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Ten new species within the Australian Water Skink genus *Eulamprus* Fitzinger, 1843 *sensu lato* all from mainland south-east and east Australia.

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ABSTRACT

The genus *Eulamprus* Fitzinger, 1843 *sensu lato* (as recognized in texts like Cogger 2014) was scrutinized for potentially unnamed taxa over a period spanning some decades.

Publication of this paper on the Australian Water Skinks (as a group) was delayed for some years to allow others with a stated interest in various species groups within the genus to have first options in terms of naming potentially unnamed forms.

This included most notably, Richard Wells and Glenn Shea, both of whom ultimately published their major works on relevant species in 2009 (Wells 2009) and 2018 (Pepper *et al.* 2018, listing Glenn Shea as a coauthor).

Following on from these earlier works and delaying any relevant publications pending them, in 2020, Hoser, named an obviously unnamed species, *E. paulwoolfi* within the *E. quoyii* complex from north Queensland.

Wells and Wellington (1985) and again in Wells (2009) proposed their new genus *Costinisauria* for the *Lygosoma* (*Hinulia*) *kosciuskoi* Kinghorn, 1923 group of species, herein recognized as a subgenus of *Eulamprus*, as is the newly named subgenus *Invaderskinkus subgen. nov.* for the *Lygosoma tympanum* Lönnberg and Andersson, 1923 group of species.

In order to stabilize the taxonomy of the putative species "*Hinulia gastrosticta* Gunther, 1865", I do within this paper designate a Lectotype in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) ("the Code"), this being BMNH 1946.8.4.99 at the Natural History Museum London, UK, from Kangaroo Island, South Australia for reasons given in this paper.

Postdating the Hoser 2020 paper on *Eulamprus* there remained a number of obviously unnamed forms within *Eulamprus* and this paper names ten of these species on the basis of previously well-established molecular separation as well as biogeographical and morphological divergences from one another.

The current (end 2024) most widely recognized taxonomy for the Water Skink genus *Eulamprus* Fitzinger, 1843 *sensu lato* is seen in Cogger (2014) and Peter Uetz's non ICZN, unscientific "The Reptile Database" recognizes just 5 species and is woefully inadequate. It is also biogeographically impossible for the reasons given in this paper.

The taxonomy proposed herein for this group of Australian Water Skinks, recognising 19 species, ten of which are new to science, is made without fear or favour or any conflict of interest and is the only sensible one based on the currently available evidence.

Keywords: Skink; taxonomy; nomenclature; Australia; Victoria; New South Wales; Queensland; lizard; Water skink; *Eulamprus*; *Costinisauria*; *Hinulia*; *Lygosoma*; *quoyii*; *paulwoolfi*; *tympanum*; *heatwolei*; *kosciuskoi*; *couperi*; *leuraensis*; *worrelli*; *herseyi*; *marnieae*; *gastrosticta*; new subgenus; *Invaderskinkus*; new species; *onethatwasoverlooked*; *yes*; *aha*; *gotit*; *nrl*; *afl*; *policecorruptionorum*; *gad*; *extinctionbusinessorum*; *corruptbureaucratorum*.

INTRODUCTION

As part of a wide-ranging audit of the Australasian herpetofauna spanning some decades, the genus *Eulamprus* Fitzinger, 1843 *sensu lato* was scrutinized for potentially unnamed taxa.

Publication of this paper on the Australian Water Skinks (as a specific group) was delayed for some years to allow others with a stated interest in various species groups within the genus to have first options in terms of naming potentially unnamed forms.

This included most notably, Richard Wells and Glenn Shea, both of whom ultimately published their major works on relevant species in 2009 (Wells 2009) and 2018 (Pepper *et al.* 2018 with Glenn Shea as a listed coauthor).

Hoser (2020d) named an obviously unnamed species, *E. paulwoolffi* within the *E. quoyii* complex from north Queensland as part of the process in naming the remaining obviously unnamed forms.

Delays in naming other forms by me beyond 2020 was due to several factors including unlawful attacks by trademark infringing thieves stealing time better spent naming unnamed species.

The attacks included militarising police to raid and assault myself in my own home, led by one corrupt Victorian cop named Trevor Griffiths, stationed at the time at Diamond Creek Police Station, working with the equally corrupt Sergeant Wayne Spence in charge of the relevant police area, resulting in fake criminal charges by the dozens, almost all of which were beaten wholesale (first round) through the courts, but at high cost financially, emotionally and time-wise.

Police wasted tens of millions of dollars of taxpayer's money waging this "war" against me, while rapists, drug traffickers and wildlife traffickers continued to operate with full protection of this same cohort of corrupt police.

Injuries to me resulted in trips to the emergency and ICU wards of hospital, including open heart surgery, this being performed on me while I was fully awake and other extremely painful medical procedures.

As of the time this paper is being published, the physical injuries are still severe, debilitating, and a number are permanent.

Police officers Griffiths and Spence have corruptly protected a most egregious trademark infringing thief, who is effectively a card carrying member of the Wolfgang Wüster gang of thieves and a proud vocal and public supporter of their ongoing campaign to destroy the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) as amended (2012) as outlined in Kaiser *et al.* (2013) (a copy of Wüster 2012) and later incarnations of the same manifesto in more recent years.

This evil person's name has been suppressed by the courts on his formal request and the police have dishonestly protected him from prosecution for the serious criminal charges of rapes, assaults, child abuse and so on, after he was found guilty in civil proceedings of these crimes and boasted to others of the civil findings against him.

He got suppression orders on his name being published after he lost an appeal of the civil findings against him in late 2020.

This person has run a number of illegal fundraisers and breaches of his own sought and got court suppression orders involving his family violence proceedings.

The same corrupt police have also repeatedly illegally protected others in this cohort of criminals from prosecution for serious crimes including stalking, harassment, threats to kill, repeated assaults, financial frauds, threatening and endangering lives and so on.

Other members of this same criminal cohort of police-protected criminals include the likes of Adam Britton, Wolfgang Wüster, Tony Harrison, Caleb Ott, Jamie Benbow, David John Williams, Michael Alexander and others, whose serious crimes (obviously not all) can be found by simple "Google" search and/or other simple enquiries.

See also at:

<https://www.smuggled.com/Adam-Britton-Bestiality-Wolfgang-Wüster-Gang.htm>

and

<https://www.smuggled.com/scientific-fraud-wolfgang-Wüster.htm> Spence and Griffiths also epitomise all that is wrong and corrupt in the evil Victorian Police force and are a good explanation for the scenes of mass migration of people out of Victoria and its state Capital of Melbourne in recent years postdating year 2000 to the present date (end 2024), with nearly a million refugees fleeing the crime, violence and corruption that is endemic in this Australian state and that spans most levels of government here. In fact "This outflow marks the largest net migration loss for Melbourne on record" according to

The Australian Government Centre for Population (2020).

Postdating the publication of Hoser (2020d) there remained a number of obviously unnamed forms within *Eulamprus*.

In addition to the above, extra fieldwork was planned and executed within the States of NSW, Victoria and Queensland, as well as the Australian Capital Territory by myself and others working with me, to collect and inspect specimens of potentially unnamed taxa within this species complex.

This included populations of relevant lizards in south-east Queensland, west of Sydney in New South Wales and also east of Melbourne in Victoria.

These were all areas in close proximity to State Capital cities of Brisbane, Sydney and Melbourne, which combined hold most of Australia's population (about 27 million as of end 2024 in all Australia) and yet where it seemed relevant unnamed species were to be found.

These had been erroneously labelled as other named forms in spite of deep genetic divergences at the species level identified by others including for example Pepper *et al.* (2018).

MATERIALS AND METHODS

Specimens of all species within the Australian Water Skink genus *Eulamprus* Fitzinger, 1843 *sensu lato*, as recognised by Cogger (2014) and Wilson and Swan (2021) were inspected from all parts of their known distributions. They were checked for morphological divergences and/or obvious biogeographical barriers separating the populations, including those flagged in papers such as Wells and Wellington (1985), Wells (2009) and Pepper *et al.* (2018).

Specimens inspected included dead and live specimens as well as images with good locality data.

To make it clear, many specimens were inspected in the field, as in *in situ* by me when conducting fieldwork throughout the relevant areas of distribution of the genus.

Molecular studies involving species within *Eulamprus* Fitzinger, 1843 *sensu lato* and other similarly distributed reptiles and frogs from southern Australia (noting that this genus in effect occupies southeast Australia only), were also reviewed to flag likely speciation points for wider-ranging putative taxa.

Published references and taxonomic treatments relevant to the preceding taxa were reviewed and those relevant to the taxonomic and nomenclatural conclusions in this paper included Annable and Metcalfe (2015a-b), Barbour (1914), Boulenger (1887), Brown (2014), Brygoo (1985), Cogger (2014), Cogger, *et al.* (1983), Done and Heatwole (1977), Doughty *et al.* (2003), Dubois *et al.* (2019), Duméril and Bibron, (1839), Fitzinger, (1843), Gemel *et al.* (2019), Guibé (1954), Günther (1875), Henle and Osborne (1986), Hoser (1989, 2007a, 2016a-b, 2018, 2019a-b, 2020a-g, 2021, 2022a-c, 2023a-e, 2024a-g), Hutchinson and Rawlinson (1995), ICZN (1991, 2001, 2012, 2021), King (1964), Kinghorn (1924, 1932), Law (1991), Law and Bradley (1990), Lönnberg and Andersson (1915), Lucas and Frost (1894), Mo (2015), Murphy (1994), O'Connor and Moritz (2003), Pearson and Shea (2008), Pepper *et al.* (2018), Pyron *et al.* (2013), Rawlinson (1969), Ride *et al.* (1999), Robert and Thompson (2000, 2001, 2007), Schwarzkopf (2005), Shea and Peterson (1985), Shea and Sadlier (1999), Singhal *et al.* (2018), Skinner *et al.* (2013), Swan *et al.* (2017), Veron (1969), Veron and Heatwole (1970), Wells (2019), Wells and Wellington (1984, 1985), Wilson (2015, 2022), Wilson and Booth (1998), Wilson and Knowles (2018), Wilson and Swan (2017, 2021) and sources cited therein.

RESULTS

The molecular results of Pepper *et al.* (2018) laid out quite clearly the likely taxonomy of the *Eulamprus* Fitzinger, 1843 *sensu lato* group of species.

In spite of this, their paper, being the most recent full treatise of the group failed to act on the results obtained.

It appears that in line with the previous practice of the group of authors, being associated with the Wolfgang Wüster gang of thieves, they did not want to use any taxonomy or nomenclature that forced them to recognise the findings, works and names of Wells and Wellington (1984, 1985) or Wells (2009), in any way, as per the doctrine of Kaiser *et al.* (2013), Rhodin *et al.* (2015) and later incarnations of the same mantra (see below).

By way of example, in spite of confirmation that "*Eulamprus leuraensis* Wells and Wellington, 1984" was a valid taxon, as were the other two species "*Costinisauria couperi* Wells, 2009" and "*Costinisauria worrelli* Wells and Wellington, 1985", Pepper *et al.* (2018) maintained the charade that they were in fact "*Eulamprus kosciuskoi* (Kinghorn, 1932)".

Noting that "*Eulamprus kosciuskoi*" is found in the South New South Wales (NSW) Great Dividing Range, the morphologically similar *E. leuraensis* from the Central NSW Great Dividing Range is recognized by all as a different species and according to Pepper *et al.* (2018) is more closely related to "*Eulamprus kosciuskoi*" than to the northern New South Wales Great Dividing Range "*Eulamprus kosciuskoi*" (named by Wells and Wellington as species "*Costinisauria couperi* Wells, 2009" and "*Costinisauria worrelli* Wells and Wellington, 1985"), failure to recognize these taxa is both untenable on their own results as well as biogeographically impossible.

Hence, as a practicing scientist, I have no choice but to recognize the validity of both species "*Costinisauria couperi* Wells, 2009" and "*Costinisauria worrelli* Wells and Wellington, 1985".

The only question herein is the genus-level placement, dealt with below.

That current herpetological reference texts in Australia including for example Cogger (2014) continue to maintain this charade, this being that "*Eulamprus kosciuskoi*" also occurs in north New South Wales and south-east Queensland, confirms that a sizeable chunk of Australia's so-called herpetologists are being dictated to by personality politics, their own small-minded egos and fraud, rather than cold, hard objective science, the latter being defined as a search for truth and facts.

The published molecular results of Pepper *et al.* (2018) have herein, in combination with the relevant biogeography and morphological divergence of the relevant specimens been taken as the template for the taxonomy formally used in this paper. Relying on earlier published phylogenies, including Skinner *et al.* (2013) at Fig. 2 and Pyron *et al.* (2013) which was not date calibrated, it is possible that all species within the Water Skinks of *Eulamprus* Fitzinger, 1843 *sensu lato* diverged from each other less than 10 MYA, meaning that on that basis alone, it is best all are currently conservatively treated as being within a single genus.

However, there are within this assemblage, three obviously divergent species groups, of which the putative genus *Costinisauria* Wells and Wellington, 1985 for the *Lygosoma* (*Hinulia*) *kosciuskoi* Kinghorn, 1923 group of species is only one of them.

Hence it is recognized herein as a valid subgenus.

The third species group (or second outside the nominate *Eulamprus* group), being the *Lygosoma tympanum* Lönnberg and Andersson, 1923 species group, is herein placed within the newly named subgenus *Invaderskinkus* subgen. nov..

The taxonomy proposed herein for this group of Australian Water Skinks is made without fear or favour or any conflict of interest and is the only sensible one based on the currently available evidence.



Adult *Eulamprus tympanum* of the type form from Apollo Bay, Victoria

CHANGES TO TAXONOMY AND NOMENCLATURE WITHIN RELEVANT SUBGENERA

Hoser (2020d) dealt with the taxonomy of the *E. quoyii* Duméril and Bibron, 1839 complex, by naming the most divergent north Queensland form as *E. paulwoolffi*.

Wells (2009) and Hoser (2020d) also dealt with the issue of the putative taxon *Hinula gastrosticta* Günther, 1875 in terms of issues relevant to their papers.

Cogger *et al.* (1983) showed that *Hinula gastrosticta* Günther, 1875 included a type series of specimens (being syntypes) from Kangaroo Island, South Australia, an unknown location in Queensland and another unnamed location in Queensland Australia.

This means that there are almost certainly at least two species within the type series.

In order to stabilize the taxonomy of the putative species "*Hinulia gastrosticta* Gunther, 1865", I do within this paper designate a Lectotype in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) ("the Code"), this being BMNH 1946.8.4.99 from Kangaroo Island, South Australia. This action also effectively makes *Hinulia gastrosticta* conspecific with the type form of *E. quoyii* Duméril and Bibron, 1839 and therefore by the taxonomy adopted herein, it is a junior synonym of that taxon, in line with the concept made in Cogger *et al.* (1983) and all relevant texts published after that date to the present year (2024).

The ten newly named species are identified below:

SUBGENUS *EULAMPUS* FITZINGER, 1843

A new species from South-East Queensland, divergent from both *E. quoyii* of the type form including "*Hinulia gastrosticta* Gunther, 1865" and *E. paulwoolffi* is formally named for the first time as *Eulamprus onethatwasoverlooked sp. nov.*

SUBGENUS *COSTINISAURIA* WELLS AND WELLINGTON, 1985

Excluding *Eulamprus leuraensis* Wells and Wellington, 1985, Pepper *et al.* (2018) recognised 7 separate divergent lineages within the samples of *E. kosciuskoi* (Kinghorn, 1932) that they inspected.

They did not take any taxonomic actions on their results, merely stating that *E. kosciuskoi* was "*paraphyletic*".

Pepper *et al.* (2018) ignored the previous species designations of two populations from northern New South Wales by Wells and Wellington (1985) for *E. worrelli* and Wells (2009) or *E. couperi*, which the earlier authors also placed in the subgenus *Costinisauria* Wells and Wellington, 1985 identifying it as a new genus in 1985.

This paper names all the other unnamed lineages as full species based on molecular divergence, biogeographic reality and the fact the relevant forms are quite easily diagnosable and divergent from one another.

They all look very different from one another!

Added to these four newly named forms as species is a fifth species formally named for the first time, being the population of putative *E. kosciuskoi* from Stanthorpe in the Granite Belt of south-east Queensland.

These five new species are as follows:

Eulamprus yes sp. nov. is from a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of "The flags", Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

E. aha sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

E. gotit sp. nov. is the taxon within this subgenus currently only known from at or near Stanthorpe in south-east Queensland.

E. nrl sp. nov. is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains uplands and which carries *E.*

kosciuskoi to the south by the Murrumbidgee and Snowy River Systems.

E. afl sp. nov. is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby Snowy Mountains uplands population of *E. kosciuskoi* to the north by the Upper Murray River basin.

THE NEW SPECIES IN THE SUBGENUS *INVADERSKINKUS* SUBGEN. NOV.

The newly named subgenus *Invaderskinkus subgen. nov.*, formally described later in this paper, constitutes the so-called *E. tympanum* Lönnberg and Andersson, 1913 group of species, including the closely associated composite of species lumped within *E. heatwolei* Wells and Wellington, 1984.

Four new species are formally named in this subgenus.

Three are within what are currently treated as putative *E. heatwolei* Wells and Wellington, 1984 and one is within putative *E. tympanum* Lönnberg and Andersson, 1913.

The rarely recognized *E. herseyi* Wells and Wellington, 1985 of the Upper Murray basin is recognized herein as valid based on morphology, biogeography and the molecular data of Pepper *et al.* (2018).

It would be sad for the species to expire due to official government neglect based on a pig-headed refusal of Australian herpetologists acting in an unscientific way and pretending that the species does not exist, simply out of unprofessional jealousy against Richard Wells and Ross Wellington, whom they have decided have named "too many" species and genera (as explicitly stated in Kaiser 2012a-b).

I also note here that the putative species *Eulamprus tympanum marnieae* Hutchinson and Rawlinson, 1995, of western Victoria, adopted and used as the same in Cogger (2014), but without a shred of evidence for doing so and numerous other reptile texts to the present date (2024), AKA *Eulamprus marnieae* Hutchinson and Rawlinson, 1995 as cited in Wells (2009) is not recognized herein, even as a subspecies based on the phylogenetic data of Pepper *et al.* (2018).

Biogeographic data and morphological inspection by myself of numerous specimens of live *E. tympanum* from the relevant area of distribution in numerous field trips to the area, do not support any taxonomic concept of species of these lizards beyond that of the type form of *E. tympanum* with a type locality of Melbourne, Victoria.

The taxon is continuously distributed as an invasive, weedy plague species from Melbourne in south-central Victoria to the relevant parts of south-west Victoria across various habitats, including the geologically recent basalt plains, where they are very abundant.

Populations of so-called *Eulamprus tympanum marnieae* contain specimens of darker dorsal colouration (more black on back) than the type form of Melbourne, but these same putative populations of *Eulamprus tympanum marnieae* also contain specimens of the type form colouration, indicating that the colour differentiation of some specimens is not of species or subspecies level significance.

This is most easily seen at the location of Stony Rises (in the Colac-Otways Shire) Latitude 38.1954 S., Longitude 143.1757 E. where both colour forms breed freely together and intermediately coloured individuals are also common.

For the first time ever, four new species are formally named in this subgenus of *Eulamprus*.

These are *E. policecorruptionorum sp. nov.* a taxon from the mainly eastern ranges of New South Wales north of the Hunter River valley, *E. gad sp. nov.*, a taxon apparently confined to a relatively small area in the Blue Mountains immediately west of the Sydney metropolitan area, *E. extinctionbusinessorum sp. nov.* a distinctive species that should have been formally identified and named a long time ago and from the Upper Goulburn River drainage in north-east Victoria and *E. corruptbureaucratorum sp. nov.* being a range restricted species from the Upper Murrumbidgee River basin in the Australian Capital Territory and potentially nearby parts of immediately adjacent New South

Wales.

The first three have until now been treated as populations of putative *E. heatwolei* with a type locality of Macquarie Rivulet, just east of Robertson, New South Wales, Australia and the fourth species, *E. corrupturaucratorum* sp. nov. as a population of *E. tympanum* with a type locality of the environs of Melbourne, Victoria.

INFORMATION RELEVANT TO THE FORMAL DESCRIPTIONS THAT FOLLOW

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

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

In terms of the following formal descriptions, spelling of names should not be altered in any way for any purpose unless expressly and exclusively called for by the rules governing Zoological Nomenclature as administered by the International Commission of Zoological Nomenclature (Ride *et al.* 1999 and ICZN 2012).

Material downloaded from the internet and cited anywhere in this paper was downloaded and checked most recently as of 27 December 2024, unless otherwise stated and were accurate in terms of the context cited herein as of that date.

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

References to tails are of original ones unless otherwise stated.

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

In the unlikely event any "first reviser" seeks to merge two or more newly named taxa into one, then the name to be retained is that which is first by page priority as listed in the abstract keywords.

CONSERVATION

Delays in recognition of these species could jeopardise the long-term survival of the taxa as outlined by Hoser (2019a, 2019b) and sources cited therein.

Therefore attempts by taxonomic vandals, pedophiles, serial rapists, animal abusers and wildlife traffickers like the members of the Wolfgang Wüster gang via Kaiser (2012a, 2012b, 2013, 2014a, 2014b) and Kaiser *et al.* (2013) (as frequently amended and embellished, e.g. Rhodin *et al.* 2015, Naish 2013, as regularly altered and amended, Thiele *et al.* 2020, Hammer and Thiele 2021, Wüster *et al.* 2021, Foley and Rutter 2020) to unlawfully suppress the recognition of these taxa on the basis they have a personal dislike for the person who formally named it/them should be resisted (e.g. Ceriaco *et al.* 2023, Cogger 2014, Dubois *et al.* 2019, Hoser 2001a, Mosyakin 2022 and Wellington 2015). Claims by the Wüster gang against this paper and the descriptions herein will no doubt be no different to those the gang have made previously (see for example Shine 1987), all of which were discredited long ago as outlined by Ceriaco *et al.* (2023), Cogger (2014), Cotton (2014), Dubois *et al.* (2019), Hawkeswood (2021), Holyński (2020), Hoser, (2007a-b, 2009, 2012a, 2012b, 2013, 2015a-f, 2019a, 2019b, 2020a, 2021, 2023d, 2024g), ICZN (1991, 2001, 2021), Jiménez-Mejías *et al.* (2024), Kok (2023), Mosyakin (2022), Pethigayoda (2023), Wellington (2015), Winkler (2024), Zheng and Gold (2020) and sources cited therein.

Some material within descriptions is repeated to ensure each fully complies with the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) and the 2012 amendments (ICZN 2012).

If the Australian government persists with its "Big Australia Policy", (see for example Saunders 2019 or Zaczek 2019), that being a long-term aim to increase the human population in

Australia to over 100 million people by year 2150 (from the 25

million as of 2019), all sorts of unforeseen threats to the survival of these species may emerge.

Attempts to engage in acts of scientific fraud to try to rename any of these newly named taxa should be exposed and dealt with appropriately, as was done with David Williams, when in 2001 he attempted to rename and/or claim name authority for the species *Pailsus rossignolii* Hoser, 2000.

He did this in the first instance in 2001, by altering versions of his online "paper" (as seen in Williams and Starkey 1999a, 1999b and 1999c), all of which were different and changed versions of a single paper originally published in the first form in 1999, claiming (without any evidence) to refute the existence of the species *Pailsus palsei* Hoser, 1998.

LECTOTYPE DESIGNATION FOR THE TAXON "*HINULIA GASTROSTICTA* GÜNTHER, 1875"

In order to stabilize the taxonomy of the putative species "*Hinula gastrosticta* Günther, 1875", I do within this paper designate a Lectotype in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) ("the Code").

In order to comply with all of 74.7. (1, 2 and 3) in the Code, I make the following known.

74.7.1. A lectotype for "*Hinula gastrosticta* Günther, 1875", a taxon from the east and south-east of Australia is being designated from a series of three or four syntypes of "*Hinula gastrosticta* Günther, 1875".

74.7.3. In terms of the putative taxon, "*Hinula gastrosticta* Günther, 1875", there were three or four Syntypes.

Based on stated collection localities, taken at face value, there must be at least two species involved, based on the published results of Wells (2009) and Pepper *et al.* (2018).

Cogger *et al.* (1983) and all publishing authors between that date and the time of authorship of this paper at end 2024 have treated "*Hinula gastrosticta* Günther, 1875" as a junior synonym of *Lygosoma quoyii* Duméril and Bibron, 1839, now placed in the genus *Eulamprus* Fitzinger, 1843.

To stabilize the nomenclature for the species *Eulamprus quoyii* and by extension the synonym "*Hinula gastrosticta* Günther, 1875", as currently understood by herpetologists in Australia and elsewhere, sensu Cogger *et al.* (1983),

74.7.2. I hereby designate as a Lectotype, specimen number BMNH 1946.8.4.99 at the Natural History Museum, London, United Kingdom, from Kangaroo Island, South Australia, Australia, as the Lectotype for the species. The specimen was included in a type series of specimens from Kangaroo Island, South Australia (1 specimen), and unknown location/s in Queensland and/or Australia (2 or 3 specimens).

EULAMPUS (EULAMPUS) ONETHATWASOVERLOOKED SP. NOV.

LSIDDurn:lsid:zoobank.org:act:5A53E514-D00B-4C9E-9E51-6FBCCA28B2A2

Holotype: A preserved adult female specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J37004 collected from the Blackdown Tableland, Queensland, Australia, Latitude -23.8 S., Longitude 149.133333 E.

This government-owned facility allows access to its holdings.

Paratypes: Five preserved specimens at the Queensland Museum, Brisbane, Queensland, Australia, being specimen numbers J29114, J34293 (juvenile female), J34300, J34301 and J41983 all collected in the Mimosas Creek area of the Blackdown Tableland, Queensland, Australia, approximate Latitude -23.8 S., Longitude 149.133333 E.

Diagnosis: Until 2020 *Eulamprus paulwoolffi* Hoser, 2020 (Hoser 2020d) had been treated as a northern population of the well-known species *E. quoyii* (Duméril and Bibron, 1839).

Likewise for the newly named form herein *Eulamprus onethatwasoverlooked* sp. nov. from the Blackdown Tableland region of central west Queensland.

The two species *E. paulwoolffi* and *E. onethatwasoverlooked* sp. nov. are readily separated from the type (Sydney) form *E. quoyii* by the following characters:

1/ The original tail of *E. quoyii* is dominantly brown in colour with a series of black flecks and/or spots running mainly along the sides. By contrast the original tail of *E. paulwoolffi* is dominantly brown in colour on top and blackish on the sides and most notably has a series of white flecks or spots running mainly along the sides.

The original tail of *E. onethatwasoverlooked sp. nov.* has a largely unbroken black line along the dorsolateral edge, sometimes as a row of closely placed spots being on the upper lateral edge, with relatively evenly scattered small black spots on the rest of the lateral edges of the tail. There are no white spots of any sort on the dorsum of the body or any part of the tail.

E. quoyii is separated from *E. onethatwasoverlooked sp. nov.* by the fact that there is not a preponderance of black pigment on the dorsolateral edge on the upper flank.

2/ The throat of *E. quoyii* and *E. onethatwasoverlooked sp. nov.* is dominantly whitish, cream or light yellow in colour with limited black pigment or spots and never more than small spots either scattered or forming longitudinal lines.

By contrast the throat of *E. paulwoolffi* is heavily peppered and marked with black or very dark pigment, with white being limited to flecks, spots or otherwise limited areas.

3/ The upper labials of *E. paulwoolffi* have very distinct dark brown bars on them which is not the case in *E. quoyii* and *E. onethatwasoverlooked sp. nov.*. In these two species the upper labials are etched with a dull grey only. In *E. quoyii* the etching is wider away from the upper lip, whereas in *E. onethatwasoverlooked sp. nov.* the etching is narrow along the boundary of the entire upper labial and does not widen away from the lip.

4/ The dorsum of both *E. quoyii* and *E. paulwoolffi* has a prominent yellow stripe running from the eye to the middle or rear of the body, along the upper dorsolateral edge on either side. This is more prominent in *E. onethatwasoverlooked sp. nov.* and extends in prominent form to the pelvic region, versus fades in the other two species.

All three species are dark brown dorsally and with scattered black spots of varying number and intensity, depending on individual specimens. However, in *E. onethatwasoverlooked sp. nov.* this spotting is so reduced in size and number so as to appear to be almost absent, which is a condition rarely, but sometimes seen in the other two species.

The three species *E. paulwoolffi*, *E. onethatwasoverlooked sp. nov.* and *E. quoyii* are separated from other similar Australian species (and all other species in the same genus) as follows: They are defined as a large Australian water skink (adults reaching over 110 mm snout-vent) with sharply-defined narrow pale yellow dorsolateral stripes but without a black vertebral stripe and a top of head that is either immaculate (one colour) or with only with limited spots or flecks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is a genus of largish, fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. paulwoolffi in life in a photograph can be seen in Brown (2014) at page 525, top right and second from bottom on left and a photo by Robert Valentic can be seen online at:

<https://flickr.com/photos/gondwanareptileproductio ns/48369508457/>

(last downloaded on 27 December 2024)

The type form of *E. quoyii* from Sydney, NSW, in a photo by Andy Burton is online at:

<https://flickr.com/photos/burtonandy/4407753711>

(last downloaded on 27 December 2024)

The type form of *E. quoyii* is also depicted in life in Cogger (2014)

at page 562 (top right), Hoser (1989) at page 96 (middle), Wilson and Swan (2017) on page 305, being both images at top of page, Wilson (2015) at bottom of page and in Brown (2014) page 525 at second row from top (both images).

Eulamprus onethatwasoverlooked sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/127392361@N04/49441422837/in/photolist-2ijYduM>

and

<https://www.inaturalist.org/observations/160001365>

and

<https://www.inaturalist.org/observations/194475349>

and

<https://www.inaturalist.org/observations/67445548>

and

<https://www.inaturalist.org/observations/67445549>

(last downloaded on 27 December 2024).

Distribution: *Eulamprus paulwoolffi* is found in North Queensland along the coast, generally from at least Mackay in the south and Cairns in the north, including nearby coastal ranges, but usually at lower elevations, noting the species is usually associated with watercourses or sometimes in man-made gardens with watering points, where they often occur in large numbers.

Pepper *et al.* (2018) give Gladstone in Queensland as the apparent approximate southern limit for this taxon.

Eulamprus onethatwasoverlooked sp. nov. is apparently restricted to the Blackdown Tableland Region near Dingo in central west Queensland and potentially some areas south-east of this apparent outlier population.

Specimens have also been reported from Brisbane in Queensland, (Pepper *et al.* 2018) but is it unsure if all local to that area "Water Skinks" are of the *Eulamprus onethatwasoverlooked sp. nov.* species.

The type form of *E. quoyii* is found generally south of Fraser Island in Queensland, based on the data of Pepper *et al.* (2018) and includes all specimens of this nominate taxon found south of the New South Wales and Queensland border, including specimens from New South Wales and South Australia.

Etymology: This species has been overlooked by other taxonomists.

EULAMPRUS (COSTINISAUROIA) YES SP. NOV.

LSIDurn:lsid:zoobank.org:act:1704875B-75C4-4871-9C30-54EC43C47B60

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.112314 collected from Nundle State Forest, New South Wales, Australia, Latitude -31.45 S., Longitude 151.333 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.112315 collected from Nundle State Forest, New South Wales, Australia, Latitude -31.45 S., Longitude 151.333 E.

2/ A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.1112306 collected from Hanging Rock State Forest, New South Wales, Australia, Latitude -31.483 S., Longitude 151.233 E.

Diagnosis: Until now *Eulamprus (Costinisauria) yes sp. nov.*, *E. aha sp. nov.* and *E. gotit sp. nov.* have been treated by most authors as northern populations of *E. kosciuskoi* (Kingham, 1932) a species with a type locality of Mount Kosciusko, southern New South Wales.

Exceptional to this has been Wells and Wellington (1985) and then Wells (2009) who ultimately recognized two populations of putative *E. kosciuskoi* from north of the Hunter Valley as being separate species, namely *E. worrelli* (Wells and Wellington, 1985), type locality of Barrington Tops, New South Wales, Australia and *E. couperi* (Wells, 2009) as a separate taxon, type locality of Waratah Swamp, Gibraltar Range National Park, New South Wales, Australia, Latitude 29.30 S., Longitude 152.19 E.

Wells (2009) put all the three preceding species and the morphologically similar *E. leuraensis* Wells and Wellington, 1984, type locality Leura, New South Wales, Australia, Latitude 33.43 S., Longitude 150.20 E into the genus *Costinisauria* Wells and Wellington, 1985, type species *Lygosoma (Hinulia) quoyii kosciuskoi* Kinghorn, 1932 by original designation.

With a divergence not exceeding 6 MYA from *E. quoyii* Duméril and Bibron, 1839, the type species for *Eulamprus* Fitzinger, 1843, based on the phylogeny of Skinner *et al.* (2013) at Fig 2, *Costinisauria* is herein treated as a subgenus.

These three preceding species all treated as putative *E. kosciuskoi* by Pepper *et al.* (2018) are separate to the otherwise widely recognized (and by them) *E. leuraensis*.

However, Pepper *et al.* (2018) stated that excluding *E. leuraensis* which they recognised as a separate species ““*Eulamprus kosciuskoi* comprises seven divergent lineages restricted to different mountain tops through NSW and eastern VIC (Figure 2b).”

These authors also failed to inspect specimens of putative *E. kosciuskoi* from Stanthorpe in south-east Queensland, that are quite obviously biogeographically separated and morphologically divergent as well.

In summary Wells (2009) has identified and assigned species names to the four most divergent clades including *E. leuraensis*, all recognised as valid herein.

This paper formally names the other divergent clades in this subgenus as full species, the most divergent of these being *E. yes sp. nov.*

E. yes sp. nov. is a taxon confined to a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of The flags, Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

It is separated from all other species and subspecies in the subgenus *Costinisauria* Wells and Wellington, 1985 by the following unique combination of characters:

Large black spots on the lower rear of each supralabial, sometimes merging on the lower edge to form a continuum on the lower edge, especially posterior to the eye, otherwise pale brown on the sides of the head and snout as well as the dorsum of the head.

Black on upper part of flank is less than a third of the surface and with a row of large, irregularly shaped yellowish blotches along the middle of the black zone. Lower two thirds of the flank not separated by a sharp boundary from the black zone and is a lightish brownish white in colour, being slightly lighter on the lower flank.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being half the width of the tympanum, being bounded top and bottom by a thick yellow or white edge, whereupon it begins to form the dark zone at the top of the flank.

Dorsum is brown in colour overall, with two rows of black dots, each near the dorsolateral edge, these dots almost merging to form a semi distinct line or otherwise as a row of dots, especially on the posterior part of the body.

Top of original tail is brown with only a few scattered dark flecks. The sides of the tail are brown, but overlain with two, sometimes three, rows of moderate-sized black dots along most of the length, excluding the far distal part where they fade and dissipate.

The top of the head is slightly yellowish in colour as opposed to the more chocolate brown neck on the upper surface and dorsum.

E. yes sp. nov. has limbs that have mainly light brown upper surfaces with black speckles, spots, blotches or markings, not in any obvious pattern or configuration.

Based on the genetic data of Pepper *et al.* (2018), the closest relative of *E. yes sp. nov.* is *E. worrelli* (Wells and Wellington, 1985), with a centre of distribution of Barrington Tops, New South Wales, Australia.

E. worrelli is readily separated from all other species in the genus by the following unique combination of characters:

The dark spots on the lower labials are more in the form of triangles than circular blotches as seen in *E. yes sp. nov.*

The upper labials also have significant amounts of black peppering.

The black lines on the outer edges of the upper surface are thick and continuous. There are two or more rows of distinctive black dots forming longitudinal lines running down the dorsal surface of the anterior tail. The dark zone on the upper flank, expands to the lower flank in the form of broken black spots and blotches of irregular shape on an otherwise lighter background. The side of the tail has spotting enlarged to form black squares so that most of the sides of the tail are blackish in colour.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being nearly the full the width of the tympanum (versus about half the width only in *E. yes sp. nov.*), being bounded top and bottom by only a thin yellow or white edge, whereupon it begins to form the dark zone at the top of the flank. The yellow line along the dorsolateral edge is distinct and moderately thick.

The upper surfaces of the limbs are an even ratio of black and brown in the form of blotches and mottling.

E. aha sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

It is readily separated from all other species in the genus by the following unique combination of characters: Dark brown or black on the lower edges of the upper labials are formed into triangles, with the base at the lip and centred on each scale. Behind the eye, the head shields also have dark triangles within them, being on a lighter brown base.

Black occupies about half the surface of the flank, being the upper half. Within this zone of black are a series of large and distinctive golden yellow blotches of irregular shape, arranged longitudinally along the side.

Lower flanks are whitish or yellowish, with no black spots or speckles or only a limited amount of tiny black spots, which are slightly more prominent on the lower posterior of the body than anteriorly.

The dorsum itself is brown, but there are three well-defined and continuous, moderately thin black lines on it, one down the vertebral line and the others on the outer edge.

On the dorsolateral edge is a thin, well defined golden yellow stripe.

Top of the original tail is brown, with a few tiny black spots anteriorly. Sides of tail are heavily marked with black squares, slightly irregular in shape, but so close as to make the sides of the tail mainly black. Upper surfaces of the anterior limbs are mainly black with medium sized, well defined golden yellow spots, while the upper surfaces of the hind limbs are mottled black and brown with a similar ratio of each.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

E. couperi is similar in most respects to *E. aha sp. nov.* as described above (unless otherwise stated) but is separated from that species and all other species in the subgenus by the following characters:

The dark markings on the lower labials are ill defined and not formed into obvious triangles. Dorsal markings in the form of the longitudinal black lines are generally ill-defined and the yellow stripe running on the dorsolateral edge is ill-defined, especially posteriorly on the body.

E. couperi has most of the flank being black, this occupying the top two thirds of each flank. Within the black zone of the flank are evenly scattered small and ill-defined golden, yellow or white spots or bars of often irregular shape, but by far the bulk of the dark upper flank remains black in colour.

The black stripe from ear to flank is broad and roughly as wide as

the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are no small yellow or white spots in the centre of this line posterior to the ear.

E. gotit sp. nov. is a taxon only known from the Stanthorpe area in south-east Queensland. It is similar in most respects to *E. couperi* unless otherwise stated.

E. gotit sp. nov. is most readily separated from each of *E. couperi*, *E. aha* sp. nov., *E. worrelli* and *E. yes* sp. nov. by having 9 or 10 supraciliaries versus 7 in each of the other species in the subgenus from north of the Hunter Valley.

This taxon has scattered dark spots on the dorsum arranged in a linear manner, but no obvious lines on the dorsum. There is an apparently random scattering of black spots and flecks along the lateral edges of the otherwise dark brown (original) tail, which is plain brown dorsally.

As for *E. aha* sp. nov., in *E. gotit* sp. nov. the black stripe from ear to flank is broad and roughly as wide as the ear opening but it is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

Pearson and Shea (2008) give a detailed description of the only two known specimens of this species, these being the holotype and paratype as designated in this paper.

E. leuraensis (Wells and Wellington, 1984), type locality of Leura in the Blue Mountains of New South Wales, and known only from this general area (the upper Blue Mountains), including the Newnes Plateau, is readily separated from the other species in the subgenus by having a ground colour that is very dark brown or black and with strongly contrasting narrow, pale (white or yellow) longitudinal stripes. The original tail is black on the visible surfaces, with scattered golden spots of irregular shape dorsally and lighter yellow spots laterally.

Visible surfaces of the limbs are black with scattered, tiny and semi-distinct yellow or white spots or flecks.

Flanks are black with scattered yellow or white spots of irregular shape, arranged longitudinally, being more prominent on the lower flank than upper flank.

There is a black bar behind the ear, but due to the generally dark colour of the lizard, it is not as noticeable as seen in members of the genus found north of the Hunter Valley. The black bar usually has a series of medially placed small yellow-white spots.

Eulamprus kosciuskoi (Kinghorn, 1932), type locality of Mount Kosciusko, New South Wales, Australia is confined to the Snowy Mountains District of southern New South Wales and immediately adjacent Victoria in the Alpine National Park.

E. kosciuskoi, is readily separated from the other species in the subgenus by having a dorsum that is a mid-brown or yellowish brown in colour, versus chocolate brown in members of the genus from north of the Hunter Valley.

Significantly the dorsal pattern is unique in that it is a bold configuration of three bold black stripes running down the dorsum, in turn bound by four bold yellow-brown stripes, the outer ones forming the dorsolateral edge.

The flanks are black with large yellow spots or blotches of irregular shape that are vaguely longitudinally aligned.

Posterior to the ear is a black spot, but not a bar extending to the dark of the flank. The upper surface of the anterior of the tail has a black stripe running onto it, but this rapidly dissipates making most of the upper surface of the tail plain brown in colour. Extensive black spotting or blotches on the anterior lateral surfaces of the tail also dissipates as one moves towards the posterior, with the posterior end being brown all over.

Upper surfaces of limbs are mainly brown but with a moderate amount of black peppering or small spots.

Upper labials are light yellow brown, like most of the rest of the head. There is rarely any black on the upper labials and if so, barely visible and on the lower edges only.

E. nrl sp. nov. is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian

Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains by the Murrumbidgee and Snowy River Systems.

It is separated from *E. kosciuskoi* and all other species in the subgenus by the following combination of characters:

The dorsum is a dark brown in colour and without the bold striping seen in *E. kosciuskoi*. Dorsal markings are not distinct, save for the thin yellow lines on the dorsolateral edges.

Most of the flanks are black, with numerous tiny, scattered semi-distinct yellow white spots that are arranged longitudinally in about 5 rows, with 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a more whitish appearance.

There is a black or dark bar running from ear to flank, this area being mottled yellow.

Upper surfaces of limbs are mottled dark brown and yellow in roughly even amounts.

Venter is yellowish and with scattered grey spots.

Upper labials are irregularly marked with black, mainly on the lower edges and sometimes triangular in shape, the dark pigment usually, but not always in the lower centre of each scale, this mainly being below and posterior to the eye, with the anterior upper labials usually immaculate brown.

The upper surface of the head is yellowish brown with dark etched scales, in this respect being similar to *E. kosciuskoi*.

E. afl sp. nov. is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby population of *E. kosciuskoi* by the Upper Murray River basin.

In many respects it is similar in appearance to *E. kosciuskoi*, unless otherwise stated.

However, *E. afl* sp. nov. is separated from *E. kosciuskoi* and all other species in the subgenus by the following suite of characters: Dorsum is a dark greyish brown with the dorsal stripes being poorly defined and not highly contrasting, versus the reverse in *E. kosciuskoi*.

The edges of the boundaries of the black stripes in particular, are not straight and well defined as seen in *E. kosciuskoi*.

Most of the flanks are black, with numerous tiny, scattered semi-distinct gold or yellow white spots that are arranged longitudinally in about 8 rows, with another 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a slightly more whitish appearance, but not the apparently whitish appearance as seen in *E. nrl* sp. nov..

The head of *E. afl* sp. nov. is an immaculate greyish brown in colour. Exceptional to this are a few tiny black spots on the lower margins of some posterior upper labials.

Upper surfaces of the limbs are mottled black and brown, being mainly black rather than brown.

In the original tail, the black stripe of the mid dorsum continues in a well-defined line about half the length of the tail before breaking up to disappear on the distal half.

The sides of the tail are heavily spotted or marked black, being mainly black and this remains the case for most of the tail length, the amount of black declining at the distal end.

As for *E. kosciuskoi* the black posterior to the ear is in the form of an irregularly shaped blotch rather than as a distinctive bar as seen in genus members north of the Hunter Valley.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with

one or more dark longitudinal stripes, sometimes that are only semi-distinct and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is a genus of largish, fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. yes sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/127392361@N04/50705017142/>
and

<https://www.flickr.com/photos/58349528@N02/36639556244/>
and

<https://www.inaturalist.org/observations/139578932>

and

<https://www.inaturalist.org/observations/139953066>

and

<https://www.inaturalist.org/observations/139207146>

E. worrelli is depicted in life online at:

<https://biocache.ala.org.au/occurrences/0d144fb6-a5a6-4506-9989-8cf2098247de>

and

<https://www.flickr.com/photos/136643623@N03/26830092950/>
and

https://www.flickr.com/photos/ken_griffiths_photography/52384438764/
and

<https://www.flickr.com/photos/euprepiosaur/15774479086/>
and

<https://www.flickr.com/photos/euprepiosaur/15178204674/>
and

<https://www.flickr.com/photos/euprepiosaur/15612327609/>
and

<https://www.inaturalist.org/observations/128428192>

and

<https://www.inaturalist.org/observations/146516579>

and

<https://www.inaturalist.org/observations/220861423>

and

<https://www.inaturalist.org/observations/243302362>

and

<https://www.inaturalist.org/observations/146516689>

E. aha sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/53494191403/>
and

https://www.flickr.com/photos/ken_griffiths_photography/53738465258/
and

<https://www.flickr.com/photos/ryanfrancis/53493151552/>

and

E. leuraensis is depicted in life online at:

<https://www.flickr.com/photos/141679113@N08/49811498183/>
and

<https://www.flickr.com/photos/141679113@N08/49812043366/>
and

<https://www.flickr.com/photos/euprepiosaur/15669572423/>
and

<https://www.flickr.com/photos/58349528@N02/24199370591/>
and

<https://www.flickr.com/photos/stephenmahony/29294447618/>

Eulamprus kosciuskoi is depicted in life online at:

[https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-](https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-bfa3-8e7ceafb60de)

[bfa3-8e7ceafb60de](https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-bfa3-8e7ceafb60de)

and

<https://www.flickr.com/photos/27026445@N06/25352942945/>
and

and

https://www.flickr.com/photos/ken_griffiths_photography/26146017657/
and

<https://www.inaturalist.org/photos/59720133>
and

and

<https://www.flickr.com/photos/julesfarquhar/47971421477/>
and

and

<https://www.flickr.com/photos/61702147@N05/46798364502/>

Eulamprus nrl sp. nov. is depicted in life online at:

<https://canberra.naturemapr.org/sightings/1966051>

Eulkamprus afl sp. nov. is depicted in life in Brown (2014) at page 525, top left and online at:

<https://biocache.ala.org.au/occurrences/ec47c652-55f7-4109-9415-2dc1d5a912fc>

Distribution: *E. yes* sp. nov. is a taxon confined to a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of The flags, Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

Etymology: When auditing the subgenus *Costinisauria* Wells and Wellington, 1985 and it became apparent that the relevant taxon was an undescribed species, my daughter assisting me exclaimed "yes".

So, in answer to an obvious question, my answer was "why not?" Hence the etymology for this taxon.

EULAMPRUS (COSTINISAURIA) AHA SP. NOV.

LSIDurn:lsid:zoobank.org:act:20EE114A-C238-4EC5-B95A-04FA81960837

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.41545 collected from The New England National Park, New South Wales, Australia, Latitude -30.48944 S., Longitude 152.38082 E. This government-owned facility allows access to its holdings.

Paratypes: 1/ Six preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.41546, R.41547, R.41549, R.41556, R.41557 and R.41558 all collected from The New England National Park, New South Wales, Australia, Latitude -30.48944 S., Longitude 152.38082 E.

2/ A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.41545 collected from the Old Homestead, Marengo Station, New South Wales, Australia, Latitude -30.48944 S., Longitude 152.38082 E.

Diagnosis: Until now *Eulamprus (Costinisauria) yes* sp. nov., *E. aha* sp. nov. and *E. gotit* sp. nov. have been treated by most authors as northern populations of *E. kosciuskoi* (Kinghorn, 1932) a species with a type locality of Mount Kosciusko, southern New South Wales.

Exceptional to this has been Wells and Wellington (1985) and then Wells (2009) who ultimately recognized two populations of putative *E. kosciuskoi* from north of the Hunter Valley as being separate species, namely *E. worrelli* (Wells and Wellington, 1985), type locality of Barrington Tops, New South Wales, Australia and *E. couperi* (Wells, 2009) as a separate taxon, type locality of Waratah Swamp, Gibraltar Range National Park, New South Wales, Australia, Latitude 29.30 S., Longitude 152.19 E.

Wells (2009) put all the three preceding species and the morphologically similar *E. leuraensis* Wells and Wellington, 1984, type locality Leura, New South Wales, Australia, Latitude 33.43 S., Longitude 150.20 E into the genus *Costinisauria* Wells and Wellington, 1985, type species *Lygosoma (Hinulia) quoyii kosciuskoi* Kinghorn, 1932 by original designation.

With a divergence not exceeding 6 MYA from *E. quoyii* Duméril and Bibron, 1839, the type species for *Eulamprus* Fitzinger, 1843, based on the phylogeny of Skinner *et al.* (2013) at Fig 2, *Costinisauria* is herein treated as a subgenus.

These three preceding species all treated as putative *E. kosciuskoi* by Pepper *et al.* (2018) are separate to the otherwise widely recognized (and by them) *E. leuraensis*.

However, Pepper *et al.* (2018) stated that excluding *E. leuraensis* which they recognised as a separate species "Eulamprus kosciuskoi comprises seven divergent lineages restricted to different mountain tops through NSW and eastern VIC (Figure 2b)."

These authors also failed to inspect specimens of putative *E. kosciuskoi* from Stanthorpe in south-east Queensland, that are quite obviously biogeographically separated and morphologically divergent as well.

In summary Wells (2009) has identified and assigned species names to the four most divergent clades including *E. leuraensis*, all recognised as valid herein.

This paper formally names the other divergent clades in this subgenus as full species, the most divergent of these being *E. yes sp. nov.*

E. yes sp. nov. is a taxon confined to a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of The flags, Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

It is separated from all other species and subspecies in the subgenus *Costinisauria* Wells and Wellington, 1985 by the following unique combination of characters:

Large black spots on the lower rear of each supralabial, sometimes merging on the lower edge to form a continuum on the lower edge, especially posterior to the eye, otherwise pale brown on the sides of the head and snout as well as the dorsum of the head.

Black on upper part of flank is less than a third of the surface and with a row of large, irregularly shaped yellowish blotches along the middle of the black zone. Lower two thirds of the flank not separated by a sharp boundary from the black zone and is a lightish brownish white in colour, being slightly lighter on the lower flank.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being half the width of the tympanum, being bounded top and bottom by a thick yellow or white edge, whereupon it begins to form the dark zone at the top of the flank. Dorsum is brown in colour overall, with two rows of black dots, each near the dorsolateral edge, these dots almost merging to form a semi distinct line or otherwise as a row of dots, especially on the posterior part of the body.

Top of original tail is brown with only a few scattered dark flecks. The sides of the tail are brown, but overlain with two, sometimes three, rows of moderate-sized black dots along most of the length, excluding the far distal part where they fade and dissipate.

The top of the head is slightly yellowish in colour as opposed to the more chocolate brown neck on the upper surface and dorsum.

E. yes sp. nov. has limbs that have mainly light brown upper surfaces with black speckles, spots, blotches or markings, not in any obvious pattern or configuration.

Based on the genetic data of Pepper *et al.* (2018), the closest relative of *E. yes sp. nov.* is *E. worrelli* (Wells and Wellington, 1985), with a centre of distribution of Barrington Tops, New South Wales, Australia.

E. worrelli is readily separated from all other species in the genus by the following unique combination of characters:

The dark spots on the lower labials are more in the form of triangles than circular blotches as seen in *E. yes sp. nov.*

The upper labials also have significant amounts of black peppering.

The black lines on the outer edges of the upper surface are thick and continuous. There are two or more rows of distinctive black

dots forming longitudinal lines running down the dorsal surface of the anterior tail. The dark zone on the upper flank, expands to the lower flank in the form of broken black spots and blotches of irregular shape on an otherwise lighter background. The sides of the tail has spotting enlarged to form black squares so that most of the sides of the tail are blackish in colour.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being nearly the full the width of the tympanum (versus about half the width only in *E. yes sp. nov.*), being bounded top and bottom by only a thin yellow or white edge, whereupon it begins to form the dark zone at the top of the flank. The yellow line along the dorsolateral edge is distinct and moderately thick.

The upper surfaces of the limbs are an even ratio of black and brown in the form of blotches and mottling.

E. aha sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

It is readily separated from all other species in the genus by the following unique combination of characters: Dark brown or black on the lower edges of the upper labials are formed into triangles, with the base at the lip and centred on each scale. Behind the eye, the head shields also have dark triangles within them, being on a lighter brown base.

Black occupies about half the surface of the flank, being the upper half.

Within this zone of black are a series of large and distinctive golden yellow blotches of irregular shape, arranged longitudinally along the side.

Lower flanks are whitish or yellowish, with no black spots or speckles or only a limited amount of tiny black spots, which are slightly more prominent on the lower posterior of the body than anteriorly.

The dorsum itself is brown, but there are three well-defined and continuous, moderately thin black lines on it, one down the vertebral line and the others on the outer edge.

On the dorsolateral edge is a thin, well defined golden yellow stripe.

Top of the original tail is brown, with a few tiny black spots anteriorly. Sides of tail are heavily marked with black squares, slightly irregular in shape, but so close as to make the sides of the tail mainly black. Upper surfaces of the anterior limbs are mainly black with medium sized, well defined golden yellow spots, while the upper surfaces of the hind limbs are mottled black and brown with a similar ratio of each.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

E. couperi is similar in most respects to *E. aha sp. nov.* as described above (unless otherwise stated) but is separated from that species and all other species in the subgenus by the following characters:

The dark markings on the lower labials are ill defined and not formed into obvious triangles. Dorsal markings in the form of the longitudinal black lines are generally ill-defined and the yellow stripe running on the dorsolateral edge is ill-defined, especially posteriorly on the body.

E. couperi has most of the flank being black, this occupying the top two thirds of each flank.

Within the black zone of the flank are evenly scattered small and ill-defined golden, yellow or white spots or bars of often irregular shape, but by far the bulk of the dark upper flank remains black in colour.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are no small yellow or white spots in the centre of this line posterior to the ear.

E. gotit sp. nov. is a taxon only known from the Stanthorpe area in south-east Queensland. It is similar in most respects to *E. couperi* unless otherwise stated.

E. gotit sp. nov. is most readily separated from each of *E. couperi*, *E. aha* sp. nov., *E. worrelli* and *E. yes* sp. nov. by having 9 or 10 supraciliaries versus 7 in each of the other species in the subgenus from north of the Hunter Valley.

This taxon has scattered dark spots on the dorsum arranged in a linear manner, but no obvious lines on the dorsum. There is an apparently random scattering of black spots and flecks along the lateral edges of the otherwise dark brown (original) tail, which is plain brown dorsally.

As for *E. aha* sp. nov., in *E. gotit* sp. nov. the black stripe from ear to flank is broad and roughly as wide as the ear opening but it is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

Pearson and Shea (2008) give a detailed description of the only two known specimens of this species, these being the holotype and paratype as designated in this paper.

E. leuraensis (Wells and Wellington, 1984), type locality of Leura in the Blue Mountains of New South Wales, and known only from this general area (the upper Blue Mountains), including the Newnes Plateau, is readily separated from the other species in the subgenus by having a ground colour that is very dark brown or black and with strongly contrasting narrow, pale (white or yellow) longitudinal stripes. The original tail is black on the visible surfaces, with scattered golden spots of irregular shape dorsally and lighter yellow spots laterally.

Visible surfaces of the limbs are black with scattered, tiny and semi-distinct yellow or white spots or flecks.

Flanks are black with scattered yellow or white spots of irregular shape, arranged longitudinally, being more prominent on the lower flank than upper flank.

There is a black bar behind the ear, but due to the generally dark colour of the lizard, it is not as noticeable as seen in members of the genus found north of the Hunter Valley. The black bar usually has a series of medially placed small yellow-white spots.

Eulamprus kosciuskoi (Kinghorn, 1932), type locality of Mount Kosciusko, New South Wales, Australia is confined to the Snowy Mountains District of southern New South Wales and immediately adjacent Victoria in the Alpine National Park.

E. kosciuskoi, is readily separated from the other species in the subgenus by having a dorsum that is a mid-brown or yellowish brown in colour, versus chocolate brown in members of the genus from north of the Hunter Valley.

Significantly the dorsal pattern is unique in that it is a bold configuration of three bold black stripes running down the dorsum, in turn bound by four bold yellow-brown stripes, the outer ones forming the dorsolateral edge.

The flanks are black with large yellow spots or blotches of irregular shape that are vaguely longitudinally aligned.

Posterior to the ear is a black spot, but not a bar extending to the dark of the flank. The upper surface of the anterior of the tail has a black stripe running onto it, but this rapidly dissipates making most of the upper surface of the tail plain brown in colour.

Extensive black spotting or blotches on the anterior lateral surfaces of the tail also dissipates as one moves towards the posterior, with the posterior end being brown all over.

Upper surfaces of limbs are mainly brown but with a moderate amount of black peppering or small spots.

Upper labials are light yellow brown, like most of the rest of the head. There is rarely any black on the upper labials and if so, barely visible and on the lower edges only.

E. nrl sp. nov. is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains by the Murrumbidgee and Snowy River Systems.

It is separated from *E. kosciuskoi* and all other species in the

subgenus by the following combination of characters:

The dorsum is a dark brown in colour and without the bold striping seen in *E. kosciuskoi*. Dorsal markings are not distinct, save for the thin yellow lines on the dorsolateral edges.

Most of the flanks are black, with numerous tiny, scattered semi-distinct yellow white spots that are arranged longitudinally in about 5 rows, with 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a more whitish appearance.

There is a black or dark bar running from ear to flank, this area being mottled yellow.

Upper surfaces of limbs are mottled dark brown and yellow in roughly even amounts.

Venter is yellowish and with scattered grey spots.

Upper labials are irregularly marked with black, mainly on the lower edges and sometimes triangular in shape, the dark pigment usually, but not always in the lower centre of each scale, this mainly being below and posterior to the eye, with the anterior upper labials usually immaculate brown.

The upper surface of the head is yellowish brown with dark etched scales, in this respect being similar to *E. kosciuskoi*.

E. afl sp. nov. is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby population of *E. kosciuskoi* by the Upper Murray River basin. In many respects it is similar in appearance to *E. kosciuskoi*, unless otherwise stated.

However, *E. afl* sp. nov. is separated from *E. kosciuskoi* and all other species in the subgenus by the following suite of characters:

Dorsum is a dark greyish brown with the dorsal stripes being poorly defined and not highly contrasting, versus the reverse in *E. kosciuskoi*.

The edges of the boundaries of the black stripes in particular, are not straight and well defined as seen in *E. kosciuskoi*.

Most of the flanks are black, with numerous tiny, scattered semi-distinct gold or yellow white spots that are arranged longitudinally in about 8 rows, with another 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a slightly more whitish appearance, but not the apparently whitish appearance as seen in *E. nrl* sp. nov..

The head of *E. afl* sp. nov. is an immaculate greyish brown in colour. Exceptional to this are a few tiny black spots on the lower margins of some posterior upper labials.

Upper surfaces of the limbs are mottled black and brown, being mainly black rather than brown.

In the original tail, the black stripe of the mid dorsum continues in a well-defined line about half the length of the tail before breaking up to disappear on the distal half.

The sides of the tail are heavily spotted or marked black, being mainly black and this remains the case for most of the tail length, the amount of black declining at the distal end.

As for *E. kosciuskoi* the black posterior to the ear is in the form of an irregularly shaped blotch rather than as a distinctive bar as seen in genus members north of the Hunter Valley.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is a genus

of largish, fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. yes sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/127392361@N04/50705017142/>

and

<https://www.flickr.com/photos/58349528@N02/36639556244/>

and

<https://www.inaturalist.org/observations/139578932>

and

<https://www.inaturalist.org/observations/139953066>

and

<https://www.inaturalist.org/observations/139207146>

E. worrelli is depicted in life online at:

<https://biocache.ala.org.au/occurrences/0d144fb6-a5a6-4506-9989-8cf2098247de>

and

<https://www.flickr.com/photos/136643623@N03/26830092950/>

and

https://www.flickr.com/photos/ken_griffiths_photography/52384438764/

and

<https://www.flickr.com/photos/euprepiosaur/15774479086/>

and

<https://www.flickr.com/photos/euprepiosaur/15178204674/>

and

<https://www.flickr.com/photos/euprepiosaur/15612327609/>

and

<https://www.inaturalist.org/observations/128428192>

and

<https://www.inaturalist.org/observations/146516579>

and

<https://www.inaturalist.org/observations/220861423>

and

<https://www.inaturalist.org/observations/243302362>

and

<https://www.inaturalist.org/observations/146516689>

E. aha sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/53494191403/>

and

https://www.flickr.com/photos/ken_griffiths_photography/53738465258/

and

<https://www.flickr.com/photos/ryanfrancis/53493151552/>

E. leuraensis is depicted in life online at:

<https://www.flickr.com/photos/141679113@N08/49811498183/>

and

<https://www.flickr.com/photos/141679113@N08/49812043366/>

and

<https://www.flickr.com/photos/euprepiosaur/15669572423/>

and

<https://www.flickr.com/photos/58349528@N02/24199370591/>

and

<https://www.flickr.com/photos/stephenmahony/29294447618/>

Eulamprus kosciuskoi is depicted in life online at:

<https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-bfa3-8e7ceafb0de>

and

<https://biocache.ala.org.au/occurrences/5c276aae-9c60-469e-a225-c573819199e6>

and

<https://www.flickr.com/photos/27026445@N06/25352942945/>

and

https://www.flickr.com/photos/ken_griffiths_photography/26146017657/

and

<https://www.inaturalist.org/photos/59720133>

and

<https://www.flickr.com/photos/julesfarquhar/47971421477/>

and

<https://www.flickr.com/photos/61702147@N05/46798364502/>

Eulamprus nrl sp. nov. is depicted in life online at:

<https://canberra.naturemapr.org/sightings/1966051>

Eulamprus afl sp. nov. is depicted in life in Brown (2014) at page 525, top left and online at:

<https://biocache.ala.org.au/occurrences/ec47c652-55f7-4109-9415-2dc1d5a912fc>

Distribution: *E. aha* sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

Etymology: When auditing the subgenus *Costinisauria* Wells and Wellington, 1985 and it became apparent that the relevant taxon was an undescribed species, my second daughter assisting me exclaimed “aha”.

So, in answer to an obvious question, my answer was, “why not?” Hence the etymology for this taxon.

EULAMPRUS (COSTINISAURIA) GOTIT SP. NOV.

LSIDurn:lsid:zoobank.org:act:38DF3092-D080-4B1C-B502-33BFAF0E4750

Holotype: A preserved adult female specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J12227 collected from near Stanthorpe, Queensland, Australia, Latitude 28.40 S., Longitude 151.56 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved adult male specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J12228 collected from near Stanthorpe, Queensland, Australia, Latitude 28.40 S., Longitude 151.56 E.

Diagnosis: Until now *Eulamprus* (*Costinisauria*) *yes* sp. nov., *E. aha* sp. nov. and *E. gotit* sp. nov. have been treated by most authors as northern populations of *E. kosciuskoi* (Kingham, 1932) a species with a type locality of Mount Kosciusko, southern New South Wales.

Exceptional to this has been Wells and Wellington (1985) and then Wells (2009) who ultimately recognized two populations of putative *E. kosciuskoi* from north of the Hunter Valley as being separate species, namely *E. worrelli* (Wells and Wellington, 1985), type locality of Barrington Tops, New South Wales, Australia and *E. couperi* (Wells, 2009) as a separate taxon, type locality of Waratah Swamp, Gibraltar Range National Park, New South Wales, Australia, Latitude 29.30 S., Longitude 152.19 E.

Wells (2009) put all the three preceding species and the morphologically similar *E. leuraensis* Wells and Wellington, 1984, type locality Leura, New South Wales, Australia, Latitude 33.43 S., Longitude 150.20 E into the genus *Costinisauria* Wells and Wellington, 1985, type species *Lygosoma* (*Hinulia*) *quoyii kosciuskoi* Kinghorn, 1932 by original designation.

With a divergence not exceeding 6 MYA from *E. quoyii* Duméril and Bibron, 1839, the type species for *Eulamprus* Fitzinger, 1843, based on the phylogeny of Skinner *et al.* (2013) at Fig. 2, *Costinisauria* is herein treated as a subgenus.

These three preceding species all treated as putative *E. kosciuskoi* by Pepper *et al.* (2018) are separate to the otherwise widely recognized (and by them) *E. leuraensis*.

However, Pepper *et al.* (2018) stated that excluding *E. leuraensis* which they recognised as a separate species “*Eulamprus kosciuskoi* comprises seven divergent lineages restricted to different mountain tops through NSW and eastern VIC (Figure 2b).”

These authors also failed to inspect specimens of putative *E. kosciuskoi* from Stanthorpe in south-east Queensland, that are quite obviously biogeographically separated and morphologically divergent as well.

In summary Wells (2009) has identified and assigned species names to the four most divergent clades including *E. leuraensis*, all recognised as valid herein.

This paper formally names the other divergent clades in this subgenus as full species, the most divergent of these being *E. yes sp. nov.*

E. yes sp. nov. is a taxon confined to a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of The flags, Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

It is separated from all other species and subspecies in the subgenus *Costinisauria* Wells and Wellington, 1985 by the following unique combination of characters:

Large black spots on the lower rear of each supralabial, sometimes merging on the lower edge to form a continuum on the lower edge, especially posterior to the eye, otherwise pale brown on the sides of the head and snout as well as the dorsum of the head.

Black on upper part of flank is less than a third of the surface and with a row of large, irregularly shaped yellowish blotches along the middle of the black zone. Lower two thirds of the flank not separated by a sharp boundary from the black zone and is a lightish brownish-white in colour, being slightly lighter on the lower flank.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being half the width of the tympanum, being bounded top and bottom by a thick yellow or white edge, whereupon it begins to form the dark zone at the top of the flank.

Dorsum is brown in colour overall, with two rows of black dots, each near the dorsolateral edge, these dots almost merging to form a semi distinct line or otherwise as a row of dots, especially on the posterior part of the body.

Top of original tail is brown with only a few scattered dark flecks. The sides of the tail are brown, but overlain with two, sometimes three, rows of moderate-sized black dots along most of the length, excluding the far distal part where they fade and dissipate.

The top of the head is slightly yellowish in colour as opposed to the more chocolate brown neck on the upper surface and dorsum.

E. yes sp. nov. has limbs that have mainly light brown upper surfaces with black speckles, spots, blotches or markings, not in any obvious pattern or configuration.

Based on the genetic data of Pepper *et al.* (2018), the closest relative of *E. yes sp. nov.* is *E. worrelli* (Wells and Wellington, 1985), with a centre of distribution of Barrington Tops, New South Wales, Australia.

E. worrelli is readily separated from all other species in the genus by the following unique combination of characters:

The dark spots on the lower labials are more in the form of triangles than circular blotches as seen in *E. yes sp. nov.*

The upper labials also have significant amounts of black peppering.

The black lines on the outer edges of the upper surface are thick and continuous. There are two or more rows of distinctive black dots forming longitudinal lines running down the dorsal surface of the anterior tail. The dark zone on the upper flank, expands to the lower flank in the form of broken black spots and blotches of irregular shape on an otherwise lighter background. The side of the tail has spotting enlarged to form black squares so that most of the sides of the tail are blackish in colour.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being nearly the full width of the tympanum (versus about half the width only in *E. yes sp. nov.*), being bounded top and bottom by only a thin yellow or white edge, whereupon it begins to form the dark zone at the top of the flank. The yellow line along the dorsolateral edge is distinct and

moderately thick.

The upper surfaces of the limbs are an even ratio of black and brown in the form of blotches and mottling.

E. aha sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

It is readily separated from all other species in the genus by the following unique combination of characters: Dark brown or black on the lower edges of the upper labials are formed into triangles, with the base at the lip and centred on each scale. Behind the eye, the head shields also have dark triangles within them, being on a lighter brown base.

Black occupies about half the surface of the flank, being the upper half.

Within this zone of black are a series of large and distinctive golden yellow blotches of irregular shape, arranged longitudinally along the side.

Lower flanks are whitish or yellowish, with no black spots or speckles or only a limited amount of tiny black spots, which are slightly more prominent on the lower posterior of the body than anteriorly.

The dorsum itself is brown, but there are three well-defined and continuous, moderately thin black lines on it, one down the vertebral line and the others on the outer edge.

On the dorsolateral edge is a thin, well defined golden yellow stripe.

Top of the original tail is brown, with a few tiny black spots anteriorly. Sides of tail are heavily marked with black squares, slightly irregular in shape, but so close as to make the sides of the tail mainly black. Upper surfaces of the anterior limbs are mainly black with medium sized, well defined golden yellow spots, while the upper surfaces of the hind limbs are mottled black and brown with a similar ratio of each.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

E. couperi is similar in most respects to *E. aha sp. nov.* as described above (unless otherwise stated) but is separated from that species and all other species in the subgenus by the following characters:

The dark markings on the lower labials are ill defined and not formed into obvious triangles. Dorsal markings in the form of the longitudinal black lines are generally ill-defined and the yellow stripe running on the dorsolateral edge is ill-defined, especially posteriorly on the body.

E. couperi has most of the flank being black, this occupying the top two thirds of each flank.

Within the black zone of the flank are evenly scattered small and ill-defined golden, yellow or white spots or bars of often irregular shape, but by far the bulk of the dark upper flank remains black in colour.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are no small yellow or white spots in the centre of this line posterior to the ear.

E. gotit sp. nov. is a taxon only known from the Stanthorpe area in south-east Queensland. It is similar in most respects to *E. couperi* unless otherwise stated.

E. gotit sp. nov. is most readily separated from each of *E. couperi*, *E. aha sp. nov.*, *E. worrelli* and *E. yes sp. nov.* by having 9 or 10 supraciliaries versus 7 in each of the other species in the subgenus from north of the Hunter Valley.

This taxon has scattered dark spots on the dorsum arranged in a linear manner, but no obvious lines on the dorsum.

There is an apparently random scattering of black spots and flecks along the lateral edges of the otherwise dark brown (original) tail, which is plain brown dorsally.

As for *E. aha* sp. nov., in *E. gotit* sp. nov. the black stripe from ear to flank is broad and roughly as wide as the ear opening but it is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

Pearson and Shea (2008) give a detailed description of the only two known specimens of this species, these being the holotype and paratype as designated in this paper.

E. leuraensis (Wells and Wellington, 1984), type locality of Leura in the Blue Mountains of New South Wales, and known only from this general area (the upper Blue Mountains), including the Newnes Plateau, is readily separated from the other species in the subgenus by having a ground colour that is very dark brown or black and with strongly contrasting narrow, pale (white or yellow) longitudinal stripes. The original tail is black on the visible surfaces, with scattered golden spots of irregular shape dorsally and lighter yellow spots laterally.

Visible surfaces of the limbs are black with scattered, tiny and semi-distinct yellow or white spots or flecks.

Flanks are black with scattered yellow or white spots of irregular shape, arranged longitudinally, being more prominent on the lower flank than upper flank.

There is a black bar behind the ear, but due to the generally dark colour of the lizard, it is not as noticeable as seen in members of the genus found north of the Hunter Valley. The black bar usually has a series of medially placed small yellow-white spots.

Eulamprus kosciuskoi (Kinghorn, 1932), type locality of Mount Kosciusko, New South Wales, Australia is confined to the Snowy Mountains District of southern New South Wales and immediately adjacent Victoria in the Alpine National Park.

E. kosciuskoi, is readily separated from the other species in the subgenus by having a dorsum that is a mid-brown or yellowish brown in colour, versus chocolate brown in members of the genus from north of the Hunter Valley.

Significantly the dorsal pattern is unique in that it is a bold configuration of three bold black stripes running down the dorsum, in turn bound by four bold yellow-brown stripes, the outer ones forming the dorsolateral edge.

The flanks are black with large yellow spots or blotches of irregular shape that are vaguely longitudinally aligned.

Posterior to the ear is a black spot, but not a bar extending to the dark of the flank. The upper surface of the anterior of the tail has a black stripe running onto it, but this rapidly dissipates making most of the upper surface of the tail plain brown in colour. Extensive black spotting or blotches on the anterior lateral surfaces of the tail also dissipates as one moves towards the posterior, with the posterior end being brown all over.

Upper surfaces of limbs are mainly brown but with a moderate amount of black peppering or small spots.

Upper labials are light yellow brown, like most of the rest of the head. There is rarely any black on the upper labials and if so, barely visible and on the lower edges only.

E. nrl sp. nov. is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains by the Murrumbidgee and Snowy River Systems.

It is separated from *E. kosciuskoi* and all other species in the subgenus by the following combination of characters:

The dorsum is a dark brown in colour and without the bold striping seen in *E. kosciuskoi*. Dorsal markings are not distinct, save for the thin yellow lines on the dorsolateral edges.

Most of the flanks are black, with numerous tiny, scattered semi-distinct yellow white spots that are arranged longitudinally in about 5 rows, with 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a more whitish appearance.

There is a black or dark bar running from ear to flank, this area being mottled yellow.

Upper surfaces of limbs are mottled dark brown and yellow in roughly even amounts.

Venter is yellowish and with scattered grey spots.

Upper labials are irregularly marked with black, mainly on the lower edges and sometimes triangular in shape, the dark pigment usually, but not always in the lower centre of each scale, this mainly being below and posterior to the eye, with the anterior upper labials usually immaculate brown.

The upper surface of the head is yellowish brown with dark etched scales, in this respect being similar to *E. kosciuskoi*.

E. afl sp. nov. is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby population of *E. kosciuskoi* by the Upper Murray River basin.

In many respects it is similar in appearance to *E. kosciuskoi*, unless otherwise stated.

However, *E. afl* sp. nov. is separated from *E. kosciuskoi* and all other species in the subgenus by the following suite of characters:

Dorsum is a dark greyish brown with the dorsal stripes being poorly defined and not highly contrasting, versus the reverse in *E. kosciuskoi*.

The edges of the boundaries of the black stripes in particular, are not straight and well defined as seen in *E. kosciuskoi*.

Most of the flanks are black, with numerous tiny, scattered semi-distinct gold or yellow white spots that are arranged longitudinally in about 8 rows, with another 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a slightly more whitish appearance, but not the apparently whitish appearance as seen in *E. nrl* sp. nov..

The head of *E. afl* sp. nov. is an immaculate greyish brown in colour.

Exceptional to this are a few tiny black spots on the lower margins of some posterior upper labials.

Upper surfaces of the limbs are mottled black and brown, being mainly black rather than brown.

In the original tail, the black stripe of the mid dorsum continues in a well-defined line about half the length of the tail before breaking up to disappear on the distal half.

The sides of the tail are heavily spotted or marked black, being mainly black and this remains the case for most of the tail length, the amount of black declining at the distal end.

As for *E. kosciuskoi* the black posterior to the ear is in the form of an irregularly shaped blotch rather than as a distinctive bar as seen in genus members north of the Hunter Valley.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is a genus of largish, fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. yes sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/127392361@N04/50705017142/>
 and
<https://www.flickr.com/photos/58349528@N02/36639556244/>
 and
<https://www.inaturalist.org/observations/139578932>
 and
<https://www.inaturalist.org/observations/139953066>
 and
<https://www.inaturalist.org/observations/139207146>
E. worrelli is depicted in life online at:
<https://biocache.ala.org.au/occurrences/0d144fb6-a5a6-4506-9989-8cf2098247de>
 and
<https://www.flickr.com/photos/136643623@N03/26830092950/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/52384438764/
 and
<https://www.flickr.com/photos/euprepiosaur/15774479086/>
 and
<https://www.flickr.com/photos/euprepiosaur/15178204674/>
 and
<https://www.flickr.com/photos/euprepiosaur/15612327609/>
 and
<https://www.inaturalist.org/observations/128428192>
 and
<https://www.inaturalist.org/observations/146516579>
 and
<https://www.inaturalist.org/observations/220861423>
 and
<https://www.inaturalist.org/observations/243302362>
 and
<https://www.inaturalist.org/observations/146516689>
E. aha sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/ryanfrancis/53494191403/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/53738465258/
 and
<https://www.flickr.com/photos/ryanfrancis/53493151552/>
E. leuraensis is depicted in life online at:
<https://www.flickr.com/photos/141679113@N08/49811498183/>
 and
<https://www.flickr.com/photos/141679113@N08/49812043366/>
 and
<https://www.flickr.com/photos/euprepiosaur/15669572423/>
 and
<https://www.flickr.com/photos/58349528@N02/24199370591/>
 and
<https://www.flickr.com/photos/stephenmahony/29294447618/>
Eulamprus kosciuskoi is depicted in life online at:
<https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-bfa3-8e7ceafb60de>
 and
<https://biocache.ala.org.au/occurrences/5c276aae-9c60-469e-a225-c573819199e6>
 and
<https://www.flickr.com/photos/27026445@N06/25352942945/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/26146017657/
 and
<https://www.inaturalist.org/photos/59720133>
 and
<https://www.flickr.com/photos/julesfarquhar/47971421477/>
 and

<https://www.flickr.com/photos/61702147@N05/46798364502/>
Eulamprus nrl sp. nov. is depicted in life online at:
<https://canberra.naturemapr.org/sightings/1966051>
Eulkamprus afl sp. nov. is depicted in life in Brown (2014) at page 525, top left and online at:
<https://biocache.ala.org.au/occurrences/ec47c652-55f7-4109-9415-2dc1d5a912fc>
Distribution: *E. gotit* sp. nov. is the taxon within this subgenus currently only known from at or near Stanthorpe in south-east Queensland.
Etymology: When auditing the subgenus *Costinisauria* Wells and Wellington, 1985 and it became apparent that the relevant taxon was an undescribed species, my wife assisting me exclaimed “got it”.
 So, in answer to an obvious question, my answer was, “why not?” Hence the etymology for this taxon.
EULAMPUS (COSTINISAURIA) NRL SP. NOV.
LSIDurn:lsid:zoobank.org:act:62239F50-EAF4-407E-9F08-CA81E803F88F
Holotype: A preserved specimen at the Australian National Wildlife Collection (Commonwealth Scientific and Industrial Research Organisation, AKA CSIRO), Canberra, ACT, Australia, specimen number R12258 collected from Mount Bimberi, New South Wales, Australia, Latitude -35.6593 S., Longitude 148.7905 E.
 This government-owned facility allows access to its holdings.
Paratypes: 1/ Two preserved specimens at the Australian National Wildlife Collection (Commonwealth Scientific and Industrial Research Organisation, AKA CSIRO), Canberra, ACT, Australia, specimen numbers R05795 and R05796 both collected from Murray’s Gap, Bimbiri Range, Kosciusko Range National Park, New South Wales, Australia, Latitude -35.5161 S., Longitude 148.8 E.
 2/ A preserved specimen at the Australian National Wildlife Collection (Commonwealth Scientific and Industrial Research Organisation, AKA CSIRO), Canberra, ACT, Australia, specimen number R12259 collected from Ginini Flats, Namadgi National Park, Australian Capital Territory, Australia, Latitude -35.5161 S., Longitude 148.7831 E.
Diagnosis: Until now *Eulamprus (Costinisauria) yes* sp. nov., *E. aha* sp. nov. and *E. gotit* sp. nov. have been treated by most authors as northern populations of *E. kosciuskoi* (Kinghorn, 1932) a species with a type locality of Mount Kosciusko, southern New South Wales.
 Exceptional to this has been Wells and Wellington (1985) and then Wells (2009) who ultimately recognized two populations of putative *E. kosciuskoi* from north of the Hunter Valley as being separate species, namely *E. worrelli* (Wells and Wellington, 1985), type locality of Barrington Tops, New South Wales, Australia and *E. couperi* (Wells, 2009) as a separate taxon, type locality of Waratah Swamp, Gibraltar Range National Park, New South Wales, Australia, Latitude 29.30 S., Longitude 152.19 E. Wells (2009) put all the three preceding species and the morphologically similar *E. leuraensis* Wells and Wellington, 1984, type locality Leura, New South Wales, Australia, Latitude 33.43 S., Longitude 150.20 E into the genus *Costinisauria* Wells and Wellington, 1985, type species *Lygosoma (Hinulia) quoyii kosciuskoi* Kinghorn, 1932 by original designation.
 With a divergence not exceeding 6 MYA from *E. quoyii* Duméril and Bibron, 1839, the type species for *Eulamprus* Fitzinger, 1843, based on the phylogeny of Skinner *et al.* (2013) at Fig. 2, *Costinisauria* is herein treated as a subgenus.
 These three preceding species all treated as putative *E. kosciuskoi* by Pepper *et al.* (2018) are separate to the otherwise widely recognized (and by them) *E. leuraensis*.
 However, Pepper *et al.* (2018) stated that excluding *E. leuraensis* which they recognised as a separate species “*Eulamprus kosciuskoi* comprises seven divergent lineages restricted to different mountain tops through NSW and eastern VIC (Figure

2b)."

These authors also failed to inspect specimens of putative *E. kosciusko* from Stanthorpe in south-east Queensland, that are quite obviously biogeographically separated and morphologically divergent as well.

In summary Wells (2009) has identified and assigned species names to the four most divergent clades including *E. leuraensis*, all recognised as valid herein.

This paper formally names the other divergent clades in this subgenus as full species, the most divergent of these being *E. yes sp. nov.*

E. yes sp. nov. is a taxon confined to a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of The flags, Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

It is separated from all other species and subspecies in the subgenus *Costinisauria* Wells and Wellington, 1985 by the following unique combination of characters:

Large black spots on the lower rear of each supralabial, sometimes merging on the lower edge to form a continuum on the lower edge, especially posterior to the eye, otherwise pale brown on the sides of the head and snout as well as the dorsum of the head.

Black on upper part of flank is less than a third of the surface and with a row of large, irregularly shaped yellowish blotches along the middle of the black zone. Lower two thirds of the flank not separated by a sharp boundary from the black zone and is a lightish brownish white in colour, being slightly lighter on the lower flank.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being half the width of the tympanum, being bounded top and bottom by a thick yellow or white edge, whereupon it begins to form the dark zone at the top of the flank.

Dorsum is brown in colour overall, with two rows of black dots, each near the dorsolateral edge, these dots almost merging to form a semi distinct line or otherwise as a row of dots, especially on the posterior part of the body.

Top of original tail is brown with only a few scattered dark flecks. The sides of the tail are brown, but overlain with two, sometimes three, rows of moderate-sized black dots along most of the length, excluding the far distal part where they fade and dissipate.

The top of the head is slightly yellowish in colour as opposed to the more chocolate brown neck on the upper surface and dorsum.

E. yes sp. nov. has limbs that have mainly light brown upper surfaces with black speckles, spots, blotches or markings, not in any obvious pattern or configuration.

Based on the genetic data of Pepper *et al.* (2018), the closest relative of *E. yes sp. nov.* is *E. worrelli* (Wells and Wellington, 1985), with a centre of distribution of Barrington Tops, New South Wales, Australia.

E. worrelli is readily separated from all other species in the genus by the following unique combination of characters:

The dark spots on the lower labials are more in the form of triangles than circular blotches as seen in *E. yes sp. nov.*

The upper labials also have significant amounts of black peppering.

The black lines on the outer edges of the upper surface are thick and continuous. There are two or more rows of distinctive black dots forming longitudinal lines running down the dorsal surface of the anterior tail. The dark zone on the upper flank, expands to the lower flank in the form of broken black spots and blotches of irregular shape on an otherwise lighter background. The side of the tail has spotting enlarged to form black squares so that most of the sides of the tail are blackish in colour.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being nearly the full width of the tympanum (versus about half the width only in *E. yes sp. nov.*), being bounded top and bottom by only a thin yellow or white edge, whereupon it begins to form the dark zone at the top of the flank.

The yellow line along the dorsolateral edge is distinct and moderately thick.

The upper surfaces of the limbs are an even ratio of black and brown in the form of blotches and mottling.

E. aha sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

It is readily separated from all other species in the genus by the following unique combination of characters: Dark brown or black on the lower edges of the upper labials are formed into triangles, with the base at the lip and centred on each scale. Behind the eye, the head shields also have dark triangles within them, being on a lighter brown base.

Black occupies about half the surface of the flank, being the upper half.

Within this zone of black are a series of large and distinctive golden yellow blotches of irregular shape, arranged longitudinally along the side.

Lower flanks are whitish or yellowish, with no black spots or speckles or only a limited amount of tiny black spots, which are slightly more prominent on the lower posterior of the body than anteriorly.

The dorsum itself is brown, but there are three well-defined and continuous, moderately thin black lines on it, one down the vertebral line and the others on the outer edge.

On the dorsolateral edge is a thin, well defined golden yellow stripe.

Top of the original tail is brown, with a few tiny black spots anteriorly. Sides of tail are heavily marked with black squares, slightly irregular in shape, but so close as to make the sides of the tail mainly black. Upper surfaces of the anterior limbs are mainly black with medium sized, well defined golden yellow spots, while the upper surfaces of the hind limbs are mottled black and brown with a similar ratio of each.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

E. couperi is similar in most respects to *E. aha sp. nov.* as described above (unless otherwise stated) but is separated from that species and all other species in the subgenus by the following characters:

The dark markings on the lower labials are ill defined and not formed into obvious triangles. Dorsal markings in the form of the longitudinal black lines are generally ill-defined and the yellow stripe running on the dorsolateral edge is ill-defined, especially posteriorly on the body.

E. couperi has most of the flank being black, this occupying the top two thirds of each flank.

Within the black zone of the flank are evenly scattered small and ill-defined golden, yellow or white spots or bars of often irregular shape, but by far the bulk of the dark upper flank remains black in colour.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are no small yellow or white spots in the centre of this line posterior to the ear.

E. gotit sp. nov. is a taxon only known from the Stanthorpe area in south-east Queensland. It is similar in most respects to *E. couperi* unless otherwise stated.

E. gotit sp. nov. is most readily separated from each of *E. couperi*, *E. aha sp. nov.*, *E. worrelli* and *E. yes sp. nov.* by having 9 or 10 supraciliaries versus 7 in each of the other species in the subgenus from north of the Hunter Valley.

This taxon has scattered dark spots on the dorsum arranged in a linear manner, but no obvious lines on the dorsum. There is an apparently random scattering of black spots and flecks along the lateral edges of the otherwise dark brown (original) tail, which is

plain brown dorsally.

As for *E. aha* sp. nov., in *E. gotit* sp. nov. the black stripe from ear to flank is broad and roughly as wide as the ear opening but it is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

Pearson and Shea (2008) give a detailed description of the only two known specimens of this species, these being the holotype and paratype as designated in this paper.

E. leuraensis (Wells and Wellington, 1984), type locality of Leura in the Blue Mountains of New South Wales, and known only from this general area (the upper Blue Mountains), including the Newnes Plateau, is readily separated from the other species in the subgenus by having a ground colour that is very dark brown or black and with strongly contrasting narrow, pale (white or yellow) longitudinal stripes. The original tail is black on the visible surfaces, with scattered golden spots of irregular shape dorsally and lighter yellow spots laterally.

Visible surfaces of the limbs are black with scattered, tiny and semi-distinct yellow or white spots or flecks.

Flanks are black with scattered yellow or white spots of irregular shape, arranged longitudinally, being more prominent on the lower flank than upper flank.

There is a black bar behind the ear, but due to the generally dark colour of the lizard, it is not as noticeable as seen in members of the genus found north of the Hunter Valley. The black bar usually has a series of medially placed small yellow-white spots.

Eulamprus kosciuskoi (Kinghorn, 1932), type locality of Mount Kosciusko, New South Wales, Australia is confined to the Snowy Mountains District of southern New South Wales and immediately adjacent Victoria in the Alpine National Park.

E. kosciuskoi, is readily separated from the other species in the subgenus by having a dorsum that is a mid-brown or yellowish brown in colour, versus chocolate brown in members of the genus from north of the Hunter Valley.

Significantly the dorsal pattern is unique in that it is a bold configuration of three bold black stripes running down the dorsum, in turn bound by four bold yellow-brown stripes, the outer ones forming the dorsolateral edge.

The flanks are black with large yellow spots or blotches of irregular shape that are vaguely longitudinally aligned.

Posterior to the ear is a black spot, but not a bar extending to the dark of the flank. The upper surface of the anterior of the tail has a black stripe running onto it, but this rapidly dissipates making most of the upper surface of the tail plain brown in colour. Extensive black spotting or blotches on the anterior lateral surfaces of the tail also dissipates as one moves towards the posterior, with the posterior end being brown all over.

Upper surfaces of limbs are mainly brown but with a moderate amount of black peppering or small spots.

Upper labials are light yellow brown, like most of the rest of the head. There is rarely any black on the upper labials and if so, barely visible and on the lower edges only.

E. nrl sp. nov. is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains by the Murrumbidgee and Snowy River Systems.

It is separated from *E. kosciuskoi* and all other species in the subgenus by the following combination of characters:

The dorsum is a dark brown in colour and without the bold striping seen in *E. kosciuskoi*. Dorsal markings are not distinct, save for the thin yellow lines on the dorsolateral edges.

Most of the flanks are black, with numerous tiny, scattered semi-distinct yellow white spots that are arranged longitudinally in about 5 rows, with 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a more whitish appearance.

There is a black or dark bar running from ear to flank, this area

being mottled yellow.

Upper surfaces of limbs are mottled dark brown and yellow in roughly even amounts.

Venter is yellowish and with scattered grey spots.

Upper labials are irregularly marked with black, mainly on the lower edges and sometimes triangular in shape, the dark pigment usually, but not always in the lower centre of each scale, this mainly being below and posterior to the eye, with the anterior upper labials usually immaculate brown.

The upper surface of the head is yellowish brown with dark etched scales, in this respect being similar to *E. kosciuskoi*.

E. afl sp. nov. is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby population of *E. kosciuskoi* by the Upper Murray River basin.

In many respects it is similar in appearance to *E. kosciuskoi*, unless otherwise stated.

However, *E. afl* sp. nov. is separated from *E. kosciuskoi* and all other species in the subgenus by the following suite of characters:

Dorsum is a dark greyish brown with the dorsal stripes being poorly defined and not highly contrasting, versus the reverse in *E. kosciuskoi*.

The edges of the boundaries of the black stripes in particular, are not straight and well defined as seen in *E. kosciuskoi*.

Most of the flanks are black, with numerous tiny, scattered semi-distinct gold or yellow white spots that are arranged longitudinally in about 8 rows, with another 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a slightly more whitish appearance, but not the apparently whitish appearance as seen in *E. nrl* sp. nov..

The head of *E. afl* sp. nov. is an immaculate greyish brown in colour. Exceptional to this are a few tiny black spots on the lower margins of some posterior upper labials.

Upper surfaces of the limbs are mottled black and brown, being mainly black rather than brown.

In the original tail, the black stripe of the mid dorsum continues in a well-defined line about half the length of the tail before breaking up to disappear on the distal half.

The sides of the tail are heavily spotted or marked black, being mainly black and this remains the case for most of the tail length, the amount of black declining at the distal end.

As for *E. kosciuskoi* the black posterior to the ear is in the form of an irregularly shaped blotch rather than as a distinctive bar as seen in genus members north of the Hunter Valley.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is a genus of largish, fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. yes sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/127392361@N04/50705017142/>
 and
<https://www.flickr.com/photos/58349528@N02/36639556244/>
 and
<https://www.inaturalist.org/observations/139578932>
 and
<https://www.inaturalist.org/observations/139953066>
 and
<https://www.inaturalist.org/observations/139207146>
E. worrelli is depicted in life online at:
<https://biocache.ala.org.au/occurrences/0d144fb6-a5a6-4506-9989-8cf2098247de>
 and
<https://www.flickr.com/photos/136643623@N03/26830092950/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/52384438764/
 and
<https://www.flickr.com/photos/euprepiosaur/15774479086/>
 and
<https://www.flickr.com/photos/euprepiosaur/15178204674/>
 and
<https://www.flickr.com/photos/euprepiosaur/15612327609/>
 and
<https://www.inaturalist.org/observations/128428192>
 and
<https://www.inaturalist.org/observations/146516579>
 and
<https://www.inaturalist.org/observations/220861423>
 and
<https://www.inaturalist.org/observations/243302362>
 and
<https://www.inaturalist.org/observations/146516689>
E. aha sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/ryanfrancis/53494191403/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/53738465258/
 and
<https://www.flickr.com/photos/ryanfrancis/53493151552/>
E. leuraensis is depicted in life online at:
<https://www.flickr.com/photos/141679113@N08/49811498183/>
 and
<https://www.flickr.com/photos/141679113@N08/49812043366/>
 and
<https://www.flickr.com/photos/euprepiosaur/15669572423/>
 and
<https://www.flickr.com/photos/58349528@N02/24199370591/>
 and
<https://www.flickr.com/photos/stephenmahony/29294447618/>
Eulamprus kosciuskoi is depicted in life online at:
<https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-bfa3-8e7ceafb60de>
 and
<https://biocache.ala.org.au/occurrences/5c276aae-9c60-469e-a225-c573819199e6>
 and
<https://www.flickr.com/photos/27026445@N06/25352942945/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/26146017657/
 and
<https://www.inaturalist.org/photos/59720133>
 and
<https://www.flickr.com/photos/julesfarquhar/47971421477/>
 and

<https://www.flickr.com/photos/61702147@N05/46798364502/>
Eulamprus nrl sp. nov. is depicted in life online at:
<https://canberra.naturemapr.org/sightings/1966051>
Eulkamprus afl sp. nov. is depicted in life in Brown (2014) at page 525, top left and online at:
<https://biocache.ala.org.au/occurrences/ec47c652-55f7-4109-9415-2dc1d5a912fc>
Distribution: *E. nrl sp. nov.* is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains uplands by the Murrumbidgee and Snowy River Systems.
Etymology: The taxon *E. nrl sp. nov.* was named in honour the Australian National Rugby League (AKA NRL) in recognition of their services to Australian sport and sport entertainment. The choice of taxon for this name is deliberate as it occurs in New South Wales and the Australian Capital Territory. These regions are strongholds of the game Rugby League, as opposed to Australian Rules Football (main league being the Australian Football League AKA AFL), which is a sport played mainly in Victoria, Tasmania, South Australia, Western Australia and the Northern Territory.
 The name should be pronounced as spelt "N"+"R"+"L" = "NRL" = "enarell".

EULAMPUS (COSTINISAURIA) AFL SP. NOV.

LSIDurn:lsid:zoobank.org:act:973454BF-5316-4476-AE12-A80624AEA125

Holotype: A preserved juvenile specimen at the Museums Victoria Herpetology Collection, Melbourne, Victoria, Australia, specimen number D69500 collected from west of Rocky Valley, Falls Creek, Victoria, Australia, Latitude -36.8765 S., Longitude 147.258 E.

This government-owned facility allows access to its holdings.

Paratypes: Six preserved specimens at the Museums Victoria Herpetology Collection, Melbourne, Victoria, Australia, being specimen numbers D70893 and D70894 both collected from approximately 1 km east southeast of Mount McKay, Victoria, Australia, Latitude -36.8745 S., Longitude 147.252 E., specimen numbers D55111, D56465, D56466 and D69501 all from the Mount Cope area, Victoria, Australia, Latitude -36.9 S., Longitude 147.28 E.

Diagnosis: Until now *Eulamprus (Costinisauria) yes sp. nov.*, *E. aha sp. nov.* and *E. gotit sp. nov.* have been treated by most authors as northern populations of *E. kosciuskoi* (Kingham, 1932) a species with a type locality of Mount Kosciusko, southern New South Wales.

Exceptional to this has been Wells and Wellington (1985) and then Wells (2009) who ultimately recognized two populations of putative *E. kosciuskoi* from north of the Hunter Valley as being separate species, namely *E. worrelli* (Wells and Wellington, 1985), type locality of Barrington Tops, New South Wales, Australia and *E. couperi* (Wells, 2009) as a separate taxon, type locality of Waratah Swamp, Gibraltar Range National Park, New South Wales, Australia, Latitude 29.30 S., Longitude 152.19 E. Wells (2009) put all the three preceding species and the morphologically similar *E. leuraensis* Wells and Wellington, 1984, type locality Leura, New South Wales, Australia, Latitude 33.43 S., Longitude 150.20 E into the genus *Costinisauria* Wells and Wellington, 1985, type species *Lygosoma (Hinulia) quoyii kosciuskoi* Kinghorn, 1932 by original designation.

With a divergence not exceeding 6 MYA from *E. quoyii* Duméril and Bibron, 1839, the type species for *Eulamprus* Fitzinger, 1843, based on the phylogeny of Skinner *et al.* (2013) at Fig. 2, *Costinisauria* is herein treated as a subgenus.

These three preceding species all treated as putative *E. kosciuskoi* by Pepper *et al.* (2018) are separate to the otherwise widely recognized (and by them) *E. leuraensis*.

However, Pepper *et al.* (2018) stated that excluding *E. leuraensis* which they recognised as a separate species "Eulamprus kosciuskoi comprises seven divergent lineages restricted to

different mountain tops through NSW and eastern VIC (Figure 2b)."

These authors also failed to inspect specimens of putative *E. kosciuskoi* from Stanthorpe in south-east Queensland, that are quite obviously biogeographically separated and morphologically divergent as well.

In summary Wells (2009) has identified and assigned species names to the four most divergent clades including *E. leuraensis*, all recognised as valid herein.

This paper formally names the other divergent clades in this subgenus as full species, the most divergent of these being *E. yes sp. nov.*

E. yes sp. nov. is a taxon confined to a small area of high altitude between Tamworth and Port Macquarie, currently only known from the area bounded by and including the locations of The flags, Werrikimbe National Park, Nundle State Forest and Riamukka State Forest, all in New South Wales, Australia.

It is separated from all other species and subspecies in the subgenus *Costinisauria* Wells and Wellington, 1985 by the following unique combination of characters:

Large black spots on the lower rear of each supralabial, sometimes merging on the lower edge to form a continuum on the lower edge, especially posterior to the eye, otherwise pale brown on the sides of the head and snout as well as the dorsum of the head.

Black on upper part of flank is less than a third of the surface and with a row of large, irregularly shaped yellowish blotches along the middle of the black zone. Lower two thirds of the flank not separated by a sharp boundary from the black zone and is a lightish brownish white in colour, being slightly lighter on the lower flank.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being half the width of the tympanum, being bounded top and bottom by a thick yellow or white edge, whereupon it begins to form the dark zone at the top of the flank. Dorsum is brown in colour overall, with two rows of black dots, each near the dorsolateral edge, these dots almost merging to form a semi distinct line or otherwise as a row of dots, especially on the posterior part of the body.

Top of original tail is brown with only a few scattered dark flecks. The sides of the tail are brown, but overlain with two, sometimes three, rows of moderate-sized black dots along most of the length, excluding the far distal part where they fade and dissipate.

The top of the head is slightly yellowish in colour as opposed to the more chocolate brown neck on the upper surface and dorsum.

E. yes sp. nov. has limbs that have mainly light brown upper surfaces with black speckles, spots, blotches or markings, not in any obvious pattern or configuration.

Based on the genetic data of Pepper *et al.* (2018), the closest relative of *E. yes sp. nov.* is *E. worrelli* (Wells and Wellington, 1985), with a centre of distribution of Barrington Tops, New South Wales, Australia.

E. worrelli is readily separated from all other species in the genus by the following unique combination of characters:

The dark spots on the lower labials are more in the form of triangles than circular blotches as seen in *E. yes sp. nov.*

The upper labials also have significant amounts of black peppering.

The black lines on the outer edges of the upper surface are thick and continuous. There are two or more rows of distinctive black dots forming longitudinal lines running down the dorsal surface of the anterior tail. The dark zone on the upper flank, expands to the lower flank in the form of broken black spots and blotches of irregular shape on an otherwise lighter background. The sides of the tail has spotting enlarged to form black squares so that most of the sides of the tail are blackish in colour.

A distinctive black line runs from the middle of the ear to the top of the forelimb, being nearly the full the width of the tympanum (versus about half the width only in *E. yes sp. nov.*), being bounded top and bottom by only a thin yellow or white edge,

whereupon it begins to form the dark zone at the top of the flank. The yellow line along the dorsolateral edge is distinct and moderately thick.

The upper surfaces of the limbs are an even ratio of black and brown in the form of blotches and mottling.

E. aha sp. nov. is a taxon with a distribution centred on the New England National Park, New South Wales, Australia, just south of Dorrigo on the New South Wales coastal highlands.

It is readily separated from all other species in the genus by the following unique combination of characters: Dark brown or black on the lower edges of the upper labials are formed into triangles, with the base at the lip and centred on each scale. Behind the eye, the head shields also have dark triangles within them, being on a lighter brown base.

Black occupies about half the surface of the flank, being the upper half.

Within this zone of black are a series of large and distinctive golden yellow blotches of irregular shape, arranged longitudinally along the side.

Lower flanks are whitish or yellowish, with no black spots or speckles or only a limited amount of tiny black spots, which are slightly more prominent on the lower posterior of the body than anteriorly.

The dorsum itself is brown, but there are three well-defined and continuous, moderately thin black lines on it, one down the vertebral line and the others on the outer edge.

On the dorsolateral edge is a thin, well defined golden yellow stripe.

Top of the original tail is brown, with a few tiny black spots anteriorly. Sides of tail are heavily marked with black squares, slightly irregular in shape, but so close as to make the sides of the tail mainly black. Upper surfaces of the anterior limbs are mainly black with medium sized, well defined golden yellow spots, while the upper surfaces of the hind limbs are mottled black and brown with a similar ratio of each.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

E. couperi is similar in most respects to *E. aha sp. nov.* as described above (unless otherwise stated) but is separated from that species and all other species in the subgenus by the following characters:

The dark markings on the lower labials are ill defined and not formed into obvious triangles. Dorsal markings in the form of the longitudinal black lines are generally ill-defined and the yellow stripe running on the dorsolateral edge is ill-defined, especially posteriorly on the body.

E. couperi has most of the flank being black, this occupying the top two thirds of each flank.

Within the black zone of the flank are evenly scattered small and ill-defined golden, yellow or white spots or bars of often irregular shape, but by far the bulk of the dark upper flank remains black in colour.

The black stripe from ear to flank is broad and roughly as wide as the ear opening but is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are no small yellow or white spots in the centre of this line posterior to the ear.

E. gotit sp. nov. is a taxon only known from the Stanthorpe area in south-east Queensland. It is similar in most respects to *E. couperi* unless otherwise stated.

E. gotit sp. nov. is most readily separated from each of *E. couperi*, *E. aha sp. nov.*, *E. worrelli* and *E. yes sp. nov.* by having 9 or 10 supraciliaries versus 7 in each of the other species in the subgenus from north of the Hunter Valley.

This taxon has scattered dark spots on the dorsum arranged in a linear manner, but no obvious lines on the dorsum. There is an apparently random scattering of black spots and flecks along the

lateral edges of the otherwise dark brown (original) tail, which is plain brown dorsally.

As for *E. aha* sp. nov., in *E. gotit* sp. nov. the black stripe from ear to flank is broad and roughly as wide as the ear opening but it is irregular in shape as in the upper and lower boundary is not straight. Also, as a rule (rarely broken) there are small yellow or white spots in the centre of this line posterior to the ear.

Pearson and Shea (2008) give a detailed description of the only two known specimens of this species, these being the holotype and paratype as designated in this paper.

E. leuraensis (Wells and Wellington, 1984), type locality of Leura in the Blue Mountains of New South Wales, and known only from this general area (the upper Blue Mountains), including the Newnes Plateau, is readily separated from the other species in the subgenus by having a ground colour that is very dark brown or black and with strongly contrasting narrow, pale (white or yellow) longitudinal stripes. The original tail is black on the visible surfaces, with scattered golden spots of irregular shape dorsally and lighter yellow spots laterally.

Visible surfaces of the limbs are black with scattered, tiny and semi-distinct yellow or white spots or flecks.

Flanks are black with scattered yellow or white spots of irregular shape, arranged longitudinally, being more prominent on the lower flank than upper flank.

There is a black bar behind the ear, but due to the generally dark colour of the lizard, it is not as noticeable as seen in members of the genus found north of the Hunter Valley. The black bar usually has a series of medially placed small yellow-white spots.

Eulamprus kosciuskoi (Kinghorn, 1932), type locality of Mount Kosciusko, New South Wales, Australia is confined to the Snowy Mountains District of southern New South Wales and immediately adjacent Victoria in the Alpine National Park.

E. kosciuskoi, is readily separated from the other species in the subgenus by having a dorsum that is a mid-brown or yellowish brown in colour, versus chocolate brown in members of the genus from north of the Hunter Valley.

Significantly the dorsal pattern is unique in that it is a bold configuration of three bold black stripes running down the dorsum, in turn bound by four bold yellow-brown stripes, the outer ones forming the dorsolateral edge.

The flanks are black with large yellow spots or blotches of irregular shape that are vaguely longitudinally aligned.

Posterior to the ear is a black spot, but not a bar extending to the dark of the flank. The upper surface of the anterior of the tail has a black stripe running onto it, but this rapidly dissipates making most of the upper surface of the tail plain brown in colour. Extensive black spotting or blotches on the anterior lateral surfaces of the tail also dissipates as one moves towards the posterior, with the posterior end being brown all over.

Upper surfaces of limbs are mainly brown but with a moderate amount of black peppering or small spots.

Upper labials are light yellow brown, like most of the rest of the head. There is rarely any black on the upper labials and if so, barely visible and on the lower edges only.

E. nrl sp. nov. is a taxon confined to the Brindabella Ranges that straddle the border of New South Wales and the Australian Capital Territory. It is an upland area biogeographically separated from the main Snowy Mountains by the Murrumbidgee and Snowy River Systems.

It is separated from *E. kosciuskoi* and all other species in the subgenus by the following combination of characters:

The dorsum is a dark brown in colour and without the bold striping seen in *E. kosciuskoi*. Dorsal markings are not distinct, save for the thin yellow lines on the dorsolateral edges.

Most of the flanks are black, with numerous tiny, scattered semi-distinct yellow white spots that are arranged longitudinally in about 5 rows, with 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a more whitish appearance.

There is a black or dark bar running from ear to flank, this area being mottled yellow.

Upper surfaces of limbs are mottled dark brown and yellow in roughly even amounts.

Venter is yellowish and with scattered grey spots.

Upper labials are irregularly marked with black, mainly on the lower edges and sometimes triangular in shape, the dark pigment usually, but not always in the lower centre of each scale, this mainly being below and posterior to the eye, with the anterior upper labials usually immaculate brown.

The upper surface of the head is yellowish brown with dark etched scales, in this respect being similar to *E. kosciuskoi*.

E. afl sp. nov. is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby population of *E. kosciuskoi* by the Upper Murray River basin. In many respects it is similar in appearance to *E. kosciuskoi*, unless otherwise stated.

However, *E. afl* sp. nov. is separated from *E. kosciuskoi* and all other species in the subgenus by the following suite of characters: Dorsum is a dark greyish brown with the dorsal stripes being poorly defined and not highly contrasting, versus the reverse in *E. kosciuskoi*.

The edges of the boundaries of the black stripes in particular, are not straight and well defined as seen in *E. kosciuskoi*.

Most of the flanks are black, with numerous tiny, scattered semi-distinct gold or yellow white spots that are arranged longitudinally in about 8 rows, with another 2, 3 or 4 more closely arranged rows of whitish spots on the lower flank with spots more numerous and forming the boundary between the flank and the venter, giving this part of the lower flank a slightly more whitish appearance, but not the apparently whitish appearance as seen in *E. nrl* sp. nov..

The head of *E. afl* sp. nov. is an immaculate greyish brown in colour. Exceptional to this are a few tiny black spots on the lower margins of some posterior upper labials.

Upper surfaces of the limbs are mottled black and brown, being mainly black rather than brown.

In the original tail, the black stripe of the mid dorsum continues in a well-defined line about half the length of the tail before breaking up to disappear on the distal half.

The sides of the tail are heavily spotted or marked black, being mainly black and this remains the case for most of the tail length, the amount of black declining at the distal end.

As for *E. kosciuskoi* the black posterior to the ear is in the form of an irregularly shaped blotch rather than as a distinctive bar as seen in genus members north of the Hunter Valley.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is a genus of largish, fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. yes sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/127392361@N04/50705017142/>
 and
<https://www.flickr.com/photos/58349528@N02/36639556244/>
 and
<https://www.inaturalist.org/observations/139578932>
 and
<https://www.inaturalist.org/observations/139953066>
 and
<https://www.inaturalist.org/observations/139207146>
E. worrelli is depicted in life online at:
<https://biocache.ala.org.au/occurrences/0d144fb6-a5a6-4506-9989-8cf2098247de>
 and
<https://www.flickr.com/photos/136643623@N03/26830092950/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/52384438764/
 and
<https://www.flickr.com/photos/euprepiosaur/15774479086/>
 and
<https://www.flickr.com/photos/euprepiosaur/15178204674/>
 and
<https://www.flickr.com/photos/euprepiosaur/15612327609/>
 and
<https://www.inaturalist.org/observations/128428192>
 and
<https://www.inaturalist.org/observations/146516579>
 and
<https://www.inaturalist.org/observations/220861423>
 and
<https://www.inaturalist.org/observations/243302362>
 and
<https://www.inaturalist.org/observations/146516689>
E. aha sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/ryanfrancis/53494191403/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/53738465258/
 and
<https://www.flickr.com/photos/ryanfrancis/53493151552/>
E. leuraensis is depicted in life online at:
<https://www.flickr.com/photos/141679113@N08/49811498183/>
 and
<https://www.flickr.com/photos/141679113@N08/49812043366/>
 and
<https://www.flickr.com/photos/euprepiosaur/15669572423/>
 and
<https://www.flickr.com/photos/58349528@N02/24199370591/>
 and
<https://www.flickr.com/photos/stephenmahony/29294447618/>
Eulamprus kosciuskoi is depicted in life online at:
<https://biocache.ala.org.au/occurrences/e0e34650-141a-4111-bfa3-8e7ceafb60de>
 and
<https://biocache.ala.org.au/occurrences/5c276aae-9c60-469e-a225-c573819199e6>
 and
<https://www.flickr.com/photos/27026445@N06/25352942945/>
 and
https://www.flickr.com/photos/ken_griffiths_photography/26146017657/
 and
<https://www.inaturalist.org/photos/59720133>
 and
<https://www.flickr.com/photos/julesfarquhar/47971421477/>

and
<https://www.flickr.com/photos/61702147@N05/46798364502/>
Eulamprus nrl sp. nov. is depicted in life online at:
<https://canberra.naturemapr.org/sightings/1966051>
Eulkamprus afl sp. nov. is depicted in life in Brown (2014) at page 525, top left and online at:

<https://biocache.ala.org.au/occurrences/ec47c652-55f7-4109-9415-2dc1d5a912fc>

Distribution: *E. afl sp. nov.* is a taxon apparently confined to the Bogong High Plain in northeast Victoria and separated from the nearby population of *E. kosciuskoi* by the Upper Murray River basin.

Etymology: The taxon *E. afl sp. nov.* was named in honour the Australian Football League, as opposed to the National Rugby League (AKA NRL) in recognition of their services to Australian sport and sport entertainment.

The choice of taxon for this name is deliberate as it occurs in Victoria and not in New South Wales and the Australian Capital Territory that are strongholds of the game Rugby League, as opposed to Australian Rules Football (main league being the Australian Football League AKA AFL), which is a sport played mainly in Victoria (where this taxon occurs), Tasmania, South Australia, Western Australia and the Northern Territory.

The name should be pronounced as spelt "A"+"F"+"L" = "ayeffell".

INVADERSKINKUS SUBGEN. NOV.

LSIDurn:lsid:zoobank.org:act:E136713F-857C-4B13-99F0-5CEE87FF8A34

Type species: *Lygosoma tympanum* Lönnberg and Anderson, 1913.

Diagnosis: Skinks within the subgenus *Invaderskinkus subgen. nov.* are separated from other members of the genus *Eulamprus* Fitzinger, 1843, type species *Lygosoma quoyii* Duméril and Bibron, 1839 by original designation, by the following combination of characters:

Top of head is heavily spotted and flecked with black, cheeks, temples and sides of neck are invariably flecked with white or yellow. Dorsum is spotted black and usually quite heavily, but most of the time without any obvious longitudinal stripes (or if present always broken by brown speckling or similar, as opposed to a clean immaculate line as seen within species in the subgenus *Costinisauria* Wells and Wellington, 1985), excluding sometimes a semi distinct yellowish dorsolateral stripe at the anterior part of the body, extending down from above the eye and dissipating posteriorly (either wholly or at least to some extent) along the upper body on the dorsolateral edge. Venter of body is all or mainly immaculate white, cream or light yellow. Does not exceed 90 mm snout-vent length in adults.

The nominate subgenus *Eulamprus* Fitzinger, 1843 comprises the three species *E. paulwoolffi* Hoser, 2020 (see Hoser 2020d), *E. onethatwasoverlooked sp. nov.* (this paper) and the type species *E. quoyii* (Duméril and Bibron, 1839). They are separated from other similar Australian species (and all other species in the same genus, as in the other two subgenera) as follows: They are defined as a large Australian water skink (adults reaching over 110 mm snout-vent, versus 80 mm or less in the other two subgenera) with sharply-defined narrow pale yellow dorsolateral stripes but without a black vertebral stripe and a top of head that is either immaculate (one colour) or with only with very limited spots or flecks.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes sp. nov.*, *E. aha sp. nov.*, *E. gotit sp. nov.*, *E. nrl sp. nov.* and *E. afl sp. nov.* being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited

amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct (but invariably immaculate) and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is as follows: It is a genus of largish (80-110 mm snout-vent in adults), fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

The rarely recognized *E. herseyi* Wells and Wellington, 1985 is recognized herein as valid based on morphology, biogeography and the molecular data of Pepper *et al.* (2018).

It would be sad for the species to expire due to official government neglect based on a pig-headed refusal of Australian herpetologists acting in an unscientific way and pretending that the species does not exist, simply out of unprofessional jealousy against Richard Wells and Ross Wellington, whom they have decided have named "too many" species and genera.

I also note here that the putative species *Eulamprus tympanum marnieae* Hutchinson and Rawlinson, 1995, adopted and used as the same in Cogger (2014), but without a shred of evidence for doing so and numerous other reptile texts to the present date (2024), AKA *Eulamprus marnieae* Hutchinson and Rawlinson, 1995 as cited in Wells (2009) is not recognized herein, even as a subspecies based on the phylogenetic data of Pepper *et al.* (2018).

Biogeographic data and morphological inspection of by myself of numerous specimens of live *E. tympanum* from the relevant area of distribution by myself in numerous field trips to the area, do not support any taxonomic concept of species of these lizards beyond that of the type form of *E. tympanum* with a type locality of Melbourne, Victoria and continuously distributed as a plague species to the relevant parts of south-west Victoria across various habitats, including the geologically recent basalt plains, where they are abundant.

Distribution: Wetter and mainly cooler parts of New South Wales (mainly in the east), including the Australian Capital Territory, south and south-east Victoria, with some isolated populations in far south-east South Australia.

Etymology: The lizards in this subgenus are invasive of disturbed and altered habitats, including man-made ones. They are aggressive to other lizards, especially smaller ones and when in numbers can literally exterminate competitors. They rapidly colonise and occupy cleared forests and human built rock and water gardens. The biogeographical evidence of Pepper *et al.* (2018) confirms that species in this subgenus invade and occupy habitats shutting out competitors including quite often other species in the same genus, and in the case of the subgenus *Costinisauria* Wells and Wellington, 1985 *Invaderskinkus* gen. nov. populations have quite obviously isolated populations of *Costinisauria* facilitating speciation between them.

As the species in the newly named subgenus *Invaderskinkus* subgen. nov. are invasive skinks, the name is entirely appropriate for them.

Biogeographic evidence strongly suggests that the populations of *E. tympanum* in south-west Victoria in particular are a recent invasion in geological terms and it is noted that none occur in northwest Tasmania or islands in between, being a stark contrast to more archaic species such as *Limnodynastes cameronganti* Hoser, 2020 (See Hoser 2020b).

I am surprised that this name has not to date been proposed for any other group of similarly invasive skinks and view it as a privilege to be able to assign such a memorable name to an abundant and highly visible group of skinks.

Content: *Eulamprus (Invaderskinkus) tympanum* (Lönnerberg and Anderson, 1913) (type species); *E. (Invaderskinkus) corruptbureaucratorum* sp. nov.; *E. (Invaderskinkus) gad* sp. nov.; *E. (Invaderskinkus) heatwolei* Wells and Wellington, 1985; *E. (Invaderskinkus) herseyi* Wells and Wellington, 1985; *E. (Invaderskinkus) policecorruptionorum* sp. nov.; *E. (Invaderskinkus) extinctionbusinessorum* sp. nov..

**EULAMPBUS (INVADERSKINKUS)
POLICECORRUPTIONORUM SP. NOV.**

LSIDurn:lsid:zoobank.org:act:817BFA42-FEC8-46AC-8728-02D1BF2297AC

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.148214 collected from the Grundy Fire Tower Area in the north side of the Riamukka State Forest, New South Wales, Australia, Latitude -31.327439 S., Longitude 151.65583 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Three preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.148214 collected from Plateau Beech, Werrikimbe National Park, New South Wales, Australia, Latitude -31.18304 S., Longitude 152.31888 E.,

2/ A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R. 153808 collected from 10 km south of the junction of Youall's and Cobhams Track Via Cobhams Track, Werrikimbe National Park, New South Wales, Australia, Latitude -31.24527 S., Longitude 152.15972 E.,

3/ Two preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.70318 and R.84910 both collected from Oxley Hwy near Pablo Road, in the Doyles River State Forest, New South Wales, Australia, Latitude -31.333 S., Longitude 152.133 E.,

4/ Four preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.153796, R.153798, 153799 and R.153810 all collected from Racecourse Trail, Werrikimbe National Park, New South Wales, Australia, Latitude -31.12 S., Longitude 152.24 E.

Diagnosis: This until now, unnamed species has been recognized as distinct and separate from its closest relative, *Eulamprus (Invaderskinkus) heatwolei* Wells and Wellington, 1984 for at least 15 years.

At page 9 of Wells (2009), Richard Wells stated:

"Variation in morphology suggests that this species (*E. heatwolei*) may be composite. In particular the isolated populations on the Fleurieu Peninsula in South Australia, and more significantly, those on the New England Plateau, NSW appear to me to be distinct morphologically from topotypic *E. heatwolei* of the NSW Southern Highlands in their body-form and colouration and so should be more closely studied.

This population from the New England Plateau in NSW has been frequently misidentified in a number of publications as either *Eulamprus quoyii* or *Eulamprus tympanum*. I was intending to describe this species some years ago but never got around to it due to other matters.

Fortunately, Dr Glenn Shea has indicated that he will be describing this very distinctive water skink as a new species as soon as possible."

As a listed coauthor of Pepper *et al.* (2018) Glenn Shea did not seize the opportunity to formally name this taxon, even though their molecular results quite explicitly confirmed the species level divergence of this taxon. See also Hoser (2023d).

With another six years elapsed and the taxon still unnamed, I have taken the opportunity to formally name it as *Eulamprus (Invaderskinkus) policecorruptionorum* sp. nov..

Eulamprus (Invaderskinkus) policecorruptionorum sp. nov. is a taxon restricted to higher altitude coastal ranges north of the Hunter Valley and south of the Queensland border in New South Wales.

E. heatwolei Wells and Wellington, 1984, type locality of Robertson, New South Wales, Australia on the southern

Highlands is a taxon confined to the region generally south of the Hunter Valley in New South Wales, but extending from the Coolah Tops in the north-west, south-east to include the western Blue Mountains (e.g. Kanangra Boyd National Park), as well as the southern highlands of New South Wales, and north-east Victoria, east of the Great Dividing Range.

E. gad sp. nov. until now also treated as *E. heatwolei* is confined to the upper Blue Mountains in the area of Bullaburra and nearby Wentworth Falls and appears to be a range-restricted endemic, worthy of consideration for conservation significance and management.

E. extinctionbusinessorum sp. nov. also until now also treated as *E. heatwolei* is a taxon apparently endemic to the upper Goulburn River drainage system, in north-east Victoria, north of the Great Dividing Range, being a situation in line with at least two locally endemic tree frog species, namely *Fiacumminganura timdalei* Hoser, 2020 (see Hoser 2020f) and *Rawlinsonia paraewingi* (Watson, Loftus-Hills and Littlejohn, 1971), both similarly disassociated with sibling species further north (west and east of the Great Dividing Range) and south of the Great Dividing Range in the same region of the State of Victoria.

The four preceding species are separated from one another by the following four unique combinations of characters:

E. policecorruptionorum sp. nov. has a dorsum that is generally brown all over with few if any black specks or spotting. Spots, if present are only tiny and widely scattered and in no apparent order.

The same applies to the upper surface of the anterior of the tail. The upper surfaces of the forelimbs are a combination of black and yellow markings, being mainly black above and mainly yellow on the sides. The upper surfaces of the hindlimbs are a reticulatum of dark brown over light brown.

The sides of the original tail at the anterior end have a smattering of black spots and squares arranged to form a sort of reticulatum that is continuous for most of the tail's length.

There is a thick black line that runs from snout (where it is faint and brownish in colour), through eye and ear (wider than both and where it becomes black) and including over the entirety of the upper labials and up to nearly the boundary of the dorsolateral edge, which is a light golden colour and sharp etched. This black line has scattered small brown spots of irregular shape, arranged longitudinally and continue in reduced size and number along the flank becoming whitish or white and faded in colour.

The lower flank is mainly a whitish grey in colour and without bold or distinctive markings or contrasting colours.

E. gad sp. nov. is a distinctive taxon among the four relevant species in that the dorsum has an extremely high density of black spotting on an otherwise metallic brown background. Along either side of the mid-dorsal line this black spotting is so dense that it forms two obvious mid dorsal lines but in turn overlain with numerous scattered brown blotches (a contrast to species within the subgenus *Costinisauria* Wells and Wellington, 1985, where specimens have well defined mid dorsal lines that are neither broken or overlain with scattered brown specks, spots, or blotches).

There is a thick black line that runs from snout (where it is faint and brownish in colour), through eye and ear (wider than both and where it becomes black) and including over the entirety of the upper labials and up to nearly the boundary of the dorsolateral edge, which is a light golden colour and sharp etched. This black line has scattered small whitish or white spots of irregular shape, arranged longitudinally and continue in reduced size and greater number along the flank in 2 or 3 rows, being bold and white in colour.

This black line of the flank continues along the flank of the anterior tail, but rapidly breaks up along the upper and lower edges to give it a mottled black appearance on the sides of the anterior tail, rather than as a distinctive black line or zone. Most of the tail (all the posterior part) is an immaculate brown in colour.

Upper surfaces of limbs are black and light brown marked, relatively boldly so, being mainly black for the forelimbs and less

so for the hind limbs.

E. heatwolei of the type form is readily separated from the two preceding taxa by the fact that the black line running from snout to flank is greatly reduced. It is wholly non-existent anterior to the eye and posterior to the eye and between eye and ear hole the scales are mainly brown and with only restricted areas of black, these being in the form of dark patches on the lower parts of the rear upper labials and along the dorsolateral edge of the back of the head.

Behind the ear the black upper lateral band forms and continues along (almost) the upper half of the flank.

This black band along the upper flank has small brown, yellow or white spots, being of irregular shape, arranged in 3-4 rows (but hard to see such an arrangement on cursory glance) and are somewhat faded.

The lower half of the flank is yellowish to white and with the posterior edges of some scales slightly black edged.

The colours and markings of the upper and lower flank tend to merge to form the colouration on the lateral parts of the anterior of the tail.

The dorsum is a chocolate brown colour with numerous faded black spots or small squares running on it in an arrangement that is both irregular and tending towards a longitudinal arrangement.

Because of the size of the black pigment spots, their faded nature and arrangement, one does not get any inclination of any longitudinal lines on the dorsum on a cursory inspection.

Spotting on the dorsum of the tail at the anterior end is also scattered and faded and barely noticeable, with the distal half of the tail generally all brown other than for some specimens having reduced black spotting on the flanks at the distal end.

Upper surfaces of the limbs are black and brown arranged to form a semi-banded reticulum on each limb. Fore and hind limbs have similar amounts of black and brown pigment on them.

The dorsolateral edge is jagged being black (below) and brown above, and while jaggedness applies to this area in all species in this group, it is more pronounced in *E. heatwolei* as compared to both *E. policecorruptionorum* sp. nov. and *E. gad* sp. nov., but far less so than in *E. extinctionbusinessorum* sp. nov..

E. extinctionbusinessorum sp. nov. is by far the most distinctive species in the complex.

It has a relatively bold and distinct colouration all over with a particularly strong infusion of yellow in most specimens.

This species is readily identified by the distinctive and well-defined black barring over the sutures of the otherwise immaculate light brown anterior upper labials.

This black expands under the eye and posterior to it forms the wide black zone of the side of the head and onto the anterior of the flank.

Immediately behind the eye is invariably a patch of reddish/yellow brown, surrounded on all sides by black, the patch being of irregular shape.

The black of the flank is expanded in area forming most of the flank.

Both upper and lower edges of the black zone are bounded by immaculate yellow, slightly faded in colour or whitish in aged adults on the lower flank, with the black zone extending in sections to the belly, giving the sides a tiger-like appearance.

Within the black zone of the main part of each flank, the only spotting is a well-defined series of about 12 relatively large yellow spots of irregular shape coordinated with the narrowest points of the black lateral band (as in not where the black extends to the belly).

The top of the head, especially posterior to the eyes is mainly black pigment, boldly etched with brown on the edges of the eyes and snout area. Scales anterior to the eyes on the top of the head are also strongly and boldly etched black.

Upper surfaces of the limbs are boldly marked black medium brown, almost banded and with forelimbs with more black than the hindlimbs

Flank pattern breaks up rapidly along the anterior part of the tail

and the distal two thirds has no black at all, being a light brown in colour and much lighter than the background colour of the body. In line with *E. heatwolei*, the dorsum of *E. extinctionbusinessorum* sp. nov. is a chocolate brown colour with numerous faded black spots or small squares running on it in an arrangement that is both irregular and tending towards a longitudinal arrangement.

Because of the size of the black pigment spots, their faded nature and arrangement, one does not get any inclination of any longitudinal lines on the dorsum on a cursory inspection.

Spotting on the dorsum of the tail at the anterior end is also scattered and faded and barely noticeable, with the distal two thirds of the tail generally all brown in this taxon.

The four preceding species, *E. heatwolei*, *E. extinctionbusinessorum* sp. nov., *E. policecorruptionorum* sp. nov. and *E. gad* sp. nov. are separated from other species in the subgenus *Invaderskinkus* subgen. nov. by having prominent dark streaks, markings or reticulations on the throat (underside of the head), versus not so in the other species.

Skinks within the subgenus *Invaderskinkus* subgen. nov. are separated from other members of the genus *Eulamprus* Fitzinger, 1843, type species *Lygosoma quoyii* Duméril and Bibron, 1839 by original designation, by the following combination of characters:

Top of head is heavily spotted and flecked with black, cheeks, temples and sides of neck are invariably flecked with white or yellow. Dorsum is spotted black and usually quite heavily, but most of the time without any obvious longitudinal stripes (or if present always broken by brown speckling or similar, as opposed to a clean immaculate line as seen within species in the subgenus *Costinisauria* Wells and Wellington, 1985), excluding sometimes a semi distinct yellowish dorsolateral stripe at the anterior part of the body, extending down from above the eye and dissipating posteriorly along the upper body on the dorsolateral edge. Venter of body is all or mainly immaculate white, cream or light yellow. Does not exceed 90 mm snout-vent length in adults.

The nominate subgenus *Eulamprus* Fitzinger, 1843 comprises the three species *E. paulwoolfi* Hoser, 2020, *E. onethatwasoverlooked* sp. nov. (this paper) and the type species *E. quoyii* (Duméril and Bibron, 1839). They are separated from other similar Australian species (and all other species in the same genus, as in the other two subgenera) as follows: They are defined as a large Australian water skink (adults reaching over 110 mm snout-vent, versus 80 mm or less in the other two subgenera) with sharply-defined narrow pale yellow dorsolateral stripes but without a black vertebral stripe and a top of head that is either immaculate (one colour) or with only with very limited spots or flecks.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. aff* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct (but invariably immaculate) and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is as follows: It is a genus of largish (80-110 mm snout-vent in adults), fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from

Cogger, 2014).

E. policecorruptionorum sp. nov. is depicted in life online at: <https://www.flickr.com/photos/stephenmahony/8184297494/> and <https://www.flickr.com/photos/julesfarquhar/52450152316/> and <https://www.flickr.com/photos/ryanfrancis/53497035215/> and <https://www.flickr.com/photos/88708273@N03/50709529021/> *E. heatwolei* is depicted in life online at:

<https://www.inaturalist.org/observations/105588068> and <https://www.inaturalist.org/observations/168786737> and <https://www.flickr.com/photos/23031163@N03/40316380670/> *E. gad* sp. nov. is depicted in life online at: <https://www.inaturalist.org/observations/202365145> and <https://www.inaturalist.org/observations/195554944> and <https://www.inaturalist.org/observations/251849630> and <https://www.flickr.com/photos/kristianbell/10729193054/> *E. extinctionbusinessorum* sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/256252584> and <https://www.inaturalist.org/observations/256252540> and <https://www.inaturalist.org/observations/256252129> and <https://www.inaturalist.org/observations/256252235> and <https://www.flickr.com/photos/gondwanareptileproducts/53254732079/> and <https://www.flickr.com/photos/gondwanareptileproducts/51702654777/> and <https://www.flickr.com/photos/gondwanareptileproducts/37001011770/>

Distribution: *Eulamprus* (*Invaderskinkus*) *policecorruptionorum* sp. nov. is a taxon restricted to higher altitude coastal ranges north of the Hunter Valley and south of the Queensland border in New South Wales.

Etymology: New South Wales, Australia has long been known to have "the best police force MONEY CAN BUY" with reference to the endemic corruption within this government department.

In a lifetime spent trying to combat the endemic corruption in the police forces of Australia, I can say with full confidence that the corruption and misconduct in Australian police forces is worse than ever and wholly endemic.

Police officers in their corruption, besides doing the things one would expect of crooked cops, as in drug dealing, violence, sex offences, bribery, corruption, court fixing and the like, do some other strange things as part of their non-stop corruption and dishonesty.

One thing these lying crooks seek to do is run false narratives about most things, including how there is no police corruption in Australia and how anyone who dares assert this fact is a nutter or a conspiracy theorist.

Part of their false narrative is their corrupt seeking of recognition for all the good things they never do, and this they do through various awards and honours systems.

This is done through Australia day Awards (celebrating the genocide of the native Aboriginals on 26 January each year) and British King's Birthday Honours handed out to corrupt government employees and their mates in the middle of every year.

The bent cops nominate themselves for "Order of Australia", Knighthoods and the like for their great "services to the community" and similar such things.

These are rubber stamped of course by their mates in government to whom they sell drugs and protect from prosecution for various heinous crimes.

As the corrupt New South Wales police are always seeking recognition for the great things they do not do, I think it is fitting that I recognize their endemic corruption as an organisation and as individuals by naming a lizard in honour of what is arguably one of the most corrupt police forces on the planet.

There is plenty of literature detailing police corruption in New South Wales including in Hoser (1989, 1991, 1993, 1994, 1996, 1999a, 1999b, 2001b, 2001c) and sources cited therein.

Hoser (2001b) remains banned by the police in New South Wales as of 2024 and any copies located in that State are ordered to be seized and destroyed by way of a written standing order.

EULAMPRUS (INVADERSKINKUS) GAD SP. NOV.

LSIDurn:lsid:zoobank.org:act:65CE70AA-0AEE-409B-81A4-F1CA4671022F

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.149571 collected from Red Gum Park, De Quency Rd, Bullaburra, New South Wales, Australia, Latitude -33.73054 S., Longitude 150.40972 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Four preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.4836, R.4837, R.65779 and R.65780 all collected from Wentworth Falls, New South Wales, Australia, Latitude -33.716 S., Longitude 150.366 E.,

2/ Two preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.103464 and R.175967 both collected from Wentworth Falls Lake, New South Wales, Australia, Latitude -33.7 S., Longitude 150.366 E.

Diagnosis: Until now, *Eulamprus (Invaderskinkus) pollicecorruptionorum sp. nov.* had been an unnamed species and yet was recognized as distinct and separate from its closest relative, *Eulamprus (Invaderskinkus) heatwolei* Wells and Wellington, 1984 for at least 15 years.

At page 9 of Wells (2009), Richard Wells stated:

"Variation in morphology suggests that this species (*E. heatwolei*) may be composite. In particular the isolated populations on the Fleurieu Peninsula in South Australia, and more significantly, those on the New England Plateau, NSW appear to me to be distinct morphologically from topotypic *E. heatwolei* of the NSW Southern Highlands in their body-form and colouration and so should be more closely studied.

This population from the New England Plateau in NSW has been frequently misidentified in a number of publications as either *Eulamprus quoyii* or *Eulamprus tympanum*. I was intending to describe this species some years ago but never got around to it due to other matters.

Fortunately, Dr Glenn Shea has indicated that he will be describing this very distinctive water skink as a new species as soon as possible."

As a listed coauthor of Pepper *et al.* (2018) Glenn Shea did not seize the opportunity to formally name this taxon, even though their molecular results quite explicitly confirmed the species level divergence of this taxon. See also Hoser (2023d).

With another six years elapsed and the taxon still unnamed, I have taken the opportunity to formally name it as *Eulamprus (Invaderskinkus) pollicecorruptionorum sp. nov.*

Eulamprus (Invaderskinkus) pollicecorruptionorum sp. nov. is a taxon restricted to higher altitude coastal ranges north of the Hunter Valley and south of the Queensland border in New South Wales.

E. heatwolei Wells and Wellington, 1984, type locality of Robertson, New South Wales, Australia on the southern Highlands is a taxon confined to the region generally south of the

Hunter Valley in New South Wales, but extending from the Coolah Tops in the north-west, south-east to include the western Blue Mountains (e.g. Kanangra Boyd National Park), as well as the southern highlands of New South Wales, and north-east Victoria, east of the Great Dividing Range.

E. gad sp. nov. until now also treated as *E. heatwolei* is another obviously unnamed species confined to the upper Blue Mountains in the area of Bullaburra and nearby Wentworth Falls and appears to be a range-restricted endemic, worthy of consideration for conservation significance and management.

E. extinctionbusinessorum sp. nov. also until now also treated as *E. heatwolei* is a taxon apparently endemic to the upper Goulburn River drainage system, in north-east Victoria, north of the Great Dividing Range, being a situation in line with at least two locally endemic tree frog species, namely *Fiacumminganura timdalei* Hoser, 2020 (see Hoser 2020f) and *Rawlinsonia paraewingi* (Watson, Loftus-Hills and Littlejohn, 1971), both similarly disassociated with sibling species further north (west and east of the Great Dividing Range) and south of the Great Dividing Range in the same region of the State of Victoria.

It is a very distinctive looking and divergent member of the complex, and I am surprised that no one had flagged it as an unnamed species previously, save for the molecular results of Pepper *et al.* (2018),

The four preceding species are separated from one another by the following four unique combinations of characters:

E. pollicecorruptionorum sp. nov. has a dorsum that is generally brown all over with few if any black specks or spotting. Spots, if present are only tiny and widely scattered and in no apparent order.

The same applies to the upper surface of the anterior of the tail. The upper surfaces of the forelimbs are a combination of black and yellow markings, being mainly black above and mainly yellow on the sides. The upper surfaces of the hindlimbs are a reticulatum of dark brown over light brown.

The sides of the original tail at the anterior end have a smattering of black spots and squares arranged to form a sort of reticulatum that is continuous for most of the tail's length.

There is a thick black line that runs from snout (where it is faint and brownish in colour), through eye and ear (wider than both and where it becomes black) and including over the entirety of the upper labials and up to nearly the boundary of the dorsolateral edge, which is a light golden colour and sharp etched. This black line has scattered small brown spots of irregular shape, arranged longitudinally and continue in reduced size and number along the flank becoming whitish or white and faded in colour.

The lower flank is mainly a whitish grey in colour and without bold or distinctive markings or contrasting colours.

E. gad sp. nov. is a relatively distinctive taxon among the four relevant species in that the dorsum has an extremely high density of black spotting on an otherwise metallic brown background. Along either side of the mid-dorsal line this black spotting is so dense that it forms two quite obvious mid dorsal lines but in turn overlain with numerous scattered brown blotches (a contrast to species within the subgenus *Costinisauria* Wells and Wellington, 1985, where specimens have well defined mid dorsal lines that are neither broken or overlain with scattered brown specks, spots, or blotches).

There is a thick black line that runs from snout (where it is faint and brownish in colour), through eye and ear (wider than both and where it becomes black) and including over the entirety of the upper labials and up to nearly the boundary of the dorsolateral edge, which is a light golden colour and sharp etched. This black line has scattered small whitish or white spots of irregular shape, arranged longitudinally and continue in reduced size and greater number along the flank in 2 or 3 rows, being bold and white in colour.

This black line of the flank continues along the flank of the anterior tail, but rapidly breaks up along the upper and lower edges to give it a mottled black appearance on the sides of the anterior tail, rather than as a distinctive black line or zone. Most of

the tail (all the posterior part) is an immaculate brown in colour. Upper surfaces of limbs are black and light brown marked, relatively boldly so, being mainly black for the forelimbs and less so for the hind limbs.

E. heatwolei of the type form is readily separated from the two preceding taxa by the fact that the black line running from snout to flank is greatly reduced. It is wholly non-existent anterior to the eye and posterior to the eye and between eye and ear hole the scales are mainly brown and with only restricted areas of black, these being in the form of dark patches on the lower parts of the rear upper labials and along the dorsolateral edge of the back of the head.

Behind the ear the black upper lateral band forms and continues along (almost) the upper half of the flank.

This black band along the upper flank has small brown, yellow or white spots, being of irregular shape, arranged in 3-4 rows (but hard to see such an arrangement on cursory glance) and are somewhat faded.

The lower half of the flank is yellowish to white and with the posterior edges of some scales slightly black edged.

The colours and markings of the upper and lower flank tend to merge to form the colouration on the lateral parts of the anterior of the tail.

The dorsum is a chocolate brown colour with numerous faded black spots or small squares running on it in an arrangement that is both irregular and tending towards a longitudinal arrangement. Because of the size of the black pigment spots, their faded nature and arrangement, one does not get any inclination of any longitudinal lines on the dorsum on a cursory inspection.

Spotting on the dorsum of the tail at the anterior end is also scattered and faded and barely noticeable, with the distal half of the tail generally all brown other than for some specimens having reduced black spotting on the flanks at the distal end.

Upper surfaces of the limbs are black and brown arranged to form a semi-banded reticulum on each limb. Fore and hind limbs have similar amounts of black and brown pigment on them.

The dorsolateral edge is jagged being black (below) and brown above, and while jaggedness applies to this area in all species in this group, it is more pronounced in *E. heatwolei* as compared to both *E. policecorruptionorum* sp. nov. and *E. gad* sp. nov., but far less so than in *E. extinctionbusinessorum* sp. nov..

E. extinctionbusinessorum sp. nov. is by far the most distinctive species in the complex.

It has a relatively bold and distinct colouration all over with a particularly strong infusion of yellow in most specimens.

This species is readily identified by the distinctive and well-defined black barring over the sutures of the otherwise immaculate light brown anterior upper labials.

This black expands under the eye and posterior to it forms the wide black zone of the side of the head and onto the anterior of the flank.

Immediately behind the eye is invariably a patch of reddish/yellow brown, surrounded on all sides by black, the patch being of irregular shape.

The black of the flank is expanded in area forming most of the flank.

Both upper and lower edges of the black zone are bounded by immaculate yellow, slightly faded in colour or whitish in aged adults on the lower flank, with the black zone extending in sections to the belly, giving the sides a tiger-like appearance.

Within the black zone of the main part of each flank, the only spotting is a well-defined series of about 12 relatively large yellow spots of irregular shape coordinated with the narrowest points of the black lateral band (as in not where the black extends to the belly).

The top of the head, especially posterior to the eyes is mainly black pigment, boldly etched with brown on the edges of the eyes and snout area.

Scales anterior to the eyes on the top of the head are also strongly and boldly etched black.

Upper surfaces of the limbs are boldly marked black medium brown, almost banded and with forelimbs with more black than the hindlimbs

Flank pattern breaks up rapidly along the anterior part of the tail and the distal two thirds has no black at all, being a light brown in colour and much lighter than the background colour of the body.

In line with *E. heatwolei*, the dorsum of *E. extinctionbusinessorum* sp. nov. is a chocolate brown colour with numerous faded black spots or small squares running on it in an arrangement that is both irregular and tending towards a longitudinal arrangement.

Because of the size of the black pigment spots, their faded nature and arrangement, one does not get any inclination of any longitudinal lines on the dorsum on a cursory inspection.

Spotting on the dorsum of the tail at the anterior end is also scattered and faded and barely noticeable, with the distal two thirds of the tail generally all brown in this taxon.

The four preceding species, *E. heatwolei*, *E.*

extinctionbusinessorum sp. nov., *E. policecorruptionorum* sp.

nov. and *E. gad* sp. nov. are separated from other species in the subgenus *Invaderskinkus* subgen. nov. by having prominent dark streaks, markings or reticulations on the throat (underside of the head), versus not so in the other species.

Skinks within the subgenus *Invaderskinkus* subgen. nov. are separated from other members of the genus *Eulamprus* Fitzinger, 1843, type species *Lygosoma quoyii* Duméril and Bibron, 1839 by original designation, by the following combination of characters:

Top of head is heavily spotted and flecked with black, cheeks, temples and sides of neck are invariably flecked with white or yellow. Dorsum is spotted black and usually quite heavily, but most of the time without any obvious longitudinal stripes (or if present always broken by brown speckling or similar, as opposed to a clean immaculate line as seen within species in the subgenus *Costinisauria* Wells and Wellington, 1985), excluding sometimes a semi distinct yellowish dorsolateral stripe at the anterior part of the body, extending down from above the eye and dissipating posteriorly along the upper body on the dorsolateral edge. Venter of body is all or mainly immaculate white, cream or light yellow. Does not exceed 90 mm snout-vent length in adults.

The nominate subgenus *Eulamprus* Fitzinger, 1843 comprises the three species *E. paulwoolffi* Hoser, 2020, *E. onethatwasoverlooked* sp. nov. (this paper) and the type species *E. quoyii* (Duméril and Bibron, 1839). They are separated from other similar Australian species (and all other species in the same genus, as in the other two subgenera) as follows: They are defined as a large Australian water skink (adults reaching over 110 mm snout-vent, versus 80 mm or less in the other two subgenera) with sharply-defined narrow pale yellow dorsolateral stripes but without a black vertebral stripe and a top of head that is either immaculate (one colour) or with only with very limited spots or flecks.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct (but invariably immaculate) and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is as follows: It is a genus of largish (80-110 mm snout-vent in adults), fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the

lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. pollicecorruptionorum sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/stephenmahony/8184297494/>

and
<https://www.flickr.com/photos/julesfarquhar/52450152316/>

and
<https://www.flickr.com/photos/ryanfrancis/53497035215/>

and
<https://www.flickr.com/photos/88708273@N03/50709529021/>

E. heatwolei is depicted in life online at:

<https://www.inaturalist.org/observations/105588068>

and
<https://www.inaturalist.org/observations/168786737>

and
<https://www.flickr.com/photos/23031163@N03/40316380670/>

E. gad sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/202365145>

and
<https://www.inaturalist.org/observations/195554944>

and
<https://www.inaturalist.org/observations/251849630>

and
<https://www.flickr.com/photos/kristianbell/10729193054/>

E. extinctionbusinessorum sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/256252584>

and
<https://www.inaturalist.org/observations/256252540>

and

<https://www.inaturalist.org/observations/256252129>

and

<https://www.inaturalist.org/observations/256252235>

and

<https://www.flickr.com/photos/gondwanareptileproductions/53254732079/>

and

<https://www.flickr.com/photos/gondwanareptileproductions/51702654777/>

and

<https://www.flickr.com/photos/gondwanareptileproductions/37001011770/>

Distribution: *E. gad* sp. nov. until now also treated as *E. heatwolei* is confined to the upper Blue Mountains in the area of Bullaburra and nearby Wentworth Falls in New South Wales, Australia and appears to be a range-restricted endemic, worthy of consideration for conservation significance and management.

Etymology: When mentioning to a number of my collaborators that there was an undescribed species of *Eulamprus* endemic to a small region in the upper Blue Mountains of New South Wales, literally on the edge of Sydney, the largest and most important metropolis in Australia, this location, literally being in the most heavily tracked part of Australia, a few exclaimed "*E Gad*", which is taken to mean an expression of surprise, anger, or emphasis, along the lines of "*how is this possible?*" or "*isn't that a surprise?*" As the word "*Gad*" is short and easy to remember and ties in with the genus name abbreviation "*E.*" this (*Gad*) is the chosen etymology for the species.

The short name "*gad*" also appeases those who whinge about scientific names being too long, hard to pronounce or confusing.



An approximately 9 month old *Eulamprus extinctionbusinessorum* sp. nov. from Stony Creek about 2 km north of Jamieson, Victoria (same animal as on cover of this journal). Caught under rock in dry creek bed at 12.15 AM (15 past midnight).

**EULAMPRUS (INVADERSKINKUS)
EXTINCTIONBUSINESSORUM SP. NOV.**

LSIDurn:lsid:zoobank.org:act:EB5511E8-A479-413F-845D-8224A8C9F5EB

Holotype: A preserved specimen at the Museums Victoria Herpetology Collection, Melbourne, Victoria, Australia, specimen number D71536 collected from Mount Sugarloaf, Cathedral Ranges, Buxton, Victoria, Australia, Latitude -37.37 S., Longitude 145.73 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Six preserved specimens at the Museums Victoria Herpetology Collection, Melbourne, Victoria, Australia, being specimen numbers D33296, D33297, D66023, D66024, D66025 and D66026 all collected from the vicinity of the Snobs Creek Trout Hatchery, Victoria, Australia, Latitude -37.25 S., Longitude 145.95 E., being a Victorian Government Wildlife Department owned site where the feral bureaucrats mass breed pest fish such as North American Brook Trout *Salvelinus fontinalis* (Mitchill, 1814), North American Rainbow Trout *Oncorhynchus mykiss* (Walbaum, 1792) and Eurasian Brown Trout *Salmo trutta* Linnaeus, 1758, to release into waterways across the State of Victoria to overrun habitats and wipe out native species of fish and frogs.

They then enact "laws" to "protect" (AKA Ban) these threatened native species, whereupon through their controlled business enterprise "Zoos Victoria" they monopolize the declining species and "manage" them to extinction (in line with the scientific name for the species of Water Skink from this location).

This is all done while scamming taxpayer funded cash grants to line the pockets of the corrupt wildlife bureaucrats and government employees of their monopolistic and dysfunctional "Zoos Victoria" business.,

2/ Two preserved specimens at the Museums Victoria Herpetology Collection, Melbourne, Victoria, Australia, being specimen numbers D36908 and D36909 both collected from Snobs Creek, Victoria, Australia, Latitude -37.27 S., Longitude 145.87 E.

3/ A preserved specimen at the Museums Victoria Herpetology Collection, Melbourne, Victoria, Australia, specimen number D34368 collected from Eildon, Victoria, Australia, Latitude -37.23 S., Longitude 145.92 E.

Diagnosis: Until now, *Eulamprus (Invaderskinkus) policecorruptionorum sp. nov.* had been an unnamed species and yet was recognized as distinct and separate from its closest relative, *Eulamprus (Invaderskinkus) heatwolei* Wells and Wellington, 1984 for at least 15 years.

At page 9 of Wells (2009), Richard Wells stated:

"Variation in morphology suggests that this species (*E. heatwolei*) may be composite. In particular the isolated populations on the Fleurieu Peninsula in South Australia, and more significantly, those on the New England Plateau, NSW appear to me to be distinct morphologically from topotypic *E. heatwolei* of the NSW Southern Highlands in their body-form and colouration and so should be more closely studied.

This population from the New England Plateau in NSW has been frequently misidentified in a number of publications as either *Eulamprus quoyii* or *Eulamprus tympanum*. I was intending to describe this species some years ago but never got around to it due to other matters.

Fortunately, Dr Glenn Shea has indicated that he will be describing this very distinctive water skink as a new species as soon as possible."

As a listed coauthor of Pepper *et al.* (2018) Glenn Shea did not seize the opportunity to formally name this taxon, even though their molecular results quite explicitly confirmed the species level divergence of this taxon. See also Hoser (2023d).

With another six years elapsed and the taxon still unnamed, I have taken the opportunity to formally name it as *Eulamprus (Invaderskinkus) policecorruptionorum sp. nov.*

Eulamprus (Invaderskinkus) policecorruptionorum sp. nov. is

a taxon restricted to higher altitude coastal ranges north of the Hunter Valley and south of the Queensland border in New South Wales.

E. heatwolei Wells and Wellington, 1984, type locality of Robertson, New South Wales, Australia on the southern Highlands is a taxon confined to the region generally south of the Hunter Valley in New South Wales, but extending from the Coolah Tops in the north-west, south-east to include the western Blue Mountains (e.g. Kanangra Boyd National Park), as well as the southern highlands of New South Wales, and north-east Victoria, east of the Great Dividing Range.

E. gad sp. nov. until now also treated as *E. heatwolei* is another obviously unnamed species confined to the upper Blue Mountains in the area of Bullaburra and nearby Wentworth Falls and appears to be a range-restricted endemic, worthy of consideration for conservation significance and management.

E. extinctionbusinessorum sp. nov. also until now also treated as *E. heatwolei* is a taxon apparently endemic to the upper Goulburn River drainage system, in north-east Victoria, north of the Great Dividing Range, being a situation in line with at least two locally endemic tree frog species, namely *Fiacumminganura timdalei* Hoser, 2020 (see Hoser 2020f) and *Rawlinsonia paraewingi* (Watson, Loftus-Hills and Littlejohn, 1971), both similarly disassociated with sibling species further north (west and east of the Great Dividing Range) and south of the Great Dividing Range in the same region of the State of Victoria.

It is a very distinctive looking and divergent member of the complex, and I am surprised that no one had flagged it as an unnamed species previously, save for the molecular results of Pepper *et al.* (2018),

The four preceding species are separated from one another by the following four unique combinations of characters:

E. policecorruptionorum sp. nov. has a dorsum that is generally brown all over with few if any black specks or spotting. Spots, if present are only tiny and widely scattered and in no apparent order.

The same applies to the upper surface of the anterior of the tail. The upper surfaces of the forelimbs are a combination of black and yellow markings, being mainly black above and mainly yellow on the sides. The upper surfaces of the hindlimbs are a reticulatum of dark brown over light brown.

The sides of the original tail at the anterior end have a smattering of black spots and squares arranged to form a sort of reticulatum that is continuous for most of the tail's length.

There is a thick black line that runs from snout (where it is faint and brownish in colour), through eye and ear (wider than both and where it becomes black) and including over the entirety of the upper labials and up to nearly the boundary of the dorsolateral edge, which is a light golden colour and sharp etched. This black line has scattered small brown spots of irregular shape, arranged longitudinally and continue in reduced size and number along the flank becoming whitish or white and faded in colour.

The lower flank is mainly a whitish grey in colour and without bold or distinctive markings or contrasting colours.

E. gad sp. nov. is a relatively distinctive taxon among the four relevant species in that the dorsum has an extremely high density of black spotting on an otherwise metallic brown background. Along either side of the mid-dorsal line this black spotting is so dense that it forms two quite obvious mid dorsal lines but in turn overlap with numerous scattered brown blotches (a contrast to species within the subgenus *Costinisauria* Wells and Wellington, 1985, where specimens have well defined mid dorsal lines that are neither broken or overlain with scattered brown specks, spots, or blotches).

There is a thick black line that runs from snout (where it is faint and brownish in colour), through eye and ear (wider than both and where it becomes black) and including over the entirety of the upper labials and up to nearly the boundary of the dorsolateral edge, which is a light golden colour and sharp etched. This black line has scattered small whitish or white spots of irregular shape, arranged longitudinally and continue in reduced size and greater



An approximately 9 month old *Eulamprus extinctionbusinessorum* sp. nov. from Stony Creek about 2 km north of Jamieson, Victoria (same animal as front cover of this journal). Found under rock in dry creek bed at 15 past midnight.



Hoser 2025 - Australasian Journal of Herpetology 72:3-39, 64.

Available online at www.herp.net

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number along the flank in 2 or 3 rows, being bold and white in colour.

This black line of the flank continues along the flank of the anterior tail, but rapidly breaks up along the upper and lower edges to give it a mottled black appearance on the sides of the anterior tail, rather than as a distinctive black line or zone. Most of the tail (all the posterior part) is an immaculate brown in colour. Upper surfaces of limbs are black and light brown marked, relatively boldly so, being mainly black for the forelimbs and less so for the hind limbs.

E. heatwolei of the type form is readily separated from the two preceding taxa by the fact that the black line running from snout to flank is greatly reduced. It is wholly non-existent anterior to the eye and posterior to the eye and between eye and ear hole the scales are mainly brown and with only restricted areas of black, these being in the form of dark patches on the lower parts of the rear upper labials and along the dorsolateral edge of the back of the head.

Behind the ear the black upper lateral band forms and continues along (almost) the upper half of the flank.

This black band along the upper flank has small brown, yellow or white spots, being of irregular shape, arranged in 3-4 rows (but hard to see such an arrangement on cursory glance) and are somewhat faded.

The lower half of the flank is yellowish to white and with the posterior edges of some scales slightly black edged.

The colours and markings of the upper and lower flank tend to merge to form the colouration on the lateral parts of the anterior of the tail.

The dorsum is a chocolate brown colour with numerous faded black spots or small squares running on it in an arrangement that is both irregular and tending towards a longitudinal arrangement. Because of the size of the black pigment spots, their faded nature and arrangement, one does not get any inclination of any longitudinal lines on the dorsum on a cursory inspection.

Spotting on the dorsum of the tail at the anterior end is also scattered and faded and barely noticeable, with the distal half of the tail generally all brown other than for some specimens having reduced black spotting on the flanks at the distal end.

Upper surfaces of the limbs are black and brown arranged to form a semi-banded reticulum on each limb. Fore and hind limbs have similar amounts of black and brown pigment on them.

The dorsolateral edge is jagged being black (below) and brown above, and while jaggedness applies to this area in all species in this group, it is more pronounced in *E. heatwolei* as compared to both *E. policecorruptionorum* sp. nov. and *E. gad* sp. nov., but far less so than in *E. extinctionbusinessorum* sp. nov..

E. extinctionbusinessorum sp. nov. is by far the most distinctive species in the complex.

It has a relatively bold and distinct colouration all over with a particularly strong infusion of yellow in most specimens.

This species is readily identified by the distinctive and well-defined black barring over the sutures of the otherwise immaculate light brown anterior upper labials.

This black expands under the eye and posterior to it forms the wide black zone of the side of the head and onto the anterior of the flank.

Immediately behind the eye is invariably a patch of reddish/yellow brown, surrounded on all sides by black, the patch being of irregular shape.

The black of the flank is expanded in area forming most of the flank.

Both upper and lower edges of the black zone are bounded by immaculate yellow, slightly faded in colour or whitish in aged adults on the lower flank, with the black zone extending in sections to the belly, giving the sides a tiger-like appearance. Within the black zone of the main part of each flank, the only spotting is a well-defined series of about 12 relatively large yellow spots of irregular shape coordinated with the narrowest points of the black lateral band (as in not where the black extends to the

belly).

The top of the head, especially posterior to the eyes is mainly black pigment, boldly etched with brown on the edges of the eyes and snout area.

Scales anterior to the eyes on the top of the head are also strongly and boldly etched black.

Upper surfaces of the limbs are boldly marked black medium brown, almost banded and with forelimbs with more black than the hindlimbs

Flank pattern breaks up rapidly along the anterior part of the tail and the distal two thirds has no black at all, being a light brown in colour and much lighter than the background colour of the body.

In line with *E. heatwolei*, the dorsum of *E. extinctionbusinessorum* sp. nov. is a chocolate brown colour with numerous faded black spots or small squares running on it in an arrangement that is both irregular and tending towards a longitudinal arrangement.

Because of the size of the black pigment spots, their faded nature and arrangement, one does not get any inclination of any longitudinal lines on the dorsum on a cursory inspection.

Spotting on the dorsum of the tail at the anterior end is also scattered and faded and barely noticeable, with the distal two thirds of the tail generally all brown in this taxon.

The four preceding species, *E. heatwolei*, *E.*

extinctionbusinessorum sp. nov., *E. policecorruptionorum* sp.

nov. and *E. gad* sp. nov. are separated from other species in the subgenus *Invaderskinkus* subgen. nov. by having prominent dark streaks, markings or reticulations on the throat (underside of the head), versus not so in the other species.

Skinks within the subgenus *Invaderskinkus* subgen. nov. are separated from other members of the genus *Eulamprus* Fitzinger, 1843, type species *Lygosoma quoyii* Duméril and Bibron, 1839 by original designation, by the following combination of characters:

Top of head is heavily spotted and flecked with black, cheeks, temples and sides of neck are invariably flecked with white or yellow. Dorsum is spotted black and usually quite heavily, but most of the time without any obvious longitudinal stripes (or if present always broken by brown speckling or similar, as opposed to a clean immaculate line as seen within species in the subgenus *Costinisauria* Wells and Wellington, 1985), excluding sometimes a semi distinct yellowish dorsolateral stripe at the anterior part of the body, extending down from above the eye and dissipating posteriorly along the upper body on the dorsolateral edge. Venter of body is all or mainly immaculate white, cream or light yellow. Does not exceed 90 mm snout-vent length in adults.

The nominate subgenus *Eulamprus* Fitzinger, 1843

comprises the three species *E. paulwoolffi* Hoser, 2020, *E. onethatwasoverlooked* sp. nov. (this paper) and the type species

E. quoyii (Duméril and Bibron, 1839). They are separated from other similar Australian species (and all other species in the same genus, as in the other two subgenera) as follows: They are defined as a large Australian water skink (adults reaching over 110 mm snout-vent, versus 80 mm or less in the other two subgenera) with sharply-defined narrow pale yellow dorsolateral stripes but without a black vertebral stripe and a top of head that is either immaculate (one colour) or with only with very limited spots or flecks.

The nine species, *Eulamprus kosciuskoi* (Kingham, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being

E. leuraensis Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes* sp. nov., *E. aha* sp. nov., *E. gotit* sp. nov., *E. nrl* sp. nov. and *E. afl* sp. nov. being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct (but invariably immaculate) and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is as

follows: It is a genus of largish (80-110 mm snout-vent in adults), fast moving, diurnally active skinks, characterised by pentadactyle limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. pollicecorruptionorum sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/stephenmahony/8184297494/>
 and

<https://www.flickr.com/photos/julesfarquhar/52450152316/>
 and

<https://www.flickr.com/photos/ryanfrancis/53497035215/>
 and

<https://www.flickr.com/photos/88708273@N03/50709529021/>

E. heatwolei is depicted in life online at:

<https://www.inaturalist.org/observations/105588068>
 and

<https://www.inaturalist.org/observations/168786737>
 and

<https://www.flickr.com/photos/23031163@N03/40316380670/>

E. gad sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/202365145>
 and

<https://www.inaturalist.org/observations/195554944>
 and

<https://www.inaturalist.org/observations/251849630>
 and

<https://www.flickr.com/photos/kristianbell/10729193054/>

E. extinctionbusinessorum sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/256252584>
 and

<https://www.inaturalist.org/observations/256252540>
 and

<https://www.inaturalist.org/observations/256252129>
 and

<https://www.inaturalist.org/observations/256252235>
 and

<https://www.flickr.com/photos/gondwanareptileproduction/53254732079/>
 and

<https://www.flickr.com/photos/gondwanareptileproduction/51702654777/>
 and

<https://www.flickr.com/photos/gondwanareptileproduction/37001011770/>

and also on the back cover (page 64) of this journal issue.

Distribution: *E. extinctionbusinessorum* sp. nov. until now has been treated as *E. heatwolei*.

It is a taxon apparently endemic to the upper Goulburn River drainage system, in north-east Victoria, north of the Great Dividing Range, being a situation in line with at least two locally endemic tree frog species, namely *Fiacumminganura timdalei* Hoser, 2020 (see Hoser 2020f) and *Rawlinsonia paraewingi* (Watson, Loftus-Hills and Littlejohn, 1971), both similarly disassociated with sibling species further north (west and east of the Great Dividing Range) and south of the Great Dividing Range in the same region of the State of Victoria.

Etymology: As mentioned, or inferred in the etymology of *E. pollicecorruptionorum* sp. nov. elsewhere in this paper, corrupt public servants seek to run fake narratives of the great job they are not doing.

This is being done non-stop by wildlife department officials in the Australian state of Victoria who spend lots of time putting out

propaganda telling people about their great work protecting the environment, while in fact doing the exact opposite.

Like corrupt cops, they regularly nominate themselves for Australia Day Awards, Knighthoods and the like in the form of King's or Australian Government awards and honours in what is perhaps the most nepotistic honours system on the planet.

Symbolic of this is a species of lizard occupying a biogeographically significant river system, being the Goulburn River drainage in north-east Victoria, noting that the Wildlife Department and associated government agencies have done all they can to destroy the relevant ecosystems and the more vulnerable wildlife species within it.

Emblematic of this is the fact that the department entrusted to protect and manage native species still as of 2024 tries to deliberately introduce known feral species and breed them in the local environment with a view to displacing and exterminating threatened species.

The Victorian Government Wildlife Department, this week (late 2024) calling itself the "Conservation Regulator" (an oxymoron to end all oxymorons), are now spending millions of dollars to mass breed pest fish such as North American Brook Trout *Salvelinus fontinalis* (Mitchill, 1814), North American Rainbow Trout *Oncorhynchus mykiss* (Walbaum, 1792) and Eurasian Brown Trout *Salmo trutta* Linnaeus, 1758, to release into waterways across the State of Victoria including the Goulburn River basin to overrun habitats and wipe out native species of fish and frogs, including the now endangered *Fiacumminganura timdalei* Hoser, 2020 (see Hoser 2020f).

All this ecological carnage is so a few of their redneck employees can spend a few days in waders trying to catch the feral fish they put into the streams!

Same applies for the Eurasian Deer and Blackberries they introduced to the local bush in the same area, both of which are now overrunning the habitat at the expense of what native mammals and native vegetation remains.

The same corrupt bureaucrats then enact "laws" to "protect" (AKA Ban) these threatened native species facing extinction to prevent any member of the public from trying to save them.

Penalty for doing so is financial ruin and jail.

The wildlife department's own controlled business enterprise "Zoos Victoria" then monopolize the declining species and "manage" them to extinction over time frames spanning decades.

This is all done while scamming taxpayer funded cash grants to line the pockets of the corrupt wildlife bureaucrats and government employees of their monopolistic and dysfunctional "Zoos Victoria" business.

They then put out North Korean style propaganda detailing their world leading "conservation work" and captive breeding programs, including through the various state-controlled media outlets that dominate Australian media and using full time staff dedicated to flooding the internet and social media with the same web of lies and deceit.

As corrupt members of the Victorian Government wildlife department seek to be honoured for the good work they do not do, I think it is fitting that an etymology for a Goulburn River basin species be made that draws attention to the evil people hastening the decline of native species in this region and hence the species name *E. extinctionbusinessorum* sp. nov. in honour of the Victorian Government wildlife department, this week calling itself the "Conservation Regulator" and their monopolistic and dysfunctional business "Zoos Victoria".

In another oxymoron "Zoos Victoria" and the "Conservation Regulator" aggressively claims and monopolizes the Australian registered trademark "Fighting extinction" (see Australian trademark number 1470848) to ensure that no one else in this country can even claim they are "fighting extinction".

This is because of a very real fear of being trademark bullied and bankrupted by the Victorian Government Solicitor lawyers and various cocaine addicted judicial figures acting for the dysfunctional "Zoos Victoria" and "Conservation Regulator" businesses.

A business owned by wildlife conservation icon Maryann Martinek was deregistered after the predecessor in name for the "Conservation Regulator" then called "Department of Sustainability and Environment" AKA DSE, took trademark action against her in the period following the Black Saturday bushfires in 2009.

**EULAMPRUS (INVADERSKINKUS)
CORRUPTBUREAUCRATORUM SP. NOV.**

LSIDDurn:lsid:zoobank.org:act:1FE39504-D949-4A86-AA90-5753138D2D59

Holotype: A preserved specimen at the Australian National Wildlife Collection, Commonwealth Scientific and Industrial Research Organisation (AKA CSIRO), Canberra, ACT, Australia, specimen number R12050 collected from Square Rocks trail, near the car park, in the Namadgi National Park, Australian Capital Territory, Australia, Latitude -35.5193 S., Longitude 148.9139 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Australian National Wildlife Collection, Commonwealth Scientific and Industrial Research Organisation (AKA CSIRO), Canberra, ACT, Australia, specimen number R12001 collected from Square Rocks trail, near car park, Namadgi National Park, Australian Capital Territory, Australia, Latitude -35.5193 S., Longitude 148.9139 E.

Diagnosis: The putative taxon *Eulamprus (Invaderskinkus) tympanum* has been variously subdivided by recent authors to include up to three species.

These are (as cited and recognized in Wells 2009) the following:

1/ *E. tympanum* (Lönnerberg and Andersson, 1913) with a type locality of near Melbourne, Victoria;

2/ *E. marnieae* Hutchinson and Rawlinson, 1995, with a type locality of 5.5 km east of Dreeite, Victoria

Latitude 38.11 S., Longitude 143.34 E., being a taxon ostensibly from the volcanic plains of West Victoria, and

3/ *E. herseyi* Wells and Wellington, 1985 type locality of Dora Dora National Park proposal near Albury, New South Wales, Latitude 35.55 S., Longitude 147.35 E., being a species of the upper Murray River system.

The molecular results of Pepper *et al.* (2018) show no basis to recognize *E. marnieae* even at the subspecies level, which accords with my own experience with *E. tympanum* from west Victoria.

That is the local variation within specimens there is little different to those found in other parts of the range of the species throughout much of Victoria and the usual individual variation in most populations.

Colder areas, including those on top of cold hills and higher ranges (e.g. the higher Otways) tend to have specimens with more black on their dorsum.

Eulamprus herseyi Wells and Wellington, 1985 also appears to be a questionable taxon on the basis of the molecular results of Pepper *et al.* (2018) but has a stronger basis of recognition.

As it appears to be an independently evolving and divergent lineage of the Upper Murray River drainage basin, I recognize this species herein and separate it from the newly described taxon herein, being *Eulamprus (Invaderskinkus) corruptbureaucratorum sp. nov.*

E. corruptbureaucratorum sp. nov. is a taxon largely confined to the upper Murrumbidgee River system in the Australian Capital Territory, Australia and both morphologically and on the published results of Pepper *et al.* (2018) is in fact species-level divergent from the other taxa, *E. tympanum* and the closely allied *E. herseyi*.

The three species are separated from one another by the following unique combinations of characters:

E. corruptbureaucratorum sp. nov. is a lizard with a light yellowish-brown dorsum and an immaculate bright yellow coloured head. Exceptional to this are a series of small dark brown triangles at the rear and base of each upper labial (often except the most anterior), with the base of each triangle on the lower edge of each labial and these triangles increasing in size as one moves to

further back upper labials.

There are no similar such triangles on the upper labials of either *E. tympanum* or the closely allied *E. herseyi*.

The original tail of *E. corruptbureaucratorum sp. nov.* is heavily spotted along all or most of its length, especially on the flanks. Between eye and ear is no obvious black bar, the relevant scales being either brown or sometimes smudged with some black or an irregular black mark on a small part of the area only.

Posterior to the ear, a black line about two thirds as wide as the ear hole extends back and widens to become the black zone occupying slightly more than half of the upper flank. On this black zone are scattered small brownish-yellow spots that are vaguely arranged in a longitudinal manner forming 1, 2, or 3 vague series of spots. The lower flank is mottled a dusky grey, white and yellow.

Top of the tail is brownish, especially anteriorly and more yellowish, with heavy black markings at the anterior flanks.

By about halfway along the tail, heading distally, the black dissipates, to become a series of small spots running along the latter half of the tail.

The top of the rear of the head had semi-distinct ill-defined black markings which become slightly more well defined, but still ill defined on the dorsum of the body.

Upper surfaces of limbs are light purple brown with ill defined blackish markings, slightly less in area than the lighter background and of similar intensity on both fore and hind limbs.

E. tympanum and the closely allied *E. herseyi* are similar in most respects to *E. corruptbureaucratorum sp. nov.* but are separated from one another as follows:

In *E. herseyi* the black on the back concentrates on the dorsal midline (the vertebral line) forming a continuous black line that is of varying thickness and has ill defined edges. This is not seen in *E. tympanum* or *E. corruptbureaucratorum sp. nov.*

On the anterior part of the tail, black spotting is mainly single along the midline in *E. herseyi*, versus somewhat paired in *E. tympanum* or wholly irregular in *E. corruptbureaucratorum sp. nov.*

The three species, *E. tympanum*, *E. corruptbureaucratorum sp. nov.* and *E. herseyi* are separated from the other four species within the subgenus *Invaderskinkus subgen. nov.* by having an immaculate throat with at most a few pale grey spots or streaks, versus thick dark grey or black streaks, blotches or reticulations in the other species.

Those four species are *E. heatwolei* Wells and Wellington, 1984 *E. policecorruptionorum sp. nov.*, *E. gad sp. nov.*, and *E. extinctionbusinessorum sp. nov.*

Skinks within the subgenus *Invaderskinkus subgen. nov.* are separated from other members of the genus *Eulamprus* Fitzinger, 1843, type species *Lygosoma quoyii* Duméril and Bibron, 1839 by original designation, by the following combination of characters:

Top of head is heavily spotted and flecked with black, cheeks, temples and sides of neck are invariably flecked with white or yellow. Dorsum is spotted black and usually quite heavily, but most of the time without any obvious longitudinal stripes (or if present always broken by brown speckling or similar, as opposed to a clean immaculate line as seen within species in the subgenus *Costinisauria* Wells and Wellington, 1985), excluding sometimes a semi distinct yellowish dorsolateral stripe at the anterior part of the body, extending down from above the eye and dissipating posteriorly along the upper body on the dorsolateral edge. Venter of body is all or mainly immaculate white, cream or light yellow. Does not exceed 90 mm snout-vent length in adults.

The nominate subgenus *Eulamprus* Fitzinger, 1843 comprises the three species *E. paulwoolff* Hoser, 2020, *E. onethatwasoverlooked sp. nov.* (this paper) and the type species *E. quoyii* (Duméril and Bibron, 1839). They are separated from other similar Australian species (and all other species in the same genus, as in the other two subgenera) as follows: They are defined as a large Australian water skink (adults reaching over 110 mm snout-vent, versus 80 mm or less in the other two

subgenera) with sharply-defined narrow pale yellow dorsolateral stripes but without a black vertebral stripe and a top of head that is either immaculate (one colour) or with only with very limited spots or flecks.

The nine species, *Eulamprus kosciuskoi* (Kinghorn, 1932), type species for the subgenus *Costinisauria* Wells and Wellington, 1985 and the other eight species in the same subgenus being *E. leuraensis* Wells and Wellington, 1984, *E. worrelli* (Wells and Wellington, 1985), *E. couperi* (Wells, 2009), *E. yes sp. nov.*, *E. aha sp. nov.*, *E. gotit sp. nov.*, *E. nrl sp. nov.* and *E. aff sp. nov.* being the entirety of the subgenus *Costinisauria* Wells and Wellington, 1985 are separated from other species within the genus *Eulamprus* Fitzinger 1843 (as in the other two subgenera) by having a cream, white or pale yellow belly with no or limited amounts of mottling and no obvious grey blotches; a dorsum with one or more dark longitudinal stripes, sometimes that are only semi-distinct (but invariably immaculate) and a throat that is immaculate or at most with a few pale grey spots or streaks.

The diagnosis for the genus *Eulamprus* Fitzinger, 1843 is as follows: It is a genus of largish (80-110 mm snout-vent in adults), fast moving, diurnally active skinks, characterised by pentadactyl limbs; smooth scales; anterior ear lobules absent; lower eyelid moveable and scaly; parietal scales in contact behind the interparietal; fourth toe much longer than the third; base of fourth toe is broad with three or more granules or lamellae between the lateral scales and all or some of the lamellae including the distal ones divided; surfaces of the tail and the rump are not flushed with red, pink or blue; hindlimb is long being at least 40 per cent of snout-vent length; live bearing (derived and modified from Cogger, 2014).

E. corruptbureaucratorum sp. nov. is depicted in life online at:

<https://canberra.naturemapr.org/sightings/4535227>

and

<https://www.inaturalist.org/observations/217571>

and

<https://canberra.naturemapr.org/sightings/4588328>

and

<https://www.flickr.com/photos/11701520@N03/16515864920/>

E. herseyi is depicted in life online at:

<https://www.inaturalist.org/observations/256252367>

and

<https://www.inaturalist.org/observations/234281477>

and

<https://www.inaturalist.org/observations/25664328>

and

<https://www.inaturalist.org/observations/36425951>

E. tympanum of the type form is depicted in life online at:

<https://www.inaturalist.org/observations/256253228>

and

<https://www.inaturalist.org/observations/256253280>

and

<https://www.flickr.com/photos/gondwanareptileproduction/52521836800/>

and

<https://www.inaturalist.org/observations/77223675>

and

<https://www.inaturalist.org/observations/139718516>

and

<https://www.inaturalist.org/observations/152579055>

Distribution: *E. corruptbureaucratorum sp. nov.* is a taxon largely confined to the upper Murrumbidgee River system in the Australian Capital Territory, Australia.

Etymology: An old proverb says that the fish rots from the head. The centre of government and corruption in Australia appears to be the public service city of Canberra in the Australian Capital Territory.

No one is asserting that all public servants are crooks but suffice to say that the culture here is toxic and corruption certainly rules

supreme.

One only needs to see English King's birthday honours lists for Australia, who gets "State Funerals" and so on and one realises the extent of the extensive corruption and nepotism in the Australian public service.

As many corrupt bureaucrats crave a false narrative seeking recognition for all the good things that they never do, including through the building of obscene monuments, statues and puff pieces in the state-controlled media, I think it is fitting that corrupt bureaucrats are honoured with an etymology for the things they do in fact make happen.

That is corruption.

It is particularly fitting that in a city and territory in the form of the Australian Capital Territory, where pretty much every bit of real estate is named in honour of some dishonest and corrupt politician, public servant or overpaid "law enforcement" officer that runs crime instead of enforcing the law, that the collective corruption in this group is recognised in the etymology of a relatively common local skink species in the form of *E. corruptbureaucratorum sp. nov.*

E. corruptbureaucratorum sp. nov. is also a range-restricted taxon and may ultimately become extinct as a result of the idiot Australian government policy of mass overpopulation of humans in the near term.

While one hopes that one day Australia will be rid of the scourge of a corrupt bureaucracy, it is to be hoped that it is never rid of the species *E. corruptbureaucratorum sp. nov.*

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CONFLICTS OF INTEREST

None.

Below: An adult *Eulamprus extinctionbusinessorum* sp. nov. in situ at Gooram Falls (between Merton and Euroa), Victoria.



Two new species of Pygopodid Legless Lizard from New South Wales, Australia and irrefutable confirmation that “*Delma vescolineata* Mahony, Cutajar and Rowley, 2022” is a junior synonym of “*Delma wollemi* Wells and Wellington, 1985”.

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ABSTRACT

Hoser (2017) confirmed the previously underestimated diversity of Australian Pygopodids by formally naming six new genera, two new subgenera and 13 new species. This was followed up with three more species in Hoser (2018) and another in Hoser (2022).

This paper formally names as new species, a taxon until now treated as a geographically and morphologically divergent population of *Delma* (*Honlamopus*) *inornata*, from north-west New South Wales as well as nearby south Queensland and a taxon until now treated as a geographically and morphologically divergent population of *Pseudodelma plebeia*, from New South Wales, divergent from the type form of *P. plebeia* from south-east Queensland.

Significantly, an audit was conducted with respect of “*Delma vescolineata* Mahony, Cutajar and Rowley, 2022”, more correctly placed in *Pseudodelma* Fischer, 1882 as published in the PRINO (peer reviewed in name only) online “journal” *Zootaxa*.

It is conspecific with “*Delma wollemi* Wells and Wellington, 1985”, also more correctly placed in *Pseudodelma* Fischer, 1882, which was recognised as a distinct taxonomic entity in Hoser (2017).

“*Delma vescolineata*” is therefore a synonym and the name should not be used for this taxon, except by way of synonymy.

Significantly, in justifying the renaming of “*Delma wollemi* Wells and Wellington, 1985”, several acts of scientific fraud were perpetrated.

This included a repeatedly published lie that the Wells and Wellington (1985) name was a *nomen nudem*, being a claim peddled as far back as 1999 by Shea and Sadler (1999).

More seriously, it is also clearly apparent that the alleged holotype specimen of “*Delma wollemi* Wells and Wellington, 1985” published on the internet as of 7 Aug 2024 and as described and cited by Mahony, Cutajar and Rowley (2022) is not the original holotype specimen lodged by Wells and Wellington or even of the same species.

This fact is established several ways, including directly from the Wells and Wellington (1985) description of the holotype itself, the same animal also appearing in life in an image in Cogger (1983) in plate 491. The more recently alleged holotype specimen simply does not match it!

In light of the earlier historical fact of the false *nomen nudem* claims, against “*Delma wollemi*” going back to at least 1999, it is an inescapable conclusion that someone with access to the collection at the Australian Museum in Sydney, Australia has engaged in the criminal act of tampering with significant biological and indigenous heritage in breach of Section 86 of the New South Wales National Parks and Wildlife Act 1974 as well as other State and Federal laws.

Keywords: Herpetology; taxonomy; nomenclature; Australia; Queensland; New South Wales; *Delma*; *Honlamopus*; *Pseudodelma*; *inornata*; *plebeia*; *wollemi*; *vescolineata*; holotype; new species; *abomination*; *whoa*; scientific fraud; taxonomic vandalism; Jodi Rowley; Aaron Bauer; Stephen Mahony; Timothy Cutajar; *Zootaxa*; PRINO; Australian Museum.

INTRODUCTION

Following a major review of the Australian legless lizards (Pygopodidae), Hoser (2017) confirmed the previously underestimated diversity of Australian Pygopodids by formally naming six new genera, two new subgenera and 13 new species. This was followed up with three more species in Hoser (2018) and another in Hoser (2022) giving an Australia-wide total in excess of 50 species.

The Hoser papers also followed a number of major revisions of the group as cited by Hoser (2017) and again cited in this paper.

Two divergent populations in New South Wales flagged as potential new species were inspected and found to be sufficiently divergent both morphologically and genetically to warrant being recognized as separate allopatric species.

These were a morphologically divergent population of *Delma* (*Honlamopus*) *inornata*, from north-west New South Wales as well as nearby south Queensland and also a taxon until now treated as a geographically and morphologically divergent population of *Pseudodelma plebeia*, from New South Wales, divergent from the type form of *P. plebeia* from south-east Queensland.

Significantly, an audit was conducted with respect of “*Delma vescolineata* Mahony, Cutajar and Rowley, 2022”, more correctly placed in *Pseudodelma* Fischer, 1882 as published in the PRINO (peer reviewed in name only) online “journal” *Zootaxa*.

Because of various claims in that paper to the effect that their species was new to science and that “*Delma wollemi* Wells and Wellington, 1985” as recognized by Hoser (2017) was assignable to “*Delma plebeia*” of the same region, both Mahony, Cutajar and Rowley (2022) and the description of “*Delma wollemi*” in Wells and Wellington (1985) were audited to establish if the claims of Mahony, Cutajar and Rowley (2022) were supported by the evidence available.

In summary and as mentioned in the abstract, “*Delma vescolineata* Mahony, Cutajar and Rowley, 2022” is conspecific with “*Delma wollemi*” Wells and Wellington, 1985”.

The audit process is described in more detail later in this paper.

MATERIALS AND METHODS

Live and dead specimens of putative *Delma* (*Honlamopus*) *inornata* Kluge, 1974 from across the known range of the putative species (Qld, NSW, ACT and SA) were inspected over some decades in field trips across this region (in all states and territories of relevance), as were relevant museum holdings in Australia. Literature as cited by Hoser (2017, 2018) was also reviewed, including literature specifically relevant to *Delma inornata*, to confirm that the north-west New South Wales / south Queensland *D. inornata* should be given taxonomic recognition as either a species or subspecies.

The same process was engaged in with regards to putative “*Delma plebeia*” across their known range in northern New South Wales and southern Queensland.

References relevant to the taxonomy of *Delma* (*Honlamopus*) *inornata* Kluge, 1974 and *Pseudodelma plebeia* (De Vis, 1888) *sensu lato* included Boulenger (1885, 1903), Brennan (2014), Brennan *et al.* (2015), Brown (2023), Cogger (1983, 2014), Cogger *et al.* (1983), Duméril and Bibron (1839), Fischer (1882), Glauert (1956), Gray (1831, 1867), Günther (1873), Hoser (2017, 2018), Kinghorn (1926), Kluge (1974, 1976), Mahony, Cutajar and Rowley (2022), Ride *et al.* (1999), Shea (1987a, 1987b, 1991), Wells (2007), Wells and Wellington (1984, 1985), Wilson and Knowles (1988), Wilson and Swan (2017, 2021) and sources cited therein.

In terms of “*Delma vescolineata* Mahony, Cutajar and Rowley, 2022” and “*Delma wollemi*” Wells and Wellington, 1985”, each of Mahony, Cutajar and Rowley (2022) and Wells and Wellington (1985) were audited and cross referenced with other relevant publications.

These were versions 2, 3 and 4 of the *International Code of Zoological Nomenclature* as published by the International Commission for Zoological Nomenclature (ICZN), being the documents that govern scientific nomenclature, Cogger (1983), which is explicitly cited in the description of “*Delma Wollemi*” by Wells and Wellington, (1985), Shea and Sadlier (1999), as

explicitly cited in Mahony, Cutajar and Rowley (2022) in terms of “*Delma wollemi*” and the name allegedly being a *nomen nudem*, as well as Shea (1987a, 1987b) which were the first publications to make the *nomen nudem* claim against “*Delma wollemi*”. This was to ensure that the relevant publications both stood and fell on their own merits and all allegations against the Wells and Wellington (1985) purported taxon, name and paper could be properly put (as a hypothesis or series of them) and tested accordingly.

RESULTS

The two referred to populations warranted being named as separate species as they were readily diagnosable and allopatric across barriers of relatively unsuitable habitat.

The publicly available genetic data for specimens (at GENBANK) between populations also confirmed genus-level divergence, probably in the vicinity of about 1.5 MYA for each (as estimated). The methodology for testing the sequences was as outlined in Hoser (2024a) at page 7.

As a result, each are formally named as new species below in accordance with the rules in the fourth edition of the *International Code of Zoological Nomenclature* as published by the International Commission for Zoological Nomenclature (ICZN) (Ride *et al.* 1999) and the relevant Code amendments of 2012 (ICZN 2012).

DELMA WOLLEMI AND DELMA VESCOLINEATA

“*Delma vescolineata* Mahony, Cutajar and Rowley, 2022” is conspecific with “*Delma wollemi*” Wells and Wellington, 1985”.

ICZN rules dictate that the earlier name is therefore the one to be used (rule of priority, Article 23).

In fact the Code (edition 4) says:

“Priority of publication is a basic principle of zoological nomenclature”.

There is zero doubt about that as explained below.

The explanation is lengthy in that it covers all possible contentions and events so that there is absolutely no doubt at all in terms of the nomenclatural outcome herein in terms of the correct species nomen.

The name *Delma wollemi* is 100 per cent NOT a *nomen nudem* by any possible interpretation and that definition (of *nomen nudem*) given in each of the three most recent versions of the *International Code of Zoological Nomenclature* (versions 2-4).

Put simply, Glenn Shea, Ross Sadlier as well as Mahony, Cutajar and Rowley (2022) all appeared to have knowingly lied by pretending that “*Delma wollemi*” was a *nomen nudem*.

The same applies in terms of Peter Uetz who controls a website called “The Reptile Database”, which claims to be the be all to end all with regards to herpetological names and synonymies.

Uetz had published on his site as recently as of 7 Aug 2024, “*nomen nudem*” for “*Delma wollemi*”.

That is not “*probably a nomen nudem*” (as Shea and Sadlier stated in 1999), but definitely!

Nomen nudem is defined in the appendix of each of versions 2, 3, and 4 of the *International Code of Zoological Nomenclature* as published by the International Commission for Zoological Nomenclature (ICZN). It is applicable only when the intended entity for the proposed scientific name cannot be identified.

Because Wells and Wellington (1985) cited both a specimen at a museum as their type (thereby immediately removing any doubt as to what they were talking about) and combined it with a description, by way of reference to an illustration of a specimen of the same species in life, no *nomen nudem* claim could possibly be made out.

To confirm whether or not “*Delma wollemi*” was or was not a *nomen nudem*, only required me to check both the original Wells and Wellington (1985) description, and line it up with the 3 relevant editions of the *International Code of Zoological Nomenclature*, and it was a simple exercise to be able to wholly reject the false claim.

The improper motive behind the *nomen nudem* claim by Shea and others after him was clearly to create a scenario where it would appear appropriate for another “scientist” to assign a name to the same taxon at a later date and claim to have discovered it.

Shea and others have long been jealous of Richard Wells and

Ross Wellington whom they see as having discovered and named an oversized share of the Australian herpetofauna.

Because the specimen depicted on plate 491 of Cogger (1983), cited by Wells and Wellington (1985), which happened to also be their holotype in life (see below), is not the same animal as that depicted as the alleged holotype of *Delma wollemi* as published online at:

<https://bie.ala.org.au/species/https://biodiversity.org.au/afd/taxa/c1dcd66e-f74e-4a1d-8d5b-7bc646605f62#gallery>

as downloaded on 7 August 2024, the inalienable fact is that there has been a reassignment of the museum name tag to a wrong specimen.

Were this action (wrong specimen with holotype tag) to have been made in isolation to anything else, one may assume inadvertent human error to blame.

Yes, tags sometimes fall off specimens, but it must be asked how would a precious holotype tag and specimen get mixed up with another specimen in a place like the Australian Museum?

However, in light of the importance of the specimen as a known holotype (as cited and confirmed in Shea and Sadlier, 1999) and the associated false claim that the name "*Delma wollemi*" is a *nomen nudem*, it is an inescapable conclusion that an act of fraud has been committed with the deliberate intent of renaming "*Delma wollemi*" as something else.

This is exactly as ultimately happened when more specimens of the taxon became available and as published by Mahony, Cutajar and Rowley (2022).

The case of criminal reassignment of the tag is further sealed when reconciled with similar actions against Wells and Wellington by the same cohort as outlined in Hoser (2023).

Mahony, Cutajar and Rowley (2022) are also implicated as a group because in their paper they chose to cite Wells and Wellington (1985) for the purpose of alleging their name "*Delma wollemi*" was a *nomen nudem* and that the substituted holotype was not their allegedly new species, but failed to cite in full the Wells and Wellington (1985) paper in their bibliography because they knew that the description within it referred to Fig 491 in Cogger (1983) which depicted their holotype in life, which clearly was not the same animal (or even species) as the substituted holotype specimen.

The original holotype as described by Wells and Wellington (1985) was "adult" (yes that is the entirety of their holotype description), but the alleged one depicted online was subadult.

The alleged holotype was of putative *D. plebeia*, versus the animal type identified in Fig. 491 of Cogger (1983), being the full description of the species, noting a picture says 1,000 words. Because Wells and Wellington (1985) had identified their species "*Delma wollemi*" as being that in Fig. 491 of Cogger (1983), readily identifiable by the diagnosis of Mahony, Cutajar and Rowley (2022) as their species, "*Delma vescolineata*", the deliberate denial of access to Wells and Wellington (1985) by Mahony, Cutajar and Rowley (2022) could only have been done with the motivation of not alerting their readers to the fact that "*Delma vescolineata*" was a potential synonym of "*Delma wollemi*".

In terms of "*Delma wollemi*", the image cited in Cogger (1983) matched that of "*Delma vescolineata*", as per the diagnosis of the authors Mahony, Cutajar and Rowley (2022), confirming that by intent, they had described the same taxon as Wells and Wellington (1985) had purported to.

In terms of the alleged holotype of "*Delma wollemi*" as depicted online at:

<https://bie.ala.org.au/species/https://biodiversity.org.au/afd/taxa/c1dcd66e-f74e-4a1d-8d5b-7bc646605f62#gallery>

it was described in Mahony, Cutajar and Rowley (2022) in sufficient detail to confirm it as a putative southern "*Delma plebeia*", which was all that was needed to clear the way for them to proceed to name the other species as "new" ("*Delma vescolineata*").

With the alleged type specimen online of "*Delma wollemi*" not matching the description of Wells and Wellington (1985) in being neither of the right age (subadult versus adult) or species,

matching putative southern "*Delma plebeia*" instead of the animal depicted in Fig. 491 of Cogger (1983), the potential for a holotype swap or mix-up was countenanced.

Converse to this was the idea that Wells and Wellington had simply lodged a subadult specimen of putative southern "*Delma plebeia*" instead.

That idea was rejected as highly unlikely at the outset, as it implied that Wells and Wellington, who at the time were experienced herpetologists had in one move correctly identified a new species but were then so stupid as to actually lodge a specimen of the species they said their new one was not!

Furthermore, that they were both so stupid as to be unable to tell a subadult from adult lizard was simply not plausible.

In terms of the idea that the original holotype of "*Delma wollemi*" had been fraudulently switched for a putative southern "*Delma plebeia*" instead, another smoking gun was the specimen itself.

It contained not just the tag with the correct (Wells and Wellington) specimen number of R46058, but also a second cord of string from which the tag had been removed.

That showed quite clearly that the original specimen number tag had been removed and that the relevant specimen (the alleged type published online) had previously been known by another number and was therefore not the original Wells and Wellington (1985) animal.

Now just to clear the air, we know this fact three separate ways.

1/ From both the accounts of Wells and Antenor that the holotype went from Hal Cogger's home in the Sydney suburb of Turramurra to the Australian Museum, meaning no field tag was ever attached to the animal.

2/ This same fact was confirmed in the Wells and Wellington (1985) description which only lists the R-tag number and no field tag number.

See by way of example and contrast, it with *Lampropholis longleyi* Wells and Wellington, 1985 in that same publication.

3/ The preceding (1 and 2) are further confirmed by the entries from Shea and Sadlier (1999) which reports the R-tag number and makes no mention of any field tag number for "*Delma wollemi*", but in line with Wells and Wellington (1985) reports field tag numbers for other taxa, including for example the holotype of "*Lampropholis longleyi* Wells & Wellington, 1985".

Shea and Sadlier (1999) said of the holotype of "*Delma wollemi*" that:

HOLOTYPE R46058 29km S Singleton on Putty Rd, NSW (Rankin, Wells, Antenor & Cook, 12.1.1975).

That is the reptile was collected by Peter Rankin (deceased), Richard Wells (alive), Alex Antenor (alive) and Robert Cook (deceased).

Playing Devil's advocate I made a phone call to Alex Antenor, who was one of the collectors of the type specimen of "*Delma wollemi*" and with whom I had not spoken to since about 1977.

The Samsung phone I own records all phone calls.

The history of the holotype was as follows.

On the date in question only one "*Delma*" was caught.

A second was seen but got away (hot day in summer) and a skin was also found.

Rankin in particular thought he was onto something quite exciting and so they drove to Harold (Hal) Cogger's home in Turramurra in Sydney's north on the way home where Cogger photographed the lizard on a white background, before it ended up at the Australian Museum in a jar as specimen number R.46058.

As there were no other "*Delma*" caught on that date, the idea I had mooted of a potential lodgement of a different specimen was simply not possible. There were no others!

This also meant that the photo in Fig. 491 of Cogger (1983) listed as being from "Singleton New South Wales", the nearest main town to where it was found, was the holotype in life of "*Delma wollemi*".

Separate to that, Richard Wells and Ross Wellington had already posted much the same information on Facebook.

End point is that "*Delma wollemi*" is a senior synonym of "*Delma*

vescolineata”.

Second end point is that in my opinion the paper of Mahony, Cutajar and Rowley (2022) in the online only journal *Zootaxa*, as published by the notorious grant-grabbing taxpayer-funded parasite in herpetology Aaron Bauer, who oversaw the publication of Mahony, Cutajar and Rowley (2022) in its debased form is a serious case of scientific fraud with respect of the alleged discovery of a new species.

Third point is that the associated substitution of the holotype of “*Delma wollemi*” with a specimen of another species was deliberate and in my opinion it is an inescapable conclusion that someone with access to the collection at the Australian Museum in Sydney, Australia has engaged in the egregious criminal act of tampering with significant biological and indigenous heritage in breach of Section 86 of the New South Wales National Parks and Wildlife Act 1974 as well as other State and Federal laws.

In terms of Section 86 of the New South Wales National Parks and Wildlife Act 1974 the maximum penalty for an individual is 5,000 penalty units or two years in prison.

After the preceding checks, I noted Wells, Antenor and Wellington had made relevant comments on Facebook predating my enquiries and arriving at the same conclusion.

Ignoring their comments as potentially biased parties, the preceding conclusions of fact are not altered in any way.

In terms of names and name authorities, my previous publishing record shows that I will happily squash any names that cannot stand and this includes at times names I myself have proposed for taxa.

It should also be noted that the correct genus-level assignment for “*Delma wollemi*” is in fact *Pseudodelma wollemi* based on the reasons given in Hoser (2017) and again confirmed by the phylogeny published in Mahony, Cutajar and Rowley (2022).

For the record the following important and relevant information is provided from the relevant publications.

The Wells and Wellington (1985) description of “*Delma Wollemi*” is quoted in full below so that there is absolutely no doubt what they did and did not state.

“*Delma wollemi* sp. nov.

Holotype: An adult specimen in the Australian Museum R46058. Collected at Milbrodale, New South Wales, on 12 January, 1975 by Richard Wells and Peter Rankin.

Diagnosis: A close relative of *Delma plebeia*, *Delma wollemi* is largely confined to the mid-western slopes of New South Wales, from the Hunter Valley, to the southern edge of the New England Plateau. It is figured in Cogger (1983:Plate 491), specimen from Singleton, New South Wales (Milbrodale ?). Cogger (1983:211) also gives a description that appears to be mainly based on material referable to *Delma wollemi* rather than *Delma plebeia* as cited. Kluge (1974) provides an illustration and comparative data on its close relative *D. plebeia*.”

The relevant parts of the fourth edition of the International Code of Zoological Nomenclature (Ride *et al.* 1999), which is similar in the previous two editions of “the Code” states the following:

“nomen nudum (*pl. nomina nuda*), n.

A Latin term referring to a name that, if published before 1931, fails to conform to Article 12; or, if published after 1930, fails to conform to Article 13.

A nomen nudum is not an available name, and therefore the same name may be made available later for the same or a different concept; in such a case it would take authorship and date [Arts. 50, 21] from that act of establishment, not from any earlier publication as a nomen nudum.”

and

“Article 13. Names published after 1930.

13.1. Requirements. To be available, every new name published after 1930 must satisfy the provisions of Article 11 and must

13.1.1. be accompanied by a description or definition that states in words characters that are purported to differentiate the taxon, or

13.1.2. be accompanied by a bibliographic reference to such a published statement, even if the statement is contained in a work published before 1758, or in one that is not consistently binominal, or in one that has been suppressed by the Commission (unless the Commission has ruled that the work is to be treated as not having been published [Art. 8.7]).”

Hence a simple cross match of the two publications, viz Wells and Wellington (1985) and Ride *et al.* (1999), being the only two relevant publications for the determination of whether or not “*Delma wollemi*” is or is not *nomen nudum*, confirms emphatically that it is not!

In spite of the preceding undeniable facts, Shea and Sadlier (1999) wrote:

“*Delma wollemi*

Wells & Wellington, 1985

Aust. J. Herp., Suppl. (1): 16.

HOLOTYPE R46058 29km S Singleton on Putty Rd, NSW (Rankin,

Wells, Antenor & Cook, 12.i.1975).

Remarks. Wells & Wellington gave the locality as Milbrodale, and the collectors as Wells and Rankin. The name is probably a nomen nudum (Shea, 1987a,c). The brief “diagnosis” (no description) mentioned only a distribution, a previously published illustration, and previously published descriptions that did not differentiate the taxon.

= *Delma plebeia* De Vis, 1888 vide Kluge (1991).”

Significantly, a close read of Shea (1987a) as cited in Shea and Sadlier (1999) at no time stated that “*Delma wollemi*” was probably a *nomen nudum* or was one.

In fact the words “*nomen nudum*” are not used at all in the long-winded rambling submission to the ICZN by Shea (1987a)!

This confirms that Shea and Sadlier (1987), were wholly incapable of correctly quoting their own earlier papers and the now invented materially relevant claim that “*Delma wollemi*” was probably a *nomen nudum*!

I should mention for completeness that in Shea's (1987c) (referenced herein as Shea 1987b) as cited in Shea and Sadlier (1999), he wrote:

“Of the three species named by Wells and Wellington (1985), ‘*Delma wollemi*’ and ‘*Pygopus territorianus*’ are nomina nuda while ‘*Pygopus klugei*’ is of uncertain status”.

So in this case the taxon went from *nomen nudum* (without a doubt) to “probably” one 12 years later.

Dishonestly maintaining the false narrative of “*Delma wollemi*” being an unavailable name (i.e. *nomen nudum*) for any taxon, most notably the newly named “*Delma vescolineata*”, Mahony, Cutajar and Rowley (2022) wrote:

“Given its geographical proximity to the Hunter Valley, we examined the type specimen of *Delma wollemi* Wells & Wellington, 1985, (AMS R.46058), considered a probable nomen nudum (Shea & Sadlier 1999). Features of AMS R.46058 consistent with *D. plebeia* and not *D. vescolineata* sp. nov.; not fused state between the internasal and either the first labial or postnasal, 16 midbody scale rows, seven supralabial scales, and the fourth supralabial scale being below the eye. We are therefore confident R.46058 is referable to *D. plebeia* and not the herein described *D. vescolineata* sp. nov.”

Besides the obvious lie about “*Delma wollemi*” being a *nomen nudum*, we also know that the alleged type specimen examined by Mahony, Cutajar and Rowley (2022) was not the true holotype for “*Delma wollemi*” a fact obvious to Mahony, Cutajar and Rowley (2022) on a read of the Wells and Wellington (1985) description as published in full above.

These preceding facts, do in my opinion show an egregious case of scientific fraud and intellectual theft based on a false claim of *nomen nudum* without a shred of supporting evidence and a deliberate substitution of a type specimen of one species with a specimen of another species to effectively seal the deal.

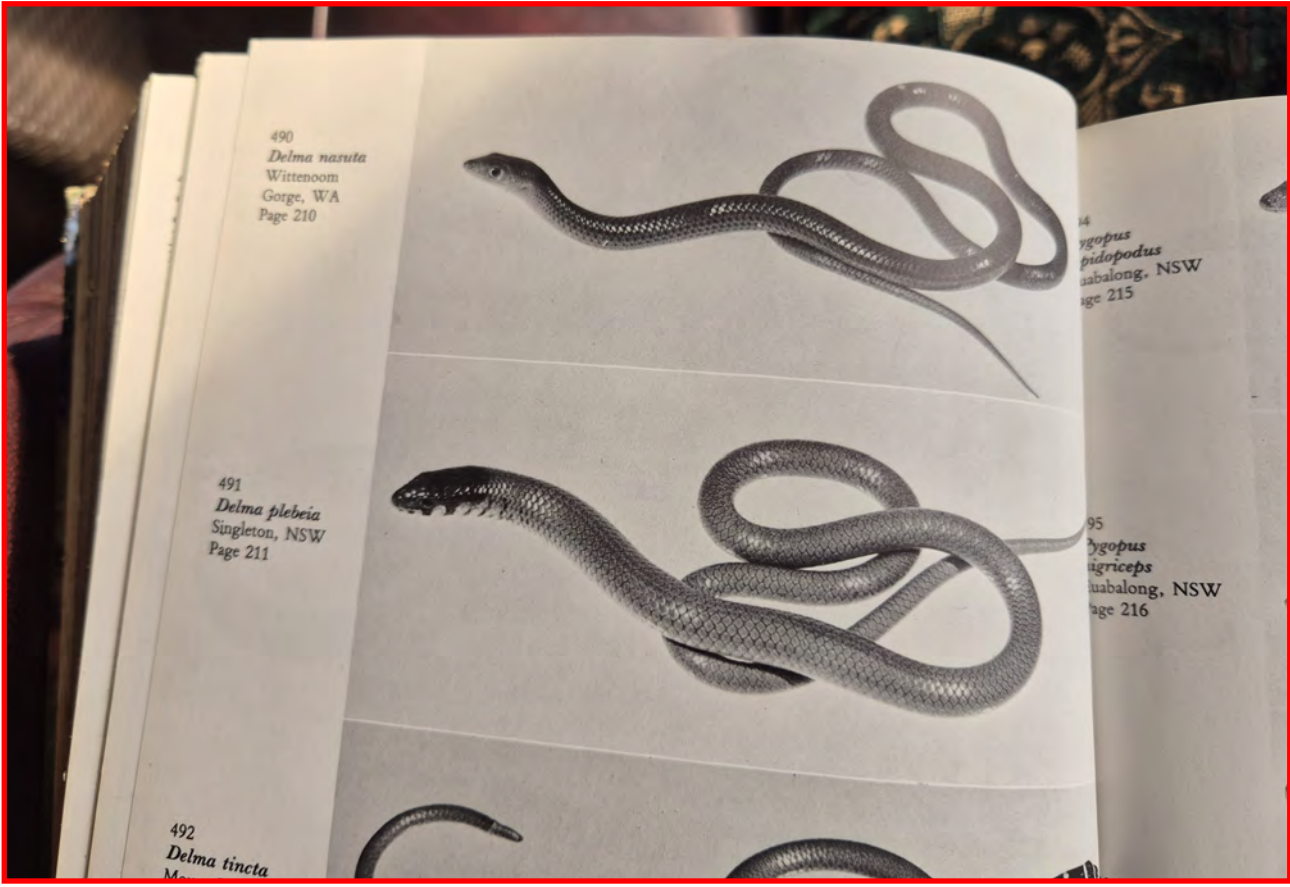
Richard Wells, Ross Wellington and Alex Antenor, also reported in numerous posts on Facebook on 7 and 8 Aug 2024 what

Delma inornata Kluge, 1974
Delma molleri Lutken, 1863
Delma nasuta Kluge, 1974
Delma pax Kluge, 1974
Delma plebeia De Vis, 1888
Delma tincta De Vis, 1888
Delma torquata Kluge, 1974
Delma wollemi sp.nov.
 Holotype: An adult specimen in the Australian Museum R46058. Collected at Milbrodale, New South Wales, on 12 January, 1975 by Richard Wells and Peter Rankin.
 Diagnosis: A close relative of *Delma plebeia*, *Delma wollemi* is largely confined to the mid-western slopes of New South Wales, from the Hunter Valley, to the southern edge of the New England Plateau. It is figured in Cogger (1983: Plate 491), specimen from Singleton, New South Wales (Milbrodale?). Cogger (1983:211) also gives a description that appears to be mainly based on material referable to *Delma wollemi* rather than *Delma plebeia* as cited. Kluge (1974) provides an illustration and comparative data on its close relative *D. plebeia*.

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LIALIS Gray, 1835

From Wells and Wellington (1985) above and below is from Cogger (1983) below, depicting the holotype of “*Delma wollemi* Wells and Wellington, 1985” in life.



Hoser 2025 - Australasian Journal of Herpetology 72:40-50.

happened on the day their holotype was caught. To recap, they went via Cogger's place, Cogger photographed the specimen that ended up in his 1983 book and the following edition, with the specimen lodged at the Museum in Sydney (Australian Museum) after the photo was taken.

Wells summed it all up in a post on 7 August 2024 when he wrote: **"Also, I have just examined the photo of our supposed Holotype provided by the Australian Museum, and good grief! They do appear to be of different animals. Your suggestion that someone may have switched our Type Specimen of *Delma wollemi* for another species of *Delma* is worthy of an investigation alright...We definitely provided the live specimen (later our Holotype) to Cogger and that was illustrated in his 1983 Edition. That photograph in Cogger (1983) has been identified as *Delma vescolineata* - but the authors obviously didn't know that it was actually the Type specimen (in life) of *Delma wollemi*! So what the hell has gone on here?"**

On the basis of the preceding inalienable facts, and without any need to rely on the 2024 statements of Wells, Wellington or even Antenor, there is no reasonable alternative to not fully recognising "*Delma wollemi*" and "*Delma vescolineata*" as being of the same taxon.

Based on the ICZN rule of priority and with a priority of more than 3 decades, the correct name for the taxon must be "*Delma wollemi*", herein placed in the genus *Pseudodelma* Fischer, 1888 as detailed in Hoser (2017).

Finally, there is a "who-done-it" question as to who unlawfully swapped the original name-bearing holotype of "*Delma wollemi*" with another specimen of a different species.

Nothing in the preceding should be taken to suggest it was in fact Mahony, Cutajar or Rowley. This act may have taken place at any time in the previous period post-dating lodgement at the Australian Museum and it may well be impossible to track down who was the culprit.

What is however certain is that by the time Mahony, Cutajar and Rowley (2022) was published, those authors must have been aware of this fact and chose to cover it up.

The cover up by Mahony, Cutajar and Rowley (2022) is shown by the following facts either singly and/or in combination:

- 1/ Refusal to explicitly cite Wells and Wellington (1985) in the references list at the end of the paper, so as to make it difficult to locate by interested parties (even though it was by far the most important reference relevant to the allegedly "new" species).
- 2/ No reference to the fact that Wells and Wellington (1985) had otherwise correctly identified "*Delma wollemi*" being an apparent senior synonym of "*Delma vescolineata*" in their formal description, in all materially relevant ways, except for the apparent discrepancy of the alleged holotype not matching, based on the statements of Mahony, Cutajar and Rowley (2022) to that effect.
- 3/ After diagnosing the purported holotype as not being "*Delma vescolineata*", while the image in Fig. 491 of Cogger (1983) clearly was that taxon (based on their diagnosis), a deliberate failure to note to the discrepancy in any way by Mahony, Cutajar and Rowley (2022) can only indicate cover-up.
- 4/ Nonpublication of the photo in Fig. 491 of Cogger (1983) or Fig. 438 in Cogger (1975) as the earliest published record of the allegedly new species "*Delma vescolineata*" is a serious omission in an otherwise detailed paper.
- 5/ Non-publication of a photo of the alleged holotype of "*Delma wollemi*" is the most egregious example of the cover-up because the image is shown not to be the true holotype as it does not match the Wells and Wellington description of it in that:
 - A/ It was of the wrong age. It was not "adult" as stated by Wells and Wellington (1985).
 - B/ It was the wrong species. The specimen was of putative "*Delma plebeia*" which Wells and Wellington (1985) had expressly stated it was not, and,
 - C/ The specimen had an unaccounted for extra label tag on it, which went against the statements in both Wells and Wellington (1985) as well as Shea and Sadler (1999).
- 6/ Then there is another important statement in Mahony, Cutajar

and Rowley (2022) confirming that Wells and Wellington could only have named the taxon "*Delma vescolineata*" earlier as "*Delma wollemi*" decades earlier and that Mahony, Cutajar and Rowley (2022) knew this all along.

On page 550 of their paper, Mahony, Cutajar and Rowley (2022) noted the exclusive "*species occurrence at Bulga*" of their "*Delma vescolineata*" to the exclusion of any other "*Delma*" species. Bulga and Milbrodale, or alternatively "**29km S Singleton on Putty Rd, NSW**" are all effectively the same EXACT location.

Readers may try the simple exercise of looking up the three preceding places, 1/ Bulga, 2/ Milbrodale and 3/ "**29km S Singleton on Putty Rd, NSW**" on Google maps and see exactly where the pins land and then see how far it is between them!

That means, regardless of what Wells, Wellington, Cogger or any of their allies say in year 2022 or later, and playing devil's advocate against them and treating them as complete and utter idiots, liars and to be wholly disregarded in all ways, including disregarding the image in Cogger's books of 1975, 1979 or 1983, noting it was identified explicitly in Cogger (1983) by Wells and Wellington (1985), by confirming that the ONLY "*Delma*" species that occurs in Milbrodale, AKA Bulga, AKA "**29km S Singleton on Putty Rd, NSW**" Mahony, Cutajar and Rowley (2022) have also confirmed that they knew at all times that "*Delma wollemi*" had to be one and the same taxon as their allegedly newly discovered "*Delma vescolineata*".

Combined with other nefarious acts involving type specimens and taxonomic vandalism at the Australian Museum as documented in Hoser (2021b), Hoser (2023), Hoser (2024a) and sources cited therein, a proper inquiry into corrupt practices at the Australian Museum in Sydney is warranted.

Engaging in fraudulent acts with holotype material is the most egregious criminal act possible with regard to biological collections as the entire science of zoology depends on zoological nomenclature and the integrity of the global holotype system.

It does pain me to make such a recommendation for a corruption inquiry at the Australian Museum, as I have worked with staff at the Museum over many decades and generally hold them in high regard.

DELMA (HONLAMOPUS) WHOA SP. NOV.

LSIDurn:lsid:zoobank.org:act:135EBBCB-9C0D-45EA-BC41-71EB15DCBEF6

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.141999 collected from between Nevertire and Nyngan, New South Wales, Australia, Latitude -31.633 S., Longitude 147.333 E. by Gerry Swan, Peter Jones and Brian Champion.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.146250 collected from between Nevertire and Nyngan, New South Wales, Australia, Latitude -31.766 S., Longitude 147.55 E. by Gerry Swan.

DIAGNOSIS

Until now *Delma* (*Honlamopus*) *whoa* sp. nov. has been treated as a northern population of *D. inornata* Kluge, 1974 including in Hoser (2022).

However, Hoser (2022) referred to the fact that specimens from north-west New South Wales and south-east Queensland have a bold black tip or similar at the posterior edge of each dorsal scale. In many specimens, this leads to a black striped appearance.

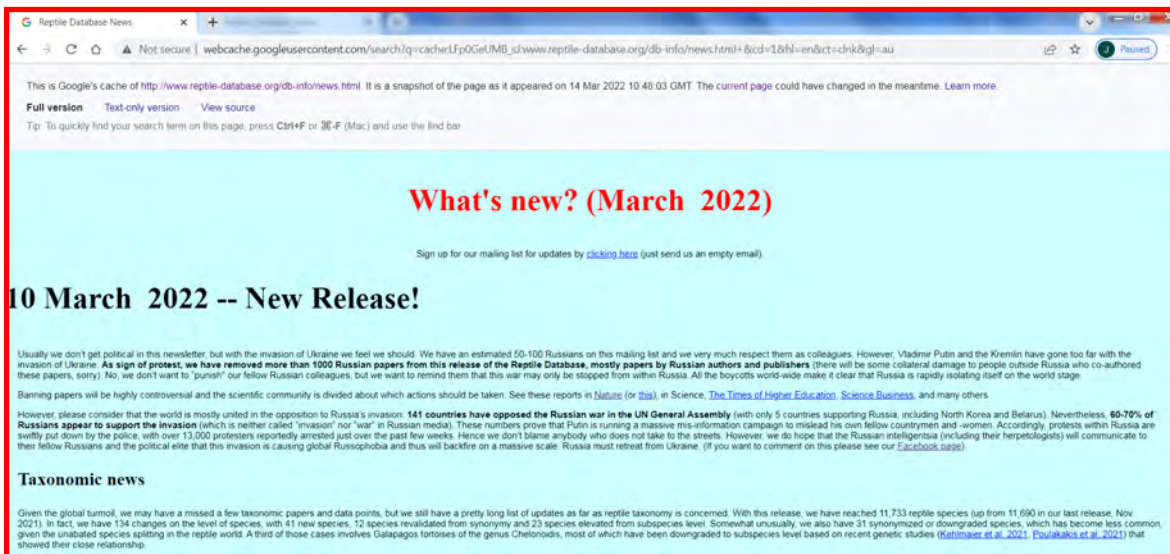
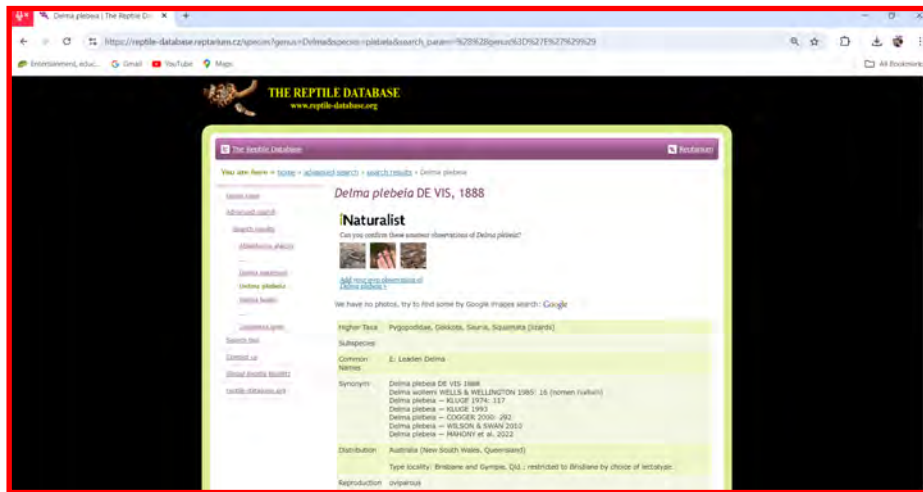
The distinctiveness of these specimens as opposed to those of the nominate form of *D. inornata* (not bold tipping of scales) and *D. megleesae* Hoser, 2017 (lacking any obvious dark tips of scales) further south in NSW and Victoria was not at issue.

However, with published distribution maps showing a near continuous range for putative *D. inornata* stretching from West Victoria, through New South Wales into Queensland, it was presumed that the more distinctly coloured specimens from further north were of clinal, rather than specific divergence.

Mahony, Cutajar and Rowley (2022) inadvertently provided a molecular basis for separation of the north-west New South Wales specimens from those further south in New South Wales in their



Above: The “new” alleged holotype for “*Delma wollemi* Wells and Wellington, 1985”, being a different species and age (subadult versus adult) to the originally identified and lodged holotype.
 Below: Wuster gang censorship of scientific reality and their ongoing taxonomic vandalism via their controlled “The Reptile Database” ostensibly managed by their lackey Peter Uetz.



Hoser 2025 - Australasian Journal of Herpetology 72:40-50.

Fig. 1. phylogeny.

Those sequences were reassessed and appear to show a divergence of about 1.5 MYA between the populations, being species-level divergence and most certainly not merely a function of geographical distance divergence or a cline.

The following and previous description refers to adult specimens in normal health and condition.

Other species in the *D. inornata* complex, are *D. inornata* Kluge, 1974 (of northern Victoria and southern New South Wales, excluding the region near and immediately west of the ACT), *D. megleesae* Hoser, 2017 (of the basaltic and granite plains of the ACT and nearby parts of Southern New South Wales, in association with the drier plateaux and near western slopes of the southern Great Dividing Range) and the divergent *D. honlami* Hoser, 2018 (from a restricted part of south-east South Australia, being west of the Murray River near its mouth in coastal south-east, South Australia, generally south of Murray Bridge and Adelaide and including drier parts of the Fleurieu Peninsula).

D. whoa sp. nov. are most easily separated from these other species in the *D. inornata* complex by the presence of a distinct black tip on the posterior end of each dorsal scale giving the adult a semi-distinct appearance of having dark longitudinal bands.

Additionally, *D. whoa* sp. nov. is separated from the other species by the presence of dark black coloured interstitial skin on the upper surface of the dorsum that is generally also reduced or absent on the flanks. The mid to lower flanks are brown, yellow or yellowish in contrast to the orangeish colour or orange flush seen in *D. megleesae*.

The other species in the complex are separated from one another as follows:

D. honlami sp. nov. is readily separated from *D. inornata*, *D. whoa* sp. nov. and the similar *D. megleesae* Hoser, 2017 by having a single pair of internasals, versus an obvious two pairs in *D. inornata*, *D. whoa* sp. nov. and *D. megleesae*, as well as a greyish upper surface of the head, versus brownish in the other three species.

In rare cases, one or other relevant character may not be present in *D. honlami* sp. nov., but so far none have been seen without both.

Upper labials of *D. honlami* sp. nov. are greyish brown, versus whitish, cream or yellow in *D. inornata*, *D. whoa* sp. nov. and *D. megleesae*.

The ear opening of *D. honlami* sp. nov. and *D. whoa* sp. nov. is obviously larger than the immediately surrounding scales in the second row above it, versus only slightly so in *D. inornata* and *D. megleesae*.

In *D. honlami* sp. nov. the posterior end of each dorsal scale (or any), does not have any black tip or similar. That feature is diagnostic of *D. whoa* sp. nov. from north-west New South Wales and south-east Queensland.

D. megleesae Hoser, 2017 is readily separated from *D. inornata*, *D. whoa* sp. nov. and *D. honlami* by a strongly yellow chin, snout and upper labials, versus cream or at best light yellow in *D. inornata* and *D. whoa* sp. nov. and while sometimes yellow under the chin in *D. honlami*, this does not extend to the upper labials. *D. megleesae* is also readily separated from *D. inornata* by the absence of obviously dark etched scales on the top and sides of the head and neck, which is seen in *D. inornata*.

In *D. whoa* sp. nov. the dark etched scales are formed by the rear of each scale having a dark etching, giving the entirety of each brownish scale a dark etched appearance.

In *D. inornata* the posterior pair of internasals are either the same size as or larger than the anterior pair. By contrast in *D. megleesae* the posterior pair of internasals are very reduced in size to be smaller than or much smaller than the anterior pair.

The subgenus *Honlamopus* Hoser, 2017 which includes the species *D. inornata*, *D. honlami*, *D. megleesae* and *D. whoa* sp. nov. are separated from the other subgenus *Delma* Gray, 1831 by the following suite of characters:

Conspicuous dorsal cross-bands are not present on the head and nape in adults; ventral scales lack dark edges; there are usually fewer than 16 scales along a line across the top of the head and

fewer than 17 scales along a line across the throat, each line extending from the angle of the mouth on each side; no dark dorso-lateral stripe extending from the posterior third of the body to the tail, no conspicuous lip pattern and flesh coloured ventral surfaces (in life).

Brennan (2014) at page 52 in Fig.III.5, found the species within *Honlamopus* Hoser, 2017 to have diverged from other *Delma* species more than 20 MYA, confirming that the genus or subgenus level designation is correct and appropriate.

The genus *Delma* Gray, 1831 is readily separated from the genera *Aclys* Kluge, 1974, *Crottyopus* Hoser, 2017, *Pseudodelma* Fischer, 1882, *Sloppopus* Hoser, 2017, *Wellingtonopus* Hoser, 2017 and *Wellsopus* Hoser, 2017 by the following suite of characters:

Anterior nasals in contact, or fewer than 20 mid-body rows, and smooth dorsal scales; no pale stripes on the body or tail; nasal and first supralabial are not fused anterior to the nostril; one or no dark transverse bands posterior either to the parietal scales or to any dark transverse band fully or partly enclosing the parietal scales; usually fewer than 18 mid-body scale rows; usually seven scales on top of the snout between the rostral and frontal; usually three pre-anal scales; lateral lip pattern and dorsal head bands may be present or absent; fourth or fifth supralabial is usually below the eye; dark pigment on the throat or venter may be present or absent; and one or other of the following two sets of characters:

1/ Conspicuous dorsal cross-bands are present on the head and nape; there is rarely a conspicuous dark lateral stripe present posteriorly; rostral noticeably projecting between the anterior pair of supranasals; strong dark bars or reticulations on the throat; usually more than five infralabials and three hindlimb scales (*D. fraseri* and *D. petersoni*), or:

2/ Conspicuous dorsal cross-bands are not present on the head and nape in adults; ventral scales lack dark edges; there are usually fewer than 16 scales along a line across the top of the head and fewer than 17 scales along a line across the throat, each line extending from the angle of the mouth on each side; no dark dorso-lateral stripe extending from the posterior third of the body to the tail (*D. grayi*, *D. inornata*, *D. whoa* sp. nov., *D. megleesae* or *D. honlami* sp. nov.).

The genus *Delma* Gray, 1831, and the six genera *Aclys* Kluge, 1974, *Crottyopus* Hoser, 2017, *Pseudodelma* Fischer, 1882, *Sloppopus* Hoser, 2017, *Wellingtonopus* Hoser, 2017 and *Wellsopus* Hoser, 2017 (all until recently treated as being within *Delma*) are separated from all other Australasian Pygopodids by the following suite of characters: The head is covered with enlarged symmetrical shields; the ventral scales are smooth; there are no pre-anal pores; parietal scales are present; the external ear opening is present and obvious; there are more than 8 scales along a line across the top of the head joining the angle of the mouth on each side.

D. whoa sp. nov. is depicted in life in Wilson and Swan (2021) on page 191 bottom right and online at:

<https://www.flickr.com/photos/188487172@N03/52496098543/> and

<https://www.inaturalist.org/observations/191262872>

and <https://www.inaturalist.org/observations/201080202>

D. honlami sp. nov. in life is depicted online at:

<https://www.inaturalist.org/observations/84128409>

and

<https://www.inaturalist.org/observations/105537457>

and

<https://www.inaturalist.org/observations/66288250>

and

<https://www.flickr.com/photos/128497936@N03/52039313989/>

D. inornata in life is depicted online at:

<https://www.inaturalist.org/observations/37549164>

and

<https://www.inaturalist.org/observations/108425006>

D. megleesae in life is depicted online at:

<https://www.inaturalist.org/observations/78279474>

and

<https://www.inaturalist.org/observations/6491957>
and
<https://www.flickr.com/photos/171250498@N08/53858041184/>
and
<https://www.flickr.com/photos/171250498@N08/51408275885/>
and
<https://www.flickr.com/photos/171250498@N08/51394014293/>
and
<https://www.flickr.com/photos/189037423@N06/51375190376/>
and
<https://www.flickr.com/photos/189037423@N06/50935343492/>
All the preceding urls were most recently checked as correct and showing as indicated above on 7 August 2024.

Distribution: *Delma (Honlamopus) whoa* sp. nov. is a taxon found generally north and northeast of Nevertire and Nyngan in central New South Wales, across a broad area extending to the western slopes and nearby plains of south-east Queensland.

Etymology: When startled by car headlights at night, this species will rapidly bounce across the road using its tail as a kind of spring. The first time I saw this action, was when driving near Nyngan in New South Wales in 1982.

When passenger Charles Acheson and realised it was in fact a legless lizard he exclaimed "whoa", which is a slang term that is "used to express surprise, interest, or alarm, or to command attention." (from Google on 7 Aug 2024).

Thus, the etymology fits this lizard as it flees at high speed in the dark.

Conservation: The relevant comments of Hawkeswood (2021), Hoser (1989, 1991, 1993, 1996, 2007, 2009, 2012a-c, 2013, 2015a-f, 2019a, 2019b, 2020, 2021a-b, 2022, 2023, 2024b) apply to this taxon.

PSEUDODELMA ABOMINATION SP. NOV.

LSIDDurn:lsid:zoobank.org:act:A819CB06-0D11-4F88-9CC6-291B4B6C453D

Holotype: A preserved adult female specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.186064 collected from Brushy Hill Lookout, Lake Glenbawn State Park, New South Wales, Australia, Latitude -32.09748 S., Longitude 150.98648 E., collected by Stephen Mahony.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved adult female specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.186065 and R.186066 both collected from Brushy Hill Lookout, Lake Glenbawn State Park, New South Wales, Australia, Latitude -32.09748 S., Longitude 150.98648 E., collected by Stephen Mahony.

Diagnosis: Having inspected hundreds of specimens of putative "*Delma plebeia* De Vis, 1888", herein placed in the genus *Pseudodelma* Fischer, 1888 over a period exceeding 50 years and including almost the entire known distribution of the species, I have long known that specimens from south-east Queensland are morphologically quite divergent from those from the Hunter Valley and further north in New South Wales.

I was not alone here as Wilson and Knowles (1988) also wrote:

"Northern and southern populations may constitute distinct taxa."

Based on the molecular evidence of Mahony, Cutajar and Rowley (2022) in their Fig. 1, the two populations are sufficiently divergent to warrant being recognized as separate species.

They are fairly well separated by the NSW and Queensland state border, with the southern population only entering Queensland in the immediate vicinity of Texas, Queensland.

The type locality for *D. plebeia* is Brisbane and Gympie, Queensland, restricted to Brisbane by choice of lectotype by Kluge (1974), making the southern (New South Wales) population the taxon without an available name.

Hence it is formally named herein as *Pseudodelma abomination* sp. nov..

P. abomination sp. nov. is separated from *P. plebeia* by having an ear hole smaller in diameter than the scale in front of it, versus

larger in *P. plebeia* as well as the presence of 3-4 dull but obvious black bars on the rear jaw and side of the neck (posterior to the eye), generally formed from larger blotches above, each clearly angled forward at the lower (narrow end), the first two also coming from a dark blackish region on the back of the head, versus just two (rarely three) large circle-shaped blotches, not connected to any thin striping below, these usually being one between eye and ear and one above and on ear.

P. abomination sp. nov. has a black or blackish bar below the eye, joining a better defined black bar on the lower labial. This is slightly anterior to the center of the eye. The same marking is generally dead centre below the eye in *P. plebeia*.

P. abomination sp. nov. has a dorsum that is brown or slightly reddish-brown versus strongly yellowish in *P. plebeia*.

P. abomination sp. nov. and *P. plebeia* are separated from all other members of the genus *Pseudodelma* Fischer, 1888 by the following character suite:

Dark markings scattered on at least some of the labials, particularly the infralabials and with a dark smudge or spot on the supralabial immediately below the eye; scattered dark flecks on the lateral forebody and around the ear; usually the fourth supralabial is below the eye; 16 midbody scale rows, (versus 15 in *P. impar* Fischer, 1888 and *P. cummingae* Hoser, 2017 and 14 in *P. Wollemi* (Wells and Wellington, 1985)).

The obvious head markings, at least on labials in aged specimens and/or well-defined broad longitudinal stripes on the body (not being formed from just etching or scale tips), separate these preceding species from the species within the morphologically similar *Delma (Honlamopus) inornata* Kluge, 1974 complex.

P. abomination sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/58598086>

and

<https://www.inaturalist.org/observations/155295460>

P. plebeia is depicted in life in Wilson and Knowles (1988) on page 248 middle right, Cogger (2014) on page 397 at top right, Brown (2023) on page 341 top, Wilson and Swan (2021) on page 195 middle left and online at:

<https://www.inaturalist.org/observations/194073653>

and

<https://www.inaturalist.org/observations/192035291>

and

<https://www.inaturalist.org/observations/103620556>

Distribution: *P. plebeia* sp. nov. is found in south-east Queensland generally including near the coast and extending to flatter western downs areas to the west, but all well south of the tropic of Capricorn. Not found in the immediate proximity of the New South Wales border either.

P. abomination is found in the Hunter Valley and the drier western edges of the New England region, extending to the NSW/Queensland border.

Etymology: The dishonest switching of the holotype for *P. wollemi* Wells and Wellington, 1985 with a specimen of this taxon, treated by relevant authors as *P. plebeia* (De Vis, 1888) was an abominable act. The word "abominable" means "very bad" or "terrible".

In retrospect the act was an "*abomination*" which is therefore taken as the name for this newly identified species-level taxon.

Conservation: The relevant comments of Hawkeswood (2021), Hoser (1989, 1991, 1993, 1996, 2007, 2009, 2012a-c, 2013, 2015a-f, 2019a, 2019b, 2020, 2021a, 2024a-b) apply to this taxon.

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CONFLICTS OF INTEREST

None.

Below: A faked narrative!

The screenshot shows a web browser displaying a page from the Australian Museum website. The URL is https://australian.museum/blog/amri/news/a-new-south-wales-first-new-species-of-legless-lizard/. The page features the Australian Museum logo and navigation links: VISIT & BOOK, DISCOVER & LEARN, GET INVOLVED. There are also buttons for 'What's On', 'AM Shop', and 'Join & Give'. The main heading of the article is 'A New South Wales first! New species of legless lizard discovered in the Hunter Valley'. Below the heading, it lists the author as Stephen Mahony, the category as AMRI, the publication date as 11 July 2022, and the read time as 2 minutes. The article text begins with 'Found just two hours out of Sydney, a team of Australian Museum scientists have described the Hunter Valley Delma - the first legless lizard species endemic to NSW.' and continues with 'A team of scientists from the Australian Museum has just officially confirmed that a legless lizard from the Hunter Valley represents a new species to science, now named the Hunter Valley Delma (*Delma vescolineata*). Previously confused with a very...'. There are buttons for 'More in this category' and 'Archive by Category'.

Ooh, Aah, Faaaaaark ... Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver have engaged in egregious taxonomic vandalism in 2024 by coining junior synonyms for *Diplodactylus ooh* Hoser, 2023 and *Diplodactylus aah* Hoser, 2023.

LSIDURN:LSID:ZOOBANK.ORG:PUB:97F33B30-F0D6-4669-8EB1-8FC3B6DECC58

RAYMOND T. HOSER

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ABSTRACT

In October 2024 a cohort of pseudoscientists, Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver were busy fooling global media outlets about their alleged discovery of two new species of spectacular gecko lizard from the ranges of Central Australia. Their faked narrative was that after spending time trekking through the remote wildernesses of the southern Northern Territory and nearby South Australia, they managed to discover two amazing species of gecko wholly new to science. They even assigned scientific names to them in the form of *Diplodactylus tjoritjarinya* and *Diplodactylus fyfei* in a so-called paper they published in an online journal.

Problem was that their story was one well-choreographed pile of lies.

In actual fact the person who spent years trekking through outback Australia in search of these previously unnamed lizards on other similarly unnamed species was Snakeman Raymond Hoser and he had published the book-sized monograph on these very lizards 15 months earlier.

Hoser in 2023 also named them!

Now this is not a simple case of later authors accidentally overlooking an earlier discovery of the same thing and inadvertently renaming them.

When that happens, the newer names are simply junked as junior synonyms.

In this instance, Peter McDonald, Aaron Fenner, Janne Torkkola and Paul Oliver knew all along that Raymond Hoser had discovered and named the exact same species 15 months prior, but rather than accept the status quo and the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999), they engaged in what is known as taxonomic vandalism to rename the exact same animals and then to unlawfully peddle their synonym name as the correct one.

Besides being illegal under the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) run by the International Commission for Zoological Nomenclature (ICZN) who govern all scientists globally (under the IUBS), the claimed discovery of the exact same species is in breach of the Moral Rights sections of the Australian Copyright Act 1968 and international equivalents.

To justify their egregious act of taxonomic vandalism, the later authors wrote:

“Following Kaiser et al. (2013), position statements from the Australian Society of Herpetologists (ASH 2016), and in accordance with a large number of active herpetofaunal taxonomists (Wüster et al., 2021) (all being of the same gang of thieves) we do not consider selected nomenclatural acts in self-published works after 1 January 2000, even if these may have priority under the rules of the International Code of Zoological Nomenclature.”

In 2021, the ICZN formally ruled against the anti-science blog rant of Kaiser *et al.* (2013) and all later incarnations of that document (including ASH 2016 and Wüster *et al.* 2021), so there is absolutely no question in terms of the facts that:

Diplodactylus (Yankunytjatjaragecko) aah Hoser, 2023 has been unlawfully renamed as *Diplodactylus tjoritjarinya* McDonald, Fenner, Torkkola and Oliver 2024 and is therefore a junior synonym of it.

and

Diplodactylus (Yankunytjatjaragecko) ooh Hoser, 2023 has been unlawfully renamed as *Diplodactylus fyfei* McDonald, Fenner, Torkkola and Oliver 2024 and is therefore a junior synonym of it.

However, the most important part of this paper is not the preceding facts, as the ICZN in 2021 already published the fact that the priority of the Hoser names over Wolfgang Wüster gang names “*is obvious*” and one of the mandatory ICZN rules.

This is a position it has re-iterated several times since (e.g. Ceriaco *et al.* 2023 and Jiménez-Mejías 2024).

Rather, this paper also formally names another species from the subgenus *Yankunytjatjaragecko* hitherto not named by scientists, also from central Australia and in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) as amended (ICZN 2012).

Keywords: Gecko; Australia; science; taxonomy; nomenclature; Northern Territory; *Diplodactylus*; *Yankunytjatjaragecko*; *aah*; *ooh*; *Liopholis*; *faaaaaark*; *aputja*; Hoser; 2023; 2024; taxonomic vandalism; law breakers; Peter McDonald; Aaron Fenner; Janne Torkkola; Paul Oliver; *tjoritjarinya*; *fyfei*; new species; *watdaabsolutefuk*.

INTRODUCTION

In 2023, as part of a major revision of the Australian herpetofauna, Hoser (2023) was published on 1 August.

That paper was a book-sized monograph on the gecko genus *Diplodactylus* (Gray, 1827).

The scale of the work is summed up in the paper's title: Hoser, R. T. 2023. Species diversity seriously underestimated! 23 new species and 4 new subspecies within the Australian Gecko genus *Diplodactylus* Gray, 1827. *Australasian Journal of Herpetology* 64:1-64

Relevant to this paper was the breakup of the putative species *Diplodactylus galeatus* Kluge, 1963 three ways.

Due to genus level divergence of the *D. galeatus* cohort a new genus name *Yankunytjatjaragecko* was erected by Hoser (2023) for the group. It was conservatively placed as a subgenus to minimize disruption to the most widely used taxonomy for the *Diplodactylus* Gray, 1827 assemblage.

The two newly named species were *Diplodactylus* (*Yankunytjatjaragecko*) *aah* Hoser (2023) from the Macdonell Ranges of central Australia and *D. (Yankunytjatjaragecko)* *ooh* Hoser (2023) from the Bagot and Beddoma Ranges in northern South Australia, with *D. galeatus* Kluge, 1963 having a type locality of Stuart Range, South Australia (adjacent to Coober Pedy) being the most southern of the three species.

A cited molecular phylogeny of Oliver *et al.* (2007) indicated three main population groups within the subgenus, all diverging from one another somewhere between 5 and 10 MYA (see Fig. 3 in that paper), all populations of which also appeared to be allopatric, being separated by zones of unsuitable habitat in the form of either (watercourse) channel country (flood plains that are essentially rock free) (between the southern two populations), or sand dunes, also rock free (between the two more northern populations).

This prohibited gene flow between any of the three and explained the measured divergence dates.

Nothing in terms of the preceding Hoser (2023) paper was particularly unusual or controversial.

The status of the three different named species was obvious and the published diagnoses of Hoser (2023) were detailed and accurately spelt out the diagnostic differences between the forms.

Notwithstanding the preceding, about 15 months later, October 2024 to be exact, a cohort of pseudoscientists, namely Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver, all members of the notorious Wolfgang Wüster gang of thieves, decided to engage in an egregious act of taxonomic vandalism to rename the very same species.

October 2024 saw all of them active on Facebook, Twitter and anywhere they could make "noise" and they set out to fool global media outlets about their alleged discovery of the same two new species of spectacular gecko lizard from the ranges of Central Australia.

Their faked narrative was that after spending time trekking through the remote wildernesses of the southern Northern Territory and nearby South Australia, they managed to discover two spectacular species of gecko wholly new to science and so were naming them.

They told the global media of their alleged collaboration with indigenous Australians in discovering the species and their effort in coining culturally appropriate scientific names.

This was of course tokenism, as the real issue is that the four thieves wanted themselves and their names only listed as "name authorities" or those who discovered the species.

There were no "coons" (the word they use by choice) to be listed as those who had actually discovered the species, as in authors of the paper.

The four thieves even assigned scientific names to themselves in the form of *Diplodactylus tjoritjarinya* and *Diplodactylus fyfei* in a so-called paper they published in an online journal.

Problem was that their story was one well-choreographed pile of lies.

As already mentioned, the person who actually spent years trekking through outback Australia in search of these previously unnamed lizards was Snakeman Raymond Hoser (myself) and he/I had published the book-sized monograph on these very lizards 15 months earlier.

Hoser (2023) also named them!

(Cited at the end of this paper as Hoser 2023b).

Now to make this abundantly clear this is not a simple case of later authors accidentally overlooking an earlier discovery of the same thing and inadvertently renaming them.

When that happens, and it is not a rare occurrence at all, the newer names are simply junked as junior synonyms as soon as the later authors and others are made aware of the error.

In this instance, Peter McDonald, Aaron Fenner, Janne Torkkola and Paul Oliver knew all along that Raymond Hoser (myself) had discovered and named the exact same species 15 months prior, but rather than accept the status quo and the valid ICZN names attached to each species, they engaged in what is known as taxonomic vandalism to rename the exact same animals and then to unlawfully peddle their synonym name/s as the correct one, knowing they are lying.

It is the second part of the preceding to "*unlawfully peddle their synonym name/s as the correct one, knowing they are lying.*" that makes their action taxonomic vandalism.

Besides being illegal under the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) run by the International Commission for Zoological Nomenclature (ICZN) who govern all scientists globally (under the International Union of Biological Sciences, or IUBS), the claimed discovery of the exact same species is in breach of the Moral Rights sections of the Australian Copyright Act 1968 and international equivalents.

Under the Copyright Act 1968 of Australia, "moral right" means: (a) in relation to an author:

- (i) a right of attribution of authorship; or
- (ii) a right not to have authorship falsely attributed; or
- (iii) a right of integrity of authorship;"

They also breached other parts of the Copyright Act 1968 as well.

To justify their egregious act of taxonomic vandalism in breach of the Australian Copyright Act 1968, the later authors wrote in their PRINO (peer reviewed in name only) online only paper (AKA PRINOOO) the following:

"Following Kaiser *et al.* (2013), position statements from the Australian Society of Herpetologists (ASH 2016), and in accordance with a large number of active herpetofaunal taxonomists (Wüster *et al.*, 2021) (all being of the same gang of thieves) we do not consider selected nomenclatural acts in self-published works after 1 January 2000, even if these may have priority under the rules of the International Code of Zoological Nomenclature."

Problem for this gang of thieves is that in 2021, the ICZN formally ruled against Kaiser *et al.* (2013) as cited by them, as well as all later incarnations of that document (including ASH 2016 and Wüster *et al.* 2021) in the judgement cited here as ICZN (2021), so there is absolutely no question in terms of the facts that:

Diplodactylus (Yankunytjatjaragecko) aah Hoser, 2023 has been unlawfully renamed as *Diplodactylus tjoritjarinya* McDonald, Fenner, Torkkola and Oliver 2024, is therefore a junior synonym of it and should never be used as correct;

and

Diplodactylus (Yankunytjatjaragecko) ooh Hoser, 2023 has been unlawfully renamed as *Diplodactylus fyfei* McDonald, Fenner, Torkkola and Oliver 2024, is therefore a junior synonym of it and should never be used as correct.

In terms of the correct scientific nomenclature for the species that can only be legally known as *Diplodactylus (Yankunytjatjaragecko) aah* Hoser, 2023 and *Diplodactylus (Yankunytjatjaragecko) ooh* Hoser, 2023 nothing more really needs to be said, but there are a few other details about this gang of thieves that is worth mentioning.

Among the listed authors of Wüster *et al.* (2021), as in their gang, there are a number of eco-terrorists and criminals including the notorious Peter McDonald and also Adam Britton.

Adam Britton when not attacking the ICZN and engaging in acts of theft and taxonomic vandalism, has spent considerable time anally raping people's pet dogs in acts of bestiality, dealing in child pronography and posting videos of this stuff online.

Britton was recently jailed in the Northern Territory for some of his bestiality crimes.

More details of that can be found here:

<https://www.smuggled.com/Adam-Britton-Bestiality-Wolfgang-Wüster-Gang.htm>.

However, the most important part of this paper is not the preceding facts, as the ICZN in 2021 already published the fact that the priority of the Hoser names "*is obvious*", being a position it has re-iterated several times since (e.g. Ceriaco *et al.* 2023 and via Jiménez-Mejías 2024).

Rather, this paper also formally names another species from the subgenus *Yankunytjatjaragecko* hitherto not named by scientists, also from central Australia in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) as amended (ICZN 2012).

THE WÜSTER GANG OF THIEVES – A FEW OTHER DETAILS

Peter McDonald, Aaron Fenner, Janne Torkkola and Paul Oliver are part of a cohort known as the Wüster/Britton gang, including notorious figures like Wolfgang Wüster, Adam Britton and others, who when not dealing in child porn, raping people's pet dogs (for which Britton has now been jailed for) and other serious crimes, they are in a state of war against the ICZN and seek to illegally rename animals in breach of the ICZN code.

But of course the relevant scandal here is that Peter McDonald, Aaron Fenner, Janne Torkkola and Paul Oliver are all serial liars who knew all along that their claim to have discovered two species of gecko in central Australia was in fact one massive lie.

More worrying is that media outlets from around the world like the *Miami Herald* and *Sacramento Bee* took the bait and republished the false claims of discovery of two new species without bothering to check their facts.

Worse still is that they have not retracted their stories or published corrections after being made aware of the falsity of their stories.

Last year, Snakeman Raymond Hoser (myself) successfully took legal action against the ABC under the Copyright Act 1968 when they published a similar fake news story in which another reptile hobbyist known as Conman Conrad Hoskin claimed to have discovered a new species of gecko that he called *Oedura elegans*, Hoskin, 2019, when at all relevant times both Hoskin and the ABC writer knew that the lizard's correct name was *Oedura shireenhoserae* Hoser, 2017 or alternatively *Marlenegecko shireenhoserae* Hoser, 2017.

In terms of the current situation, the following facts reflect the true scientific reality.

Diplodactylus (*Yankunyjtjaragecko*) *aah* Hoser, 2023 has been unlawfully renamed as *Diplodactylus tjoritjarinya* McDonald, Fenner, Torkkola and Oliver 2024 with the latter name not valid or usable and

Diplodactylus (*Yankunyjtjaragecko*) *ooh* Hoser, 2023 has been unlawfully renamed as *Diplodactylus fyfei* McDonald, Fenner, Torkkola and Oliver 2024 with the latter name not valid or usable.

The original paper that actually made the scientific discoveries is: Hoser, R. T. 2023 Species diversity seriously under-estimated! 23 new species and 4 new subspecies within the Australian Gecko genus *Diplodactylus* Gray, 1827. *Australasian Journal of Herpetology* 64: 1-64.

The taxonomic vandalism paper is:

McDonald, P. J., Fenner, A. L., Torkkola, J. and Oliver, P. M. 2024. Vicars in the desert: Substrate specialisation and paleo-erosion underpin cryptic speciation in an Australian arid-zone lizard lineage (*Diplodactylus*). *Vertebrate Zoology* (PRINOOO = peer reviewed in name only online only) 74:577-594.

To justify their egregious act of taxonomic vandalism, the later authors wrote:

"Following Kaiser *et al.* (2013), position statements from the Australian Society of Herpetologists (ASH 2016), and in accordance with a large number of active herpetofaunal taxonomists (Wüster *et al.* 2021) - ... all the same gang ... -, we do not consider selected nomenclatural acts in self-published works after 1 January 2000, even if these may have priority under the rules of the International Code of Zoological Nomenclature."

Among the listed authors of Wüster *et al.* (2021) are a number of eco-terrorists and criminals including the notorious Peter McDonald and also Adam Britton, the latter of whom when not attacking the ICZN and engaging in acts of theft and taxonomic vandalism, has spent considerable time anally raping people's pet dogs in acts of bestiality and posting videos of these acts online.

Adam Robert Corden Britton (born in or about 1971) is a British-born low-life scumbag within the Wolfgang Wüster gang who after being corruptly protected by police for his crimes for more than 2 decades, gained worldwide scrutiny when he was convicted on multiple criminal offenses including, animal abuse, zoophilia, zoosadism, bestiality and possession of child exploitation material.

In September 2023, after a very public falling out with fellow Wolfgang Wüster gang member Graeme Webb, Britton was formally charged with 56 counts related to the sexual abuse, torture, and killing of dogs, along with possession of the worst category of child exploitation material. Britton pleaded guilty to all charges in August 2024 with a sentence of 10 years and 5 months in prison imposed in the Northern Territory Supreme Court.

The investigation into Adam Britton's crimes also facilitated the prosecution and conviction of other animal sadists within the Wolfgang

Wüster gang network as identified by the cohort themselves in the paper Wüster *et al.* (2021) which astoundingly remains posted online even after Britton pled guilty to his heinous crimes.

Through the Adam Britton case, authorities were able to uncover a broader network of individuals in the Wolfgang Wüster gang involved in similar offenses, leading to further arrests and convictions in Australia and in other countries.

See also:
<https://www.bbc.com/news/articles/cd109z73ek3o>

and
<https://www.abc.net.au/news/2024-02-06/zoologist-adam-britton-bestiality-child-abuse-sentencing-delayed/103431386>

and
<https://www.abc.net.au/news/2024-08-08/adam-britton-sentenced-bestiality-animal-cruelty/104194702>

Don (Donald) Broadley (Zimbabwe) and Bill (William) Branch (South Africa) both earlier evaded charges of bestiality and kidnapping young black boys for anal sex by dying (Hoser 2023a).

Similarly, Caleb Ott (Queensland, Australia) committed suicide in December 2024 to evade a battery of likely charges including stalking, harassment, wildlife trafficking, animal abuse and cruelty, child sex offences, drug trafficking and other serious crimes.

See:
<https://www.facebook.com/thesnakevault/posts/pfbid0MqMCDuqSVZ4zQsDidmmRef6mqBzMaRHd9NrJEhsDWASfJ2dK3Fqoc64LPeFPrXI>
Another member of the cohort in Australia was in 2018 found to have raped and assaulted multiple women and children over 1,000 times in civil court proceedings, bragged publicly of the judge's findings against him, filed an appeal and lost that in 2020.

Following this loss 2020 court loss, the same man has more recently got a suppression order on the publication of his name, including removal of details of his crimes and identification of himself from the world wide web and this is exactly why he is not identified here in years 2024/2025.

Wüster gang member David John Williams was convicted and fined \$7500 in Cairns Magistrates Court (Australia) for wildlife trafficking and animal cruelty offences. There is no suppression order on that case and as in the original 2018 matter referred to above, the entire transcript of the case was made public by the relevant court at the relevant time.

David John Williams now masquerades as a snake expert at the "World Health Organization", AKA WHO.

Another gang member, Seth Pywell (of Western Australia), an egregious trademark infringer, con man and scammer, also engaged in serial animal abuse and cruelty was convicted in criminal court of shooting two Australian Aboriginals.

This sums up this gang's real attitude to "coons", "coons" being their word of choice (and an accepted derogatory term), which puts perspective on the false claims of collaboration with Aboriginals in discovering new species as made by Peter McDonald, Aaron Fenner, Janne Torkkola and Paul Oliver to garner favourable media publicity for their faked discoveries.

See THOMAS -v- MALLARD [2009] WASC 95 (17 April 2009) online at: https://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/wa/WASC/2009/95.html?context=1;query=seth%20pywell;mask_path=

Now for the benefit of readers who may not be aware of the relevant facts, I am in a position to point out the preceding, as I have given more newly named species indigenous Australian Aboriginal names than all other herpetologists on the planet combined!

See the appendix with this paper for some, but not all of them, which in number is enough to prove my point.

Wüster gang member Matthew Gatt a close friend of criminal Caleb Ott, was convicted and fined \$8K in Melbourne Magistrates Court in 2019 after stealing a valuable snake and engaging in egregious animal abuse and cruelty.

See:
<https://www.theage.com.au/national/victoria/snake-snatcher-cops-hefty-fine-for-taking-the-python-20190321-p51696.html>

and
<https://www.9news.com.au/national/news-melbourne-court-snake-thief-court-fined/334919a1-bb55-41dc-a883-1ddd4157c6fd>
for details.

Wüster gang member Jamie Benbow of Victoria, Australia is one of the most notorious drug traffickers in Australia.

He has spent time in jail for some of his crimes, the various crimes he has committed which includes threats to kill, stalking, harassment,

running over people and of course drug trafficking on a commercial scale.

He has also committed wildlife offences and all the preceding is public record.

Significantly, he quite obviously operates with full corrupt police protection most of the time, so his so-called rap sheet only represents a fraction of what he has done!

See for example

<https://www.bendigoadvertiser.com.au/story/720360/fined-for-facebook-threat/>

The cohort's members run numerous fake scams and charities raising millions of dollars by conning well-meaning donors. This they have done systematically over the past decade, including running government and research grants frauds, illegal Gofundme campaigns without fundraising permits as required by law in most relevant jurisdictions, rigging business competitions and tax evasion on a massive scale.

Scott Thomson, is notorious for running off from his wife and abandoning her, after she gave birth to a disabled child.

He ended up in South America to avoid paying his now ex-wife any support money for the child and then quite publicly shacked up with a young South American girl whom he allegedly boasted gave "the best head".

Wolfgang Wüster and Mark O'Shea regularly post images of themselves engaging in unlawful and egregious acts of animal abuse and cruelty online in similar manner to that of Adam Britton (now in jail for doing this) and yet seem to be of the view that this is perfectly ok.

Neither Wüster and O'Shea have been charged with any such offences yet as befits a gang of police-protected criminals.

The other crimes of Wüster gang members Mark O'Shea, Hinrich Kaiser, Scott Thomson and others are too extensive to detail here but similar in vein to those above.

While it could be argued that the nonstop criminal actions of Wolfgang Wüster and his gang of thieves has no relevance to their unscientific acts of taxonomic vandalism, I contend that they are incontrovertibly interconnected and their lack of morals in the real world reflect their absence of morals in science as well.

This close and immutable connection between serious and immoral crimes outside of the science of taxonomy and nomenclature and within the science of taxonomy and nomenclature can be seen for example in their repeated tampering with holotype material in museums to facilitate the renaming of previously validly named species as detailed in Hoser (2021, 2023c and 2024d).

None of those papers even get to mention the egregious switching of the holotype of "*Delma wollemi* Wells and Wellington, 1985" for a specimen of another species at the Australian Museum in Sydney! This dishonest act was the precursor to Jodi Rowley, Stephen Mahony and Tim Cutajar, then redescribing "*Delma wollemi*" as "*Delma vescolineata*" in Mahony *et al.* 2022.

It is therefore an inescapable fact that someone with access to the reptile collection at the Australian Museum in Sydney, Australia has engaged in the criminal act of tampering with significant biological and indigenous heritage in breach of Section 86 of the New South Wales National Parks and Wildlife Act 1974 as well as other State and Federal laws in Australia.

They have also breached Australia's international obligations.

There is perhaps no crime greater in zoology than the egregious tampering with type material that has been lodged in museums for decades, as this action alone can literally annihilate the entire type system of the ICZN and the universal system of scientific nomenclature attached to it.

Without the ICZN nomenclature backbone system functioning properly, the entire discipline of zoology is under threat and likely to fall into chaos.

Mass extinctions of vertebrate taxa is likely to be just one of the outcomes.

Hoser (2024c) details over 100 cases of egregious taxonomic vandalism by the Wolfgang Wüster gang, including over 100 illegally coined synonym names and that list predates the taxonomic vandalism of the two species subject of this paper and other such instances.

That is, this mob of liars and thieves have chosen to fake discoveries of over 100 species, genera and family that other proper scientists have put a huge amount of time and effort into discovering and publishing.

To say Zoology and the ICZN has a serious problem on their hands with the Wolfgang Wüster gang and their unlawful actions is no

understatement

Rather than further detailing egregious actions of the gang, I simply refer readers to Hoser (2021, 2023c and 2024a) and the relevant earlier sources cited therein.

Combined these papers detail dozens of egregious acts of taxonomic vandalism by members of the Wolfgang Wüster gang, with key players in terms of stealing work of others to fraudulently try to rename species and faking scientific discoveries of others as their own include Jodi Rowley, Larry Lee Grismer, Paul Oliver, Con Man Conrad Hoskin, Fred Kraus, Graham Reynolds, Wulf Schleip, Jane Melville, Brad Maryan, Stephen Blair Hedges, Glenn Shea, Aaron Bauer, Travis Thomas, Scott Keogh, Carlos Pavón-Vázquez, Grant Webster, Damien Esquerré and of course Wolfgang Wüster himself.

A NEW SPECIES IN THE SUBGENUS *YANKUNYJTATJARAGECKO* HOSER, 2023

It is significant and evident from what was written in the paper of Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver in 2024, that the most important part of that paper was simply a rehash of what they had read, cut and pasted from Hoser (2023b).

The species delineations, identification of the relevant biogeographical barriers, estimations of divergences and even the diagnostic characters of the three relevant species were all effectively lifted from Hoser (2023b).

Quite scandalously, the authors even scammed government hand-outs to effectively rehash a perfectly reasonable earlier work and claim credit for it!

As for the claim that they spoke to local Aboriginals about (re) naming the northern species (*D. aah*) as "*tjoritjarinya*", that too is probably false as the Aboriginal name for the relevant ranges was also given in the Hoser (2023b) paper.

At the time Hoser (2023b) was published, I was aware of significant morphological differences between specimens of putative *Diplodactylus aah* from near Alice Springs and those from further west.

However, in the absence of numbers of specimens of each form, these were all treated as *D. aah*, which not surprisingly is what Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver in copying me 2024 also did.

Significantly, since end 2023 and into 2024, I have been able to sight specimens of the more western population (south-west of the main McDonnell Ranges, being south-west of the main Mereene Valley) and am convinced it warrants being formally named as a separate and new species.

This is even though the biogeographic barrier itself is of a relatively small distance.

My reasoning is that specimens on either side of the Mereene Valley are consistently morphologically divergent, implying long separation between the populations.

So I am not accused of doing what Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver (2024) did with respect of myself and Hoser (2023b), I shall note they estimated in their paper of 2024 that the south-west McDonnell Ranges district population diverged from the main McDonnell Ranges district population about 4 MYA.

My estimate, based on the likely geology of the barrier zone, is about half that, but at 2 MYA and with no likely evidence of cross mixing within this period, I have no hesitation in formally naming this taxon as a new species.

MATERIALS, METHODS AND RESULTS

As for Hoser (2023) within the context of the species formally named herein.

NOTES ABOUT THE FORMAL DESCRIPTION BELOW

As for Hoser (2023).

Online references cited anywhere in this paper, were checked as valid most recently as of 23 December 2024.

DIPLODACTYLUS (YANKUNYJTATJARAGECKO) WATDAABSOLUTEPUK SP. NOV.

LSIDurn:lsid:zoobank.org:act:413F2106-346F-4B79-8872-3627BA5076AD

Holotype: A preserved adult male specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R40591 collected from the head of Stokes Creek, Wataurka National Park, Northern Territory, Australia, Latitude -24.28 S., Longitude 131.68 E.

This government-owned facility allows access to its holdings.

Diagnosis: *D. watdaabsolutepuk sp. nov.* is similar in most respects to

D. aah Hoser, 2023 as described in Hoser (2023), but separated from that species by having spots on the flanks that are tiny and slightly faded as opposed to tiny and not faded. Blotches on the original tail of *D. watdaabsolutefuk* sp. nov. tend to join irregularly and more-or-less along the medial line, meaning that the relevant parts are somewhat elongate on the dorsal surface, often obliquely or partially joined, rather than regularly joined symmetrically, making the blotches wide rather than long as seen in *D. aah*.

The four species, *D. watdaabsolutefuk* sp. nov., *D. aah*, *D. ooh* Hoser, 2023 and *D. galeatus* Kluge, 1963 are separated from one another as follows: On the flank of the body, *D. galeatus* has obvious large yellow to yellow-white blotches on the upper flank and in some specimens a limited number of faded and scattered yellow spots below, but not extending to the upper flank. By contrast *D. ooh* Hoser, 2023 has medium-sized faded yellow spots on the upper flank with moderately well-defined tiny yellow to yellow white spots below on the lower flank, not extending to the upper flank. *D. aah* Hoser, 2023 and *D. watdaabsolutefuk* sp. nov. are readily separated from the other two species by the absence of any large or medium blotches or spots on the upper flank, but instead has numerous well defined tiny yellow or yellow white spots on the flanks (upper and lower), the number of such spots being obvious and far exceeding that seen in the other two species. In terms of *D. aah* and *D. watdaabsolutefuk* sp. nov. they are most easily separated from the other two species by the significantly reduced size and width of the four mid dorsal blotches between the fore and hind legs. While they are irregularly shaped and vary between specimens, these blotches are smaller in *D. aah* and *D. watdaabsolutefuk* sp. nov. and the distance between the third and fourth blotches is much greater than that of the width of the blotches (measured down the longitudinal line), versus only slightly more in *D. galeatus* or roughly equal in *D. ooh* which invariably has wide (measured longitudinally) dorsal blotches. Both *D. ooh* and *D. galeatus*, which as a pair are more similar to one another than the more divergent *D. aah* and *D. watdaabsolutefuk* sp. nov. as a second species pair, are further separated from *D. aah* and *D. watdaabsolutefuk* sp. nov. by generally broken black encircling the outer edges of the pale beige coloured body blotches (which in turn sit against the uniform orange background colour). In *D. aah* and *D. watdaabsolutefuk* sp. nov. the black is somewhat thickened to more completely encircle the blotches. The four divergent *Diplodactylus* Gray, 1842 species within the subgenus *Yankunytjatjaragecko* Hoser, 2024, being *D. watdaabsolutefuk* sp. nov., *D. aah*, *D. ooh* and *D. galeatus*, are separated from all other species within *Diplodactylus sensu lato*, sensu Hoser (2023) (= sensu Cogger 2014), by the following suite of characters:

Average adult size is about 50 mm snout-vent. Length of tail is usually a fraction less than half the snout-vent length or in the alternative, no more than 50% of it (measured on underside from vent in a straight line); there is a dark postocular band that is continuous behind the occipital region; the dorsum has an obvious colour pattern, including four to six largish pale diamond or circular like irregular shapes across the midline of the dorsum against a relatively uniform background colour

ranging from orange to red; white venter; dorsal eyelid is well differentiated; snout rounded; 23 or more interorbitals; mental scale is lanceolate in shape, equal to or only slightly larger than the first infralabial in size; nasal contacts rostral; anterior nasal absent; the 8-10 upper labials are noticeably larger than the adjacent loreals; moderately built body; original tail is more or less round in cross-section, but very slightly flattened anteriorly. Dorsal and flank scales are relatively large, low,

juxtaposed or separated by tiny granules; no preanal pores; 5-8 post-anal tubercles in males (only). Digits are long, narrow and depressed below with a large pair of apical lamellae followed by moderately enlarged lamellae in two groups (modified from Cogger 2014 with additions).

Photos of the relevant species can be found by consulting Hoser (2023) on page 45.

Distribution: The species *D. watdaabsolutefuk* sp. nov. is found only south-west of the main McDonnell Ranges in central Australia, generally south of the Mereene Valley, being a biogeographical barrier that has increased in sandiness since Australia aridified in the cooling period of the past 4 MYA and presumably becoming an effective barrier to movement of populations of the subgenus of about 2 MYA.

D. aah Hoser, 2023 occupies the main central part of the McDonnell Ranges District in central Australia.

D. ooh occupies ranges on the South Australian, NT border in the

north-west of South Australia, just entering the very far south of the NT. *D. galeatus* is found further south in central South Australia.

Etymology: In October 2024, when speaking on the phone to eminent Australian herpetologist Richard Walter Wells about this taxon and mentioning to him that members of the Wolfgang Wüster gang had unlawfully attempted to rename congeners *D. aah* Hoser, 2023 and *D. ooh* Hoser, 2023 in an act of egregious taxonomic vandalism, he exclaimed “*what the absolute fuck*”.

In line with most herpetologists Wells was completely outraged at what Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver (2024) had done.

To give a congener the scientific name “*what the absolute fuck*” will potentially offend some soft-skinned zoologists and potentially breach the non-mandatory parts of the *International Code of Zoological Nomenclature* (Ride et al. 1999).

However, it is appropriate that the egregious conduct of Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver (2024) be held up as an example of bad behaviour of so-called scientists for future generations to learn about and to learn what not to do.

Hence the etymology for this species is a bastardized version of the phrase in the form of *D. watdaabsolutefuk* sp. nov..

This means that while none of the taxonomic vandals are honoured with a scientific name, their despicable actions will in the form of the scientific name herein remain part of the scientific history of Australian herpetofauna and give the relevant authors the notoriety they so desperately sought.

Future scientists will be able to see and recall the actions of the lawbreakers and liars, Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver (2024) with absolute disgust.

PS - If anyone needs proof of the facts that Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver and their cohort are compulsive liars, but that they do also have a sense of humour, then one should take a quick look a few key parts of the group's PRINOOO paper, in which a month later (in November 2024) they knowingly produced a collection of lies to try to rename *Liopholis faaaaaark* Hoser, 2024, named in February 2024 as *Liopholis aputja* Farquhar et al., 2024 in November 2024.

This was done in a PRINOOO paper known as Farquhar et al. (2024). Recall how in their online paper published in October 2024, Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver (2024) said:

“*Following Kaiser et al. (2013), position statements from the Australian Society of Herpetologists (ASH 2016), and in accordance with a large number of active herpetofaunal taxonomists (Wüster et al. 2021), we do not consider selected nomenclatural acts in self-published works after 1 January 2000, even if these may have priority under the rules of the International Code of Zoological Nomenclature.*”

Of course the notorious creationist Hinrich Kaiser also told everyone that Adam Britton anally raping people's pet dogs was also OK, so there is the logic in quoting “Kaiser et al.” as justification for committing crimes like taxonomic vandalism, which is probably not quite as bad as stealing people's pet dogs to rape them!

But it is particularly relevant to note the “coded” admission in this paper that the authors had stolen the earlier work of Hoser (2024) and without citation or attribution in their paper (in breach of the Australian Copyright Act 1968, right to be cited).

We know this is a coded admission, as the methodology is spelt out explicitly in Kaiser et al. (2013), where he/they overtly tell others to destroy the ICZN and their code, to breach the Copyright laws and refuse to cite the authors that they steal work from.

In the later November 2024 paper, Farquhar et al. (2024) said: “*Following Kaiser et al. (2013), position statements from the Australian Society of herpetologists (ASH 2022) and taxonomy Australia (taxonomy Australia 2024), and in accordance with a large number of active herpetofaunal taxonomists (Wüster et al. 2021), we do not consider selected nomenclatural acts published after 1 January 2000, even if these may have priority under the rules of the International Code of Zoological Nomenclature.*”

Both times these authors, the alleged (non-existent?) peer reviewers and PRINO “journal” editors conveniently overlooked the 2021 ICZN ruling against their gang (ICZN 2021) and recklessly did not cite this highly relevant ruling either.

The word “Hoser” or direct citation of Hoser (2024) was also not in either of these papers, as per the directive of Kaiser et al. (2013) making them both criminally and civilly liable.

Problem is that the authors, being in the Wolfgang Wüster gang of thieves are a cohort of police-protected criminals and unlikely to ever be charged with anything, be it breach of copyright, drug trafficking, wildlife smuggling, animal abuse, grants frauds or posting videos of themselves having anal sex with dogs online.

In spite of these obvious facts, Farquhar *et al.* (2024) had the audacity to state at the end of their PRINO Online paper:

“Conflict of Interest

The authors declare that they do not have any conflict of interest.”

Really?

CONSERVATION

Delays in recognition of this species, *D. watdaabsolute* sp. nov. could jeopardise the long-term survival of the taxon as outlined by Hoser (2007, 2019a, 2019b) and sources cited therein.

Therefore attempts by taxonomic vandals, pedophiles, serial rapists, animal abusers and wildlife traffickers like the members of the Wolfgang Wüster gang via Kaiser (2012a, 2012b (AKA Wüster 2012), 2013, 2014a, 2014b) and Kaiser *et al.* (2013) (as frequently amended and embellished, e.g. Rhodin *et al.* 2015, Naish 2013, as regularly altered and amended, Thiele *et al.* 2020, Hammer and Thiele 2021, Wüster *et al.* 2021, Foley and Rutter 2020) to unlawfully suppress the recognition of this and other taxa on the basis they have a personal dislike for the person who formally named it/them should be resisted (e.g. Ceriaco *et al.* 2023, Cogger 2014, Dubois *et al.* 2019, Hoser 2001a, Mosyakin 2022 and Wellington 2015).

Claims by the Wüster gang against this paper and the scientific description herein will no doubt be similar in form to those the gang have made previously (see for example Shine 1987), all of which were discredited long ago as outlined by Ceriaco *et al.* (2023), Cogger (2014), Cotton (2014), Dubois *et al.* (2019), Hawkeswood (2021), Hołyński (2020), Hoser, (2001, 2007a-b, 2009, 2012a, 2012b, 2013, 2015a-f, 2019a, 2019b, 2021, 2023a-c, 2024a-d), ICZN (1991, 2001, 2021), Jiménez-Mejías *et al.* (2024), Kok (2023), Mosyakin (2022), Pethigayoda (2023), Wellington (2015), Winkler (2024), Zheng and Gold (2020) and sources cited therein.

In other papers (e.g. Hoser 2013b), but not this, some material within descriptions is repeated to ensure each fully complies with the *International Code of Zoological Nomenclature* (Ride *et al.* 1999).

If the Australian government persists with its “Big Australia Policy”, (see for example Saunders 2019 or Zaczek 2019), that being a long-term aim to increase the human population in

Australia to over 100 million people by year 2150 (from the 25 million as of 2019), all sorts of unforeseen threats to the survival of this newly named species and other taxa may emerge.

Attempts to engage in acts of scientific fraud to try to rename any of these newly named taxa should be exposed and dealt with appropriately, as was done with David Williams, when in 2001 he attempted to rename and/or claim name authority for the species *Pailsus rossignolii* Hoser, 2000.

He did this in the first instance in 2001, by altering versions of his online “paper” (as seen in Williams and Starkey 1999a, 1999b and 1999c), all of which were different and changed versions of a single paper originally published in the first form in 1999.

The basis of that online “paper” was to formally and without a shred of evidence, refute the existence of the species *Pailsus pailsei* Hoser, 1998 to fraudulently claim the holotype was an underfed King Brown Snake *Cannia australis* (Gray, 1842).

POSTSCRIPT – MORE TAXONOMIC VANDALISM BY THE WÜSTER/BRITTON GANG

On 9 November 2024, the Australian Broadcasting Corporation, being the State Controlled Media published a news report online at: <https://www.abc.net.au/news/2024-11-09/monash-university-scientist-aboriginal-rangers-discover-lizard/104571674>

It was almost a carbon copy of the case of the attempted renaming of *Diplodactylus* (*Yankunytjatjaragecko*) *aah* Hoser, 2023 and *Diplodactylus* (*Yankunytjatjaragecko*) *ooh* Hoser, 2023.

This “news” report by so-called journalists Charmayne Allison and Lara Stimpson lead with the following headline:

“Monash University scientists, Aboriginal rangers discover lizard species in Central Australian desert”

Underneath this was an image of a lizard with the caption:

“The Liopholis aputja is most closely related to the MacDonnell Ranges rock skink of southern Northern Territory. (Supplied: Jules Farquhar)”

Beneath that in a bolded box was printed in large type:

“In short:

A new species of lizard has been discovered in mountains and

ranges in the Central Australian desert.

The Liopholis aputja is deeply genetically divergent from its most closely related lizard relatives.

Research officer Jules Farquhar says aputja means “of the hills”.

The story then read (in full):

“Scientists have worked alongside Aboriginal traditional owners to discover an “exciting” new species of lizard in the Central Australian desert.

Monash University researchers recently uncovered the new skink, dubbed the Liopholis aputja.

Research officer Jules Farquhar said it was most closely related to the MacDonnell Ranges rock skink of the southern Northern Territory.

“But this new lizard is actually found in mountains and ranges much further south of there, in north-west South Australia,” he said.

The aputja has some subtle differences in appearance, including “more orange on the face” and a different arrangement of certain scales.

But Mr Farquhar said most importantly, the two species were “deeply genetically divergent”.

“They’re a different evolutionary lineage,” he said.

“So that’s why we consider it another species.”

Species discovered the “boring way”

Mr Farquhar said there were two ways scientists discovered new species — the “fun” way and the “boring” way.

A 2005 paper from fellow Monash researcher David Chapple had revealed a “deep divergence” between skinks in the mountain ranges of southern central NT and South Australia.

However, the paper only analysed one sample from each of the ranges.

“So we decided to get on a plane and fly up there ... and get more samples,” Mr Farquhar said.

The group travelled to the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands — a vast, sparsely populated Indigenous region in remote north-west South Australia.

There, they worked with traditional owners and rangers to gather samples.

Scientists join forces with traditional owners

Mr Farquhar said aputja meant “of the hills”.

“There’s about 13 members currently in that genus, and there’s a few others in that area, but they all live in the sand plains surrounding the ranges,” he said.

“This is actually the only Liopholis that lives up in the hills.”

APY Lands traditional owner, Johnathan Lyons, worked closely with the research team, helping them search for the lizard and offering local knowledge, including access to sites.

“We travelled about 100 kilometres from Amata community [in the APY Lands] to the bush,” he said.

“We had a good time.”

He said he was “excited” by the discovery of the new species .

“It’s a good one, hey,” he said.”

Problem was that the entire story was untrue!

Fact is, Raymond Hoser (myself) had been roaming this same area for decades.

Recall the gecko *Diplodactylus ooh* occurs on the exact same hill!

And of course the same species of skink Farquhar was trying to call *Liopholis aputja* had been formally described as *Liopholis faaaaaark* Hoser, 2024 (see Hoser 2024a) almost 12 months prior!

There was no collaboration with tribal aboriginals in terms of discovering the lizard and virtually the entire Farquhar story was false.

The Hoser paper was titled:

Hoser, R. T. 2024. Hiding in plain sight: Yet ten more new species and five new subspecies of skink lizard from mainly southern Australia Scincidae: *Liopholis* and *Flamoscincus*. *Australasian Journal of Herpetology* 67:44-64. Published 12 February 2024.

LSIDURN:LSID:ZOOBANK.ORG:PUB:37F01C42-C0A4-4CBF-9883-57E1ECDC22D8

Lead author, of the newer paper was a young lizard enthusiast named Jules Farquhar working under the notorious David Chapple at Monash University in Melbourne.

Farquhar was a newly signed up member of the Wüster gang, who published his paper in the despised online journal *Zootoxic* with the incentive from Wolfgang Wüster himself that he would peddle the newer name as correct on all the online reptile databases he controls, including that non ICZN one ostensibly run by Wüster’s good mate Peter Uetz called “The Reptile Database”.

Farquhar’s paper was titled:

Farquhar, J. E., Mulder, J. A., Russell, W., Haines, M. L., Arangu Rangers and Chapple, D. G.

A new species of rock skink (Scincidae: *Liopholis*) from the central ranges bioregion of arid Australia.

Zootaxa PRIN000, 5536(1) 153-177.

Now, although we know the Wüster gang often add authors to their papers to "add weight" to their work (See Kaiser 2012b (AKA Wüster 2012), where he/they says exactly this and tells the cohort to do so) the identity of all the (alleged) authors in the online paper of Farquhar *et al.* (2014) is reasonably clear (as in we know who they are meant to be) except for the listed "Arangu Rangers".

Now who exactly is this?

Is this one person, two people, fifty or in fact anyone?

Names please?

How could a journal editor possibly allow such a stupid kind of alleged authorship into its pages?

Zootaxa of course and egregiously lacking any form of peer review, *Zootaxa* could have allowed Donald Duck, or ET as an author if it was submitted to them by Farquhar!

More importantly, the Farquhar paper was nothing more than an elaborate bootleg of the Hoser paper published nearly a year prior.

The same diagnostic characters for the exact same species and the same biogeographical and genetic evidence relied upon to split the relevant species from its two nearest relatives, both of which had been used and combined by Hoser (2024a) for the first time.

Now this was no mere coincidence.

It was not a case of Farquhar and his mates accidentally rediscovering something that they did not know Hoser had already discovered.

It was not a case of them inadvertently telling the media and the world that they had discovered a new species.

So, while they were SPAMMING the internet and the media with their amazing (alleged) discovery of a new species of lizard and their feel-good news puffery of collaborating with downtrodden aboriginals dying of radiation-related illnesses in the shadows of the Maralinga Atomic bomb tests and who are otherwise in hiding from brutal racist police bashings, the real story was quite different.

Farquhar, almost certainly writing the paper on his own had simply lifted all the relevant material straight from the paper of Hoser written ten months prior.

Put another way, the Hoser paper had been the template for the later one. There really wasn't any serious research required at all!

We know this, because like Peter J. McDonald, Aaron L. Fenner, Janne Torkkola and Paul M. Oliver wrote in their paper, Farquhar (and his alleged coauthors, including the unspecified "Arangu Rangers") wrote in his ("their") paper:

"Following Kaiser *et al.* (2013), position statements from the Australian Society of herpetologists (Ash 2022) and taxonomy Australia (taxonomy Australia 2024), and in accordance with a large number of active herpetofaunal taxonomists (Wüster *et al.* 2021), we do not consider selected nomenclatural acts published after 1 January 2000, even if these may have priority under the rules of the International Code of Zoological Nomenclature."

So while, Jules Farquhar was telling the world's media that he was a great hard working scientist collaborating with downtrodden Aboriginals to make amazing scientific discoveries, he never told them that in his published paper, he had admitted to stealing wholesale the work of Hoser!

So what is the takeaway of all this?

Jules Farquhar is nothing more than a liar and thief.

He is most definitely NOT any kind of scientist in the accepted sense of the term.

Now who got scammed in all this?

Raymond Hoser?

Probably not, as *Liopholis faaaaaark* remains the correct ICZN name for the species.

Monash University?

Definitely.

Their reputation has taken a hiding.

The university now is known for harbouring grants scamming fakers!

And who were the biggest losers?

Probably the mugs who gave Farquhar and his boss David Chapple the cash for a lavish holiday in central Australia.

We know who they are as they are revealed in the back of the paper, where Farquhar (the authors) wrote:

"the project was funded by a grant from the Australian research Council

(*Ft200100108; to DgC*) and an Australian Friends of tel Aviv university-Monash university (AftAM) research collaboration award (to DgC)"

How much cash did David Chapple get?

This is something that should be found out.

It should also be refunded to those who paid the money as there was no real original research in the PRINO online paper as alleged and it was alleged research that formed the basis of the cash handouts.

And just to make it clear, the correct name for the relevant lizard species is *Liopholis faaaaaark* Hoser, 2024.

Therefore, *Liopholis apujta* Farquhar *et al.* 2024 is merely a junior synonym of *Liopholis faaaaaark* Hoser, 2024 and their name should never be used as correct.

And also I again note the lie by Farquhar and his alleged co-authors in his (their?) end paper statement:

"Conflict of Interest

The authors declare that they do not have any conflict of interest."

Seriously, would the grants providers really have handed over their cash just for a thief to rehash another scientist's work?

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CONFLICTS OF INTEREST - NONE

APPENDIX

For the record, among the dozens of Raymond Hoser named species of reptiles with indigenous Aboriginal names (as of 24 June 2024) are the following taxa:

Aaah ngandatha Hoser, 2024
Amphibolurus boandikororum Hoser, 2024
Calotella wiradjuri Hoser, 2023
Carlia adina Hoser, 2024
Carlia caitlinmoranae Hoser, 2024
Caudaclara tiwi Hoser, 2024
Ctenotus arabanoo Hoser, 2024
Ctenotus birriwirri Hoser, 2024
Diplodactylus johnpati Hoser, 2023
Diplodactylus wongiorum Hoser, 2023
Eremiascincus gudjal Hoser, 2023
Eremiascincus yolngu Hoser, 2023
Flamoscincus arrenrteorum Hoser, 2024
Flamoscincus kaprunorum Hoser, 2024
Flamoscincus pitjantjatjaraorum Hoser, 2024
Flamoscincus wiranguorum Hoser, 2024
Flamoscincus yamatjiorum Hoser, 2024
Gaia arrenrte Hoser, 2024
Gaia asgicondi Hoser, 2024
Gaia kunja Hoser, 2024
Gaia pitjantjatjara Hoser, 2024
Kommosagogus goreng Hoser, 2024
Kommosagogus menang Hoser, 2024
Kommosagogus whadjuk Hoser, 2024
Marrunisauria gurindji Hoser, 2024
Marrunisauria ngarinyin Hoser, 2024
Menetia anindilyakwa Hoser, 2024
Menetia bibbulmun Hoser, 2024
Menetia dhuae Hoser, 2024
Menetia dungayi Hoser, 2024
Menetia kullilli Hoser, 2024
Menetia langdoni Hoser, 2024
Menetia tanyadayae Hoser, 2024
Menetia yidinji Hoser, 2024
Tantaloscincus martu Hoser, 2024
Tantaloscincus yinggarda Hoser, 2024
 as well as the frog species:
Kumanjayiwalkerus kumanjayi Hoser, 2020

And the following formally named subspecies

Eremiascincus isolepis jinigudera Hoser, 2023
Eremiascincus foresti martu Hoser, 2023
Eremiascincus musivus oculorum Hoser, 2023
Eremiascincus pallida flavescens Hoser, 2023
Eremiascincus intermedius yungman Hoser, 2023
Eremiascincus richardsonii djaru Hoser, 2023
Eremiascincus richardsonii yindjibarndi Hoser, 2023
Eremiascincus richardsonii niyjarparli Hoser, 2023
Eremiascincus richardsonii baiyungu Hoser, 2023
Eremiascincus richardsonii ngaanyatjarra Hoser, 2023
Eremiascincus richardsonii pindiini Hoser, 2023
Eremiascincus richardsonii wiradjuri Hoser, 2023
Flamoscincus striata yamajorum Hoser, 2023
Morethia obscura wiradjuri Hoser, 2024
Odatia tristis balanggaraorum Hoser, 2024
Odatia tristis bidjaraorum Hoser, 2024
Odatia tristis yankuntjatjaraorum Hoser, 2024

Except for *Kumanjayiwalkerus kumanjayi* Hoser, 2020 all the other taxon names are various kinds of lizards.

The ability to conserve a threatened species begins when they are named! More new species of Rock Wallaby (Marsupialia: Macropodidae: *Petrogale*) from east Australia.

LSIDurn:lsid:zoobank.org:pub:401A959C-A798-466B-A09C-F4396FB2B39D

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ABSTRACT

Hoser (2020) formally named two species and two subspecies of Rock Wallaby *Petrogale* Gray, 1837 from northern Australia.

At the time the paper was being prepared, it was anticipated that putative east Australian and Centralian species were to be named by other people.

The Centralian ones were formally named, but those from the east, being putative *Petrogale penicillata* (Gray, 1825), long known to comprise three distinctive forms were not formally split.

The purpose of this paper is to formally split and name for the first time the forms from the north and south of the range as new species.

These are *P. fasciststateorum* sp. nov. for the Victorian populations and *P. rosswellingtoni* sp. nov. for that population from north of the Hunter Valley and into south-east Queensland.

The populations from (mainly) south of the Hunter Valley to southern New South Wales are of the type species *P. penicillata*, being the type form for the subgenus *Petrogale* as defined by Hoser (2020).

Keywords: Taxonomy; nomenclature; classification; Wallaby; Marsupials; Rock Wallaby; eastern Australia; Australia; Victoria; New South Wales; Queensland; Macropodidae; *Petrogale*; new species; *fasciststateorum*; *rosswellingtoni*.

INTRODUCTION

Rock Wallabies of the genus *Petrogale* Gray, 1837 are widespread and common in most parts of Australia, although some species in some areas have declined sharply in the period post-dating the second world war, with declines ongoing.

Numerous studies have been conducted into the phylogeny of *Petrogale* Gray, 1837, including those cited in the materials and methods section of this paper.

In spite of these studies and the paper of Hoser (2020) two well-known and previously identified divergent forms remain unnamed and therefore potentially under the radar of State and Federal wildlife conservation authorities, increasing their potential risk of decline or extinction.

To rectify this situation, and in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) as amended by the *International Commission for Zoological Nomenclature* in 2012, these two species, currently treated as divergent populations of putative *Petrogale penicillata* (Gray, 1825) are formally named as new species.

Numerous previous studies, including those of Bee and Close (1993), Browning *et al.* (2001), Close *et al.* (1994), Eldridge *et al.* (2001), Hazlitt *et al.* (2006, 2010, 2014) and Paplinska *et al.* (2011), all identified three significantly divergent populations of the putative species.

The putative species occurs in hilly and mesic parts of Victoria, eastern New South Wales south-east Queensland.

The three identified divergent populations were one from north of the Hunter Valley and into south-east Queensland, the type form from New

South Wales, south of the Hunter Valley to the Brindabella Ranges area, but including western outliers north of the Hunter Valley (Eldridge *et al.* 2018) as well as the Australian Capital Territory and the third lineage from far southern New South Wales and hillier parts of Victoria, as far west as the Grampian Mountains.

Hazlitt *et al.* (2014) found a divergence in excess of 2 MYA for each of the three lineages, which is species-level divergence for each.

The Queensland population has long been known to have a less prominent tail brush and be lighter in colour above than southern populations, while those in Victoria are also divergent and of smaller adult size from the other two more northern populations (Close *et al.* 1988).

Because of reproductive isolation and separation of each population and obvious morphological divergences, it was deemed appropriate to formally name the unnamed forms as new species.

In addition to the obvious improvement in terms of the science relative to the taxa, it is important that the taxa be properly named and identified so that governments and NGO's brave enough to breach the monopolistic government wildlife bureaucracies in Australia can properly plan and conserve the species.

This is especially relevant in terms of the Victorian population that has declined sharply in recent decades on the back of a massive human population increase in the state of Victoria combined with a State Government and associated wildlife department that finds exterminating species fitting better within their agenda than active conservation of declining forms (see also Hoser 1989, 1991, 1993, 1996, 2019a, 2019b, 2020).

MATERIALS, METHODS AND RESULTS

Relevant literature was checked to confirm that there were no available synonyms for the two candidate species including Bannister *et al.* (1998), Groves *et al.* (2005), Strahan (1988) and Thomas (1888).

The three forms originally described as *Kangurus penicillatus* Gray, 1827 (being the type form of *Petrogale penicillata*), *Heteropus albogularis* Jourdan, 1837 and *Petrogale longicauda* Krefft, 1865 are all of the central New South Wales taxon and are therefore unavailable names for the putative species from Victoria or New South Wales and south-east Queensland, north of the Hunter Valley.

Before a decision is made to name any new taxon, reasonable steps must be taken to ensure that it is justified on all relevant grounds, including that it is morphologically, genetically and reproductively isolated from their nearest relative and to a sufficient degree to be of taxonomic significance.

A further relevant question to ask is should the reproductively isolated and morphologically divergent entities be labelled as subspecies, full species, or potentially higher level again.

As mentioned already, molecular studies giving known divergence times between populations and/or forms can be helpful and is so with respect of the putative taxa herein. Live and dead specimens as well as available bone specimens, were examined as was other necessary material, including past climate data for the relevant regions, sea level depths, and other relevant information.

In summary, as inferred already, the genetic, geological, historical and morphological evidence clearly showed that there were two obviously unnamed species of Rock Wallaby in the *P. penicillata* species complex.

Both are potentially threatened due to their relatively limited occurrences within general regions of known distributions, combined with the ongoing risk of decline from introduced species such as foxes, cats (in particular) (see Spencer 1991), dogs or direct human intervention in other ways.

Significantly, the two newly named taxa have both diverged across known biogeographical barriers as identified by Bryant and Krosch (2016) that have resulted in numerous species of reptile being discovered and formally named in recent years, having been separated from their nearest relatives across exactly the same barriers.

As mentioned earlier, the formal naming of these species now enables wildlife departments to formulate conservation plans for extant populations of these taxa and reduces the risk of their extinctions arising from them being treated as one and the same as otherwise more widespread and abundant species as has previously occurred (see Hoser 2019a, 2019b).

Because the *P. penicillata* (Gray, 1825) group is the type group for the genus, the two newly named species are also in the nominate subgenus.

In terms of morphological divergences between each putative taxon, because they were obvious, so too was the decision to formally name each as separate species, the southern and northern forms being formally named for the first time.

INFORMATION RELEVANT TO THE FORMAL DESCRIPTIONS THAT FOLLOW

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

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

In terms of the following formal descriptions, spellings should not be altered in any way for any purpose unless expressly and exclusively called for by the rules governing Zoological Nomenclature as administered by the International Commission of Zoological Nomenclature. In the unlikely event two or more newly named taxa are deemed conspecific by a first reviser, then the name to be used and retained is that which first appears in this paper by way of page priority and as listed in the abstract keywords.

Some material in descriptions for taxa may be repeated for other taxa in this paper and this is necessary to ensure each fully complies with the provisions of the *International Code of Zoological Nomenclature* (Fourth edition) (Ride *et al.* 1999) as amended online since.

Material downloaded from the internet and cited anywhere in this paper as being sourced online was downloaded and checked most recently as of 1 June 2024 (including if also viewed prior), unless otherwise stated and was accurate in terms of the content (as described) cited herein as of that date.

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

Colour descriptions of species refer to fur colour and not skin.

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

PETROGALE FASCISTSTATEORUM SP. NOV

LSIDurn:lsid:zoobank.org:act:2D5C53C5-DC06-4762-821C-7DB18DD110BD

Holotype: A preserved specimen in the form of a dry skeleton at the Museums Victoria Mammalogy Collection, Melbourne, Victoria, Australia, specimen number C26045 collected from Red Rock, Muline Creek, The Grampians, Victoria, Australia, Latitude -37.22 S., Longitude 142.27 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ A preserved specimen in the form of a dry mandible at the Museums Victoria Mammalogy Collection, Melbourne, Victoria, Australia, specimen number C26271 collected from Muline Creek near Red Rock, Victoria Range, The Grampians, Victoria, Australia, Latitude -37.22 S., Longitude 142.27 E., 2/ A preserved specimen in the form of a dry mandible at the Museums Victoria Mammalogy Collection, Melbourne, Victoria, Australia, specimen number C26272 collected from Mt Stapylton, The Grampians, Victoria, Australia, Latitude -36.9 S., Longitude 142.38 E.

Diagnosis: The three species, *Petrogale penicillata* (Gray, 1825), *P. fasciststateorum sp. nov.* and *P. rosswellingtoni sp. nov.* are separated from all other species within the genus *Petrogale* Gray, 1837 by the following unique combination of characters:

Brown above, tending to be rufous on the rump and grey on the shoulders. The chest and belly is paler and in some individuals there is a white blaze on the chest. There is a white to buff cheek stripe and a black dorsal stripe from the forehead to the back of the head. The exterior of the ears is black, and inside the ears is buff. There is a black auxiliary patch often extending as a dark stripe to the margin of the hind-legs. There is a pale grey side-stripe sometimes present. The feet and paws are dark brown to black. The tail darkens distally with a prominent brush. The pelage is long and thick, particularly about the rump, flanks and base of the tail. Ear fluff is not white. Interior of ear is not dark.

Adult males grow to 529-586 mm and females to 510-570 mm in head and body length. The tail length of the adult male is 510-700 mm and 500-630 mm for adult females. Adult males reach a weight of 5.5-10.9 kg and females a weight of 4.9-8.2 kg (Eldridge and Close, in Strahan, 1998).

P. fasciststateorum sp. nov. are separated from both *Petrogale penicillata* and *P. rosswellingtoni sp. nov.* by having an orange tinge in the inner ear and also same on the forebody underside, versus yellowish in the other two species.

Adults do not exceed 560 mm head and body length, versus up to 586 mm in the other two species.

P. rosswellingtoni sp. nov. is separated from both *P. penicillata* and *P. fasciststateorum sp. nov.* by having a tail brush that is not prominent, versus prominent in the other two species.

Dorsally, the fur in *P. rosswellingtoni sp. nov.* is light greyish-yellow in colour, versus dark brown or dark greyish in *P. penicillata* and similar in *P. fasciststateorum sp. nov.* but with a strong russet or purplish tinge in *P. fasciststateorum sp. nov.* especially on the edges and lower surfaces anteriorly.

P. penicillata is depicted in life online at:

<https://www.inaturalist.org/observations/11294846>

and

<https://www.inaturalist.org/observations/195997155>

P. fasciststateorum sp. nov. is depicted in life online at:

https://www.swifft.net.au/cb_pages/sp_brush-tailed_rock-wallaby.php

(second image on page taken in 1999), and

<https://www.mtrothwell.com.au/>

and

<https://collections.museumsvictoria.com.au/species/11509>

P. rosswellingtoni sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/67783413>

and

<https://www.inaturalist.org/observations/97004287>
and
<https://www.inaturalist.org/observations/204890613>
and
<https://www.inaturalist.org/observations/10082003>

Distribution: Living specimens are known only from the Grampians in Western Victoria and east Gippsland, Victoria. Unfortunately, the Grampians population now includes stock that has cross-bred with introduced *Petrogale penicillata* of the nominate form from New South Wales (Broadway *et al.* 2023) that was introduced to the area in about 2012 onwards, meaning that the population is one of mutts! The population known from Little River Gorge, Snowy River National Park is perhaps the only pure one of this species left in existence and it is important that feral government employed wildlife department officers both conserve this taxon on their lands and also do not introduce nominate *Petrogale penicillata* to this group, which would in effect make them mutts and potentially wipe out the species in its pure form almost overnight!

Captive populations are elsewhere, most notably including at an open-range facility at Mount Rothwell, south-west of Melbourne in southern central Victoria.

Etymology: The species name "*fasciststateorum*" is a direct translation of the name of the government in Victoria and Australia, including the wildlife department, police force and legal system and especially with respect to how it operates with respect of the wildlife.

The species is named after these evil people, so in effect honours them.

They spend a lot of their time putting out propaganda and being "liked" and like getting honours of various forms via the nepotistic Australian honours system.

The entire bureaucracy of government in the State of Victoria and Australia generally, is corrupt, self-serving and fundamentally evil. Human rights, rule of law and conservation of wildlife are all optional in the State of Victoria and always discarded when the interests of the individual bureaucrats conflicts.

There is absolutely no meaningful rule of law here.

Here in Victoria and elsewhere in Australia, public servants and their agents are effectively immune from the need to comply with any rules or laws. Other people, especially those deemed enemies or "competitors" are regularly harassed, charged with fictitious offences and once in the courts, are inevitably convicted and locked up by cocaine addicted magistrates and judges.

In terms of wildlife conservation and this species in particular, the fascist state they live in has spelt disaster for the species.

The welfare of the species has been effectively ignored and concerned members of the public have been forcibly stopped from doing anything to "save" the species.

Anyone who tried to work with the species and save it from threats is charged with the offence of "interfere with wildlife", convicted, fined or jailed and them barred from most kinds of gainful employment thereafter.

The much-condemned Chinese "Social credit" system is nothing compared to what is going on in Australia.

But because Australia is "white" and "British", people are not allowed to accuse Australian governments of their obvious corruption and human rights abuses.

The government-owned business enterprise, the dysfunctional "Zoos Victoria" enjoys a monopoly on this "endangered species" meaning that anyone who wants to even see the species must PAY THEIR CASH to the "Zoos Victoria" business to see specimens.

They must go to the Healesville Sanctuary (one of their sites) and then are forced to sign a legally binding "deed" to enforce the rule that they are not to make money selling any photos they may take of the animals or to otherwise undermine the "Zoos Victoria" business.

Well-meaning people donate hard earned cash to the "Zoos Victoria" business for their widely advertised "captive breeding recovery programmes" that are in fact designed **not to breed** these species, so as not to jeopardise their monopoly on possession of them.

A view of the "Zoos Victoria" web domain sees calls to "donate" to them on almost every webpage, including the main landing page at: <https://www.zoo.org.au/> where the "donate" button is most prominent at the top of the page. This is especially audacious considering they are government-funded by the Victorian taxpayer anyway, so in fact do not need to solicit a single cent in donations!

The methodology of seeking donations they do not need is to

effectively starve others in the wildlife conservation space of funds as they are seen as unwanted "competition" to the monopolistic and dysfunctional government owned business.

Think also about what "Zoos Victoria" did with all the live Tasmanian Tigers *Thylacinus cynocephalus* (Harris, 1808) that they hoarded in the 1920's at their Melbourne Zoo site in Parkville, ostensibly for a "captive breeding recovery program" and note that this species is now extinct.

Whether or not the species *Petrogale fasciststateorum sp. nov.* survives in the long term is literally in the hands of the Fascist State Government of Victoria and their corrupt self-serving wildlife department as detailed in Hoser (1993 and 1996) or see Lesh (2021) and Broadway *et al.* (2023).

Unfortunately, the prognosis is not good.

Furthermore, if the Australian government persists with its "Big Australia Policy", (see for example Saunders 2019 or Zaczek 2019), that being a long-term aim to increase the human population in Australia to over 100 million people by year 2150 (from the present 25 million as of 2019), all sorts of unforeseen threats to the survival of these species will almost certainly emerge.

PETROGALE ROSSWELLINGTONI SP. NOV

LSIDurn:lsid:zoobank.org:act:4D92FA02-39CC-4414-A470-3F2160C50238

Holotype: A preserved specimen in the form of a skin and skeleton from a female specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number JM16580 collected from Perseverance Dam, Queensland, Australia, Latitude -27.285278 S., Longitude 152.119167 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ A preserved specimen in the form of a skin and skull from a male specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number JM16381 collected from Perseverance Dam, Queensland, Australia, Latitude -27.285278 S., Longitude 152.119167 E., 2/ A preserved specimen in the form of a juvenile specimen in spirit at the Queensland Museum, Brisbane, Queensland, Australia, specimen number JM16581 collected from Perseverance Dam, Queensland, Australia, Latitude -27.285278 S., Longitude 152.119167 E.

Diagnosis: The three species, *Petrogale penicillata* (Gray, 1825), *P. fasciststateorum sp. nov.* and *P. rosswellingtoni sp. nov.* are separated from all other species within the genus *Petrogale* Gray, 1837 by the following unique combination of characters:

Brown above, tending to be rufous on the rump and grey on the shoulders. The chest and belly is paler and in some individuals there is a white blaze on the chest. There is a white to buff cheek stripe and a black dorsal stripe from the forehead to the back of the head. The exterior of the ears is black, and inside the ears is buff. There is a black auxiliary patch often extending as a dark stripe to the margin of the hind-legs. There is a pale grey side-stripe sometimes present. The feet and paws are dark brown to black. The tail darkens distally with a prominent brush. The pelage is long and thick, particularly about the rump, flanks and base of the tail. Ear fluff is not white. Interior of ear is not dark. Adult males grow to 529-586 mm and females to 510-570 mm in head and body length. The tail length of the adult male is 510-700 mm and 500-630 mm for adult females. Adult males reach a weight of 5.5-10.9 kg and females a weight of 4.9-8.2 kg (Eldridge and Close, in Strahan, 1998).

P. fasciststateorum sp. nov. are separated from both *Petrogale penicillata* and *P. rosswellingtoni sp. nov.* by having an orange tinge in the inner ear and also same on the forebody underside, versus yellowish in the other two species. Adults do not exceed 560 mm head and body length, versus up to 586 mm in the other two species.

P. rosswellingtoni sp. nov. is separated from both *P. penicillata* and *P. fasciststateorum sp. nov.* by having a tail brush that is not prominent, versus prominent in the other two species.

Dorsally, the fur in *P. rosswellingtoni sp. nov.* is light greyish-yellow in colour, versus dark brown or dark greyish in *P. penicillata* and similar in *P. fasciststateorum sp. nov.* but with a strong russet or purplish tinge in *P. fasciststateorum sp. nov.* especially on the edges and lower surfaces anteriorly.

P. penicillata is depicted in life online at:

<https://www.inaturalist.org/observations/11294846>

and

<https://www.inaturalist.org/observations/195997155>

P. fasciststateorum sp. nov. is depicted in life online at:

https://www.swift.net.au/cb_pages/sp_brush-tailed_rock-wallaby.php (second image on page taken in 1999), and

<https://www.mtrothwell.com.au/>
and
<https://collections.museumsvictoria.com.au/species/11509>
P. rosswellingtoni sp. nov. is depicted in life online at:
<https://www.inaturalist.org/observations/67783413>
and
<https://www.inaturalist.org/observations/97004287>
and
<https://www.inaturalist.org/observations/204890613>
and
<https://www.inaturalist.org/observations/10082003>

Distribution: *P. rosswellingtoni* sp. nov. is found from Nanango, 100 km northwest of Brisbane (where it forms a hybrid zone with *Petrogale herberti*) (Eldridge and Close, 1992) south through the ranges to the Hunter Valley in New South Wales. Populations from the Warrumbungle's and Mount Kaputar are of *P. penicillata* not *P. rosswellingtoni* sp. nov.. Otherwise *P. penicillata* is found in the ranges and rocky hills south of the Hunter Valley to about the Brindabella Ranges (historically at least), New South Wales / ACT.

Etymology: Named in honour of Cliff Ross Wellington of Ramornie, northern New South Wales, Australia in recognition of a lifetime's working with wildlife in Australia and his immense contributions to wildlife conservation spanning more than 4 decades.

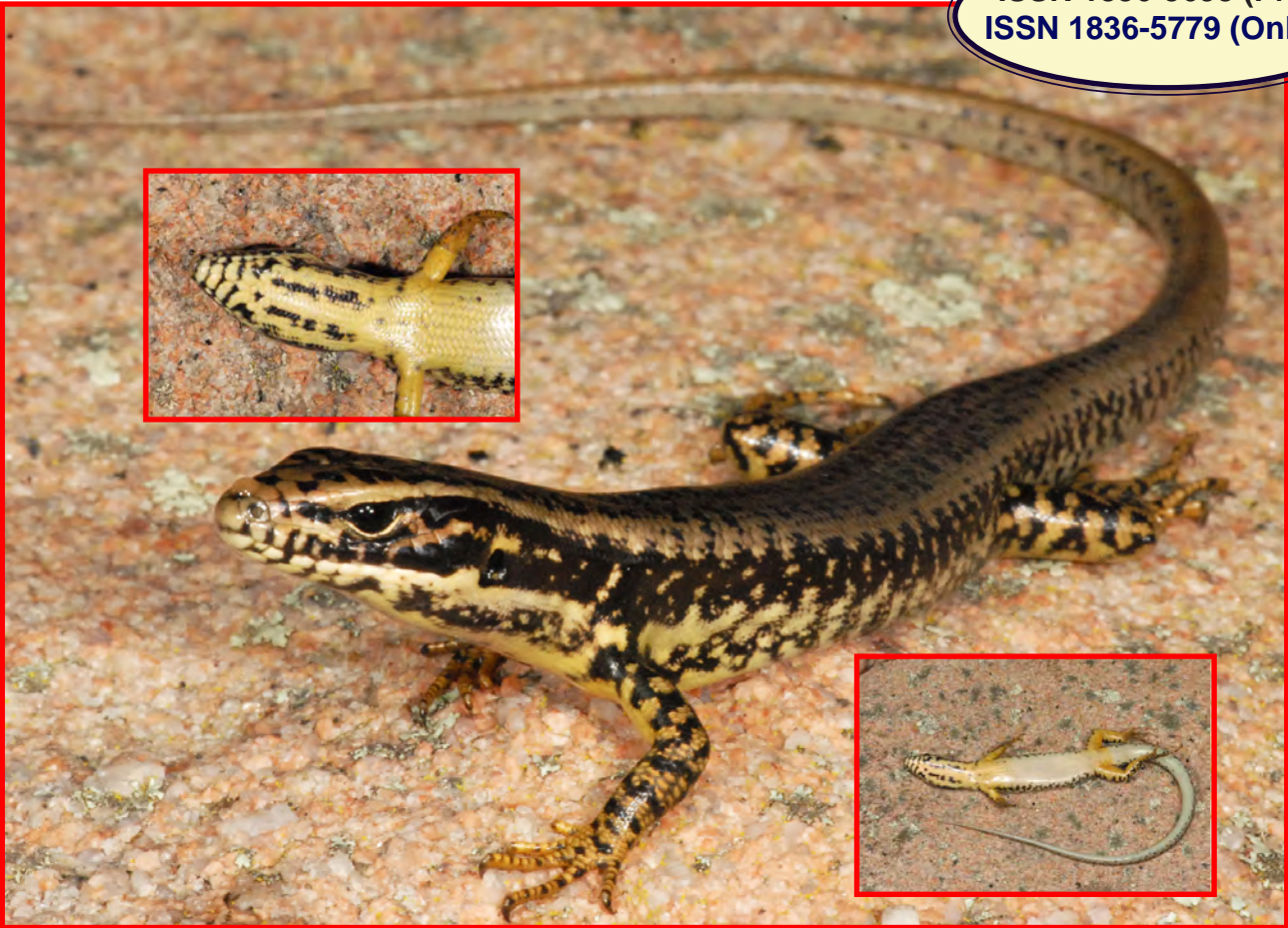
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CONFLICTS OF INTEREST - NONE



An adult male *Eulamprus extinctionbusinessorum* sp. nov. from Gooram Falls (between Merton and Euroa), Victoria and habitat at site (below), where the species is seen active in large numbers during favourable weather conditions.

