

***Proablepharus* Fuhn, 1969 *sensu lato* revisited. Underestimated species diversity in these tiny Australian skinks leads to resurrection of two old species names and the formal description of eight new species and three new subspecies (Squamata:Scincoidea).**

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RAYMOND T. HOSER

LSIDurn:lsid:zoobank.org:author:F9D74EB5-CFB5-49A0-8C7C-9F993B8504AE

488 Park Road, Park Orchards, Victoria, 3134, Australia.

Phone: +61 3 9812 3322 Fax: 9812 3355 E-mail: snakeman (at) snakeman.com.au

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ABSTRACT

The morphologically conservative genus of tiny Australian skink *Proablepharus* Fuhn, 1969 was split into two genera, by Couper *et al.* (2018), based on significant genetic divergence between the two main species groups. Based on their classification, representing the majority view of herpetologists in Australia at the time, Couper *et al.* (2018) recognized 5 species as had Cogger (2014).

These were *Proablepharus reginae* (Glauert, 1960), the type species (originally named as *Ablepharus reginae*) and *P. tenuis* (Broom, 1896); and in the newly erected genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018, were placed *Austroablepharus kinghorni* (Copland, 1947), the type species (originally named as *Ablepharus kinghorni*), *A. barrylyoni* (Couper *et al.*, 2010), and *P. naranjicaudus* Greer *et al.* (2004).

An audit of the relevant species across their known ranges found *P. reginae* and *P. tenuis* to be composite on the basis of divergent populations across biogeographical barriers of known antiquity.

As a result both are split, with *P. broomensis* (Lönnerberg and Anderson, 1913) resurrected from synonymy with *P. tenuis* and a number of new species named for the first time.

P. reginae is split into six species, five formally named for the first time.

P. tenuis is split into five species, three named for the first time with an additional two subspecies formally named as well.

In terms of the genus *Austroablepharus*, *A. kinghorni* is split three ways, with *A. barklyensis* Wells and Wellington, 1985 resurrected from synonymy and a divergent form from far western Queensland is formally named for the first time as a new subspecies *A. kinghorni elonginquo* *subsp. nov.*

Keywords: Taxonomy; nomenclature; Australia; lizards; *Proablepharus*; *Austroablepharus*; *Ablepharus*; *Morethia*; *Acritoscincus*; *reginae*; *tenuis*; *kinghorni*; *barrylyoni*; *naranjicaudus*; *barklyensis*; *broomensis*; subjective synonyms; *davisi*; *stephensoni*; new species; *martinekae*; *stevebennetti*; *igh*; *micra*; *eughr*; *jessicabriggsae*; *garystephensoni*; *alexanderdudleyi*; new subspecies; *insolitum*; *absconditus*; *elonginquo*.

INTRODUCTION

As part of an ongoing audit into Australian lizards, skink lizards within the putative genus *Proablepharus* Fuhn, 1969 were scrutinized by myself to ascertain whether or not generic and species-level taxonomy was correct.

Flagged for many years was that the recognized species in the genus coalesced into two main species groups.

First were the species mainly associated with rocky areas in the tropics and to a lesser extent dry rocky hills and associated microclimates further south.

The relevant species were *Proablepharus reginae* (Glauert, 1960), the type species for the genus (originally named as

Ablepharus reginae), being the taxon most commonly associated with dry rocky hills in central and western Australia and *P. tenuis* (Broom, 1896), similarly associated with hilly country, but more so in the dry tropics of northern Australia.

The second species group were the eastern Australian species which were invariably associated with black soil areas and floodplains along often intermittent watercourses in drier areas mainly in the eastern third of Australia and generally west of the Great Dividing Range.

While working on this paper, the three putative species in that group, were transferred to the newly erected genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz,

2018, created in accordance with the *International Code of Zoological Nomenclature* (Ride *et al.* 1999 as amended online since) by those authors in 2018.

Those species were *Austroablepharus kinghorni* (Copland, 1947), the type species (originally named as *Ablepharus kinghorni*), *A. barrylyoni* (Couper *et al.*, 2010), and *P. naranjicaudus* Greer *et al.* (2004).

The basis of the transfer of these species was mainly the genetic data, which showed that neither group was closely related to one another.

In other words, similarities between species in the two groups were largely due to convergent evolution as much as, if not more so than closeness of their relationships or timeline of divergence. While Couper *et al.* (2010) did not give a specific date of divergence for the two genus-level groupings, results summarized by myself in a paper (also published in May 2022) relating to species within *Acritoscincus* Wells and Wellington, citing the evidence of Dubey and Shine (2010) showed a calibrated divergence between the main species groups in that genus to be in the vicinity of 10 MYA.

Austroablepharus, created in accordance with the rules of the *International Commission of Zoological Nomenclature* (ICZN) was found by Couper *et al.* (2010) to be most closely related to *Acritoscincus* and somewhat further, to *Morethia* Gray, 1845 than from the two putative species remaining in *Proablepharus*, giving a reasonable estimate of divergence of the two genera *Proablepharus* and *Austroablepharus* to be in the vicinity of 20 MYA.

That in itself confirms that the genus-level split of Couper *et al.* (2018) was wholly reasonable.

I had intended making this genus split myself and well prior to 2018, but in the past decade to the present date in 2022, I have had to deal with non-stop attacks on myself, my family and our wildlife conservation and education business by trademark infringing thieves, creating several sets of time consuming and costly legal proceedings, which have pushed back various herpetological projects including this one.

In any event, I am not going to invoke the so-called Kaiser veto (see Kaiser 2012a, 2012b, 2013, Kaiser *et al.* 2013, Rhodin *et al.* 2015, Hoser 2015a-f, 2019a-b, ICZN 2021 and Hawkeswood 2021) to illegally coin a second non-ICZN name for the genus.

The correct ICZN name for the genus is *Austroablepharus*. This is the name used within this paper and that which I urge others to also use.

Turning my attention to the species-level classification, it soon became clear that the various populations of putative species were often isolated from one another by well-defined biogeographical barriers of known antiquity, like for example that which has split rock-dwelling species between the east and west Kimberley district of Western Australia.

With this in mind, I decided to analyse each putative species forensically to see if there were other taxa not currently recognized and if so, which if any needed to be formally named as either species or subspecies.

MATERIALS AND METHODS

These are outlined in the introduction and are summarised as follows.

Inspection of live and dead specimens from the across the putative range of the genera *Proablepharus* Fuhn, 1969 and *Austroablepharus* Couper *et al.*, 2018 (those species all previously placed in the genus *Proablepharus*) was carried out, including inspection of museum specimens, live animals in the field, including specimens from across most parts of the range of both putative genera, noting that specimens in the relevant genera and species are generally not easy to locate or catch, as well as inspection of photographed animals with good locality information, including blowing up images to a large size on a computer screen to inspect details of scalation and the like, otherwise not easily viewed with the naked eye.

A sweep of the key references in terms of the putative

species in each genus was done to confirm the taxonomy and nomenclature current and that also available in terms of names for given populations currently subsumed within other putative species by way of synonymies.

Key references in terms of the relevant putative species, including the taxonomic and nomenclatural judgments herein include Augustine and Porter (2004), Beranek *et al.* (2021), Böhme and Denzer (2019), Broom (1896), Cogger (2014), Cogger *et al.* (1983), Copland (1947, 1952a, 1952b), Couper *et al.* (2006, 2010, 2018), Dubey and Shine (2010), Fuhn (1969a, 1969b), Glauert (1960), Gray (1845), Greer (1974, 1979, 1981, 1983, 1989), Greer *et al.* (2004), Hoser (2018a, 2018b), Lönnberg and Andersson (1913), Moro and MacAulay (2010), Pyron *et al.* (2013), Ride *et al.* (1999), Storr (1975), Storr *et al.* (1999), Wells and Wellington (1984, 1985), Wilson and Knowles (1988), Wilson and Swan (2010, 2017) and sources cited therein. Distributions of relevant species were scrutinized with respect of known biogeographical barriers affecting similarly constrained species, many of which have had DNA analysed, as well as morphological divergences to ascertain if the relevant populations were worthy of taxonomic recognition.

This was done specifically with respect of putative *Proablepharus reginae* (Glauert, 1960), *P. tenuis* (Broom, 1896) and *Austroablepharus kinghorni* (Copland, 1947), all of which have until now been treated as putative species with wide distributions across known biogeographical barriers of previously calibrated antiquity, where the relevant species appear to absent and for which there are no museum records accumulated over the last 200 years.

RESULTS

All putative species are morphologically conservative across their entire known ranges, but the minor physical differences between the wide-ranging species across vast distances and areas of absence is compelling evidence that these differences are worthy of species-level taxonomic recognition.

In coming to these conclusions, I note that previously cited diagnostic differences between putative species (e.g. as given in Cogger 2014, being a summary of these), is often inconsistent or incorrect in as much as specimens meant to key out as one species, do in fact have scalation properties allegedly diagnostic of another.

This is especially true of the fronto-parietals; whether or not they are fused with the interparietal or not and likewise for the first supraocular fusing with the first and second supraciliaries as well as mid-body scale row counts.

Colouration features cited by Wells and Wellington (1985) as being diagnostic between two related putative species are at times somewhat inconsistent, as they are also significantly impacted by both age and gender for their species pair, *Austroablepharus kinghorni* (Copland, 1947), given as *Proablepharus kinghorni* (type locality of Darling River, western New South Wales) and their newly named putative taxon, "*P. barklyensis*", from Brunette Downs Station Homestead on the Barkly Tableland in the Northern Territory, noting that Wells and Wellington did not identify age classes of specimens in their relevant description/s.

In terms of currently recognized forms (*sensu* Cogger 2014, or Couper *et al.* 2018, using the two-way generic split), all five relevant species are recognized herein.

These are as follows:

Proablepharus reginae (Glauert, 1960), the type species for the genus (originally named as *Ablepharus reginae*), with a type locality of Queen Victoria Spring, Western Australia, in the Goldfields Region of southern inland Western Australia, and with a putative distribution across arid Australia in the centre and west.

P. tenuis (Broom, 1896) originally named as *Ablepharus tenuis*, with a type locality of Muldiva, Queensland, situated on the base of Cape York, North Queensland, That putative taxon occurs across the tropics of northern Australia including the Northern

Territory and the Kimberley district of Western Australia.

Austroablepharus kinghorni (Copland, 1947), originally named as *Ablepharus kinghorni*, with a type locality of Darling River, New South Wales, between Bourke and Wilcannia, Western New South Wales. The putative species occurs on black soil plains throughout the western division of New South Wales, Queensland, nearby South Australia and the eastern part of the Northern Territory, centred on the Barkly Tableland.

The two other widely recognized species in the genus are similar in most respects to *A. kinghorni*, and in many regards could be treated as outlier populations of this taxon, although I am of the view they are valid species on the basis that they differ slightly morphologically and occupy different bioregions (different drainage basis, to which they seem to be attached). Those two species are as follows:

A. barrylyoni (Couper *et al.* 2010), originally placed in the genus *Proablepharus* with a type locality Mount Surprise on lower Cape York, Queensland, (draining into the Gulf of Carpentaria) and:

A. naranjicaudus (Greer *et al.* 2004), originally placed in the genus *Proablepharus* with a type locality of Cattle Creek Homestead, Cattle Creek Station, Northern Territory, in the Victoria River region of the Northern Territory.

In terms of the conclusions I have made based on inspection of specimens as per the materials and methods above, I note that no changes are indicated for the last two range-restricted species.

In terms of the first three, the following is noted.

Proablepharus reginae is clearly a composite species. There are no available synonyms.

The type form is that from southern Western Australia. Unnamed forms formally named in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999 as amended online since) herein as new species are as follows:

- 1/ The population from Cape Range, Western Australia,
- 2/ Specimens from Barrow Island, Western Australia ,
- 3/ The north-central Pilbara region population.
- 4/ The population from the inland southern edge of the Kimberley District of Western Australia.
- 5/ The population from the central ranges of the Northern Territory, Australia.

P. tenuis is also a clearly composite species and besides the type form from north-east Queensland, there are three available synonym names. These are:

- 1/ *Ablepharus broomensis* Lönnberg and Anderson, 1913, from Broome Western Australia, formally resurrected from synonymy and treated as a separate species, identified herein as *P. broomensis* Lönnberg and Anderson, 1913.
- 2/ *Ablepharus davisii* Copland, 1952, with a type locality of Walcott Inlet, North-west Australia is herein treated as a subjective synonym of *P. broomensis* (see above).
- 3/ *Proablepharus stephensoni* Wells and Wellington, 1985, with a type locality of Greenvale, on lower Cape York, Queensland, is herein treated as a subjective synonym of *P. tenuis* which was collected nearby in the Cape York region of far north Queensland.

Newly named forms in this group are as follows:

- 1/ The populations from the East Kimberley District of Western Australia, with specimens from the nearby Victoria River drainage also formally named as a subspecies of the main East Kimberley population.
- 2/ The population from Arnhem Land in the Northern Territory is formally named as a new species, as well as the population from Groote Eylandt, which is formally named as a subspecies of the former.
- 3/ The population from near Mount Isa in Queensland is also formally named as a new species.

For the putative species, *Austroablepharus kinghorni* (Copland, 1947) with a type locality of the Darling River, between Bourke and Wilcannia, in western New South Wales, Australia, the

population from west of the Georgina River, Queensland, being mainly on the Barkly Tableland of the Northern Territory is herein regarded as a separate species. Wells and Wellington (1985), formally named it as "*Proablepharus barklyensis*" based on a holotype collected from Brunette Downs Station Homestead, in the Northern Territory.

That name was proposed according to the rules of the ICZN and I am not going to invoke the so-called Kaiser veto (see Kaiser 2012a, 2012b, 2013, Kaiser *et al.* 2013, Rhodin *et al.* 2015, Hoser 2015a-f, 2019a-b, ICZN 2021 and Hawkeswood 2021) to illegally coin a second non-ICZN name for the species.

The population from the Lake Eyre drainages in south-west Queensland appear to be morphologically divergent from both *A. kinghorni* (with which it appears most similar to) and *A. barklyensis*. It is therefore formally named as a subspecies of *A. kinghorni*.

In terms of the three subspecies formally named in this paper, I am confident that when molecular evidence relating to each becomes available, the two subspecies of *P. tenuis* are likely to be elevated to full species status.

I am not as certain this will be the case for the subspecies of *A. kinghorni* from the drainages of Lake Eyre, that subspecies being formally named herein as *A. kinghorni eloninquo* *subsp. nov.*

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 (see Article 32.5.1 of the *International Code of Zoological Nomenclature*).

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 21 April 2022 (including if also viewed prior), unless otherwise stated and was accurate in terms of the content cited herein as of that date.

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

Unless otherwise stated explicitly, colour and other descriptions apply to living and **fully mature 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.

It should be noted that with all relevant species within this paper, juveniles tend to be of different colour pattern and markings to the adults, including for example with stripes that fade or disappear in adults. The characteristics of the juveniles are not relied upon as part of the formal diagnosis of each of the relevant taxa.

SVL or SV means snout-vent length, TL means tail length, preanal pores = preloacal pores, preanal = preloacal, tail

measurements and other information about tails 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.

In terms of colouration the relevant species as a rule are well marked when young and this declines with age. Males are usually, but not always more brilliantly marked than females and in the relevant species are often red or orange under the throat and nearby in mature adults.

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.

PROABLEPHARUS MARTINEKAE SP. NOV.

LSIDurn:lsid:zoobank.org:act:844B3B72-F7F7-4DAA-83A1-3A6523D79D44

Holotype: A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number R47299 collected from the south-west corner of Barrow Island, Western Australia, Australia, Latitude -20.866667 S., Longitude 115.333333 E.

This government-owned facility allows access to its holdings.

Paratypes: 22 preserved specimens in the Western Australian Museum, Perth, Western Australia, Australia, specimen numbers 28001-2, 29035-9, 472300-314 all collected from Barrow Island, Western Australia.

Diagnosis: Until now, *Proablepharus reginae* (Glauert, 1960), type locality Queen Victoria Spring in the Goldfields Region of southern Western Australia has been treated as a single wide-ranging species from various mainly but not always, rocky parts of Western and central Australia.

However it is now split into six allopatric species as follows:

Proablepharus reginae (Glauert, 1960) herein restricted to the Goldfields Region of Southern Western Australia.

P. martinekae sp. nov. confined to Barrow Island and possibly nearby parts of the mainland in the Pilbara region south of the Fortescue River, in Western Australia.

P. stevebennetti sp. nov. herein restricted to the Cape Range of Western Australia.

P. igh sp. nov. from the Pilbara region of Western Australia, north of the Fortescue River, to the southern edge of the Great Sandy Desert and including hills within the southern part of this desert and potentially extending south of the Fortescue River in the mid-part of the main Pilbara region.

P. micra sp. nov. from the dry areas at the southern edge of the east Kimberley Ranges in Western Australia.

P. eughr sp. nov. from the ranges of Central Australia in the Northern Territory, extending west to the Northern Territory border and also potentially including nearby parts of north-west South Australia and adjacent Western Australia.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

Adult male *P. reginae* have a generally dark brown dorsum and tail, with the top of the flanks significantly lighter and becoming grey on the lower flanks. Red or orange is absent from the tail. There is a deep orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. The upper surfaces of the limbs are dark brown and without any obvious markings. The scales around the temples are prominently etched with black. The dorsum of the head is an even brown colour, being slightly lighter than the dorsum of the body.

Adult male *P. stevebennetti* sp. nov. have a strong orange-red flush both on the sides and top of the head, being strongest on the top of the head anterior to the eyes, while behind that point

being somewhat infused with dark brown. Otherwise the flush runs from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla.

The dorsum is medium to dark brown with each scale being etched with grey to a moderate extent. Flanks grade fairly evenly from a medium to dark brown colour, gradually to whitish at the lower flank and venter. Upper surfaces of limbs are generally dark brown but with scattered tiny orange flecks. Iris is yellowish-greenish-grey. There is no obvious red-flush or colour in the dark brown tail.

The scales around the temples are prominently etched with black, but there is no etching of scales on the upper part of the head, with the possible exception of the rear of the skull area.

P. martinekae sp. nov. from Barrow Island, Western Australia, is dark brown on the upper surface of the body without obvious etchings darker anywhere on the body or the temples. The distal three quarters of the tail is noticeably lighter than the body and anterior part of the tail.

In adult males there is an orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. In this species, in common with *P. igh* sp. nov. and *P. micra* sp. nov. the flush is noticeably faded in colour. The posterior part of the upper surface of the generally light coloured head is heavily peppered in patches of grey. Upper surfaces of the limbs are brown to light brown, with scattered indistinct yellowish markings.

Storr (1975) reported:

"Barrow Island specimens differ from mainland specimens in being smaller (mean SVL 30.3 vs 33.2) and darker and in having more subdigital lamellae (mean 23.6 vs 22.8)",

but as he did not state which mainland specimens he was comparing to and whether or not they were of different species (or even populations) as outlined in this paper, or the number of specimens involved, I could not draw any firm conclusions from this.

P. igh sp. nov. is similar in most respects to *P. martinekae* sp. nov., most notably in terms of colour configuration, but is readily separated from that species and all others in the complex by having an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like. Furthermore in this species, the tail has a strong light or whitish hue distally and temporal scales are strongly etched dark.

P. micra sp. nov. is readily separated from the preceding species (which it is otherwise similar to) by having a bluish-grey-brown dorsum, as opposed to brownish and a bluish-grey iris as opposed to with yellowish in the preceding species. In common with *P. igh* sp. nov. there is an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like.

P. eughr sp. nov. is generally a dark brown colour all over, including on the tail, which in adult males, is sometimes strongly reddish or orange in colour, if not all over or dorsally, at least on the lower flanks distally. Dark etching of dorsal scales is present, but not prominent. Flanks grade dark to light gradually. Iris is a dark bluey-grey colour. Upper surfaces of limbs are a dark blackish colour all over.

The white patch behind the eye seen in all of the preceding species is either reduced in this species (*P. eughr* sp. nov.) or otherwise pushed down to be below the eye instead.

Cogger (2014) separates putative *P. reginae* from putative *P. tenuis* (Broom, 1896), based on mid-body rows, with 28 for *P. reginae* (presumably based on Glauert's original description and other people repeating this detail) and 22-24 for *P. tenuis*. However my own inspection of specimens has shown considerable overlap in this character between both putative species and those as defined in this paper.

The preceding species (previously putative *P. reginae*) most commonly seem to have 24-26 mid-body rows, not 28 as is usually the case for some of the southern species *P. reginae sensu stricto*. All of *P. tenuis* and associated species are in a similar situation with 24 mid-body rows being the most commonly seen, but some specimens with as few as 22 or as many as 26. A detailed description of the scalation of *P. reginae* by Glauert in 1960 is modified slightly and provided here:

The preceding species (excluding *P. tenuis*) are all identified as follows:

Head narrow, tapering, snout rounded; rostral not projecting. Eye incompletely surrounded by granules; nasals small, widely separated by the frontonasal; no supranasals; frontonasal wider than long, about as large as the frontal, having a wide suture with the rostral and a narrow one with the frontal; prefrontals large; frontal kite-shaped, about as long as its distance from the rostral, almost as wide as the supraocular region, in contact with two of the four supraoculars; second supraocular largest; five supraciliaries, second largest; frontoparietals almost as long as the frontal; in contact with the frontal and three supraoculars; interparietal small, lozenge-shaped; parietals large, as long as the distance from the tip of the snout to the frontal, narrowly in contact with the fourth supraocular; one pair of band-like nuchals about four times as wide as long, in contact with the enlarged upper temporal. Ear opening roundish, much smaller than the pupil, without lobules. Scales smooth, the two vertebral series enlarged; 24-28 rows around the middle of the body, ventral scales smaller than the dorsals, laterals smallest; preanals enlarged. Tail, covered with scales larger than the dorsals and ventrals of the body. Limbs short, when adpressed they do not meet, toes long and slender, the fourth much the longest, as long as the distance between the nostril and the ear.

Colouration of each species individually is best seen by viewing colour images of specimens in life (see below).

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephensoni* sp. nov., *P. jessicabriggsae* sp. nov. and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are

all the *Proablepharus* species.

Type *P. reginae* from the type locality, Queen Victoria Springs, in the Goldfields area of Western Australia is depicted in life in Wilson and Swan (2017) on page 385 on bottom right.

P. stevebennetti sp. nov. from Cape Range, Western Australia is depicted in life in Beranek *et al.* 2021 and online at:

<https://www.flickr.com/photos/128497936@N03/51422818831/>

P. martinekae sp. nov. in life from Barrow Island, Western Australia is depicted in Moro and MacAulay (2010) on page 68.

P. igh sp. nov. from the northern part of the Pilbara region of Western Australia is depicted in life online at:

<https://www.flickr.com/photos/euprepiosaur/47193124681/>

and

<https://www.flickr.com/photos/reptileshots/33267622748/>

and

<https://www.flickr.com/photos/reptileshots/47090754992/>

and

<https://www.flickr.com/photos/124699310@N06/14462597065/>

P. eughr sp. nov. from central Australia is depicted in life in Cogger (2014) on page 672 at top left and online at:

<https://www.flickr.com/photos/reptileshots/51382934537/>

and

<https://www.flickr.com/photos/whawha88/9432265669/>

and

<https://www.flickr.com/photos/whawha88/9432265101/>

Distribution: *P. maryinekae* sp. nov. is confined to Barrow Island and possibly the adjacent Pilbara mainland of north-west Western Australia.

Etymology: The new species *P. martinekae* sp. nov. is named in honour of Maryann Martinek of Bendigo, Victoria, Australia in recognition of her critically important services to wildlife conservation in Australia and her similar efforts in exposing "fake news" stories peddled by corrupt and dishonest State Wildlife departments in the tabloid media. For details see Hoser (2010).

PROABLEPHARUS STEVEBENNETTI SP. NOV.

LSIDDurn:lsid:zoobank.org:act:0F003F14-6D01-4857-B461-FE858802B535

Holotype: A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number R165479 collected from Shothole Canyon, Cape Range National Park, Western Australia, Australia, Latitude -22.061367 S., Longitude 114.01358 E. at an elevation of 121 metres. This government-owned facility allows access to its holdings.

The holotype specimen is depicted in life in Beranek *et al.* (2021) on pages B and C in Figs 1-3, confirming the ID of the said animal.

Atlas of Living Australia, an online database records a specimen at the Australian Museum in Sydney, specimen number R.191897.001 with the same collection data as the holotype (above) and that may also be a duplicate record for the holotype.

Diagnosis: Until now, *Proablepharus reginae* (Glauert, 1960), type locality Queen Victoria Spring in the Goldfields Region of southern Western Australia has been treated as a single wide-ranging species from various mainly but not always, rocky parts of Western and central Australia.

However it is now split into six allopatric species as follows:

Proablepharus reginae (Glauert, 1960) herein restricted to the Goldfields Region of Southern Western Australia.

P. stevebennetti sp. nov. herein restricted to the Cape Range of Western Australia.

P. martinekae sp. nov. confined to Barrow Island and possibly nearby parts of the mainland in the Pilbara region south of the Fortescue River, in Western Australia.

P. igh sp. nov. from the Pilbara region of Western Australia, north of the Fortescue River, to the southern edge of the Great Sandy Desert and including hills within the southern part of this desert

and potentially extending south of the Fortescue River in the mid-part of the main Pilbara region.

P. micra sp. nov. from the dry areas at the southern edge of the east Kimberley Ranges in Western Australia.

P. eughr sp. nov. from the ranges of Central Australia in the Northern Territory, extending west to the Northern Territory border and also potentially including nearby parts of north-west South Australia and adjacent Western Australia.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

Adult male *P. reginae* have a generally dark brown dorsum and tail, with the top of the flanks significantly lighter and becoming grey on the lower flanks. Red or orange is absent from the tail. There is a deep orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. The upper surfaces of the limbs are dark brown and without any obvious markings. The scales around the temples are prominently etched with black. The dorsum of the head is an even brown colour, being slightly lighter than the dorsum of the body.

Adult male *P. stevebennetti* sp. nov. have a strong orange-red flush both on the sides and top of the head, being strongest on the top of the head anterior to the eyes, while behind that point being somewhat infused with dark brown. Otherwise the flush runs from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla.

The dorsum is medium to dark brown with each scale being etched with grey to a moderate extent. Flanks grade fairly evenly from a medium to dark brown colour, gradually to whitish at the lower flank and venter. Upper surfaces of limbs are generally dark brown but with scattered tiny orange flecks. Iris is yellowish-greenish-grey. There is no obvious red-flush or colour in the dark brown tail.

The scales around the temples are prominently etched with black, but there is no etching of scales on the upper part of the head, with the possible exception of the rear of the skull area.

P. martinekae sp. nov. from Barrow Island, Western Australia, is dark brown on the upper surface of the body without obvious etchings darker anywhere on the body or the temples. The distal three quarters of the tail is noticeably lighter than the body and anterior part of the tail.

In adult males there is an orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. In this species, in common with *P. igh* sp. nov. and *P. micra* sp. nov. the flush is noticeably faded in colour. The posterior part of the upper surface of the generally light coloured head is heavily peppered in patches of grey. Upper surfaces of the limbs are brown to light brown, with scattered indistinct yellowish markings.

Storr (1975) reported:

"Barrow Island specimens differ from mainland specimens in being smaller (mean SVL 30.3 us 33.2) and darker and in having more subdigital lamellae (mean 23.6 us 22.8)",

but as he did not state which mainland specimens he was comparing to and whether or not they were of different species (or even populations) as outlined in this paper, or the number of specimens involved, I could not draw any firm conclusions from this.

P. igh sp. nov. is similar in most respects to *P. martinekae* sp. nov., most notably in terms of colour configuration, but is readily separated from that species and all others in the complex by having an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like. Furthermore in this species, the tail has a strong light or whitish hue distally and

temporal scales are strongly etched dark.

P. micra sp. nov. is readily separated from the preceding species (which it is otherwise similar to) by having a bluish-grey-brown dorsum, as opposed to brownish and a bluish-grey iris as opposed to with yellowish in the preceding species. In common with *P. igh* sp. nov. there is an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like.

P. eughr sp. nov. is generally a dark brown colour all over, including on the tail, which in adult males, is sometimes strongly reddish or orange in colour, if not all over or dorsally, at least on the lower flanks distally. Dark etching of dorsal scales is present, but not prominent. Flanks grade dark to light gradually. Iris is a dark bluey-grey colour. Upper surfaces of limbs are a dark blackish colour all over.

The white patch behind the eye seen in all of the preceding species is either reduced in this species (*P. eughr* sp. nov.) or otherwise pushed down to be below the eye instead.

Cogger (2014) separates putative *P. reginae* from putative *P. tenuis* (Broom, 1896), based on mid-body rows, with 28 for *P. reginae* (presumably based on Glauert's original description and other people repeating this detail) and 22-24 for *P. tenuis*. However my own inspection of specimens has shown considerable overlap in this character between both putative species and those as defined in this paper.

The preceding species (previously putative *P. reginae*) most commonly seem to have 24-26 mid-body rows, not 28 as is usually the case for some of the southern species *P. reginae sensu stricto*. All of *P. tenuis* and associated species are in a similar situation with 24 mid-body rows being the most commonly seen, but some specimens with as few as 22 or as many as 26. A detailed description of the scalation of *P. reginae* by Glauert in 1960 is modified slightly and provided here:

The preceding species (excluding *P. tenuis*) are all identified as follows:

Head narrow, tapering, snout rounded; rostral not projecting. Eye incompletely surrounded by granules; nasals small, widely separated by the frontonasal; no supranasals; frontonasal wider than long, about as large as the frontal, having a wide suture with the rostral and a narrow one with the frontal; prefrontals large; frontal kite-shaped, about as long as its distance from the rostral, almost as wide as the supraocular region, in contact with two of the four supraoculars; second supraocular largest; five supraciliaries, second largest; frontoparietals almost as long as the frontal; in contact with the frontal and three supraoculars; interparietal small, lozenge-shaped; parietals large, as long as the distance from the tip of the snout to the frontal, narrowly in contact with the fourth supraocular; one pair of band-like nuchals about four times as wide as long, in contact with the enlarged upper temporal. Ear opening roundish, much smaller than the pupil, without lobules. Scales smooth, the two vertebral series enlarged; 24-28 rows around the middle of the body, ventral scales smaller than the dorsals, laterals smallest; preanals enlarged. Tail, covered with scales larger than the dorsals and ventrals of the body. Limbs short, when adpressed they do not meet, toes long and slender, the fourth much the longest, as long as the distance between the nostril and the ear. Colouration of each species individually is best seen by viewing colour images of specimens in life (see below).

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephensoni* sp. nov., *P. jessicabriggsae* sp. nov. and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and

three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Type *P. reginae* from the type locality, Queen Victoria Springs, in the Goldfields area of Western Australia is depicted in life in Wilson and Swan (2017) on page 385 on bottom right.

P. stevebennetti sp. nov. from Cape Range, Western Australia is depicted in life in Beranek et al. 2021 and online at:

<https://www.flickr.com/photos/128497936@N03/51422818831/>

P. martinekae sp. nov. in life from Barrow Island, Western Australia is depicted in Moro and MacAulay (2010) on page 68.

P. igh sp. nov. from the northern part of the Pilbara region of Western Australia is depicted in life

online at:

<https://www.flickr.com/photos/euprepiosaur/47193124681/>

and

<https://www.flickr.com/photos/reptileshots/33267622748/>

and

<https://www.flickr.com/photos/reptileshots/47090754992/>

and

<https://www.flickr.com/photos/124699310@N06/14462597065/>

P. eughr sp. nov. from central Australia is depicted in life in Cogger (2014) on page 672 at top left and online at:

<https://www.flickr.com/photos/reptileshots/51382934537/>

and

<https://www.flickr.com/photos/whawha88/9432265669/>

and

<https://www.flickr.com/photos/whawha88/9432265101/>

Distribution: *P. stevebennetti* sp. nov. is confined to the Cape Range of Western Australia.

Comment: *P. stevebennetti* sp. nov. is not the first reptile species formally named as a taxon that is endemic to the Cape Range in Western Australia, an area separated from the main Pilbara massif by a zone of flat land that has been there for some millions of years.

Other species identified as endemic to the Cape Range and formally named include the snake *Acanthophis donnellani* Hoser, 2002, as well as the legless lizards *Crottyopus daveausteni* Hoser, 2018 and *Wellingtonopus matthingleyi* Hoser, 2018.

The gecko *Dactyloperus bulliardi* (Hoser, 2018), also endemic to the Cape Range was named a second time as *Gehyra capensis* Kealley et al., 2018.

This act of taxonomic vandalism by was done several weeks after the Hoser paper (Hoser 2018a) in anticipation of an ICZN ruling against Hoser (myself) to erase the relevant earlier

publications from the scientific record as proposed formally by Kaiser(2012a, 2012b, 2013), Kaiser et al. (2013) and Rhodin et al. (2015), the later document being stated by the authors as superseding all previous publications of the cohort.

That seriously dishonest and misguided application by Kaiser et al. (2013) and Rhodin et al. (2015) ultimately failed (ICZN 2021), being rejected by the ICZN in a near unanimous vote in 2020, meaning that the correct nomen for the taxon is *Dactyloperus bulliardi* Hoser, 2018 and the name *Gehyra capensis* is simply a junior synonym (Hawkeswood 2021).

The confusion and time wasted by the unscientific act of attempted name authority theft by Kealley et al. (2018) at the instigation of Wolfgang Wüster and his gang of thieves (see Hoser 2015a-f), noting it was was Wüster alone who wrote the document later identified as "Kaiser et al. (2013)" was a serious diversion from conservation activities by myself and others who then had to spend time correcting the deliberate error and others like it that the same gang of thieves caused.

There is little doubt that endemism in the Cape Range of Western Australia continues to be seriously underestimated and biologists should not be forced to waste time dealing with acts of taxonomic vandalism caused by unscientific incursions by non-scientists and dishonest people who are obviously anti-science (ICZN 2021, Hawkeswood 2021).

As time is wasted dealing with unwarranted acts of taxonomic vandalism, potentially overlooked species may ultimately face extinction.

Etymology: The new species *P. stevebennetti* sp. nov. is named in honour of Steve Bennett of Narre Warren, Victoria, Australia in recognition of his services to herpetology in Australia. Over some decades he has provided important logistical support to various wildlife conservation programs of several well-known herpetologists, usually not getting kudos for it, but at the same time doing essential work, without which, the various projects would never have come to fruition.

He also provided important services for the Victorian Association of Amateur Herpetologists Incorporated, a Geelong, Victoria, Australia based herpetological society, over many years.

PROABLEPHARUS IGH SP. NOV.

LSIDurn:lsid:zoobank.org:act:A86FE631-5852-4851-A202-DFC0F16FB048

Holotype: A preserved male specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number R103996 collected from Woodstock station, Pilbara region, (near the Yule River), Western Australia, Australia, Latitude -21.609722 S., Longitude 119.021389 E.

This government-owned facility allows access to its holdings.

Paratypes: Three preserved specimens at the Western Australian Museum, Perth, Western Australia, Australia, specimen numbers R104041 (female), R99355 and R104167 all collected from Woodstock station, Pilbara region, (near the Yule River), Western Australia, Australia and a (fourth) preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number R145687 collected from Abydos station, Pilbara region, Western Australia, Australia, Latitude -22.227778 S., Longitude 119.010556 E.

Diagnosis: Until now, *Proablepharus reginae* (Glauert, 1960), type locality Queen Victoria Spring in the Goldfields Region of southern Western Australia has been treated as a single wide-ranging species from various mainly but not always, rocky parts of Western and central Australia.

However it is now split into six allopatric species as follows:

Proablepharus reginae (Glauert, 1960) herein restricted to the Goldfields Region of Southern Western Australia.

P. martinekae sp. nov. confined to Barrow Island and possibly nearby parts of the mainland in the Pilbara region south of the Fortescue River, in Western Australia.

P. stevebennetti sp. nov. herein restricted to the Cape Range of Western Australia.

P. igh sp. nov. from the Pilbara region of Western Australia, north of the Fortescue River, to the southern edge of the Great Sandy Desert and including hills within the southern part of this desert and potentially extending south of the Fortescue River in the mid-part of the main Pilbara region.

P. micra sp. nov. from the dry areas at the southern edge of the east Kimberley Ranges in Western Australia.

P. eughr sp. nov. from the ranges of Central Australia in the Northern Territory, extending west to the Northern Territory border and also potentially including nearby parts of north-west South Australia and adjacent Western Australia.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

Adult male *P. reginae* have a generally dark brown dorsum and tail, with the top of the flanks significantly lighter and becoming grey on the lower flanks. Red or orange is absent from the tail. There is a deep orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. The upper surfaces of the limbs are dark brown and without any obvious markings. The scales around the temples are prominently etched with black. The dorsum of the head is an even brown colour, being slightly lighter than the dorsum of the body.

Adult male *P. stevebennetti sp. nov.* have a strong orange-red flush both on the sides and top of the head, being strongest on the top of the head anterior to the eyes, while behind that point being somewhat infused with dark brown. Otherwise the flush runs from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla.

The dorsum is medium to dark brown with each scale being etched with grey to a moderate extent. Flanks grade fairly evenly from a medium to dark brown colour, gradually to whitish at the lower flank and venter. Upper surfaces of limbs are generally dark brown but with scattered tiny orange flecks. Iris is yellowish-greenish-grey. There is no obvious red-flush or colour in the dark brown tail.

The scales around the temples are prominently etched with black, but there is no etching of scales on the upper part of the head, with the possible exception of the rear of the skull area.

P. martinekae sp. nov. from Barrow Island, Western Australia, is dark brown on the upper surface of the body without obvious etchings darker anywhere on the body or the temples. The distal three quarters of the tail is noticeably lighter than the body and anterior part of the tail.

In adult males there is an orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. In this species, in common with *P. igh sp. nov.* and *P. micra sp. nov.* the flush is noticeably faded in colour. The posterior part of the upper surface of the generally light coloured head is heavily peppered in patches of grey. Upper surfaces of the limbs are brown to light brown, with scattered indistinct yellowish markings.

Storr (1975) reported:

"Barrow Island specimens differ from mainland specimens in being smaller (mean SVL 30.3 vs 33.2) and darker and in having more subdigital lamellae (mean 23.6 vs 22.8)",

but as he did not state which mainland specimens he was comparing to and whether or not they were of different species (or even populations) as outlined in this paper, or the number of specimens involved, I could not draw any firm conclusions from this.

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the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like. Furthermore in this species, the tail has a strong light or whitish hue distally and temporal scales are strongly etched dark.

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P. eughr sp. nov. is generally a dark brown colour all over, including on the tail, which in adult males, is sometimes strongly reddish or orange in colour, if not all over or dorsally, at least on the lower flanks distally. Dark etching of dorsal scales is present, but not prominent. Flanks grade dark to light gradually. Iris is a dark bluey-grey colour. Upper surfaces of limbs are a dark blackish colour all over.

The white patch behind the eye seen in all of the preceding species is either reduced in this species (*P. eughr sp. nov.*) or otherwise pushed down to be below the eye instead.

Cogger (2014) separates putative *P. reginae* from putative *P. tenuis* (Broom, 1896), based on mid-body rows, with 28 for *P. reginae* (presumably based on Glauert's original description and other people repeating this detail) and 22-24 for *P. tenuis*. However my own inspection of specimens has shown considerable overlap in this character between both putative species and those as defined in this paper.

The preceding species (previously putative *P. reginae*) most commonly seem to have 24-26 mid-body rows, not 28 as is usually the case for some of the southern species *P. reginae sensu stricto*. All of *P. tenuis* and associated species are in a similar situation with 24 mid-body rows being the most commonly seen, but some specimens with as few as 22 or as many as 26. A detailed description of the scalation of *P. reginae* by Glauert in 1960 is modified slightly and provided here:

The preceding species (excluding *P. tenuis*) are all identified as follows:

Head narrow, tapering, snout rounded; rostral not projecting. Eye incompletely surrounded by granules; nasals small, widely separated by the frontonasal; no supranasals; frontonasal wider than long, about as large as the frontal, having a wide suture with the rostral and a narrow one with the frontal; prefrontals large; frontal kite-shaped, about as long as its distance from the rostral, almost as wide as the supraocular region, in contact with two of the four supraoculars; second supraocular largest; five supraciliaries, second largest; frontoparietals almost as long as the frontal; in contact with the frontal and three supraoculars; interparietal small, lozenge-shaped; parietals large, as long as the distance from the tip of the snout to the frontal, narrowly in contact with the fourth supraocular; one pair of band-like nuchals about four times as wide as long, in contact with the enlarged upper temporal. Ear opening roundish, much smaller than the pupil, without lobules. Scales smooth, the two vertebral series enlarged; 24-28 rows around the middle of the body, ventral scales smaller than the dorsals, laterals smallest; preanals enlarged. Tail, covered with scales larger than the dorsals and ventrals of the body. Limbs short, when adpressed they do not meet, toes long and slender, the fourth much the longest, as long as the distance between the nostril and the ear.

Colouration of each species individually is best seen by viewing colour images of specimens in life (see below).

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti sp. nov.*, *P. martinekae sp. nov.*, *P. igh sp. nov.*, *P. micra sp. nov.* and *P. eughr sp. nov.* are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnberg and Andersson, 1913), *P. garystephensoni sp. nov.*, *P. jessicabriggsae sp. nov.* and *P. alexanderdudleyi sp. nov.* by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Type *P. reginae* from the type locality, Queen Victoria Springs, in the Goldfields area of Western Australia is depicted in life in Wilson and Swan (2017) on page 385 on bottom right.

P. stevebennetti sp. nov. from Cape Range, Western Australia is depicted in life in Beranek *et al.* 2021 and online at:

<https://www.flickr.com/photos/128497936@N03/51422818831/>

P. martinekae sp. nov. in life from Barrow Island, Western Australia is depicted in Moro and MacAulay (2010) on page 68.

P. igh sp. nov. from the northern part of the Pilbara region of Western Australia is depicted in life

online at:

<https://www.flickr.com/photos/euprepiosaur/47193124681/>

and

<https://www.flickr.com/photos/reptileshots/33267622748/>

and

<https://www.flickr.com/photos/reptileshots/47090754992/>

and

<https://www.flickr.com/photos/124699310@N06/14462597065/>

P. eughr sp. nov. from central Australia is depicted in life in Cogger (2014) on page 672 at top left and online at:

<https://www.flickr.com/photos/reptileshots/51382934537/>

and

<https://www.flickr.com/photos/whawha88/9432265669/>

and

<https://www.flickr.com/photos/whawha88/9432265101/>

Distribution: *P. igh* sp. nov. is confined to northern part of the Pilbara region of Western Australia, north of the Fortescue River, to the southern edge of the Great Sandy Desert and including hills within the southern part of this desert and potentially extending south of the Fortescue River in the mid-part of the main Pilbara region.

Etymology: The new species *P. igh* sp. nov. is named in reflection of the exclamation sound made by the Yindjibarndi people, being native Aboriginals of the Pilbara region of western Australia when they see a snake or small lizard scuttle away near their feet.

The are also referred to as “igh” when killed and sprinkled over items of food such as meat or fish.

PROABLEPHARUS MICRA SP. NOV.

LSIDurn:lsid:zoobank.org:act:C76447A4-9BF6-46CA-BDC0-F044D9251111

Holotype: A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number R46114 collected from 13km east of the Margaret River Homestead, Kimberley District, Western Australia, Australia, Latitude -18.716667 S., Longitude 126.983333 E. This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen numbers R07271 and R07272 collected from 167 km east of Fitzroy Crossing, Western Australia, Australia, Latitude -18.8 S., Longitude 126.533 E.

Diagnosis: Until now, *Proablepharus reginae* (Glauert, 1960), type locality Queen Victoria Spring in the Goldfields Region of southern Western Australia has been treated as a single wide-ranging species from various mainly but not always, rocky parts of Western and central Australia.

However it is now split into six allopatric species as follows:

Proablepharus reginae (Glauert, 1960) herein restricted to the Goldfields Region of Southern Western Australia.

P. stevebennetti sp. nov. herein restricted to the Cape Range of Western Australia.

P. martinekae sp. nov. confined to Barrow Island and possibly nearby parts of the mainland in the Pilbara region south of the Fortescue River, in Western Australia.

P. igh sp. nov. from the Pilbara region of Western Australia, north of the Fortescue River, to the southern edge of the Great Sandy Desert and including hills within the southern part of this desert and potentially extending south of the Fortescue River in the mid-part of the main Pilbara region.

P. micra sp. nov. from the dry areas at the southern edge of the east Kimberley Ranges in Western Australia.

P. eughr sp. nov. from the ranges of Central Australia in the Northern Territory, extending west to the Northern Territory border and also potentially including nearby parts of north-west South Australia and adjacent Western Australia.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

Adult male *P. reginae* have a generally dark brown dorsum and tail, with the top of the flanks significantly lighter and becoming grey on the lower flanks. Red or orange is absent from the tail. There is a deep orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. The upper surfaces of the limbs are dark brown and without any obvious markings. The scales around the temples are prominently etched with black. The dorsum of the head is an even brown colour, being slightly lighter than the dorsum of the body.

Adult male *P. stevebennetti* sp. nov. have a strong orange-red flush both on the sides and top of the head, being strongest on the top of the head anterior to the eyes, while behind that point being somewhat infused with dark brown. Otherwise the flush runs from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla.

The dorsum is medium to dark brown with each scale being etched with grey to a moderate extent. Flanks grade fairly evenly from a medium to dark brown colour, gradually to whitish at the lower flank and venter. Upper surfaces of limbs are generally dark brown but with scattered tiny orange flecks. Iris is yellowish-greenish-grey. There is no obvious red-flush or colour in the dark brown tail.

The scales around the temples are prominently etched with black, but there is no etching of scales on the upper part of the

head, with the possible exception of the rear of the skull area. *P. martinekae* sp. nov. from Barrow Island, Western Australia, is dark brown on the upper surface of the body without obvious etchings darker anywhere on the body or the temples. The distal three quarters of the tail is noticeably lighter than the body and anterior part of the tail.

In adult males there is an orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. In this species, in common with *P. igh* sp. nov. and *P. micra* sp. nov. the flush is noticeably faded in colour. The posterior part of the upper surface of the generally light coloured head is heavily peppered in patches of grey. Upper surfaces of the limbs are brown to light brown, with scattered indistinct yellowish markings.

Storr (1975) reported:

"Barrow Island specimens differ from mainland specimens in being smaller (mean SVL 30.3 vs 33.2) and darker and in having more subdigital lamellae (mean 23.6 vs 22.8)",

but as he did not state which mainland specimens he was comparing to and whether or not they were of different species (or even populations) as outlined in this paper, or the number of specimens involved, I could not draw any firm conclusions from this.

P. igh sp. nov. is similar in most respects to *P. martinekae* sp. nov., most notably in terms of colour configuration, but is readily separated from that species and all others in the complex by having an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like. Furthermore in this species, the tail has a strong light or whitish hue distally and temporal scales are strongly etched dark.

P. micra sp. nov. is readily separated from the preceding species (which it is otherwise similar to) by having a bluish-grey-brown dorsum, as opposed to brownish and a bluish-grey iris as opposed to with yellowish in the preceding species. In common with *P. igh* sp. nov. there is an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like.

P. eughr sp. nov. is generally a dark brown colour all over, including on the tail, which in adult males, is sometimes strongly reddish or orange in colour, if not all over or dorsally, at least on the lower flanks distally. Dark etching of dorsal scales is present, but not prominent. Flanks grade dark to light gradually. Iris is a dark bluey-grey colour. Upper surfaces of limbs are a dark blackish colour all over.

The white patch behind the eye seen in all of the preceding species is either reduced in this species (*P. eughr* sp. nov.) or otherwise pushed down to be below the eye instead.

Cogger (2014) separates putative *P. reginae* from putative *P. tenuis* (Broom, 1896), based on mid-body rows, with 28 for *P. reginae* (presumably based on Glauert's original description and other people repeating this detail) and 22-24 for *P. tenuis*. However my own inspection of specimens has shown considerable overlap in this character between both putative species and those as defined in this paper.

The preceding species (previously putative *P. reginae*) most commonly seem to have 24-26 mid-body rows, not 28 as is usually the case for some of the southern species *P. reginae sensu stricto*. All of *P. tenuis* and associated species are in a similar situation with 24 mid-body rows being the most commonly seen, but some specimens with as few as 22 or as many as 26. A detailed description of the scalation of *P. reginae* by Glauert in 1960 is modified slightly and provided here:

The preceding species (excluding *P. tenuis*) are all identified as follows:

Head narrow, tapering, snout rounded; rostral not projecting. Eye incompletely surrounded by granules; nasals small, widely separated by the frontonasal; no supranasals; frontonasal wider than long, about as large as the frontal, having a wide suture

with the rostral and a narrow one with the frontal; prefrontals large; frontal kite-shaped, about as long as its distance from the rostral, almost as wide as the supraocular region, in contact with two of the four supraoculars; second supraocular largest; five supraciliaries, second largest; frontoparietals almost as long as the frontal; in contact with the frontal and three supraoculars; interparietal small, lozenge-shaped; parietals large, as long as the distance from the tip of the snout to the frontal, narrowly in contact with the fourth supraocular; one pair of band-like nuchals about four times as wide as long, in contact with the enlarged upper temporal. Ear opening roundish, much smaller than the pupil, without lobules. Scales smooth, the two vertebral series enlarged; 24-28 rows around the middle of the body, ventral scales smaller than the dorsals, laterals smallest; preanals enlarged. Tail, covered with scales larger than the dorsals and ventrals of the body. Limbs short, when adpressed they do not meet, toes long and slender, the fourth much the longest, as long as the distance between the nostril and the ear.

Colouration of each species individually is best seen by viewing colour images of specimens in life (see below).

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephensoni* sp. nov., *P. jessicabriggsae* sp. nov. and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Type *P. reginae* from the type locality, Queen Victoria Springs, in the Goldfields area of Western Australia is depicted in life in Wilson and Swan (2017) on page 385 on bottom right.

P. stevebennetti sp. nov. from Cape Range, Western Australia is depicted in life in Beranek *et al.* 2021 and online at:

<https://www.flickr.com/photos/128497936@N03/51422818831/>

P. martinekae sp. nov. in life from Barrow Island, Western Australia is depicted in Moro and MacAulay (2010) on page 68.

P. igh sp. nov. from the northern part of the Pilbara region of Western Australia is depicted in life

online at:

<https://www.flickr.com/photos/euprepiosaur/47193124681/>

and

<https://www.flickr.com/photos/reptileshots/33267622748/>
and
<https://www.flickr.com/photos/reptileshots/47090754992/>
and
<https://www.flickr.com/photos/124699310@N06/14462597065/>
P. eughr sp. nov. from central Australia is depicted in life in Cogger (2014) on page 672 at top left and online at:
<https://www.flickr.com/photos/reptileshots/51382934537/>
and
<https://www.flickr.com/photos/whawha88/9432265669/>
and
<https://www.flickr.com/photos/whawha88/9432265101/>

Distribution: *P. micra* sp. nov. is confined to the dry hilly areas at the southern edge of the east Kimberley Ranges in Western Australia.

Etymology: The new species *P. micra* sp. nov. is named in reflection of the diminutive size of the species, with an adult snout-vent length of about 35-40 mm.

PROABLEPHARUS EUGHR SP. NOV.

LSIDurn:lsid:zoobank.org:act:1B0F6C59-7146-4059-B735-476C130242A5

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.118546 collected from Ellery Gorge, Northern Territory, Australia, Latitude -23.783 S., Longitude 133.066 E. This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number :R20661, collected from Finke Gorge National Park, Northern Territory, Australia, Latitude -24.067 S., Longitude 132.623 E.

Diagnosis: Until now, *Proablepharus reginae* (Glauert, 1960), type locality Queen Victoria Spring in the Goldfields Region of southern Western Australia has been treated as a single wide-ranging species from various mainly but not always, rocky parts of Western and central Australia.

However it is now split into six allopatric species as follows:

Proablepharus reginae (Glauert, 1960) herein restricted to the Goldfields Region of Southern Western Australia.

P. eughr sp. nov. from the ranges of Central Australia in the Northern Territory, extending west to the Northern Territory border and also potentially including nearby parts of north-west South Australia and adjacent Western Australia.

P. micra sp. nov. from the dry areas at the southern edge of the east Kimberley Ranges in Western Australia.

P. stevebennetti sp. nov. herein restricted to the Cape Range of Western Australia.

P. martinekae sp. nov. confined to Barrow Island and possibly nearby parts of the mainland in the Pilbara region south of the Fortescue River, in Western Australia.

P. igh sp. nov. from the Pilbara region of Western Australia, north of the Fortescue River, to the southern edge of the Great Sandy Desert and including hills within the southern part of this desert and potentially extending south of the Fortescue River in the mid-part of the main Pilbara region.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

Adult male *P. reginae* have a generally dark brown dorsum and tail, with the top of the flanks significantly lighter and becoming grey on the lower flanks. Red or orange is absent from the tail. There is a deep orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. The upper surfaces of the limbs are dark brown and without any obvious markings. The scales around the temples are prominently etched with black. The dorsum of the head is an even brown colour,

being slightly lighter than the dorsum of the body.

Adult male *P. stevebennetti* sp. nov. have a strong orange-red flush both on the sides and top of the head, being strongest on the top of the head anterior to the eyes, while behind that point being somewhat infused with dark brown. Otherwise the flush runs from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla.

The dorsum is medium to dark brown with each scale being etched with grey to a moderate extent. Flanks grade fairly evenly from a medium to dark brown colour, gradually to whitish at the lower flank and venter. Upper surfaces of limbs are generally dark brown but with scattered tiny orange flecks. Iris is yellowish-greenish-grey. There is no obvious red-flush or colour in the dark brown tail.

The scales around the temples are prominently etched with black, but there is no etching of scales on the upper part of the head, with the possible exception of the rear of the skull area.

P. martinekae sp. nov. from Barrow Island, Western Australia, is dark brown on the upper surface of the body without obvious etchings darker anywhere on the body or the temples. The distal three quarters of the tail is noticeably lighter than the body and anterior part of the tail.

In adult males there is an orangeish-red flush running from the snout, across the side of the head on each side onto the anterior neck, posterior to the ear, which abruptly stops well before the axilla of the forelimb and closer to the ear than the axilla. In this species, in common with *P. igh* sp. nov. and *P. micra* sp. nov. the flush is noticeably faded in colour. The posterior part of the upper surface of the generally light coloured head is heavily peppered in patches of grey. Upper surfaces of the limbs are brown to light brown, with scattered indistinct yellowish markings.

Storr (1975) reported:

"Barrow Island specimens differ from mainland specimens in being smaller (mean SVL 30.3 vs 33.2) and darker and in having more subdigital lamellae (mean 23.6 vs 22.8)", but as he did not state which mainland specimens he was comparing to and whether or not they were of different species (or even populations) as outlined in this paper, or the number of specimens involved, I could not draw any firm conclusions from this.

P. igh sp. nov. is similar in most respects to *P. martinekae* sp. nov., most notably in terms of colour configuration, but is readily separated from that species and all others in the complex by having an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like. Furthermore in this species, the tail has a strong light or whitish hue distally and temporal scales are strongly etched dark.

P. micra sp. nov. is readily separated from the preceding species (which it is otherwise similar to) by having a bluish-grey-brown dorsum, as opposed to brownish and a bluish-grey iris as opposed to with yellowish in the preceding species. In common with *P. igh* sp. nov. there is an expanded amount of black or dark grey pigment at the outer edge of each scale, giving an etching that makes the scales on the dorsum seem more fish-like.

P. eughr sp. nov. is generally a dark brown colour all over, including on the tail, which in adult males, is sometimes strongly reddish or orange in colour, if not all over or dorsally, at least on the lower flanks distally. Dark etching of dorsal scales is present, but not prominent. Flanks grade dark to light gradually. Iris is a dark bluey-grey colour. Upper surfaces of limbs are a dark blackish colour all over.

The white patch behind the eye seen in all of the preceding species is either reduced in this species (*P. eughr* sp. nov.) or otherwise pushed down to be below the eye instead.

Cogger (2014) separates putative *P. reginae* from putative *P. tenuis* (Broom, 1896), based on mid-body rows, with 28 for *P. reginae* (presumably based on Glauert's original description

and other people repeating this detail) and 22-24 for *P. tenuis*. However my own inspection of specimens has shown considerable overlap in this character between both putative species and those as defined in this paper.

The preceding species (previously putative *P. reginae*) most commonly seem to have 24-26 mid-body rows, not 28 as is usually the case for some of the southern species *P. reginae sensu stricto*. All of *P. tenuis* and associated species are in a similar situation with 24 mid-body rows being the most commonly seen, but some specimens with as few as 22 or as many as 26. A detailed description of the scalation of *P. reginae* by Glauert in 1960 is modified slightly and provided here:

The preceding species (excluding *P. tenuis*) are all identified as follows:

Head narrow, tapering, snout rounded; rostral not projecting. Eye incompletely surrounded by granules; nasals small, widely separated by the frontonasal; no supranasals; frontonasal wider than long, about as large as the frontal, having a wide suture with the rostral and a narrow one with the frontal; prefrontals large; frontal kite-shaped, about as long as its distance from the rostral, almost as wide as the supraocular region, in contact with two of the four supraoculars; second supraocular largest; five supraciliaries, second largest; frontoparietals almost as long as the frontal; in contact with the frontal and three supraoculars; interparietal small, lozenge-shaped; parietals large, as long as the distance from the tip of the snout to the frontal, narrowly in contact with the fourth supraocular; one pair of band-like nuchals about four times as wide as long, in contact with the enlarged upper temporal. Ear opening roundish, much smaller than the pupil, without lobules. Scales smooth, the two vertebral series enlarged; 24-28 rows around the middle of the body, ventral scales smaller than the dorsals, laterals smallest; preanals enlarged. Tail, covered with scales larger than the dorsals and ventrals of the body. Limbs short, when adpressed they do not meet, toes long and slender, the fourth much the longest, as long as the distance between the nostril and the ear.

Colouration of each species individually is best seen by viewing colour images of specimens in life (see below).

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephensoni* sp. nov., *P. jessicabriggsae* sp. nov. and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular

evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Type *P. reginae* from the type locality, Queen Victoria Springs, in the Goldfields area of Western Australia is depicted in life in Wilson and Swan (2017) on page 385 on bottom right.

P. stevebennetti sp. nov. from Cape Range, Western Australia is depicted in life in Beranek *et al.* 2021 and online at:

<https://www.flickr.com/photos/128497936@N03/51422818831/>

P. martinekae sp. nov. in life from Barrow Island, Western Australia is depicted in Moro and MacAulay (2010) on page 68.

P. igh sp. nov. from the northern part of the Pilbara region of Western Australia is depicted in life

online at:

<https://www.flickr.com/photos/euprepiosaur/47193124681/>

and

<https://www.flickr.com/photos/reptileshots/33267622748/>

and

<https://www.flickr.com/photos/reptileshots/47090754992/>

and

<https://www.flickr.com/photos/124699310@N06/14462597065/>

P. eughr sp. nov. from central Australia is depicted in life in Cogger (2014) on page 672 at top left and online at:

<https://www.flickr.com/photos/reptileshots/51382934537/>

and

<https://www.flickr.com/photos/whawha88/9432265669/>

and

<https://www.flickr.com/photos/whawha88/9432265101/>

Distribution: *P. eughr* sp. nov. is found in the ranges of Central Australia in the Northern Territory, extending west to the Northern Territory border and also potentially including nearby parts of north-west South Australia and immediately adjacent Western Australia.

Etymology: The new species *P. eughr* sp. nov. is named in reflection of the exclamation sound made by the Aboriginal Arrernte (pronounced Arrunda) people, being native Aboriginals of the Alice Springs area in central Australia (Northern Territory) when they see a snake or small lizard scuttle away near their feet. It also reflects the sound made by people when they try to eat them.

PROABLEPHARUS JESSICABRIGGSÆ SP. NOV.

LSIDDurn:lsid:zoobank.org:act:C4C00AA2-C14A-4BD0-BDD3-74B23E8E2B04

Holotype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R06720 collected from 5 km west of Ivanhoe Crossing, East Kimberley District, Western Australia, Australia, Latitude -15.75 S., Longitude 128.7 E. This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen numbers R06721 and R06867 both collected from 5 km west of Ivanhoe Crossing, East Kimberley District, Western Australia, Australia, Latitude -15.75 S., Longitude 128.7 E.

Diagnosis: Until now, *Proablepharus tenuis* (Broom, 1896), type locality Muldiva on Cape York, north Queensland has been treated as a single wide-ranging species from various mainly but not always, rocky parts of tropical northern Australia including, Queensland in the east, across the hilly country south of the Gulf of Carpentaria, through the top end of the Northern Territory and across the Kimberley district of Western Australia to the vicinity of Broome in the south-west Kimberley.

However it is now split into five allopatric species as follows:

Proablepharus tenuis (Broom, 1896), herein restricted to north Queensland, Australia, generally east of Hughenden and

including the lower parts of Cape York and nearby parts of the Gulf of Carpentaria.

P. broomensis (Lönnberg and Andersson, 1913), from the West Kimberley of Western Australia.

P. jessicabriggsae sp. nov. from the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west of the Northern Territory.

P. garystephenoni sp. nov. from the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

The subspecies *P. garystephenoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

P. alexanderdudleyi sp. nov. occurs in the Selwyn Ranges near Cloncurry and Mount Isa in Queensland, extending north-west to about Lawn Hill, Queensland.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

P. broomensis (Lönnberg and Andersson, 1913) has a beige iris, dark chocolate brownish dorsum, becoming light brown on the area between the dorsum and the upper flank. Tail is heavily infused with greyish flecks, making it appear greyish, especially at the distal end. Posterior to the hind legs there may be two sets of about 4-5 black tipped scales running posteriorly down the tail on either side of the tail. Otherwise there is no indication of spotting or striping on the tail, which is essentially brown anteriorly becoming grey posteriorly. Rarely there are very faint whitish flecks on the sides of the tail mid-way between the base and the tip, but not at either end of the tail. Upper labials are immaculate. Upper surface of the head has indistinct mottling to a limited extent and this is mainly behind the eyes. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae sp. nov. has a bluish-grey iris and a chocolate brown dorsum, which becomes greyish on the lower flanks, which is similar on the anterior part of the tail. There are semi-distinct black lines on the dorsum from the pelvic girdle down onto the tail on the upper surface and sides, ending within the first fifth of the tail. The rest of the tail is infused with numerous semi-distinct evenly spaced white flecks. Upper labials with darker mottling, as is the back of the dorsal surface of the head from between the eyes and posterior to this. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae insolitum subsp. nov. has a greyish-brown iris; medium brown dorsum and flanks, not becoming grey on the lower surfaces. On the tail from the anterior end to about one third of the way down are about 6-8 well-defined blackish stripes, formed by enlarged spots in longitudinal rows of scales that have the spots expanded in size to nearly fill each scale, meaning that in combination they form nearly unbroken lines on the tail. Lower tail is peppered darker and lighter brown, but does not become greyish. Upper labials are immaculate. Rest of the upper surface of head including the snout region anterior to the eyes is peppered greyish on an otherwise brown surface. Upper surfaces of limbs are dark brown and without any obvious

markings. Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout.

P. garystephenoni sp. nov. has a dark greyish-brown iris. Dorsum is medium brown, with heavy chocolate brown on the lower flanks. Upper surfaces of limbs are dark brown to black and without markings of any sort. There is a well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. Running behind the eye to the ear is a well defined blackish bar, this feature not being prominent in any of the other species or subspecies, where it is either absent, so faded as to be barely noticeable or merely groups of mottled or peppered scales.

Tail is brown along its entire length and sides, sometimes being slightly darker on the sides and rarely having a dusting of barely distinct lighter flecks.

There is no evidence of stripes or spots configured as stripes either on the tail or where the dorsum merges with the anterior tail.

Original tail (both sexes) is usually about 1.2 times the length of the body, versus 1.3-1.5 times in the other species.

Breeding males have a medium orange throat and labials, including at the anterior end of the dorsal surface of the snout, but the orange is not as deep or dark in colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov.

P. garystephenoni absconditus subsp. nov. from Groote Eylandt, Northern Territory (and possibly the adjacent mainland of the Northern Territory) is similar in most respects to *P. garystephenoni* sp. nov. as just described above, but differs from that nominate form and all other species in the complex, by having dark spots on the scales of the flanks, uniformly arranged to give the appearance of stripes, upper surfaces of limbs with light brown interspaces on otherwise dark surfaces; dark spotting and peppering on the sides of the anterior tail, not forming any appearance of stripes; a brown tail (top and sides), that lightens slightly at the distal end.

There is no well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. There is no well defined blackish bar running behind the eye to the ear.

Original tail (both sexes) is usually about 1.3-1.4 times the length of the body, versus 1.3-1.5 times in the other species in the complex, except for nominate *P. garystephenoni garystephenoni* subsp. nov. (type locality Jabiluka area, Northern Territory) for which the original tail (both sexes) is usually about 1.2 times the length of the body.

P. alexanderdudleyi sp. nov. has an iris that is beige with a light grey tinge. Dorsum is light to medium brown, becoming light grey on the lower flanks. Grey or whitish scales on the lower flanks are tipped dark grey, giving an appearance of broken lines on the lower flanks. Dorsum of tail is all or mainly brown at the anterior end and similar along most of the length, although grey speckling on the sides moves more to the top surface at the posterior end. The sides of the tail are light grey, heavily infused with black flecks formed from black spots within scales, but these are somewhat irregular and do not form obvious stripes down the tail as seen for example in *P. jessicabriggsae insolitum* subsp. nov. Upper surfaces of limbs are dark brown with numerous well-defined orangeish spots that are evenly spaced.

Breeding males have an orange throat and labials, including at the anterior end of the dorsal surface of the snout, but it is not a dark or deep reddish or orange colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov.

P. tenuis (Broom, 1896) has a brown iris. The dorsum is brown on top and on the flanks, but noticeably lightens at the interface of the dorsal surface and the flanks on the body and the anterior end of the tail, sometimes giving an appearance of two stripes running down the dorso-lateral lines. There are

three thin, but well defined grey lines running from the anterior end of the tail down for about the first third of the tail length. The sides of the tail are whitish brown with dark grey flecks, which while arranged linearly, do not give the appearance of striping. Posterior end of the tail is lighter and tending reddish-orange. Upper labials are white in non-breeding females and light orange in breeding males, but always immaculate. Markings on the head are mottled, rather than peppered. Upper surfaces of limbs are purplish brown with semi-distinct regularly spaced lighter markings. The significant amount of dark peppering or mottling between the eye and the ear characteristic of this species, does not form any well-defined stripe as seen in *P. garystephensoni* sp. nov..

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephensoni* sp. nov. (including the subspecies *P. garystephensoni absconditus* subsp. nov.), *P. jessicabriggsae* sp. nov. (including the subspecies *P. jessicabriggsae insolitum* subsp. nov.) and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Proablepharus broomensis (Lönnerberg and Andersson, 1913) from the West Kimberley in Western Australia is depicted in life online at:

<https://www.flickr.com/photos/stephenmahony/14010727961/> and

<https://www.flickr.com/photos/stephenmahony/13990787266/> *P. jessicabriggsae* sp. nov. from the northern East Kimberley in Western Australia is depicted in life in Storr, Smith and Johnstone (1981) on plate 17, photo 1, at top left, Wilson and Knowles (1988) on page 308 middle right and Wilson and Swan (2017) on page 387 at top.

P. jessicabriggsae insolitum subsp. nov. from the Keep River / Victoria River districts in the north-west Northern Territory is depicted in life online at:

<https://www.flickr.com/photos/reptileshots/38275966486/>

P. garystephensoni sp. nov. from Arnhem Land, Northern Territory is depicted online at:

<https://www.flickr.com/photos/58349528@N02/52012502120/>

and

<https://www.flickr.com/photos/126237772@N07/51989138792/> *P. alexanderdudleyi* sp. nov. from Mount Isa, Queensland is depicted online at:

<https://www.flickr.com/photos/ryanfrancis/16923727106/> and

<https://www.flickr.com/photos/ryanfrancis/7806419530/> and

<https://www.flickr.com/photos/ryanfrancis/16762025798/> and

<https://www.flickr.com/photos/ryanfrancis/16762016358/>

P. tenuis (Broom, 1896) from Cape York, north Queensland is depicted in life online at:

https://www.flickr.com/photos/zimny_anders/43741856850/ and

<https://www.flickr.com/photos/euprepiosaur/31174257476/>

Distribution: The species *P. jessicabriggsae* sp. nov. occurs in the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west Northern Territory.

Etymology: *P. jessicabriggsae* sp. nov. is named in honour of Jessica Briggs of Woori Yallock, Upper Yarra Valley, Victoria, Australia, who is a well-known snake catcher and reptile handler, in recognition of her services to reptile education and public safety in her home state of Victoria, Australia.

PROABLEPHARUS JESSICABRIGGSAE INSOLITUM SUBSP. NOV.

LSIDurn:lsid:zoobank.org:act:FFD7266A-AE36-4DD1-A2AD-4740BC3A04F5

Holotype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R24110 collected from North Kollendong Swamp, Bradshaw Station, Northern Territory, Australia, Latitude -15.004 S., Longitude 130.052 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen numbers R.24168 and R18661 both collected from Bradshaw Station, Northern Territory, Australia.

Diagnosis: Until now, *Proablepharus tenuis* (Broom, 1896), type locality Muldiva on Cape York, north Queensland has been treated as a single wide-ranging species from various mainly but not always, rocky parts of tropical northern Australia including, Queensland in the east, across the hilly country south of the Gulf of Carpentaria, through the top end of the Northern Territory and across the Kimberley district of Western Australia to the vicinity of Broome in the south-west Kimberley.

However it is now split into five allopatric species as follows:

Proablepharus tenuis (Broom, 1896), herein restricted to north Queensland, Australia, generally east of Hughenden and including the lower parts of Cape York and nearby parts of the Gulf of Carpentaria.

P. broomensis (Lönnerberg and Andersson, 1913), from the West Kimberley of Western Australia.

P. jessicabriggsae sp. nov. from the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west of the Northern Territory.

P. garystephensoni sp. nov. from the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

The subspecies *P. garystephensoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland

and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

P. alexanderdudleyi sp. nov. occurs in the Selwyn Ranges near Cloncurry and Mount Isa in Queensland, extending north-west to about Lawn Hill, Queensland.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

P. broomensis (Lönnberg and Andersson, 1913) has a beige iris, dark chocolate brownish dorsum, becoming light brown on the area between the dorsum and the upper flank. Tail is heavily infused with greyish flecks, making it appear greyish, especially at the distal end. Posterior to the hind legs there may be two sets of about 4-5 black tipped scales running posteriorly down the tail on either side of the tail. Otherwise there is no indication of spotting or striping on the tail, which is essentially brown anteriorly becoming grey posteriorly. Rarely there are very faint whitish flecks on the sides of the tail mid-way between the base and the tip, but not at either end of the tail. Upper labials are immaculate. Upper surface of the head has indistinct mottling to a limited extent and this is mainly behind the eyes. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae sp. nov. has a bluish-grey iris and a chocolate brown dorsum, which becomes greyish on the lower flanks, which is similar on the anterior part of the tail. There are semi-distinct black lines on the dorsum from the pelvic girdle down onto the tail on the upper surface and sides, ending within the first fifth of the tail. The rest of the tail is infused with numerous semi-distinct evenly spaced white flecks. Upper labials with darker mottling, as is the back of the dorsal surface of the head from between the eyes and posterior to this. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae insolitum subsp. nov. has a greyish-brown iris; medium brown dorsum and flanks, not becoming grey on the lower surfaces. On the tail from the anterior end to about one third of the way down are about 6-8 well-defined blackish stripes, formed by enlarged spots in longitudinal rows of scales that have the spots expanded in size to nearly fill each scale, meaning that in combination they form nearly unbroken lines on the tail. Lower tail is peppered darker and lighter brown, but does not become greyish. Upper labials are immaculate. Rest of the upper surface of head including the snout region anterior to the eyes is peppered greyish on an otherwise brown surface. Upper surfaces of limbs are dark brown and without any obvious markings. Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout.

P. garystephenoni sp. nov. has a dark greyish-brown iris. Dorsum is medium brown, with heavy chocolate brown on the lower flanks. Upper surfaces of limbs are dark brown to black and without markings of any sort. There is a well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. Running behind the eye to the ear is a well defined blackish bar, this feature not being prominent in any of the other species or subspecies, where it is either absent, so faded as to be barely noticeable or merely groups of mottled or peppered scales.

Tail is brown along its entire length and sides, sometimes being slightly darker on the sides and rarely having a dusting of barely distinct lighter flecks.

There is no evidence of stripes or spots configured as stripes either on the tail or where the dorsum merges with the anterior

tail.

Original tail (both sexes) is usually about 1.2 times the length of the body, versus 1.3-1.5 times in the other species.

Breeding males have a medium orange throat and labials, including at the anterior end of the dorsal surface of the snout, but the orange is not as deep or dark in colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov..

P. garystephenoni absconditus subsp. nov. from Groote Eylandt, Northern Territory (and possibly the adjacent mainland of the Northern Territory) is similar in most respects to *P. garystephenoni* sp. nov. as just described above, but differs from that nominate form and all other species in the complex, by having dark spots on the scales of the flanks, uniformly arranged to give the appearance of stripes, upper surfaces of limbs with light brown interspaces on otherwise dark surfaces; dark spotting and peppering on the sides of the anterior tail, not forming any appearance of stripes; a brown tail (top and sides), that lightens slightly at the distal end.

There is no well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. There is no well defined blackish bar running behind the eye to the ear.

Original tail (both sexes) is usually about 1.3-1.4 times the length of the body, versus 1.3-1.5 times in the other species in the complex, except for nominate *P. garystephenoni garystephenoni* subsp. nov. (type locality Jabiluka area, Northern Territory) for which the original tail (both sexes) is usually about 1.2 times the length of the body.

P. alexanderdudleyi sp. nov. has an iris that is beige with a light grey tinge. Dorsum is light to medium brown, becoming light grey on the lower flanks. Grey or whitish scales on the lower flanks are tipped dark grey, giving an appearance of broken lines on the lower flanks. Dorsum of tail is all or mainly brown at the anterior end and similar along most of the length, although grey speckling on the sides moves more to the top surface at the posterior end. The sides of the tail are light grey, heavily infused with black flecks formed from black spots within scales, but these are somewhat irregular and do not form obvious stripes down the tail as seen for example in *P. jessicabriggsae insolitum* subsp. nov.. Upper surfaces of limbs are dark brown with numerous well-defined orangeish spots that are evenly spaced.

Breeding males have an orange throat and labials, including at the anterior end of the dorsal surface of the snout, but it is not a dark or deep reddish or orange colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov..

P. tenuis (Broom, 1896) has a brown iris. The dorsum is brown on top and on the flanks, but noticeably lightens at the interface of the dorsal surface and the flanks on the body and the anterior end of the tail, sometimes giving an appearance of two stripes running down the dorso-lateral lines. There are three thin, but well defined grey lines running from the anterior end of the tail down for about the first third of the tail length. The sides of the tail are whitish brown with dark grey flecks, which while arranged linearly, do not give the appearance of striping. Posterior end of the tail is lighter and tending reddish-orange. Upper labials are white in non-breeding females and light orange in breeding males, but always immaculate. Markings on the head are mottled, rather than peppered. Upper surfaces of limbs are purplish brown with semi-distinct regularly spaced lighter markings. The significant amount of dark peppering or mottling between the eye and the ear characteristic of this species, does not form any well-defined stripe as seen in *P. garystephenoni* sp. nov..

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom,

1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephensoni* sp. nov. (including the subspecies *P. garystephensoni absconditus* subsp. nov.), *P. jessicabriggsae* sp. nov. (including the subspecies *P. jessicabriggsae insolitum* subsp. nov.) and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Proablepharus broomensis (Lönnerberg and Andersson, 1913) from the West Kimberley in Western Australia is depicted in life online at:

<https://www.flickr.com/photos/stephenmahony/14010727961/>
and

<https://www.flickr.com/photos/stephenmahony/13990787266/>
P. jessicabriggsae sp. nov. from the northern East Kimberley in Western Australia is depicted in life in Storr, Smith and Johnstone (1981) on plate 17, photo 1, at top left, Wilson and Knowles (1988) on page 308 middle right and Wilson and Swan (2017) on page 387 at top.

P. jessicabriggsae insolitum subsp. nov. from the Keep River / Victoria River districts in the north-west Northern Territory is depicted in life online at:

<https://www.flickr.com/photos/reptileshots/38275966486/>

P. garystephensoni sp. nov. from Arnhem Land, Northern Territory is depicted online at:

<https://www.flickr.com/photos/58349528@N02/52012502120/>
and

<https://www.flickr.com/photos/126237772@N07/51989138792/>

P. alexanderdudleyi sp. nov. from Mount Isa, Queensland is depicted online at:

<https://www.flickr.com/photos/ryanfrancis/16923727106/>
and

<https://www.flickr.com/photos/ryanfrancis/7806419530/>
and

<https://www.flickr.com/photos/ryanfrancis/16762025798/>
and

<https://www.flickr.com/photos/ryanfrancis/16762016358/>

P. tenuis (Broom, 1896) from Cape York, north Queensland is depicted in life online at:

https://www.flickr.com/photos/zimny_anders/43741856850/
and

<https://www.flickr.com/photos/euprepiosaur/31174257476/>

Distribution: The species *P. jessicabriggsae* sp. nov. occurs in the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west Northern Territory.

Etymology: The subspecies *P. jessicabriggsae insolitum* subsp. nov. is named in reflection of it being morphologically unusual as compared to the nominate and geographically proximate form *P. jessicabriggsae* sp. nov.. In Latin “*insolitum*” means unusual.

PROABLEPHARUS GARYSTEPHENSONI SP. NOV.

LSIDurn:lsid:zoobank.org:act:5D0E4D3C-91FB-433A-8EF6-AA84673AA4C3

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.88597 collected from the Jabiluka Project Area, Northern Territory, Australia, Latitude -12.566 S., Longitude 132.916 E. This government-owned facility allows access to its holdings.

Paratypes: Five preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.88642, R.88643, R.88953, R.117097 and R.117098 all collected from the Jabiluka Project Area, Northern Territory, Australia.

Diagnosis: Until now, *Proablepharus tenuis* (Broom, 1896), type locality Muldiva on Cape York, north Queensland has been treated as a single wide-ranging species from various mainly but not always, rocky parts of tropical northern Australia including, Queensland in the east, across the hilly country south of the Gulf of Carpentaria, through the top end of the Northern Territory and across the Kimberley district of Western Australia to the vicinity of Broome in the south-west Kimberley.

However it is now split into five allopatric species as follows:

Proablepharus tenuis (Broom, 1896), herein restricted to north Queensland, Australia, generally east of Hughenden and including the lower parts of Cape York and nearby parts of the Gulf of Carpentaria.

P. broomensis (Lönnerberg and Andersson, 1913), from the West Kimberley of Western Australia.

P. jessicabriggsae sp. nov. from the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west of the Northern Territory.

P. garystephensoni sp. nov. from the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

The subspecies *P. garystephensoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

P. alexanderdudleyi sp. nov. occurs in the Selwyn Ranges near Cloncurry and Mount Isa in Queensland, extending north-west to about Lawn Hill, Queensland.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

P. broomensis (Lönnerberg and Andersson, 1913) has a beige iris, dark chocolate brownish dorsum, becoming light brown on the area between the dorsum and the upper flank. Tail is heavily infused with greyish flecks, making it appear greyish, especially at the distal end. Posterior to the hind legs there may be two sets of about 4-5 black tipped scales running posteriorly down the tail on either side of the tail. Otherwise there is no indication of spotting or striping on the tail, which is essentially brown anteriorly becoming grey posteriorly. Rarely there are very faint

whitish flecks on the sides of the tail mid-way between the base and the tip, but not at either end of the tail. Upper labials are immaculate. Upper surface of the head has indistinct mottling to a limited extent and this is mainly behind the eyes. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae sp. nov. has a bluish-grey iris and a chocolate brown dorsum, which becomes greyish on the lower flanks, which is similar on the anterior part of the tail. There are semi-distinct black lines on the dorsum from the pelvic girdle down onto the tail on the upper surface and sides, ending within the first fifth of the tail. The rest of the tail is infused with numerous semi-distinct evenly spaced white flecks. Upper labials with darker mottling, as is the back of the dorsal surface of the head from between the eyes and posterior to this. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae insolitum subsp. nov. has a greyish-brown iris; medium brown dorsum and flanks, not becoming grey on the lower surfaces. On the tail from the anterior end to about one third of the way down are about 6-8 well-defined blackish stripes, formed by enlarged spots in longitudinal rows of scales that have the spots expanded in size to nearly fill each scale, meaning that in combination they form nearly unbroken lines on the tail. Lower tail is peppered darker and lighter brown, but does not become greyish. Upper labials are immaculate. Rest of the upper surface of head including the snout region anterior to the eyes is peppered greyish on an otherwise brown surface. Upper surfaces of limbs are dark brown and without any obvious markings. Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout.

P. garystephenoni sp. nov. has a dark greyish-brown iris. Dorsum is medium brown, with heavy chocolate brown on the lower flanks. Upper surfaces of limbs are dark brown to black and without markings of any sort. There is a well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. Running behind the eye to the ear is a well defined blackish bar, this feature not being prominent in any of the other species or subspecies, where it is either absent, so faded as to be barely noticeable or merely groups of mottled or peppered scales.

Tail is brown along its entire length and sides, sometimes being slightly darker on the sides and rarely having a dusting of barely distinct lighter flecks.

There is no evidence of stripes or spots configured as stripes either on the tail or where the dorsum merges with the anterior tail.

Original tail (both sexes) is usually about 1.2 times the length of the body, versus 1.3-1.5 times in the other species.

Breeding males have a medium orange throat and labials, including at the anterior end of the dorsal surface of the snout, but the orange is not as deep or dark in colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov.

P. garystephenoni absconditus subsp. nov. from Groote Eylandt, Northern Territory (and possibly the adjacent mainland of the Northern Territory) is similar in most respects to *P. garystephenoni* sp. nov. as just described above, but differs from that nominate form and all other species in the complex, by having dark spots on the scales of the flanks, uniformly arranged to give the appearance of stripes, upper surfaces of limbs with light brown interspaces on otherwise dark surfaces; dark spotting and peppering on the sides of the anterior tail, not forming any

appearance of stripes; a brown tail (top and sides), that lightens slightly at the distal end.

There is no well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. There is no well defined blackish bar running behind the eye to the ear.

Original tail (both sexes) is usually about 1.3-1.4 times the length of the body, versus 1.3-1.5 times in the other species in the complex, except for nominate *P. garystephenoni garystephenoni* subsp. nov. (type locality Jabiluka area, Northern Territory) for which the original tail (both sexes) is usually about 1.2 times the length of the body.

P. alexanderdudleyi sp. nov. has an iris that is beige with a light grey tinge. Dorsum is light to medium brown, becoming light grey on the lower flanks. Grey or whitish scales on the lower flanks are tipped dark grey, giving an appearance of broken lines on the lower flanks. Dorsum of tail is all or mainly brown at the anterior end and similar along most of the length, although grey speckling on the sides moves more to the top surface at the posterior end. The sides of the tail are light grey, heavily infused with black flecks formed from black spots within scales, but these are somewhat irregular and do not form obvious stripes down the tail as seen for example in *P. jessicabriggsae insolitum* subsp. nov.. Upper surfaces of limbs are dark brown with numerous well-defined orangeish spots that are evenly spaced.

Breeding males have an orange throat and labials, including at the anterior end of the dorsal surface of the snout, but it is not a dark or deep reddish or orange colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov..

P. tenuis (Broom, 1896) has a brown iris. The dorsum is brown on top and on the flanks, but noticeably lightens at the interface of the dorsal surface and the flanks on the body and the anterior end of the tail, sometimes giving an appearance of two stripes running down the dorso-lateral lines. There are three thin, but well defined grey lines running from the anterior end of the tail down for about the first third of the tail length. The sides of the tail are whitish brown with dark grey flecks, which while arranged linearly, do not give the appearance of striping. Posterior end of the tail is lighter and tending reddish-orange. Upper labials are white in non-breeding females and light orange in breeding males, but always immaculate. Markings on the head are mottled, rather than peppered. Upper surfaces of limbs are purplish brown with semi-distinct regularly spaced lighter markings. The significant amount of dark peppering or mottling between the eye and the ear characteristic of this species, does not form any well-defined stripe as seen in *P. garystephenoni* sp. nov..

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnberg and Andersson, 1913), *P. garystephenoni* sp. nov. (including the subspecies *P. garystephenoni absconditus* subsp. nov.), *P. jessicabriggsae* sp. nov. (including the subspecies *P. jessicabriggsae insolitum* subsp. nov.) and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz

and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Proablepharus broomensis (Lönnerberg and Andersson, 1913) from the West Kimberley in Western Australia is depicted in life online at:

<https://www.flickr.com/photos/stephenmahony/14010727961/>
and

<https://www.flickr.com/photos/stephenmahony/13990787266/>
P. jessicabriggsae sp. nov. from the northern East Kimberley in Western Australia is depicted in life in Storr, Smith and Johnstone (1981) on plate 17, photo 1, at top left, Wilson and Knowles (1988) on page 308 middle right and Wilson and Swan (2017) on page 387 at top.

P. jessicabriggsae insolitum subsp. nov. from the Keep River / Victoria River districts in the north-west Northern Territory is depicted in life online at:

<https://www.flickr.com/photos/reptileshots/38275966486/>

P. garystephenoni sp. nov. from Arnhem Land, Northern Territory is depicted online at:

<https://www.flickr.com/photos/58349528@N02/52012502120/>
and

<https://www.flickr.com/photos/126237772@N07/51989138792/>
P. alexanderdudleyi sp. nov. from Mount Isa, Queensland is depicted online at:

<https://www.flickr.com/photos/ryanfrancis/16923727106/>
and

<https://www.flickr.com/photos/ryanfrancis/7806419530/>
and

<https://www.flickr.com/photos/ryanfrancis/16762025798/>
and

<https://www.flickr.com/photos/ryanfrancis/16762016358/>
P. tenuis (Broom, 1896) from Cape York, north Queensland is depicted in life online at:

https://www.flickr.com/photos/zimny_anders/43741856850/
and

<https://www.flickr.com/photos/euprepiosaur/31174257476/>

Distribution: *P. garystephenoni* sp. nov. occurs on the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

The subspecies *P. garystephenoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

Etymology: *P. garystephenoni* sp. nov. is named in honour of Gary Stephenson, originally of Bondi Junction (Sydney), New South Wales, Australia but having since ventured all over Australia many times, in recognition of a lifetime's dedication to herpetology, especially with regards to pioneering work in captive breeding in the 1970's and 1980's and as an excellent

photographer of reptiles and frogs ever since in a career spanning more than 5 decades.

P. garystephenoni sp. nov. is not a replacement nomen for *P. stephenoni* Wells and Wellington, 1985 (also named in honour of Gary Stephenson) as it relates to another putative taxon, which is not recognized herein, because that taxon is treated herein as a subjective junior synonym of *P. tenuis*.

The nomen *P. stephenoni* remains available in the sense of the *International Code of Zoological Nomenclature* (Ride et al. 1999 as amended online since).

PROABLEPHARUS GARYSTEPHENONI ABSCONDITUS SUBSP. NOV.

LSIDurn:lsid:zoobank.org:act:BC11A9CB-1A33-446E-80F2-5151CB1599C9

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.135285 collected from the Gemco Mining Lease, Groote Eylandt, Northern Territory, Australia, Latitude -13.916 S., Longitude 136.433 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R07473 collected from Wurrijabarba, Groote Eylandt, Northern Territory, Australia, Latitude -14.217, Longitude 136.333 E.

Diagnosis: Until now, *Proablepharus tenuis* (Broom, 1896), type locality Muldiva on Cape York, north Queensland has been treated as a single wide-ranging species from various mainly but not always, rocky parts of tropical northern Australia including, Queensland in the east, across the hilly country south of the Gulf of Carpentaria, through the top end of the Northern Territory and across the Kimberley district of Western Australia to the vicinity of Broome in the south-west Kimberley.

However it is now split into five allopatric species as follows:

Proablepharus tenuis (Broom, 1896), herein restricted to north Queensland, Australia, generally east of Hughenden and including the lower parts of Cape York and nearby parts of the Gulf of Carpentaria.

P. broomensis (Lönnerberg and Andersson, 1913), from the West Kimberley of Western Australia.

P. jessicabriggsae sp. nov. from the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west of the Northern Territory.

P. garystephenoni sp. nov. from the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

The subspecies *P. garystephenoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

P. alexanderdudleyi sp. nov. occurs in the Selwyn Ranges near Cloncurry and Mount Isa in Queensland, extending north-west to about Lawn Hill, Queensland.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

P. broomensis (Lönnerberg and Andersson, 1913) has a beige iris, dark chocolate brownish dorsum, becoming light brown on the area between the dorsum and the upper flank. Tail is heavily infused with greyish flecks, making it appear greyish, especially at the distal end. Posterior to the hind legs there may be two sets of about 4-5 black tipped scales running posteriorly down the tail on either side of the tail. Otherwise there is no indication

of spotting or striping on the tail, which is essentially brown anteriorly becoming grey posteriorly. Rarely there are very faint whitish flecks on the sides of the tail mid-way between the base and the tip, but not at either end of the tail. Upper labials are immaculate. Upper surface of the head has indistinct mottling to a limited extent and this is mainly behind the eyes. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae sp. nov. has a bluish-grey iris and a chocolate brown dorsum, which becomes greyish on the lower flanks, which is similar on the anterior part of the tail. There are semi-distinct black lines on the dorsum from the pelvic girdle down onto the tail on the upper surface and sides, ending within the first fifth of the tail. The rest of the tail is infused with numerous semi-distinct evenly spaced white flecks. Upper labials with darker mottling, as is the back of the dorsal surface of the head from between the eyes and posterior to this. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae insolitum subsp. nov. has a greyish-brown iris; medium brown dorsum and flanks, not becoming grey on the lower surfaces. On the tail from the anterior end to about one third of the way down are about 6-8 well-defined blackish stripes, formed by enlarged spots in longitudinal rows of scales that have the spots expanded in size to nearly fill each scale, meaning that in combination they form nearly unbroken lines on the tail. Lower tail is peppered darker and lighter brown, but does not become greyish. Upper labials are immaculate. Rest of the upper surface of head including the snout region anterior to the eyes is peppered greyish on an otherwise brown surface. Upper surfaces of limbs are dark brown and without any obvious markings. Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout.

P. garystephenoni sp. nov. has a dark greyish-brown iris. Dorsum is medium brown, with heavy chocolate brown on the lower flanks. Upper surfaces of limbs are dark brown to black and without markings of any sort. There is a well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. Running behind the eye to the ear is a well defined blackish bar, this feature not being prominent in any of the other species or subspecies, where it is either absent, so faded as to be barely noticeable or merely groups of mottled or peppered scales.

Tail is brown along its entire length and sides, sometimes being slightly darker on the sides and rarely having a dusting of barely distinct lighter flecks.

There is no evidence of stripes or spots configured as stripes either on the tail or where the dorsum merges with the anterior tail.

Original tail (both sexes) is usually about 1.2 times the length of the body, versus 1.3-1.5 times in the other species.

Breeding males have a medium orange throat and labials, including at the anterior end of the dorsal surface of the snout, but the orange is not as deep or dark in colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov.

P. garystephenoni absconditus subsp. nov. from Groote Eylandt, Northern Territory (and possibly the adjacent mainland of the Northern Territory) is similar in most respects to *P. garystephenoni* sp. nov. as just described above, but differs from that nominate form and all other species in the complex, by having dark spots on the scales of the flanks, uniformly arranged to give the appearance of stripes, upper surfaces of limbs with

light brown interspaces on otherwise dark surfaces; dark spotting and peppering on the sides of the anterior tail, not forming any appearance of stripes; a brown tail (top and sides), that lightens slightly at the distal end.

There is no well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. There is no well defined blackish bar running behind the eye to the ear.

Original tail (both sexes) is usually about 1.3-1.4 times the length of the body, versus 1.3-1.5 times in the other species in the complex, except for nominate *P. garystephenoni garystephenoni* subsp. nov. (type locality Jabiluka area, Northern Territory) for which the original tail (both sexes) is usually about 1.2 times the length of the body.

P. alexanderdudleyi sp. nov. has an iris that is beige with a light grey tinge. Dorsum is light to medium brown, becoming light grey on the lower flanks. Grey or whitish scales on the lower flanks are tipped dark grey, giving an appearance of broken lines on the lower flanks. Dorsum of tail is all or mainly brown at the anterior end and similar along most of the length, although grey speckling on the sides moves more to the top surface at the posterior end. The sides of the tail are light grey, heavily infused with black flecks formed from black spots within scales, but these are somewhat irregular and do not form obvious stripes down the tail as seen for example in *P. jessicabriggsae insolitum* subsp. nov.. Upper surfaces of limbs are dark brown with numerous well-defined orangeish spots that are evenly spaced.

Breeding males have an orange throat and labials, including at the anterior end of the dorsal surface of the snout, but it is not a dark or deep reddish or orange colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae* sp. nov. and *P. jessicabriggsae insolitum* subsp. nov..

P. tenuis (Broom, 1896) has a brown iris. The dorsum is brown on top and on the flanks, but noticeably lightens at the interface of the dorsal surface and the flanks on the body and the anterior end of the tail, sometimes giving an appearance of two stripes running down the dorso-lateral lines. There are three thin, but well defined grey lines running from the anterior end of the tail down for about the first third of the tail length. The sides of the tail are whitish brown with dark grey flecks, which while arranged linearly, do not give the appearance of striping. Posterior end of the tail is lighter and tending reddish-orange. Upper labials are white in non-breeding females and light orange in breeding males, but always immaculate. Markings on the head are mottled, rather than peppered. Upper surfaces of limbs are purplish brown with semi-distinct regularly spaced lighter markings. The significant amount of dark peppering or mottling between the eye and the ear characteristic of this species, does not form a well-defined stripe like in *P. garystephenoni* sp. nov.. The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti* sp. nov., *P. martinekae* sp. nov., *P. igh* sp. nov., *P. micra* sp. nov. and *P. eughr* sp. nov. are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnerberg and Andersson, 1913), *P. garystephenoni* sp. nov. (including the subspecies *P. garystephenoni absconditus* subsp. nov.), *P. jessicabriggsae* sp. nov. (including the subspecies *P. jessicabriggsae insolitum* subsp. nov.) and *P. alexanderdudleyi* sp. nov. by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Proablepharus broomensis (Lönnerberg and Andersson, 1913) from the West Kimberley in Western Australia is depicted in life online at:

<https://www.flickr.com/photos/stephenmahony/14010727961/>
and

<https://www.flickr.com/photos/stephenmahony/13990787266/>
P. jessicabriggsae sp. nov. from the northern East Kimberley in Western Australia is depicted in life in Storr, Smith and Johnstone (1981) on plate 17, photo 1, at top left, Wilson and Knowles (1988) on page 308 middle right and Wilson and Swan (2017) on page 387 at top. *P. jessicabriggsae insolitum* subsp. nov. from the Keep River / Victoria River districts in the north-west Northern Territory is depicted in life online at:

<https://www.flickr.com/photos/reptileshots/38275966486/>

P. garystephenoni sp. nov. from Arnhem Land, Northern Territory is depicted online at:

<https://www.flickr.com/photos/58349528@N02/52012502120/>
and

<https://www.flickr.com/photos/126237772@N07/51989138792/>

P. alexanderdudleyi sp. nov. from Mount Isa, Queensland is depicted online at:

<https://www.flickr.com/photos/ryanfrancis/16923727106/>

and

<https://www.flickr.com/photos/ryanfrancis/7806419530/>

and

<https://www.flickr.com/photos/ryanfrancis/16762025798/>

and

<https://www.flickr.com/photos/ryanfrancis/16762016358/>

P. tenuis (Broom, 1896) from Cape York, north Queensland is depicted in life online at:

https://www.flickr.com/photos/zimny_anders/43741856850/

and

<https://www.flickr.com/photos/euprepiosaur/31174257476/>

Distribution: The subspecies *P. garystephenoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

Nominate *P. garystephenoni* sp. nov. (Also identified herein as *P. garystephenoni garystephenoni* subsp. nov.) occurs on the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

Etymology: The subspecies *P. garystephenoni absconditus* subsp. nov. is named in reflection that it has been largely hidden or “absconded” from science in a remote corner of the Northern Territory. The Latin word *absconditus* means hidden.

PROABLEPHARUS ALEXANDERDUDLEYI SP. NOV.

LSIDurn:lsid:zoobank.org:act:61798CD8-F639-4FE4-827C-04A833B4A98D

Holotype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J64465 collected from Mount Isa, Queensland, Australia, Latitude -20.723333 S., Longitude 139.451111 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers J64467 and J82580 (a juvenile) both collected from Mount Isa, Queensland, Australia.

Diagnosis: Until now, *Proablepharus tenuis* (Broom, 1896), type locality Muldiva on Cape York, north Queensland has been treated as a single wide-ranging species from various mainly but not always, rocky parts of tropical northern Australia including, Queensland in the east, across the hilly country south of the Gulf of Carpentaria, through the top end of the Northern Territory and across the Kimberley district of Western Australia to the vicinity of Broome in the south-west Kimberley.

However it is now split into five allopatric species as follows:

Proablepharus tenuis (Broom, 1896), herein restricted to north Queensland, Australia, generally east of Hughenden and including the lower parts of Cape York and nearby parts of the Gulf of Carpentaria.

P. broomensis (Lönnerberg and Andersson, 1913), from the West Kimberley of Western Australia.

P. jessicabriggsae sp. nov. from the northern part of the East Kimberley of Western Australia, with the subspecies *P. jessicabriggsae insolitum* subsp. nov. found around the Keep and Victoria River systems in the far north-west of the Northern Territory.

P. garystephenoni sp. nov. from the West Arnhem Land escarpment and immediately adjacent hilly areas at the top end of the Northern Territory, south-west to the Daly River, including the Tiwi Islands to the north and extending south-east towards the south-west part of the Gulf of Carpentaria.

The subspecies *P. garystephenoni absconditus* subsp. nov. is found on Groote Eylandt, Northern Territory. Specimens from the immediately adjacent areas of the Northern Territory mainland and along the coast north to the Gove Peninsula in East Arnhem Land are tentatively assigned to this subspecies, due to morphological convergence.

P. alexanderdudleyi sp. nov. occurs in the Selwyn Ranges near Cloncurry and Mount Isa in Queensland, extending north-west to about Lawn Hill, Queensland.

The six species are morphologically conservative, but can be separated from one another, by the unique suites of characters as follows:

P. broomensis (Lönnerberg and Andersson, 1913) has a beige iris, dark chocolate brownish dorsum, becoming light brown on the area between the dorsum and the upper flank. Tail is heavily infused with greyish flecks, making it appear greyish, especially at the distal end. Posterior to the hind legs there may be two sets of about 4-5 black tipped scales running posteriorly down the tail on either side of the tail. Otherwise there is no indication of spotting or striping on the tail, which is essentially brown anteriorly becoming grey posteriorly. Rarely there are very faint whitish flecks on the sides of the tail mid-way between the base and the tip, but not at either end of the tail. Upper labials are immaculate. Upper surface of the head has indistinct mottling to a limited extent and this is mainly behind the eyes. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae sp. nov. has a bluish-grey iris and a chocolate brown dorsum, which becomes greyish on the lower flanks,

which is similar on the anterior part of the tail. There are semi-distinct black lines on the dorsum from the pelvic girdle down onto the tail on the upper surface and sides, ending within the first fifth of the tail. The rest of the tail is infused with numerous semi-distinct evenly spaced white flecks. Upper labials with darker mottling, as is the back of the dorsal surface of the head from between the eyes and posterior to this. Upper surfaces of the limbs are blackish, with numerous semi-distinct and tiny, lighter spots.

Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout, spreading to the anterior upper part of the head.

P. jessicabriggsae insolitum subsp. nov. has a greyish-brown iris; medium brown dorsum and flanks, not becoming grey on the lower surfaces. On the tail from the anterior end to about one third of the way down are about 6-8 well-defined blackish stripes, formed by enlarged spots in longitudinal rows of scales that have the spots expanded in size to nearly fill each scale, meaning that in combination they form nearly unbroken lines on the tail. Lower tail is peppered darker and lighter brown, but does not become greyish. Upper labials are immaculate. Rest of the upper surface of head including the snout region anterior to the eyes is peppered greyish on an otherwise brown surface. Upper surfaces of limbs are dark brown and without any obvious markings. Breeding males have a deep red throat and labials, including at the anterior end of the dorsal surface of the snout.

P. garystephenoni sp. nov. has a dark greyish-brown iris. Dorsum is medium brown, with heavy chocolate brown on the lower flanks. Upper surfaces of limbs are dark brown to black and without markings of any sort. There is a well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. Running behind the eye to the ear is a well defined blackish bar, this feature not being prominent in any of the other species or subspecies, where it is either absent, so faded as to be barely noticeable or merely groups of mottled or peppered scales.

Tail is brown along its entire length and sides, sometimes being slightly darker on the sides and rarely having a dusting of barely distinct lighter flecks.

There is no evidence of stripes or spots configured as stripes either on the tail or where the dorsum merges with the anterior tail.

Original tail (both sexes) is usually about 1.2 times the length of the body, versus 1.3-1.5 times in the other species.

Breeding males have a medium orange throat and labials, including at the anterior end of the dorsal surface of the snout, but the orange is not as deep or dark in colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae sp. nov.* and *P. jessicabriggsae insolitum subsp. nov.*

P. garystephenoni absconditus subsp. nov. from Groote Eylandt, Northern Territory (and possibly the adjacent mainland of the Northern Territory) is similar in most respects to *P. garystephenoni sp. nov.* as just described above, but differs from that nominate form and all other species in the complex, by having dark spots on the scales of the flanks, uniformly arranged to give the appearance of stripes, upper surfaces of limbs with light brown interspaces on otherwise dark surfaces; dark spotting and peppering on the sides of the anterior tail, not forming any appearance of stripes; a brown tail (top and sides), that lightens slightly at the distal end.

There is no well-defined series of 3-4 blackish spots on each scale between the nostril and lower eye forming a distinctive line. There is no well defined blackish bar running behind the eye to the ear.

Original tail (both sexes) is usually about 1.3-1.4 times the length of the body, versus 1.3-1.5 times in the other species in the complex, except for nominate *P. garystephenoni garystephenoni subsp. nov.* (type locality Jabiluka area, Northern Territory) for which the original tail (both sexes) is

usually about 1.2 times the length of the body.

P. alexanderdudleyi sp. nov. has an iris that is beige with a light grey tinge. Dorsum is light to medium brown, becoming light grey on the lower flanks. Grey or whitish scales on the lower flanks are tipped dark grey, giving an appearance of broken lines on the lower flanks. Dorsum of tail is all or mainly brown at the anterior end and similar along most of the length, although grey speckling on the sides moves more to the top surface at the posterior end. The sides of the tail are light grey, heavily infused with black flecks formed from black spots within scales, but these are somewhat irregular and do not form obvious stripes down the tail as seen for example in *P. jessicabriggsae insolitum subsp. nov.* Upper surfaces of limbs are dark brown with numerous well-defined orangeish spots that are evenly spaced.

Breeding males have an orange throat and labials, including at the anterior end of the dorsal surface of the snout, but it is not a dark or deep reddish or orange colour in this species as seen in the Western Australian species *P. broomensis*, *P. jessicabriggsae sp. nov.* and *P. jessicabriggsae insolitum subsp. nov.*

P. tenuis (Broom, 1896) has a brown iris. The dorsum is brown on top and on the flanks, but noticeably lightens at the interface of the dorsal surface and the flanks on the body and the anterior end of the tail, sometimes giving an appearance of two stripes running down the dorso-lateral lines. There are three thin, but well defined grey lines running from the anterior end of the tail down for about the first third of the tail length. The sides of the tail are whitish brown with dark grey flecks, which while arranged linearly, do not give the appearance of striping. Posterior end of the tail is lighter and tending reddish-orange. Upper labials are white in non-breeding females and light orange in breeding males, but always immaculate. Markings on the head are mottled, rather than peppered. Upper surfaces of limbs are purplish brown with semi-distinct regularly spaced lighter markings. The significant amount of dark peppering or mottling between the eye and the ear characteristic of this species, does not form any well-defined stripe as seen in *P. garystephenoni sp. nov.*

The species *Proablepharus reginae* (Glauert, 1960), *P. stevebennetti sp. nov.*, *P. martinekae sp. nov.*, *P. igh sp. nov.*, *P. micra sp. nov.* and *P. eughr sp. nov.* are all separated from the morphologically similar species *P. tenuis* (Broom, 1896), *P. broomensis* (Lönnberg and Andersson, 1913), *P. garystephenoni sp. nov.* (including the subspecies *P. garystephenoni absconditus subsp. nov.*), *P. jessicabriggsae sp. nov.* (including the subspecies *P. jessicabriggsae insolitum subsp. nov.*) and *P. alexanderdudleyi sp. nov.* by having four supraoculars, as opposed to three in the other species.

Proablepharus Fuhn, 1969 are separated from the morphologically similar *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 by having paired frontoparietals and three or four supraoculars.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

In spite of this convergence of characters, the molecular evidence of Hoskin, Potter, Bragg and Moritz (2018), showed that the two genera are not particularly closely related, with *Acritoscincus* Wells and Wellington, 1985 and *Morethia* Gray, 1845 being more closely related to *Austroablepharus*, than are all the *Proablepharus* species.

Proablepharus broomensis (Lönnerberg and Andersson, 1913) from the West Kimberley in Western Australia is depicted in life online at:

<https://www.flickr.com/photos/stephenmahony/14010727961/>
and

<https://www.flickr.com/photos/stephenmahony/13990787266/>
P. jessicabriggsae sp. nov. from the northern East Kimberley in Western Australia is depicted in life in Storr, Smith and Johnstone (1981) on plate 17, photo 1, at top left, Wilson and Knowles (1988) on page 308 middle right and Wilson and Swan (2017) on page 387 at top.

P. jessicabriggsae insolitum subsp. nov. from the Keep River / Victoria River districts in the north-west Northern Territory is depicted in life online at:

<https://www.flickr.com/photos/reptileshots/38275966486/>

P. garystephensoni sp. nov. from Arnhem Land, Northern Territory is depicted online at:

<https://www.flickr.com/photos/58349528@N02/52012502120/>
and

<https://www.flickr.com/photos/126237772@N07/51989138792/>

P. alexanderdudleyi sp. nov. from Mount Isa, Queensland is depicted online at:

<https://www.flickr.com/photos/ryanfrancis/16923727106/>
and

<https://www.flickr.com/photos/ryanfrancis/7806419530/>
and

<https://www.flickr.com/photos/ryanfrancis/16762025798/>
and

<https://www.flickr.com/photos/ryanfrancis/16762016358/>

P. tenuis (Broom, 1896) from Cape York, north Queensland is depicted in life online at:

https://www.flickr.com/photos/zimny_anders/43741856850/
and

<https://www.flickr.com/photos/euprepiosaur/31174257476/>

Distribution: *P. alexanderdudleyi* sp. nov. occurs in the Selwyn Ranges near Cloncurry and Mount Isa in Queensland, extending north-west to about Lawn Hill, Queensland.

Etymology: The new species *P. alexanderdudleyi* sp. nov. is named in honour of Alexander (Alex) Dudley, originally of Kenthurst (Sydney), New South Wales, Australia but having since ventured all over Australia many times, in recognition of a lifetime's dedication to herpetology, especially with regards to pioneering work in the 1970's and 1980's and as an excellent photographer of reptiles and frogs ever since in a career spanning more than 5 decades.

He is also probably the most experienced interpretation ranger in Australia, having completed 23 summer seasons in Tasmania, 7 in Kakadu and one in Victoria.

AUSTROABLEPHARUS KINGHORNII ELONGINQUO SUBSP. NOV.

LSIDDurn:lsid:zoobank.org:act:89E4DBC7-F119-40DE-BC45-C141D70DFB0D

Holotype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J82214 collected from the Diamantina National Park, Queensland, Australia, Latitude -23.732222 S., Longitude 141.177778 E. This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J65084 collected from Astrebla Downs National Park, Queensland, Australia, Latitude -24.164722 S., Longitude 140.592778 E.

Diagnosis: Both *Austroablepharus kinghornii* (Copland, 1947)

and the morphologically similar *A. barklyensis* (Wells and Wellington, 1985), until now treated by most authors as a junior subjective synonym of *A. kinghornii* are separated from the other two species in the genus, namely *A. barrylyoni* (Couper, Limpus, McDonald and Amey, 2010) and *A. naranjicaudus* (Greer, Fisher and Horner, 2004) by having 4-5 supraciliaries and an interparietal scale that is distinct from the fused frontoparietals, versus the interparietal being fused to form a single shield and 5-6 supraciliaries.

However in *A. kinghornii elonginquo* subsp. nov. the interparietal condition is usually, but not always different in that the interparietal is significantly reduced and at times may become a suture line where it would otherwise be.

In colouration the type form of adult male *A. kinghornii* is chocolate brown at the anterior end of the dorsum overlain with about five semi-distinct light brown stripes on the upper surface, becoming less distinct posteriorly and the body in general adopting a light brown colour. There is a semi-distinct line or border on the mid flank of either side going from blackish grey to white. In males, the face region is flushed bright orange-red, as is the tail.

By contrast, adult male *A. kinghornii elonginquo* subsp. nov. is grey brown anteriorly on the dorsum and the dorsal stripes are more yellowish, rather than brown, the same colouration of the dorsum remaining of similar nature and intensity as one moves posteriorly down the dorsum of the body. The whitish line on the mid flank is bordered below by a broken and semi-distinct darker line, before becoming white ventrally, this broken and semi-distinct darker line, not being present in the type form of *A. kinghornii*.

In adult male *A. barklyensis* the dorsum is yellow, sometimes with a slight orange tinge, and with dark chocolate brown stripes running down the body to the base of the tail, which is a brilliant orange colour or at least orange but faded slightly. There is no obvious dark to light border on the mid flank as seen in *A. kinghornii elonginquo* subsp. nov. and *A. kinghornii kinghornii*.

In adult male *A. barklyensis* the dark blackish stripe on side from eye to above the forelimb and beyond is prominent and bold in adults, versus faded in adult male *A. barklyensis* and *A. kinghornii kinghornii*.

Species within the genus *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz, 2018 are separated from species within the morphologically similar genus *Proablepharus* Fuhn, 1969 by having four supraoculars and the frontoparietals fused to form a single shield. They are also separated by the fact that the red tail colour of the juveniles is retained by adults, whereas it is usually lost in adults of *Proablepharus*.

By contrast *Proablepharus* have paired frontoparietals and three or four supraoculars.

Both *Austroablepharus* Couper, Hoskin, Potter, Bragg and Moritz and the morphologically similar genus *Proablepharus* Fuhn, 1969 are separated from all other Australian skinks by the following unique suite of characters: Limbs moderate to short, not meeting when adpressed; limbs pentadactyle; ear opening very small; supranasals absent; nasals undivided; prefrontals large, in contact or separated; frontoparietals fused (*Austroablepharus*) or paired (*Proablepharus*) distinct from or fused with the interparietal; lower eyelid is fixed, and not movable, being partially fused to the upper eyelid to form a permanent spectacle but with a distinct slit between the lower eyelid and the supraciliaries.

A. kinghornii elonginquo subsp. nov. is depicted in Wilson and Swan (2017) on page 385 centre.

A. barklyensis in life is depicted in Cogger (2014) on page 671 and Wilson and Knowles (1998) on page 308 at top right.

Distribution: *A. kinghornii elonginquo* subsp. nov. appears to be confined to the drainages of the north-east side of Lake Eyre, with a center of distribution in western Queensland and nearby parts of north-west New South Wales and South Australia. Specimens from the Darling River system of New South Wales and southern Queensland are of the nominate subspecies *A.*

kinghorni kinghorni.

The morphologically similar species *A. barklyensis* (Wells and Wellington, 1985) occurs in the black soil country of the eastern Northern Territory, Australia, bounded in the east by the Georgina River system, that runs slightly east of the Northern Territory and Queensland border, south of the Selwyn Ranges, near Mount Isa.

Etymology: The subspecies name *elonginquo* is a variation of the Latin "e longinquo", which means from a remote place, in reference to where the subspecies occurs.

CONCLUSIONS

This and other recent papers including some cited herein (e.g. Wells and Wellington 1985, 1985), have underscored previously underestimated species diversity in well-known and common Australian reptile species. While the species formally named within this paper are not believed to be under any existential threats at present, things can change rapidly if and when new pathogens or pests enter the ecosystem, as seen for example with frogs as detailed in Hoser (1991).

Aspects of conservation of Australasian reptiles discussed by Hoser (1989, 1991, 1993 and 1996) apply to these species, as does the comments of Hoser (2019a, 2019b).

The latter two papers Hoser (2019a, 2019b) deal specifically with extinction of species arising from non-recognition of valid taxa by small minded ego-driven pseudo-scientists, not wanting to recognize the works or scientific names of persons they see as rivals.

Formal recognition of unnamed species is an important first step to their conservation and management.

It is critically important that valid species should only be named once and not subjected to unwarranted taxonomic vandalism as being practiced by the Wolfgang Wüster gang as detailed by Hoser (2007, 2009, 2012a-b, 2013a, 2015a-f, 2019a-b), Hawkeswood (2021) and ICZN (2021).

The ICZN formally rejected the Wolfgang Wüster gang's many applications to overwrite names of myself (Hoser) and others, most prominently through the Wüster gang's submissions of Kaiser (2012a-b, 2013), Kaiser *et al.* (2013) and Rhodin *et al.* (2015).

The ICZN formally voted against the Wüster gang of thieves in 2020 and published their formal ruling against the Wüster gang's taxonomic vandalism in 2021 (ICZN 2021).

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

Separately Hawkeswood (2021) said exactly the same thing.

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

This is not the first time the ICZN have had to deal with the Wolfgang Wüster gang's immoral and anti-conservation actions.

In 1991, the same gang of thieves were ruled against by the ICZN in the matter of hundreds of names formally proposed by Wells and Wellington in 1984 and 1985 including at least one used as valid in this paper, being *Austroablepharus barklyensis* Wells and Wellington, 1985.

Notwithstanding the ruling of the ICZN in 1991 (ICZN 1991), in favour of Wells and Wellington's works and a second ruling in their favour in 2001 (ICZN 2001) arising from Sprackland *et al.* (1997) and the ongoing availability of the Wells and Wellington names to the biological sciences, the group known as the Wolfgang Wüster gang of thieves have pressured publishing authors not to use or adopt the Wells and Wellington names (see Hoser 2007, 2009, 2012a, 2012b, 2013a, 2015 a-f, 2018b, 2019a-b) and more recently those I have formally proposed.

This attack has been at numerous levels, ranging from control of editors of journals, lies, defamation and a number of other anti-science tactics (see also Shine 1987, Sprackland *et al.* 1997).

Added to this have been non-stop trolling and harassment online,

including countless false and defamatory claims, countless telephone death threats from blocked phone numbers (later unblocked by the phone companies to identify the callers) and fake complaints to authorities to instigate illegal armed raids on ourselves and others working with us in the wildlife conservation and science arenas.

Central in all this in the first instance has been an evidence free general proposition put by them that the taxonomy of Wells and Wellington or myself is simply wrong and that therefore the names need not be used.

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

Online at:

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

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

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

Contrary to the position of the Wolfgang Wüster gang of thieves, the science does support the use of the names proposed in this and other works of myself and also Wells and Wellington (in the vast majority of cases as mentioned earlier) (Hawkeswood 2021), and the sooner they come into general usage, the sooner the relevant species can be properly conserved and managed.

When the scientific evidence becomes overwhelming for the recognition of taxa formally named by Wells and Wellington, myself or other targets of the Wolfgang Wüster gang of thieves, rather than simply accepting the obvious, this gang of thieves engage in acts of taxonomic vandalism to rename the same entities in direct breach of the *International Code of Zoological Nomenclature*.

The act of taxonomic vandalism is confirmed by their self-promotion of their illegal names on websites they control like "*The Reptile database*" and ongoing harassment of journals and editors to use their illegally coined names instead of the correct and earlier proposed ICZN names, knowing full well that the earlier names are those that should be used.

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

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CONFLICTS OF INTEREST

None.

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