

The inevitable further break up of the monotypic Australian skink genus *Saiphos* Gray, 1831.

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ABSTRACT

Until now (2022), all but one pair of publishing authors have treated the skink genus *Saiphos* as monotypic for the species *Saiphos equalis* Gray, 1825.

Wells and Wellington (1985) formally described *Saiphos samueli* from the New England Tablelands region of New South Wales (NSW) as a new species based on differing reproductive mode (live bearing, rather than laying eggs), larger adult size and occupation of a very different environment to the nominate form.

The most recent field guides (e.g. Cogger 2014 as well as Wilson and Swan 2017) continue to treat *Saiphos* as monotypic.

This is in spite of the fact that Smith *et al.* (2001) provided a sound basis to recognize at least three species within the genus.

Following a review of the literature and inspection of *Saiphos* specimens from throughout their known distribution, this paper recognizes the two previously named forms, *Saiphos equalis* Gray, 1825 and *Saiphos samueli* Wells and Wellington, 1985 and names four further forms in the genus as species.

In total they are *Saiphos equalis* from Barrington Tops, south along the NSW coast and near ranges to about Nowra, NSW, *S. samueli* from the cooler parts of the New England region of NSW and far southern Queensland, *S. hoserae* sp. nov. from the north coast of New South Wales and far southern Queensland near the coast, *S. shanksi* sp. nov. from the Bunya Mountains and nearby hills in south-east Queensland, *S. wellsii* sp. nov. from the Krombit Tops area in southern central coastal Queensland and *S. wellingtoni* sp. nov. from the Canarvon Range area in southern Queensland.

Keywords: Taxonomy; nomenclature; Australia; Skink; lizard; Scincidae; Queensland; New South Wales; *Saiphos*; *equalis*; *samueli*; new species; *hoserae*; *shanksi*; *wellsii*; *wellingtoni*.

INTRODUCTION

The three-toed skink *Saiphos equalis* Gray, 1825 is a well-known species in eastern Australia. Common even in the most heavily urbanised parts of Sydney, Australia, Australia's largest city, the numbers of this species, normally native to rainforests and wet sclerophyll forests appear to have increased in inner suburbs. This is evidently because they have successfully adapted to urbanization and survived in gardens apparently free from some of the predators or competing species that are found in undisturbed bushland.

Until now (2022), all but one pair of publishing authors have treated the skink genus *Saiphos* as monotypic for the species *Saiphos equalis* Gray, 1825.

Wells and Wellington (1985) in a paper that named dozens of new species and genera, formally described *Saiphos samueli* from the New England Tablelands

region of New South Wales as a new species.

Their assessment was based on differing reproductive mode (live bearing, rather than laying eggs), larger adult size and occupation of a very different environment to the nominate form.

It also occurred north of the biogeographic barrier of the Hunter River Valley, a dry zone north of Sydney, New South Wales, from which the putative species may have been divided at some time in the past, allowing for allopatric speciation to occur.

The most recent field guides (e.g. Cogger 2014 or Wilson and Swan 2017) continue to treat *Saiphos* as monotypic.

This is in spite of the fact that Smith *et al.* (2001), with no connection to Wells and Wellington (1985) provided a sound basis to recognize at least three species within the genus.

Their paper found three obvious clades, being the egg layers with short incubation period from Sydney and nearby regions south of the Hunter Valley, extending south along the coast and eastern

ranges to about Nowra, New South Wales. A second clade including the live-bearers from the New England region of New South Wales and at least one more clade including egg layers with a long incubation term from the north coast of New South Wales.

With three putative species identified in the paper of Smith *et al.* (2001) it was deemed necessary to review the genus *Saiphos* from across the known range of the putative species to determine exactly how many species there were and also what names applied to the given populations.

Further to that, if any forms were unnamed, they should obviously be formally identified and named in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) as amended online since.

MATERIALS AND METHODS

Live specimens of putative *Saiphos equalis* Gray, 1825 and/or *Saiphos samueli* Wells and Wellington, 1985 from across their known distribution were inspected. This was over some decades and included field trips searching for and catching specimens from the entire known range of the genus, being from Nowra, New South Wales in the south to Koorombit Tops, Queensland in the north, as well as as far west as the Canarvon National Park area in south-central Queensland and including areas around Brisbane, Sydney, the New England region and other intervening areas.

Also viewed were numerous photos including those with quality location data as well as museum specimens.

Further to this, all relevant literature with regards of the species, taxonomy and nomenclature was also reviewed.

This included Beltrán *et al.* (2020a, 2020b), Biazik *et al.* (2020), Chapple *et al.* (2011a, 2011b), Cogger (2014), Cogger *et al.* (1983), Couper *et al.* (2006), Dubois *et al.* (1988), Dubois (2014), Foster *et al.* (2020), Gray (1825, 1831), Greer *et al.* (2006), Hoser (1989), Hugi *et al.* (2012), Hutchinson *et al.* (2021), ICZN (1991, 2001, 2021), Johnson (2002), Laird *et al.* (2019), Longman (1915), Mo (2015), Murphy (1994), Parker *et al.* (2010), Reeder (2003), Ride *et al.* (1999), Smith *et al.* (2001), Stewart *et al.* (2010a, 2010b), Swan *et al.* (2017), Wells (2002, 2011), Wells and Wellington (1984, 1985), Wilson (2015), Wilson and Knowles (1988), Wilson and Swan (2010, 2017), Wu *et al.* (2009) and relevant sources cited therein.

RESULTS

The type form described by Gray in 1825 is clearly of the form that is common around Sydney in New South Wales.

It appears self-evident that the more primitive and basal stock for the genus are the specimens from the north coast of New South Wales and southern Queensland, including outlier populations such as Koorombit Tops and Canarvon National Park as they have a smaller adult body size and also proportionately longer first and second toes on the front feet (Smith, 1996).

This situation is made even more stark as the most proximal other population to these are putative *S. sameuli* from the New England region of NSW and far southern Queensland, which is proportionately larger than type *S. equalis* from Sydney and environs.

Type *S. equalis* have a distribution that is almost entirely disjunct from the populations of other species found exclusively north of the Hunter River valley, is clearly evolving separately to them and clearly must be treated as a separate species.

In terms of those north of the Hunter Valley, the five distinct forms, being the highland form and the lowlands ones, are morphologically divergent (highlands is larger and lowlands are smaller) and with longer toes on the front feet in the lowlands forms.

With no evidence of mixing of the relevant populations, they appear to be of five more well-defined biologically distinct species and so I have no hesitation in recognizing each as a full species.

The name *Saiphos samueli* Wells and Wellington, 1985 is available for the highlands form and so it is formally resurrected from synonymy.

The lowlands form from the north coast of New South Wales and nearby far south-east Queensland is formally named herein as a new species being *Siaphos hoserae* sp. nov..

A divergent form from the Bunya Mountains and nearby hills in south-east Queensland is formally named *Saiphos shanksi* sp. nov..

An isolated and divergent population from Koorombit Tops in Queensland formally named as a new and divergent species, being *Saiphos wellsi* sp. nov..

Another isolated and divergent species from the Canarvon National Park area in south-central Queensland is formally named as a divergent species *Saiphos wellingtoni* sp. nov..

Notable is that these divisions are similar to those seen in a formal division of the *Allengreerus delicata* (De Vis, 1888) complex subject of another paper published by myself in 2022, which also relied upon a phylogeny published by Chapple *et al.* (2011a).

That putative species has a near identical distribution in south-east Queensland and northern New South Wales and appears to have been fragmented by the same factors.

I note that while almost all prominent publishing herpetologists in Australia have steadfastly pretended that all *Saiphos* are of a single species, the biological reality has been harder to hide.

By way of example, the arch conservative Hal Cogger, wrote in Cogger (2014) of *Saiphos*:

"As here recognized, a monotypic endemic genus", clearly flagging the reality of an inevitable split of the putative species.

TAXONOMIC VANDALISM BY THE WOLFGANG WÜSTER GANG OF THIEVES

As part of their campaign to destroy the *International Code of Zoological Nomenclature* (Ride *et al.* 1999 as amended online since) (AKA The Code), the so-called Wolfgang Wüster gang of thieves have sought to suppress works of their rivals and then to later steal their kudos, by claiming to have newly discovered species named by others some years prior.

They have then engaged in taxonomic vandalism by renaming the species or genera and peddling their illegal names as valid in direct breach of the Code.

Their mantra is spelt out explicitly by Shine (1987) as first draft and expanded upon by Glen Shea in Shea (1987).

Despite being harshly condemned by the ICZN in ICZN (1991 and 2001), the Wolfgang Wüster gang of thieves rejigged their campaign against the Code with Kaiser (2012a, 2012b, 2013, 2014a, 2014b), Kaiser *et al.* (2013) and Rhodin *et al.* (2015).

These attempts to destroy the code are detailed by Dubois *et al.* (1988), Dubois (2014), Hoser (2007, 2009, 2012a, 2012b, 2013, 2015a-f, 2017, 2019a, 2019b), Wellington (2015) and Hawkeswood (2021) and the many sources cited therein.

Wolfgang Wüsters gang of thieves also control the website at: <https://reptile-database.reptarium.cz/>

which is under the control of Peter Uetz, who in reality is nothing more than a puppet of the evil, law-breaking Wolfgang Wüster.

Using this so-called database of all things taxonomy and nomenclature for reptiles, the gang has aggressively sought to sabotage and destabilize the taxonomy and nomenclature of herpetology, including this very genus (*Saiphos*), being why their campaign of destruction is mentioned here.

The campaign by this gang of fake scientists includes making the website at:

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

into what they describe as a "list of available names" or "LAN", in a bastardisation of an ongoing project of the International Commission of Zoological Nomenclature (ICZN), to create such lists for all major groups of animals.

The site, is ostensibly run by one Peter Uetz as front man, who

in reality is nothing more than a puppet of the evil, law-breaking Wolfgang Wüster. Uetz has openly admitted to having censored out more than a thousand authors, publications and scientific names that are by people outside their own cohort (Uetz, 2022). After Uetz was lampooned within the herpetological community, including on countless Facebook threads, he publicly renounced his censorship and said he'd include the censored material immediately.

However the statement was a lie as his site continues to censor numerous authors, works and their ICZN valid names for reptile taxa.

Of course, most Uetz's censorship is not admitted in a rare burst of honesty as seen in Uetz (2022), but instead just done, with most viewers of the website deliberately made unaware that the censorship has gone on.

In the case of the genus *Saiphos* and the putatively monotypic species *P. equalis*, the Uetz site webpage is at: https://reptile-database.reptarium.cz/species?genus=Saiphos&species=equalis&search_param=%28%28genus%3D%27Saiphos%27%29%29

Significantly, it lists "all" previous synonyms and available names as:

"*Seps equalis* GRAY 1825: 202

Anguis lacertina GRAY 1831: 72 (nomen nudum)

Siaphos aequalis — GRAY 1839 (emendation)

Lygosoma (*Siaphos*) *aequale* — LONGMAN 1915: 34

Saiphos equalis — COGGER 1983: 183

Saiphos equalis — COGGER 2000: 572

Saiphos aequalis — GREER et al. 2006"

There is no mention of Wells and Wellington, 1985 or their name *Saiphos samueli* Wells and Wellington, 1985, even though they have been fully aware of it since at least 1987, noting that Uetz himself, as well as Wüster and the rest of the gang of thieves even petitioned the ICZN in relation to the works of Wells and Wellington as recently as 2015 in Rhodin *et al.* (2015).

The bibliography of references about the genus and species includes no less than 28 entires, alleged to be relevant to the taxonomy and nomenclature of the genus and species.

However almost all are barely relevant at all, most are not peer reviewed publications and some were merely mentioning the putative species in passing, such as part of an account of a fauna survey or similar.

One citation (Laird *et al.* 2019), not making any taxonomic changes or judgements on putative *Saiphos equalis* is actually published twice, being 2 of the 28 citations.

Meanwhile the most important papers of Wells and Wellington (1984, 1985) or the critically important Smith *et al.* (2001), being the only publication to have a molecular analysis of the genus from most of its known range, making them the two most significant publications since the original description by Gray in 1825 are deliberately omitted from the Uetz page.

This is not just a matter of petty jealousy as would inevitably be alleged by the Wüster gang, but is in fact a serious and dangerous omission.

By faking that the New England form of *Saiphos* is not already formally named and that the name *Saiphos samueli* Wells and Wellington, 1985 is not only available, but validated by a molecular study as well as confirmed as valid in ICZN rulings of 1991, 2001 and 2021, Wüster and his puppet in the form of Peter Uetz are actively encouraging an act of taxonomic vandalism.

This is in the expectation that someone else may independently find that the New England *Saiphos* is a separate species to type *S. equalis*, check

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

to see if there is any available name or synonym exists in their alleged complete "list of available names" and when finding none, renaming the same entity in the misguided belief it is an unnamed entity.

Of course, science then gets stuck with a destabilizing dual nomenclature for anything from a few days to a few decades, while other scientists have to sort out the mess created by Wüster and his puppet Peter Uetz.

There is also likely to be what Uetz himself described in 2022 as "collateral damage" (Uetz 2022) in the form of a budding herpetologist unhappy to see all their taxonomic work in discovering and naming a new species getting trashed, simply because two critically important earlier works were hidden from them.

Of course the recent historical record shows Wüster and his puppet in the form of Peter Uetz aggressively peddling the name they know to be an invalid junior synonym in preference of the valid ICZN name, because they happen to dislike the person who originally named the species.

Even as of 2022, we see reticulated pythons at: <https://reptile-database.reptarium.cz/species?genus=Malayopython&species=reticulatus>

listed as "*Malayopython*", which everyone knows is an illegally coined junior synonym of *Broghammerus* Hoser, 2004, or at:

<https://reptile-database.reptarium.cz/species?genus=Leiopython&species=fredparkeri>

we have the iconic python *Leiopython hoseerae* Hoser, 2000, rebranded with the illegally coined name *Leiopython fredparkeri* Schleip, 2008, which is yet another abortion following their earlier claimed name of *Leiopython meridionalis* Schleip, 2014.

Serial criminal Wulf Schleip is a close friend of the notorious animal abuser Wolfgang Wüster who seeks self-gratification in stealing works from others and renaming the species they discovered earlier.

Via the Uetz website he then falsely claims to have made a "new discovery".

Worse still the scientific literature is permanently cluttered with another set of wholly unnecessary junior synonyms.

This effort and time wasted by scientists fixing the taxonomic and nomenclatural mess deliberately created by Wüster and his puppet Peter Uetz, is time that should be better spent on other things, including saving species facing extinction.

This is no abstract or hypothetical situation.

This egregious misconduct by Wüster, his puppet Peter Uetz and their cohort of thieves over the past 3 decades has already directly caused the extinction of a species of Australian Agamid *Tympanocryptis pinguicollis* (Mitchell, 1948) as detailed in Hoser (2019a, 2019b) and sources cited therein, as well as quite likely several species of snake and lizard from various Pacific islands.

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, or by way of date priority if this is possible.

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 3 June 2022 (including if also viewed prior), unless otherwise stated and was accurate in terms of the content cited herein as of that date. Any online citations within this paper, including copied emails and the like, are not as a rule cited in the references part of this paper and have the same most recent viewing date as just given. Unless otherwise stated explicitly, colour and other descriptions apply to living adult specimens of generally good health, as seen by day, and not under any form of stress by means such as excessive cool, heat, dehydration, excessive ageing, abnormal skin or reaction to chemical or other input.

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

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

SAIPHOS HOSERAE SP. NOV.

LSIDDurn:lsid:zoobank.org:act:485AF782-15D8-4B11-A291-A3E004B8B41A

Holotype: A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.146699 collected from Byron Bay Holiday Villages, 3.5 km north of the Byron Bay town centre, at Byron Bay, New South Wales, Australia, Latitude -28.63166 S., Longitude 153.58888 E. This government-owned facility allows access to its holdings.

Paratypes: 21 preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, specimen numbers R.146710, R.146711, R.146712, R.146720, R.146721, R.151823, R.151824, R.151825, R.151826, R.151827, R.146832, R.146734, R.146735, R.146736, R.146737, R.146850, R.146751, R.146852, R.146853, R.146854 and R.146858 collected from Byron Bay Holiday Villages, 3.5 km north of the Byron Bay town centre, at Byron Bay, New South Wales, Australia, Latitude -28.63166 S., Longitude 153.58888 E.

Diagnosis: Until now, each of *Saiphos hoserae sp. nov.*, *S. shanksi sp. nov.*, *S. wellsi sp. nov.* and *S. wellingtoni sp. nov.* have been treated as divergent populations of the Three-toed Skink *Saiphos equalis* Gray, 1831, as has the species *S. samuelli* Wells and Wellington, 1985 by all other publishing authors since the name was first published.

In the face of obvious morphological differences between populations and molecular evidence, including that of Smith *et al.* (2001), it is no longer tenable to treat all populations as a single species and hence the split as done herein.

This is especially noting the various relevant populations are also allopatric and clearly evolving as separate species.

Each of the six species within *Saiphos* Gray, 1831 are separated from one another by the following six unique suites of characters:

Siaphos equalis Gray, 1831, found from Barrington Tops, New South Wales, south along the coast and nearby ranges to about Nowra, New South Wales, is distinguished by having heavy black etching on or between the anterior scales of the upper surface of the head, grading to irregular spotting on the neck and body, this sometimes being absent. At the dorsolateral edge is a dark greyish-black stripe with a well-defined upper boundary and a lower boundary that fades quickly to whitish about half to three quarters of the way down the flank, making this line thick. On the side of the head the scales are generally greyish all over save for small white spots of specks in the centres of most scales, with scales on the side of the neck of similar form. Venter is yellow.

Average maximum adult snout-vent length is 70 cm.

S. samuelli Wells and Wellington, 1985 from the cooler uplands and ranges of the New England region of New South Wales and far southern Queensland is distinguished by having a head of similar colour to the neck and body, this being a medium brown colour, which has dark spotting on the posterior part, these spots being more numerous anteriorly and sometimes coalescing. The dark stripe on the sides of the body extends all the way down the flank and without fading on the lower edge, forming a well-defined interface between it and the orangeish-yellow belly. The dorsum is spotted with tiny black dots forming barely distinct longitudinal lines, these being best defined towards the lateral edges.

Average maximum adult snout-vent length is 80 cm.

S. hoserae sp. nov. from the far north coast of New South Wales, extending from Coffs Harbour to the Queensland border and into south-east Queensland, with the north and south limits of distribution not exactly known is readily separated from the other species by having a light brown dorsum, distinctly greyish-brown head, with scales on the top etched with dark grey to black. The black dorsolateral stripe is thin, below which is most of the flank that is yellowish grey in colour, with the centre of each scale marked grey and the outer edges being yellowish.

Unlike the other species in the genus, the flank stripe does not extend most or all of the way along the tail. In this species it is thin at the anterior end of the tail and diffusing into the general greyish-brown tail colour. The sides of the head and neck posterior to the eye is a whitish-grey colour.

Venter is yellow, but with a slight orange tinge.

Average maximum adult snout-vent length is 65 mm.

Smith (1996) reported this taxon had proportionately longer first and second toes on the front feet.

S. shanksi sp. nov. from the Bunya Mountains and nearby hills as far south as near Dalby and as far north as Kingaroy, all in south-east Queensland is readily separated from the other species in the genus by having a dorsum that is defined by having about four thick, well-defined dark blackish longitudinal stripes with irregular edges, running along the dorsum.

Sides of head are black, except for a few upper labials which may have small amounts of white in the centre of each scale. Neck is also blackish in colour. The lateral stripe is moderately thick, extending between a third and half way down the flank. It grades gradually to dark grey on the lower boundary, with brown at the interface of the lower boundary of the lateral stripe, this being the colour along the midline of the flank. The top of the head is brown, heavily infused with black etchings and blotches on most scales.

Venter is yellow.

Average maximum adult snout-vent length is 65 mm.

S. wellsi sp. nov. from Kroombit Tops in Queensland is similar in most respects to *S. shanksi sp. nov.*, but separated from that species and the morphologically similar *S. wellingtoni sp. nov.* by having a dark brownish grey body, a head that on the upper surface is more dark grey than brown and indistinct irregular black markings also on the head of similar intensity both anterior and posterior to the eyes. The tail is also heavily peppered and marked with black, but forming stripes as seen in other species where this occurs.

S. wellingtoni sp. nov. from the Canarvan National Park and hills immediately south of there in inland southern Queensland is similar in most respects to *S. shanksi sp. nov.*, but separated from that species and the morphologically similar *S. wellsi sp. nov.* by having a light to medium brown body, black etched scales on top of the head that are otherwise brown in colour, a tail that has numerous tiny dots at the anterior end, tending to form one or more longitudinal stripes and prominent white spots on the labials and other scales on the side of the head and neck, which are otherwise grey in colour. The dark stripe on the flank fades immediately, but gradually, after the upper boundary to

the whitish-grey lower surface, which is consistently whitish-grey from about half-way down the flank.

The six preceding species, forming the entirety of the genus *Saiphos* Gray, 1831 are separated from all other Australian skinks by the following suite of characters:

Limbs tridactyle, with short and unequal digits; the hindlimb is about 10% of the snout-vent length, all limbs being widely separated when adpressed. Ear opening is hidden and is only indicated by a depression. Supranasals absent; nasals undivided; prefrontals absent although the enlarged first supraciliary could be treated as a small prefrontal; parietal shields are in contact behind the interparietal; frontoparietals paired, distinct from the interparietal; four supraoculars; postmental in contact with two infralabials on each side; a series of suboculars between the labials and the eye. Usually six supralabials. Lower eyelid is scaly and movable. 18-20 midbody scale rows (modified from Cogger 2014).

Saiphos equalis is depicted in life in Hoser (1989), page 106, middle, as well as in Cogger (2014) on page 677 and online at: <https://www.inaturalist.org/observations/19373517>

and

<https://www.inaturalist.org/observations/55767936>

Saiphos samueli Wells and Wellington, 1985 is depicted in life online at:

<https://www.inaturalist.org/observations/31211620>

Saiphos hoserae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/96923085>

and

<https://www.inaturalist.org/observations/110645595>

and

<https://www.inaturalist.org/observations/27462>

Distribution: *S. hoserae* sp. nov. occurs on the far north coast of New South Wales, extending from Coffs Harbour to the Queensland border and into south-east Queensland, with the north and south limits of distribution not exactly known

Etymology: *S. hoserae* sp. nov. is named in honour of my mother, Katrina Joan Hoser, of Lane Cove, New South Wales, Australia in recognition of her monumental contributions to herpetology over some decades.

SAIPHOS SHANKSI SP. NOV.

LSIDDurn:lsid:zoobank.org:act:14521B72-41F8-4FB3-906D-EE4F4E4B931B

Holotype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J59248 collected from Lower Koondaii, Bunya Mountains National Park, Queensland, Australia, Latitude -26.885556 S., Longitude 151.554722 E.

This government-owned facility allows access to its holdings.

Paratype: Two preserved specimens at the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers J2310 and J2311 collected from Bell, near Dalby, Queensland, Australia, Latitude -26.933333 S., Longitude 151.45 E.

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S. samueli Wells and Wellington, 1985 from the cooler uplands and ranges of the New England region of New South Wales and far southern Queensland is distinguished by having a head of similar colour to the neck and body, this being a medium brown colour, which has dark spotting on the posterior part, these spots being more numerous anteriorly and sometimes coalescing. The dark stripe on the sides of the body extends all the way down the flank and without fading on the lower edge, forming a well-defined interface between it and the orangeish-yellow belly. The dorsum is spotted with tiny black dots forming barely distinct longitudinal lines, these being best defined towards the lateral edges.

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Unlike the other species in the genus, the flank stripe does not extend most or all of the way along the tail. In this species it is thin at the anterior end of the tail and diffusing into the general greyish-brown tail colour. The sides of the head and neck posterior to the eye is a whitish-grey colour.

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Average maximum adult snout-vent length is 65 mm.

Smith (1996) reported this taxon had proportionately longer first and second toes on the front feet.

S. shanksi sp. nov. from the Bunya Mountains and nearby hills as far south as near Dalby and as far north as Kingaroy, all in south-east Queensland is readily separated from the other species in the genus by having a dorsum that is defined by having about four thick, well-defined dark blackish longitudinal stripes with irregular edges, running along the dorsum.

Sides of head are black, except for a few upper labials which may have small amounts of white in the centre of each scale. Neck is also blackish in colour. The lateral stripe is moderately thick, extending between a third and half way down the flank. It grades gradually to dark grey on the lower boundary, with brown at the interface of the lower boundary of the lateral stripe, this being the colour along the midline of the flank. The top of the head is brown, heavily infused with black etchings and blotches on most scales.

Venter is yellow.

Average maximum adult snout-vent length is 65 mm.

S. wellsi sp. nov. from Kroombit Tops in Queensland is similar in most respects to *S. shanksi* sp. nov., but separated from that species and the morphologically similar *S. wellingtoni* sp. nov. by having a dark brownish grey body, a head that on the upper surface is more dark grey than brown and indistinct irregular black markings also on the head of similar intensity both anterior and posterior to the eyes. The tail is also heavily peppered and marked with black, but forming stripes as seen in other species where this occurs.

S. wellingtoni sp. nov. from the Canarvan National Park and hills immediately south of there in inland southern Queensland is similar in most respects to *S. shanksi* sp. nov., but separated from that species and the morphologically similar *S. wellisi* sp. nov. by having a light to medium brown body, black etched scales on top of the head that are otherwise brown in colour, a tail that has numerous tiny dots at the anterior end, tending to form one or more longitudinal stripes and prominent white spots on the labials and other scales on the side of the head and neck, which are otherwise grey in colour. The dark stripe on the flank fades immediately, but gradually, after the upper boundary to the whitish-grey lower surface, which is consistently whitish-grey from about half-way down the flank.

The six preceding species, forming the entirety of the genus *Saiphos* Gray, 1831 are separated from all other Australian skinks by the following suite of characters:

Limbs tridactyle, with short and unequal digits; the hindlimb is about 10% of the snout-vent length, all limbs being widely separated when adpressed. Ear opening is hidden and is only indicated by a depression. Supranasals absent; nasals undivided; prefrontals absent although the enlarged first supraciliary could be treated as a small prefrontal; parietal shields are in contact behind the interparietal; frontoparietals paired, distinct from the interparietal; four supraoculars; postmental in contact with two infralabials on each side; a series of suboculars between the labials and the eye. Usually six supralabials. Lower eyelid is scaly and movable. 18-20 midbody scale rows (modified from Cogger 2014).

Saiphos equalis is depicted in life in Hoser (1989), page 106, middle, as well as in Cogger (2014) on page 677 and online at: <https://www.inaturalist.org/observations/19373517>

and <https://www.inaturalist.org/observations/55767936>

Saiphos samueli Wells and Wellington, 1985 is depicted in life online at:

<https://www.inaturalist.org/observations/31211620>

Saiphos hoseerae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/96923085>

and

<https://www.inaturalist.org/observations/110645595>

and

<https://www.inaturalist.org/observations/27462>

Distribution: *S. shanksi* sp. nov. occurs in the Bunya Mountains and nearby hills as far south as near Dalby and as far north as Kingaroy, all in south-east Queensland, Australia.

Etymology: *S. shanksi* sp. nov. is named in honour of an Australian comedian Jordan Shanks, trading as "FriendlyJordies" in recognition of the great personal risks he has taken in attempting to expose corrupt and dishonest Australian politicians via his humorous online presentations that have got a cult following in 2022.

His website is at:

<https://www.friendlyjordies.com>

He has online accounts at:

<https://www.facebook.com/friendlyjordies>

and

<https://twitter.com/friendlyjordies>

and

<https://www.instagram.com/friendlyjordies/>

and

<https://www.youtube.com/channel/UC2-i3KuYoODXsM99Z3-Gm0A>

and

<https://www.youtube.com/channel/UCaoxFlhy4oGz3EvkTGhWvka>

SAIPHOS WELLSI SP. NOV.

LSIDurn:lsid:zoobank.org:act:E011188E-DA97-4530-97D8-1EDCFEDCD16

Holotype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J32325 collected from Kroombit Tops, west of Gladstone, Queensland, Australia, Latitude -24.366667 S., Longitude 150.983333 E.

This government-owned facility allows access to its holdings.

Paratype: Five preserved specimens at the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers J40130, J40131, J40132, J42165 and J54872 all collected from Kroombit Tops, west of Gladstone, Queensland, Australia, Latitude -24.366667 S., Longitude 150.983333 E.

Diagnosis: Until now, each of *Saiphos wellisi* sp. nov., *S. hoseerae* sp. nov., *S. shanksi* sp. nov. and *S. wellingtoni* sp. nov. have been treated as divergent populations of the Three-toed Skink *Saiphos equalis* Gray, 1831, as has the species *S. samueli* Wells and Wellington, 1985 by all other publishing authors since the name was first published.

In the face of obvious morphological differences between populations and molecular evidence, including that of Smith *et al.* (2001), it is no longer tenable to treat all populations as a single species and hence the split as done herein.

This is especially noting the various relevant populations are also allopatric and clearly evolving as separate species.

Each of the six species within *Saiphos* Gray, 1831 are separated from one another by the following six unique suites of characters:

Saiphos equalis Gray, 1831, found from Barrington Tops, New South Wales, south along the coast and nearby ranges to about Nowra, New South Wales, is distinguished by having heavy black etching on or between the anterior scales of the upper surface of the head, grading to irregular spotting on the neck and body, this sometimes being absent. At the dorsolateral edge is a dark greyish-black stripe with a well-defined upper boundary and a lower boundary that fades quickly to whitish about half to three quarters of the way down the flank, making this line thick. On the side of the head the scales are generally greyish all over save for small white spots of specks in the centres of most scales, with scales on the side of the neck of similar form. Venter is yellow.

Average maximum adult snout-vent length is 70 cm.

S. samueli Wells and Wellington, 1985 from the cooler uplands and ranges of the New England region of New South Wales and far southern Queensland is distinguished by having a head of similar colour to the neck and body, this being a medium brown colour, which has dark spotting on the posterior part, these spots being more numerous anteriorly and sometimes coalescing. The dark stripe on the sides of the body extends all the way down the flank and without fading on the lower edge, forming a well-defined interface between it and the orangeish-yellow belly. The dorsum is spotted with tiny black dots forming barely distinct longitudinal lines, these being best defined towards the lateral edges.

Average maximum adult snout-vent length is 80 cm.

S. hoseerae sp. nov. from the far north coast of New South Wales, extending from Coffs Harbour to the Queensland border and into south-east Queensland, with the north and south limits of distribution not exactly known is readily separated from the other species by having a light brown dorsum, distinctly greyish-brown head, with scales on the top etched with dark grey to black. The black dorsolateral stripe is thin, below which is most of the flank that is yellowish grey in colour, with the centre of each scale marked grey and the outer edges being yellowish.

Unlike the other species in the genus, the flank stripe does not extend most or all of the way along the tail. In this species it is thin at the anterior end of the tail and diffusing into the general greyish-brown tail colour. The sides of the head and neck posterior to the eye is a whitish-grey colour.

Venter is yellow, but with a slight orange tinge.

Average maximum adult snout-vent length is 65 mm.

Smith (1996) reported this taxon had proportionately longer first and second toes on the front feet.

S. shanksi sp. nov. from the Bunya Mountains and nearby hills as far south as near Dalby and as far north as Kingaroy, all in south-east Queensland is readily separated from the other species in the genus by having a dorsum that is defined by having about four thick, well-defined dark blackish longitudinal stripes with irregular edges, running along the dorsum.

Sides of head are black, except for a few upper labials which may have small amounts of white in the centre of each scale. Neck is also blackish in colour. The lateral stripe is moderately thick, extending between a third and half way down the flank. It grades gradually to dark grey on the lower boundary, with brown at the interface of the lower boundary of the lateral stripe, this being the colour along the midline of the flank. The top of the head is brown, heavily infused with black etchings and blotches on most scales. Venter is yellow.

Average maximum adult snout-vent length is 65 mm.

S. wellsi sp. nov. from Kroombit Tops in Queensland is similar in most respects to *S. shanksi* sp. nov., but separated from that species and the morphologically similar *S. wellingtoni* sp. nov. by having a dark brownish grey body, a head that on the upper surface is more dark grey than brown and indistinct irregular black markings also on the head of similar intensity both anterior and posterior to the eyes. The tail is also heavily peppered and marked with black, but forming stripes as seen in other species where this occurs.

S. wellingtoni sp. nov. from the Canarvan National Park and hills immediately south of there in inland southern Queensland is similar in most respects to *S. shanksi* sp. nov., but separated from that species and the morphologically similar *S. wellsi* sp. nov. by having a light to medium brown body, black etched scales on top of the head that are otherwise brown in colour, a tail that has numerous tiny dots at the anterior end, tending to form one or more longitudinal stripes and prominent white spots on the labials and other scales on the side of the head and neck, which are otherwise grey in colour. The dark stripe on the flank fades immediately, but gradually, after the upper boundary to the whitish-grey lower surface, which is consistently whitish-grey from about half-way down the flank.

The six preceding species, forming the entirety of the genus *Saiphos* Gray, 1831 are separated from all other Australian skinks by the following suite of characters:

Limbs tridactyle, with short and unequal digits; the hindlimb is about 10% of the snout-vent length, all limbs being widely separated when adpressed. Ear opening is hidden and is only indicated by a depression. Supranasals absent; nasals undivided; prefrontals absent although the enlarged first supraciliary could be treated as a small prefrontal; parietal shields are in contact behind the interparietal; frontoparietals paired, distinct from the interparietal; four supraoculars; postmental in contact with two infralabials on each side; a series of suboculars between the labials and the eye. Usually six supralabials. Lower eyelid is scaly and movable. 18-20 midbody scale rows (modified from Cogger 2014).

Saiphos equalis is depicted in life in Hoser (1989), page 106, middle, as well as in Cogger (2014) on page 677 and online at: <https://www.inaturalist.org/observations/19373517>

and

<https://www.inaturalist.org/observations/55767936>

Saiphos samueli Wells and Wellington, 1985 is depicted in life online at:

<https://www.inaturalist.org/observations/31211620>

Saiphos hoserae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/96923085>

and

<https://www.inaturalist.org/observations/110645595>

and

<https://www.inaturalist.org/observations/27462>

Distribution: *S. wellsi* sp. nov. appears to be a range-restricted endemic, confined to the wetter parts of Kroombit Tops, Queensland, Australia. On this basis it should immediately be formally listed by state and federal governments as vulnerable as well as being monitored on a regular basis to confirm population stability.

Refer also to the relevant comments in Hoser (1989, 1991, 1993, 1996, 2007, 2019a, 2019b).

Etymology: *S. wellsi* sp. nov. is named in honour of Australian herpetologist, Richard Wells, recently of Lismore, New South Wales, Australia, in recognition for his services to herpetology and zoology globally, including his strong advocacy against taxonomic vandalism as practiced by Welsh criminal Wolfgang Wüster and his gang of thieves as detailed by Cogger (2014), Hoser (2007, 2009, 2012a, 2012c, 2013, 2015a-f, 2017, 2019a, 2019b), Hawkeswood (2021), ICZN (1991, 2001, 2021) and sources cited therein.

Besides the association of Richard Wells with the exact area this species occurs, it is also noted that along with his colleague, Cliff Ross Wellington, they formally named another species in this complex, namely *S. samueli* Wells and Wellington, 1985 since shown by Smith *et al.* (2001) using molecular techniques to be a valid species-level taxon.

Richard Wells is also by far the largest ever benefactor with respect of collecting and donating reptiles to the Australian Museum in Sydney, having donated many thousands of specimens to their priceless research collection spanning full-time work over many decades.

He has received few if any accolades for this achievement.

SAIPHOS WELLINGTONI SP. NOV.

LSIDurn:lsid:zoobank.org:act:5FA1ED2B-66F8-44BC-A117-293C6A01A5CE

Holotype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J76305 collected from "Oakwells", west of Injune, just north of Mount Hutton, on the Great Dividing Range, on the steep upper slopes of Main Top, Queensland, Australia, Latitude -25.4505 S., Longitude 148.1629 E., at 840 m ASL (capture details taken from Johnson 2002).

This government-owned facility allows access to its holdings.

Paratype: Two preserved specimens at the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers J82956 and J82957 collected from about 20 km west of Injune on the north facing slope of Mount Hutton, Queensland, Australia, Latitude -25.858056 S., Longitude 148.359167 E.

Diagnosis: Until now, each of *Saiphos wellingtoni* sp. nov., *S. hoserae* sp. nov., *S. shanksi* sp. nov. and *S. wellsi* sp. nov. have been treated as divergent populations of the Three-toed Skink *Saiphos equalis* Gray, 1831, as has the species *S. samueli* Wells and Wellington, 1985 by all other publishing authors since the name was first published.

In the face of obvious morphological differences between populations and molecular evidence, including that of Smith *et al.* (2001), it is no longer tenable to treat all populations as a single species and hence the split as done herein.

This is especially noting the various relevant populations are also allopatric and clearly evolving as separate species.

Each of the six species within *Saiphos* Gray, 1831 are separated from one another by the following six unique suites of characters:

Saiphos equalis Gray, 1831, found from Barrington Tops, New South Wales, south along the coast and nearby ranges to about Nowra, New South Wales, is distinguished by having heavy black etching on or between the anterior scales of the upper surface of the head, grading to irregular spotting on the neck and body, this sometimes being absent. At the dorsolateral edge is a dark greyish-black stripe with a well-defined upper boundary and a lower boundary that fades quickly to whitish about half to three quarters of the way down the flank, making this line thick. On the side of the head the scales are generally greyish all over save for

small white spots of specks in the centres of most scales, with scales on the side of the neck of similar form. Venter is yellow. Average maximum adult snout-vent length is 70 cm.

S. samueli Wells and Wellington, 1985 from the cooler uplands and ranges of the New England region of New South Wales and far southern Queensland is distinguished by having a head of similar colour to the neck and body, this being a medium brown colour, which has dark spotting on the posterior part, these spots being more numerous anteriorly and sometimes coalescing. The dark stripe on the sides of the body extends all the way down the flank and without fading on the lower edge, forming a well-defined interface between it and the orangeish-yellow belly. The dorsum is spotted with tiny black dots forming barely distinct longitudinal lines, these being best defined towards the lateral edges.

Average maximum adult snout-vent length is 80 cm.

S. hoserae sp. nov. from the far north coast of New South Wales, extending from Coffs Harbour to the Queensland border and into south-east Queensland, with the north and south limits of distribution not exactly known is readily separated from the other species by having a light brown dorsum, distinctly greyish-brown head, with scales on the top etched with dark grey to black. The black dorsolateral stripe is thin, below which is most of the flank that is yellowish grey in colour, with the centre of each scale marked grey and the outer edges being yellowish.

Unlike the other species in the genus, the flank stripe does not extend most or all of the way along the tail. In this species it is thin at the anterior end of the tail and diffusing into the general greyish-brown tail colour. The sides of the head and neck posterior to the eye is a whitish-grey colour.

Venter is yellow, but with a slight orange tinge.

Average maximum adult snout-vent length is 65 mm.

Smith (1996) reported this taxon had proportionately longer first and second toes on the front feet.

S. shanksi sp. nov. from the Bunya Mountains and nearby hills as far south as near Dalby and as far north as Kingaroy, all in south-east Queensland is readily separated from the other species in the genus by having a dorsum that is defined by having about four thick, well-defined dark blackish longitudinal stripes (with irregular edges, running along the dorsum).

Sides of head are black, except for a few upper labials which may have small amounts of white in the centre of each scale. Neck is also blackish in colour. The lateral stripe is moderately thick, extending between a third and half way down the flank. It grades gradually to dark grey on the lower boundary, with brown at the interface of the lower boundary of the lateral stripe, this being the colour along the midline of the flank. The top of the head is brown, heavily infused with black etchings and blotches on most scales.

Venter is yellow.

Average maximum adult snout-vent length is 65 mm.

S. wellsi sp. nov. from Kroombit Tops in Queensland is similar in most respects to *S. shanksi* sp. nov., but separated from that species and the morphologically similar *S. wellingtoni* sp. nov. by having a dark brownish grey body, a head that on the upper surface is more dark grey than brown and indistinct irregular black markings also on the head of similar intensity both anterior and posterior to the eyes. The tail is also heavily peppered and marked with black, but forming stripes as seen in other species where this occurs.

S. wellingtoni sp. nov. from the Canarvan National Park and hills immediately south of there in inland southern Queensland is similar in most respects to *S. shanksi* sp. nov., but separated from that species and the morphologically similar *S. wellsi* sp. nov. by having a light to medium brown body, black etched scales on top of the head that are otherwise brown in colour, a tail that has numerous tiny dots at the anterior end, tending to form one or more longitudinal stripes and prominent white spots on the labials and other scales on the side of the head and neck,

which are otherwise grey in colour. The dark stripe on the flank fades immediately, but gradually, after the upper boundary to the whitish-grey lower surface, which is consistently whitish-grey from about half-way down the flank.

The six preceding species, forming the entirety of the genus *Saiphos* Gray, 1831 are separated from all other Australian skinks by the following suite of characters:

Limbs tridactyle, with short and unequal digits; the hindlimb is about 10% of the snout-vent length, all limbs being widely separated when adpressed. Ear opening is hidden and is only indicated by a depression. Supranasals absent; nasals undivided; prefrontals absent although the enlarged first supraciliary could be treated as a small prefrontal; parietal shields are in contact behind the interparietal; frontoparietals paired, distinct from the interparietal; four supraoculars; postmental in contact with two infralabials on each side; a series of suboculars between the labials and the eye. Usually six supralabials. Lower eyelid is scaly and movable. 18-20 midbody scale rows (modified from Cogger 2014).

Saiphos equalis is depicted in life in Hoser (1989), page 106, middle, as well as in Cogger (2014) on page 677 and online at: <https://www.inaturalist.org/observations/19373517>

and

<https://www.inaturalist.org/observations/55767936>

Saiphos samueli Wells and Wellington, 1985 is depicted in life online at:

<https://www.inaturalist.org/observations/31211620>

Saiphos hoserae sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/96923085>

and

<https://www.inaturalist.org/observations/110645595>

and

<https://www.inaturalist.org/observations/27462>

Distribution: *S. wellingtoni* sp. nov. appears to be a range-restricted endemic, confined to the wetter parts of Canarvan National Park and hills immediately south of there in inland southern Queensland Australia. On this basis it should immediately be formally listed by state and federal governments as vulnerable, and then monitored on a regular basis to confirm population stability.

Refer also to the relevant comments in Hoser (1989, 1991, 1993, 1996, 2007, 2019a, 2019b).

Etymology: The new species *A. rosswellingtoni* sp. nov. is named in honour of Cliff Ross Wellington of Ramornie, northern New South Wales, Australia in recognition of his many contributions to Australian herpetology, that go well beyond two publications he is a well-known co-author of, namely Wells and Wellington (1984 and 1985).

He has also taken a strong stand against the tyranny of taxonomic vandalism as practiced by Welsh criminal Wolfgang Wüster and his gang of thieves as detailed by Cogger (2014), Hoser (2007, 2009, 2012a, 2012c, 2013, 2015a-f, 2017, 2019a, 2019b), Hawkeswood (2021), ICZN (1991, 2001, 2021) and sources cited therein.

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