

A revision of the taxonomy of the Australian skinks in the genus *Acritoscincus* Wells and Wellington, 1985 (AKA *Bassiana* Hutchinson *et al.* 1990), resulting in the formal division into three subgenera and the recognition and descriptions of new species.

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ABSTRACT

Skinks of the genus *Acritoscincus* Wells and Wellington, 1985 (AKA *Bassiana* Hutchinson *et al.* 1990), are mainly cool adapted species from southern Australia.

As of 2022, most publishing authors including Cogger (2014), representing the “popular” or “consensus” view of Australian reptile taxonomy, recognize just three species, being *A. trilineatus* Gray, 1838), the morphologically similar *A. duperreyi* (Gray, 1838) of south-east Australia and *A. platynotum* (Peters, 1831), readily separated from the other two species by the possession of a more horizontally flattened body.

Counter to this, Wells and Wellington (1985) recognized five species, two of which they formally named at the same time.

More recently, Dubey and Shine (2010) and Dissanayake *et al.* (2021), provided genetic evidence supporting the Wells and Wellington taxonomy and the presence yet more of unnamed forms.

This paper is the culmination of a detailed analysis of the genetic evidence, combined with inspection of specimens of each putative species from across their known ranges.

The result is a formal division of the genus into three subgenera, this decision being based on the time of divergence of each species complex; acceptance of all five taxa recognized by Wells and Wellington in 1985 and formal description of new species in each of the newly identified subgenera, generally conforming with the clades identified in the previous cited molecular studies, done in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999, as amended online since).

This makes a total of 13 recognized species.

Keywords: Taxonomy; nomenclature; Australia; Skink; *Acritoscincus*; *Bassiana*; *platynotus*; *trilineatus*; *buddeni*; *donellani*; New South Wales; South Australia; Victoria, Queensland, Tasmania; new subgenus; *Labialalbum*; *Celerscincus*; new species; *adelynhoserae*; *jackyhoserae*; *granti*; *taipanbarnetti*; *tybarnetti*; *davidmerceicai*; *katrinahoserae*; *paulwoolffi*; new subspecies; *diversus*.

INTRODUCTION

Skinks of the genus *Acritoscincus* Wells and Wellington, 1985 (AKA *Bassiana* Hutchinson *et al.* 1990), are a familiar and relatively abundant component of the skink lizard fauna of southern Australia.

They are found in a diversity of habitats, but appear to be mainly cool adapted species in as much as other species replace them in warmer regions.

The genus name *Acritoscincus* was first proposed and applied by Wells and Wellington in 1985.

At the time, the pair were accused of “Taxonomic Vandalism” by Glen Shea, Wolfgang Wüster and many others.

Very soon after and as it became self evident that the taxonomic proposals of Wells and Wellington in their major works of 1984 and 1985 generally had merit, a group of renegade herpetologists hatched a plan to have the Wells and Wellington names formally erased from the scientific record so that their cohort could overwrite the earlier names.

In effect they sought to steal “name authority” from Wells and Wellington and take credit for their hard work.

To execute their plan, a petition was lodged with the International Commission of Zoological Nomenclature (ICZN) in 1987, originally authored by the “President Australian Society of

Herpetologists" who at that time was Richard Shine (Shine 1987), best known for obtaining large grants from the Australian Research Council for projects of dubious merit, while at the same time, in effect depriving rivals of the same tax-payer funded monies.

The expectation in making the petition to the ICZN was that by making enough "noise" through false accusations against Wells and Wellington's ethics and their scientific methods, or alleged lack of them, that the ICZN would believe the lies and formally suppress the Wells and Wellington names from the scientific record.

Ultimately the petition failed in 1991, with the ICZN effectively voting unanimously in favour of Wells and Wellington (ICZN 1991).

Exceptional to this was Harold (Hal) Cogger, from Australia, who was new to the ICZN and alleged to have been put there to help effect the suppression of the Wells and Wellington works.

Following the vote in favour of Wells and Wellington, Cogger has reluctantly complied with the International Code of Zoological Nomenclature and used the Wells and Wellington names when he has deemed them taxonomy correct.

The significance of the Wells and Wellington case was not only that it was unprecedented in herpetology and the biological sciences generally, but because it involved hundreds of proposed names, making the scale of the action also important. At the time Wells and Wellington (1985) was first published and the genus *Acritoscincus* defined by these authors, Cogger *et al.* (1993) only recognized two relevant species.

These were the Three Lined Skink *Tiliqua trilineata* Gray, 1838, of southern Australia with the described taxon *Tiliqua duperreyi* Gray, 1838 of south-eastern Australia being recognized as a synonym of the former, as well as the morphologically divergent form *Lygosoma (Mococa) platynotum* Peters, 1881 of south-east Australia.

There were no other synonym names available for these putative species.

Counter to the views of Cogger *et al.* (1983), Wells and Wellington (1985) recognized five species, two of which they formally named at the same time.

They did of course resurrect from synonymy *Tiliqua duperreyi* Gray, 1838.

Notwithstanding the ruling of the ICZN in 1991, in favour of Wells and Wellington's works and a second ruling in their favour in 2001 (ICZN 2001) arising from Sprackland *et al.* (1997) and the ongoing availability of the Wells and Wellington names to the biological sciences, a group known as the Wolfgang Wüster gang of thieves have pressured publishing authors not to use or adopt the Wells and Wellington names (see Hoser 2007, 2009, 2012a, 2012b, 2013, 2015 a-f and sources therein).

This attack has been at numerous levels, ranging from control of editors of journals, lies, defamation and a number of anti-science tactics.

Central in all this has been a general proposition put by them that the taxonomy of Wells and Wellington is simply wrong and that therefore their names need not be used.

A clear example of this is seen in the online database they effectively control and censor, called "*The Reptile database*", now marketed as the "go to" reference for herpetological taxonomy and nomenclature.

Online at:

<https://reptile-database.reptarium.cz>

and optimized for Google (via so-called search engine optimisation), this website comes up for searches for most species of reptile globally when searched for by scientific name.

Once there, the internet user is fed the warped and twisted world view of reptile taxonomy as promulgated by Wolfgang Wüster and his gang of thieves.

In terms of the genus *Acritoscincus*, the name was over-written

by Hutchinson *et al.* in 1990, with their own coined version *Bassiana*, both with the type species of *Tiliqua duperreyi* Gray, 1838.

Hutchinson *et al.* (1990) chose to over-write the Wells and Wellington name in anticipation of the ICZN ruling against Wells and Wellington and so they sought to "beat the rush" of other herpetologists stealing the work of Wells and Wellington to name the dozens of newly available to be named taxa.

Because the ICZN ruled in favour of Wells and Wellington in 1991, the name *Acritoscincus* has date priority over *Bassiana* and so it is the correct scientific name.

Because *Bassiana* has the same type species as *Acritoscincus* it is an objective synonym and is therefore simply an unavailable name for nomenclatural purposes in zoology.

Notwithstanding this, the name *Bassiana* has been improperly used by publishing authors in Australia for the relevant species in more recent times, including Cogger (2000) (who commenced using *Acritoscincus* in his books in Cogger 2014, as well as in a revised edition), Flatt *et al.* (2001), Dubey and Shine (2010) and Dissanayake *et al.* (2021).

Two of the last three cited papers all had Richard Shine, the main protagonist against Wells and Wellington listed as a co-author, while the most recent one Dissanayake *et al.* (2021), was co-authored by Arthur Georges, who has aggressively overwritten a number of Wells, or Wells and Wellington names in acts of attempted name authority theft, also in direct breach of the *International Code of Zoological Nomenclature*, making him a major protagonist against Wells and Wellington.

As of 2022, most publishing authors including Cogger (2014), represented the "popular" or "consensus" view of Australian reptile taxonomy, or at times, the Wüster gang view being foisted on all others.

That is not to say their view is correct.

In fact from it.

However this is what is put as "correct" in places and publications they control, including for example "The Reptile Database".

Science has however continued and it has become increasingly self-evident that each of the two species recognized by Cogger *et al.* (1983) are composite.

To that effect, the name *Tiliqua duperreyi* Gray, 1838 has been resurrected from synonymy for the eastern Australian species and appears as a valid species in for example Cogger (2014) and numerous other contemporary texts.

No publishing herpetologist that I am aware of, has however sought to recognize either of the taxa named by Wells and Wellington, in 1985 with *Acritoscincus buddeni* Wells and Wellington, 1985 being synonymised with *A. duperreyi* and *A. donnellani* Wells and Wellington, 1985 being synonymised with *A. platynotus* (Peters, 1881), these both being the earlier named taxa which are most closely related to the newly named forms.

This remains the case even after publication of Hoser (2007).

This continued non-recognition of either taxon as valid has occurred in the face of the molecular results of both Dubey and Shine (2010) and Dissanayake *et al.* (2021) which not only confirmed the validity of each, but also provided evidence of several other potentially unnamed species.

In the face of the preceding, and as part of an ongoing audit of the Australian herpetology, I had no choice but to revisit the earlier works just cited to determine which putative taxa were identifiable as valid species and needed to be recognized and/or formally named as appropriate.

MATERIALS AND METHODS

A review of the relevant literature encompassing the three putative species within *Acritoscincus* Wells and Wellington, 1985, as recently defined by Cogger (2014) was conducted.

This included the molecular studies of Dubey and Shine (2010) and Dissanayake *et al.* (2021), which flagged potentially

unidentified or unnamed species or subspecies.

Specimens of each putative species from across their known ranges were inspected, including both live and dead animals as well as photos of specimens with known provenance.

The regional populations conforming to putative species identified as potentially unnamed species by Dubey and Shine (2010) and Dissanayake *et al.* (2021) were inspected as were other unsampled populations, these usually being outlier populations, including some known to be separated by previously determined biogeographical barriers.

The detailed work of Pengilley (1972), evidently relied upon by Wells and Wellington in 1985, was useful, even though Pengilley's ultimate conclusions were not matched here.

The lizards were inspected with a view to confirming if there were consistent identifiable differences between putative species enabling formal descriptions to be made as required. The taxonomic history of the relevant lizards is summarized in Cogger *et al.* (1983) save for the changes of Wells and Wellington (1984, 1985), there being no changes in taxonomy or nomenclature since then, bar the work of Hutchinson *et al.* (1990), which for reasons already explained is now wholly irrelevant and simply a cluttering of the scientific literature in the form of unscientific taxonomic vandalism.

Literature relevant to the taxonomic conclusions herein, including other recent splits of putative species from south-east Australia include the following:

Cogger (2014), Cogger *et al.* (2013), Greer (1982), Dissanayake *et al.* (2021), Dubey and Shine (2010), Duméril and Bibron (1839), Flatt *et al.* (2001), Gray (1838), Haines *et al.* (2014), Hoser (2016a, 2020 a-e), Hutchinson and Donnellan (1988, 1992), Hutchinson *et al.* (1990), Jenkins and Bartell (1980), Joyce (2003), Miner and Rosengren (2019), Pengilley (1972), Peters (1881), Rawlinson (1974), Schäuble *et al.* (2000), Smith (1937), Wells and Wellington (1984, 1985) and sources cited therein.

RESULTS

The taxonomy of the relevant putative species of lizards broadly conforms with that of Dubey and Shine (2010) and Dissanayake *et al.* (2021).

In terms of each of the relevant putative taxa, I was able to find consistently different characters between each of the different forms, enabling identification of each in the field or in the lab.

In terms of the three currently recognized putative species (as per Cogger 2014), namely *A. duperreyi*, *A. trilineatus* and *A. platynotus* all were identified as composite (or species groups), which is in line with the general findings of Dubey and Shine (2010) and Dissanayake *et al.* (2021).

The Wells and Wellington taxa, *A. buddeni* and *A. donnellani* are therefore formally resurrected from synonymy.

I note that this should have been the case arising from the publication of Dubey and Shine (2010) and not something I should be forced to do 12 years later!

Notwithstanding some findings of potential geologically recent gene flow across Bass Strait between *A. buddeni* and *A. duperreyi* by Dissanayake *et al.* (2021), I tentatively continue to recognize *A. buddeni* as a full species as opposed to downgrading the taxon to subspecies.

In summary:

Putative *A. duperreyi* is split seven ways, with five species formally named herein as new within this species group.

Dubey and Shine (2010) wrote of the five lineages herein formally named as new species:

"Within *B. duperreyi*, the estimates dates of divergence between the major lineages began in the Upper Miocene and/or Upper Pliocene (3.9 Myr, 95% HPD: 3.6-5.9; 4.8, 95% HPD 4.2-6.6; 5.7 Myr, 95% HPD: 4.7-6.6; 3.3 Myr, 95% HPD: 2.6-3.7), depending on the calibration method."

2.6-6.6 MYA is clearly species-level divergence.

A. trilineatus is split two ways, with one new species named herein.

This is a second distinctive species group.

In terms of the newly named species *A. davidmerceicai* sp. nov. Dubey and Shine (2010) wrote that the divergence:

"within *B. trilineata* (was) from the Lower Pliocene to the Lower Pleistocene between the two main lineages (3.3 Myr, 95% HPD: 1.9-3.8; 3.7, 95% HPD 2.3-4.3; 3.0 Myr, 95% HPD: 2.5-4.3; 1.7 Myr, 95% HPD: 1.4-2.4), again depending on the calibration method."

1.4-4.3 MYA is again clearly species-level divergence.

A. platynotus the third main species group is split four ways, with two new species named herein as well as a new subspecies.

In terms of putative *A. duperreyi* the taxa named generally reflect divisions of the western populations along the same lines as Dubey and Shine (2010) and Dissanayake *et al.* (2021).

I note here that in terms of *A. trilineatus*, I did not concur with Greer 1982, that there were two distinctive forms of *A. trilineatus* in south-western western Australia. Put another way, the local differences I observed between specimens was not of the species or subspecies level.

This position was also confirmed by Dubey and Shine (2010).

The eastern (South Australian) population is morphologically distinct, geographically separate and therefore formally named as a new species, which is also reflected by the genetic data of Dubey and Shine (2010).

For the *A. platynotus* species group, the split is not strictly in line with that of Dubey and Shine (2010).

The type specimen of *A. platynotus* (Peters, 1881), for which I have seen a published photograph clearly conforms to the coastal NSW form from around Sydney, New South Wales and so that is the type form of that species.

A. donnellani is of the lower New England Tableland population. The Southern New South Wales population with a divergence of about 3 MYA is formally named *A. katrinahoserae* sp. nov..

An isolated population from the Girraween National Park area in southern Queensland is formally named *A. paulwoolfi* sp. nov..

The population from Morton National Park and Kanangra Walls in New South Wales is regarded as conspecific with the type form of *A. platynotus*, but is sufficiently divergent to warrant being treated as a subspecies (based on a divergence of about 1 MYA) and so is formally named herein as *A. platynotus diversus* subsp. nov..

For the preceding newly named species Dubey and Shine (2010) wrote:

"Within *B. platynotus*, the splits between the major lineages began in the Lower and Upper Pliocene (3.2 Myr, 95% HPD: 3.2-5.3; 4.3, 95% HPD 3.7-5.9; 4.4 Myr, 95% HPD: 4.1-5.9; 2.3 Myr, 95% HPD: 2.3-3.3)."

2.2-5.9 MYA is clearly species-level divergence for the relevant taxa.

Dubey and Shine (2010) also gave divergences for each of the three main species groups in the vicinity of 10 MYA or longer, this being treated as genus-level division for many other vertebrates and reptiles.

These species groups diverged between 7.9 to 19.3 MYA depending on method of estimation, with most being well in excess of 10 MYA.

To that effect, each are placed in subgenera, two formally named for the first time.

All the preceding is done in accordance with the rules of the International Code of Zoological Nomenclature (Ride *et al.* 1999, as amended online since).

While previously named taxa are not explicitly redefined in this paper, they are in effect redefined by virtue of the descriptions of the new forms, which in turn separate them from the previously named forms.

As part of the diagnosis for each genus, subgenus, species or subspecies, the species groups or similar are also separated from other relevant forms.

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 (ICZN).

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

In the unlikely event two or more newly named taxa are deemed to be the same 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 was downloaded and checked most recently as of 19 April 2022 (including if also viewed prior), unless otherwise stated and was accurate in terms of the content cited herein as of that date. Any online citations within this paper, including copied emails and the like, are not as a rule cited in the references part of this paper and have the same most recent viewing date as just given.

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

SVL or SV means snout-vent length, TL means tail length, preanal pores = precloacal pores, preanal = precloacal, tail measurements refer to original tails, max. size refers to maximum known, sometimes approximated up to the nearest 10 mm if number of measured specimens is below 10.

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

CONSERVATION STATUS OF THE RELEVANT TAXA

Using accepted criteria, none of the relevant species are of immediate conservation concern. However on a larger time frame (hundreds of years), the comments in Hoser (1989, 1991, 1993 and 1996) apply, as do the comments in Hoser (2019a, 2019b).

GENUS *ACRITOSCINCUS* WELLS AND WELLINGTON, 1985

Type species: *Tiliqua duperreyi* Gray, 1838.

Diagnosis: Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal

reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that and light striping on the flanks of the body. Upper labials usually white or whitish.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* and the subgenus *Labialalbum subgen. nov.* have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus subgen. nov.* there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum subgen. nov.* by the presence of a pale mid lateral stripe with a prominent border, versus one that is ill-defined in *Labialalbum subgen. nov.*

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA.

The content of the subgenus *Acritoscincus* is the seven species listed as follows: *Acritoscincus duperreyi* (Gray, 1838) (type species); *A. adelynhoserae sp. nov.*; *A. buddeni* Wells and Wellington, 1985; *A. jackyhoserae sp. nov.*; *A. granti sp. nov.*; *A. taipanbarnetti sp. nov.*; *A. tybarnetti sp. nov.*

Distribution: *Acritoscincus* occurs in the cooler parts of southern Australia, from upland parts of far south-east Queensland, through, New South Wales, Victoria, Tasmania and far southern South Australia, to south-western Australia.

Etymology: Taken from Wells and Wellington, 1985.

"*Etymology:* *Acritoscincus*, from Akritos - mixed, scincus - skink, and alludes to the previous assemblage when this group was placed within the genus *Leiopisma*."

Content: *Acritoscincus duperreyi* (Gray, 1838) (type species); *A. adelynhoserae sp. nov.*; *A. buddeni* Wells and Wellington, 1985; *A. davidmerceicai sp. nov.*; *A. donnellani* Wells and Wellington, 1985; *A. jackyhoserae sp. nov.*; *A. katrinahoserae sp. nov.*; *A. paulwoolfi sp. nov.*; *A. platynotus* (Peters, 1881); *A. granti sp. nov.*; *A. taipanbarnetti sp. nov.*; *A. trilineatus* (Gray, 1838); *A. tybarnetti sp. nov.*

LABIALALBUM SUBGEN. NOV.

LSIDurn:lsid:zoobank.org:act:9540D7BA-3565-4A4C-8003-0855AB8AB60F

Type species: *Acritoscincus (Labialalbum) davidmerceicai sp. nov.*

Diagnosis: Species in each of the newly identified subgenera including *Labialalbum subgen. nov.* are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* and the subgenus *Labialalbum subgen. nov.* have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the third subgenus *Celerscincus subgen. nov.* there is no indication of pale striping running down the back in that subgenus.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum subgen. nov.* by the presence of a pale mid lateral stripe with a prominent border, versus one that is ill-defined in *Labialalbum subgen. nov.*

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA.

Distribution: South-western Western Australia, west of the Nullarbor and also in the far south of the Eyre Peninsula in South Australia.

Etymology: The new subgenus name *Labialalbum* derives from reference to the labial scales and the Latin word album or white, referring to the colour of these scales in the relevant species.

Content: *Acritoscincus (Labialalbum) davidmerceicai sp. nov.* (type species): *A. (Labialalbum) trilineatus* (Gray, 1838).

CELERSCINCUS SUBGEN. NOV.

LSIDurn:lsid:zoobank.org:act:A6AAFD5C-E074-481D-AD21-2BF7759AAACB

Type species: *Acritoscincus (Celerscincus) katrinahoserae sp. nov.*

Diagnosis: Species in each of the newly identified subgenera including *Celerscincus subgen. nov.* are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* and the subgenus *Labialalbum subgen. nov.* have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the third subgenus *Celerscincus subgen. nov.* there is no indication of pale striping running down the back in that subgenus.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum subgen. nov.* by the presence of a pale mid lateral stripe with a prominent border, versus one that is ill-defined in *Labialalbum subgen. nov.*

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding

males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA.

This subgenus as recognized herein includes four species, two of which are newly named, as well as a single newly named subspecies.

Distribution: Coast and ranges of New South Wales, Australia just entering Queensland in the far south-east in the Granite Belt and into far north-east Victoria on the coast and nearby ranges, generally in rocky areas.

Etymology: The new subgenus name *Celerscincus* derives from the Latin word "celer" meaning fast in reference to the fact that in terms of movement at high temperatures this is a very fast moving type of skink, especially as compared to other species of similar size inhabiting the same areas.

Content: *Acritoscincus (Celerscincus) katrinahoserae sp. nov.* (type species); *A. (Celerscincus) donnellani* Wells and Wellington, 1985; *A. (Celerscincus) paulwoolfi sp. nov.*; *A. (Celerscincus) platynotus* (Peters, 1881).

ACRITOSCINCUS (ACRITOSCINCUS) ADELYNHOSERAE SP. NOV.

LSIDurn:lsid:zoobank.org:act:DFC43E6C-7D7C-40ED-9043-29D97D5E420E

Holotype: A preserved specimen in the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D53755 collected from Granite Road, 5 km North, north-east of Anakie, Victoria, Australia, Latitude -37.87 S., Longitude 144.27 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Three preserved specimens in the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D53426-8 all collected from 0.6 km North of the Yarringa Boat Ramp, North of Hastings, Victoria, Australia, Latitude -38.23 S., Longitude 145.23 E.

2/ Three preserved specimens in the Museum of Comparative Zoology, Harvard University in Cambridge, Massachusetts, USA, specimen numbers MCZ 61394-61396 collected from Dreeite, near Colac, Victoria, Australia, Latitude 38.1690 S., Longitude 143.5024 E.

Diagnosis: The species *Acritoscincus adelynhoserae sp. nov.* has until now been treated by most authors as a population of *Acritoscincus duperreyi* (Gray, 1838) *sensu lato* as per Dissanayake *et al.* (2021), noting that they regarded this as a potentially unnamed species.

Acritoscincus duperreyi (Gray, 1838) *sensu lato* as defined by Cogger (2014) and most other authors is herein treated as the following seven species, being:

Acritoscincus duperreyi (Gray, 1838) (type species), herein treated as being confined to Tasmania and the islands immediately offshore to the north.

A. adelynhoserae sp. nov. being found on the Mornington Peninsula south-east of Melbourne, including the shores of Western Port Bay, throughout the Melbourne metropolitan area, but mainly on the outskirts, or (nowadays rarely) larger reserves closer to the city, and west and south-west to about Colac, Victoria.

A. buddeni Wells and Wellington, 1985 herein tentatively treated as a separate species to *A. duperreyi* being a species from the ACT and nearby parts of New South Wales and north-east Victoria.

A. jackyhoserae sp. nov. restricted to the Grampians in western Victoria.

A. granti sp. nov. from the hills east of Adelaide and cooler environs in South Australia.

A. taipanbarnetti sp. nov. from Kangaroo Island, South Australia.

A. tybarnetti sp. nov. from the south-east of South Australia.

With the exception of between the species *A. duperreyi* and *A. buddeni*, no evidence has been published suggesting recent gene flow between any of these taxa.

The five newly named species in this subgenus are readily separated from the other two previously named species (*A. duperreyi* and *A. buddeni*) by the following unique suite of characters:

A/ The vertebral stripe is a continuous (line) or occasionally somewhat broken (lines plus spots), except for *A. jackyhoseræ* sp. nov. (see below), versus mostly obviously broken or as spots in *A. duperreyi* and *A. buddeni* (rarely continuous in a few specimens of *A. duperreyi*).

B/ Upper light line does not sit wholly over a row of scales (as it does in *A. duperreyi* and *A. buddeni*).

C/ Dark lateral band at midbody is normally on scale row 3, as opposed to 4 in *A. duperreyi* and *A. buddeni* as well as for *A. (Labialalbum) trilineatus* and *A. (Labialalbum) merceicai* sp. nov..

D/ Lower light line is on scale rows 6 and 7, and bordered below by a dark line versus not so in *A. buddeni*, and only with black spotting in a linear form in *A. duperreyi*.

E/ 7 or 8 lower labials, usually 7; 5-7 lower labials, usually 5 or 6; 4-6 supraciliaries, usually 5;

7-10 upper ciliaries; 8-15 lower ciliaries; 39-51 fore toe subdigital lamellae; 53-72 hind toe subdigital lamellae; 25-31 midbody scale rows.

A. buddeni is separated from *A. duperreyi* by having a light brown, versus dark copper brown dorsum and that the lower light line on the flank has no obvious border, versus one that has black spotting in a linear form in *A. duperreyi*.

The five newly named species *A. adelynhoseræ* sp. nov., *A. jackyhoseræ* sp. nov., *A. granti* sp. nov., *A. taipanbarnetti* sp. nov. and *A. tybarnetti* sp. nov. are separated from one another by the following unique combinations of characters:

A. adelynhoseræ sp. nov. has a mainly chocolate brown dorsum with a well-defined continuous thick, shiny black mid-dorsal stripe commencing from the back of the head and onto the anterior part of the tail, beyond which it breaks up and disintegrates; between the mid-dorsal stripe and the white lateral stripe at the top of the flanks is black spotting running down the back indicative of a dorso-lateral stripe; the white lateral stripe at the top of the flanks is also bounded at the top by a well defined shiny black line and below by the thick black lateral band, with a well defined white band below and below that a well-defined black lower border, with a mainly unmarked white venter. Upper labials are white and either unmarked or with only scattered flecks or scattered tiny spots only. Upper surfaces of the anterior limbs are heavily mottled black.

Many specimens have black spotting on the otherwise dark brown upper surface of the head.

Tail tapers reddish.

A. jackyhoseræ sp. nov. is mainly brown on the dorsum with the mid-dorsal stripe barely visible or distinct, being thin (much less than a scale wide), broken in parts and not going beyond the pelvic region onto the tail. The tail is distinctly lighter and more greyish in colour. No obvious spotting or blotches are on the brown coloured upper surface of the head.

The upper boundary of the yellow or white lines on the top of the flanks is thin and barely discernible and greyish in colour, not black. The upper surfaces of the anterior limbs are mainly grey brown in colour with scattered dark spots or lines on the angles of the limbs.

A. granti sp. nov. has a strong greyish wash through the brown dorsum colouration. The mid-dorsal line is black in colour, but is quite evidently of irregular thickness as it runs down the body.

The black boundary of the upper surface of the white band at the

top of each flank has a jagged edge. The white band on the lower flank is peppered with grey. The brown coloured upper surface of the head may or may not have scattered tiny spots or flecks. Many specimens have scattered black spotting running in lines down either side of the back between the mid dorsal stripe and the top of the flanks.

Tail tapers greyish.

A. taipanbarnetti sp. nov. is similar in appearance in most respects to *A. granti* sp. nov. (see above), but is separated from that species by the presence of grey peppering on the very white upper labials and a greyish-brown as opposed to brown upper surface of the head. The head of this species is obviously marked with darker brownish-black patches within some or most dorsal scales.

Peppering forms a greyish stripe on either side of the upper surface of the anterior tail.

A. taipanbarnetti sp. nov. is further separated from the other four species by extensive cream coloured areas on the sides of the neck and fore-flanks which in turn have scattered brown or grey peppering.

A. tybarnetti sp. nov. is readily separated from all the preceding species by a dorsum that to a large extent merges the intensity of the contrasting colours on the dorsum and flanks. The mid dorsal stripe is thick and even along its length, but dark grey as opposed to black. The black lateral stripe is also reduced in intensity, to be dark grey, but the intensity is not reduced as much as the mid-dorsal stripe. The white line along the upper surface of the flank is jagged edged above and below and in turn bounded above by a thick greyish-black line which is not at all jagged edged at the mid body side and 2-3 times as thick as the white line it borders.

The white line on the lower flanks is reduced in width to be less than one scale wide and bound at the bottom by a series of well-defined black triangles on a white background, these triangles being wider than the line itself above. The upper surface of that line is also jagged edged and therefore appears to be somewhat indistinct.

The light brown head is heavily spotted with grey or brown; the upper anterior labials are spotted grey or brown. Forelimbs are light grey with dark flecks or spots.

White surfaces on the sides of the back of the head and neck are heavily peppered with grey spots or flecks. Tail becomes mainly grey.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for above) and the subgenus *Labialalbum* subgen. nov. have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Colour images of *A. adelynhoseræ* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/108930882>

and
<https://www.inaturalist.org/observations/61070498>
 and
<https://www.inaturalist.org/observations/72589131>
 and
<https://www.inaturalist.org/observations/35083376>
 and
<https://www.inaturalist.org/observations/76346912>
 A colour image of *A. adelynhoserae* sp. nov. in life can be found online at:
<https://www.inaturalist.org/observations/85406397>
 Colour images of *A. granti* sp. nov. in life can be found online at:
<https://www.inaturalist.org/observations/75138008>
 and
<https://www.inaturalist.org/observations/57632755>
 and
<https://www.inaturalist.org/observations/88775040>
 Colour images of *A. tybarnetti* in life can be found online at:
<https://www.inaturalist.org/observations/96410777>
 and
<https://www.inaturalist.org/observations/105075526>
 Colour images of *A. duperreyi* in life can be found online at:
<https://www.inaturalist.org/observations/101430422>
 and
<https://www.inaturalist.org/observations/35913907>
 and
<https://www.inaturalist.org/observations/36463417>
 and
<https://www.inaturalist.org/observations/87192890>
 Colour images of *A. buddeni* in life can be found in Hoser (1989) at page 103, in second image down from top and online at:
<https://www.inaturalist.org/observations/34894404>
 Dubey and Shine (2010) wrote of the five lineages herein formally named as new species:
 “Within *B. duperreyi*, the estimates dates of divergence between the major lineages began in the Upper Miocene and/or Upper Pliocene (3.9 Myr, 95% HPD: 3.6-5.9; 4.8, 95% HPD 4.2-6.6; 5.7 Myr, 95% HPD: 4.7-6.6; 3.3 Myr, 95% HPD: 2.6-3.7), depending on the calibration method.”
 2.6-6.6 MYA is clearly species-level divergence.
 Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:
 Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.
 Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.
Distribution: *A. adelynhoserae* sp. nov. occurs on the Mornington Peninsula south-east of Melbourne, including the shores of Western Port Bay, throughout the Melbourne metropolitan area, but mainly on the outskirts, or (nowadays rarely) larger reserves closer to the city, and west and south-west to about Colac, Victoria.
Etymology: *A. adelynhoserae* sp. nov. is named in honour of my eldest daughter, Adelyn Kimberley Hoser, born in 1999 in

recognition of more than two decades of thankless work with wildlife conservation and education, including with Snakebusters: Australia's best reptiles shows, being the only reptile shows in Australia that are hands on and let people hold the animals.

In July 2011, Adelyn Hoser, then aged 12 proudly volunteered to take bites from surgically de venomized snakes at a public wildlife display at the Melton Shopping Mall (Victoria), to shatter a lie being peddled by Helen McCracken, a head veterinary surgeon at Melbourne Zoo at Zoos Victoria, that surgically de venomized snakes owned by Snakebusters had regenerated venom.

In a later court case relating to the McCracken lies and the bites by the de venomized snakes, including an Inland Taipan and Death Adder, three Supreme Court judges found in 2014 that her actions were appropriate bearing in mind the damage the lies of McCracken were causing to the Hoser wildlife display business and wildlife conservation and education generally. A year later, in 2015, VCAT Judge Gerard Butcher, also found against the lies of McCracken, leading him to state they had made Adelyn Hoser's volunteering to take bites to shatter the lies as wholly justified and the best way to prove as fact that the de venomized snakes had not and could not ever regenerate venom.

ACRITOSCINCUS (ACRITOSCINCUS) JACKYHOSERA SP. NOV.

LSIDurn:lsid:zoobank.org:act:674495C5-D674-468C-B0A3-77C0886F2D78

Holotype: A preserved adult female specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D34914 collected from the Mount Rosea Track, Tower Hill, Grampians, Victoria, Australia, Latitude -37.2 S., Longitude 142.47 E. This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D39513 and D39514 collected from 6.4 km west of Mount Rosea at the Black Range camping area, Grampians, Victoria, Australia, Latitude -37.2 S., Longitude 142.42 E.

Diagnosis: The species *Acritoscincus jackyhoserae* sp. nov. has until now been treated by most authors as a population of *Acritoscincus duperreyi* (Gray, 1838) *sensu lato* as per Dubey and Shine (2010) and/or Dissanayake *et al.* (2021), noting that they regarded this as a potentially unnamed species.

Acritoscincus duperreyi (Gray, 1838) *sensu lato* as defined by Cogger (2014) and most other authors is herein treated as the following seven species, being:

Acritoscincus duperreyi (Gray, 1838) (type species), herein treated as being confined to Tasmania and the islands immediately offshore to the north.

A. adelynhoserae sp. nov. being found on the Mornington Peninsula south-east of Melbourne, including the shores of Western Port Bay, throughout the Melbourne metropolitan area, but mainly on the outskirts, or (nowadays rarely) larger reserves closer to the city, and west and south-west to about Colac, Victoria.

A. buddeni Wells and Wellington, 1985 herein tentatively treated as a separate species to *A. duperreyi* being a species from the ACT and nearby parts of New South Wales and north-east Victoria.

A. jackyhoserae sp. nov. restricted to the Grampians in western Victoria.

A. granti sp. nov. from the hills east of Adelaide and cooler environs in South Australia.

A. taipanbarnetti sp. nov. from Kangaroo Island, South Australia.

A. tybarnetti sp. nov. from the south-east of South Australia.

With the exception of between the species *A. duperreyi* and *A. buddeni*, no evidence has been published suggesting recent gene flow between any of these taxa.

The five newly named species in this subgenus are readily separated from the other two previously named species (*A. duperreyi* and *A. buddeni*) by the following unique suite of characters:

A/ The vertebral stripe is a continuous (line) or occasionally somewhat broken (lines plus spots), except for *A. jackyhoseræ* sp. nov. (see below), versus mostly obviously broken or as spots in *A. duperreyi* and *A. buddeni* (rarely continuous in a few specimens of *A. duperreyi*).

B/ Upper light line does not sit wholly over a row of scales (as it does in *A. duperreyi* and *A. buddeni*).

C/ Dark lateral band at midbody is normally on scale row 3, as opposed to 4 in *A. duperreyi* and *A. buddeni* as well as for *A. (Labialalbum) trilineatus* and *A. (Labialalbum) merceicai* sp. nov..

D/ Lower light line is on scale rows 6 and 7, and bordered below by a dark line versus not so in *A. buddeni*, and only with black spotting in a linear form in *A. duperreyi*.

E/ 7 or 8 lower labials, usually 7; 5-7 lower labials, usually 5 or 6; 4-6 supraciliaries, usually 5;

7-10 upper ciliaries; 8-15 lower ciliaries; 39-51 fore toe subdigital lamellae; 53-72 hind toe subdigital lamellae; 25-31 midbody scale rows.

A. buddeni is separated from *A. duperreyi* by having a light brown, versus dark copper brown dorsum and that the lower light line on the flank has no obvious border, versus one that has black spotting in a linear form in *A. duperreyi*.

The five newly named species *A. adelynhoseræ* sp. nov., *A. jackyhoseræ* sp. nov., *A. granti* sp. nov., *A. taipanbarnetti* sp. nov. and *A. tybarnetti* sp. nov. are separated from one another by the following unique combinations of characters:

A. adelynhoseræ sp. nov. has a mainly chocolate brown dorsum with a well-defined continuous thick, shiny black mid-dorsal stripe commencing from the back of the head and onto the anterior part of the tail, beyond which it breaks up and disintegrates; between the mid-dorsal stripe and the white lateral stripe at the top of the flanks is black spotting running down the back indicative of a dorso-lateral stripe; the white lateral stripe at the top of the flanks is also bounded at the top by a well defined shiny black line and below by the thick black lateral band, with a well defined white band below and below that a well-defined black lower border, with a mainly unmarked white venter. Upper labials are white and either unmarked or with only scattered flecks or scattered tiny spots only. Upper surfaces of the anterior limbs are heavily mottled black.

Many specimens have black spotting on the otherwise dark brown upper surface of the head.

Tail tapers reddish.

A. jackyhoseræ sp. nov. is mainly brown on the dorsum with the mid-dorsal stripe barely visible or distinct, being thin (much less than a scale wide), broken in parts and not going beyond the pelvic region onto the tail. The tail is distinctly lighter and more greyish in colour. No obvious spotting or blotches are on the brown coloured upper surface of the head.

The upper boundary of the yellow or white lines on the top of the flanks is thin and barely discernible and greyish in colour, not black. The upper surfaces of the anterior limbs are mainly grey brown in colour with scattered dark spots or lines on the angles of the limbs.

A. granti sp. nov. has a strong greyish wash through the brown dorsum colouration. The mid-dorsal line is black in colour, but is quite evidently of irregular thickness as it runs down the body. The black boundary of the upper surface of the white band at the top of each flank has a jagged edge. The white band on the lower flank is peppered with grey. The brown coloured upper surface of the head may or may not have scattered tiny spots of flecks. Many specimens have scattered black spotting running in lines down either side of the back between the mid dorsal stripe and the top of the flanks.

Tail tapers greyish.

A. taipanbarnetti sp. nov. is similar in appearance in most respects to *A. granti* sp. nov. (see above), but is separated from that species by the presence of grey peppering on the very white upper labials and a greyish-brown as opposed to brown upper surface of the head. The head of this species is obviously marked with darker brownish-black patches within some or most dorsal scales.

Peppering forms a greyish stripe on either side of the upper surface of the anterior tail.

A. taipanbarnetti sp. nov. is further separated from the other four species by extensive cream coloured areas on the sides of the neck and fore-flanks which in turn have scattered brown or grey peppering.

A. tybarnetti sp. nov. is readily separated from all the preceding species by a dorsum that to a large extent merges the intensity of the contrasting colours on the dorsum and flanks. The mid dorsal stripe is thick and even along its length, but dark grey as opposed to black. The black lateral stripe is also reduced in intensity, to be dark grey, but the intensity is not reduced as much as the mid-dorsal stripe. The white line along the upper surface of the flank is jagged edged above and below and in turn bounded above by a thick greyish-black line which is not at all jagged edged at the mid body side and 2-3 times as thick as the white line it borders.

The white line on the lower flanks is reduced in width to be less than one scale wide and bound at the bottom by a series of well-defined black triangles on a white background, these triangles being wider than the line itself above. The upper surface of that line is also jagged edged and therefore appears to be somewhat indistinct.

The light brown head is heavily spotted with grey or brown; the upper anterior labials are spotted grey or brown. Forelimbs are light grey with dark flecks or spots.

White surfaces on the sides of the back of the head and neck are heavily peppered with grey spots or flecks. Tail becomes mainly grey.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for above) and the subgenus *Labialalbum* subgen. nov. have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Colour images of *A. adelynhoseræ* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/108930882>

and

<https://www.inaturalist.org/observations/61070498>

and

<https://www.inaturalist.org/observations/72589131>

and

<https://www.inaturalist.org/observations/35083376>

and

<https://www.inaturalist.org/observations/76346912>

A colour image of *A. adelynjackyhoserae* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/85406397>

Colour images of *A. granti* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/75138008>

and

<https://www.inaturalist.org/observations/57632755>

and

<https://www.inaturalist.org/observations/88775040>

Colour images of *A. tybarnetti* in life can be found online at:

<https://www.inaturalist.org/observations/96410777>

and

<https://www.inaturalist.org/observations/105075526>

Colour images of *A. duperreyi* in life can be found online at:

<https://www.inaturalist.org/observations/101430422>

and

<https://www.inaturalist.org/observations/35913907>

and

<https://www.inaturalist.org/observations/36463417>

and

<https://www.inaturalist.org/observations/87192890>

Colour images of *A. buddeni* in life can be found in Hoser (1989) at page 103, in second image down from top and online at:

<https://www.inaturalist.org/observations/34894404>

Dubey and Shine (2010) wrote of the five lineages herein formally named as new species:

"Within *B. duperreyi*, the estimates dates of divergence between the major lineages began in the Upper Miocene and/or Upper Pliocene (3.9 Myr, 95% HPD: 3.6-5.9; 4.8, 95% HPD 4.2-6.6; 5.7 Myr, 95% HPD: 4.7-6.6; 3.3 Myr, 95% HPD: 2.6-3.7), depending on the calibration method."

2.6-6.6 MYA is clearly species-level divergence.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Distribution: *A. jackyhoserae* sp. nov. appears to be restricted to the Grampians in western Victoria, Australia.

Etymology: *A. jackyhoserae* sp. nov. is named in honour of my youngest daughter, Jacky Indigo Hoser, born in 2001 in recognition of more than two decades of thankless work with wildlife conservation and education, including with Snakebusters: Australia's best reptiles shows, being the only reptile shows in Australia that are hands on and let people hold the animals.

On 10 August 2011 at age 10, Jacky Hoser was violently arrested by police while in her classroom at school and then viciously assaulted, after it was reported in the tabloid media that she had volunteered to take bites from de venomized snakes to prove they were safe.

The arrest and assault were wholly illegal and occurred as a

result of a campaign by Zoos Victoria to attack the Hoser wildlife education business, they saw as a potential threat to the Zoos Victoria monopoly on the "wildlife business" in Victoria.

She was arrested illegally again 6 days later in her own home in an unlawful nine hour armed raid.

Jacky Hoser, had volunteered to take bites from de venomized snakes in front of a shopping mall audience a month later, but had not done so on the day in question. It was her older sister Adelyn, that did so and was filmed in front of a massive crowd at the Melton Shopping Mall doing so.

It was Jacky who was arrested and assaulted because the police believed the tabloid media reports that erroneously said she was the person who had been bitten by the snakes.

Both Jacky and Adelyn had seen myself (Raymond Hoser), bitten by de venomized snakes (mainly Inland Taipan and Tiger Snakes) countless times over the previous decade and had asked what it felt like, to which they were told, "bugger all", leading them both to ask to be bitten, so they knew exactly what it felt like.

It is also important that a person handling venomous snakes that are de venomized be aware of what an innocuous bite is like, so that they do not over-react if and when a snake moves their head towards them, noting that bites are relatively uncommon anyway.

De venomized snakes can of course be handled exactly the same was any other effectively harmless non-venomous snake.

This is an essential part of the training of a snake handler in a wildlife display business working with de venomized snakes. This is particularly so, noting that both daughters had worked in the wildlife education business literally from birth.

It goes without saying that in the Hoser business, de venomizing snakes surgically involved complete removal of venom glands, and confirmation of the non-venomous state several times and in several ways, before the snakes were used in venomous snake shows and displays.

In other words, there had never been any serious possibility of venom regeneration in de venomized snakes and lie was invented purely for the commercial benefit of Zoos Victoria and other business rivals, none of whom had any interest in wildlife conservation, but instead only their own financial self-gratification.

ACRITOSCINCUS (ACRITOSCINCUS) GRANTI SP. NOV.
LSIDurn:lsid:zoobank.org:act:8729ACEA-1263-4AE1-A1BB-94A1C0A195B2

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number SAM R10641 collected from Spring Mountain, South Australia, Australia, Latitude -35.43 S., Longitude 138.53 E. This government-owned facility allows access to its holdings.

Paratypes: Five preserved specimens at the South Australian Museum, Adelaide, South Australia, Australia, specimen numbers R53557 and R53559 both collected from 4.6 km north-west of Inman Valley, South Australia, Australia, Latitude -35.4569 S., Longitude 138.4381 E.; specimen number R71215 collected from 1.9 km west north-west of Spring Mountain, South Australia, Australia, Latitude -35.4292 S., Longitude 138.5128 S.; and specimen numbers R53584 and R53587 both collected from 1.6 km west of Spring Mountain, South Australia, Australia, Latitude -35.4397 S., Longitude 138.5239 E.

Diagnosis: The species *Acritoscincus granti* sp. nov. has until now been treated by most authors as a population of *Acritoscincus duperreyi* (Gray, 1838) *sensu lato* as per Dubey and Shine (2010) and/or Dissanayake *et al.* (2021), noting that they regarded this as a potentially unnamed species.

Acritoscincus duperreyi (Gray, 1838) *sensu lato* as defined by Cogger (2014) and most other authors is herein treated as the following seven species, being:

Acritoscincus duperreyi (Gray, 1838) (type species), herein treated as being confined to Tasmania and the islands

immediately offshore to the north.

A. adelynhoserae sp. nov. being found on the Mornington Peninsula south-east of Melbourne, including the shores of Western Port Bay, throughout the Melbourne metropolitan area, but mainly on the outskirts, or (nowadays rarely) larger reserves closer to the city, and west and south-west to about Colac, Victoria.

A. buddeni Wells and Wellington, 1985 herein tentatively treated as a separate species to *A. duperreyi* being a species from the ACT and nearby parts of New South Wales and north-east Victoria.

A. jackyhoserae sp. nov. restricted to the Grampians in western Victoria.

A. granti sp. nov. from the hills east of Adelaide and cooler environs in South Australia.

A. taipanbarnetti sp. nov. from Kangaroo Island, South Australia.

A. tybarnetti sp. nov. from the south-east of South Australia.

With the exception of between the species *A. duperreyi* and *A. buddeni*, no evidence has been published suggesting recent gene flow between any of these taxa.

The five newly named species in this subgenus are readily separated from the other two previously named species (*A. duperreyi* and *A. buddeni*) by the following unique suite of characters:

A/ The vertebral stripe is a continuous (line) or occasionally somewhat broken (lines plus spots), except for *A. jackyhoserae* sp. nov. (see below), versus mostly obviously broken or as spots in *A. duperreyi* and *A. buddeni*, (rarely continuous in a few specimens of *A. duperreyi*).

B/ Upper light line does not sit wholly over a row of scales (as it does in *A. duperreyi* and *A. buddeni*).

C/ Dark lateral band at midbody is normally on scale row 3, as opposed to 4 in *A. duperreyi* and *A. buddeni* as well as for *A. (Labialalbum) trilineatus* and *A. (Labialalbum) merceicai* sp. nov..

D/ Lower light line is on scale rows 6 and 7, and bordered below by a dark line versus not so in *A. buddeni*, and only with black spotting in a linear form in *A. duperreyi*.

E/ 7 or 8 lower labials, usually 7; 5-7 lower labials, usually 5 or 6; 4-6 supraciliaries, usually 5;

7-10 upper ciliaries; 8-15 lower ciliaries; 39-51 fore toe subdigital lamellae; 53-72 hind toe subdigital lamellae; 25-31 midbody scale rows.

A. buddeni is separated from *A. duperreyi* by having a light brown, versus dark copper brown dorsum and that the lower light line on the flank has no obvious border, versus one that has black spotting in a linear form in *A. duperreyi*.

The five newly named species *A. adelynhoserae* sp. nov., *A. jackyhoserae* sp. nov., *A. granti* sp. nov., *A. taipanbarnetti* sp. nov. and *A. tybarnetti* sp. nov. are separated from one another by the following unique combinations of characters:

A. adelynhoserae sp. nov. has a mainly chocolate brown dorsum with a well-defined continuous thick, shiny black mid-dorsal stripe commencing from the back of the head and onto the anterior part of the tail, beyond which it breaks up and disintegrates; between the mid-dorsal stripe and the white lateral stripe at the top of the flanks is black spotting running down the back indicative of a dorso-lateral stripe; the white lateral stripe at the top of the flanks is also bounded at the top by a well defined shiny black line and below by the thick black lateral band, with a well defined white band below and below that a well-defined black lower border, with a mainly unmarked white venter. Upper labials are white and either unmarked or with only scattered flecks or scattered tiny spots only. Upper surfaces of the anterior limbs are heavily mottled black.

Many specimens have black spotting on the otherwise dark brown upper surface of the head.

Tail tapers reddish.

A. jackyhoserae sp. nov. is mainly brown on the dorsum with the mid-dorsal stripe barely visible or distinct, being thin (much less

than a scale wide), broken in parts and not going beyond the pelvic region onto the tail. The tail is distinctly lighter and more greyish in colour. No obvious spotting or blotches are on the brown coloured upper surface of the head.

The upper boundary of the yellow or white lines on the top of the flanks is thin and barely discernible and greyish in colour, not black. The upper surfaces of the anterior limbs are mainly grey brown in colour with scattered dark spots or lines on the angles of the limbs.

A. granti sp. nov. has a strong greyish wash through the brown dorsum colouration. The mid-dorsal line is black in colour, but is quite evidently of irregular thickness as it runs down the body. The black boundary of the upper surface of the white band at the top of each flank has a jagged edge. The white band on the lower flank is peppered with grey. The brown coloured upper surface of the head may or may not have scattered tiny spots of flecks. Many specimens have scattered black spotting running in lines down either side of the back between the mid dorsal stripe and the top of the flanks.

Tail tapers greyish.

A. taipanbarnetti sp. nov. is similar in appearance in most respects to *A. granti* sp. nov. (see above), but is separated from that species by the presence of grey peppering on the very white upper labials and a greyish-brown as opposed to brown upper surface of the head. The head of this species is obviously marked with darker brownish-black patches within some or most dorsal scales.

Peppering forms a greyish stripe on either side of the upper surface of the anterior tail.

A. taipanbarnetti sp. nov. is further separated from the other four species by extensive cream coloured areas on the sides of the neck and fore-flanks which in turn have scattered brown or grey peppering.

A. tybarnetti sp. nov. is readily separated from all the preceding species by a dorsum that to a large extent merges the intensity of the contrasting colours on the dorsum and flanks. The mid dorsal stripe is thick and even along its length, but dark grey as opposed to black. The black lateral stripe is also reduced in intensity, to be dark grey, but the intensity is not reduced as much as the mid-dorsal stripe. The white line along the upper surface of the flank is jagged edged above and below and in turn bounded above by a thick greyish-black line which is not at all jagged edged at the mid body side and 2-3 times as thick as the white line it borders.

The white line on the lower flanks is reduced in width to be less than one scale wide and bound at the bottom by a series of well-defined black triangles on a white background, these triangles being wider than the line itself above. The upper surface of that line is also jagged edged and therefore appears to be somewhat indistinct.

The light brown head is heavily spotted with grey or brown; the upper anterior labials are spotted grey or brown. Forelimbs are light grey with dark flecks or spots.

White surfaces on the sides of the back of the head and neck are heavily peppered with grey spots or flecks. Tail becomes mainly grey.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for above) and the subgenus *Labialalbum* subgen. nov. have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably

horizontally flattened and wide, versus not so in the others. *Acritoscincus* is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Colour images of *A. adelynhoserae* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/108930882>

and

<https://www.inaturalist.org/observations/61070498>

and

<https://www.inaturalist.org/observations/72589131>

and

<https://www.inaturalist.org/observations/35083376>

and

<https://www.inaturalist.org/observations/76346912>

A colour image of *A. adelynjackyhoserae* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/85406397>

Colour images of *A. granti* sp. nov. in life can be found online at:

<https://www.inaturalist.org/observations/75138008>

and

<https://www.inaturalist.org/observations/57632755>

and

<https://www.inaturalist.org/observations/88775040>

Colour images of *A. tybarnetti* in life can be found online at:

<https://www.inaturalist.org/observations/96410777>

and

<https://www.inaturalist.org/observations/105075526>

Colour images of *A. duperreyi* in life can be found online at:

<https://www.inaturalist.org/observations/101430422>

and

<https://www.inaturalist.org/observations/35913907>

and

<https://www.inaturalist.org/observations/36463417>

and

<https://www.inaturalist.org/observations/87192890>

Colour images of *A. buddeni* in life can be found in Hoser (1989) at page 103, in second image down from top and online at:

<https://www.inaturalist.org/observations/34894404>

Dubey and Shine (2010) wrote of the five lineages herein formally named as new species:

"Within *B. duperreyi*, the estimates dates of divergence between the major lineages began in the Upper Miocene and/or Upper Pliocene (3.9 Myr, 95% HPD: 3.6-5.9; 4.8, 95% HPD 4.2-6.6; 5.7 Myr, 95% HPD: 4.7-6.6; 3.3 Myr, 95% HPD: 2.6-3.7), depending on the calibration method."

2.6-6.6 MYA is clearly species-level divergence.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults

with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Distribution: *A. granti* sp. nov. is a taxon from the hills east of Adelaide and cooler environs in South Australia, including the Fleurieu Peninsula.

Etymology: The new species *A. granti* sp. nov. is named in honour of Scott Grant of Whyalla, South Australia (as of 2021), in recognition of his services to wildlife conservation. He took over the lease on the Whyalla Fauna and Reptile Park, but was within three short years forced to shut down at gunpoint in late 2021. This is because his zoo was too successful and popular with the general public. This meant that his business posed a potential threat to the business success of the government-owned zoos in Adelaide, who prefer to operate in a monopolistic environment, where they are the only or main wildlife experience for the local population.

The announcement of his shut down was in the first instance on his Facebook page where he wrote:

"Eyre Reptile & Wildlife Park, November 10, 2021

It is with regret that the operators of the Eyre Reptile and Wildlife Park and Whyalla City Council can confirm that the park is closing as of Monday 15 November.

The park has provided access to a range of wildlife for both the community of Whyalla and visitors over a number of years, helping educate students and enable children to get up-close and interact with some of their favourite animals."

In turn the Murdoch Press via the Adelaide Advertiser newspaper did on 15 November, vilified Scott Grant and his business as part of their close relationship to the State Government and doing the bidding for the government's own dysfunctional zoo business.

There was no mention in their "news stories" of the important wildlife conservation work of Grant and his hard working family.

Successful wildlife conservation enterprises in South Australia are routinely shut down by the State Government, an earlier example being the successful Warrarong Sanctuary in the Adelaide Hills, owned by John Walmsley.

The Adelaide Zoo has had some very "successful" captive breeding programs for reptiles, including for the Pygmy Bluetongued Lizard *Lazarusus adelaidensis* (Peters, 1863), see Hoser (1991 and 2016b) for more on this species and the Western Ranges Taipan *Oxyuranus temporalis* Doughty *et al.*, 2007.

The "success" of these programs is always measured by them NOT breeding the species, because if they bred them and supplied specimens to other (rival) zoos, then they would lose their monopoly on possession of the species. This would damage their income flow in the form of visitors and cash hands outs from government and business to (supposedly) try to breed these species.

Being the only source of photos of these endangered species is also a massive cash cow. To maintain this monopoly, the lizards are kept behind a double glass fronted cage, in turn with high grass tussocks at the front of the cage, making it effectively impossible for a visitor to the zoo to get any publication-grade photos of the lizards put on display.

The government-granted monopoly that the Adelaide Zoo has on the Pygmy Bluetongued Lizard has been severely undermined in recent years by Queensland based reptile collector, private zoo owner and conservationist David Merceica (see below), who was lucky to get some orphaned specimens from a wildlife rescue group in Tasmania and who has been breeding them in plague numbers ever since.

How those specimens got to Tasmania in the first instance is not known, but Merceica's acquisition of the lizards was wholly legal and much to the consternation of the Adelaide Zoo business.

ACRITOSCINCUS (ACRITOSCINCUS) TAIPANBARNETTI SP. NOV.

LSIDurn:lsid:zoobank.org:act:EE59BD1A-8594-45B1-BB3D-711E04C25F1B

Holotype: A preserved specimen at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen number C87, collected at Kangaroo Island, South Australia, Australia, Latitude -35.7620 S., Longitude 137.619 E. This government-owned facility allows access to their holdings.

Paratypes: Four preserved specimens in the South Australian Museum, Adelaide, South Australia, specimen numbers SAM R11685 collected from 6 miles east of Karatta, Kangaroo Island, South Australia, Australia, Latitude 137.05 S., Longitude -35.95 E.; SAM R37407 and R37408 both collected from 12 km east south-east of Karatta, Kangaroo Island, South Australia, Australia, Latitude -36.015 S., Longitude -137.0142 E.; and R37268 collected from 7 km north-east of Vivionne Bay, Kangaroo Island, South Australia, Australia, Latitude -35.9497 S., Longitude 137.2431 E.

Diagnosis: The species *Acritoscincus taipanbarnetti sp. nov.* has until now been treated by most authors as a population of *Acritoscincus duperreyi* (Gray, 1838) *sensu lato* as per Dubey and Shine (2010) and/or Dissanayake *et al.* (2021), noting that they regarded this as a potentially unnamed species.

Acritoscincus duperreyi (Gray, 1838) *sensu lato* as defined by Cogger (2014) and most other authors is herein treated as the following seven species, being:

Acritoscincus duperreyi (Gray, 1838) (type species), herein treated as being confined to Tasmania and the islands immediately offshore to the north.

A. adelynhoserae sp. nov. being found on the Mornington Peninsula south-east of Melbourne, including the shores of Western Port Bay, throughout the Melbourne metropolitan area, but mainly on the outskirts, or (nowadays rarely) larger reserves closer to the city, and west and south-west to about Colac, Victoria.

A. buddeni Wells and Wellington, 1985 herein tentatively treated as a separate species to *A. duperreyi* being a species from the ACT and nearby parts of New South Wales and north-east Victoria.

A. jackyhoserae sp. nov. restricted to the Grampians in western Victoria.

A. granti sp. nov. from the hills east of Adelaide and cooler environs in South Australia.

A. taipanbarnetti sp. nov. from Kangaroo Island, South Australia.

A. tybarnetti sp. nov. from the south-east of South Australia.

With the exception of between the species *A. duperreyi* and *A. buddeni*, no evidence has been published suggesting recent gene flow between any of these taxa.

The five newly named species in this subgenus are readily separated from the other two previously named species (*A. duperreyi* and *A. buddeni*) by the following unique suite of characters:

A/ The vertebral stripe is a continuous (line) or occasionally somewhat broken (lines plus spots), except for *A. jackyhoserae sp. nov.* (see below), versus mostly obviously broken or as spots in *A. duperreyi* and *A. buddeni*, (rarely continuous in a few specimens of *A. duperreyi*).

B/ Upper light line does not sit wholly over a row of scales (as it does in *A. duperreyi* and *A. buddeni*).

C/ Dark lateral band at midbody is normally on scale row 3, as opposed to 4 in *A. duperreyi* and *A. buddeni* as well as for *A. (Labialalbum) trilineatus* and *A. (Labialalbum) merceicai sp. nov.*

D/ Lower light line is on scale rows 6 and 7, and bordered below by a dark line versus not so in *A. buddeni*, and only with black spotting in a linear form in *A. duperreyi*.

E/ 7 or 8 lower labials, usually 7; 5-7 lower labials, usually 5 or 6; 4-6 supraciliaries, usually 5;

7-10 upper ciliaries; 8-15 lower ciliaries; 39-51 fore toe subdigital

lamellae; 53-72 hind toe subdigital lamellae; 25-31 midbody scale rows.

A. buddeni is separated from *A. duperreyi* by having a light brown, versus dark copper brown dorsum and that the lower light line on the flank has no obvious border, versus one that has black spotting in a linear form in *A. duperreyi*.

The five newly named species *A. adelynhoserae sp. nov.*, *A. jackyhoserae sp. nov.*, *A. granti sp. nov.*, *A. taipanbarnetti sp. nov.* and *A. tybarnetti sp. nov.* are separated from one another by the following unique combinations of characters:

A. adelynhoserae sp. nov. has a mainly chocolate brown dorsum with a well-defined continuous thick, shiny black mid-dorsal stripe commencing from the back of the head and onto the anterior part of the tail, beyond which it breaks up and disintegrates; between the mid-dorsal stripe and the white lateral stripe at the top of the flanks is black spotting running down the back indicative of a dorso-lateral stripe; the white lateral stripe at the top of the flanks is also bounded at the top by a well defined shiny black line and below by the thick black lateral band, with a well defined white band below and below that a well-defined black lower border, with a mainly unmarked white venter. Upper labials are white and either unmarked or with only scattered flecks or scattered tiny spots only. Upper surfaces of the anterior limbs are heavily mottled black.

Many specimens have black spotting on the otherwise dark brown upper surface of the head.

Tail tapers reddish.

A. jackyhoserae sp. nov. is mainly brown on the dorsum with the mid-dorsal stripe barely visible or distinct, being thin (much less than a scale wide), broken in parts and not going beyond the pelvic region onto the tail. The tail is distinctly lighter and more greyish in colour. No obvious spotting or blotches are on the brown coloured upper surface of the head.

The upper boundary of the yellow or white lines on the top of the flanks is thin and barely discernible and greyish in colour, not black. The upper surfaces of the anterior limbs are mainly grey brown in colour with scattered dark spots or lines on the angles of the limbs.

A. granti sp. nov. has a strong greyish wash through the brown dorsum colouration. The mid-dorsal line is black in colour, but is quite evidently of irregular thickness as it runs down the body. The black boundary of the upper surface of the white band at the top of each flank has a jagged edge. The white band on the lower flank is peppered with grey. The brown coloured upper surface of the head may or may not have scattered tiny spots of flecks. Many specimens have scattered black spotting running in lines down either side of the back between the mid dorsal stripe and the top of the flanks.

Tail tapers greyish.

A. taipanbarnetti sp. nov. is similar in appearance in most respects to *A. granti sp. nov.* (see above), but is separated from that species by the presence of grey peppering on the very white upper labials and a greyish-brown as opposed to brown upper surface of the head. The head of this species is obviously marked with darker brownish-black patches within some or most dorsal scales.

Peppering forms a greyish stripe on either side of the upper surface of the anterior tail.

A. taipanbarnetti sp. nov. is further separated from the other four species by extensive cream coloured areas on the sides of the neck and fore-flanks which in turn have scattered brown or grey peppering.

A. tybarnetti sp. nov. is readily separated from all the preceding species by a dorsum that to a large extent merges the intensity of the contrasting colours on the dorsum and flanks. The mid dorsal stripe is thick and even along its length, but dark grey as opposed to black. The black lateral stripe is also reduced in intensity, to be dark grey, but the intensity is not reduced as much as the mid-dorsal stripe. The white line along the upper

surface of the flank is jagged edged above and below and in turn bounded above by a thick greyish-black line which is not at all jagged edged at the mid body side and 2-3 times as thick as the white line it borders.

The white line on the lower flanks is reduced in width to be less than one scale wide and bound at the bottom by a series of well-defined black triangles on a white background, these triangles being wider than the line itself above. The upper surface of that line is also jagged edged and therefore appears to be somewhat indistinct.

The light brown head is heavily spotted with grey or brown; the upper anterior labials are spotted grey or brown. Forelimbs are light grey with dark flecks or spots.

White surfaces on the sides of the back of the head and neck are heavily peppered with grey spots or flecks. Tail becomes mainly grey.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for above) and the subgenus *Labialalbum subgen. nov.* have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus subgen. nov.* there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum subgen. nov.* by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum subgen. nov.*

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Colour images of *A. adelynhoserae sp. nov.* in life can be found online at:

<https://www.inaturalist.org/observations/108930882>

and

<https://www.inaturalist.org/observations/61070498>

and

<https://www.inaturalist.org/observations/72589131>

and

<https://www.inaturalist.org/observations/35083376>

and

<https://www.inaturalist.org/observations/76346912>

A colour image of *A. adelynjackyhoserae sp. nov.* in life can be

found online at:

<https://www.inaturalist.org/observations/85406397>

Colour images of *A. granti sp. nov.* in life can be found online at:

<https://www.inaturalist.org/observations/75138008>

and

<https://www.inaturalist.org/observations/57632755>

and

<https://www.inaturalist.org/observations/88775040>

Colour images of *A. tybarnetti* in life can be found online at:

<https://www.inaturalist.org/observations/96410777>

and

<https://www.inaturalist.org/observations/105075526>

Colour images of *A. duperreyi* in life can be found online at:

<https://www.inaturalist.org/observations/101430422>

and

<https://www.inaturalist.org/observations/35913907>

and

<https://www.inaturalist.org/observations/36463417>

and

<https://www.inaturalist.org/observations/87192890>

Colour images of *A. buddeni* in life can be found in Hoser (1989) at page 103, in second image down from top and online at:

<https://www.inaturalist.org/observations/34894404>

Dubey and Shine (2010) wrote of the five lineages herein formally named as new species:

"Within *B. duperreyi*, the estimates dates of divergence between the major lineages began in the Upper Miocene and/or Upper Pliocene (3.9 Myr, 95% HPD: 3.6-5.9; 4.8, 95% HPD 4.2-6.6; 5.7 Myr, 95% HPD: 4.7-6.6; 3.3 Myr, 95% HPD: 2.6-3.7), depending on the calibration method."

2.6-6.6 MYA is clearly species-level divergence.

Distribution: *A. taipanbarnetti sp. nov.* is a species apparently restricted to Kangaroo Island, South Australia.

Etiology: The new species *A. taipanbarnetti sp. nov.* is named in honour of Taipan Brian Joshua Barnett of Sunshine Victoria, Australia, in recognition of his services to sporting in Australia and keeping youth healthy and active in his home city of Melbourne, Australia. His main area of achievement has been in the difficult sport of Kick Boxing, where he has won a number of coveted titles.

Taipan is the son of Ty Thomas Barnett (see below), in turn son of Brian and Lani Barnett, who as part of a team, played a leading and often difficult role for decades running the Victorian Herpetological Society Incorporated.

ACRITOSCINCUS (ACRITOSCINCUS) TYBARNETTI SP. NOV.
LSIDurn:lsid:zoobank.org:act:9AF9376B-8421-445F-BA5F-432DB33734F1

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number SAM 10671 collected from Euringa, Naracoorte, South Australia, Australia, Latitude -39.67 S., Longitude 140.75 E.

This government-owned facility allows access to its holdings.

Paratypes: Six other preserved specimens at the South Australian Museum, Adelaide, South Australia, Australia, specimen numbers (SAM) R3272, R8875, R10672, 10673, R11134, R11135, all collected from Naracoorte, South Australia, Australia.

Diagnosis: The species *Acritoscincus tybarnetti sp. nov.* has until now been treated by most authors as a population of *Acritoscincus duperreyi* (Gray, 1838) *sensu lato* as per Dubey and Shine (2010) and/or Dissanayake *et al.* (2021), noting that they regarded this as a potentially unnamed species.

Acritoscincus duperreyi (Gray, 1838) *sensu lato* as defined by Cogger (2014) and most other authors is herein treated as the following seven species, being:

Acritoscincus duperreyi (Gray, 1838) (type species), herein

treated as being confined to Tasmania and the islands immediately offshore to the north.

A. adelynhoserae sp. nov. being found on the Mornington Peninsula south-east of Melbourne, including the shores of Western Port Bay, throughout the Melbourne metropolitan area, but mainly on the outskirts, or (nowadays rarely) larger reserves closer to the city, and west and south-west to about Colac, Victoria.

A. buddeni Wells and Wellington, 1985 herein tentatively treated as a separate species to *A. duperreyi* being a species from the ACT and nearby parts of New South Wales and north-east Victoria.

A. jackyhoserae sp. nov. restricted to the Grampians in western Victoria.

A. granti sp. nov. from the hills east of Adelaide and cooler environs in South Australia.

A. taipanbarnetti sp. nov. from Kangaroo Island, South Australia.

A. tybarnetti sp. nov. from the south-east of South Australia.

With the exception of between the species *A. duperreyi* and *A. buddeni*, no evidence has been published suggesting recent gene flow between any of these taxa.

The five newly named species in this subgenus are readily separated from the other two previously named species (*A. duperreyi* and *A. buddeni*) by the following unique suite of characters:

A/ The vertebral stripe is a continuous (line) or occasionally somewhat broken (lines plus spots), except for *A. jackyhoserae* sp. nov. (see below), versus mostly obviously broken or as spots in *A. duperreyi* and *A. buddeni*, (rarely continuous in a few specimens of *A. duperreyi*).

B/ Upper light line does not sit wholly over a row of scales (as it does in *A. duperreyi* and *A. buddeni*).

C/ Dark lateral band at midbody is normally on scale row 3, as opposed to 4 in *A. duperreyi* and *A. buddeni* as well as for *A. (Labialalbum) trilineatus* and *A. (Labialalbum) merceicai* sp. nov..

D/ Lower light line is on scale rows 6 and 7, and bordered below by a dark line versus not so in *A. buddeni*, and only with black spotting in a linear form in *A. duperreyi*.

E/ 7 or 8 lower labials, usually 7; 5-7 lower labials, usually 5 or 6; 4-6 supraciliaries, usually 5;

7-10 upper ciliaries; 8-15 lower ciliaries; 39-51 fore toe subdigital lamellae; 53-72 hind toe subdigital lamellae; 25-31 midbody scale rows.

A. buddeni is separated from *A. duperreyi* by having a light brown, versus dark copper brown dorsum and that the lower light line on the flank has no obvious border, versus one that has black spotting in a linear form in *A. duperreyi*.

The five newly named species *A. adelynhoserae* sp. nov., *A. jackyhoserae* sp. nov., *A. granti* sp. nov., *A. taipanbarnetti* sp. nov. and *A. tybarnetti* sp. nov. are separated from one another by the following unique combinations of characters:

A. adelynhoserae sp. nov. has a mainly chocolate brown dorsum with a well-defined continuous thick, shiny black mid-dorsal stripe commencing from the back of the head and onto the anterior part of the tail, beyond which it breaks up and disintegrates; between the mid-dorsal stripe and the white lateral stripe at the top of the flanks is black spotting running down the back indicative of a dorso-lateral stripe; the white lateral stripe at the top of the flanks is also bounded at the top by a well defined shiny black line and below by the thick black lateral band, with a well defined white band below and below that a well-defined black lower border, with a mainly unmarked white venter. Upper labials are white and either unmarked or with only scattered flecks or scattered tiny spots only. Upper surfaces of the anterior limbs are heavily mottled black.

Many specimens have black spotting on the otherwise dark brown upper surface of the head.

Tail tapers reddish.

A. jackyhoserae sp. nov. is mainly brown on the dorsum with the

mid-dorsal stripe barely visible or distinct, being thin (much less than a scale wide), broken in parts and not going beyond the pelvic region onto the tail. The tail is distinctly lighter and more greyish in colour. No obvious spotting or blotches are on the brown coloured upper surface of the head.

The upper boundary of the yellow or white lines on the top of the flanks is thin and barely discernible and greyish in colour, not black. The upper surfaces of the anterior limbs are mainly grey brown in colour with scattered dark spots or lines on the angles of the limbs.

A. granti sp. nov. has a strong greyish wash through the brown dorsum colouration. The mid-dorsal line is black in colour, but is quite evidently of irregular thickness as it runs down the body. The black boundary of the upper surface of the white band at the top of each flank has a jagged edge. The white band on the lower flank is peppered with grey. The brown coloured upper surface of the head may or may not have scattered tiny spots of flecks. Many specimens have scattered black spotting running in lines down either side of the back between the mid dorsal stripe and the top of the flanks.

Tail tapers greyish.

A. taipanbarnetti sp. nov. is similar in appearance in most respects to *A. granti* sp. nov. (see above), but is separated from that species by the presence of grey peppering on the very white upper labials and a greyish-brown as opposed to brown upper surface of the head. The head of this species is obviously marked with darker brownish-black patches within some or most dorsal scales.

Peppering forms a greyish stripe on either side of the upper surface of the anterior tail.

A. taipanbarnetti sp. nov. is further separated from the other four species by extensive cream coloured areas on the sides of the neck and fore-flanks which in turn have scattered brown or grey peppering.

A. tybarnetti sp. nov. is readily separated from all the preceding species by a dorsum that to a large extent merges the intensity of the contrasting colours on the dorsum and flanks. The mid dorsal stripe is thick and even along its length, but dark grey as opposed to black. The black lateral stripe is also reduced in intensity, to be dark grey, but the intensity is not reduced as much as the mid-dorsal stripe. The white line along the upper surface of the flank is jagged edged above and below and in turn bounded above by a thick greyish-black line which is not at all jagged edged at the mid body side and 2-3 times as thick as the white line it borders.

The white line on the lower flanks is reduced in width to be less than one scale wide and bound at the bottom by a series of well-defined black triangles on a white background, these triangles being wider than the line itself above. The upper surface of that line is also jagged edged and therefore appears to be somewhat indistinct.

The light brown head is heavily spotted with grey or brown; the upper anterior labials are spotted grey or brown. Forelimbs are light grey with dark flecks or spots.

White surfaces on the sides of the back of the head and neck are heavily peppered with grey spots or flecks. Tail becomes mainly grey.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for above) and the subgenus *Labialalbum* subgen. nov. have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other

two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others. *Acritoscincus* is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Colour images of *A. adelynhoserae sp. nov.* in life can be found online at:

<https://www.inaturalist.org/observations/108930882>
and

<https://www.inaturalist.org/observations/61070498>
and

<https://www.inaturalist.org/observations/72589131>
and

<https://www.inaturalist.org/observations/35083376>
and

<https://www.inaturalist.org/observations/76346912>

A colour image of *A. adelynjackyhoserae sp. nov.* in life can be found online at:

<https://www.inaturalist.org/observations/85406397>

Colour images of *A. granti sp. nov.* in life can be found online at:

<https://www.inaturalist.org/observations/75138008>
and

<https://www.inaturalist.org/observations/57632755>
and

<https://www.inaturalist.org/observations/88775040>

Colour images of *A. tybarnetti* in life can be found online at:

<https://www.inaturalist.org/observations/96410777>
and

<https://www.inaturalist.org/observations/105075526>

Colour images of *A. duperreyi* in life can be found online at:

<https://www.inaturalist.org/observations/101430422>
and

<https://www.inaturalist.org/observations/35913907>
and

<https://www.inaturalist.org/observations/36463417>
and

<https://www.inaturalist.org/observations/87192890>

Colour images of *A. buddeni* in life can be found in Hoser (1989) at page 103, in second image down from top and online at:

<https://www.inaturalist.org/observations/34894404>

Dubey and Shine (2010) wrote of the five lineages herein formally named as new species:

"Within *B. duperreyi*, the estimates dates of divergence between the major lineages began in the Upper Miocene and/or Upper Pliocene (3.9 Myr, 95% HPD: 3.6-5.9; 4.8, 95% HPD 4.2-6.6; 5.7 Myr, 95% HPD: 4.7-6.6; 3.3 Myr, 95% HPD: 2.6-3.7), depending on the calibration method."

2.6-6.6 MYA is clearly species-level divergence.

Distribution: *A. tybarnetti sp. nov.* is a taxon from the south-east of South Australia, generally south-east of the mouth of the Murray River in a triangle generally east and south of Meningie, Latitude -35.6900 S., Longitude 139.3370 E. to the Victorian state border, although it presumably includes specimens recorded just east of there in continuous habitat.

Etymology: The new species *A. tybarnetti sp. nov.* is named in honour of Ty Thomas Barnett of Ardeer and more recently Sunshine, Victoria, Australia, in recognition of his services to herpetology in Australia.

Ty Thomas Barnett is one of two sons of Brian and Lani Barnett, all of whom as part of a team, played a leading and often difficult role for decades running the Victorian Herpetological Society Incorporated.

ACRITOSCINCUS (LABIALALBUM) DAVIDMERCEICAI SP. NOV.

LSIDurn:lsid:zoobank.org:act:5F90F167-B3EA-41BE-A4B1-AE4128E7CA35

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number SAM R65844 collected from Lincoln National Park, 13.44 km East of Port Lincoln, South Australia, Australia, Latitude -34.7008 S., Longitude 135.7119 E. This government-owned facility allows access to its holdings.

Paratypes: Five preserved specimens at the South Australian Museum, Adelaide, South Australia, Australia, specimen numbers (SAM) R29032 collected from Duck Ponds Creek, Lincoln National Park, South Australia, Australia, Latitude -34.78 S., Longitude 135.78 E.; R42216 collected from Lincoln National Park, South Australia, Australia, Latitude -34.83 S., Longitude 135.92 E.; R54791 collected from 12.7 km South of Port Lincoln, South Australia, Australia, Latitude -34.8425 S., Longitude 135.8789 E.; R56526 collected from 12.7 km south of Port Lincoln, South Australia, Australia, Latitude -34.8425 S., Longitude -135.8789 E.; R65837 collected from Lincoln National Park, 17 km East of Port Lincoln, South Australia, Australia, Latitude -34.7033 S., Longitude 135.6728 E.

Diagnosis: Until now, *Acritoscincus davidmerceicai sp. nov.* has been treated as an eastern outlier population of the otherwise Western Australian species *A. trilineatus* (Gray, 1838).

That species has been recorded as far east as Bilbanya Dunes (near Eucla) on the western edge of the Nullarbor Plains.

A. davidmerceicai sp. nov. is readily separated from *A. trilineatus* by its obviously brownish coloured original tail for most of its length in living adults, versus greyish to even blackish in *A. trilineatus*; faded black on the flanks, better described as being greyish brown, of living adult lizards, versus a distinct shiny black in *A. trilineatus*; tiny spots on scales on the back merge to form tiny distinctive lines down the back, whereas in *A. trilineatus* these spots are either absent, or if present are only few and scattered and not forming any obvious longitudinal lines.

Species in each of the newly identified subgenera are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for in descriptions above) and the subgenus *Labialalbum* subgen. nov. (including *Acritoscincus davidmerceicai sp. nov.* and *A. trilineatus* (Gray, 1838), being the entirety of this subgenus) have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the

subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Celerscincus subgen. nov. is further separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Acritoscincus is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Photos of *Acritoscincus (Labialalbum) davidmerceicai* sp. nov. in life can be found online at:

<https://www.flickr.com/photos/127392361@N04/49229558443/>
and

<https://www.flickr.com/photos/126237772@N07/33194790218/>
and

<https://www.flickr.com/photos/akashsherping/49442831571/>
and

<https://www.flickr.com/photos/141624833@N03/50222184538/>
Photos of *Acritoscincus (Labialalbum) trilineatus* in life can be found in Cogger (2014) on page 413 top, Wilson and Swan (2017) on page 183 and online at:

<https://www.flickr.com/photos/142447841@N06/48696458113/>
and

<https://www.inaturalist.org/observations/106481420>
and

<https://www.inaturalist.org/observations/108582485>
and

<https://www.inaturalist.org/observations/18278181>

Distribution: *Acritoscincus (Labialalbum) davidmerceicai* sp. nov. is known only from the lower Eyre Peninsula in South Australia, Australia in a line generally south of Louth Bay, Longitude 34.5436 S in the east and Mount Dutton Bay in the west.

Etymology: *Acritoscincus (Labialalbum) davidmerceicai* sp. nov. is named in honour of David Merceica, formerly of Victoria, Australia, now of Queensland, Australia, a businessman and now owner of Snakes Downunder Reptile Park and Zoo, at 51 Lucketts Rd, Childers, Queensland, 4660, Australia.

Merceica has made significant contributions to herpetology in Australia, with particular emphasis on captive breeding rare and sought after species, including the Pygmy Bluetongued Lizard *Lazarusus adelaidensis* (Peters, 1863), see Hoser (1991 and 2016b) for more on this species, and White-lipped pythons *Leiopython albertisi* (Peters and Doria, 1878) and *Leiopython hoserae* Hoser, 2000.

The names *Leiopython albertisi* (Peters and Doria, 1878) and *Leiopython hoserae* Hoser, 2000 have date priority over the several synonyms illegally coined and promulgated by the Wolfgang Wüster gang through their member Wulf Schleip in a series of acts of taxonomic vandalism (see Hoser 2015a-f for details).

Contrary to the numerous fictitious species and names on "The Reptile Database", there are in fact only two species of White-lipped Python, being *Leiopython albertisi* (Peters and Doria, 1878) and *Leiopython hoserae* Hoser, 2000.

ACRITOSCINCUS (CELERSCINCUS) KATRINAHOSERAE SP. NOV.

LSIDurn:lsid:zoobank.org:act:3FFA23AB-3392-4C9A-8880-80AAE910529F

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R34687 collected from 1 km west of Cooma Airport, New South Wales, Australia, Latitude -36.24 S., Longitude 149.12 E. This government-owned facility allows access to its holdings.

Paratypes: 1/ A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R34688 collected from 1 km west of Cooma Airport, New South Wales, Australia, Latitude -36.24 S., Longitude 149.12 E. 2/ A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.27947 collected from Adaminaby, New South Wales, Australia, Latitude -36.0 S., Longitude 148.783 S. 3/ A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.27949 collected 14 miles from Adaminaby, New South Wales, Australia, Latitude -36.0 S., Longitude 148.766 E.

Diagnosis: Until now, all authors except for Wells and Wellington (1985) have treated putative *A. platynotus* (Peters, 1881) as a single species ranging from north-east Victoria along the New South Wales coast and nearby uplands, to far south-east Queensland.

However following on from the genetic evidence of Dubey and Shine (2010), aligned with known biogeographical barriers affecting similarly constrained species and morphological divergences between populations, that putative species is herein recognized as four.

A. platynotus is confined to the proximal Sydney region, including nearby sandstone plateaus and lower Blue Mountains, generally east of Wentworth Falls.

Specimens from Kanangra Boyd National Park, to the west of the Upper Blue Mountains, west of Sydney and Morton National Park, south of Sydney and inland from Nowra are recognized herein as a subspecies of *A. platynotus*, namely *A. platynotus diversus* subsp. nov..

Specimens from the New England region of New South Wales are referred to the species *A. donnellani* Wells and Wellington, 1985.

Specimens from the Giraween National Park area of far southern Queensland are referred to the new species *A. paulwoolfi* sp. nov..

Specimens from high country generally south of the ACT within the ACT, into New South Wales south of there and into far northern Victoria are referred to the species *A. katrinahoserae* sp. nov..

The four species are separated from one another by the following suites of characters:

Adult *A. platynotus* have a generally unmarked dorsum, being light greyish to light brown in colour. There is a uniform sheen, generally lacking in etchings of scales, and few if any spots or speckles on the upper surface, although some specimens do have rows of scattered tiny grey spots running in lines down the dorsum.

The subspecies *A. platynotus diversus* subsp. nov. is similar in most respects to nominate *A. platynotus platynotus*, but differs from that taxon by having numerous tiny grey dots running in

lines down the dorsum, as well as extensive grey specking on the tail, which is absent in *A. platynotus platynotus*.

A. katrinahoserae sp. nov. is readily separated from the other three species by having what in life appears to be a dark silvery grey dorsum, formed in large part by the presence of dark greyish-black etchings of the dorsal scales, not seen in any of the other species and giving it scales that look fish-like. In some relatively uncommon yellowish brown specimens, the fish-like scales remain because they in turn have black etching. The lower parts of the anterior upper labials are more-or-less barred or spotted with large amounts of blackish-brown, versus a minimal amount in *A. platynotus*, which are mainly whitish here. The lower part of the anterior upper labials are whitish in *A. donnellani* and whitish and heavily marbled brown in *A. woolfi* sp. nov.

A. katrinahoserae sp. nov. is readily separated from all other species in the subgenus by having limbs that are mainly black in colour.

The head of *A. katrinahoserae* sp. nov. is brown with blackish marbling, versus light grey or light brown, with either no markings or just a few tiny flecks in both subspecies of *A. platynotus*.

Both *A. donnellani* and *A. paulwoolfi* sp. nov. are readily separated from the other two species in the subgenus by having two large reddish brown spots on the otherwise white or whitish posterior upper labials.

These spots are largest and most prominent in *A. donnellani*.

A. donnellani is separated from *A. paulwoolfi* sp. nov. by having a dorsum that has scales with tiny black dots forming longitudinal lines down the back, whereas in *A. paulwoolfi* sp. nov., the scales are dark grey etched to give a more fish-like appearance to the scales of the dorsum, but overall the dorsum is brownish in colour, versus silvery grey in *A. katrinahoserae* sp. nov..

A. paulwoolfi sp. nov. is the only species in the group for which adults have a significant amount of black etching on the edges of the scales on the upper surface of head. The other species either have no markings or just scattered spots on the upper surfaces of the head.

Species in each of the newly identified subgenera within *Acritoscincus* are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for in descriptions above) and the subgenus *Labialalbum* subgen. nov. (including *Acritoscincus davidmerceicai* sp. nov. and *A. trilineatus* (Gray, 1838), being the entirety of that subgenus) have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Celerscincus subgen. nov. including all of *Acritoscincus* (*Celerscincus*) *katrinahoserae* sp. nov. (type species), *A. (Celerscincus) donnellani* Wells and Wellington, 1985, *A. (Celerscincus) paulwoolfi* sp. nov. and *A. (Celerscincus) platynotus* (Peters, 1881), is separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Acritoscincus is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Nominate *A. platynotus platynotus* in life are depicted in Hoser (1989) on page 103 top right and online at:

<https://www.inaturalist.org/observations/65928965>

and

<https://www.inaturalist.org/observations/71472754>

and

<https://www.inaturalist.org/observations/46468498>

and

<https://www.inaturalist.org/observations/16062112>

and

<https://www.inaturalist.org/observations/51323882>

A. platynotus diversus subsp. nov. are depicted in life online at:

<https://www.inaturalist.org/observations/12482330>

and

<https://www.inaturalist.org/observations/64720946>

and

<https://www.inaturalist.org/observations/58351449>

A. katrinahoserae sp. nov. are depicted in life in Cogger (2014)

on page 413 top left and online at:

<https://www.inaturalist.org/observations/108005387>

and

<https://www.inaturalist.org/observations/33471128>

A. donnellani are depicted in life online at:

<https://www.inaturalist.org/observations/31211532>

and

<https://www.inaturalist.org/observations/39446066>

and

<https://www.flickr.com/photos/23031163@N03/15287880850/>

A. paulwoolfi sp. nov. are depicted in life in Wilson (2015) on page 92 and online at:

<https://www.inaturalist.org/observations/7831517>

and

<https://www.inaturalist.org/observations/101061013>

Dubey and Shine (2010) wrote of the lineages herein formally identified herein as new species:

"Within *B. platynota*, the splits between the major lineages began in the Lower and Upper

Pliocene (3.2 Myr, 95% HPD: 3.2–5.3; 4.3, 95% HPD 3.7–5.9; 4.4 Myr, 95% HPD: 4.1–5.9; 2.3 Myr, 95% HPD: 2.3–3.3)."

Exceptional to the above is for the species *B. paulwoolfi* for which no genetic material was available to Dubey and Shine (2010), but which is separated from more southern populations by a biogeographic barrier of known antiquity in far northern New South Wales affecting similarly constrained reptile taxa, that occupy rocky habitats (see the three relevant species pair examples in Hoser 2016a, 2017 and 2018, split between the Granite belt of far southern Queensland and the New England region of New South Wales further south, generally south of Inverell and Glen Innes).

Distribution: *A. katrinahoserae* sp. nov. occurs in high country generally south of the ACT within the ACT, into New South

Wales south of there and into far northern Victoria.

Etymology: *A. katrinahoserae* sp. nov. is named in honour of Katrina Hoser, the mother of myself for often unrewarded and largely unknown contributions to herpetology over a lifetime.

ACRITOSCINCUS (CELERSCINCUS) PAULWOOLFI SP. NOV.

LSIDurn:lsid:zoobank.org:act:53DE1722-EF22-45C6-9C1F-16745A8DE8A0

Holotype: A preserved specimen in the Queensland Museum, Brisbane, Queensland, Australia, specimen number J49605 collected at the Giraween National Park, Queensland, Australia, Latitude -28.833333 S., Longitude 151.866667 E. This government-owned facility allows access to its holdings.

Paratypes: Six preserved specimens in the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers J22757 and J46192 collected from Giraween National Park, via Stanthorpe, Queensland, Australia, Latitude -28.833333 S., Longitude 151.916667 E.; specimen numbers J13930, J36131, J36132 collected from Wyberba, via Stanthorpe Queensland, Australia, Latitude -28.866667 S., Longitude 151.866667 E.; J24210 collected from near Wyberba, Queensland, Australia, Latitude -28.866667 S., Longitude 151.866667 E.

Diagnosis: Until now, all authors except for Wells and Wellington (1985) have treated putative *A. platynotus* (Peters, 1881) as a single species ranging from north-east Victoria along the New South Wales coast and nearby uplands, to far south-east Queensland.

However following on from the genetic evidence of Dubey and Shine (2010), aligned with known biogeographical barriers affecting similarly constrained species and morphological divergences between populations, that putative species is herein recognized as four.

A. platynotus is confined to the proximal Sydney region, including nearby sandstone plateaus and lower Blue Mountains, generally east of Wentworth Falls.

Specimens from Kanangra Boyd National Park, to the west of the Upper Blue Mountains, west of Sydney and Morton National Park, south of Sydney and inland from Nowra are recognized herein as a subspecies of *A. platynotus*, namely *A. platynotus diversus* subsp. nov..

Specimens from the New England region of New South Wales are referred to the species *A. donnellani* Wells and Wellington, 1985.

Specimens from the Giraween National Park area of far southern Queensland are referred to the new species *A. paulwoolfi* sp. nov.

Specimens from high country generally south of the ACT within the ACT, into New South Wales south of there and into far northern Victoria are referred to the species *A. katrinahoserae* sp. nov..

The four species are separated from one another by the following suites of characters:

Adult *A. platynotus* have a generally unmarked dorsum, being light greyish to light brown in colour. There is a uniform sheen, generally lacking in etchings of scales, and few if any spots or speckles on the upper surface, although some specimens do have rows of scattered tiny grey spots running in lines down the dorsum.

The subspecies *A. platynotus diversus* subsp. nov. is similar in most respects to nominate *A. platynotus platynotus*, but differs from that taxon by having numerous tiny grey dots running in lines down the dorsum, as well as extensive grey speckling on the tail, which is absent in *A. platynotus platynotus*.

A. katrinahoserae sp. nov. is readily separated from the other three species by having what in life appears to be a dark silvery grey dorsum, formed in large part by the presence of dark greyish-black etchings of the dorsal scales, not seen in any of the other species and giving it scales that look fish-like. In some relatively uncommon yellowish brown specimens, the fish-like scales remain because they in turn have black etching. The

lower parts of the anterior upper labials are more-or-less barred or spotted with large amounts of blackish-brown, versus a minimal amount in *A. platynotus*, which are mainly whitish here. The lower part of the anterior upper labials are whitish in *A. donnellani* and whitish and heavily marbled brown in *A. woolfi* sp. nov..

A. katrinahoserae sp. nov. is readily separated from all other species in the subgenus by having limbs that are mainly black in colour.

The head of *A. katrinahoserae* sp. nov. is brown with blackish marbling, versus light grey or light brown, with either no markings or just a few tiny flecks in both subspecies of *A. platynotus*.

Both *A. donnellani* and *A. paulwoolfi* sp. nov. are readily separated from the other two species in the subgenus by having two large reddish brown spots on the otherwise white or whitish posterior upper labials.

These spots are largest and most prominent in *A. donnellani*.

A. donnellani is separated from *A. paulwoolfi* sp. nov. by having a dorsum that has scales with tiny black dots forming longitudinal lines down the back, whereas in *A. paulwoolfi* sp. nov., the scales are dark grey etched to give a more fish-like appearance to the scales of the dorsum, but overall the dorsum is brownish in colour, versus silvery grey in *A. katrinahoserae* sp. nov..

A. paulwoolfi sp. nov. is the only species in the group for which adults have a significant amount of black etching on the edges of the scales on the upper surface of head. The other species either have no markings or just scattered spots on the upper surfaces of the head.

Species in each of the newly identified subgenera within *Acritoscincus* are separated from one another as follows:

Both the nominate subgenus *Acritoscincus* (including the seven species accounted for in descriptions above) and the subgenus *Labialalbum* subgen. nov. (including *Acritoscincus davidmerceicai* sp. nov. and *A. trilineatus* (Gray, 1838), being the entirety of that subgenus) have some indication of one or more pale longitudinal stripes running down the back, these not being consistent with each scale row running down the back.

Celerscincus subgen. nov. including all of *Acritoscincus* (*Celerscincus*) *katrinahoserae* sp. nov. (type species), *A. (Celerscincus) donnellani* Wells and Wellington, 1985, *A. (Celerscincus) paulwoolfi* sp. nov. and *A. (Celerscincus) platynotus* (Peters, 1881), is separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

Other than perhaps dark or black spotting on each scale in each scale row running down the back in some specimens in the subgenus *Celerscincus* subgen. nov. there is no indication of pale striping running down the back.

Acritoscincus is readily separated from *Labialalbum* subgen. nov. by the presence of a pale mid lateral stripe with a prominent upper border, versus one that is ill-defined in *Labialalbum* subgen. nov..

Dubey and Shine (2010) found that the three relevant subgenera diverged from one another somewhere between 7.9 and 19.3 MYA, making genus-level recognition for each species group appropriate.

Skinks in the genus *Acritoscincus sensu lato* are separated from all other Australasian skink lizards by the following unique suite of characters:

Slightly elongated body, somewhat horizontally flattened; pentadactyle limbs, limbs short, usually just touching when adpressed; parietal shields in contact behind the interparietal; 5-7 (usually 6-7) supraciliaries that are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid; frontoparietals fused to form a single shield; interparietal reduced; supranasals absent; rostral-frontonasal suture is almost as wide as frontal; nasals usually narrowly separated and undivided; ear opening prominent and without lobules; breeding

males have a red throat colouration; 60 mm snout-vent in adults with original tail about 150 percent of that.

Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Nominate *A. platynotus platynotus* in life are depicted in Hoser (1989) on page 103 top right and online at:

<https://www.inaturalist.org/observations/65928965>

and

<https://www.inaturalist.org/observations/71472754>

and

<https://www.inaturalist.org/observations/46468498>

and

<https://www.inaturalist.org/observations/16062112>

and

<https://www.inaturalist.org/observations/51323882>

A. platynotus diversus subsp. nov. are depicted in life online at:

<https://www.inaturalist.org/observations/12482330>

and

<https://www.inaturalist.org/observations/64720946>

and

<https://www.inaturalist.org/observations/58351449>

A. katrinahoserae sp. nov. are depicted in life in Cogger (2014) on page 413 top left and online at:

<https://www.inaturalist.org/observations/108005387>

and

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A. donnellani are depicted in life online at:

<https://www.inaturalist.org/observations/31211532>

and

<https://www.inaturalist.org/observations/39446066>

and

<https://www.flickr.com/photos/23031163@N03/15287880850/>

A. paulwoolffi sp. nov. are depicted in life in Wilson (2015) on page 92 and online at:

<https://www.inaturalist.org/observations/7831517>

and

<https://www.inaturalist.org/observations/101061013>

Dubey and Shine (2010) wrote of the lineages herein formally identified herein as new species:

“Within B. platynota, the splits between the major lineages began in the Lower and Upper

Pliocene (3.2 Myr, 95% HPD: 3.2–5.3; 4.3, 95% HPD 3.7–5.9; 4.4 Myr, 95% HPD: 4.1–5.9; 2.3 Myr, 95% HPD: 2.3–3.3).”

Exceptional to the above is for the species *B. paulwoolffi* for which no genetic material was available to Dubey and Shine (2010), but which is separated from more southern populations by a biogeographic barrier of known antiquity in far northern New South Wales affecting similarly constrained reptile taxa, that occupy rocky habitats (see the three relevant species pair examples in Hoser 2016a, 2017 and 2018, split between the Granite belt of far southern Queensland and the New England region of New South Wales further south, generally south of Inverell and Glen Innes).

Distribution: *A. paulwoolffi sp. nov.* is known only from the Granite country in and near Giraween National Park in far southern Queensland, Australia.

Etymology: *A. paulwoolffi sp. nov.* is named in honour of Paul Woolf of Walloon, near Ipswich, Queensland, Australia in recognition of many decades contributions to herpetology in Australia, including as foundation president of the Herpetological Society of Queensland Incorporated.

He has also provided logistical support for scientific expeditions across Queensland, other parts of Australia and also outside Australia to assist in discovery of new taxa.

ACRITOSCINCUS (CELERSCINCUS) PLATYNOTUS DIVERSUS SUBSP. NOV.

LSIDurn:lsid:zoobank.org:act:0498E577-FD94-4395-B28E-F3A1D6A41783

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.15292 collected at Kanangra Walls, New South Wales, Australia, Latitude -33.983 S., Longitude 150.133 E. 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.15293 collected at Kanangra Walls, New South Wales, Australia, Latitude -33.983 S., Longitude 150.133 E.

Diagnosis: Until now, all authors except for Wells and Wellington (1985) have treated putative *A. platynotus* (Peters, 1881) as a single species ranging from north-east Victoria along the New South Wales coast and nearby uplands, to far south-east Queensland. However following on from the genetic evidence of Dubey and Shine (2010), aligned with known biogeographical barriers affecting similarly constrained species and morphological divergences between populations, that putative species is herein recognized as four.

A. platynotus is confined to the proximal Sydney region, including nearby sandstone plateaus and lower Blue Mountains, generally east of Wentworth Falls.

Specimens from Kanangra Boyd National Park, to the west of the Upper Blue Mountains, west of Sydney and Morton National Park, south of Sydney and inland from Nowra are recognized herein as a subspecies of *A. platynotus*, namely *A. platynotus diversus subsp. nov.*

Specimens from the New England region of New South Wales are referred to the species *A. donnellani* Wells and Wellington, 1985.

Specimens from the Giraween National Park area of far southern Queensland are referred to the new species *A. paulwoolffi sp. nov.*

Specimens from high country generally south of the ACT within the ACT, into New South Wales south of there and into far northern Victoria are referred to the species *A. katrinahoserae sp. nov.*

The four species are separated from one another by the following suites of characters:

Adult *A. platynotus* have a generally unmarked dorsum, being light greyish to light brown in colour. There is a uniform sheen, generally lacking in etchings of scales, and few if any spots or speckles on the upper surface, although some specimens do have rows of scattered tiny grey spots running in lines down the dorsum.

The subspecies *A. platynotus diversus subsp. nov.* is similar in most respects to nominate *A. platynotus platynotus*, but differs from that taxon by having numerous tiny grey dots running in lines down the dorsum, as well as extensive grey specking on the tail, which is absent in *A. platynotus platynotus*.

A. katrinahoserae sp. nov. is readily separated from the other three species by having what in life appears to be a dark silvery grey dorsum, formed in large part by the presence of dark greyish-black etchings of the dorsal scales, not seen in any of the other species and giving it scales that look fish-like. In some relatively uncommon yellowish brown specimens, the fish-like scales remain because they in turn have black etching. The lower parts of the anterior upper labials are more-or-less barred or spotted with large amounts of blackish-brown, versus a minimal amount in *A. platynotus*, which are mainly whitish here. The lower part of the anterior upper labials are whitish in *A. donnellani* and whitish and heavily marbled brown in *A. woolffi sp. nov.*

A. katrinahoserae sp. nov. is readily separated from all other species in the subgenus by having limbs that are mainly black in colour.

The head of *A. katrinahoserae* sp. nov. is brown with blackish marbling, versus light grey or light brown, with either no markings or just a few tiny flecks in both subspecies of *A. platynotus*.

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Celerscincus subgen. nov. including all of *Acritoscincus* (*Celerscincus*) *katrinahoserae* sp. nov. (type species), *A. (Celerscincus) donnellani* Wells and Wellington, 1985, *A. (Celerscincus) paulwoolffi* sp. nov. and *A. (Celerscincus) platynotus* (Peters, 1881), is separated from the other two subgenera by having a body in adults that is noticeably horizontally flattened and wide, versus not so in the others.

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Dorsal colouration is usually greyish or brownish on the upper surface, with or without flecks or other markings, with dark below that light striping on the flanks of the body. Upper labials usually white or whitish.

Nominate *A. platynotus platynotus* in life are depicted in Hoser (1989) on page 103 top right and online at:

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Exceptional to the above is for the species *B. paulwoolffi* for which no genetic material was available to Dubey and Shine (2010), but which is separated from more southern populations by a biogeographic barrier of known antiquity in far northern New South Wales affecting similarly constrained reptile taxa, that occupy rocky habitats (see the three relevant species pair examples in Hoser 2016a, 2017 and 2018, split between the Granite belt of far southern Queensland and the New England region of New South Wales further south, generally south of Inverell and Glen Innes).

Distribution: *A. platynotus diversus* subsp. nov. is known only from Kanangra Boyd National Park, to the west of the Upper Blue Mountains, west of Sydney and Morton National Park, south of Sydney and inland from Nowra, but presumably occurs in rocky upland locations between these two sites.

Etymology: *A. platynotus diversus* subsp. nov. is named in reflection of its divergence from the nominate form of the species. In Latin, *diversus* means diverged.

CONCLUSION

This and other recent papers including some cited herein, have underscored previously underestimated species diversity in well-known and common species. While the species formally named within this paper are not believed to be under any existential threats at present, things can change rapidly if and when new pathogens or pests enter the ecosystem, as seen for example with frogs as detailed in Hoser (1991).

Formal recognition of unnamed species is an important first step to their conservation and management and it is important that valid species should only be named once and not subjected to unwarranted taxonomic vandalism as being practiced by the

Wolfgang Wüster gang (Hoser 2007, 2009, 2012a, 2012b, 2013, 2015a-f, 2019a-b).

The ICZN formally rejected their applications to overwrite names of myself (Hoser) and others (ICZN 2021), that had in turn followed similar ICZN rulings of 1991 and 2001 relevant to the works of Wells and Wellington.

In 2021 the ICZN stated that all names of Hoser were valid and available, without need to formally make a plenary ruling to effect what was already in effect and obvious.

The Plenary power is to be used to rectify things outside the *International Code of Zoological Nomenclature* and not to affect what is self-evidently compliant within it.

Following on from the ICZN ruling of 2021, the scourge of the Wolfgang Wüster's gang's actions should now be removed from the biological sciences (Hawkeswood 2021).

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CONFLICT OF INTEREST
None.

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