	5	None
<i>Dasyplectis</i> 'saeizadi' Hoser 2013h	<i>Dasyplectis arabica</i>	Bates & Broadley, 2018	South Africa ×1, Zimbabwe ×1	Cite Kaiser, give extensive background	3	Saleh & Sarhan (2016)
<i>Dactyloperus</i> 'bradmeryani' 'bulliardi' Hoser 2018b	<i>Gehyra capensis</i>	Kealley <i>et al.</i> , 2018	Australia ×6	Older synonym not acknowledged	3	None

Table 2. Continued

Overwritten name	Aspidonym	Authors	Country of authors	Grounds for aspidonym	Uses of aspidonym	Uses of overwritten name as valid
<i>Ophiomorus</i> ‘macconchiei’ Hoser 2015a	<i>Ophiomorus kardesi</i>	Kornilios <i>et al.</i> , 2018	Greece x2, Turkey x2	Older synonym not acknowledged	7	None
<i>Lophognathus</i> ‘wellingtoni’ Hoser 2015b	<i>Lophognathus horneri</i>	Melville <i>et al.</i> , 2018	Australia x3, USA x2	Older synonym not acknowledged	2	None
‘Melvillesaurea’ Hoser 2015b	<i>Tropicagama</i>	Melville <i>et al.</i> , 2018	Australia x3, USA x2	Older synonym not acknowledged	7	None
‘Skrijelus’ Hoser 2014a	<i>Monilesaurus</i>	Pal <i>et al.</i> , 2018	India x5	Older synonym not acknowledged	13	None
<i>Calotes</i> (‘Tamilnaducalotes’) Hoser 2014a	<i>Microauris</i>	Pal <i>et al.</i> , 2018	India x5	Older synonym not acknowledged	4	None
‘Oxyrhabdiumiidae’ Hoser 2013c	Cyclocorinae	Weinell & Brown, 2018	USA x2	No mention	7	None
<i>Boulengerina</i> ‘jackyhoserae’ Hoser 2013d	<i>Naja</i> (<i>Boulengerina guineensis</i>)	Wüster <i>et al.</i> , 2018	UK x4, Senegal x1, France x2, USA x3, DRC x1, Belgium x1, Germany x1, Zimbabwe x1	Cite Kaiser <i>et al.</i>	8	None
<i>Montivipera</i> ‘snakebustersorum’ Hoser 2016b	<i>Montivipera xanthina varoli</i>	Afsar <i>et al.</i> , 2019	Turkey x4	No mention	1	None
‘Adelynhoserserpenae’ Hoser 2012a	<i>Metlapilcoatlus</i>	Campbell <i>et al.</i> , 2019	USA x3	Older synonym not acknowledged	11	None
‘Cliveevattcolotes’ ‘steveeteesi’ Hoser 2018d	<i>Ptychozoon cicakterbang</i>	Grismer <i>et al.</i> , 2019	USA x8, Malaysia x1, Cambodia x1, Laos x3	Older synonym not acknowledged	4	None
‘Marlenegecko’ ‘shireenhoserae’ Hoser, 2017	<i>Oedura elegans</i>	Hoskin 2019	Australia	Cite Kaiser, ASH statement	2	None
‘Adelynhosergecko’ ‘brettbarnetti’ Hoser 2018e	<i>Lepidodactylus kwasnickae</i>	Kraus, 2019	USA	Cites Kaiser <i>et al.</i> , extensive discussion	2	None
‘Adelynhosergecko’ ‘stevebennetti’ Hoser 2018e	<i>Lepidodactylus mitchellii</i>	Kraus, 2019	USA	Cites Kaiser <i>et al.</i> , extensive discussion	2	None
‘Bobbottomcolotes’ ‘potens’ Hoser 2018e	<i>Lepidodactylus zweifeli</i>	Kraus, 2019	USA	Cites Kaiser <i>et al.</i> , extensive discussion	1	None
‘Shireenhosergecko’ ‘jarradbinghami’ Hoser 2018e	<i>Lepidodactylus aignanus</i>	Kraus, 2019	USA	Cites Kaiser <i>et al.</i> , extensive discussion	1	None

Table 2. Continued

Overwritten name	Aspidonym	Authors	Country of authors	Grounds for aspidonym	Uses of aspidonym	Uses of overwritten name as valid
<i>Diporiphora</i> 'garrodi' Hoser 2015b	<i>Diporiphora gracilis</i>	Melville <i>et al.</i> , 2019	Australia ×4	No mention	2	None
<i>Diporiphora</i> 'melvillae' Hoser 2015b	<i>Diporiphora granulifera</i>	Melville <i>et al.</i> , 2019	Australia ×4	No mention	1	None
<i>Oopholis</i> (Philas) 'adelynhoserae' Hoser 2012c	<i>Crocodylus halli</i>	Murray <i>et al.</i> , 2019	USA ×4	No mention	6	
'Alectescolotes' Hoser 2018d	<i>Rhacogecko</i>	Wood <i>et al.</i> , 2020	USA ×9, China ×1, Taiwan ×1	Cite Kaiser <i>et al.</i> , extensive discussion	3	None
'Extentusventersquamus' Hoser 2018c	<i>Archipelagecko</i>	Wood <i>et al.</i> , 2020	USA ×9, China ×1, Taiwan ×1	Cite Kaiser <i>et al.</i> , extensive discussion	2	None
'Sparsuscolotes' Hoser 2018c	<i>Japonigecko</i>	Wood <i>et al.</i> , 2020	USA ×9, China ×1, Taiwan ×1	Cite Kaiser <i>et al.</i> , extensive discussion	2	None
'Bobbottomcolotes' 'bobbottomi' Hoser 2018e	<i>Lepidodactylus sacralineatus</i>	Kraus & Oliver, 2020	USA ×1, Australia ×1	Cite Kaiser <i>et al.</i>	1	None
'Feresuta' 'hamersleyensis' Hoser, 2018a	<i>Suta gaikhorstorum</i>	Maryan <i>et al.</i> , 2020	Australia ×4	Cite Kaiser, ASH statement	1	None
<i>Emydocephalus</i> 'teesi' Hoser 2016c	<i>Emydocephalus orarius</i>	Nankivell <i>et al.</i> , 2020	Australia ×5, France ×1, Denmark ×1	Cite Kaiser <i>et al.</i>	1	None
<i>Oedura</i> 'bulliardii' Hoser 2017	<i>Oedura nesos</i>	Oliver <i>et al.</i> , 2020a	Australia ×5, USA ×1	Cite Kaiser, ASH statement	1	None
'Phryia' 'paulhorneri' Hoser 2018b	<i>Gehyra arnhemica</i>	Oliver <i>et al.</i> , 2020b	Australia ×7	Cite Kaiser, ASH statement	1	None
<i>Chelodina</i> ('Supremechelys') Hoser, 2014b	<i>Chelydera</i>	Shea <i>et al.</i> , 2020	Australia ×3	None given	1	None
'Maxhoserus' Hoser, 2012d	<i>Virgotyphlops</i>	Wallach, 2020	USA	None	2	None
'Adelynhosergecko' 'sloppi' Hoser 2018e	<i>Lepidodactylus pollostos</i>	Karkkainen <i>et al.</i> , 2020	Australia ×3, USA ×1, Indonesia ×2	Cite Kaiser <i>et al.</i>	1	None
Aspidonyms pre-dating Kaiser <i>et al.</i> (2013) – not included in analyses but provided here for information						
'Spracklandus' Hoser 2009	<i>Afronaja</i>	Wallach <i>et al.</i> , 2009	USA ×1, UK ×1, Zimbabwe ×1	<i>Spracklandus</i> unavailable; subject of Case 3601, pending.	27	None
'Adelynkimberleyea' Hoser, 2012d	<i>Paralaudakia</i>	Baig <i>et al.</i> , 2012	USA ×1, Germany ×2, Russia ×1	None given	111	None

in five publications pre-dating Kaiser *et al.* (2013), *Leiopython albertisii* 'bennetti' (as used by Hoser, 2000) was used twice, and *Dasypeltis* 'saeizadi' (as used by Hoser, 2013h) was used once (Table 2). 'Broghammerus' had been used extensively after the

validation of the genus by Rawlings *et al.* (2008). The remaining overwritten names have never been used as valid anywhere other than in the *AJH*.

At the time of writing (January 2021), all but two aspidonyms pre-dating 2019 have subsequently been

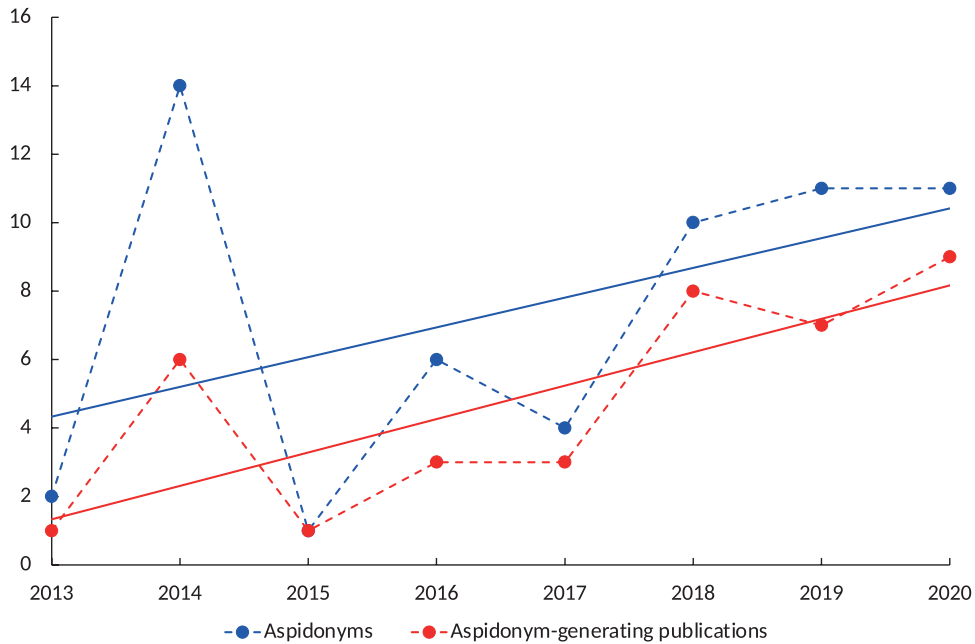


Figure 1. Time course of overwritings of unscientific herpetological names following publication of Kaiser *et al.* (2013), including both individual overwritten names and the number of publications involved, with trendlines.

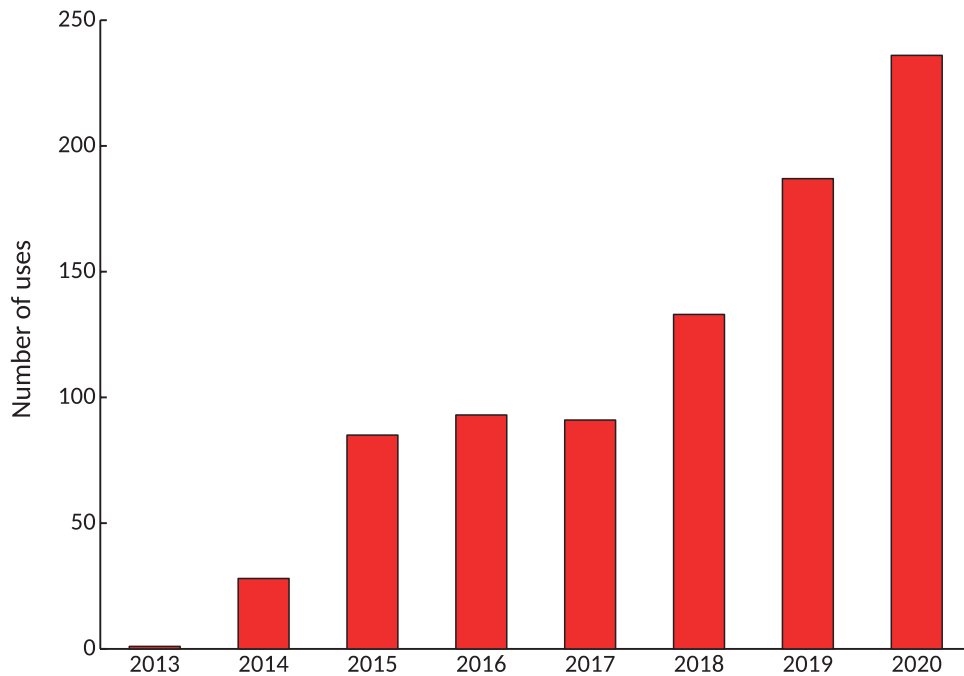


Figure 2. Number of publications using aspidonyms established since 2013.

used by other authors, as have most 2019 and 2020 names (Table 2), with a trend for increasing use (Fig. 2). Many have achieved high levels of subsequent use, with over 100 uses for *Amerotyphlops*, *Indotyphlops*, *Xerotyphlops* and *Malayopython*. In total, we recorded 1087 instances of the subsequent use of aspidonyms as the valid names for the taxon concerned, distributed across 848 separate publications authored by approximately 2600 separate individuals (Supporting Information, Appendix S2). Notably, eight aspidonyms (*Indotyphlops*, *Amerotyphlops*, *Madatyphlops*, *Xerotyphlops*, *Broadleysaurus*, *Macrochelys suwanniensis*, and the pre-Kaiser *et al.* aspidonyms *Afronaja* and *Paralaudakia*) already fulfil the numerical criteria of Article 23.9.1 (25 or more aspidonym uses, none for the overwritten name) that normally mandate the retention of prevailing usage, and several others can be expected to reach that threshold within the next few years.

In contrast, we found only a single instance of overwritten names being explicitly preferred to aspidonyms by a subsequent author: Boundy (2020) used the names *Leiopython* ‘hoserae’ and *L.*

‘bennettorum’ (as used by Hoser, 2000) in preference to *L. meridionalis* Schleip 2014 and *L. montanus* Schleip 2014, without further explanation. However, this author used aspidonyms for 17 other taxa. The only unscientific name in wider post-aspidonym use is ‘Broghammerus’: this name languished unused after its establishment in 2004, but gained some subsequent use after Rawlings *et al.* (2008) demonstrated the need for a separate genus for the reticulated and Lesser Sunda pythons (previously *Python reticulatus* and *P. timoriensis*) and adopted Hoser’s name. Nevertheless, despite the convincing phylogenetic analysis of Rawlings *et al.*, a number of subsequent authors explicitly retained these species in the genus *Python* in preference to ‘Broghammerus’ (Zug *et al.*, 2011; Pyron *et al.*, 2013; Stuebing *et al.*, 2014). After the establishment of the aspidonym *Malayopython* by Reynolds *et al.* (2014), the use of ‘Broghammerus’ declined steeply, and it was eclipsed by the rapidly increasing use of *Malayopython*, which overtook its older synonym’s citation rate within a year of publication, and its cumulative usage total within 3 years (Fig. 3). At the time of writing, *Malayopython* has accumulated over twice as many subsequent uses

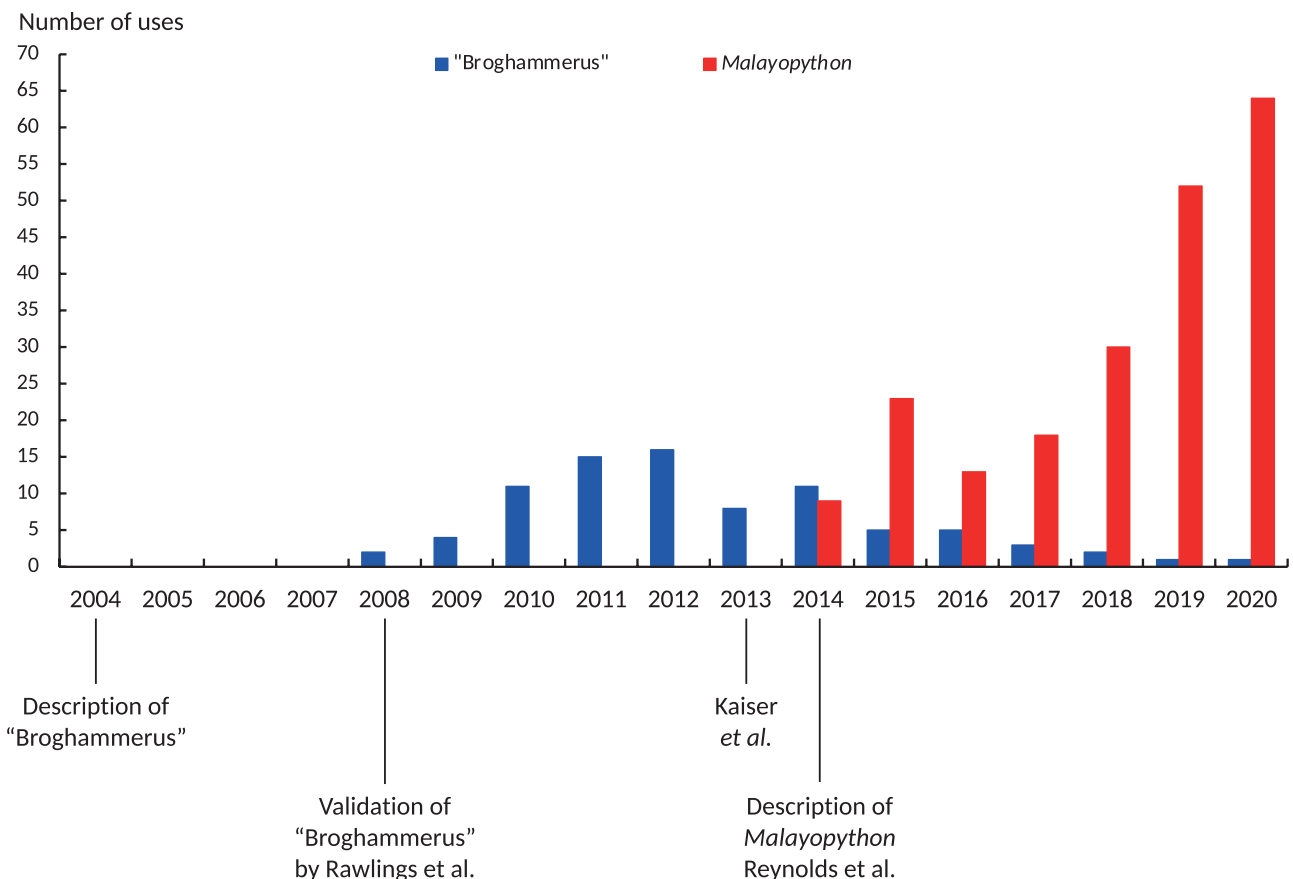


Figure 3. Usage count of the names ‘Broghammerus’ (as used by Hoser 2004) and *Malayopython* Reynolds *et al.* 2014 by year, as of 31 December 2020, in relation to key nomenclatural events.

(205) as ‘Broghammerus’ (84), indicating an imminent stabilization of the nomenclature in the literature (Fig. 3). Crucially, we did not find a single case where ‘Broghammerus’ was explicitly used as the valid name in preference to *Malayopython*.

DISCUSSION AND CONCLUSION

In summary, our analyses reveal a pattern of virtually unanimous acceptance by the herpetological community of the proposals of the ‘Kaiser Veto’, as the Kaiser *et al.* (2013) paper was dubbed by Hoser (2014). Despite their revolutionary nature, it is clear that the herpetological community strongly backs the principle that scientifically unfounded or ethically questionable, unreviewed, privately published taxon descriptions have no place in 21st century taxonomy, and that the resulting nomina should not enter scientific discourse. Despite fears of a destabilized dual nomenclature (Cogger, 2014; Cogger *et al.*, 2017), the acceptance of the proposals of Kaiser *et al.* has been near-unanimous and community-wide, with consistent adoption of the newer, scientifically and ethically proposed aspidonyms over their unscientific senior synonyms. While some authors have been critical of violations of the Principle of Priority as a consequence of the Kaiser *et al.* (2013) (e.g. Dubois, 2015; Dubois *et al.*, 2019), we argue that their proposal and its consequences have instead advanced the fundamental aim of the *Code*, which is ‘to promote stability and universality in the scientific names of animals and to ensure that the name of each taxon is unique and distinct’.

We believe that the rapid adoption of the Kaiser *et al.* proposals is due to several factors. Frustration with the long-standing inability of the *Code* and the Commission to prevent the output of unscientific taxonomic works from penetrating the scientific literature clearly lie at the root of the success of these proposals, which have informed taxonomic deliberations in taxa ranging from minnows to pinnipeds (Conway 2018; Valenzuela-Toro & Pyenson, 2019) and from gastropods to killifish (Páll-Gergely *et al.*, 2019; Freyhof & Yöğurtçuoğlu, 2020).

The extraordinary proliferation of unscientific names proposed by Mr Hoser in particular (1795 names since 2000; Table 1) almost certainly played a role in generating sufficient levels of exasperation in the herpetological community. The significant effort required to deal with unscientific taxonomy (e.g. Iverson *et al.*, 2001) makes the individual evaluation and rebuttal of hundreds of taxon names per year not only an egregious waste of researcher time, but also an unfair burden that could significantly impede academic career progression. In addition, numerous

ethical lapses, such as the deliberate scooping of other authors (Aplin, 1999; Wüster *et al.*, 2001), “plagiarism” (Denzer *et al.*, 2016), the naming of groups defined by other authors but for which these authors themselves deferred the process of providing a name (Oliver & Lee, 2010), and the escalating denigration and defamation of science and scientists further enhanced the perception that action was required.

Crucially, the endorsement of multiple professional societies provided the institutional backing and moral authority that empowered subsequent authors to follow their taxonomic judgement, in accordance with the principles clearly espoused in the Preamble to the *Code*, and reject works widely regarded as unscientific. This action is entirely in keeping with the intent and letter of the *Code*, given the Preamble’s emphasis that the Principle of Priority, while a key pillar of the *Code*, is subservient to the overall aim of ‘promoting stability and universality in the scientific names of animals’. We also believe that it shows a measure of the acceptance of a shared responsibility by the current community of herpetologists not to leave the thankless task of cleaning up a mess of names to future generations.

The example of the ‘Kaiser Veto’ shows that community self-organization, driven by consensus among the affected researchers and underpinned by comprehensive consultation among stakeholders, upholds the integrity of science and the scientific process and can effectively overcome the divisive impact of large-scale unscientific taxonomy without leading to parallel nomenclatural systems, or to the suppression of genuine scientific debate and dissent. The explicit restriction of these proposals to a clearly defined set of the most egregious breaches of normal taxonomic standards within a specific time frame, with a strong consensus expressed through the support of multiple scholarly societies, and explicitly as a last-resort, rapid-response measure, forestalled a slide down a ‘slippery slope’, whereby these proposals would lead to a free-for-all in discarding senior synonyms (see Kaiser *et al.*, 2020), or enable a mob rule mentality in suppressing minority viewpoints. We suggest that the herpetological community’s organized and unified response to the challenge of extreme taxonomic vandalism could stand as a model for other afflicted zoological disciplines (e.g. Davis, 2004; Jäch, 2007; Páll-Gergely *et al.*, 2020).

While we recognize that unscientific taxonomy has existed since the origin of the Linnean system, we remind our readers that this has been to the detriment not only of individual taxonomists but of the standing of the entire discipline. The yearning for the right to ignore unscientific work so eloquently articulated by Kraatz (1862), quoted in the epigraph at the beginning of this paper, remains

as relevant today as it was then. We strongly reject the frequently heard argument that the long history of this problem should cause us to accept it into the future (e.g. Dubois, 2015; Ivie in Dubois, 2015). We argue instead that the 21st century is a long-overdue time to bring taxonomy in line with other sciences. We also reject accusations that our call to action constitutes a form of censorship (Ivie in Dubois, 2015): in line with the Preamble of the *Code*, anyone has the right to publish taxonomic views and hypotheses. However, while scientific freedom is essential to let human ingenuity unfold, taxonomic entities and their names are not ephemeral, as some hypotheses are, and they must be governed by carefully considered principles. The ‘freedom of taxonomic thought or actions’ rightly protected by the *Code* does not imply a duty on the part of taxonomists to honour the output of unscientific work.

The Preamble explicitly positions the provisions of the *Code* as a means to an end, namely a universal and stable zoological nomenclature, not as an end in itself. The herpetological community has embraced this principle, and Kaiser *et al.* (2013) provided the framework that allowed it to do so with minimal disruption to the scientific process. The support of the herpetological community is illustrated by the list of 464 researchers (Appendix 2) from 53 countries (Appendix 3) who have signed a statement supporting the continuation of the practices introduced by Kaiser *et al.* (2013). We hope that the Commission, in deciding on its course of action over pending cases relating to this matter (Case 3601, and subsequent requests deriving from its discussion: Hoser, 2013; Wüster *et al.*, 2014; Rhodin *et al.*, 2015), will respect the aims of the *Code*, clearly expressed in the Preamble and subsequent Articles (e.g. 23.2), as well as the clearly expressed professional position of the herpetological community. It will thereby help preserve the broader scientific community’s respect for the *Code* and the work of the Commission. A decision against this new reality would delegitimize 1087 subsequent uses of aspidonyms in 848 publications (vs. none for all but three of Hoser’s names), some of which already meet the numerical criteria for retention on grounds of prevailing use according to Article 23.9.1. It would also threaten the fundamental aim of the *Code*, a stable and universal zoological nomenclature. Like others before us (e.g. Denzer *et al.*, 2016), we argue that zoologists have not only a right but indeed a duty to uphold the principles of science against malicious, unscientific taxonomic work, preferably within the letter of the *Code*, but, with deep regret and only as a last resort, outside it if necessary.

ACKNOWLEDGEMENTS

We thank Wolfgang Böhme, Marius Burger, Raffael Ernst, Jack Frazier, Tony Gamble, Mark Harvey, Yuri Kornilev, Sven Kullander, Paulo Passos, Peter Paul van Dijk, Philipp Wagner and Douglas Yanega for helpful comments on earlier drafts of the manuscript, and three anonymous reviewers for their helpful comments on the first submission.

Conflict of interest: W.W., M.O.S. and H.K. were also authors of Kaiser *et al.* (2013). We believe our methods and results to be transparent and repeatable, but feel compelled to note the potential for a conflict of interest in their interpretation.

REFERENCES

- Afsar M, Batuhan YY, Çiçek K, Ayaz D. 2019. A new subspecies of Ottoman viper, *Montivipera xanthina* (Gray, 1849), (Squamata: Viperidae) from Geyik Mountains, Mediterranean Turkey. *Ecologica Montenegrina* **22**: 214–225.
- Anonymous. 1884. Meeting of the Entomological Club of the American Association for the Advancement of Science. *The Canadian Entomologist* **16**: 169–172.
- Aplin KP. 1999. “Amateur” taxonomy in Australian herpetology—help or hindrance? *Monitor* **10**: 104–109.
- Baig KJ, Wagner P, Ananjeva NB, Böhme W. 2012. A morphology-based taxonomic revision of *Laudakia* Gray, 1845 (Squamata: Agamidae). *Vertebrate Zoology* **62**: 213–260.
- Bates MF, Broadley DG. 2018. A revision of the egg-eating snakes of the genus *Dasypeltis* Wagler (Squamata: Colubridae: Colubrinae) in north-eastern Africa and south-western Arabia, with descriptions of three new species. *Indago* **34**: 1–95.
- Bates MF, Tolley KA, Edwards S, Davids Z, da Silva JM, Branch WR. 2013. A molecular phylogeny of the African plated lizards, genus *Gerrhosaurus* Wiegmann, 1828 (Squamata: Gerrhosauridae), with the description of two new genera. *Zootaxa* **3750**: 465–493.
- Borrell B. 2007. Linnaeus at 300: the big name hunters. *Nature* **446**: 253–255.
- Bouchet P. 2006. Valid until synonymized, or invalid until proven valid? A response to Davis (2004) on species checklists. *Malacologia* **48**: 311–319.
- Boulenger GA. 1885. Remarks on Mr. C.W. De Vis’s recent contributions to the herpetology of Australia. *Annals and Magazine of Natural History* **5**: 386–387.
- Boundy J. 2020. *Snakes of the World: a supplement*. Boca Raton: CRC Press.
- Bruun AF. 1950. The Systema Naturae of the twentieth century. *Science* **112**: 342–343.
- Bucklitsch Y, Böhme W, Koch A. 2016. Scale morphology and micro-structure of monitor lizards (Squamata: Varanidae: *Varanus* spp.) and their allies: implications for systematics, ecology, and conservation. *Zootaxa* **4153**: 1–192.

- Camargo A, Sites J Jr. 2013. Species delimitation: a decade after the Renaissance. In: Pavlinov IY, ed. *The species problem - ongoing issues*. London: IntechOpen.
- Campbell JA, Frost DR, Castoe TA. 2019. New generic name for jumping pitvipers (Serpentes: Viperidae). *Revista Latinoamericana de Herpetología* 2: 52–53.
- Carrasco PA, Venegas PJ, Chaparro JC, Scrocchi GJ. 2016. Nomenclatural instability in the venomous snakes of the *Bothrops* complex: implications in toxinology and public health. *Toxicon* 119: 122–128.
- Cattaneo A. 2017. Note sull'erpetofauna dell'Evros sud-occidentale (Grecia NE) e nuovo contributo alla conoscenza di *Montivipera xanthina* (Gray, 1849) della Tracia Greca centro-orientale, con descrizione di *Montivipera xanthina occidentalis* subsp. nova (Reptilia Serpentes Viperidae). *Naturalista siciliano, Serie IV* 41: 53–74.
- Cogger HG. 2014. *Reptiles and amphibians of Australia*, 7th edn. Collingwood: CSIRO Publishing.
- Cogger H, Shea G, Couper P. 2017. Comment (Case 3601) – Some matters arising from the Case and the broader issues involved and the need to remove ambiguity in Chapter 3 of the Code. *Bulletin of Zoological Nomenclature* 73: 106–112.
- Conway KW. 2018. 'On *Psilorhynchus sucatio* and *P. nudithoracicus*', the sequel: unnecessary and unscientific names lead to rapid synonymization and taxonomic time wasting—a response to Arunachalam *et al.* (2018). *Zootaxa* 4418: 594–600.
- Dalton R. 2008. Fossil reptiles mired in controversy. Name-calling sparks dispute over aetosaurs. *Nature* 451: 510.
- Dance SP. 1970. "Le Fanatisme du Nobis", a study of J.R. Bourguignat and the "Nouvelle École". *Journal of Conchology* 27: 65–86.
- Davis GM. 2004. Species check-lists: death or revival of the Nouvelle École? *Malacologia* 46: 227–231.
- Denzer W, Manthey U, Mahlow K, Böhme W. 2015. The systematic status of *Gonocephalus robinsonii* Boulenger, 1908 (Squamata: Agamidae: Draconinae). *Zootaxa* 4039: 129–144.
- Denzer W, Manthey U, Wagner P, Böhme W. 2016. A critical review of Hoser's writings on Draconinae, Amphibolurinae, *Laudakia* and Uromastycinae (Squamata: Agamidae). *Bonn Zoological Bulletin* 64: 117–138.
- De Queiroz K. 2020. An updated concept of subspecies resolves a dispute about the taxonomy of incompletely separated lineages. *Herpetological Review* 51: 459–461.
- Dirzo R, Young HS, Galetti M, Ceballos G, Isaac NJB, Collen B. 2014. Defaunation in the Anthropocene. *Science* 345: 401–406.
- Dubois A. 2008. A partial but radical solution to the problem of nomenclatural taxonomic inflation and synonymy load. *Biological Journal of the Linnean Society* 93: 857–863.
- Dubois A. 2015. Zoological nomina in the century of extinctions: new proposals. *Bionomina* 8: 11–53.
- Dubois A, Bauer AM, Ceriaco LMP, Dusoulier F, Frétey T, Löbl I, Lorvelec O, Ohler A, Stopiglia R, Aesch E. 2019. The Linz Zoocode project: a set of new proposals regarding the terminology, the Principles and Rules of zoological nomenclature. First report of activities (2014–2019). *Bionomina* 17: 1–111.
- Ebach MC, Valdecasas AG, Wheeler QD. 2011. Impediments to taxonomy and users of taxonomy: accessibility and impact evaluation. *Cladistics* 27:550–557.
- Erens J, Miralles A, Glaw F, Chatrou LW, Vences M. 2017. Extended molecular phylogenetics and revised systematics of Malagasy scincine lizards. *Molecular Phylogenetics and Evolution* 107: 466–472.
- Evenhuis NL. 2008. The "Mihi itch" – a brief history. *Zootaxa* 1890: 59–68.
- Figueroa A, McKelvy AD, Grismer LL, Bell CD, Lailvaux SP. 2016. A species-level phylogeny of extant snakes with description of a new colubrid subfamily and genus. *PLoS One* 11: e0161070.
- Freyhof J, Yoğurtçuoğlu B. 2020. A proposal for a new generic structure of the killifish family Aphaniidae, with the description of *Aphaniops teimorii* (Teleostei: Cyprinodontiformes). *Zootaxa* 4810: 421–451.
- Garnett ST, Christidis L. 2017. Taxonomy anarchy hampers conservation. *Nature* 546: 25–27.
- Garnett ST, Christidis L, Conix S, Costello MJ, Zachos FE, Bánki OS, Bao Y, Barik SK, Buckeridge JS, Hobern D, Lien A, Montgomery N, Nikolaeva S, Pyle RL, Thomson SA, van Dijk PP, Whalen A, Zhang ZQ, Thiele KR. 2020. Principles for creating a single authoritative list of the world's species. *PLoS Biology* 18: e3000736.
- Grismer LL, Wood PLJ, Grismer JL, Quah ESH, Thy N, Phimmachak S, Sivongxay N, Seateun S, Stuart BL, Siler CD, Mulcahy DG, Anamza T, Brown RM. 2019. Geographic structure of genetic variation in the parachute gecko *Ptychozoon lionotum* Annandale, 1905 across Indochina and Sundaland with descriptions of three new species. *Zootaxa* 4638: 151–198.
- Hedges SB, Marion AB, Lipp KM, Marin J, Vidal N. 2014. A taxonomic framework for typhlopids snakes from the Caribbean and other regions (Reptilia, Squamata). *Caribbean Herpetology* 49: 1–61.
- Hillis DM. 2007. Constraints in naming parts of the Tree of Life. *Molecular Phylogenetics and Evolution* 42: 331–338.
- Hillis DM. 2019. Species delimitation in herpetology. *Journal of Herpetology* 53: 3–12.
- Hillis DM. 2020. The detection and naming of geographic variation within species. *Herpetological Review* 51: 52–56.
- Hillis DM, Wilcox TP. 2005. Phylogeny of the New World true frogs (*Rana*). *Molecular Phylogenetics and Evolution* 34: 299–314.
- Hoser R. 2013. Case 3601. *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. *Bulletin of Zoological Nomenclature* 70: 234–237.
- Hoskin CJ. 2019. Description of three new velvet geckos (Diplodactylidae: *Oedura*) from inland eastern Australia, and redecription of *Oedura monilis* De Vis. *Zootaxa* 4683: 242–270.
- IPBES. 2019. *Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. Brondizio ES, Settele J, Díaz S, Ngo HT, eds. Bonn: IPBES secretariat.

- Inagaki H, Kimoto H, Yamauchi Y, Toriba M, Kubo T. 2012.** Functional characterization of Kunitz-type protease inhibitor Pr-mulgins identified from New Guinean *Pseudechis australis*. *Toxicon* **59**: 74–80.
- Inagaki H, Yamauchi Y, Toriba M, Kubo T. 2010.** Regional divergence of phospholipase A2-like protein cDNAs between New Guinean and Australian *Pseudechis australis*. *Toxicon* **56**: 637–639.
- International Commission on Zoological Nomenclature. 1991.** Decision of the Commission. Three works by Richard W. Wells and C. Ross Wellington: proposed suppression for nomenclatural purposes. *Bulletin of Zoological Nomenclature* **48**: 337–338.
- International Commission on Zoological Nomenclature. 1999.** *International Code of Zoological Nomenclature, 4th edn*. London: The International Trust for Zoological Nomenclature.
- Isaac NJ, Mallet J, Mace GM. 2004.** Taxonomic inflation: its influence on macroecology and conservation. *Trends in Ecology and Evolution* **19**: 464–469.
- Isbell F. 2010.** Causes and consequences of biodiversity declines. *Nature Education Knowledge* **3**: 54.
- Iverson JB, Thomson SA, Georges A. 2001.** Validity of taxonomic changes for turtles proposed by Wells and Wellington. *Journal of Herpetology* **35**: 361–368.
- Jäch MA. 2007.** Vandalism in taxonomy. *Koleopterologische Rundschau* **77**: 38, 146.
- Jackson MD, Scherz MD, Zona S. 2017.** Taxonomy is not beholden to its dependencies: a rebuttal to Garnett and Christidis (2017). *PeerJ Preprints* **5**: e3060v1.
- Jones B. 2017.** A few bad scientists are threatening to topple taxonomy. *Smithsonian Magazine*, 7 September 2017. Available at: <https://www.smithsonianmag.com/science-nature/the-big-ugly-problem-heart-of-taxonomy-180964629/>.
- 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**: 293–302.
- Kaiser H. 2014.** Best practices in herpetological taxonomy: errata and addenda. *Herpetological Review* **45**: 257–268.
- Kaiser H, Crother BI, Kelly CMR, Luiselli L, O'Shea M, Ota H, Passos P, Schleip WD, 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* **44**: 8–23.
- Kaiser H, Thomson SA, Shea GM. 2020.** *Nawaran* Esquerré, Donnellan, Brennan, Lemmon, Lemmon, Zaher, Grazziotin & Keogh, 2020 is an invalid junior synonym of *Nyctophilopython* Wells & Wellington, 1985 (Squamata, Pythonidae): simple priority without *Zoobank* pre-registration. *Bionomina* **20**: 47–54.
- Karkkainen DT, Richards SJ, Kraus F, Tjaturadi B, Krey K, Oliver PM. 2020.** A new species of small *Lepidodactylus* (Squamata: Gekkonidae) from Salawati Island, Indonesia. *Israel Journal of Ecology and Evolution* **1**: 1–10.
- Kealley L, Doughty P, Pepper M, Keogh S, Hillyer M, Huey J. 2018.** Conspicuously concealed: revision of the arid clade of the *Gehyra variegata* (Gekkonidae) species group in Western Australia using an integrative molecular and morphological approach, with the description of five cryptic species. *PeerJ* **6**: e5334 [17/33].
- Kornilios P, Kumlutaş Y, Lymberakis P, Ilgaz Ç. 2018.** Cryptic diversity and molecular systematics of the Aegean *Ophiomorus* skinks (Reptilia: Squamata), with the description of a new species. *Journal of Zoological Systematics and Evolutionary Research* **56**: 364–381.
- Kraatz EG. 1862.** Ueber *Diochus* Er. und *Rhagmatocerus* Motsch. *Wiener Entomologische Monatsschrift* **6**: 55–64.
- Kraus F. 2019.** New species of *Lepidodactylus* (Squamata: Gekkonidae) from New Guinea and adjacent islands. *Zootaxa* **4651**: 305–329.
- Kraus F, Oliver PM. 2020.** A new species of *Lepidodactylus* (Squamata: Gekkonidae) from the mountains of northeastern Papua New Guinea: older than the hills. *Zootaxa* **4718**: 549–561.
- Krecksák L. 2007.** An account of the generic and specific names, and type specimens of viperid taxa described by Albert Franz Theodor Reuss (Squamata: Viperidae). *Zootaxa* **1514**: 1–36.
- Lambertz M. 2017.** Taxonomy: retain scientific autonomy. *Nature* **546**: 600.
- Li SQ, Quan RC. 2017.** Taxonomy is the cornerstone of biodiversity conservation. SEABRI reports on biological surveys in Southeast Asia. *Zoological Research* **38**: 213–214.
- Mace MG. 2004.** The role of taxonomy in species conservation. *Philosophical Transactions of the Royal Society, London B* **359**: 711–719.
- Maddock ST, Ellis RJ, Doughty P, Smith LA, Wüster W. 2015.** A new species of death adder (*Acanthophis*: Serpentes: Elapidae) from north-western Australia. *Zootaxa* **4007**: 301–326.
- Maryan B, Brennan IG, Hutchinson MN, Geidans LS. 2020.** What's under the hood? Phylogeny and taxonomy of the snake genera *Parasuta* Worrell and *Suta* Worrell (Squamata: Elapidae), with a description of a new species from the Pilbara, Western Australia. *Zootaxa* **4778**: 1–47.
- Measey J. 2013.** Taxonomic publishing, vandalism and best practice: African Journal of Herpetology makes changes that will safeguard authors. *African Herp News* **60**: 2–4.
- Meiri S, Mace GM. 2007.** New taxonomy and the origin of species. *PLoS Biology* **5**: e194.
- Melville J, Ritchie EG, Chapple SNJ, Glor RE, Schulte JA. 2018.** Diversity in Australia's tropical savannas: an integrative taxonomic revision of agamid lizards from the genera *Amphibolurus* and *Lophognathus* (Lacertilia: Agamidae). *Memoirs of Museum Victoria* **77**: 41–61.
- Melville J, Smith Date KL, Horner P, Doughty P. 2019.** Taxonomic revision of dragon lizards in the genus *Diporiphora* (Reptilia: Agamidae) from the Australian monsoonal tropics. *Memoirs of Museum Victoria* **78**: 23–55.
- Miralles A, Köhler J, Glaw F, Vences M. 2016.** Species delimitation methods put into taxonomic practice: two new *Madascincus* species formerly allocated to historical species

- names (Squamata, Scincidae). *Zoosystematics and Evolution* **92**: 257–275.
- Murray CM, Russo P, Zorrilla A, McMahan CD. 2019. Divergent morphology among populations of the New Guinea Crocodile, *Crocodylus novaeguineae* (Schmidt, 1928): diagnosis of an independent lineage and description of a new species. *Copeia* **107**: 517–523.
- Naish D. 2013. Taxonomic vandalism and the Raymond Hoser problem. Available at: <https://blogs.scientificamerican.com/tetrapod-zoology/taxonomic-vandalism-and-hoser>.
- Nankivell JH, Goiran C, Hourston M, Shine R, Rasmussen AR, Thomson VA, Sanders KL. 2020. A new species of turtle-headed sea snake (*Emydocephalus*: Elapidae) endemic to Western Australia. *Zootaxa* **4758**: 141–156.
- Natusch DJD, Lyons JA. 2011. Ecological attributes and trade of white-lipped pythons (Genus *Leiopython*) in Indonesian New Guinea. *Australian Journal of Zoology* **59**: 339–343.
- Natusch DJD, Lyons JA. 2012. Exploited for pets: the harvest and trade of amphibians and reptiles from Indonesian New Guinea. *Biodiversity Conservation* **21**: 2899–2911.
- Oliver PM, Jolly CJ, Skipwith PL, Tedeschi LG, Gillespie GR. 2020a. A new velvet gecko (*Oedura*: Diplodactylidae) from Groote Eylandt, Northern Territory. *Zootaxa* **4779**: 438–450.
- Oliver PM, Lee MSY. 2010. The botanical and zoological codes impede biodiversity research by discouraging publication of unnamed new species. *Taxon* **59**: 1201–1205.
- Oliver PM, Prasetya AM, Tedeschi LG, Fenker J, Ellis RJ, Doughty P, Moritz C. 2020b. Crypsis and convergence: integrative taxonomic revision of the *Gehyra australis* group (Squamata: Gekkonidae) from northern Australia. *PeerJ* **8**: e7971.
- Pal S, Vijayakumar SP, Shanker K, Jayarajan A, Deepak V. 2018. A systematic revision of *Calotes* Cuvier, 1817 (Squamata: Agamidae) from the Western Ghats adds two genera and reveals two new species. *Zootaxa* **4482**: 401–450.
- Páll-Gergely B, Hunyadi A, Auffenberg K. 2019. Taxonomic vandalism in malacology: comments on molluscan taxa recently described by N.N. Thach and colleagues (2014–2019). *Folia Malacologica* **28**: 35–76.
- Pante E, Puillandre N, Viricel A, Arnaud-Haond S, Aurelle D, Castelin M, Chenuil A, Destombe C, Forcioli D, Valero M, Viard F, Samadi S. 2015. Species are hypotheses: avoid connectivity assessments based on pillars of sand. *Molecular Ecology* **24**: 525–544.
- Parker CT, Tindall BJ, Garrity GM, eds. 2019. *The International code of nomenclature of Prokaryotes*. *International Journal of Systematic and Evolutionary Microbiology* **69**: S1–S111.
- Pauly GB, Hillis DM, Cannatella DC. 2009. Taxonomic freedom and the role of official lists of species names. *Herpetologica* **65**: 115–128.
- Pillon Y, Chase MW. 2007. Taxonomic exaggeration and its effects on orchid conservation. *Conservation Biology* **21**: 263–265.
- Pinna PH, Fernandes DS, Passos P. 2018. “If you choose not to decide you still have made a choice”. *Bionomina* **13**: 65–68.
- Powers RP, Jetz W. 2019. Global habitat loss and extinction risk of terrestrial vertebrates under future land-use-change scenarios. *Nature Climate Change* **9**: 323–329.
- Pyron R, Burbrink FT, Wiens JJ. 2013. A phylogeny and revised classification of Squamata, including 4161 species of lizards and snakes. *BMC Evolutionary Biology* **13**: 93.
- Pyron RA, Reynolds RG, Burbrink FT. 2014. A taxonomic revision of boas (Serpentes: Boidae). *Zootaxa* **3846**: 249–260.
- Pyron RA, Wallach V. 2014. Systematics of blindsnakes (Serpentes: Scolecophidia: Typhlopodea) based on molecular and morphological evidence. *Zootaxa* **3892**: 1–81.
- Rawlings LH, Rabosky DL, Donnellan SC, Hutchinson MN. 2008. Python phylogenetics: inference from morphology and mitochondrial DNA. *Biological Journal of the Linnean Society* **93**: 603–619.
- Reynolds RG, Niemiller ML, Revell LJ. 2014. Toward a Tree-of-Life for the boas and pythons: multilocus species-level phylogeny with unprecedented taxon sampling. *Molecular Phylogenetics and Evolution* **71**: 201–213.
- Rhodin AGJ, Kaiser H, van Dijk PP, Wüster W, O’Shea M, Archer M, Auliya M, Boitani L, Bour R, Clausnitzer V, Contreras-MacBeath T, Crother BI, Daza JM, Driscoll CA, Flores-Villela O, Frazier J, Fritz U, Gardner A, Gascon C, Georges A, Glaw F, Grazziotin FG, Groves CP, Haszprunar G, Havaš P, Hero JM, Hoffmann M, Hoogmoed MS, Horne BD, Iverson JB, Jäch M, Jenkins CL, Jenkins RKB, Kiestner AR, Keogh JS, Lacher TE Jr, Lovich JE, Luiselli L, Mahler DL, Mallon D, Mast R, McDiarmid RW, Measey J, Mittermeier RA, Molur S, Mossbrugger V, Murphy R, Naish D, Niekisch M, Ota H, Parham JF, Parr MJ, Pilcher NJ, Pine RH, Rylands AB, Sanderson JG, Savage J, Schleip W, Scrocchi GJ, Shaffer HB, Smith EN, Sprackland R, Stuart SN, Vetter H, Vitt LJ, Waller T, Webb G, Wilson EO, Zaher H, Thomson S. 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**: 65–78.
- Rittmeyer EN, Austin CC. 2017. Two new species of crocodile skinks (Squamata: Scincidae: *Tribolonotus*) from the Solomon Archipelago. *Zootaxa* **4268**: 71–87.
- Ruane S, Richards SJ, McVay JD, Tjaturadi B, Krey K, Austin CC. 2018. Cryptic and non-cryptic diversity in New Guinea ground snakes of the genus *Stegonotus* Duméril, Bibron and Duméril, 1854: a description of four new species (Squamata: Colubridae). *Journal of Natural History* **52**: 917–944.
- Saleh M, Sarhan M. 2016. The egg-eating snake (Colubridae: *Dasypeltis*) of Faiyum, Egypt, with the description of a new species. *Bulletin de la Société Herpétologique de France* **160**: 25–48.
- Schleip WD. 2008. Revision of the genus *Leiopython* Hubrecht 1879 (Serpentes: Pythonidae) with the redescription of taxa

- recently described by Hoser (2000) and the description of new species. *Journal of Herpetology* **42**: 645–667.
- Schleip WD. 2014.** Two new species of *Leiopython* Hübner [sic], 1879 (Pythonidae: Serpentes): non-compliance with the International Code of Zoological Nomenclature leads to unavailable names in zoological nomenclature. *Journal of Herpetology* **48**: 272–275.
- Schleip WD, O'Shea M. 2010.** Annotated checklist of the recent and extinct pythons (Serpentes, Pythonidae), with notes on nomenclature, taxonomy, and distribution. *ZooKeys* **66**: 29–79.
- Shea G, Thomson S, Georges A. 2020.** The identity of *Chelodina oblonga* Gray 1841 (Testudines: Chelidae) reassessed. *Zootaxa* **4779**: 419–437.
- Skinner A, Hutchinson MN, Lee MSY. 2013.** Phylogeny and divergence times of Australian *Sphenomorphus* group skinks (Scincidae, Squamata). *Molecular Phylogenetics and Evolution* **69**: 906–918.
- Society for the Study of Amphibians and Reptiles. 2020.** Complete taxonomic index for herpetological review. Available at: <https://ssarherps.org/herpetological-review-pdfs>.
- Stork NE, McBroom J, Gely C, Hamilton AJ. 2015.** New approaches narrow global species estimates for beetles, insects, and terrestrial arthropods. *Proceedings of the National Academy of Sciences of the USA* **112**: 7519–7523.
- Stuebing RB, Inger RF, Lardner B. 2014.** *A field guide to the Snakes of Borneo*. Kota Kinabalu: Natural History Publications (Borneo).
- The President, Australian Society of Herpetologists. 1987.** Three works by Richard W. Wells and C. Ross Wellington: proposed suppression for nomenclatural purposes. *Bulletin of Zoological Nomenclature* **44**: 257–261.
- Thomas TM, Granatosky MC, Bourque JR, Krysko KL, Moler PE, Gamble T, Suarez E, Leone E, Enge KM, Roman J. 2014.** Taxonomic assessment of alligator snapping turtles (Chelydridae: *Macrochelys*), with the description of two new species from the southeastern United States. *Zootaxa* **3786**: 141–165.
- Thomson SA, Pyle RL, Ah Yong S, Alonso-Zarazaga M, Ammirati J, Araya JF, Ascher JS, Audisio TL, Azevedo-Santos VM, Bailly N, Baker WJ, Balke M, Barclay MVL, Barrett RL, Benine RC, Bickerstaff JRM, Bouchard P, Bour R, Bourgoin T, Boyko CB, Breure ASH, Brothers DJ, Byng JW, Campbell D, Ceriaco LMP, Cernák I, Cerretti P, Chang C-H, Cho S, Copus JM, Costello MJ, Cseh A, Csuzdi C, Culham A, D'Elia G, d'Udekem d'Acoz C, Daneliya ME, Dekker R, Dickinson EC, Dickinson TA, van Dijk PP, Dijkstra K-DB, Dima B, Dmitriev DA, Duistermaat L, Dumbacher JP, Eiserhardt WL, Ekrem T, Evenhuis NL, Faille A, Fernández-Triana JL, Fiesler E, Fishbein M, Fordham BG, Freitas AVL, Friol NR, Fritz U, Frølev T, Funk VA, Gaimari SD, Garbino GST, Garraffoni ARS, Geml J, Gill AC, Gray A, Grazziotin FG, Greenslade P, Gutiérrez EE, Harvey MS, Hazevoet CJ, He K, He X, Helfer S, Helgen KM, van Heteren AH, Hita Garcia F, Holstein N, Horváth MK, Hovenkamp PH, Hwang WS, Hyvönen J, Islam MB, Iverson JB, Ivie MA, Jaafar J, Jackson MD, Jayat JP, Johnson NF, Kaiser K, Klitgård BB, Knapp DG, Kojima J-I, Köljalg U, Kontschán J, Krell F-T, Krisai-Greilhuber I, Kullander S, Latella L, Lattke JE, Lencioni V, Lewis GP, Lhano MG, Lujan NK, Luksenburg JA, Mariaux J, Marinho-Filho J, Marshall CJ, Mate JF, McDonough MM, Michel E, Miranda VFO, Mitroiu M-D, Molinari J, Monks S, Moore AJ, Moratelli R, Murányi D, Nakano T, Nikolaeva S, Noyes J, Ohl M, Oleas NH, Orrell T, Páll-Gergely B, Pape T, Papp V, Parenti LR, Patterson D, Pavlinov IYA, Pine RH, Poczar P, Prado J, Prathapan D, Rabeler RK, Randall JE, Rheindt FE, Rhodin AGJ, Rodríguez SM, Rogers DC, Roque F de O, Rowe KC, Ruedas LA, Salazar-Bravo J, Salvador RB, Sangster G, Sarmiento CE, Schigel DS, Schmidt S, Schueler FW, Segers H, Snow N, Souza-Dias PGB, Stals R, Stenroos S, Stone RD, Sturm CF, Štys P, Teta P, Thomas DC, Timm RM, Tindall BJ, Todd JA, Triebel D, Valdecasas AG, Vizzini A, Vorontsova MS, Vos JM de, Wagner P, Watling L, Weakley A, Welter-Schultes F, Whitmore D, Wilding N, Will K, Williams J, Wilson K, Winston JE, Wüster W, Yanega D, Yeates DK, Zaher H, Zhang G, Zhang Z-Q, Zhou H-Z. 2018.** Taxonomy based on science is necessary for global conservation. *PLoS Biology* **16**: e2005075.
- Trewavas E. 1957.** Nominomania. *Annals and Magazine of Natural History* **10**: 349–350.
- Turland NJ, Wiersema JH, Barrie FR, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Kusber W-H, Li D-Z, Marhold K, May TW, McNeill J, Monro AM, Prado J, Price MJ, Smith GF, eds. 2018.** *International Code of Nomenclature for Algae, Fungi, and Plants (Shenzhen Code) Adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017*. Regnum Vegetabile 159. Glashütten: Koeltz Botanical Books.
- Valenzuela-Toro A, Pyenson ND. 2019.** What do we know about the fossil record of pinnipeds? A historiographical investigation. *Royal Society Open Science* **6**: 191394.
- Vences M, Guayasamin JM, Miralles A, de la Riva I. 2013.** To name or not to name: criteria to promote economy of change in Linnaean classification schemes. *Zootaxa* **3636**: 201–244.
- Wallach V. 2020.** How to easily identify the flowerpot blindsnake, *Indotyphlops braminus* (Daudin, 1803), with proposal of a new genus (Serpentes: Typhlopidae). *Podarcis* **11**: 4–12.
- Wallach V, Wüster W, Broadley DG. 2009.** In praise of subgenera: taxonomic status of cobras of the genus *Naja* Laurenti (Serpentes: Elapidae). *Zootaxa* **2236**: 26–36.
- Weinell JL, Brown RM. 2018.** Discovery of an old, archipelago-wide, endemic radiation of Philippine snakes. *Molecular Phylogenetics and Evolution* **119**: 144–150.
- Wellington R. 2016.** *Acanthophis cryptamydros* Maddock, Ellis, Doughty, Smith & Wüster, 2015 is an invalid junior synonym of *Acanthophis lancesteri* Wells & Wellington, 1985 (Squamata, Elapidae). *Bionomina* **10**: 74–75.

- Wells RW. 2009.** Some taxonomic and nomenclatural considerations on the class Reptilia in Australia. A review of the genera *Eulamprus* and *Glaphyromorphus* (Scincidae), including the description of new genera and species. *Australian Biodiversity Record* **2009**: 1–96.
- Wells RW, Wellington CR. 1984.** A synopsis of the class Reptilia in Australia. *Australian Journal of Herpetology* **1**: 73–129.
- Wells RW, Wellington CR. 1985a.** A classification of the Amphibia and Reptilia of Australia. *Australian Journal of Herpetology Supplementary Series* **1**: 1–61.
- Wells RW, Wellington CR. 1985b.** A synopsis of the Amphibia and Reptilia of New Zealand. *Australian Journal of Herpetology Supplementary Series* **1**: 62–64.
- Werner YL. 2006.** The case of impact factor versus taxonomy: a proposal. *Journal of Natural History* **40**: 1285–1286.
- Williams D, Wüster W, Fry BG. 2006.** The good, the bad and the ugly: Australian snake taxonomists and a history of the taxonomy of Australia's venomous snakes. *Toxicon* **48**: 919–930.
- Wilson EO. 1985.** The biological diversity crisis: a challenge to science. *Issues in Science and Technology* **2**: 20–29.
- Woinarski JC, Garnett ST, Legge SM, Lindenmayer DB. 2017.** The contribution of policy, law, management, research, and advocacy failings to the recent extinctions of three Australian vertebrate species. *Conservation Biology* **31**: 13–23.
- Wood PL, Guo X, Travers SL, Su Y-C, Olson KV, Bauer AM, Grismer LL, Siler CD, Moyle RG, Andersen MJ, Brown RM. 2020.** Parachute geckos free fall into synonymy: *Gekko* phylogeny, and a new subgeneric classification, inferred from thousands of ultraconserved elements. *Molecular Phylogenetics and Evolution* **146**: 106731.
- World Spider Catalog. 2020.** *World Spider Catalog. Version 21.5.* Natural History Museum Bern. Available at: <http://wsc.nmbe.ch>. Accessed 16 October 2020.
- Wüster W. in press.** Advances in venomous snake systematics, 2009–2019. In: Mackessy SP, ed. *Handbook of venoms and toxins of reptiles, 2nd edn.* Boca Raton: Taylor & Francis.
- Wüster W, Bérnills RS. 2011.** On the generic classification of the rattlesnakes, with special reference to the neotropical *Crotalus durissus* complex (Squamata: Viperidae). *Zoologia* **28**: 417–419.
- Wüster W, Broadley DG, Wallach V. 2014.** 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). *Bulletin of Zoological Nomenclature* **71**: 37–38.
- Wüster W, Bush B, Keogh JS, O'Shea M, Shine R. 2001.** Taxonomic contributions in the “amateur” literature: comments on recent descriptions of new genera and species by Raymond Hoser. *Litteratura Serpentina* **21**: 67–79, 86–91.
- Wüster W, Chirio L, Trape J-F, Ineich I, Jackson K, Greenbaum E, Barron C, Kusamba C, Nagy ZT, Storey R, Hall C, Wüster CE, Barlow A, Broadley DG. 2018.** Integration of nuclear and mitochondrial gene sequences and morphology reveals unexpected diversity in the forest cobra (*Naja melanoleuca*) species complex in Central and West Africa (Serpentes: Elapidae). *Zootaxa* **4455**: 68–98.
- Zug GR, Gotte SW, Jacobs JF. 2011.** Pythons in Burma: short-tailed python (Reptilia: Squamata). *Proceedings of the Biological Society of Washington* **124**: 112–136.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Appendix S1. Citations of [Kaiser et al. \(2013\)](#) and [Kaiser \(2014\)](#), with an assessment of their judgement of the proposals therein.

Appendix S2. List of publications using aspidonyms.

APPENDIX 1

The self-published works by Raymond Hoser listed here are used in the main text as needed to provide context, but not to endorse their content or methodology, or their status as part of the permanent scientific record, as intended by the Code. *AJH* = *Australasian Journal of Herpetology*.

Hoser RT. 2000a. A revision of the Australasian pythons. *Ophidia Review* **1**: 7–27.

Hoser RT. 2004. A reclassification of the Pythoninae including the descriptions new genera, two new species and nine new subspecies. Continued. *Crocodylian – Journal of the Victorian Association of Amateur Herpetologists* **4**: 21–39.

Hoser RT. 2009. A reclassification of the true cobras; species formerly referred to the genera *Naja*, *Boulengerina* and *Paranaja*. *AJH* **7**: 1–15.

Hoser RT. 2012a. A new genus of jumping pitviper from Middle America (Serpentes: Viperidae). *AJH* **10**: 33–34.

Hoser RT. 2012b. Three new species of *Stegonotus* from New Guinea (Serpentes: Colubridae). *AJH* **12**: 18–22.

Hoser RT. 2012c. A review of the taxonomy of the living crocodiles including the description of three new tribes, a new genus, and two new species. *AJH* **14**: 9–16.

Hoser RT. 2012d. A five-way division of the agamid genus *Laudakia* Gray, 1845 (Squamata: Sauria: Agamidae). *AJH* 14: 17–23.

Hoser, R.T. 2012e. A review of the extant scolecophidians (“blindsnakes”) including the formal naming and diagnosis of new tribes, genera, subgenera, species and subspecies for divergent taxa. *AJH* 15: 1–64.

Hoser RT. 2013a. Tidying up the taxonomy of the extant Booidea, including the erection and naming of two new families, the description of *Acrantophis sloppi* sp. nov., a new species of ground boa from Madagascar and *Candoia aspera iansimpsoni*, subsp. nov., a new subspecies of boa from Papua New Guinea. *AJH* 16: 3–8.

Hoser RT. 2013b. An updated taxonomy of the living alligator snapping turtles (*Macrochelys* Gray, 1856), with descriptions of a new tribe, new species and new subspecies. *AJH* 16: 53–63.

Hoser RT. 2013c. Stopping the shuffle between families: six new colubroid snake families named. *AJH* 17: 3–21.

Hoser RT. 2013d. Two new species of true cobra in the genus *Boulengeria* [sic] Dollo, 1886 from West Africa and South Africa (Serpentes: Elapidae). *AJH* 20: 3–7.

Hoser RT. 2013e. *Chrismaxwellus*: a new genus of colubrid snake from south-west Africa. *AJH* 20: 26–29.

Hoser RT. 2013f. A revised taxonomy for the lizard families Gerrhosauridae and Cordylidae. *AJH* 21: 2–32.

Hoser RT. 2013g. Monitor lizards reclassified with some common sense (Squamata: Sauria: Varanidae). *AJH* 21: 41–58.

Hoser RT. 2013h. A new egg-eating snake from the southern Arabian Peninsula (Squamata: Serpentes: Colubridae: Colubrinae: Boigini). *AJH* 21: 59–63.

Hoser RT. 2014a. A logical new taxonomy for the Asian subfamily Draconinae based on obvious phylogenetic relationships and morphology of species (Squamata: Sauria: Agamidae: Draconinae). *AJH* 22: 9–59.

Hoser RT. 2014b. A taxonomic revision of the Giant Long-necked Terrapin, *Chelodina expansa* Gray, 1857 species complex and related matters of taxonomy and nomenclature. *AJH* 24: 3–11.

Hoser RT. 2015a. A revision of the genus level taxonomy of the Acontinae and Scincinae, with the creation of new genera, subgenera, tribes and subtribes. *AJH* 28: 1–64, 29: 65–128.

Hoser RT. 2015b. Australian agamids: eighteen new species from the genera *Amphibolurus* Wagler, 1830, *Lophognathus* Gray, 1842, *Rankinia* Wells and Wellington, 1984, *Diporiphora* Gray, 1842, *Tympanocryptis* Peters, 1863, as well as three new genera and six new subgenera. *AJH* 30: 37–64.

Hoser RT. 2016a. A re-evaluation of the Crocodile Skinks, genus *Tribolonotus* Duméril and Bibron,

1839 sensu lato including the division of the genus into three, description of three new species, a new subspecies and the placement of all within a new tribe. *AJH* 32: 33–39.

Hoser RT. 2016b. *Montivipera xanthina* divided and a new subgenus of Eurasian vipers for the *Vipera raddei* Boettger, 1890 species group (Squamata: Serpentes: Viperidae). *AJH* 33: 12–19.

Hoser, RT. 2016c. A previously unrecognized species of sea snake (Squamata: Serpentes: Elapidae: Hydrophiinae). *AJH* 33: 25–33.

Hoser RT. 2017. A further break-up of the Australian gecko genus *Oedura* Gray, 1842 sensu lato as currently recognized, from four to seven genera, with two new subgenera defined, description of fourteen new species, four new subspecies and formalising of one tribe and five subtribes. *AJH* 34: 3–35.

Hoser RT. 2018a. *Feresuta* a new genus of West Australian snake and the formal description of a new species in the same genus. *AJH* 37: 20–23.

Hoser RT. 2018b. A divided *Gehyra* makes sense! Assigning available and new names to recognize all major species groups within *Gehyra* Gray, 1834 sensu lato (Squamata: Gekkonidae) and the formal description of nine new species. *AJH* 37: 48–64.

Hoser RT. 2018c. A significant improvement to the taxonomy of the gecko genus *Gekko* Laurenti, 1768 sensu lato to better reflect morphological diversity and ancient divergence within the group. *AJH* 38: 6–18.

Hoser RT. 2018d. A revised taxonomy of the gecko genus *Ptychozoon* Kuhl and Van Hasselt, 1822, including the formal erection of two new genera to accommodate the most divergent taxa and description of ten new species. *AJH* 38: 19–31.

Hoser RT. 2018e. A revised taxonomy of the gecko genera *Lepidodactylus* Fitzinger, 1843, *Luperosaurus* Gray, 1845 and *Pseudogekko* Taylor, 1922 including the formal erection of new genera and subgenera to accommodate the most divergent taxa and description of 26 new species. *AJH* 38: 32–64.

APPENDIX 2

The following list includes 464 supporters of our initiative, who recorded their support by signing and submitting formal statements of approval.

A

Abegg, Arthur D.
Acosta-Chaves, Victor J.
Adler, Kraig
Aguilar, Rocío
Aldridge, Robert D.

Alencar, Laura R.V.
 Alexander, Graham J.
 Alford, Ross A.
 Allain, Steven J.R.
 Allison, Allen
 Altig, Ronald
 Alvares, Diego J.
 Alvarez, Jeff
 Alves Coêlho, Tássio
 Amr, Zuhair
 Ananjeva, Natalia B.
 Andreone, Franco
 Angarita-Sierra, Teddy
 Angiolani Larrea, Francesca N.
 Antúñez-Fonseca, Christopher
 Arango-Lozano, Julián
 Arbuckle, Kevin
 Archer, Michael
 Ararwal, Ishan
 Auliya, Mark
 Austin, Christopher C.
 Avila-Pires, Teresa C.S.

B

Badani, Teresa C.
 Baêta, Délio
 Baldo, Diego
 Barker, David G.
 Barlow, Axel
 Barreto Nascimento, Luciana
 Barrio-Amorós, César L.
 Bartholomew, Breck
 Bauer, Aaron M.
 Beane, Jeffrey C.
 Benetti Paredero, Rafael C.
 Bernarde, Paulo S.
 Bérnils, Renato S.
 Bernstein, Justin M.
 Bezerra, Andressa
 Bhattarai, Santosh,
 Bickford, David
 Bishop, Phillip J.
 Bogaerts, Sergé
 Bohenek, Jason R.
 Böhme, Wolfgang
 Bolet, Arnaud
 Borczyk, Bartosz
 Borzée, Amaël
 Bouam, Idriss
 Bouazza, Abdellah
 Brandão, Reuber A.

Brito, José Carlos
 Britton, Adam R.C.
 Brochu, Christopher A.
 Brown, Rafe
 Burg, Matthijs P. van den
 Burger, Marius
 Burghardt, Gordon M.
 Bush, Brian.

C

Caicedo Portilla, José R.
 Caldaza-Arciniega, Alejandro
 Calvete, Juan J.
 Cannatella, David
 Captain, Ashok
 Carbajal Márquez, Rubén A.
 Carmichael, Christopher K.
 Carrasco, Paola A.
 Casewell, Nicholas
 Castro, Jocelyn
 Cedeño-Vázquez, J. Rogelio
 Ceriaco, Luis M.P.
 Chan, Kin Onn
 Chandramouli, S.R.
 Charlton, Tom A.
 Chippaux, Jean-Philippe
 Cogalniceanu, Dan
 Colston, Timothy J.
 Conradie, Werner
 Contreras MacBeath, Topiltzin
 Costa, Henrique C.
 Cota, Michael
 Crother, Brian I.
 Cuellar-Valencia, Oscar M.
 Cundall, David
 Curbani, Flávio
 Currie, Bart
 Cyriac, Vivek P.

D

Daltry, Jennifer C.
 David, Patrick
 Daza, Juan M.
 de Queiroz, Kevin
 de Silva, Anslem
 Deepak, Veerappan
 Dehling, Maximilian
 Denzer, Wolfgang
 Di Marzio, Alessandro

Díaz-Gamboa, Luis F.
 Diele-Viegas, Luisa M.
 Dill-Orrico, Victor G.
 Dimaki, Maria
 Dodd, C. Kenneth, Jr
 Donnelly, Maureen A.
 Doughty, Paul
 Dubos, Nicolas
 Duellman, William E.
 Dufresnes, Christophe
 Durso, Andrew

E

Entiauspe-Neto, Omar M.
 Ernst, Raffael
 Escalona, Moisés
 Escobedo-Galván, Armando H.
 España, Farlem G.
 Espinoza, Robert E.
 Esquerré, Damien
 Eversole, Cord B.

F

Fernandes, Daniel S.
 Ficetola, Francesco
 Flannery, Timothy
 Flores-Villela, Oscar A.
 Foufopoulos, Johannes
 Franco, Francisco L.
 Frazier, Jack
 Freed, Paul
 Fritz, Uwe
 Fry, Bryan

G

Gabor, Caitlin
 Gamble, Tony
 Ganesh, S.R.
 García-Vásquez, Uri O.
 Garey, Michel V.
 Garner, Trent
 Georgalis, Georgios L.
 Georges, Arthur
 Glaudas, Xavier
 Glaw, Frank
 Golay, Philippe
 Gomes dos Santos, Tiago
 Gomides, Samuel C.
 Gonçalves, Duarte V.
 González-Pinzón, Macario

Gonzalez, Rodrigo C.
 Gorzula, Steve
 Govindappa, Venu
 Gower, David J.
 Grafe, Ulmar
 Graham, Stuart
 Grano, Mauro
 Gray, Heather M.
 Gray, Russell J.
 Green, David M.
 Greenbaum, Eli B.
 Greene, Harry W.
 Grieneisen, Michael L.
 Griffiths, Richard A.
 Grismer, L. Lee
 Groen, Jelmer
 Grünwald, Christoph I.
 Guayasamin, Juan M.
 Guedes, Jhonny J.M.
 Guedes, Thaís B.
 Guerra, Gabriela
 Günther, Rainer
 Guo, Peng
 Gutiérrez-Cardenas, Paul D.A.
 Gvoždík, Václav

H

Haddad, Célio F.B.
 Hagemann, Molly
 Hallermann, Jakob
 Hamdan, Breno
 Hanken, James
 Hansen, Robert W.
 Hassapakis, Craig L.
 Haszprunar, Gerhard
 Hauge, J. Brian
 Havaš, Peter
 Hayes, William K.
 Heatwole, Hal
 Hedges, S. Blair
 Helgen, Kristofer M.
 Henderson, Donald
 Henderson, Robert W.
 Hepp, Fábio
 Hero, Jean-Marc
 Herrel, Anthony
 Heteren, Anneke H. van
 Hillis, David M.
 Hinckley, Arlo
 Hödl, Walter
 Hofmann, Erich P.
 Holtz, Thomas R., Jr
 Hone, David W.E.
 Hoogmoed, Marinus S.

Hoskisson, Paul A.
Hosseinian, S. Saeed
Hughes, Daniel F.

I

Iskandar, Djoko
Iverson, John B.

J

Jablonski, Daniel
Jackson, Dale R.
Jackson, Kate
Jackson, Timothy W.
Jadin, Robert
Jehle, Robert
Jelić, Dušan
Jiang, Jianping
Joger, Ulrich
Jorge, Jaqueiuto da Silva
Joventino, Igor
Jowers, Michael
Joyce, Walter G.

K

Kaefer, Igor L.
Kaiser, Christine M.
Kaliontzopoulou, Antigoni
Kalki, Yatin
Kamei, Rachunliu G.
Karlsson, Catharina
Keogh, Scott
Kirschey, Tom
Koch, André
Koch, Claudia
Köhler, Gunther
Köhler, Jörn
Kokubum, Marcelo N. de C.
Koppetsch, Thore
Kornilev, Yurii
Kouamé, N'Goran G.
Kratochvil, Lukáš
Kraus, Fred
Kunz, Tobias S.
Kwet, Axel

L

Labisko, Jim
Lacher, Thomas E., Jr

LaDuc, Travis J.
Lalremsanga, H.T.
Lalronunga, Samuel
Lang, Ruud de
Laspiur, Alejandro
Laurin, Michel
Lawson, Lucinda P.
Lee, Michael Y.S.
Lehr, Edgar
Lemos-Espinal, Julio A.
Lima, Jucivaldo
Lima Silveira, Adriano
Llanqui, Irbin B.
Loebmann, Daniel
Lötters, Stefan
Losos, Jonathan
Lotzkat, Sebastian
Lourenço de Moraes, Ricardo
Lozano, Abraham
Lüddecke, Tim
Luiselli, Luca M.
Lukanov, Simeon P.
Luna, Manuel de
Lymberakis, Petros

M

Machado, Ibere F.
Mackessy, Stephen P.
Maddock, Simon
Mahony, Stephen
Major, Thomas
Malhotra, Anita
Manthey, Ulrich
Marais, Johan
Marques, Mariana P.
Marra Santos, Fidélis J.
Martin, Gerard
Martin, Rémi
Martínez-Fonseca, José G.
Martínez-Freiría, Fernando
Martínez-Muñoz, Carlos A.
Martins, Marcio
Maryan, Brad
Mast, Roderic
Mata-Silva, Vicente
Mazuch, Tomáš
McGuire, Jimmy A.
Measey, John
Meibert, Konrad
Meiri, Shai
Messenger, Kevin
Mikulíček, Peter
Miralles, Aurélien
Mirza, Zeeshan

Mital, Anuja
 Mitchell, Nicola
 Mittermeier, Russell A.
 Mohan, Ashwini V.
 Montero, Ricardo
 Montes Correa, Andrés C.
 Moravec, Jiří
 Mori, Akira
 Muin, Mohd Abdul
 Munscher, Eric C.
 Murphy, James B.
 Murphy, John C.
 Murphy, Robert W.
 Mushinsky, Henry R.

N

Nagy, Zoltan T.
 Naish, Darren
 Nankivell, James H.
 Natusch, Daniel
 Narayanan, Surya
 Nguyen, D.H. Vu
 Nguyen, Tan V.
 Nicolau, Gary K.
 Nielsen, Stuart
 Nieto Montes de Oca, Adrián
 Nilson, Göran
 Nishikawa, Kanto
 Nixon, David
 Nogueira, Cristiano de Campos
 Nolasco Luna, J. Rafael
 Nomura, Fausto
 Nunes, Ivan S.

O

Oda, Fabrício H.
 Oliver, Paul
 Orlov, Nikolai L.
 Oschadleus, H. Dieter
 Ota, Hidetoshi
 Owens, John Benjamin

P

Pabijan, Maciej
 Páez, Vivian P.
 Parham, James F.
 Parkinson, Christopher L.
 Pal, Suanak
 Passos, Paulo
 Patel, Hershil
 Pedrono, Miguel
 Phillips, John G.

Phillips, Matt
 Pietersen, Darren
 Pillai, Rishab
 Pine, Ronald H.
 Pizzatto, Ligia
 Plettenberg, Anthony
 Pokrant, Felix
 Pombal, José P., Jr
 Powell, Robert
 Poyarkov, Nikolay A.

Q

Quah, Evan S.H.
 Queiroz, Murilo

R

Rai, Tapil P.
 Rais, Muhammad
 Ramalho, Werther Pereira
 Ramírez Alvarez, Diego
 Ramírez-Chaves, Héctor E.
 Ramírez-Pinilla, Martha
 Rathod, Dnyanesh S.
 Raxworthy, Christopher J.
 Rebelo, Alex
 Reeder, DeeAnn M.
 Régis, Cristiane
 Reyes-Puig, Carolina
 Rhodin, Anders G.J.
 Richards, Stephen J.
 Riedel, Jendrian
 Riley, Julia
 Ringler, Eva
 Rivas, Gilson A.
 Riyanto, Awal
 Roček, Zbyněk
 Rodda, Gordon H.
 Rödder, Dennis
 Rödel, Mark-Oliver
 Rosado, José
 Rösler, Herbert
 Rojas-Runjaic, Fernando J.M.
 Rooijen, Johan van
 Rosa, Gonçalo M.
 Rovira, Javier L.
 Rueda Solano, Luis A.
 Ryabov, Sergei

S

Salvi, Daniele
 Salvidio, Sebastiano

Sánchez Vialas, Alberto
 Sasa, Mahmood
 Sassoè-Pognetto, Marco
 Sawaya, Ricardo
 Scarpetta, Simon
 Scherz, Mark D.
 Schmidt, Benedikt R.
 Schmitz, Andreas
 Schramer, Tristan D.
 Schuett, Gordon W.
 Schwarzkopf, Lin
 Scrocchi, Gustavo J.
 Serrano, Filipe C.
 Shaffer, Bradley
 Shanker, Gowri
 Shanker, Kartik
 Shine, Rick
 Shirley, Matthew H.
 Sindaco, Roberto
 Skawiński, Tomasz
 Šmid, Jirí
 Smith, Krister T.
 Solé, Mirco
 Souza, Antonio O. de
 Spawls, Stephen
 Sprackland, Robert
 Srikanthan, Achyuthan
 Stanescu, Florina
 Strachinis, Ilias
 Strine, Colin T.
 Strugariu, Alexandru
 Sunagar, Kartik
 Sweet, Sam

T

Tapley, Benjamin
 Tetzlaff, Sasha J.
 Thiel, Jory van
 Tillack, Frank
 Togridou, Anatoli
 Torres-Carvajal, Omar
 Trape, Jean-François
 Troncoso-Palacios, Jaime

U

Uhrin, Marcel
 Upchurch, Paul
 Urra, Félix A.
 Ursenbacher, Sylvain

V

Vacheva, Emiliya
 Vamberger, Melita
 Vasile, Ştefan
 Vázquez-Restrepo, Juan D.
 Vassilieva, Anna B.
 Vences, Miguel
 Vetter, Holger
 Vidal, Nicolas
 Vieira, Washington L.S.
 Vitt, Laurie J.
 Vliet, Kent A.
 Vogel, Gernot
 Vogt, Richard C.
 Vörös, Judit
 Vrcibraic, Davor
 Vyas, Raju

W

Wagner, Philipp
 Wallach, Van
 Walters, Graham
 Wang, Kai
 Wang, Xiaohu
 Warrell, David A.
 Wasilewski, Joseph A.
 Webb, Grahame
 Weijola, Valter
 Weldon, Ché
 Whitaker, Romulus
 Whiting, Martin J.
 White, Julian
 Wilkinson, John W.
 Wilkinson, Mark
 Wood, Perry L., Jr.
 Woolrich-Piña, Guillermo A.
 Wouters, Roel M.
 Wu, Yunke

Y

Young, Mark

Z

Zagar, Anamarija
 Zaher, Hussam
 Zamfirescu, Ştefan R.
 Ziegler, Thomas
 Zug, George R.

APPENDIX 3

Supporters for our successful approach to stabilize herpetological nomenclature wrote in from the 53 countries listed below.

Algeria
Argentina
Australia
Bolivia
Brazil
Brunei
Bulgaria
Canada
Chile
Colombia
Costa Rica
Czech Republic
Ecuador
Finland
Germany
Greece
Honduras
India
Indonesia
Iran
Ireland
Israel
Italy
Ivory Coast

Japan
Jordan
Madagascar
Mexico
Morocco
Nepal
Netherlands
New Zealand
Pakistan
Panama
Poland
Portugal
PR China
Romania
Russia
Senegal
Singapore
Slovakia
South Africa
Spain
Sri Lanka
Switzerland
Thailand
UK – England
UK – Scotland
UK – Wales
USA
Venezuela
Vietnam