

**Greater diversity of skink species in south-east Australia than previously realized:
Carinascincus Wells and Wellington, 1985 *sensu lato* is further divided.**

LSIDURN:LSID:ZOOBANK.ORG:PUB:BFAF2A70-2A3D-4BB9-80D9-64319EE5377C

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Received 11 October 2021, Accepted 16 July 2022, Published 15 August 2022.

ABSTRACT

The ongoing audit of Australia's herpetofauna has yielded hitherto unrecognized diversity of genera and species in skink in South-east Australia as seen for example in the papers of Hoser (2022a-e).

This paper formally identifies and names in accordance with *the International Code of Zoological Nomenclature* (Ride *et al.* 1999) two new genera and ten new species of skink from south-east mainland Australia and Tasmania.

Included are the following:

1/ The species originally described as *Leiolopisma coventryi* Rawlinson, 1975 is placed in a new genus, *Abbasaurum* *gen. nov.* (type species *A. maxinehoserae* *sp. nov.*) and divided into four species, including *A. abba* *sp. nov.*, three of the total, being formally named for the first time. The putative species originally described as *Litotesincus bartelli* Wells and Wellington, 1985 is clearly divergent and herein recognized as a subspecies of "*Leiolopisma coventryi* Rawlinson, 1975".

2/ The species originally described as *Mococa metallica* O'Shaughnessy, 1874, currently type species for the valid genus *Litotesincus* Wells and Wellington, 1985 is divided into six species, with four formally named for the first time. The already named species *Litotesincus metallica* (O'Shaughnessy, 1874) and *L. wellsii* Hoser, 2016 are also part of this complex.

3/ *Mococa ocellatum* Gray, 1845, is herein placed into a newly named genus *Ocellatalbum* *gen. nov.*. It is also formally divided into four species, three of which are formally named for the first time as *Ocellatalbum dannygoodwini* *sp. nov.*, *O. alexdudleyi* *sp. nov.* and *O. assangei* *sp. nov.*.

All the newly described forms are both morphologically divergent and have origins that were allopatric across biogeographical barriers of known antiquity.

Keywords: Taxonomy; nomenclature; skinks; Australia; New South Wales; Tasmania; Victoria; *Mococa*; *Leiolopisma*; *Lygosoma*; *Carinascincus*; *Niveoscincus*; *Pseudemoia*; *Litotesincus*; *coventryi*; *metallica*; *ocellatum*; new genus; *Abbasaurum*; *Ocellatalbum*; new species; *maxinehoserae*; *abba*; *bobbottomi*; *evanwhittoni*; *fiacummingae*; *martinekae*; *colinrayi*; *dannygoodwini*; *alexdudleyi*; *assangei*.

INTRODUCTION

An ongoing audit has been systematically assessing all of Australia's herpetofauna to see if there are any obviously unnamed genera or species within putative groups.

This audit, led by myself (Raymond Hoser) has, as of mid 2022 gone through most of Australia's known reptiles and frogs (but not all) and identified numerous genera as well as more than 200 species and subspecies of reptiles and over 80 species of frogs, the majority of which have been formally described and named in accordance with the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) in *Australian Journal of Herpetology* issues 1-58.

See at <http://www.zoobank.org> for a complete listing.

This quantity, the majority of which have been named in the period 2009-2022 exceeded all expectations when the audit was

commenced and underscores the underestimated biodiversity in Australia.

Some groups of reptile and frog in Australia remain to be audited and even on completion of this audit, there will remain numerous undescribed species within Australia's herpetofauna.

Although there have been exceptions, the majority of species formally named via this audit, have been easily identifiable and flagged, either by virtue of the obvious morphological differences of the taxa, or alternatively via published studies, including many molecular studies over the past 20 years.

The taxa formally named in this paper conform to the preceding.

In terms of the genus-level splits indicated in the abstract, the relevant taxa are morphologically divergent and have been shown in molecular studies to be sufficiently ancient in divergence to warrant

genus level recognition.

All the newly identified and named species and subspecies are both morphologically divergent and allopatric across previously identified barriers of known antiquity. They are also genetically divergent from one another.

MATERIALS AND METHODS

This audit included all potential species within the putative species groups, as originally formally named, listed below as follows:

1/ *Leiolopisma coventryi* Rawlinson, 1975.

2/ *Mococa metallica* O'Shaughnessy, 1874.

3/ *Mococa ocellatum* Gray, 1845.

Based on previously published studies, including Hoser (2022a-e), Cliff *et al.* (2015) and Kreger *et al.* (2019) there was a reasonable basis to expect that each putative taxon was composite and so each was scrutinized on the basis and expectation further species beyond the nominate form of each would be identified.

Hoser (2020b-c) included studies of putative species of frogs from south-east Australia, some of which were ultimately divided across known biogeographical barriers in south-east Australia, these same barriers influencing distributions of the three above-mentioned putative skink taxa. Hoser (2022a-e) included the result of studies involving other skink genera and species divided across the same biogeographical barriers in south-east Australia.

In each of the above cited studies, divisions were made on the basis of morphological, biogeographical and genetic evidence.

In this case of the three above putative species of skink, the first "*Leiolopisma coventryi* Rawlinson, 1975" has four allopatrically distributed populations across known biogeographical barriers, only one of which has been formally named.

With a reasonable expectation that there were four, not one species, this study sought to identify consistent differences between the populations to enable formal descriptions as new species.

In terms of the nominate population, a subpopulation from the Brindabella Ranges (NSW/ACT) has also been named by Wells and Wellington, 1985 as *Litotesinciscus bartelli*.

Genetic studies of each of *Mococa metallica* O'Shaughnessy, 1874 and *Mococa ocellatum* Gray, 1845 have confirmed them to be species complexes (Kreger *et al.* 2019 and Cliff *et al.* 2015 respectively), so the main issue with each of these was identification of the type forms, any potential synonyms (there were none) and then whether it was possible to morphologically identify the other species, best described at the commencement stage as potentially cryptic species (although that idea was soon jettisoned, when it was realised that each potential putative species (candidate taxon) was in fact very different).

This audit included a review of the relevant literature encompassing the putative species as generally defined by herpetologists in Australia, including as recently defined by Cogger (2014) and Wells and Wellington (1985), being the most relevant works dealing with the taxonomy of the species at the genus level.

This included revisiting more recent molecular studies available on Australian skinks as a means to estimate likely divergences across known biogeographical barriers and breaks as identified with respect of the taxa in this audit.

In the case of putative *Mococa metallica* O'Shaughnessy, 1874 Kreger *et al.* (2019) gave date divergence estimates for the main identified clades.

In the case of putative *Mococa ocellatum* Gray, 1845 Cliff *et al.* (2015) also provided date divergence estimates for the main identified clades.

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 but identified as potentially unnamed species were inspected as were all other major populations.

Biogeographical gaps were identified which conformed with absence of specimens being seen, collected or held in Australian public museums. These were sometimes outlier populations, including some known to be separated by previously determined biogeographical barriers.

Earlier papers naming putative taxa within each genus were reviewed, not just for the purposes of revisiting original descriptions,

which were checked against actual specimens, but also cross referenced with the second, third and fourth editions of the *International Code of Zoological Nomenclature* to ensure that all post 1950 names were valid according to the rules of the ICZN at all materially relevant times, including 2022.

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.

At the genus level, species identified early on as divergent, via molecular studies, including Cliff *et al.* (2015), Kreger *et al.* (2019) and Pyron *et al.* (2013), were scrutinized to see if they were sufficiently divergent morphologically to warrant being placed in new genera.

Literature relevant to the taxonomic conclusions herein, in terms of each of the relevant taxa audited is as follows:

In terms of putative *Leiolopisma coventryi* Rawlinson, 1975, *Mococa metallica* O'Shaughnessy, 1874 and *Mococa ocellatum* Gray, 1845 *sensu lato* and the resulting in the taxonomic and nomenclatural conclusions within this paper, the following literature was relevant: Baehr (1976), Brattstrom (1971), Brongersma (1942), Chapple and Swain (2004), Cliff *et al.* (2015), Cogger (2000, 2014), Cogger *et al.* (1983), Couper *et al.* (2006), Duméril and Duméril (1851), Glauert (1960), Gomard (2015), Gray (1845), Greer (1982), Hoser (2016), Hutchinson (1979), Hutchinson and Schwaner (1990), Hutchinson *et al.* (1990), Kreger *et al.* (2019), McCoy and Busack (1970), Melville and Swain (2000a, 2000b), O'Shaughnessy (1874), Pyron *et al.* (2013), Quay (1973), Rawlinson (1974, 1975), Ride *et al.* (1999), Smith (1937), Swan *et al.* (2017), Taylor *et al.* (1993), Wells and Wellington (1984, 1985), Wilson and Swan (2010, 2017), Wu *et al.* (2014) and sources cited therein.

RESULTS

Based on molecular and morphological divergences, the following taxonomic and nomenclatural conclusions were reached.

1/ *Leiolopisma coventryi* Rawlinson, 1975, placed by Wells and Wellington, 1985 in their newly erected genus *Litotesinciscus* Wells and Wellington, 1985, and Cogger (2014) in *Carinoscinciscus* Wells and Wellington, 1985 is herein transferred to a newly erected genus *Abbasaurum* *gen. nov.* (type species *A. abba* *sp. nov.*) based on an obvious divergence of over 10 MYA.

The putative species *Abbasaurum coventryi* (Rawlinson, 1975), is divided into four, with three new species formally named as *Abbasaurum abba* *sp. nov.*, *A. maxinehoserae* *sp. nov.* and *A. bobbotomi* *sp. nov.*. The putative species *A. bartelli* (Wells and Wellington, 1985), originally placed in *Litotesinciscus* by Wells and Wellington, is herein treated as a subspecies pending molecular analysis. The basis of the decision is the geographical proximity of this population to that of nominate *A. coventryi*.

The Brindabella Ranges has been problematic for taxonomists in that some putative taxa have diverged to species level differences from their congeners in the nearby Snowy Mountains to the south, while others have not.

2/ The species originally described as *Mococa metallica* O'Shaughnessy, 1874 *sensu lato*, currently type species for the valid genus *Litotesinciscus* Wells and Wellington, 1985 is divided into five species, with four formally named for the first time. These are *L. evanwhittoni* *sp. nov.*; *L. fiacummingae* *sp. nov.*, *L. colinrayi* *sp. nov.* and *L. martinekae* *sp. nov.*

The already named species *Litotesinciscus metallica* (O'Shaughnessy, 1874), *L. pretiosus* (O'Shaughnessy, 1874) and *L. wellsi* Hoser, 2016 are all valid species and also part of this complex.

In terms of the preceding, the following points should be noted.

L. wellsi Hoser, 2016 was not sampled by Kreger *et al.* (2019). This is self-evident from their paper and inspection of specimens from locations otherwise closest to far south-west Tasmania, which is where *L. wellsi* is confined to.

Their sampling of putative *L. metallica* from across most other parts of Tasmania, the Flinders Island group in Bass Strait and Southern Victoria revealed four main clades and one of these had two main subclades, giving a total of five species.

All diverged 2.8 or more million years from one another (Kreger *et al.* 2019) and so in total constituted five species.

Inspection of specimens from the relevant localities also confirmed obvious species-level differences between the identified clade

populations.

The original description of O'Shaughnessy (1874) for his species *L. metallica* was read and the most significant part of that was the description of the colour pattern of the type material.

It read as follows:

"Colours: above bright bronzed green, with a median dark brown stripe and lateral variegations more or less irregular; sides dark brown, broken up into irregular variegations; beneath greenish, dotted on chin.

In the British Museum, from Van Diemen's Land. Collected by E. Gunn, Esq.

In several other specimens (Dr. Millingen's collection) the ground-colour is much darker, and may be described as greenish brown, the pattern, however, being the same."

Fortuitously, the description was sufficient to identify the north-eastern Tasmanian clade as the relevant type form and to the exclusion of all others.

None of the other Tasmanian species in this complex have the unique combination of "a median dark brown stripe and lateral variegations more or less irregular; sides dark brown, broken up into irregular variegations".

This enabled me to formally name the other clades for the first time and without risk of inadvertently creating one or more junior synonyms by accidentally renaming the type population of *L. metallica*.

Kreger *et al.* (2019) identified the following relevant divergences: "The southern clade diverged around 5.8 Ma (2.5-10.6 Ma), and the split between the northeast and southeast clades occurred around 4.4 Ma (1.9-8.1 Ma). Within the major clades, deep internal branches diverged approximately 2.8-1.5 Ma. Within the northeast clade, the divergence between Tasmania and the group comprising the Bass Strait islands and mainland Australia was dated to around 2.8 Ma (1.2-5.2 Ma), while mainland Australian populations diverged 1-2 Ma."

Those dated divergences correspond to the relevant formally named species.

3/ *Mocoo ocellatum* Gray, 1845, is herein placed into a newly named genus *Ocellatalbum gen. nov.* based on morphological differences and a divergence believed to be in excess of 10 MYA from other similar species within *Litotescincus* and *Carinascincus* Wells and Wellington, 1985.

It is also formally divided into four species, three of which are formally named for the first time as *Ocellatalbum dannygoodwini sp. nov.*, *O. alexdudleyi sp. nov.* and *O. assangei sp. nov.*

From the original description, it is self evident that the type material is from near Hobart, Tasmania.

All the newly described forms are both morphologically divergent and have origins that were allopatric across biogeographical barriers of known antiquity.

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 14 July 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 = preloacal pores, preanal = preloacal, 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 of assessment (Hoser 1999), 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 (2007, 2009, 2012a, 2012b, 2013, 2015a-f, 2019a, 2019b and 2020a).

ABBASAURUM GEN. NOV.

LSIDurn:lsid:zoobank.org:act:03C32D44-0B0D-4A24-8BAC-87850CF15C20

Type species: *Abbasaurum maxinehoserae sp. nov.*

Diagnosis: *Abbasaurum gen. nov.* are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiopolisma greeni* Rawlinson, 1975 and *Litotescincus* Wells and Wellington, 1985 with a type species of *Mocoo metallica* O'Shaughnessy, 1874 (including the newly named genus *Ocellatalbum gen. nov.*) by having no supranasals and that the frontoparietals are paired. All species within the genera *Carinascincus* and *Litotescincus* have frontoparietals fused to form a single shield.

The four genera *Abbasaurum gen. nov.*, *Carinascincus*, *Litotescincus* and *Ocellatalbum gen. nov.* (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpabral disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

Distribution: Southern Victoria from the Grampians and Otway Ranges in the west, through eastern Victoria and southern highlands of New South Wales and the ACT to the elevated regions west of Sydney, New South Wales, Australia.

Etymology: Named in honour of Swedish Rock Band ABBA, who were popular in the Australian music scene in the 1970's for contributions to entertainment in Australia. The genus name is short and simple to remember.

Content: *Abbasaurum maxinehoserae sp. nov.* (type species); *A. abba sp. nov.*; *A. bobbottomi sp. nov.*; *A. coventryi* (Rawlinson, 1975).

ABBASAURUM MAXINEHOSERAEE SP. NOV.

LSIDurn:lsid:zoobank.org:act:6D65F16D-5BE2-43FE-8C15-8D7D979F7491

Holotype: A preserved female specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D32994 collected from Mount Sabine, Otway Ranges, Victoria, Australia, Latitude -38.63 S., Longitude 143.73 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ A preserved female specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D32962 collected from 5 km north of Cape Horn, Otway

Ranges, Victoria, Australia, Latitude -38.68 S., Longitude 143.62 E., 2/ Five preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D13631, D13632, D13633, D13634 and D13635 collected from Mount Sabine, Otway Ranges, Victoria, Australia, Latitude -38.63 S., Longitude 143.73 E., 3/ A preserved specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D48305 collected 1 km north of Cape Horn Junction, Latitude -38.72 S., Longitude 143.62 S., 4/ A preserved specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D48306 collected 2 km north of Cape Horn Junction, Latitude -38.75 S., Longitude 143.62 S.

Diagnosis: Until now, putative *Abbasaurum coventryi* (Rawlinson, 1975), originally described as *Leiopisma coventryi* Rawlinson, 1975 better known as *Carinascincus coventryi* has until now been treated by all herpetologists as a single species ranging from Apollo Bay and the Grampians in the west of Victoria, through the type locality in the Yarra Ranges, east of Melbourne, Victoria, and north through high altitude areas to west of Sydney, New South Wales. Exceptional to this has been Wells and Wellington (1985), who formally named the Brindabella Ranges population as *Litotesincus bartelli*, recognized herein as a subspecies of nominate *Abbasaurum coventryi*.

The putative species is now divided four ways with nominate *A. coventryi* being found from just north and east of Ballarat in the west, through the Great Dividing Range and eastern Victoria to the Australian Capital Territory in the north.

The population at the northern extremity of this range, being the Brindabella Ranges and immediately north-west of there is referred to the morphologically divergent subspecies *A. coventryi bartelli* (Wells and Wellington, 1985).

Abbasaurum maxinehoserae sp. nov. is strictly confined to the Otway Ranges area, being bound by Gherang in the north-east, Airey's Inlet in the east, Point Reginald in the south-west and not as far north as Colac in the north.

Abbasaurum bobbottomi sp. nov. is found in the Grampians, western Victoria, with specimens found in the hills between Ballarat and Ararat (Mount Buangor area) being tentatively referred to the same taxon.

Abbasaurum abba sp. nov. is the taxon found in the cold country west of the Blue Mountains in New South Wales from near Bathurst and Lithgow in the north, south through Oberon and the Jenolan Caves area, to the Wombeyan Caves area.

The four species are readily separated from one another as follows: Nominate *A. coventryi* has a medium brown dorsum, bounded by a semi-distinct dark border at the top of the flank. The dorsum has semi-distinct dark and light flecks, always visible, except in some large and aged specimens. The anterior body, neck and upper surface of the head has scattered tiny black dots or flecks. The upper flank is a dark brownish-black. The lower to mid flank, also dark in colour is punctuated by scattered and distinct tiny white spots that are not arranged in lines of any form. Upper surfaces of limbs are mainly dark brown to black and sometimes obviously marked with both. The side of the head is mainly brown, but with some white flecks or markings, then becoming darker behind the ear as one moves along the flank to the body.

The subspecies *A. coventryi bartelli* is similar in most respects to nominate *A. coventryi coventryi* as described above, but is separated from that subspecies by not having scattered and distinct tiny white spots on the mid to lower flank that are not arranged in lines of any form. Instead there is a very noticeable lightening of the lower flank, which also has tiny semi-distinct spots closely placed and forming 3-5 semi-distinct lateral lines on each flank. Dorsally there is an absence of any black flecks or spots on the head, neck or body, except for the anterior half of tail, which has both dark and light flecks. The side of the head is a light greyish-brown, grading to near black on the neck.

A. abba sp. nov. has a light brown dorsum that is bounded on the edges of the top of the flank by a well-defined black border, the black extending down the upper flank, whereupon it grades to grey lower down, before turning white near the belly. The top of the head is also light brown, but the sides of the head are blackish from the tip of the snout back. The dorsum has obvious black peppering throughout, including on the head, but no lighter flecks. The upper surfaces of

the limbs are mainly black, although some specimens have obvious dark brown scales as well on the limbs.

A. maxinehoserae sp. nov. and *A. bobbottomi* sp. nov. are very different to the other species in that they are both mainly greyish in dorsal body colour, rather than brown, or at least have a strong greyish hue.

A. maxinehoserae sp. nov. has a metallic grey dorsum of the body in turn with numerous black flecks, while the upper surface of the head is invariably brown, at least at the anterior part of the snout, in front of the eyes. In some specimens the change from grey to brown starts on the neck. There is less black flecking on the upper surface of the head than there is on the dorsum. The upper half of each flank is black, the upper and lower boundary lines being jagged edged, but well defined. Lower flanks are whitish grey with some scattered black flecks. In common with the other species, the dark of the flank extends onto the anterior half of the tail, where it persists, but in a somewhat reduced form. Upper labials have semi-distinct white markings.

A. bobbottomi sp. nov. is also a mainly metallic grey lizard and is separated from the other species and *A. maxinehoserae* sp. nov. in particular by having a head that is also grey, all the way to the snout; a weak contrast between the grey on the dorsum and the upper flank, which is also more dark grey, rather than a bold dark black, making the boundary ill defined. The lower boundary of the dark zone of the upper flank is not a defined line, but instead gradually fades lighter below. The dorsum has white or light, as well as black flecks.

Abbasaurum gen. nov. the total of which are the four preceding species and single subspecies, are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiopisma greeni* Rawlinson, 1975 and *Litotesincus* Wells and Wellington, 1985 with a type species of *Mococa metallica* O'Shaughnessy, 1874 (until now including the newly named genus *Ocellatalbum* gen. nov.) by having no supranasals and frontoparietals that are paired. All species within the genera *Carinascincus* and *Litotesincus* (including *Ocellatalbum* gen. nov.) have frontoparietals fused to form a single shield.

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesincus* and *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

A. maxinehoserae sp. nov. in life is depicted in Wilson and Swan (2017) on page 193 at top left and online at:

<https://www.inaturalist.org/observations/109033305>

and

<https://www.inaturalist.org/observations/105940535>

A. coventryi is depicted in life online at:

<https://www.inaturalist.org/observations/71855834>

and

<https://www.inaturalist.org/observations/17739150>

A. coventryi bartelli is depicted in life in Hoser (1989) on page 101, bottom photo and online at:

<https://www.flickr.com/photos/189037423@N06/51955947154/>

and

<https://canberra.naturemapr.org/sightings/4415757>

A. abba sp. nov. is depicted in life in Swan, Shea and Sadler (2004), page 175 and online at:

<https://www.inaturalist.org/observations/65375794>

and

<https://www.inaturalist.org/observations/74818572>

and

<https://www.inaturalist.org/observations/65379281>

Distribution: *Abbasaurum maxinehoserae* sp. nov. is strictly confined to the Otway Ranges area, being bound by Gherang in the north-east, Airey's Inlet in the east, Point Reginald in the south-west and not as far north as Colac in the north. The species is common around Forrest at the northern edge of the Otway Ranges.

Etymology: *A. maxinehoserae* sp. nov. is named in honour of Maxine Hoser of Margate, United Kingdom, in recognition of services to herpetology.

ABBASAURUM ABBA SP. NOV.

LSIDDurn:lsid:zoobank.org:act:435468AC-AE4D-4D6F-92FF-07F9F7887ABA

Holotype: A preserved specimen in the Australian Museum, Sydney, New South Wales, Australia, specimen number R.178699 collected from Kanangra Rd, 'The Valley', Kanangra-Boyd National Park, New South Wales, Australia, Latitude -33.85333 S., Longitude 150.03304 E.

This government-owned facility allows access to its holdings.

Paratypes: 19 preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.141346, R.141347, R.178700, R.178703, R.178704, R.178705, R.178706, R.178707, R.178708, R.178710, R.178711, R.178712, R.178714, R.178720, R.178721, R.178722, R.178723, R.178724 and R.178725 all collected from near Kanangra Rd, Kanangra-Boyd National Park, New South Wales, Australia.

Diagnosis: Until now, putative *Abbasaurum coventryi* (Rawlinson, 1975), originally described as *Leiolopisma coventryi* Rawlinson, 1975 better known as *Carinascincus coventryi* has until now been treated by all herpetologists as a single species ranging from Apollo Bay and the Grampians in the west of Victoria, through the type locality in the Yarra Ranges, east of Melbourne, Victoria, and north through high altitude areas to west of Sydney, New South Wales. Exceptional to this has been Wells and Wellington (1985), who formally named the Brindabella Ranges population as *Litotesincus bartelli*, recognized herein as a subspecies of nominate *Abbasaurum coventryi*.

The putative species is now divided four ways with nominate *A. coventryi* being found from just north and east of Ballarat in the west, through the Great Dividing Range and eastern Victoria to the Australian Capital Territory in the north.

The population at the northern extremity of this range, being the Brindabella Ranges and immediately north-west of there is referred to the morphologically divergent subspecies *A. coventryi bartelli* (Wells and Wellington, 1985).

Abbasaurum maxinehoserae sp. nov. is strictly confined to the Otway Ranges area, being bound by Gherang in the north-east, Airey's Inlet in the east, Point Reginald in the south-west and not as far north as Colac in the north.

Abbasaurum bobbottomi sp. nov. is found in the Grampians, western Victoria, with specimens found in the hills between Ballarat and Ararat (Mount Buangor area) being tentatively referred to the same taxon.

Abbasaurum abba sp. nov. is the taxon found in the cold country west of the Blue Mountains in New South Wales from near Bathurst and Lithgow in the north, south through Oberon and the Jenolan Caves precinct, to the Wombeyan Caves area.

The four species are readily separated from one another as follows:

Nominate *A. coventryi* has a medium brown dorsum, bounded by a semi-distinct dark border at the top of the flank. The dorsum has semi-distinct dark and light flecks, always visible, except in some large and aged specimens. The anterior body, neck and upper surface of the head has scattered tiny black dots or flecks. The upper flank is a dark brownish-black. The lower to mid flank, also dark in colour is punctuated by scattered and distinct tiny white spots that are not arranged in lines of any form. Upper surfaces of limbs are mainly dark brown to black and sometimes obviously marked with both. The side of the head is mainly brown. but with some white flecks or markings, then becoming darker behind the ear as one moves along the flank to the body.

The subspecies *A. coventryi bartelli* is similar in most respects to nominate *A. coventryi coventryi* as described above, but is separated from that subspecies by not having scattered and distinct tiny white spots on the mid to lower flank that are not arranged in lines of any form. Instead there is a very noticeable lightening of the lower flank, which also has tiny semi-distinct spots closely placed and forming 3-5 semi-distinct lateral lines on each flank. Dorsally there is an absence of any black flecks or spots on the head, neck or body, except for the anterior half of tail, which has both dark and light flecks. The side of the head is a light greyish-brown, grading to

near black on the neck.

A. abba sp. nov. has a light brown dorsum that is bounded on the edges of the top of the flank by a well-defined black border, the black extending down the upper flank, whereupon it grades to grey lower down, before turning white near the belly. The top of the head is also light brown, but the sides of the head are blackish from the tip of the snout back. The dorsum has obvious black peppering throughout, including on the head, but no lighter flecks. The upper surfaces of the limbs are mainly black, although some specimens have obvious dark brown scales as well on the limbs.

A. maxinehoserae sp. nov. and *A. bobbottomi* sp. nov. are very different to the other species in that they are both mainly greyish in dorsal body colour, rather than brown.

A. maxinehoserae sp. nov. has a metallic grey dorsum of the body in turn with numerous black flecks, while the upper surface of the head is invariably brown, at least at the anterior part of the snout, in front of the eyes. In some specimens the change from grey to brown starts on the neck. There is less black flecking on the upper surface of the head than there is on the dorsum. The upper half of each flank is black, the upper and lower boundary lines being jagged edged, but well defined. Lower flanks are whitish grey with some scattered black flecks. In common with the other species, the dark of the flank extends onto the anterior half of the tail, where it persists, but in a somewhat reduced form. Upper labials have semi-distinct white markings.

A. bobbottomi sp. nov. is also a mainly metallic grey lizard and is separated from the other species and *A. maxinehoserae* sp. nov. in particular by having a head that is also grey, all the way to the snout; a weak contrast between the grey on the dorsum and the upper flank, which is also more dark grey, rather than a bold dark black, making the boundary ill defined. The lower boundary of the dark zone of the upper flank is not a defined line, but instead gradually fades lighter below. The dorsum has white or light, as well as black flecks.

Abbasaurum gen. nov. the total of which are the four preceding species, and single subspecies, are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiolopisma greeni* Rawlinson, 1975 and *Litotesincus* Wells and Wellington, 1985 with a type species of *Mococa metallica* O'Shaughnessy, 1874 (until now including the newly named genus *Ocellatalbum* gen. nov.) by having no supranasals and frontoparietals that are paired. All species within the genera *Carinascincus*, the newly named genus *Ocellatalbum* gen. nov. and *Litotesincus* have frontoparietals fused to form a single shield.

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesincus* and *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

A. maxinehoserae sp. nov. in life is depicted in Wilson and Swan (2017) on page 193 at top left and online at:

<https://www.inaturalist.org/observations/109033305>

and

<https://www.inaturalist.org/observations/105940535>

A. coventryi is depicted in life online at:

<https://www.inaturalist.org/observations/71855834>

and

<https://www.inaturalist.org/observations/17739150>

A. coventryi bartelli is depicted in life in Hoser (1989) on page 101, bottom photo and online at:

<https://www.flickr.com/photos/189037423@N06/51955947154/>

and

<https://canberra.naturemapr.org/sightings/4415757>

A. abba sp. nov. is depicted in life in Swan, Shea and Sadler (2004), page 175 and online at:

<https://www.inaturalist.org/observations/65375794>

and

<https://www.inaturalist.org/observations/74818572>

and

<https://www.inaturalist.org/observations/65379281>

Distribution: *Abbasaurum abba* sp. nov. is the taxon found in the cold country west of the Blue Mountains in New South Wales from near Bathurst and Lithgow in the north, south through Oberon and the Jenolan Caves precinct, to the Wombeyan Caves area.

Etymology: *A. abba* sp. nov. is named in honour of Swedish Rock Band ABBA, who were popular in the Australian music scene in the 1970's for contributions to entertainment in Australia. The genus name is short and simple to remember. They were particularly popular in the town of Oberon, the centre of distribution for this species, when in the late 1970's it was rare to see a child walking down the shopping strip not wearing a T-shirt with ABBA emblazoned on it.

ABBASAURUM BOBBOTTOMI SP. NOV.

LSIDurn:lsid:zoobank.org:act:B7A6D0D9-76F6-4773-93E8-922B35ABC713

Holotype: A preserved specimen in the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D32926, collected at Strahans Camp, The Grampians, Victoria, Australia, Latitude -37.38 S., Longitude 142.27 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Two preserved specimen in the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D38184 and D38185 collected from 3.2 km south-east of Mount Victory, The Grampians, Victoria, Australia, Latitude -37.17 S., Longitude 142.45 E., 2/ A preserved specimen in the South Australian Museum, Adelaide, South Australia, Australia, specimen number R14746 collected from south-west of Halls Gap in The Grampians, Victoria, Australia, Latitude -37.3 S., Longitude 142.3 E., 3/ A preserved specimen in the South Australian Museum, Adelaide, South Australia, Australia, specimen number R13671, collected from 9 km south-east of Glenisla, The Grampians, Victoria, Australia, Latitude -37.2833 S., Longitude 142.275 E.

Diagnosis: Until now, putative *Abbasaurum coventryi* (Rawlinson, 1975), originally described as *Leiopolisma coventryi* Rawlinson, 1975 better known as *Carinascincus coventryi* has until now been treated by all herpetologists as a single species ranging from Apollo Bay and the Grampians in the west of Victoria, through the type locality in the Yarra Ranges, east of Melbourne, Victoria, and north through high altitude areas to west of Sydney, New South Wales. Exceptional to this has been Wells and Wellington (1985), who formally named the Brindabella Ranges population as *Litotesincus bartelli*, recognized herein as a subspecies of nominate *Abbasaurum coventryi*.

The putative species is now divided four ways with nominate *A. coventryi* being found from just north and east of Ballarat in the west, through the Great Dividing Range and eastern Victoria to the Australian Capital Territory in the north.

The population at the northern extremity of this range, being the Brindabella Ranges and immediately north-west of there is referred to the morphologically divergent subspecies *A. coventryi bartelli* (Wells and Wellington, 1985).

Abbasaurum maxinehoserae sp. nov. is strictly confined to the Otway Ranges area, being bound by Gherang in the north-east, Airey's Inlet in the east, Point Reginald in the south-west and not as far north as Colac in the north.

Abbasaurum bobbottomi sp. nov. is found in the Grampians, western Victoria, with specimens found in the hills between Ballarat and Ararat (Mount Buangor area) being tentatively referred to the same taxon.

Abbasaurum abba sp. nov. is the taxon found in the cold country west of the Blue Mountains in New South Wales from near Bathurst and Lithgow in the north, south through Oberon and the Jenolan Caves precinct, to the Wombeyan Caves area.

The four species are readily separated from one another as follows: Nominate *A. coventryi* has a medium brown dorsum, bounded by a semi-distinct dark border at the top of the flank. The dorsum has semi-distinct dark and light flecks, always visible, except in some large and aged specimens. The anterior body, neck and upper surface of the head has scattered tiny black dots or flecks. The upper flank is a dark brownish-black. The lower to mid flank, also dark in colour is punctuated by scattered and distinct tiny white spots

that are not arranged in lines of any form. Upper surfaces of limbs are mainly dark brown to black and sometimes obviously marked with both. The side of the head is mainly brown. but with some white flecks or markings, then becoming darker behind the ear as one moves along the flank to the body.

The subspecies *A. coventryi bartelli* is similar in most respects to nominate *A. coventryi coventryi* as described above, but is separated from that subspecies by not having scattered and distinct tiny white spots on the mid to lower flank that are not arranged in lines of any form. Instead there is a very noticeable lightening of the lower flank, which also has tiny semi-distinct spots closely placed and forming 3-5 semi-distinct lateral lines on each flank. Dorsally there is an absence of any black flecks or spots on the head, neck or body, except for the anterior half of tail, which has both dark and light flecks. The side of the head is a light greyish-brown, grading to near black on the neck.

A. abba sp. nov. has a light brown dorsum that is bounded on the edges of the top of the flank by a well-defined black border, the black extending down the upper flank, whereupon it grades to grey lower down, before turning white near the belly. The top of the head is also light brown, but the sides of the head are blackish from the tip of the snout back. The dorsum has obvious black peppering throughout, including on the head, but no lighter flecks. The upper surfaces of the limbs are mainly black, although some specimens have obvious dark brown scales as well on the limbs.

A. maxinehoserae sp. nov. and *A. bobbottomi* sp. nov. are very different to the other species in that they are both mainly greyish in dorsal body colour, rather than brown.

A. maxinehoserae sp. nov. has a metallic grey dorsum of the body in turn with numerous black flecks, while the upper surface of the head is invariably brown, at least at the anterior part of the snout, in front of the eyes. In some specimens the change from grey to brown starts on the neck. There is less black flecking on the upper surface of the head than there is on the dorsum. The upper half of each flank is black, the upper and lower boundary lines being jagged edged, but well defined. Lower flanks are whitish grey with some scattered black flecks. In common with the other species, the dark of the flank extends onto the anterior half of the tail, where it persists, but in a somewhat reduced form. Upper labials have semi-distinct white markings.

A. bobbottomi sp. nov. is also a mainly metallic grey lizard and is separated from the other species and *A. maxinehoserae* sp. nov. in particular by having a head that is also grey, all the way to the snout; a weak contrast between the grey on the dorsum and the upper flank, which is also more dark grey, rather than a bold dark black, making the boundary ill defined. The lower boundary of the dark zone of the upper flank is not a defined line, but instead gradually fades lighter below. The dorsum has white or light, as well as black flecks.

Abbasaurum gen. nov. the total of which are the four preceding species, and single subspecies, are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiopolisma greeni* Rawlinson, 1975 and *Litotesincus* Wells and Wellington, 1985 with a type species of *Mococa metallica* O'Shaughnessy, 1874 (until now including the newly named genus *Ocellatalbum* gen. nov.) by having no supranasals and frontoparietals that are paired. All species within the genera *Carinascincus*, *Litotesincus* and the newly named genus *Ocellatalbum* gen. nov. have frontoparietals fused to form a single shield.

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesincus* and the newly named genus *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

A. maxinehoserae sp. nov. in life is depicted in Wilson and Swan (2017) on page 193 at top left and online at:

<https://www.inaturalist.org/observations/109033305>

and

<https://www.inaturalist.org/observations/105940535>

A. coventryi is depicted in life online at:

<https://www.inaturalist.org/observations/71855834>
and

<https://www.inaturalist.org/observations/17739150>

A. coventryi bartelli is depicted in life in Hoser (1989) on page 101, bottom photo and online at:

<https://www.flickr.com/photos/189037423@N06/51955947154/>
and

<https://canberra.naturemapr.org/sightings/4415757>

A. abba sp. nov. is depicted in life in Swan, Shea and Sadler (2004), page 175 and online at:

<https://www.inaturalist.org/observations/65375794>
and

<https://www.inaturalist.org/observations/74818572>
and

<https://www.inaturalist.org/observations/65379281>

Distribution: *Abbasaurum bobbottomi* sp. nov. is found in the Grampians, western Victoria, with specimens found in the hills between Ballarat and Ararat (Mount Buangor area) being tentatively referred to the same taxon.

Etymology: *A. bobbottomi* sp. nov. is named in honour of Robert Godier Bottom, OAM, better known as Bob Bottom, a retired Australian investigative journalist and author.

His crime and corruption books published in the 1970's and 1980's were best-sellers. While corruption has worsened in Australia since his books were published, his stellar efforts in combating endemic corruption should not go unrecognized.

LITOTESCINCUS EVANWHITTONI SP. NOV.

LSIDDurn:lsid:zoobank.org:act:94EB4543-C588-4C84-B7A5-3D10A705C543

Holotype: A preserved specimen at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen number C963 collected from Garden Island, Tasmania, Australia, Latitude -43.258620 S., Longitude 147.13 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ 28 preserved specimens at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen numbers C964, C965, C966, C967, C968, C969, C970, C971, C972, C973, C974, C975, C976, C977, C978, C979, C980, C981, C982, C983, C984, C985, C986, C987, C988, C989, C990 and C991 all collected from Garden Island, Tasmania, Australia, Latitude -43.258620 S., Longitude 147.13 E., 2/ A preserved specimen at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen number C695 collected from Hastings, Tasmania, Australia, Latitude -43.42 S., Longitude 146.92 E., 3/ Two preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D2594 and D2596 collected from Port Esperance, Tasmania, Australia, Latitude -43.33 S., Longitude 147.02 E.

Diagnosis: Putative *Mococa metallica* O'Shaughnessy, 1874, with a type locality of Tasmania, now the type species for the genus *Litotescincus* Wells and Wellington, 1985 has since 1874 been treated by all herpetologists as a single species found in most parts of Tasmania, across the islands of Bass Strait and into southern Victoria.

Dismemberment of the species complex commenced with the discovery of and diagnosis of *L. wellsi* Hoser, 2016, being a divergent form from far south-west Tasmania.

Kreger *et al.* (2019) found deep divergences of 2.8 MYA or more between five populations of putative *Litotescincus metallica* from across most of the known range of the putative species.

They made no attempt to identify and name these species.

Inspection of hundreds of (mainly live) specimens and photos from across this range showed each clade identified by Kreger *et al.* (2019) conforms to morphologically distinct forms herein formally identified and named as new species, with the exception of the already named nominate form from north-east Tasmania and *L. wellsi* Hoser, 2016 which was not sampled by Kreger *et al.* (2019).

The relevant species in the *L. metallica* complex are as follows:

L. metallica (O'Shaughnessy, 1874) which occurs in north-east Tasmania, north of Falmouth on the east coast and east of Hillwood near the north coast.

L. wellsi Hoser, 2016 is found in the far south-west of Tasmania in the vicinity of New Harbour and Melaleuca.

L. evanwhittoni sp. nov. is found in the far south-east of Tasmania in an area bounded by Garden Island and Hartz Peak in the North and South Cape in the south.

L. fiacummingae sp. nov. is found in most of the south and central parts of Tasmania, including most of the central plateau and the Hobart area, being generally bound by a region within King William Creek in the south-west, Fortescue Bay in the south-east, Bicheno in the north-east, Cataract Gorge in the North, Pine Lake and Clarence Lagoon in the west.

L. martinekae sp. nov. is found in the eastern Bass Strait islands, from the Flinders Island Group (including outliers) to Victoria and also within southern Victoria, including the Bellarine and Mornington Peninsulas in the west, extending across southern and south-eastern Melbourne east to Woodside (east of Wilson's Promontory) and including nearby ranges, including the Dandenong and Yarra Ranges and as far north as the Mount Baw Baw National Park.

L. colinrayi sp. nov. is found in north-west Tasmania, north of Lake St. Clair in the south-east of the range, and west of here, Quamby Bluff, Deloraine and Beauty Point, to include most if not all the north-west corner of Tasmania, at least as far west as Lake Chisholm in the north-west, and presumably including the specimens also on King Island to the immediate north-west.

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

L. metallica as described by O'Shaughnessy (1874), is unique among the complex by having a colour combination as follows: "Above bright bronzed green, with a median dark brown stripe and lateral variegations more or less irregular; sides dark brown, broken up into irregular variegations; beneath greenish, dotted on chin." The variegations in the form of spots or flecks may be dark, light or both.

L. wellsi Hoser, 2016 is characterised by being heavily striped and lacks significant dorsal or lateral speckling found in other members of the *L. metallica* complex. Furthermore *L. wellsi* have strongly keeled scales, not seen in other species in the *L. metallica* complex, making this almost certainly the most divergent member in this group. The body of *L. wellsi* is dark chocolate brown on the dorsum. The top two thirds of the upper flank form a well-defined very dark, nearly black stripe that is bound on the bottom by an extremely well-defined thin white line, this latter trait shared only with *L. colinrayi* sp. nov.

L. evanwhittoni sp. nov. is a generally silver-grey lizard on the dorsum, which also has semi-distinct dark and/or light speckling on the back and no obvious mid-dorsal line, although some specimens do have a very slight darkening along the midline near the rear of the dorsum and at the beginning of the tail.

The upper flank is greyish-black with obvious white speckling on it (in contrast to *L. wellsi* which does not), while the lower flank is whitish-grey, with semi-distinct scattered white dots. The boundary between the dark and the light on the flank is not in the form of a well-defined white line. Head lacks obvious spots or flecks and is usually slightly brownish. Upper surfaces of limbs are usually a uniform dark greyish colour, rarely with semi-distinct lighter flecks or spots.

L. fiacummingae sp. nov. is a dark brownish-black lizard with numerous black, brown and/or beige flecks on the dorsum. There is no evidence of any mid-dorsal line. The upper flanks are jet black and with many obvious white or light coloured dots overlaying the darker area. Upper surfaces of limbs also have numerous white dots on the otherwise darker surface. Lower flanks also grey and with obvious tiny white flecks.

L. martinekae sp. nov. is a beige to light greenish beige coloured lizard, with a dorsum heavily flecked, especially with white or some other light colour, including on the head. There is no evidence of any mid-dorsal line. Upper flanks are black and heavily spotted white. The upper and lower boundary of the black on the flank is not well defined. Below the dark zone is a grey lower flank with more white semi-distinct spots on the same area. Upper surfaces of the limbs are beige with obvious black spots or similar markings.

L. colinrayi sp. nov. is brown on the upper surface of the dorsum. Along the midline is a well-defined black line extending the length of the body. On either side of the mid-dorsal line and on the dorsal surface, are two other less well-defined lines running the length of

the dorsum (giving a total of five). The mid-dorsal line also runs onto the anterior part of the tail.

The upper border of the upper dark zone of the flank is dark brown, with lighter brown below that and then below that a dark brown border, which in turn borders a well-defined white line.

L. colinrayi sp. nov. is the only member of the complex in which the dark upper zone of the flank is not just black or dark grey in the form of a line in effect occupying most of the flank, but rather forms a three line configuration with the darker upper and lower area, between which is a lighter coloured line. The three lines in effect take up the same space as the single dark line in the other species. There are no white or light spots dotting the upper flank as seen in most other species in the complex.

Unlike the other species in the complex, (except sometimes *L. wells*), this lizard gives an appearance of having stripes on the dorsum of moderately good definition. In this species, the upper labials white is well defined and contrasts sharply with the brown above, giving the appearance of a well-defined white line running from the tip of the snout, along the jawline, neck and joining the same white line that bounds the lower flank.

In the other species the white of the upper labials are either not as strongly contrasting or otherwise interspersed with grey, peppering or similar.

The six preceding species comprising the entirety of the *L. metallica* complex are separated from all other species within *Litotesincus* Wells and Wellington, 1985, *Abbasaurum* gen. nov., *Carinascincus* Wells and Wellington, 1985 and *Ocellatalbum* gen. nov. by the following suite of characters;

Supranasal scales absent; frontoparietal scales fused to form a single shield; suture between the rostral and frontonasal is much narrower than the frontal; 5-7 supraciliaries; 24-28 midbody scale rows; paravertebral scales are transversely enlarged and wider than the adjacent dorsal scales; transparent disc of the lower eyelid is moderate and much smaller than the eye; smooth subdigital lamellae with 16-22 under the fourth toe; tail about 1.5 times snout-vent; adpressed limbs meeting or slightly overlapping (modified from Cogger 2014).

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesincus* and *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

L. metallica is depicted in life online at:

<https://www.inaturalist.org/observations/2763149>

and

<https://www.inaturalist.org/observations/25734908>

L. wells Hoser, 2016 is depicted in life in Wilson and Swan (2017) on page 193 at middle right and online at:

<https://www.inaturalist.org/observations/18708902>

and

<https://www.inaturalist.org/observations/18638878>

L. evanwhittoni sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/57810630>

and

<https://www.inaturalist.org/observations/57810617>

and

<https://www.inaturalist.org/observations/93945547>

L. fiacummingae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/87534217>

and

<https://www.inaturalist.org/observations/87533319>

and

<https://www.inaturalist.org/observations/5782400>

and

<https://www.inaturalist.org/observations/69000825>

and

<https://www.inaturalist.org/observations/106478175>

and

<https://www.inaturalist.org/observations/63415828>

L. martinekae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/70663928>

and

<https://www.inaturalist.org/observations/98758709>

and

<https://www.inaturalist.org/observations/97741022>

and

<http://reptilesaustralia.com/lizards/skinks/metallicskink.html#YulVhL1Bypp>

(top two images).

L. colinrayi sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/39347293>

and

<https://www.inaturalist.org/observations/75634401>

and

<https://www.inaturalist.org/observations/102917875>

and

<https://www.inaturalist.org/observations/56724299>

Kreger *et al.* (2019) found this species to have diverged from its nearest congener some 5.8 MYA.

Distribution: *L. evanwhittoni* sp. nov. is found in the far south-east of Tasmania in an area bounded by Garden Island and Hartz Peak in the North and South Cape in the south.

Etymology: *L. evanwhittoni* sp. nov. is named in honour of Evan Whitton, born 5 March 1928, died 16 July 2018), in recognition for services to Australia in (unsuccessfully) fighting corruption in the Australian legal system.

His best selling books included:

Can of Worms: A Citizen's Reference Book to Crime and the Administration of Justice (1986) ISBN 0949054313

Can of Worms II: A Citizen's Reference Book to Crime and the Administration of Justice (1986) ISBN 0949054968

Amazing Scenes (1987) ISBN 064212809X

The Hillbilly Dictator: Australia's Police State (1989) ISBN 064212809X

Trial by Voodoo: Why the Law Defeats Justice and Democracy (1994) ISBN 0091828805

The Cartel: Lawyers and their Nine Magic Tricks (1998) ISBN 0646348876

Serial Liars: How Lawyers Get the Money and Get the Criminals Off (2005) ISBN 9781411658752

Our Corrupt Legal System (2010) ISBN 9781921681073

LITOTESINCUS FIACUMMINGAE SP. NOV.

LSIDDurn:lsid:zoobank.org:act:4FCA9CD6-967E-4AD2-BFFF-9DAB9E390908

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.178849 collected from about 3 km south of Orford, Tasmania, at a place called "Three Thumbs", Latitude -42.583 S., Longitude 147.866 E.

This government-owned facility allows access to its holdings.

Paratypes: Ten preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.176623, R.176624, R.176625, R.176626, R.176627, R.176628, R.176629, R.176630, R.178850 and R.178851 all collected from about 3 km south of Orford, Tasmania, at a place called "Three Thumbs", Latitude -42.583 S., Longitude 147.866 E.

Diagnosis: Putative *Mococa metallica* O'Shaughnessy, 1874, with a type locality of Tasmania, now the type species for the genus *Litotesincus* Wells and Wellington, 1985 has since 1874 been treated by all herpetologists as a single species found in most parts of Tasmania, across the islands of Bass Strait and into southern Victoria.

Dismemberment of the species complex commenced with the discovery of and diagnosis of *L. wells* Hoser, 2016, being a divergent form from far south-west Tasmania.

Kreger *et al.* (2019) found deep divergences of 2.8 MYA or more between five populations of putative *Litotesincus metallica* from across most of the known range of the putative species.

They made no attempt to identify and name these species.

Inspection of hundreds of (mainly live) specimens and photos from across this range showed each clade identified by Kreger *et al.* (2019) conforms to morphologically distinct forms herein formally identified and named as new species, with the exception of the already named nominate form from north-east Tasmania and *L. wellsii* Hoser, 2016 which was not sampled by Kreger *et al.* (2019). The relevant species in the *L. metallica* complex are as follows:

L. metallica (O'Shaughnessy, 1874) which occurs in north-east Tasmania, north of Falmouth on the east coast and east of Hillwood near the north coast.

L. wellsii Hoser, 2016 is found in the far south-west of Tasmania in the vicinity of New Harbour and Melaleuca.

L. evanwhittoni sp. nov. is found in the far south-east of Tasmania in an area bounded by Garden Island and Hartz Peak in the North and South Cape in the south.

L. fiacummingae sp. nov. is found in most of the south and central parts of Tasmania, including throughout most of the central plateau and the Hobart area, being generally bound by a region within King William Creek in the south-west, Fortescue Bay in the south-east, Bicheno in the north-east, Cataract Gorge in the North, Pine Lake and Clarence Lagoon in the west. The species is most commonly seen in lowland areas near the east coast.

L. martinekae sp. nov. is found in the eastern Bass Strait islands, from the Flinders Island Group (including outliers) to Victoria and also within southern Victoria, including the Bellarine and Mornington Peninsulas in the west, extending across southern and south-eastern Melbourne east to Woodside (east of Wilson's Promontory) and including nearby ranges, including the Dandenong and Yarra Ranges and as far north as the Mount Baw Baw National Park.

L. colinrayi sp. nov. is found in north-west Tasmania, north of Lake St. Clair in the south-east of the range, and west of here, Quamby Bluff, Deloraine and Beauty Point, to include most if not all the north-west corner of Tasmania, at least as far west as Lake Chisholm in the north-west, and presumably including the specimens also on King Island to the immediate north-west.

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

L. metallica as described by O'Shaughnessy (1874), is unique among the complex by having a colour combination as follows: "Above bright bronzed green, with a median dark brown stripe and lateral variegations more or less irregular; sides dark brown, broken up into irregular variegations; beneath greenish, dotted on chin." The variegations in the form of spots or flecks may be dark, light or both.

L. wellsii Hoser, 2016 is characterised by being heavily striped and lacks significant dorsal or lateral speckling found in other members of the *L. metallica* complex. Furthermore *L. wellsii* have strongly keeled scales, not seen in other species in the *L. metallica* complex, making this almost certainly the most divergent member in this group. The body of *L. wellsii* is dark chocolate brown on the dorsum. The top two thirds of the upper flank form a well-defined very dark, nearly black stripe that is bound on the bottom by an extremely well-defined thin white line, this latter trait shared only with *L. colinrayi* sp. nov.

L. evanwhittoni sp. nov. is a generally silver-grey lizard on the dorsum, which also has semi-distinct dark and/or light speckling on the back and no obvious mid-dorsal line, although some specimens do have a very slight darkening along the midline near the rear of the dorsum and at the beginning of the tail.

The upper flank is greyish-black with obvious white speckling on it (in contrast to *L. wellsii* which does not), while the lower flank is whitish-grey, with semi-distinct scattered white dots. The boundary between the dark and the light on the flank is not in the form of a well-defined white line. Head lacks obvious spots or flecks and is usually slightly brownish. Upper surfaces of limbs are usually a uniform dark greyish colour, rarely with semi-distinct lighter flecks or spots.

L. fiacummingae sp. nov. is a dark brownish-black lizard with numerous black, brown and/or beige flecks on the dorsum. There is no evidence of any mid-dorsal line. The upper flanks are jet black and with many obvious white or light coloured dots overlaying the darker area. Upper surfaces of limbs also have numerous white dots on the otherwise darker surface. Lower flanks also grey and with obvious tiny white flecks.

L. martinekae sp. nov. is a beige to light greenish beige coloured lizard, with a dorsum heavily flecked, especially with white or some other light colour, including on the head. There is no evidence of any mid-dorsal line. Upper flanks are black and heavily spotted white. The upper and lower boundary of the black on the flank is not well defined. Below the dark zone is a grey lower flank with more white semi-distinct spots on the same area. Upper surfaces of the limbs are beige with obvious black spots or similar markings.

L. colinrayi sp. nov. is brown on the upper surface of the dorsum. Along the midline is a well-defined black line extending the length of the body. On either side of the mid-dorsal line and on the dorsal surface, are two other less well-defined lines running the length of the dorsum (giving a total of five). The mid-dorsal line also runs onto the anterior part of the tail.

The upper border of the upper dark zone of the flank is dark brown, with lighter brown below that and then below that a dark brown border, which in turn borders a well-defined white line.

L. colinrayi sp. nov. is the only member of the complex in which the dark upper zone of the flank is not just black or dark grey in the form of a line in effect occupying most of the flank, but rather forms a three line configuration with the darker upper and lower area, between which is a lighter coloured line. The three lines in effect take up the same space as the single dark line in the other species. There are no white or light spots dotting the upper flank as seen in most other species in the complex.

Unlike the other species in the complex, (except sometimes *L. wellsii*), this lizard gives an appearance of having stripes on the dorsum of moderately good definition. In this species, the upper labials white is well defined and contrasts sharply with the brown above, giving the appearance of a well-defined white line running from the tip of the snout, along the jawline, neck and joining the same white line that bounds the lower flank.

In the other species the white of the upper labials are either not as strongly contrasting or otherwise interspersed with grey, peppering or similar.

The six preceding species comprising the entirety of the *L. metallica* complex are separated from all other species within *Litotesiscus* Wells and Wellington, 1985, *Abbasaurum* gen. nov., *Carinascincus* Wells and Wellington, 1985 and *Ocellatalbum* gen. nov. by the following suite of characters:

Supranasal scales absent; frontoparietal scales fused to form a single shield; suture between the rostral and frontonasal is much narrower than the frontal; 5-7 supraciliaries; 24-28 midbody scale rows; paravertebral scales are transversely enlarged and wider than the adjacent dorsal scales; transparent disc of the lower eyelid is moderate and much smaller than the eye; smooth subdigital lamellae with 16-22 under the fourth toe; tail about 1.5 times snout-vent; adpressed limbs meeting or slightly overlapping (modified from Cogger 2014).

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesiscus* and *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

L. metallica is depicted in life online at:

<https://www.inaturalist.org/observations/2763149>

and

<https://www.inaturalist.org/observations/25734908>

L. wellsii Hoser, 2016 is depicted in life in Wilson and Swan (2017) on page 193 at middle right and online at:

<https://www.inaturalist.org/observations/18708902>

and

<https://www.inaturalist.org/observations/18638878>

L. evanwhittoni sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/57810630>

and

<https://www.inaturalist.org/observations/57810617>

and

<https://www.inaturalist.org/observations/93945547>

L. fiacummingae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/87534217>

and

<https://www.inaturalist.org/observations/87533319>

and

<https://www.inaturalist.org/observations/5782400>

and

<https://www.inaturalist.org/observations/69000825>

and

<https://www.inaturalist.org/observations/106478175>

and

<https://www.inaturalist.org/observations/63415828>

L. martinekae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/70663928>

and

<https://www.inaturalist.org/observations/98758709>

and

<https://www.inaturalist.org/observations/97741022>

and

<http://reptilesaustralia.com/lizards/skins/metallicskink.html#>

YulVhL1Bypp

(top two images).

L. colinrayi sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/39347293>

and

<https://www.inaturalist.org/observations/75634401>

and

<https://www.inaturalist.org/observations/102917875>

and

<https://www.inaturalist.org/observations/56724299>

Kreger *et al.* (2019) found this species to have diverged from its nearest congener some 4.4 MYA, that species being *L. metallica*.

Distribution: *L. fiacummingae* sp. nov. is found in most of the south and central parts of Tasmania, including throughout most of the central plateau and the Hobart area, being generally bound by a region within King William Creek in the south-west, Fortescue Bay in the south-east, Bicheno in the north-east, Cataract Gorge in the North, Pine Lake and Clarence Lagoon in the west. The species is most commonly seen in lowland areas near the east coast.

Etymology: *L. fiacummingae* sp. nov. is named in honour of Fia Cumming of Lyons, Canberra, ACT, Australia, previously of Chatswood, (Sydney), New South Wales, Australia in recognition of her services to wildlife conservation in Australia. For further details refer to Hoser (1996).

LITOTESCINCUS MARTINEKAE SP. NOV.

LSIDurn:lsid:zoobank.org:act:524AFE3D-8C16-478B-932F-F081F799EA91

Holotype: A preserved male specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D52928 collected from 2.5 km east of Tooradin, Victoria, Australia, Latitude -38.22 S., Longitude 145.4 S.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Two preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D35380 and D35381 both collected from Shoreham, Western Port Bay area, Victoria, Australia, Latitude -38.43 S., Longitude 145.05 E., 2/ Three preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D53685, D53689 and D53690 all collected from 1 km north-west of Bayles, Victoria, Australia at the local rubbish tip, Latitude -38.18 S., Longitude 145.58 E. 3/ Nine preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D55451, D55452, D60512, D60513, D60514, D60515, D60516, D60517 and D60518 all collected from various locations along the Bunyip River, Victoria, Australia.

Diagnosis: Putative *Mococa metallica* O'Shaughnessy, 1874, with a type locality of Tasmania, now the type species for the genus *Litotescincus* Wells and Wellington, 1985 has since 1874 been treated by all herpetologists as a single species found in most parts of Tasmania, across the islands of Bass Strait and into southern

Victoria.

Dismemberment of the species complex commenced with the discovery of and diagnosis of *L. wellsii* Hoser, 2016, being a divergent form from far south-west Tasmania.

Kreger *et al.* (2019) found deep divergences of 2.8 MYA or more between five populations of putative *Litotescincus metallica* from across most of the known range of the putative species, with *L. martinekae* sp. nov. being the least divergent of the forms formally named in this paper, having a 2.8 MYA divergence from north-east Tasmanian congeners, being the nominate form of *L. metallica*. Kreger *et al.* (2019) made no attempt to identify and name these various divergent species.

Inspection of hundreds of (mainly live) specimens and photos from across this range showed each clade identified by Kreger *et al.* (2019) conforms to morphologically distinct forms herein formally identified and named as new species, with the exception of the already named nominate form from north-east Tasmania and *L. wellsii* Hoser, 2016 which was not sampled by Kreger *et al.* (2019). The relevant species in the *L. metallica* complex are as follows:

L. metallica (O'Shaughnessy, 1874) which occurs in north-east Tasmania, north of Falmouth on the east coast and east of Hillwood near the north coast.

L. wellsii Hoser, 2016 is found in the far south-west of Tasmania in the vicinity of New Harbour and Melaleuca.

L. evanwhittoni sp. nov. is found in the far south-east of Tasmania in an area bounded by Garden Island and Hartz Peak in the North and South Cape in the south.

L. fiacummingae sp. nov. is found in most of the south and central parts of Tasmania, including most of the central plateau and the Hobart area, being generally bound by a region within King William Creek in the south-west, Fortescue Bay in the south-east, Bicheno in the north-east, Cataract Gorge in the North, Pine Lake and Clarence Lagoon in the west.

L. martinekae sp. nov. is found in the eastern Bass Strait islands, from the Flinders Island Group (including outliers) to Victoria and also within southern Victoria, including the Bellarine and Mornington Peninsulas in the west, extending across southern and south-eastern Melbourne east to Woodside (east of Wilson's Promontory) and including nearby ranges, including the Dandenong and Yarra Ranges and as far north as the Mount Baw Baw National Park.

L. colinrayi sp. nov. is found in north-west Tasmania, north of Lake St. Clair in the south-east of the range, and west of here, Quamby Bluff, Deloraine and Beauty Point, to include most if not all the north-west corner of Tasmania, at least as far west as Lake Chisholm in the north-west, and presumably including the specimens also on King Island to the immediate north-west.

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

L. metallica as described by O'Shaughnessy (1874), is unique among the complex by having a colour combination as follows: "Above bright bronzed green, with a median dark brown stripe and lateral variegations more or less irregular; sides dark brown, broken up into irregular variegations; beneath greenish, dotted on chin." The variegations in the form of spots or flecks may be dark, light or both.

L. wellsii Hoser, 2016 is characterised by being heavily striped and lacks significant dorsal or lateral speckling found in other members of the *L. metallica* complex. Furthermore *L. wellsii* have strongly keeled scales, not seen in other species in the *L. metallica* complex, making this almost certainly the most divergent member in this group. The body of *L. wellsii* is dark chocolate brown on the dorsum. The top two thirds of the upper flank form a well-defined very dark, nearly black stripe that is bound on the bottom by an extremely well-defined thin white line, this latter trait shared only with *L. colinrayi* sp. nov..

L. evanwhittoni sp. nov. is a generally silver-grey lizard on the dorsum, which also has semi-distinct dark and/or light speckling on the back and no obvious mid-dorsal line, although some specimens do have a very slight darkening along the midline near the rear of the dorsum and at the beginning of the tail.

The upper flank is greyish-black with obvious white speckling on it (in contrast to *L. wellsii* which does not), while the lower flank is whitish-grey, with semi-distinct scattered white dots. The boundary between the dark and the light on the flank is not in the form of a

well-defined white line. Head lacks obvious spots or flecks and is usually slightly brownish. Upper surfaces of limbs are usually a uniform dark greyish colour, rarely with semi-distinct lighter flecks or spots.

L. fiacummingae sp. nov. is a dark brownish-black lizard with numerous black, brown and/or beige flecks on the dorsum. There is no evidence of any mid-dorsal line. The upper flanks are jet black and with many obvious white or light coloured dots overlaying the darker area. Upper surfaces of limbs also have numerous white dots on the otherwise darker surface. Lower flanks also grey and with obvious tiny white flecks.

L. martinekae sp. nov. is a beige to light greenish beige coloured lizard, with a dorsum heavily flecked, especially with white or some other light colour, including on the head. There is no evidence of any mid-dorsal line. Upper flanks are black and heavily spotted white. The upper and lower boundary of the black on the flank is not well defined. Below the dark zone is a grey lower flank with more white semi-distinct spots on the same area. Upper surfaces of the limbs are beige with obvious black spots or similar markings.

L. colinrayi sp. nov. is brown on the upper surface of the dorsum. Along the midline is a well-defined black line extending the length of the body. On either side of the mid-dorsal line and on the dorsal surface, are two other less well-defined lines running the length of the dorsum (giving a total of five). The mid-dorsal line also runs onto the anterior part of the tail.

The upper border of the upper dark zone of the flank is dark brown, with lighter brown below that and then below that a dark brown border, which in turn borders a well-defined white line.

L. colinrayi sp. nov. is the only member of the complex in which the dark upper zone of the flank is not just black or dark grey in the form of a line in effect occupying most of the flank, but rather forms a three line configuration with the darker upper and lower area, between which is a lighter coloured line. The three lines in effect take up the same space as the single dark line in the other species. There are no white or light spots dotting the upper flank as seen in most other species in the complex.

Unlike the other species in the complex, (except sometimes *L. wellsii*), this lizard gives an appearance of having stripes on the dorsum of moderately good definition. In this species, the upper labials white is well defined and contrasts sharply with the brown above, giving the appearance of a well-defined white line running from the tip of the snout, along the jawline, neck and joining the same white line that bounds the lower flank.

In the other species the white of the upper labials are either not as strongly contrasting or otherwise interspersed with grey, peppering or similar.

The six preceding species comprising the entirety of the *L. metallica* complex are separated from all other species within *Litotesinciscus* Wells and Wellington, 1985, *Abbasaurum* gen. nov., *Carinascincus* Wells and Wellington, 1985 and *Ocellatalbum* gen. nov. by the following suite of characters;

Supranasal scales absent; frontoparietal scales fused to form a single shield; suture between the rostral and frontonasal is much narrower than the frontal; 5-7 supraciliaries; 24-28 midbody scale rows; paravertebral scales are transversely enlarged and wider than the adjacent dorsal scales; transparent disc of the lower eyelid is moderate and much smaller than the eye; smooth subdigital lamellae with 16-22 under the fourth toe; tail about 1.5 times snout-vent; adpressed limbs meeting or slightly overlapping (modified from Cogger 2014).

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesinciscus* and *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

L. metallica is depicted in life online at:

<https://www.inaturalist.org/observations/2763149>
and

<https://www.inaturalist.org/observations/25734908>

L. wellsii Hoser, 2016 is depicted in life in Wilson and Swan (2017) on page 193 at middle right and online at:

<https://www.inaturalist.org/observations/18708902>
and

<https://www.inaturalist.org/observations/18638878>

L. evanwhittoni sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/57810630>
and

<https://www.inaturalist.org/observations/57810617>
and

<https://www.inaturalist.org/observations/93945547>

L. fiacummingae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/87534217>
and

<https://www.inaturalist.org/observations/87533319>
and

<https://www.inaturalist.org/observations/5782400>
and

<https://www.inaturalist.org/observations/69000825>
and

<https://www.inaturalist.org/observations/106478175>
and

<https://www.inaturalist.org/observations/63415828>

L. martinekae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/70663928>
and

<https://www.inaturalist.org/observations/98758709>
and

<https://www.inaturalist.org/observations/97741022>
and

<http://reptilesaustralia.com/lizards/skins/metallicskink.html#YulVhL1Bypp>

(top two images).

L. colinrayi sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/39347293>
and

<https://www.inaturalist.org/observations/75634401>
and

<https://www.inaturalist.org/observations/102917875>
and

<https://www.inaturalist.org/observations/56724299>

Kreger *et al.* (2019) found this species to have diverged from its nearest congener some 2.8 MYA, that species being *L. metallica*.

Distribution: *L. martinekae* sp. nov. is found in the eastern Bass Strait islands, from the Flinders Island Group (including outliers) to Victoria and also within southern Victoria, including the Bellarine and Mornington Peninsulas in the west, extending across southern and south-eastern Melbourne east to Woodside (east of Wilson's Promontory) and including nearby ranges, including the Dandenong and Yarra Ranges and as far north as the Mount Baw Baw National Park.

Etymology: *L. martinekae* sp. nov. is named in honour of Maryann Martinek of Bendigo, Victoria, Australia in recognition of services to media and wildlife conservation in Australia including by exposing fake news stories perpetrated by corrupt wildlife officers and their friends in the State controlled media of Australia. For further details see Hoser (2010).

LITOTESCINCUS COLINRAYI SP. NOV.

LSIDDurn:lsid:zoobank.org:act:ED786B7F-A45F-4D47-B128-D439FE38B1A0

Holotype: A preserved female specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D62298 collected from Mount Bishoff, Waratah, Tasmania, Australia, Latitude -41.42 S., Longitude 145.52 S.

This government-owned facility allows access to its holdings.

Paratypes: 31 preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D62286, D62287, D62288, D62289, D62290, D62291, D62292, D62293, D62294, D62295, D62296, D62297, D62299, D62300, D62301, D62302, D62304, D62305, D62306, D62307, D62308, D62309,

D62310, D62311, D62312, D62313, D62314, D62315, D62316, D62317 and D62318 collected from Mount Bishoff, Waratah, Tasmania, Australia, Latitude -41.42 S., Longitude 145.52 S.

Diagnosis: Putative *Mocoa metallica* O'Shaughnessy, 1874, with a type locality of Tasmania, now the type species for the genus *Litotesinciscus* Wells and Wellington, 1985 has since 1874 been treated by all herpetologists as a single species found in most parts of Tasmania, across the islands of Bass Strait and into southern Victoria.

Dismemberment of the species complex commenced with the discovery of and diagnosis of *L. wellsii* Hoser, 2016, being a divergent form from far south-west Tasmania.

Kreger *et al.* (2019) found deep divergences of 2.8 MYA or more between five populations of putative *Litotesinciscus metallica* from across most of the known range of the putative species.

They made no attempt to identify and name these species.

Inspection of hundreds of (mainly live) specimens and photos from across this range showed each clade identified by Kreger *et al.* (2019) conforms to morphologically distinct forms herein formally identified and named as new species, with the exception of the already named nominate form from north-east Tasmania and *L. wellsii* Hoser, 2016 which was not sampled by Kreger *et al.* (2019).

The relevant species in the *L. metallica* complex are as follows:

L. metallica (O'Shaughnessy, 1874) which occurs in north-east Tasmania, north of Falmouth on the east coast and east of Hillwood near the north coast.

L. wellsii Hoser, 2016 is found in the far south-west of Tasmania in the vicinity of New Harbour and Melaleuca.

L. evanwhittoni sp. nov. is found in the far south-east of Tasmania in an area bounded by Garden Island and Hartz Peak in the North and South Cape in the south.

L. fiacummingae sp. nov. is found in most of the south and central parts of Tasmania, including throughout most of the central plateau and the Hobart area, being generally bound by a region within King William Creek in the south-west, Fortescue Bay in the south-east, Bicheno in the north-east, Cataract Gorge in the North, Pine Lake and Clarence Lagoon in the west. The species is most commonly seen in lowland areas near the east coast.

L. martinekae sp. nov. is found in the eastern Bass Strait islands, from the Flinders Island Group (including outliers) to Victoria and also within southern Victoria, including the Bellarine and Mornington Peninsulas in the west, extending across southern and south-eastern Melbourne east to Woodside (east of Wilson's Promontory) and including nearby ranges, including the Dandenong and Yarra Ranges and as far north as the Mount Baw Baw National Park.

L. colinrayi sp. nov. is found in north-west Tasmania, north of Lake St. Clair in the south-east of the range, and west of here, Quamby Bluff, Deloraine and Beauty Point, to include most if not all the north-west corner of Tasmania, at least as far west as Lake Chisholm in the north-west, and presumably including the specimens also on King Island to the immediate north-west.

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

L. metallica as described by O'Shaughnessy (1874), is unique among the complex by having a colour combination as follows: "Above bright bronzed green, with a median dark brown stripe and lateral variegations more or less irregular; sides dark brown, broken up into irregular variegations; beneath greenish, dotted on chin." The variegations in the form of spots or flecks may be dark, light or both.

L. wellsii Hoser, 2016 is characterised by being heavily striped and lacks significant dorsal or lateral speckling found in other members of the *L. metallica* complex. Furthermore *L. wellsii* have strongly keeled scales, not seen in other species in the *L. metallica* complex, making this almost certainly the most divergent member in this group. The body of *L. wellsii* is dark chocolate brown on the dorsum. The top two thirds of the upper flank form a well-defined very dark, nearly black stripe that is bound on the bottom by an extremely well-defined thin white line, this latter trait shared only with *L. colinrayi* sp. nov.

L. evanwhittoni sp. nov. is a generally silver-grey lizard on the dorsum, which also has semi-distinct dark and/or light speckling on the back and no obvious mid-dorsal line, although some specimens do have a very slight darkening along the midline near the rear of

the dorsum and at the beginning of the tail.

The upper flank is greyish-black with obvious white speckling on it (in contrast to *L. wellsii* which does not), while the lower flank is whitish-grey, with semi-distinct scattered white dots. The boundary between the dark and the light on the flank is not in the form of a well-defined white line. Head lacks obvious spots or flecks and is usually slightly brownish. Upper surfaces of limbs are usually a uniform dark greyish colour, rarely with semi-distinct lighter flecks or spots.

L. fiacummingae sp. nov. is a dark brownish-black lizard with numerous black, brown and/or beige flecks on the dorsum. There is no evidence of any mid-dorsal line. The upper flanks are jet black and with many obvious white or light coloured dots overlaying the darker area. Upper surfaces of limbs also have numerous white dots on the otherwise darker surface. Lower flanks also grey and with obvious tiny white flecks.

L. martinekae sp. nov. is a beige to light greenish beige coloured lizard, with a dorsum heavily flecked, especially with white or some other light colour, including on the head. There is no evidence of any mid-dorsal line. Upper flanks are black and heavily spotted white. The upper and lower boundary of the black on the flank is not well defined. Below the dark zone is a grey lower flank with more white semi-distinct spots on the same area. Upper surfaces of the limbs are beige with obvious black spots or similar markings.

L. colinrayi sp. nov. is brown on the upper surface of the dorsum. Along the midline is a well-defined black line extending the length of the body. On either side of the mid-dorsal line and on the dorsal surface, are two other less well-defined lines running the length of the dorsum (giving a total of five). The mid-dorsal line also runs onto the anterior part of the tail.

The upper border of the upper dark zone of the flank is dark brown, with lighter brown below that and then below that a dark brown border, which in turn borders a well-defined white line.

L. colinrayi sp. nov. is the only member of the complex in which the dark upper zone of the flank is not just black or dark grey in the form of a line in effect occupying most of the flank, but rather forms a three line configuration with the darker upper and lower area, between which is a lighter coloured line. The three lines in effect take up the same space as the single dark line in the other species. There are no white or light spots dotting the upper flank as seen in most other species in the complex.

Unlike the other species in the complex, (except sometimes *L. wellsii*), this lizard gives an appearance of having stripes on the dorsum of moderately good definition. In this species, the upper labials white is well defined and contrasts sharply with the brown above, giving the appearance of a well-defined white line running from the tip of the snout, along the jawline, neck and joining the same white line that bounds the lower flank.

In the other species the white of the upper labials are either not as strongly contrasting or otherwise interspersed with grey, peppering or similar.

The six preceding species comprising the entirety of the *L. metallica* complex are separated from all other species within *Litotesinciscus* Wells and Wellington, 1985, *Abbasaurum* gen. nov., *Carinascincus* Wells and Wellington, 1985 and *Ocellatalbum* gen. nov. by the following suite of characters;

Supranasal scales absent; frontoparietal scales fused to form a single shield; suture between the rostral and frontonasal is much narrower than the frontal; 5-7 supraciliaries; 24-28 midbody scale rows; paravertebral scales are transversely enlarged and wider than the adjacent dorsal scales; transparent disc of the lower eyelid is moderate and much smaller than the eye; smooth subdigital lamellae with 16-22 under the fourth toe; tail about 1.5 times snout-vent; adpressed limbs meeting or slightly overlapping (modified from Cogger 2014).

The four genera *Abbasaurum* gen. nov., *Carinascincus*, *Litotesinciscus* and *Ocellatalbum* gen. nov. (formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

L. metallica is depicted in life online at:

<https://www.inaturalist.org/observations/2763149>
and

<https://www.inaturalist.org/observations/25734908>

L. wellsii Hoser, 2016 is depicted in life in Wilson and Swan (2017) on page 193 at middle right and online at:

<https://www.inaturalist.org/observations/18708902>
and

<https://www.inaturalist.org/observations/18638878>

L. evanwhittoni sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/57810630>
and

<https://www.inaturalist.org/observations/57810617>
and

<https://www.inaturalist.org/observations/93945547>

L. fiacummingae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/87534217>
and

<https://www.inaturalist.org/observations/87533319>
and

<https://www.inaturalist.org/observations/5782400>
and

<https://www.inaturalist.org/observations/69000825>
and

<https://www.inaturalist.org/observations/106478175>
and

<https://www.inaturalist.org/observations/63415828>

L. martinekae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/70663928>
and

<https://www.inaturalist.org/observations/98758709>
and

<https://www.inaturalist.org/observations/97741022>
and

<http://reptilesaustralia.com/lizards/skins/metallicskink.html#YulVhL1Bypp>

(top two images).

L. colinrayi sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/39347293>
and

<https://www.inaturalist.org/observations/75634401>
and

<https://www.inaturalist.org/observations/102917875>
and

<https://www.inaturalist.org/observations/56724299>

Kreger *et al.* (2019) found this species to have diverged from its nearest congeners some 10 MYA.

Distribution: *L. colinrayi* sp. nov. is found in north-west Tasmania, north of Lake St. Clair in the south-east of the range, and west of here, Quamby Bluff, Deloraine and Beauty Point, to include most if not all the north-west corner of Tasmania, at least as far west as Lake Chisholm in the north-west, and presumably including the specimens also on King Island to the immediate north-west.

Etymology: *L. colinrayi* sp. nov. is named in honour of Colin Ray of Cranbourne, Victoria, Australia who has been breeding reptiles (mainly pythons) for decades and played a critically important role in the administration of various herpetological societies in Victoria Australia.

Some of his breeding successes in recent years can be seen online at:

<https://www.facebook.com/profile.php?id=100054640741176>

OCELLATALBUM GEN. NOV.

LSIDurn:lsid:zoobank.org:act:28E5DCED-A3A9-489E-B51A-F25A0D702B3B

Type species: *Ocellatalbum dannygoodwini* sp. nov.

Diagnosis: *Ocellatalbum* gen. nov. are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiolopisma greeni* Rawlinson, 1975 and *Litotesincus* Wells and Wellington, 1985 with

a type species of *Mocoo metallica* O'Shaughnessy, 1874 and the newly named genus *Abbasaurum* gen. nov. with a type species of *A. maxinehoserae* sp. nov. by the unique combination of no supranasals; frontoparietals fused to form a single shield and most importantly 45 or more midbody scale rows, versus less in all the other preceding named genera.

The four genera *Ocellatalbum* gen. nov., *Carinascincus*, *Litotesincus* and *Abbasaurum* gen. nov. (also formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

Distribution: Restricted to Tasmania, including the Flinders Island group to the north-east where it appears to be confined to rocky areas.

Etymology: *Ocellatalbum* gen. nov. comes directly from the Latin words meaning white spots in reflection of the dominant feature of the dorsum of species in the genus.

Content: *Ocellatalbum dannygoodwini* sp. nov. (type species); *O. alexdudleyi* sp. nov.; *O. assangei* sp. nov.; *O. ocellata* (Gray, 1845)

OCELLATALBUM DANNYGOODWINI SP. NOV.

LSIDurn:lsid:zoobank.org:act:E8A836D6-33E1-4F6B-8E05-5244D433D023

Holotype: A preserved specimen at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen number C484 collected from Mount Campbell, Tasmania, Australia, Latitude -41.658622 S., Longitude 145.971041 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen numbers C485 and C486 collected from Mount Campbell, Tasmania, Australia, Latitude -41.658622 S., Longitude 145.971041 E.

Diagnosis: Until now, *Ocellatalbum* gen. nov. as defined in this paper, comprised the single putative species *Mocoo ocellata* Gray, 1845, most recently placed by most authors into the genus *Carinascincus* Wells and Wellington, 1985, type species *Leiolopisma greeni* Rawlinson, 1975 (e.g. Cogger, 2014).

Molecular divergence between four populations identified by Cliff *et al.* (2015), that they said occurred about 2 MYA matches morphological divergences identified herein and so I have had no hesitation in formally naming three unnamed populations as new species.

The four relevant species are as follows:

Ocellatalbum ocellata (Gray, 1845) found in most parts of Tasmania, generally including the south-south-east and most of the central plateau, as far north as Lake St. Clair in the north-west, Lake MacKenzie in the north, then Lost Falls and Coles Bay in the north-east. The range generally encompasses most of the state south of these places.

Ocellatalbum dannygoodwini sp. nov. is only known from Dove Lake, Mount Oakleigh and nearby areas, being found generally west of the River Forth and east of Lake Mackintosh, all in north-west Tasmania.

O. alexdudleyi sp. nov. is found in north-east Tasmania, north of Bicheno on the east coast and east of Cataract Gorge, with a centre of distribution on the Ben Lomond Range and adjacent uplands, but extending north to include the Flinders Island group.

O. assangei sp. nov. is known only from the vicinity of Lake MacKenzie in the northern part of the central plateau in northern Tasmania and areas north of there to the coast.

The four species are separated from one another as follows:

O. ocellata has a brown background colour on the flanks and is the same or brownish black on the dorsum. Upper labials are white, and any dark colour on them, if present at all, is usually in the form of distinctive dark bars. The creamy white spots on the dorsum are large in that they are two or more scales in size and commonly merge to form a somewhat variegated pattern. The head is brown with black or dark-brown flecks and similar; there are small markings on the dorsal surface of the head. White from the belly infuses the lower and mid flanks.

O. dannygoodwini sp. nov. is dark silver-grey to black on both

dorsum and flanks with bold and distinct light grey spots or markings on the dorsum and flanks.

Most, but not necessarily all of the light grey spots on the dorsum are small, being less than 2 or more scales in size. The flanks are generally dark with scattered light spots, but far less dense than on the dorsum. The background colour of the head is blackish, with extensive grey flecks and colouration caused by merging of flecks or peppering.

O. alexdudleyi sp. nov. is a lizard that has a silver-grey dorsum and markings that are dull and/or of reduced intensity, this being unique to this species in the genus. Lighter markings on the dorsum are often indistinct to the extent they are barely visible and are not in the form of ocelli or spots, instead being in the form of clusters of irregular light blotches and scales tending to form cross bands, but extensively broken and irregular in between the darker background colour.

The upper surface of the head is light grey with dark grey spots, but the contrast between the colours is not well defined.

O. assangei sp. nov. in appearance is similar in most respects to *O. ocellata*, but is separated from that species by having a mid-dorsum that is black; chocolate brown on the flanks, rather than either reddish brown or light brown; dull, yellow brown labials (not white) and having dark upper surfaces of the lower parts of the limbs, versus not so in *O. ocellata*.

O. ocellata is depicted in life in Cogger (2014) on page 429 at top and online at:

<https://www.inaturalist.org/observations/73141294>

and

<https://www.inaturalist.org/observations/109708052>

and

<https://www.inaturalist.org/observations/107872581>

O. dannygoodwini sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/99748051>

and

<https://www.inaturalist.org/observations/68735095>

and

<https://www.inaturalist.org/observations/107021118>

O. alexdudleyi sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/25734009>

and

<https://www.inaturalist.org/observations/25733856>

and

<https://www.inaturalist.org/observations/25734790>

O. assangei sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/62539154>

and

<https://www.inaturalist.org/observations/105347381>

and

<https://www.inaturalist.org/observations/40403547>

The four preceding species, forming the entirety of the genus *Ocellatalbum* gen. nov. are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiopisma greeni* Rawlinson, 1975, *Litotesincus* Wells and Wellington, 1985 with a type species of *Mococa metallica* O'Shaughnessy, 1874 and the newly named genus *Abbasaurum* gen. nov. with a type species of *A. maxinehoserae* sp. nov. by the unique combination of no supranasals; frontoparietals fused to form a single shield and most importantly 45 or more midbody scale rows, versus less in all the other preceding named genera.

The four genera *Ocellatalbum* gen. nov., *Carinascincus*, *Litotesincus* and *Abbasaurum* gen. nov. (a genus also formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpal disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

Distribution: *Ocellatalbum dannygoodwini* sp. nov. is only known from Dove Lake, Mount Oakleigh and nearby areas, being found generally west of the River Forth and east of Lake Mackintosh, all in

north-west Tasmania.

Etymology: *O. dannygoodwini* sp. nov. is named in honour of Danny Goodwin, currently of Inverloch, Victoria, Australia, who has spent considerable time in Tasmania, where this species occurs, including living there for some years, in recognition of his contributions to herpetology spanning many decades.

OCELLATALBUM ALEXDUDLEYI SP. NOV.

LSIDurn:lsid:zoobank.org:act:D9EC0862-93A8-458C-8075-BFEE481E9B33

Holotype: A preserved male specimen at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen number D71176 collected from Legges Tor, Ben Lomond, Tasmania, Australia, Latitude -41.53 S., Longitude 147.67 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Four preserved specimens at the National Museum of Victoria, Melbourne, Victoria, Australia, specimen numbers D39295 (adult male), D39296 (adult female), D39309 and D39310 all collected from 12 km north west of St. Helens, Tasmania, Australia, Latitude -41.25 S., Longitude 148.15 E. 2/ A preserved specimen at the Tasmanian Museum and Art Gallery, Hobart, Tasmania, Australia, specimen number C1209 collected from South Mount Cameron, Tasmania, Australia, Latitude -41.03 S., Longitude 147.95 E.

Diagnosis: Until now, *Ocellatalbum* gen. nov. as defined in this paper, comprised the single putative species *Mococa ocellata* Gray, 1845, most recently placed by most authors into the genus *Carinascincus* Wells and Wellington, 1985, type species *Leiopisma greeni* Rawlinson, 1975 (e.g. Cogger, 2014).

Molecular divergence between four populations identified by Cliff *et al.* (2015), that they said occurred about 2 MYA matches morphological divergences identified herein and so I have had no hesitation in formally naming three unnamed populations as new species.

The four relevant species are as follows:

Ocellatalbum ocellata (Gray, 1845) found in most parts of Tasmania, generally including the south-south-east and most of the central plateau, as far north as Lake St. Clair in the north-west, Lake MacKenzie in the north, then Lost Falls and Coles Bay in the north-east. The range generally encompasses most of the state south of these places.

Ocellatalbum alexdudleyi sp. nov. is found in north-east Tasmania, north of Bicheno on the east coast and east of Cataract Gorge, with a centre of distribution on the Ben Lomond Range and adjacent uplands, but extending north to include the Flinders Island group.

O. dannygoodwini sp. nov. is only known from Dove Lake, Mount Oakleigh and nearby areas, being found generally west of the River Forth and east of Lake Mackintosh, all in north-west Tasmania.

O. assangei sp. nov. is known only from the vicinity of Lake MacKenzie in the northern part of the central plateau in northern Tasmania and areas north of there to the coast.

The four species are separated from one another as follows:

O. ocellata has a brown background colour on the flanks and is the same or brownish black on the dorsum. Upper labials are white, and any dark colour on them, if present at all, is usually in the form of distinctive dark bars. The creamy white spots on the dorsum are large in that they are two or more scales in size and commonly merge to form a somewhat variegated pattern. The head is brown with black or dark-brown flecks and similar; there are small markings on the dorsal surface of the head. White from the belly infuses the lower and mid flanks.

O. alexdudleyi sp. nov. is a lizard that has a silver-grey dorsum and markings that are dull and/or of reduced intensity, this being unique to this species in the genus. Lighter markings on the dorsum are often indistinct to the extent they are barely visible and are not in the form of ocelli or spots, instead being in the form of clusters of irregular light blotches and scales tending to form cross bands, but extensively broken and irregular in between the darker background colour.

The upper surface of the head is light grey with dark grey spots, but the contrast between the colours is not well defined.

O. dannygoodwini sp. nov. is dark silver-grey to black on both dorsum and flanks with bold and distinct light grey spots or markings on the dorsum and flanks.

Most, but not necessarily all of the light grey spots on the dorsum are small, being less than 2 or more scales in size. The flanks are generally dark with scattered light spots, but far less dense than on the dorsum. The background colour of the head is blackish, with extensive grey flecks and colouration caused by merging of flecks or peppering.

O. assangei sp. nov. in appearance is similar in most respects to *O. ocellata*, but is separated from that species by having a mid-dorsum that is black; chocolate brown on the flanks, rather than either reddish brown or light brown; dull, yellow brown labials (not white) and having dark upper surfaces of the lower parts of the limbs, versus not so in *O. ocellata*.

O. ocellata is depicted in life in Cogger (2014) on page 429 at top and online at:

<https://www.inaturalist.org/observations/73141294>
and

<https://www.inaturalist.org/observations/109708052>
and

<https://www.inaturalist.org/observations/107872581>

O. dannygoodwini sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/99748051>
and

<https://www.inaturalist.org/observations/68735095>
and

<https://www.inaturalist.org/observations/107021118>

O. alexdudleyi sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/25734009>
and

<https://www.inaturalist.org/observations/25733856>
and

<https://www.inaturalist.org/observations/25734790>

O. assangei sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/62539154>
and

<https://www.inaturalist.org/observations/105347381>
and

<https://www.inaturalist.org/observations/40403547>

The four preceding species, forming the entirety of the genus *Ocellatalbum* gen. nov. are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiolopisma greeni* Rawlinson, 1975 and *Litotesincus* Wells and Wellington, 1985 with a type species of *Mococa metallica* O'Shaughnessy, 1874 and the newly named genus *Abbasaurum* gen. nov. with a type species of *A. maxinehoserae* sp. nov. by the unique combination of no supranasals; frontoparietals fused to form a single shield and most importantly 45 or more midbody scale rows, versus less in all the other preceding named genera.

The four genera *Ocellatalbum* gen. nov., *Carinascincus*, *Litotesincus* and *Abbasaurum* gen. nov. (a genus also formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpebral disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

Distribution: *Ocellatalbum alexdudleyi* sp. nov. is found in north-east Tasmania, north of Bicheno on the east coast and east of Cataract Gorge, with a centre of distribution on the Ben Lomond Range and adjacent uplands, but extending north to include the Flinders Island group.

Etymology: *O. alexdudleyi* sp. nov. is named in honour of Alexander (Alex) Dudley, originally of Kenturst (Sydney), New South Wales, Australia but who has spent many years in Tasmania conducting herpetological fieldwork there, in recognition of many decades of services to herpetology.

OCELLATALBUM ASSANGEI SP. NOV.

LSIDurn:lsid:zoobank.org:act:C17AE575-A476-4940-ACEB-12149ED3C7A3

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R6619 collected from Greens Beach, Tasmania, Australia, Latitude -41.08 S., Longitude 146.75 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R6620 collected from Greens Beach, Tasmania, Australia, Latitude -41.08 S., Longitude 146.75 E.

Diagnosis: Until now, *Ocellatalbum* gen. nov. as defined in this paper, comprised the single putative species *Mococa ocellata* Gray, 1845, most recently placed by most authors into the genus *Carinascincus* Wells and Wellington, 1985, type species *Leiolopisma greeni* Rawlinson, 1975 (e.g. Cogger, 2014).

Molecular divergence between four populations identified by Cliff *et al.* (2015), that they said occurred about 2 MYA matches morphological divergences identified herein and so I have had no hesitation in formally naming three unnamed populations as new species.

The four relevant species are as follows:

Ocellatalbum ocellata (Gray, 1845) found in most parts of Tasmania, generally including the south-south-east and most of the central plateau, as far north as Lake St. Clair in the north-west, Lake MacKenzie in the north, then Lost Falls and Coles Bay in the north-east. The range generally encompasses most of the state south of these places.

Ocellatalbum alexdudleyi sp. nov. is found in north-east Tasmania, north of Bicheno on the east coast and east of Cataract Gorge, with a centre of distribution on the Ben Lomond Range and adjacent uplands, but extending north to include the Flinders Island group.

O. dannygoodwini sp. nov. is only known from Dove Lake, Mount Oakleigh and nearby areas, being found generally west of the River Forth and east of Lake Mackintosh, all in north-west Tasmania.

O. assangei sp. nov. is known only from the vicinity of Lake MacKenzie in the northern part of the central plateau in northern Tasmania and areas north of there to the coast.

The four species are separated from one another as follows:

O. ocellata has a brown background colour on the flanks and is the same or brownish black on the dorsum. Upper labials are white, and any dark colour on them, if present at all, is usually in the form of distinctive dark bars. The creamy white spots on the dorsum are large in that they are two or more scales in size and commonly merge to form a somewhat variegated pattern. The head is brown with black or dark-brown flecks and similar; there are small markings on the dorsal surface of the head. White from the belly infuses the lower and mid flanks.

O. alexdudleyi sp. nov. is a lizard that has a silver-grey dorsum and markings that are dull and/or of reduced intensity, this being unique to this species in the genus. Lighter markings on the dorsum are often indistinct to the extent they are barely visible and are not in the form of ocelli or spots, instead being in the form of clusters of irregular light blotches and scales tending to form cross bands, but extensively broken and irregular in between the darker background colour.

The upper surface of the head is light grey with dark grey spots, but the contrast between the colours is not well defined.

O. dannygoodwini sp. nov. is dark silver-grey to black on both dorsum and flanks with bold and distinct light grey spots or markings on the dorsum and flanks.

Most, but not necessarily all of the light grey spots on the dorsum are small, being less than 2 or more scales in size. The flanks are generally dark with scattered light spots, but far less dense than on the dorsum. The background colour of the head is blackish, with extensive grey flecks and colouration caused by merging of flecks or peppering.

O. assangei sp. nov. in appearance is similar in most respects to *O. ocellata*, but is separated from that species by having a mid-dorsum that is black; chocolate brown on the flanks, rather than either reddish brown or light brown; dull, yellow brown labials (not white) and having dark upper surfaces of the lower parts of the

limbs, versus not so in *O. ocellata*.

O. ocellata is depicted in life in Cogger (2014) on page 429 at top and online at:

<https://www.inaturalist.org/observations/73141294>

and

<https://www.inaturalist.org/observations/109708052>

and

<https://www.inaturalist.org/observations/107872581>

O. dannygoodwini sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/99748051>

and

<https://www.inaturalist.org/observations/68735095>

and

<https://www.inaturalist.org/observations/107021118>

O. alexdudleyi sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/25734009>

and

<https://www.inaturalist.org/observations/25733856>

and

<https://www.inaturalist.org/observations/25734790>

O. assangei sp. nov. is depicted online at:

<https://www.inaturalist.org/observations/62539154>

and

<https://www.inaturalist.org/observations/105347381>

and

<https://www.inaturalist.org/observations/40403547>

The four preceding species, forming the entirety of the genus *Ocellatalbum* gen. nov. are separated from the species in the morphologically similar genera *Carinascincus* Wells and Wellington, 1985, with a type species of *Leiopolisma greeni* Rawlinson, 1975 and *Litotesincus* Wells and Wellington, 1985 with a type species of *Mococa metallica* O'Shaughnessy, 1874 and the newly named genus *Abbasaurum* gen. nov. with a type species of *A. maxinehoserae* sp. nov. by the unique combination of no supranasals; frontoparietals fused to form a single shield and most importantly 45 or more midbody scale rows, versus less in all the other preceding named genera.

The four genera *Ocellatalbum* gen. nov., *Carinascincus*, *Litotesincus* and *Abbasaurum* gen. nov. (a genus also formally named in this paper) are separated from all other Australian skinks by the following suite of characters: parietal shields in contact behind the interparietal; 5-7 (usually 5) supraciliaries, which are not noticeably enlarged; transparent palpabral disc in a movable lower eyelid, being no more than about half the size of the eye; nasals narrowly separated; more than 16 lamellae under the fourth toe and viviparous reproduction.

Distribution: *O. assangei* sp. nov. is known only from the vicinity of Lake MacKenzie in the northern part of the central plateau in northern Tasmania and areas north of there to the coast, but west of the Tamar River.

Etymology: *O. assangei* sp. nov. is named in honour of Julian Paul Assange born 3 July 1971, who is an Australian editor, publisher, and activist who founded Wikileaks in 2006. Wikileaks came to international attention in 2010 when it published a series of leaks provided by U.S. Army intelligence analyst Chelsea Manning. These leaks included the Baghdad airstrike Collateral Murder video (April 2010), the Afghanistan war logs (July 2010), the Iraq war logs (October 2010), and Cablegate (November 2010). After the 2010 leaks, the United States government launched a criminal investigation into Wikileaks. As of mid 2022, he remains languishing in a barbaric UK prison awaiting extradition to the USA.

So while Assange has worked in the public interest by disclosing government-backed murders and is now in jail, the murderers remain free, many of them with full military and imperial honours, over-generous government pensions and the like.

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CONFLICT OF INTEREST

None.