

**A further dismemberment of the skink genus *Sphenomorphus* Fitzinger, 1843 (Squamata: Sauria: Scincomorpha) including the formal descriptions of 22 new genera, 5 new subgenera, 21 new species and 4 new subspecies.**

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**ABSTRACT**

A review of the lizard genus *Sphenomorphus* Fitzinger, 1843 as currently recognized has confirmed the obvious in that the putative genus consisting well over 100 recognized species is polyphyletic.

While in the twenty years preceding 2019, numerous species placed within *Sphenomorphus* have been assigned to other genera, either existing or newly created, as of 2023 there remained numerous species groups for which generic assignment within *Sphenomorphus* is not appropriate.

Obviously divergent groups for which generic names are not available are formally placed in newly named genera and subgenera for the first time in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999).

Other “unassigned” members of *Sphenomorphus sensu lato*, and species yet to be named, will need to have their genus level assignment re-assessed in light of this new taxonomy.

The recent indiscriminate placement of clearly divergent newly described species in the genus *Sphenomorphus* because they are shiny Asian skinks, like it is some kind of “rubbish tip for taxonomists and nomenclature” is neither sensible nor scientific.

Relevant herpetologists need to take greater care when assigning a genus to a newly discovered or described taxon and if available evidence shows clear divergence (as seen in examples within this paper), then erection of a new genus should not be something to unreasonably delay.

For the first time ever, this paper provides working genus level diagnoses for most species until now previously placed within *Sphenomorphus*.

**Keywords:** Lizard; skink; taxonomy; Asia; Solomon Islands; New Guinea; Thailand; Malaysia; Indonesia; nomenclature; *Sphenomorphus*; *Lissonata*; *Elania*; *Parotosaurus*; *Otosaurus*; *Crottysaurus*; *Shireenhoserscincus*; new genus; *Longumdigitos*; *Brunneisstellio*; *Paratythoscincus*; *Plenusstellio*; *Redactasquamae*; *Marmoratastellio*; *Brevicurastellio*; *Quasipiscisscincus*; *Ofilllabiireatum*; *Arietesvarious*; *Brevinnaribussuis*; *Silvalizard*; *Invalueruntscincus*; *Piersonstellio*; *Lineatro*; *Brunneismaculis*; *Albummentum*; *Tenebrisspina*; *Tenuisfodiens*; *Tumessuperoculum*; *Dumpedes*; *Absconditaareum*; new subgenus; *Cryptozoscincus*; *Minimascinkus*; *Caudadensissima*; *Fortiscrurascincus*; *Macrocular*, new species; *allengreeri*; *glennsheai*; *kenaplani*; *richardwellsi*; *rosswellingtoni*; *paulwolffi*; *fauciummaculosus*; *levis*; *piscissimilis*; *fortees*; *brunneiscorpus*; *neglectus*; *utrimquepunctata*; *funibus*; *nonvidetur*; *abscondeetus*; *lovelinayi*; *charlespiersoni*; *lateribusfulvis*; *cinereocauda*; *patrickdavidi*; new subspecies; *divergans*; *lineatenebrica*; *veloxmovens*; *currax*.

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## INTRODUCTION

As part of an ongoing review of the genus-level classification of the world's lizards, the genus *Sphenomorphus* Fitzinger, 1843, type species *Scincus muelleri* has been scrutinized by this author.

To that extent, some clearly divergent lineages previously placed in this genus have already been assigned to newly named genera.

One recent example was that of *Crottysaurus* Hoser, 2019, including the two species *C. crottyi* Hoser, 2019 as the type species and *C. buenloicus* (Darevsky and Nguyen, 1983) being the sole members of the genus, although a third species *Crottysaurus yersini* (Nguyen, Nguyen, Nguyen, Orlov and Murphy, 2018) was overlooked by Hoser in 2019 and should also have been assigned to the same genus.

Another genus *Shireenhoserscincus* Hoser, 2019, included four divergent species.

Other genera either recently named or resurrected from synonymy to include species previously placed within *Sphenomorphus* include *Pinoyscincus* Linkem *et al.* 2011, *Tythsoscincus* Linkem *et al.* 2011, *Insulasaurus* Taylor, 1922, *Otosaurus* Gray, 1845, *Parvosscincus* Ferner, Brown and Greer, 1997, *Scincella* Mittleman, 1950 and *Glaphyromorphus* Wells and Wellington, 1984 although this list is far from complete.

The purpose of the study forming the basis of this paper was to audit literature, specimens and other relevant material to find other species groups putatively placed within *Sphenomorphus* that clearly should not be placed in that genus and for which there are presently no available names, with a view to placing them in appropriate genera.

Prior to the publication of this paper, the genus *Sphenomorphus* Fitzinger, 1843 *sensu lato* consisted of well over 100 recognized species, many not even closely related to one another. This fact has been known for decades and so it was a matter of when, not if, these species would be more correctly assigned at the genus-level.

Hence the formulation of this paper.

*Sphenomorphus* Fitzinger, 1843 *sensu lato* as used in this paper, is in reference to all species referred to the genus in the literature cited herein, with an emphasis on the more recent publications, post-dating year 1980, as in the past 4 decades.

## DELAY IN PUBLICATION

The beginnings of this paper were in 2014, and by mid 2015, the main part of what follows was pretty much done.

Several important and informative phylogenies had been published, including that of Pyron *et al.* (2013), which flagged most of the main species groups within *Sphenomorphus* Fitzinger, 1843 *sensu lato*.

However on 9 July 2015, I received an unsolicited email from Glenn Shea in Sydney asking me not to publish on the group until he published "his" big work on the complex, which he said he expected to be by end of that year.

Miffed that Shea was asking me to effectively ditch my own work, I did the ethical thing and agreed to Shea's request on his stated basis that he said he was about to name some 50 species and several new genera, which in terms of the species at least, indicated he had made significantly greater progress on this group than myself and therefore quite appropriately should have priority in opportunity to name the relevant taxa.

Shea wrote of his imminent paper that:

"About 50 new species and several new genera will result from this work."

My own investigations had also shown well over 50 species unnamed in this assemblage and at least a 12 way split of *Sphenomorphus sensu lato* and so Shea's claim was plausible to me and I accepted it on face value.

Being a reasonable person, I immediately replied by email on the same day and then in a later email, even went so far as to tell him I'd give him 2 years to get his act into gear and publish, after

which, I'd return to my manuscript and publish names for those he either missed or if he did not publish at all, the lot of them.

By 2019, it was clear that Shea's alleged 50 species and several new genera were not going to materialize, even though in my reply email of 2015, I also noted that I was about to name several genera within that very assemblage.

In 2015, I'd emailed him saying:

"I had already looked at *Sphenomorphus* and see it being split more than 12 ways (including resurrecting a few synonyms) ... and that's before dealing with associated genera..."

By 2019, being four years later, it was self-evident that Shea's alleged paper was not going to happen.

I noted in 2019 that Shea had been able to spend vast amounts of time trawling Facebook and harassing people, in what was largely time-wasting activities.

Unexpectedly he had also published a few rambling papers dealing with matters way out of his depth, including his unsolicited incursion into the world of turtle taxonomy (Shea *et al.* 2020), which is an area he has never had any professed expertise in.

This is significant as in 2015, he'd given me a list of the taxa he was ostensibly working on, so I would keep my hands off them and not publish on them. Turtles of any kind were not on his long list.

His first taxonomic act in the area of turtles was a diatribe of a "paper" that served no purpose other than to rename *Supremechelys* Hoser, 2014 as *Chelydera* Shea, Thomson and Georges, 2020.

It was simply an act of egregious taxonomic vandalism that created (by his own stated taxonomy) a junior (subjective) synonym to clutter up reptile synonyms lists for years to come.

In fairness to Glenn Shea, he was probably roped into that effort of taxonomic vandalism by listed co-authors Scott Thomson and Arthur Georges, who had by that stage developed a reputation of trying to rename species or genera to steal "name authority" from the earlier authors.

Think for example about the genus *Wollumbinia* Wells, 2007, (see also Wells 2009) and the illegally coined objective junior synonym *Myuchelys* Thomson and Georges, 2009, that they published in the notorious online (PRINO = peer reviewed in name only) "journal" *Zootaxa*.

Since then, the same cohort have been illegally plastering their *Myuchelys* name all over the world-wide-web (of deceit?!)

Shea also published a rubbish paper in the same notorious online (PRINO = peer reviewed in name only) "journal" *Zootaxa* (Shea 2020) that served no effective purpose but to disparage my own earlier reclassification of the Acontinae (Hoser, 2015g).

Again this is one group of reptiles that Shea has no prior known history or expertise in.

Without a shred of evidence, he asserted that most, if not all the names I'd proposed in that massive two volume monograph (Hoser, 2015g), that had followed extensive fieldwork in Africa and North America (which is where these reptiles actually occur ... they are not in Australia) were unavailable according to the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) as amended (ICZN 2012).

That claim was subsequently systematically destroyed by the ICZN in their formal ruling dated 30 April 2021 (ICZN 2021).

In the same 2020 paper Shea had also declared, most, if not all names proposed by myself were "synonyms" without stating whether they were "objective" (then they would be unavailable) or "subjective", which meant they were synonyms in his opinion only.

Of course the latter was the correct situation, meaning the entire ramble was a complete waste of time and space, because he'd not presented a shred of evidence to support his allegations or taxonomic decisions.

That was of course at variance to my original work that was largely based on peer reviewed studies, molecular phylogenies

and the like and therefore was a sound scientific work backed by a verifiable body of evidence.

In other words Shea's 2020 paper made no meaningful contribution to herpetology.

But calling Shea's previously referred to "paper" a "paper" is also a bit of a stretch of the imagination.

After all, it was as far as can be ascertained only published online in the notorious PRINO online "journal" *Zootaxa*, which at least means no trees were killed to produce that "work".

Now I don't want to disparage Glenn Shea too much.

He has published some excellent herpetological works in his time and he has definitely made a contribution to herpetology.

This even includes with respect of *Sphenomorphus* Fitzinger, 1843 *sensu lato*.

As of 2023, he has named two species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* since 2015, that is, just two of his purported 50 species, which I had made a point of not interfering with for no less than 8 years.

He also named two others prior to 2015.

For the record these four taxa were,

"*Sphenomorphus capitolythos* Shea and Michaels, 2008"

"*Sphenomorphus dekkeræ* Shea, 2017"

"*Sphenomorphus fuscolineatus* Greer and Shea, 2004"

"*Sphenomorphus wau* Shea and Allison, 2021"

All herein are placed in *Ofillabiireatum* *gen. nov.*

That is of course a useful contribution to herpetology and cannot be denied.

I used Shea's papers when preparing this and related works, cite them appropriately (see for example the formal descriptions of *Longumdigitos* *gen. nov.* and *Invalueruntscincus* *gen. nov.*) and in this paper I even name a species in his honour in recognition of his works in herpetology.

This is the second such species in *Sphenomorphus* Fitzinger, 1843 *sensu lato* formally named in his honour.

Please note that I used Shea's first and last names as the species name, to avoid creating a potential homonym with earlier named form.

In recognition of Glenn Shea's contributions to herpetology, I have also quite appropriately previously named three other reptiles in his honour, being:

*Cacophis sheai* Hoser, 2014.

*Tiliqua glennsheai* Hoser, 2014.

*Extensudigituscolotes glennsheai* Hoser, 2018.

I also noted that Shea's apparent abandonment of the idea he was going to do a large-scale genus splitting, is not altogether unexpected.

Splitting genera is never a way to win friends and influence people in zoology as Richard Wells and Ross Wellington learnt the hard way in 1985 after they split dozens of overloaded Australian genera (Wells and Wellington, 1984, 1985).

They copped a case before the ICZN, brought on by the envious Richard Shine, who with the equally envious Glenn Shea led the charge and separately asked the ICZN to squash their works in another of his long winded diatribes.

That one was published in the ICZN's own *Bulletin of Zoological Nomenclature* (BZN) (Shea 1987).

Shea ended his rant with: "*I therefore support the proposal (1) (b) in BZN 44:121 to suppress Wells & Wellington (1985) for nomenclatural purposes.*"

Much to Shea's disgust, Wells and Wellington ultimately won the case (ICZN 1991) because contrary to the claims of Shine, Shea, the notorious Wolfgang Wüster and others in the cohort, the majority of scientists actually accepted the validity of most of the taxonomy and nomenclature of Wells and Wellington (1984, 1985) as well as the fact that the rules should not be dispensed with to allow the Shine, Shea, Wüster cohort to burn the historical record and claim for themselves the discoveries of Wells and Wellington.

The ICZN made similar rulings against the Shine, Shea, Wüster cohort again in 2001 and 2021 (ICZN 2001, 2021).

As a result of the first of three ICZN rulings against the Shine, Shea and Wüster cohort in 1991, Wells and Wellington "names" now appear in all contemporary books and relevant papers on Australian reptiles (e.g. *Antaresia*, *Carinascincus*, *Intellagama*, *Acritoscincus*, etc).

But this current position was not before Wells and Wellington lost a lot of friends and their reputations were trashed by jealous "herpetologists" within Australia.

Glenn Shea had another go at getting the dozens of Wells and Wellington genus and species names squashed as far as herpetology was concerned when he published Shea and Sadler (1999) in a non peer reviewed publication.

In that document, the most important part was another alleged forensic assessment by him of the works of Wells and Wellington (1984, 1985) over and above that he sent to the ICZN in 1987.

This time he misquoted the rules of the *International Code of Zoological Nomenclature* to declare most of the hundreds of Wells and Wellington names from Wells and Wellington (1984, 1985) as "probably a *nomen nudem*".

However when I was forced in later years to check the relevant names and scientific descriptions against the prevailing second, third or fourth editions of the *International Code of Zoological Nomenclature* they simply were not *nomen nudem*. The Wells and Wellington names were in every case valid and did not fit the definition within each code of the words "*nomen nudem*" as defined by the ICZN themselves.

Surely Shea could have eliminated any element of doubt with respect of the works of Wells and Wellington and making it clear whether or not the names were or were not, *nomen nudem* as I ended up doing, before deciding whether or not to use them as valid.

The exercise of doing so is not hard in that it merely involved lining up the works of Wells and Wellington with the relevant edition/s of the *International Code of Zoological Nomenclature*. For the record, the publications of Wells and Wellington (1984, 1985) do have shortcomings and while most of the genera and species named by them for the first time are valid and properly named, some are not.

I have dealt with those errors, oversights and the like in other papers.

It is not to be held against Wells and Wellington that some of their taxonomic decisions and even nomenclature are in error, noting the sheer size and scale of their works.

No one is perfect!

However, one thing is abundantly clear.

The ambit claim that most of their names were "probably *nomen nudem*" is patently false.

Glenn Shea also engaged in reckless taxonomic vandalism by synonymising the species "*Cannia weigeli* Wells and Wellington, 1987" with the very different *Cannia australis* (Gray, 1842) immediately after the pair had formally described the very divergent species from north-west Australia (Shea *et al.* 1987). Shea did this with the very unscientific argument that the two purported species were of the same general size and therefore the same thing.

Using the same warped logic, one could treat a large dog and a human as the same species.

Notwithstanding Shea's act of egregious taxonomic vandalism, the Wells and Wellington species "*Cannia weigeli* Wells and Wellington, 1987" has been recognized as distinct for years (see for example Hoser, 2001a-b, the first to publish the validity of the taxon), has long since been validated with numerous molecular studies (e.g. Kuch *et al.* 2005, Maddock *et al.* 2016) and is seen in all contemporary books on Australian venomous snakes including for example Cogger (2014).

For further detail of these actions by Shea with respect of "*Cannia weigeli*", see in this paper, under the etymology for

*Brunneisstellio glennshei* sp. nov.

More recently, Shea *et al.* (2011) engaged in yet more taxonomic vandalism against Wells and Wellington, by overwriting “*Cyrtodactylus abrae* Wells, 2002” by naming it *Cyrtodactylus hoskini* Shea, Couper, Wilmer and Amey, 2011.

Perhaps not by coincidence, they significantly named the taxon in honour of a notorious copyright infringing liar and taxonomic vandal named Conrad Hoskin, from Queensland, Australia. The action was in breach of numerous mandatory parts of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999), the non-mandatory ethical guidelines of the same code as well as the Australian Copyright Act 1968.

In sequence, the details of the action with regards to “*Cyrtodactylus abrae* Wells, 2002” was played out via the publications of Wells and Wellington (1984, 1985), Shine *et al.* (1987), Shea (1987), ICZN (1991), Shea and Sadlier (1999), ICZN (2001), Wells (2002), Couper *et al.* (2004), Shea *et al.* (2011) all distilled in summary form in Hoser (2021) on pages 9-10.

Conrad Hoskin is the guy who most recently got himself onto the Australian Broadcasting Corporation (ABC) online in a fake news story at:

<https://www.abc.net.au/news/science/2023-05-08/gecko-david-attenborough-oedura-monilis-wells-wellington-affair/101509040> claiming to have discovered a new species of gecko in southern Queensland.

In fact his *Oedura elegans* Hoskin, 2019 was an illegally coined junior synonym of *Marlenegecko* (*Marlenegecko*) *shireenhoserae* Hoser, 2017 also known as “*Oedura shireenhoserae* (Hoser, 2017)”.

When the ABC were alerted to the misinformation in their fake news report that had been fed to them directly by Hoskin, they agreed to delete the story from their website as part of wider settlement of a defamation matter (see below).

The fact that a large part of the Hoskin fake news story included an unprovoked Hoskin initiated barrage of unsubstantiated invective against Wells and Wellington, including labelling them as a pair of “terrorists” wasn’t relevant to the reason the fake news story was ultimately removed.

I note also that even as of 2022 and 2023, Shea is not averse to ongoing acts of taxonomic vandalism in direct breach of the rules of the *International Code of Zoological Nomenclature*.

In his book “*A Field Guide to Reptiles of New South Wales*” (Forth edition), (Swan, Sadlier and Shea 2022), included was *Oedura shireenhoserae* (Hoser, 2017). However Shea and coauthors deliberately listed the species incorrectly as “*Oedura elegans*” on pages 37 and 335, which besides being incorrect, is significant as publicly when disparaging my works, Shea had repeatedly publicly stated that he’d use “Hoser names” if and when he accepted the taxonomy and the “Hoser names” had date priority over any others.

The deliberate use of the junior synonym of his mate Conrad Hoskin, instead of the correct ICZN name *Oedura shireenhoserae* (Hoser, 2017) confirms the ongoing contempt for the rules of the ICZN by Glenn Shea.

Recently as curator of a so-called “List of official names for Australian reptiles and frogs” that Shea has co-published online, Shea has overseen the large scale overwriting of dozens of correct ICZN names with illegally coined junior synonyms and made things worse by pretending that the correct ICZN names do not even exist!

Shine, Shea, the notorious Wolfgang Wüster have done the same nefarious taxonomic vandalism to lists of scientific names in a variety of places including “Wikipedia”, and Peter Uetz’s so-called Reptile Database.

That web domain marketing itself is a complete repository of reptile scientific names, synonyms and papers has thousands of missing and incorrect entries in what is perhaps the most serious attempt at taxonomic vandalism in herpetology ever executed.

Most recently in 2022, webmaster Peter Uetz, permanently deleted over 1,000 names and papers on the basis that they were authored by Russians.

This was done in protest at the Russian invasion of Ukraine in 2022, not that the relevant scientists and their works, had anything to do with the Russian government’s decision to invade Ukraine.

Uetz described the removal of non-Russian co-authors works and names as mere “collateral damage”.

Self evidently, shortly after Glenn Shea sent his email to me in 2015, Shea probably abandoned the idea of a big split of *Sphenomorphus* Fitzinger, 1843 *sensu lato* into multiple genera, and the mass naming of unnamed species.

The reason was probably simply that he did not want to put in the work to publish the paper he’d mooted.

However he may have also been worried about getting a number of his associates offside, noting that this included the same cohort who led the charge against Wells and Wellington three decades ago.

One may recall that his good friends, Wolfgang Wüster and Hinrich Kaiser, responded to my earlier works of splitting up snake genera in 2012, creating dozens more and naming what they thought was too many species by publishing various versions of Wüster (2012), later rebadged as Kaiser *et al.* (2013) (as cited herein), Kaiser (2014), Rhodin *et al.* (2015) and so on.

These widely circulated manifesto’s all sought to simply synonymise genera and species I’d erected or named. This often included moving the relevant taxa into completely unrelated groups into which the species had never been placed previously. They did all this without having or needing any proper scientific reason to do so.

When questioned on these egregious acts of taxonomic vandalism, Hinrich Kaiser later admitted in writing that he had no direct knowledge of most of the taxa involved.

In the face of the preceding and a host of other time competing matters, in 2019, I recommenced working on the reclassification of *Sphenomorphus* Fitzinger, 1843 *sensu lato*, including a series of papers on similar and associated genera.

This included the following four major papers, all of which were published in succession in 2019.

Hoser (2019c) reclassified *Emoia* Gray, 1845 *sensu lato* naming 8 new genera and 45 new species.

Hoser (2019d) reclassified *Tropidophorus* Duméril and Bibron, 1839 *sensu lato* naming 4 new genera and 3 new species, noting that quite a few component species had been moved in and out of *Sphenomorphus* by various authors over previous decades.

Hoser (2019e) reclassified *Scincella* Mittleman, 1950 *sensu lato* naming 4 new genera and 6 new species.

Hoser (2019f) reclassified *Lipinia* Gray, 1845, *sensu lato* naming 6 new genera and 27 new species.

You will see that from those four papers alone, and that if ignoring the formally resurrected names, I was able to formally name for the first time ever, 22 new genera and 81 new species.

This is also noting that I chose not to name many other species.

Furthermore, this was before I even dealt with the core of *Sphenomorphus* Fitzinger, 1843 *sensu lato* (this paper), to which I have added another 22 genera and 21 species (totals now being 44 and 102 for the cluster). This is noted to clearly show that Shea’s 2015 claims of being about to name several genera and about 50 new species was on the face of it, completely within reason and believable.

However, the final part of this project, that is, being to deal with that core of species still placed in *Sphenomorphus* as of 2019, ended up taking far longer than expected.

This was in the face of countless competing matters, including unexpected police raids and seizures of relevant materials, which were initiated by business competitors in our wildlife displays domain who sought to attack our successful business to shore

up their own enterprises of lower standard.

A barrage of bizarre court proceedings initiated by some business competitors, resulted in long months on end dealing with gruelling civil trials, many still ongoing as of 2023.

A business rival also got almost the entirety of the Australian media to defame me, in print, on TV and online with claims including I had killed people (I have not), raped ex-wives (I have no ex-wives to rape), had numerous people die at wildlife displays from venomoid (devenomized) snakes regenerating venom and then biting them (never happened or possible), I was planting dangerous snakes in people's homes to get them to call me to catch them and get paid and then admitted to the scam (neither in fact happened), I was a court convicted paedophile (not so) and so on.

That caused no fewer than 4 extremely long, civil defamation matters, involving dozens of publications and the cases spanned 4 years.

All have recently settled by agreement (2023) with the result I was to be paid a small amount of money, to cover my legal bills and a bit extra, and more importantly the relevant "news" reports were to be removed from the world-wide web.

This settlement with multiple media outlets included the removal from the internet of fake news stories initiated by members of the Shine, Shea and Wüster cohort claiming to have discovered and named new species or genera, when in fact they had not. All they had done was cut and pasted from my earlier papers or those of others and rebadged the earlier discoveries as their own in online "papers", usually appearing in the notorious online "journal" *Zootaxa*.

*Zootaxa* is a preferred vehicle of publication by the Shine, Shea and Wüster cohort because it allows them to bypass any credible form of peer review which would otherwise block their material from publication.

In terms of *Sphenomorphus* Fitzinger, 1843 *sensu lato*, most important is that unnamed groups be named and this be sooner, rather than later.

Furthermore the genus or species diagnoses need to be accurate and sufficient to allow third parties to also be able to easily identify the relevant taxa.

In terms of some genera and species, there are also conservation implications for them if they are not properly identified.

Without knowing the relevant species exist, relevant governments cannot manage them (*sensu* Hoser 2019a, 2019b). Without correct genus-level assignment of species, governments are less able to make informed choices as to what species have greater conservation value, if and when competing interests, such as a lack of funds or resources mean only some can be saved from extinction.

It is also trite to say that this paper will most certainly not be the last work on *Sphenomorphus* Fitzinger, 1843 *sensu lato*.

#### MATERIALS, METHODS AND RESULTS

These are inferred in both the abstract and introduction, but as a matter of formality I spell them out in a little more explicit detail. The available literature was examined relevant to the genus *Sphenomorphus* Fitzinger, 1843 *sensu lato* and other phylogenetically close taxa.

Additional to this has been inspection of specimens as required and possible in order to ascertain the classification of the genera or species within the genera, both as defined or including unnamed taxa when they are evident.

Available information in the form of photos of specimens with good available locality data and other information was also utilized in this study.

I also note that, notwithstanding the theft of relevant materials from this author in an illegal armed raid on 17 August 2011, which were not returned in breach of undertakings to the court (Court of Appeal Victoria 2014 and VCAT 2015), I have made a decision to publish this paper, even though it would be

clearly improved if I took some further years to get further data (assuming I don't die of old age in the meantime).

This is in view of the conservation significance attached to the formal recognition of unnamed taxa at all levels and on the basis that further delays may in fact put these presently unnamed or potentially improperly assigned taxa at greater risk of extinction (as outlined by Hoser 2019a, 2019b).

This comment is made noting the extensive increase in human population in the relevant region and the general environmental destruction across the planet as documented by Hoser (1991), including low density areas without a large permanent human population.

I also note the abysmal environmental record of various National, State and Local governments in the relevant region over the past 200 years as detailed by Hoser (1989, 1991, 1993, 1996, 2010 and 2019a-b) in the face of ongoing threats as diverse as introduced species, habitat destruction and modification, introduced pathogens and other factors and combinations thereof.

See also Diesmos (2008).

It is also noteworthy that I cannot guarantee another illegal armed raid on our facility, involving theft of materials and data again at some unspecified date in the future, noting we had to endure a heavily armed raid and seizure of material as recently as this year (2013). Therefore it is important that the taxonomy of this group be largely resolved herein, rather than be potentially delayed indefinitely and run the risk of taxon extinctions being caused by taxa not being properly recognized as detailed by Hoser (2019a, 2019b).

Published literature relevant to the taxonomy and nomenclature adopted within this paper includes the following: Adler *et al.* (1995), Ahl (1933), Allison and Bigilale (2001), Allison *et al.* (1998), Ang and Ng (2016), Annandale (1905, 1909, 1912), Aplin *et al.* (1993), Auffenberg (1980), Auliya (2006), Austin (1995, 1998, 2006), Bacon (1967), Baker (2016, 2017), Barabanov and Milto (2017), Barbour (1909, 1912, 1921), Bartlett (1895), Bauer and Gunther (1992), Bauer *et al.* (2013), Beddome (1870), Beukema (2011), Blackburn (1999), Blyth (1853), Bobrov (1983a, 1983b), Bobrov and Semenov (2006), Boettger (1893, 1895, 1901), Böhme (2014), Boulenger (1887a, 1887b, 1887c, 1890a, 1890b, 1893, 1894, 1895, 1897a, 1897b, 1897c, 1897d, 1898a, 1898c, 1900a, 1900b, 1900c, 1903a, 1903b, 1914), Bourret (1937, 1939), Brongersma (1942a, 1942b, 1948), Brown *et al.* (1995a, 1995b, 2010, 2013), Brown and Alcalá (1980), Brown and Rabor (1967), Brygoo (1985), Bulian (2013), Burt and Burt (1932), Capocaccia (1961), Chan-ard *et al.* (1999, 2015), Chen and Lin (2016), Chen and Lue (1987), Cochran (1927), Cogger (2014), Cox *et al.* (1998), Crombie and Peggil (1999), Currin (2016), Daan and Hillenius (1966), Dammerman (1929), Daniel (2002), Darevsky (1964a, 1964b, 1964c), Darevsky and Nguyen (1983), Darevsky and Orlov (2005), Darevsky *et al.* (1986, 2004), Das (2016), Das *et al.* (2009), Das (2004), Das and Palden (2000), Das and Yaakob (2007), Datta-Roy *et al.* (2013), De Jong (1927), De Lisle *et al.* (2013), de Rooij (1915, 1919), Donnellan and Aplin (1989), Doria (1875, 1888), Dring (1979), Duméril and Bibron (1839), Dunn (1927), Eremchenko (2003), Ferner *et al.* (1997), Fitch (1981), Fitzinger (1843), Galoyan (2017), Galoyan and Geissler (2013), Gawor *et al.* (2016), Geissler *et al.* (2019), Gibson-Hill (1947), Goldberg (2013, 2015a, 2015b, 2016), Goldberg and Grismer (2014a, 2014b), Goldberg and Kraus (2008), Goldberg *et al.* (2017), Grandison (1972), Gray (1845, 1853), Greer (1973, 1974, 1977, 1979, 1982, 1990a, 1990b, 1991a, 1991b, 1997, 2001), Greer and Parker (1967a, 1967b, 1971, 1979), Greer and Shea (2003, 2004), Greer *et al.* (2006), Grismer (2006, 2007, 2008, 2011a-b), Grismer and Quah (2015, 2019), Grismer *et al.* (2008, 2009a, 2009b, 2010, 2013, 2016), Grossmann (2006), Grossmann and Tillack (2005), Günther (1873), Hartmann *et al.* (2010), Hecht *et al.* (2013), Hediger (1934), Honda *et al.* (2000), Hoser (2019c-f), Inger (1958, 1961), Inger and Hosmer (1965), Inger *et al.* (1984, 1990,

2001), Iskandar (1994), Iskandar and Erdelen (2006), Iskandar and Mumpuni (2002), Islam and Saikia (2013), Jayakumar and Nameer (2018), Jestrzanski *et al.* (2013), Kästle and Schleich (2013), Khan (2007), Kinghorn (1928a-b), Koch (2011, 2012), Köhler (2000, 2008), Kopstein (1926, 1938), Kramer (1979), Kraus and Allison (2004), Laidlaw (1901), Lalremsanga *et al.* (2010), Lazell *et al.* (1999), Le *et al.* (2020), Lenz (2012), Leong *et al.* (2002), Li *et al.* (2003), Lidth De Juede (1897, 1905), Lim (1998), Lim and Ng (1999), Linh *et al.* (2019), Linkem *et al.* (2010, 2011), Liu-Yu (1970), Loveridge (1945, 1948), Ma *et al.* (2018), Macleay (1877), Mahony and Ali Reza (2008), Mahony *et al.* (2009), Majumder *et al.* (2013), Malkmus (1985, 1993, 2000), Malkmus *et al.* (2002), Manthey (1983), Manthey and Denzer (1982), Manthey and Grossmann (1997), Manthey and Manthey (2017a, 2017b), McCoy (2000, 2006, 2015), McClure *et al.* (1967), Meiri (2008), Meiri *et al.* (2017), Mell (1922), Mertens (1924, 1930, 1957), Meyer (1874), Mittleman (1950, 1952), Mocquard (1890), Monk *et al.* (1997), Müller (1894, 1895), Murthy (2010), Myers and Donnelly (1991), Mys (1988), Naming and Das (2004), Nanhoe and Ouboter (1987), Nguyen *et al.* (2013, 2018), Nguyen *et al.* (2009), Nguyen *et al.* (2010, 2011, 2012, 2018), Onn *et al.* (2010), Ota and Lue (1994), Palot (2015), Pauwels *et al.* (2000, 2003), Peters (1966), Peters (1867a, 1867b, 1872), Peters and Doria (1878), Pham *et al.* (2015), Pope (1935), Purkayastha and Das (2010), Purkayastha *et al.* (2011), Pyron and Burbrink (2013), Pyron *et al.* (2013), Read (1998), Reeder (2003), Relox *et al.* (2011), Rendahl (1937), Ride *et al.* (1999), Rodriguez *et al.* (2018), Romer (1956), Roux (1910, 1911, 1927), Sacha (2015), Sanguila *et al.* (2016), Sauvage (1879), Schlegel (1837), Schmidler (2013), Sengupta *et al.* (2019), Schmidt (1924, 1925, 1928, 1930, 1932), Setiadi and Hamidy (2006), Shea (2012, 2017a, 2017b), Shea and Allison (2021), Shea and Greer (1998, 1999a, 1999b), Shea and Michels (2008), Siler and Brown (2010), Shrestha (2017), Shreve (1940), Sind (2017), Skinner *et al.* (2013), Slevin and Leviton (1956), Smedley (1932), Smith (1916a, 1916b, 1924, 1925, 1930, 1935, 1937), Stejneger (1907, 1910), Stermfeld (1918), Stoll *et al.* (1964), Stirling and Zietz (1893), Stoliczka (1870, 1872), Stuart and Emmett (2006), Stuart *et al.* (2006), Sumarli and Grismer (2016), Sumarli *et al.* (2016), Tan (1993), Tanner (1951), Taylor (1917, 1922, 1953, 1962, 1963), ter Borg (2005), Teynié *et al.* (2010), Thompson (1912a, 1912b), Treitschke (1839), Tshewang and Letro (2018), Van Denburgh (1912), Venugopal (2010), Vogt (1911, 1912, 1928, 1932), Walker (1894), Wall (1908), Welch *et al.* (1990), Werner (1896, 1901, 1913, 1922), Whitaker *et al.* (1982), Whiting *et al.* (2003), Wanger *et al.* (2011), Weber (1890), Wu (2015), Yamasaki *et al.* (2001), Yang *et al.* (1989), Zhao and Adler (1993), Ziegler (2002), Ziegler *et al.* (2015), Zug and Allison (2006), Zug *et al.* (1998), Zweifel (1980) and sources cited therein. These scientific publications constitute a body of evidence to support the taxonomic conclusions within this paper and the nomenclature that follows.

I note that a blog war cry known as Kaiser *et al.* (2013) has alleged that a massive body of evidence from thousands of herpetologists, similar to that cited herein does not constitute scientific evidence on the basis that himself and his non-scientist mates, including Wulf Schleip, Wolfgang Wüster and Mark O'Shea did not write the relevant peer reviewed scientific papers.

In reviewing the relevant literature, it became apparent that many species have been described more than once and names commonly synonymised.

This paper does not list synonymies as they have been previously published within the references just cited.

All species recognized herein are done so on the basis of morphological differences and usually biogeographical divergence from nearest relatives. Most but not all have also been subject of molecular studies that have also flagged the herein formally named taxa.

Therefore, included herein are 21 newly described species and 4 subspecies for which there are no previously available names.

#### SOME KEY POINTS ON THE TAXONOMIC DECISIONS MADE HEREIN

While the genus and species descriptions below effectively summarize the results of the audit of *Sphenomorphus sensu lato*, it is important that relevant considerations in terms of most of the decisions is spelt out first.

Without exception, each newly named species is allopatric to their nearest congener and without known gene flow. Each is also morphologically and reproductively divergent and therefore fits the general diagnosis of being different species.

Most of the taxa named as new species have also been separated from one another by significant divergence in molecular studies as cited above.

Where there has been an absence of molecular evidence, biogeographical evidence also makes the same case for division, especially when matched with similarly separated forms with molecular evidence available. The alternative evidence may include isolation by water bodies, including at times of glacial maxima, competing species and other potential barriers or eliminating factors.

Divergent, newly named and resurrected from synonymy genera can be seen appropriately placed in the published molecular phylogenies of Honda *et al.* (2000), Skinner *et al.* (2013), Pyron *et al.* (2013) and Rodriguez *et al.* (2018) and others including earlier phylogenies published by Greer and others, where the relevant species groups are usually listed as "*Sphenomorphus*". As a rule, the divergent species or groups simply match the new genus level entities.

I note that the previously cited peer reviewed studies Honda *et al.* (2000), Skinner *et al.* (2013), Pyron *et al.* (2013) and Rodriguez *et al.* (2018) and others like them have been labelled "unscientific" and "not peer reviewed" by the ratbag bunch known as the Wüster gang, via their war cry manifesto Kaiser *et al.* (2013).

Wüster has decided that he alone shall usurp the authority of the International Commission of Zoological Nomenclature as stated explicitly in Kaiser *et al.* (2013).

In terms of the following formal descriptions in accordance with the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) the following points should be noted:

- 1/ All descriptions of specimens in terms of form and colour relate to normal adult male specimens of typical form for each taxon and with original (non regenerated tails) unless otherwise stated.
- 2/ Spellings of names assigned to taxa should not be altered in any way unless mandated by the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) or superseding nomenclatural rules.
- 3/ In the unlikely event a first reviser seeks to merge any taxa formally named herein, the name to be used is that of the first name used in terms of page priority, also as listed in the abstract keywords.
- 4/ There is no conflict of interest in terms of this paper or the conclusions arrived at herein.
- 5/ The following taxa are formally named in accordance with the rules of ICZN as published in the *International Code of Zoological Nomenclature* (Ride *et al.* 1999). I do not use the alternative illegal nomenclature of the ever changing rules of the Wolfgang Wüster gang, as detailed in a blog document known as Wüster (2012), rebadged as Kaiser *et al.* (2013) (cited herein), as frequently amended since.

I also do not support the other illegal actions of the cohort, including thefts of live reptiles from wildlife displays, attempted theft of ICZN name authority by way of plagiarization of earlier papers and acts of taxonomic vandalism, unlawful telephone threats to kill (as confirmed in the law courts), physical and sexual violence against vulnerable women and children (as confirmed in the law courts), scientific fraud, running thousands of fake social media accounts for the purposes of spreading hate and lies (as confirmed in the law courts), scamming money from funding bodies on false pretexts and other unlawful activity, as

detailed by Goodman (2019), Hoser (2009, 2012a-b, 2013a-b, 2015a-f, 2016a, 2016b, 2019a-b) and sources cited therein. In case it has not already been made clear, I note that in the 5 years preceding this publication, Australian law courts have found against members of the Wolfgang Wüster gang for acts of theft of snakes, criminal damage to property, intellectual property theft, trademark infringement, copyright infringement, making false complaints to government authorities to instigate illegal armed raids, running thousands of fake social media accounts for illegal activities, an unlawful attempt to defraud the Accor Hotels Group, shooting native aboriginals, supporting international terrorist groups including ISIS, perjury and other serious criminal actions. Penalties have included fines, jail, numerous court restraining orders, as well as payment of damages and restitution (e.g. Goodman 2019).

6/ Reference in the following descriptions to *Sphenomorphus* Fitzinger, 1843 *sensu lato* is to all species referred to the genus in the literature cited herein, with an emphasis on the more recent publications, post-dating year 1980 as in the past 4 decades, these being the relevant concepts of the genus *Sphenomorphus* by other publishing herpetologists at the present time.

7/ Until the time this paper's writing was commenced (year 2019), all species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* have been defined as follows: Shiny, smooth-scaled skink lizards with prefrontals present, parietals in contact behind the interparietal, supranasals absent, lower eyelid scaly, medial pair of preloacals enlarged, the inner preloacals overlapping the outer ones, hindlimbs with five digits, scales on dorsal surface of fourth toe in two or more rows over at least half of digit (Taylor 1963; Greer 1979, 1990; Shea and Greer 2002; Greer *et al.* 2006; Grismer 2008; Nguyen *et al.* 2011).

These traits remain diagnostic for all genera defined within this paper in addition to those specific to each newly erected genus and the preceding paragraph applies to each description herein and should be treated as part of each formal description, even if not formally cited, used, or referred to within any.

8/ Notwithstanding dates cited in the text of this paper, all online citations and references within this paper, were most recently checked as still online "as cited" on 6 May 2023.

#### A SUMMARY OF THE TAXONOMIC ACTIONS HEREIN

Due to the large number of species within *Sphenomorphus*, including dozens of undescribed forms, this paper will not represent the last word on the taxonomy and nomenclature of this group of lizards.

As a result of the actions herein, the genus *Sphenomorphus* Fitzinger, 1843, believed for some time to have a type species *Gongylus (Lygosoma) melanopogon* Duméril and Bibron, 1839 was to be herein restricted to that type species group only.

However it has recently been shown that the type species for the genus is in fact *Scincus muelleri* Schlegel, 1837 (see Schmidler 2013). This means that the genus name *Elania* Gray, 1845, type species *Scincus muelleri* Schlegel, 1837 is an objective junior synonym for the name *Sphenomorphus* and is therefore effectively unavailable.

In terms of other species and groups found mainly east of Weber's Line, (generally including all the Moluccas and east of there including New Guinea, islands to the north and immediate south and east to include the Solomon Islands, the following general actions have been taken.

*Sphenomorphus* Fitzinger, 1843, as above, is retained as a valid genus.

The genus *Elania* Gray, 1845, type species *Scincus muelleri* Schlegel, 1837 was to be resurrected from synonymy of *Sphenomorphus* due to the depth of divergence of the type species from what was thought to be the nominate *Sphenomorphus* species being *Lygosoma melanopogon* Duméril and Bibron, 1839, estimated by Skinner *et al.* (2013) at Fig. 1. at over 20 MYA.

Relevant species in the "corrected" genus *Sphenomorphus* therefore includes the following New Guinean taxa:

*Sphenomorphus muelleri* (Schlegel, 1837),

*S.pratti* (Boulenger, 1903),

*S. neuhaussi* (Vogt, 1911),

*S. latifasciatus* (Meyer, 1874),

*S. wollastoni* (Boulenger, 1914).

An allied species group is placed in a newly named genus on the basis of depth of divergence between the previous two genera. This is the group with the type species *Lygosoma (Hinulia) jobiense* Meyer, 1874, herein named according to the rules of the *International Code of Zoological Nomenclature* as *Brunneisstellio gen. nov.* That group diverged from *Elania* more than 15 MYA according to Skinner *et al.* (2013) at Fig. 1. It has long been recognized as a species complex (Austin, 2006, Donnellan and Aplin 1989) and this paper formally names six readily diagnosed species for the first time as well as resurrecting two others from synonymy.

While a case could be made to place all three of the preceding genera (including *Sphenomorphus sensu stricto*) into one single entity on the basis that all do form a monophyletic group, I have not done this on the basis that the divergence between each is great and beyond that seen in other genus level splits in skink lizards (quite often less than 10 MYA). On that basis one could and should define the three groups as paraphyletic at the genus level of division as done herein for the first time.

For each group the time of divergence from common ancestor is estimated to be in excess of 15 MYA. Furthermore the species-level diversity of each of the three genera has been clearly under-estimated in the past, with at least two widespread putative species (one per separate genus) being composite.

As, has been already noted, the *Gongylus (Lygosoma) melanopogon* Duméril and Bibron, 1839 species group no longer has a correct generic assignment, the relevant species are herein placed into the newly erected genus *Longumdigitos gen. nov.*

The generic name *Parotosaurus* Boulenger, 1914 is herein resurrected for the three relevant New Guinea species identified by Boulenger (1914).

The relevant species in that genus are:

*Parotosaurus mimikanus* Boulenger, 1914 (type species),

*P. annectens* (Boulenger, 1897).

*P. granulatus* (Boulenger, 1903).

The genus *Plenusstellio gen. nov.* is formally erected to accommodate the species *Lygosoma concinnatus* Boulenger, 1887 and associated species.

Two morphologically similar species to the preceding are herein placed in the new genus *Terilibraetfatua gen. nov.*

The genus *Marmoratstellio gen. nov.* type species *Lygosoma (Hinulia) sima* Sauvage, 1879 (AKA *Sphenomorphus simus*) is formally erected to accommodate three (and possibly more) divergent New Guinea species, for which names may already be available.

The genus *Brevicrurastellio gen. nov.* type species *Sphenomorphus transversus* Greer and Parker, 1971 is formally erected to accommodate three relevant divergent species from the Solomon Islands, one of which is formally named for the first time.

The genus *Quasipisciscincus gen. nov.* type species *Sphenomorphus bignelli* Schmidt, 1932 is erected to accommodate diminutive forms from the Solomon Islands and nearby New Guinea, two of which are formally named for the first time.

The genus *Ofillabiireatum gen. nov.* type species *Ofillabiireatum abscondeetus sp. nov.* is formally erected to accommodate a large assemblage of skinks in the so-called "maindroni group" or *Lygosoma (Hinulia) maindroni* Sauvage, 1879 species complex, which is an assemblage with a centre of origin apparently in the

New Guinea region, but including species from the Solomon Islands and Indonesia.

A subgenus *Cryptozoscincus subgen. nov.* type species *Lygosoma solomonis* Boulenger, 1887 includes a divergent assemblage, largely allopatric to the above nominate subgenus, also occurring throughout the Solomons and New Guinea and including numerous species.

Another subgenus *Minimascinkus subgen. nov.* type species *Lygosoma (Hinulia) consobrinum* Peters and Doria, 1878 includes species found mainly south and west of New Guinea.

The genus *Arietesvarious gen. nov.* type species *Tropidophorus darlingtoni* Loveridge, 1945 includes an assemblage generally found in and near the central New Guinea Cordillera. This genus also includes the newly named subgenus, namely, *Arietesvarious subgen. nov.* with type species *Lygosoma (Hinulia) schultzei* Vogt, 1911.

The new genus *Brevinnaribussuis subgen. nov.* with type species *Lygosoma louisiadense* Boulenger, 1903 and new subgenus *Fortiscrurascincus subgen. nov.* with a type species *Lygosoma aignanus* Boulenger, 1898 include east New Guinean taxa.

All other species formerly placed within *Sphenomorphus* generally occur west of Wallace's Line, with a few outliers in Sulawesi, Indonesia, these other species being found in south-east Asia, including as far north as China and as far west as India, also including Sundaland and Indo-China.

They are also divided into a number of genera for which some names are available and others need to be erected as done herein.

The genus *Lissonata* Blyth, 1853, type species *Lissonata maculatus* Blyth, 1853 with a distribution centred on Indochina is resurrected from the synonymy of *Sphenomorphus* in an action that should have been done decades ago.

The genus *Silvalizard gen. nov.* type species *Hinulia Indica* Gray, 1853 with a distribution centred on Indochina and the Malay Peninsula includes an assemblage closely related to *Lissonata*, Blyth, 1853, but sufficiently divergent from this group to be treated as a full genus.

A new species, from Trang, southern Thailand, closely related to *S. scotophilus* (Boulenger, 1900)

is formally named as *S. lovelinayi sp. nov.*

Within *Lissonata*, Blyth, 1853, two new subspecies are formally named.

Slightly more divergent again from both preceding genera is the newly erected genus *Invalueruntscincus gen. nov.* type species *Lygosoma (Hinulia) variegatum* Peters, 1867 consisting mainly of Sundaland / Philippine species. The newly erected subgenus in this genus *Macrocular subgen. nov.* includes two divergent species from Borneo.

A new genus *Piersonstellio gen. nov.* type species *Piersonstellio charlespiersoni sp. nov.* is erected to accommodate divergent species from the Malay Peninsula region, that have been shown in various phylogenetic studies, including Honda *et al.* (2000) and Pyron *et al.* (2013) to not be a part of other putative *Sphenomorphus* groups.

Two divergent Philippines species placed within the putative genus *Sphenomorphus*, but with close affinities to *Parvosincus* Ferner, Brown and Greer, 1997 would if a choice were to be made, be placed within *Parvosincus*. In any event the published molecular phylogenies including those of Linkem *et al.* (2011), and Pyron *et al.* (2013), make their placement in *Sphenomorphus* untenable.

Instead, and based on divergences in molecular studies summarized by Pyron *et al.* (2013), both are herein placed in their own newly named genera.

These are *Lineatro gen. nov.* to accommodate the species "*Sphenomorphus diwata* Brown and Rabor, 1967" and *Brunneismaculis gen. nov.* to accommodate the species "*Lygosoma (Hinulia) acutum* Peters, 1864".

Both genera are monotypic and in each case, detailed investigations have shown neither putative species to be composite.

The genus *Tytthoscincus* Linkem *et al.* 2011, type species *Lygosoma hallieri* Lidth De Juede, 1905 (comprising species formerly included in *Sphenomorphus*) is split along phylogenetic lines, with the most divergent members of the group, being placed in a new genus. This is the species originally described as *Sphenomorphus aesculeticola* Inger, Lian, Lakim and Yambun, 2001, and a closely related similar form from Mt. Kinabulu, Borneo, the latter of which is morphologically divergent from the former and apparently separated by a low elevation region of apparently unsuitable habitat.

A new genus *Paratyttoscincus gen. nov.* is erected to accommodate these two species.

*Otosaurus cumingi* Gray, 1845, currently treated as monotypic for the genus *Otosaurus* Gray, 1845 is herein split into three morphologically distinct species, two formally named for the first time, noting there may be further undescribed species within the genus.

The two new species appear to have been isolated from one another in line with known biogeographical barriers and bioregions in the Philippines as outlined in Linkem *et al.* (2011). The type form as described by Gray (1845), Peters (1867) and Boulenger (1887) conforms with southern Philippines (Mindanao) specimens as described by Taylor (1922).

Some other clearly divergent Asian forms, improperly placed in the genus *Sphenomorphus* are reassigned to newly erected genera.

"*Sphenomorphus apalpebratus* Datta-Roy, Das, Bauer, Lyngdoh-Tron and Karanth, 2013" from India should never have been placed in *Sphenomorphus*. The original authors had compelling molecular and morphological evidence not to do so.

Therefore the species is placed in the new genus *Albummentum gen. nov.*

"*Sphenomorphus cryptotis* Darevsky, Orlov and Cuc, 2004" of northern Vietnam is herein placed in the new genus *Tenebrissspina gen. nov.*

"*Sphenomorphus sheai* Nguyen, Nguyen, Van Devender, Bonkowski and Ziegler, 2013" from central / southern Vietnam in the region of the Kontum Plateau is placed in the new genus *Tenuisfodiens gen. nov.*

"*Leptoseps tetradactylus* Darevsky and Orlov, 2005", more recently placed in *Sphenomorphus* by

Nguyen *et al.* (2009) and later authors is also assigned to a new genus. It clearly fits in neither preceding genera.

The new genus is *Absconditaurem gen. nov.*

The divergent "*Siaphos tridigitus* Bourett, 1939", assigned to *Sphenomorphus* by Greer *et al.* (2006) is assigned to the new genus *Tumessuperoculum gen. nov.*, with the population from Bolovens Plateau in Laos being formally described as a new species, *Tumessuperoculum patrickdavidii sp. nov.*, based on consistent morphological divergence and disjunct distribution from the type population of "*Siaphos tridigitus* Bourett, 1939", this being a zone of lower elevation and habitat not suitable for the relevant species.

This new genus differs from most species of so-called "*Sphenomorphus*" by having the upper temporal scale overlapping the lower one (as a rule, that is occasionally broken) (instead of the opposite condition).

I should note here that the Bolovens Plateau in Laos is likely an area of high endemism and to date has not been heavily studied by herpetologists. This is of major concern in view of the rapid rate of habitat destruction going on there in the face of a massively increasing human population.

The long-legged and active species "*Sphenomorphus dussumieri* (Duméril and Bibron, 1839)" originally described as "*Lygosoma dussumieri*" from south-west peninsula India is assigned to the new genus *Dumpedes gen. nov.*



**LONGUMDIGITOS GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:5B5ED322-0DE5-4651-B327-8FF13376FAB9**

**Type species:** *Gongylus (Lygosoma) melanopogon* Duméril and Bibron, 1839.

**Diagnosis:** Until the time this paper's writing was commenced (year 2019), all species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* have been defined as follows: Shiny, smooth-scaled skink lizards with prefrontals present, parietals in contact behind the interparietal, supranasals absent, lower eyelid scaly, medial pair of preloacals enlarged, the inner preloacals overlapping the outer ones, hindlimbs with five digits, scales on dorsal surface of fourth toe in two or more rows over at least half of digit (Taylor 1963; Greer 1979, 1990; Shea and Greer 2002; Greer *et al.* 2006; Grismer 2008; Nguyen *et al.* 2011).

These traits remain diagnostic for all genera defined within this paper in addition to those specific to each newly erected genus and the preceding applies to each description herein.

*Longumdigitos gen. nov.* (this genus as newly defined), are separated from all other similar species by having the combination of finely striate dorsal scales, the imbricate scales on the dorsal surface of the pes extending onto the plantar surface between the fourth and fifth digits, and three or more supraoculars contacting the frontal. It can be further differentiated from species within *Invalueruntscincus gen. nov.* (better known as the "*variegatus*" group) also with these preceding character states by the combination of smoothly rounded subdigital lamellae, presence of auricular lobules and the postmental modally only contacting a single infralabial on each side. When present, the black throat is also a useful diagnostic character (modified from Shea, 2012).

The entirety of this genus has in the past been synonymised within the type species. Based on obvious morphological divergences across known biogeographical barriers, forms from North New Guinea, South New Guinea and Flores are recognized as full species. The forms from the Kei and Aru Islands are also tentatively recognized as separate species, but this may be in error.

Forms from generally west of Flores as described by Dunn (1927) are herein treated as synonymous with *L. florense* (Weber, 1890), but this placement is also tentative.

**Distribution:** Indonesia (Java eastwards on most larger islands due east, to include New Guinea, both north and south of the main cordillera).

**Etymology:** The Latin "*Longumdigitos*" means long toes, which is an accurate portrayal of all species in the newly named genus.

**Content:** *Longumdigitos melanopogon* (Duméril and Bibron, 1839) (type species); *L. florense* (Weber, 1890); *L. kühnei* (Roux, 1910); *L. meyeri* (Doria, 1875); *L. papuensis* Macleay, 1877.

**BRUNNEISSTELLIO GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:50E62C23-0778-43C5-9C08-B00F049C4A28**

**Type species:** *Lygosoma (Hinulia) jobiense* Meyer, 1874.

**Diagnosis:** The genus *Brunneisstellio gen. nov.* is separated from species in all other genera previously treated as being within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following suite of characters: Rostral in contact with a divided or undivided frontonasal and sometimes an additional azygous shield; no supranasal; nasal entire; upper and lower loreal; 5-8 supraoculars, the anterior ones in contact with the frontal (nos. 3-4); 37-48 midbody scale rows, 23-29 lamellae under fourth toe.

Until now (year 2019), all species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* including species within this genus, have been defined as follows: Shiny, smooth-scaled skink lizards with prefrontals present, parietals in contact behind the interparietal, supranasals absent, lower eyelid scaly, medial pair of preloacals enlarged, the inner preloacals overlapping the outer ones, hindlimbs with five digits, scales on dorsal surface of fourth toe in two or more rows over at least half of digit (Taylor

1963; Greer 1979, 1990; Shea and Greer 2002; Greer *et al.* 2006; Grismer 2008; Nguyen *et al.* 2011).

These traits remain diagnostic for all genera defined within this paper in addition to those specific to this newly erected genus given above.

The entirety of this genus has in the past been synonymised within the type species. Based on obvious morphological divergences across known biogeographical barriers, previously described forms from North-east New Guinea, islands south of New Guinea and the Duke of York Island, north of New Britain are recognized as full species. Other authors who have recognized the putative taxon *B. jobiensis* as a species complex include Donnellan and Aplin (1989), Allison, Bickford, Richards and Torr (1998) and Allison and Bigilale (2001).

Donnellan and Aplin (1989) provided a molecular and morphological basis to separate a further five species within the so-called "*jobiensis*" complex deferring naming them on the basis of a need to obtain further material. Noting the haste at which humans are destroying habitat in the said region, it is untenable that known species remain undescribed and at heightened risk of extinction, which is why all are formally named within this paper. I also note that one of the authors of Donnellan and Aplin (1989), Ken Aplin, died in January 2019, meaning that failure to formally name the relevant taxa now could lead to this important conservation act being further delayed indefinitely and by which stage, one or more may become extinct (see Hoser 2019a, 2019b).

A sixth unnamed taxon from the Milne Bay area is also formally named for the first time.

**Distribution:** New Guinea, including offshore islands both north and south of the main cordillera as well as the Admiralty Islands and the Bismarck Archipelago.

**Etymology:** In Latin, the name "*Brunneisstellio*" means "brown skink" or "brown lizard".

**Content:** *Brunneisstellio jobiensis* (Meyer, 1874) (type species); *B. allengreeri sp. nov.*; *B. glennsheai sp. nov.*; *B. kenaplina sp. nov.*; *B. megaspila* (Günther 1877); *B. paulwoolfi sp. nov.*; *B. richardwellsi sp. nov.*; *B. rosswellingtoni sp. nov.*; *B. rufum* (Boulenger, 1887).

**BRUNNEISSTELLIO ALLENGREERI SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:6E045B22-DEE6-4F53-B7F7-A089BACB8B69**

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R118742 collected from near the near Apia River, in the Southern Highlands Province, Papua New Guinea, Latitude 6.09 S., Longitude 142.46 E.

This government-owned facility allows access to their holdings.

**Paratypes:** 7 preserved specimens at the Australian Museum in Sydney, New South Wales, Australia, specimen numbers R118743-745, R118747-748, R118751-752 all collected at Bobole in the Southern Highlands Province, Papua New Guinea, Latitude 6.12 S., Longitude 142.46 E. at about 1100 metres elevation about 7.5 km south of the type locality.

**Diagnosis:** The putative taxon, *Brunneisstellio jobiensis* (Meyer, 1874), the type species for the genus has long been recognized as a composite species (e.g. Donnellan and Aplin 1989).

Nine species are recognized herein and separated from one another in this description.

All otherwise conform to the genus diagnosis in this paper.

All are separated from one another by the following unique suites of characters:

*B. jobiensis* with a type locality of Jobi (AKA Yapen) Island, West Papua, Indonesia, is separated from the other eight species by having 38 mid-body rows and 20-27 lamellae under toe 4 and a dorsal colouration that is generally light yellowish-brown with irregular and broken darker reddish brown crossbands and large dark brownish-black patches behind the eye and onto the sides

of the neck to above the front legs.

*B. rufum* (Boulenger, 1887), with a type locality of Wokam Island, Aru Islands, Indonesia, is separated from the other eight species by having 32-36 midbody rows, 7-8 upper labials, 6-7 lower labials and 19-22 lamellae under the fourth toe and is of similar colouration to *B. jobiensis*.

*B. megaspila* (Günther, 1877) with a type locality of Duke of York Island, East New Britain Province, Papua New Guinea is separated from the other eight species by having 44-48 midbody rows.

*B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. all from New Guinea in a region generally bounded by Morobe province in the east, Jayapura in the West and also south of the central Cordillera in hilly regions, including near the southern coastline are all readily separated from the other four species (3 above and *B. paulwoolffi* sp. nov. described below) by colouration.

All except *B. rosswellingtoni* sp. nov. have a reduced amount of dark pigment behind the eye and above the front leg as compared to the other four species. While this varies between the relevant species and individual specimens, invariably the dark markings range from nothing, to (most commonly) a squareish black patch behind the eye and another smaller patch around and above the tympanum with no significant black patches above the front legs. Exceptional to the preceding is the species, *B. rosswellingtoni* sp. nov. which is unique among all nine species in having a well-defined uninterrupted black dorsolateral stripe running down either side of the body.

The dorsal colouration of the five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov., as well as a sixth species, *B. megaspila* while variable, is generally chocolate brown with ill-defined darker and/or lighter crossbands, depending on the species, separating these species from both *B. jobiensis* and *B. rufum* whose colour is already described above.

In all species, crossbands are usually of ill-defined blackish or yellowish bands, also being flecked and of ill-defined shape.

The five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. are identified by Donnellan and Aplin (1989) as being within four groups of species.

Group one conforms with *B. allengreeri* sp. nov., group 2 with *B. glennsheai* sp. nov., group 3 with *B. kenaplina* sp. nov. and group 4 with *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov..

Their group 4 specimens in turn fitted two clades, clade K being that of *B. richardwellsi* sp. nov. and clade L, M, and N being that of *B. rosswellingtoni* sp. nov..

For further detail or explanation, refer to Donnellan and Aplin (1989), in particular Fig 2. at page 86.

The authors stated that from morphological data presented they were either unable to or had difficulty in differentiating the relevant taxa. However a simple cross-checking of non-overlapping traits and those which did between certain groups, showed it was easily possible to differentiate all five species from one another on the basis of each character suite as given in the relevant table in Donnellan and Aplin (1989), and no other detail was in fact required.

The descriptions below do have some added diagnostic information to make separation of the relevant species even easier.

In turn those species are separated from the other four on the basis on the information given herein.

*B. allengreeri* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea is separated from all of *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-41 midbody scale rows, 85-98 paravertebral scales, 23-30 subdigital lamellae, 9-11 supralabials, 4-5 presuboculars, 10-12 supraciliaries.

*B. glennsheai* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. rosswellingtoni* sp. nov. is separated from the four species *B. allengreeri* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-39 midbody scale rows, 74-78 paravertebral scales (alone separating this species from the other four), 27-28 subdigital lamellae, 9-10 supralabials, 3 presuboculars, 9-10 supraciliaries.

*B. kenaplina* sp. nov. from Morobe Province, of Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 84 paravertebral scales, 23 subdigital lamellae, 9 supralabials, 3 presuboculars, 10 supraciliaries.

*B. kenaplina* sp. nov. is further separated from all other eight species by colouration. In this species the dorsum is a deep chocolate brown with reasonably well-defined black crossbands on the anterior half of the body. The flanks have scattered tiny white spots that are bright and distinct and well spaced, that do not merge to form any sort of markings or bands, or are otherwise marbled in colouration as seen in the other species. In common with *B. paulwoolffi* sp. nov. this species is separated from the other seven by having a particularly strong demarcation between the brown colouration of the upper labials, flanks of neck and upper forelimb, when contrasted with the whitish lower surfaces. *B. kenaplina* sp. nov. is also separated from all other 8 species by having a series of closely spaced black spots running along the upper labials, in a line and running continuously onto the upper flank of the forelimb, terminating at the elbow, whereupon the limb is brownish in colour with small black flecks.

*B. richardwellsi* sp. nov. from the Torricelli Mountains, Sandaun Province (formerly West Sepik), north-western Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 83-88 paravertebral scales, 25-28 subdigital lamellae, 8 supralabials, 3 presuboculars, 9-10 supraciliaries. The species is also characterised and separated from all others by having an orangeish head with pink upper labials and no obvious spot or bar under the eye, the upper labials being generally peppered as opposed to being punctuated with darker spots or blotches as seen in all the other species. The dorsum and flanks of the body is dark brown with irregular yellow crossbands which become broken near the venter. The dorsum of the (original) tail is brown with well-defined yellow cross bands of irregular shape.

*B. rosswellingtoni* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. glennsheai* sp. nov. is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. richardwellsi* sp. nov. as well as the other four species in the genus by the presence of an uninterrupted black dorsolateral stripe running down either side of the flanks. *B. rosswellingtoni* sp. nov. is further identified by the following suite of characters: 40-41 midbody scale rows, 80-90 paravertebral scales, 28-30 subdigital lamellae, 9 supralabials, 3-4 presuboculars, 9-10 supraciliaries, giving it a scalation similar to that of the geographically divergent *B. richardwellsi* sp. nov., that also being the species it is most phylogenetically closest to.

*B. paulwoolffi* sp. nov. from the Milne Bay area of Papua New Guinea is separated from all other species by the presence of a significant amount of black behind the eye, around and above the ear and further including a large black square immediately above the front leg on the upper flank, followed by smaller black triangles on the upper flanks, which in some specimens sometimes coalesces with triangles on the sides of the back giving an appearance of having cross-bands centred over the dorsolateral lines. The dorsal colouration is otherwise dark brown and the (original) tail is different in that it is characterised by large but irregular dark blackish or greyish spots or blotches along the

top and sides of the anterior half. The upper labials have large areas of black or dark grey, including on the lower parts of the anterior upper labials, separated by light pigment, but not in any even or spotted configuration, the only consistency being that there is invariably a large dark rectangle running from the bottom of an upper labial to the lower part of the eye, the vertical sides being the longer part of the rectangle.

**Distribution:** *B. allengreeri* sp. nov. is known only from the Southern Highlands and Chimbu Provinces of Papua New Guinea, south of the main central cordillera. Exact (known) distribution information can be found on page 82 of Donnellan and Aplin (1989).

**Etymology:** Named in honour of Allen E. Greer of Mudgee, New South Wales, Australia, formerly curator of herpetology at the Australian Museum in Sydney, Australia, in recognition of his work on skinks worldwide and other significant contributions to herpetology in Australia, including successfully petitioning the ICZN to stand up against taxonomic vandalism by Richard Shine, Glenn Shea and their cohort (Greer 1987).

**BRUNNEISSTELLIO GLENNISHEAI SP. NOV.**

**LSID**Durn:lsid:zoobank.org:act:370D00E4-12E8-4973-BFEF-8DB5C8C46F99

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R115388 collected from Haia, in the Chimbu Province, Papua New Guinea, Latitude 6.42 S., Longitude 145.00 E.

This government-owned facility allows access to their holdings.

**Paratypes:** 1/ A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R115390 collected from Haia, in the Chimbu Province, Papua New Guinea, Latitude 6.42 S., Longitude 145.00 E.

2/ A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R118757 collected from Waro, in the Southern Highlands Province, Papua New Guinea, Latitude 6.32 S., Longitude 143.11 E.

**Diagnosis:** The putative taxon, *Brunneisstellio jobiensis* (Meyer, 1874), the type species for the genus has long been recognized as a composite species (e.g. Donnellan and Aplin 1989).

Nine species are recognized herein and separated from one another in this description.

All otherwise conform to the genus diagnosis in this paper.

All are separated from one another by the following unique suites of characters:

*B. jobiensis* with a type locality of Jobi (AKA Yapen) Island, West Papua, Indonesia, is separated from the other eight species by having 38 mid-body rows and 20-27 lamellae under toe 4 and a dorsal colouration that is generally light yellowish-brown with irregular and broken darker reddish brown crossbands and large dark brownish-black patches behind the eye and onto the sides of the neck to above the front legs.

*B. rufum* (Boulenger, 1887), with a type locality of Wokam Island, Aru Islands, Indonesia, is separated from the other eight species by having 32-36 midbody rows, 7-8 upper labials, 6-7 lower labials and 19-22 lamellae under the fourth toe and is of similar colouration to *B. jobiensis*.

*B. megaspila* (Günther, 1877) with a type locality of Duke of York Island, East New Britain Province, Papua New Guinea is separated from the other eight species by having 44-48 midbody rows.

*B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. all from New Guinea in a region generally bounded by Morobe province in the east, Jayapura in the West and also south of the central Cordillera in hilly regions, including near the southern coastline are all readily separated from the other four species (3 above and *B. paulwoolfi* sp. nov. described below) by colouration.

All except *B. rosswellingtoni* sp. nov. have a reduced amount of dark pigment behind the eye and above the front leg as

compared to the other four species. While this varies between the relevant species and individual specimens, invariably the dark markings range from nothing, to (most commonly) a squareish black patch behind the eye and another smaller patch around and above the tympanum with no significant black patches above the front legs. Exceptional to the preceding is the species, *B. rosswellingtoni* sp. nov. which is unique among all nine species in having a well-defined uninterrupted black dorsolateral stripe running down either side of the body.

The dorsal colouration of the five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov., as well as a sixth species, *B. megaspila* while variable, is generally chocolate brown with ill-defined darker and/or lighter crossbands, depending on the species, separating these species from both *B. jobiensis* and *B. rufum* whose colour is already described above.

In all species, crossbands are usually of ill-defined blackish or yellowish bands, also being flecked and of ill-defined shape.

The five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. are identified by Donnellan and Aplin (1989) as being within four groups of species.

Group one conforms with *B. allengreeri* sp. nov., group 2 with *B. glennsheai* sp. nov., group 3 with *B. kenaplina* sp. nov. and group 4 with *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov.. Their group 4 specimens in turn fitted two clades, clade K being that of *B. richardwellsi* sp. nov. and clade L, M, and N being that of *B. rosswellingtoni* sp. nov..

For further detail or explanation, refer to Donnellan and Aplin (1989), in particular Fig 2. at page 86.

The authors stated that from morphological data presented they were either unable to or had difficulty in differentiating the relevant taxa. However a simple cross-checking of non-overlapping traits and those which did between certain groups, showed it was easily possible to differentiate all five species from one another on the basis of each character suite as given in the relevant table in Donnellan and Aplin (1989), and no other detail was in fact required.

The descriptions below do have some added diagnostic information to make separation of the relevant species even easier.

In turn those species are separated from the other four on the basis on the information given herein.

*B. allengreeri* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea is separated from all of *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-41 midbody scale rows, 85-98 paravertebral scales, 23-30 subdigital lamellae, 9-11 supralabials, 4-5 presuboculars, 10-12 supraciliaries.

*B. glennsheai* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. rosswellingtoni* sp. nov. is separated from the four species *B. allengreeri* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-39 midbody scale rows, 74-78 paravertebral scales (alone separating this species from the other four), 27-28 subdigital lamellae, 9-10 supralabials, 3 presuboculars, 9-10 supraciliaries.

*B. kenaplina* sp. nov. from Morobe Province, of Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 84 paravertebral scales, 23 subdigital lamellae, 9 supralabials, 3 presuboculars, 10 supraciliaries.

*B. kenaplina* sp. nov. is further separated from all other eight species by colouration. In this species the dorsum is a deep chocolate brown with reasonably well-defined black crossbands on the anterior half of the body. The flanks have scattered tiny white spots that are bright and distinct and well spaced, that

do not merge to form any sort of markings or bands, or are otherwise marbled in colouration as seen in the other species. In common with *B. paulwoolffi* sp. nov. this species is separated from the other seven by having a particularly strong demarcation between the brown colouration of the upper labials, flanks of neck and upper forelimb, when contrasted with the whitish lower surfaces. *B. kenaplina* sp. nov. is also separated from all other 8 species by having a series of closely spaced black spots running along the upper labials, in a line and running continuously onto the upper flank of the forelimb, terminating at the elbow, whereupon the limb is brownish in colour with small black flecks. *B. richardwellsi* sp. nov. from the Torricelli Mountains, Sandaun Province (formerly West Sepik), north-western Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 83-88 paravertebral scales, 25-28 subdigital lamellae, 8 supralabials, 3 presuboculars, 9-10 supraciliaries. The species is also characterised and separated from all others by having an orangeish head with pink upper labials and no obvious spot or bar under the eye, the upper labials being generally peppered as opposed to being punctuated with darker spots or blotches as seen in all the other species. The dorsum and flanks of the body is dark brown with irregular yellow crossbands which become broken near the venter. The dorsum of the (original) tail is brown with well-defined yellow cross bands of irregular shape.

*B. rosswellingtoni* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. glennsheai* sp. nov. is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. richardwellsi* sp. nov. as well as the other four species in the genus by the presence of an uninterrupted black dorsolateral stripe running down either side of the flanks. *B. rosswellingtoni* sp. nov. is further identified by the following suite of characters: 40-41 midbody scale rows, 80-90 paravertebral scales, 28-30 subdigital lamellae, 9 supralabials, 3-4 presuboculars, 9-10 supraciliaries, giving it a scalation similar to that of the geographically divergent *B. richardwellsi* sp. nov., that also being the species it is most phylogenetically closest to.

*B. paulwoolffi* sp. nov. from the Milne Bay area of Papua New Guinea is separated from all other species by the presence of a significant amount of black behind the eye, around and above the ear and further including a large black square immediately above the front leg on the upper flank, followed by smaller black triangles on the upper flanks, which in some specimens sometimes coalesces with triangles on the sides of the back giving an appearance of having cross-bands centred over the dorsolateral lines. The dorsal colouration is otherwise dark brown and the (original) tail is different in that it is characterised by large but irregular dark blackish or greyish spots or blotches along the top and sides of the anterior half. The upper labials have large areas of black or dark grey, including on the lower parts of the anterior upper labials, separated by light pigment, but not in any even or spotted configuration, the only consistency being that there is invariably a large dark rectangle running from the bottom of an upper labial to the lower part of the eye, the vertical sides being the longer part of the rectangle.

**Distribution:** *B. glennsheai* sp. nov. is known only from the Southern Highlands and Chimbu Provinces of Papua New Guinea, south of the main central cordillera. Exact (known) distribution information can be found on page 82 of Donnellan and Aplin (1989).

**Etymology:** Named in honour of Glenn Shea of Rozelle, Sydney, New South Wales, Australia, in recognition of his work on skinks worldwide and other significant contributions to herpetology in Australia, including those relevant papers cited herein.

I note that in naming this species in honour of Glenn Shea, the second *Sphenomorphus*-type skink named in his honour (the first being "*Sphenomorphus sheai* Nguyen, Nguyen, Devender,

Bonkowski and Ziegler, 2013"), I am highlighting his positive work spanning decades and ignoring his negative actions, some of which were potentially very damaging to herpetology and wildlife conservation worldwide (outlined earlier in this paper) and which if successful could have caused far more negative outcomes than all his positive actions combined.

These negative actions included petitioning the ICZN in December 1987 to formally suppress the works of Richard Wells and Ross Wellington (Shea, 1987) so that himself and others could steal name authority from them.

Shea, young at the time and aspiring to a career in herpetological taxonomy, clearly saw the attempt to squash the works of Wells and Wellington (1983, 1985a, 1985b) as an opportunity for himself and others in a cohort now known as Wolfgang Wüster gang of thieves to steal the work of Wells and Wellington and appropriate themselves the credit for ostensibly "discovering" species in what can only be described as a brazen attempt at theft (see Greer 1987).

Fortuitously the ICZN ruled against the thieves and taxonomic vandals in 1991 (ICZN 1991), by ruling against Shea (1987) and similar submissions that group carpet-bombed the ICZN with at the time.

This meant that Wells and Wellington's names were the valid ones under the rules of the ICZN (as they always had been) and these two men got appropriate historical credit for their works. In a similar vein, Shea improperly hastily synonymised the species *Cannia weigeli* Wells and Wellington, 1987 with the better known "*Pseudechis australis* (Gray, 1842)" (Shea *et al.* 1988) on totally dubious and improper grounds, noting that in reality he had not a single shred of scientific evidence to refute the excellent work of Wells and Wellington (1987) in any way, shape or form, in fact that in fact put the survival of the entire species at risk.

While many of the scientific descriptions of Wells and Wellington (1985 in particular) were charged by many others as being vague or too brief, a criticism that did have some validity in some cases (see Hoser 2016a for detail), this was certainly not the case for the formal description of *Cannia weigeli* Wells and Wellington, 1987, which stands as one of the most detailed and accurate scientific descriptions of any Australian reptile species up to that date (1987), clearly cross-referencing all similar species and explaining obvious differences between them.

The action by Shea to pretend that *Cannia weigeli* did not exist and the associated aggressive cross-marketing of the synonymy by the pseudoscientists in the Wolfgang Wüster gang of thieves effectively meant that this species became effectively lost to science, until Hoser (2001a-b) published detailed and independent confirmation of the validity of the taxon.

This was at a critically important time when the invasive Cane Toads *Rhinella marina* (Linnaeus, 1758), were about to overrun the Kimberley District in Western Australia. This was where the snake occurred, putting the entire population at risk. This was due to the inability of native Australian elapid species, including this species, to survive after feeding on the poisonous toads.

By good luck and not good management, the species did fortuitously survive the toads until Hoser (2001a-b) resurrected the species *Cannia weigeli* Wells and Wellington, 1987 (albeit after the population took a major thumping), allowing other scientists to study the taxon and plan ways to ensure the ongoing survival of the species in the face of yet more human created threats.

Hoser (2019a, 2019b) detailed the probable extinction of an Australian Lizard as a result of a similar act of improper synonymisation of a species-level taxon first properly identified by Wells and Wellington in 1985, by the same Wolfgang Wüster gang of thieves.

The Victorian species *Tympanocryptis pinguicollis* (Mitchell, 1948), was not so lucky and was thought to be almost certainly extinct in 1999 due to the reckless actions of the Wolfgang Wüster gang of thieves. (An extant population of *T. pinguicollis*

west of Melbourne was formally identified by way of media release in early 2023).

To Glenn Shea's credit, he has at times in the post year 2000 period, made a point of not supporting attempts to steal the works of Hoser, Wells and others in the Wolfgang Wüster gang of thieves via their acts of extremist taxonomic vandalism, although more recently (2022), he seems to have decided to join them in stealing works of others (see earlier in this paper).

He has not always supported the gang's more recent war cry known as Kaiser *et al.* (2013) as amended.

He also recommended against publication of one or more works of taxonomic vandalism by the Wolfgang Wüster gang of thieves in the relevant PRINO journals (e.g. the so-called paper of Wulf Schleip 2014, that merely stole without attribution the work of Hoser, 2000, in breach of ICZN rules and copyright laws), but Shea's "expert advice" in this matter was ignored by both authors and publishers, leading to yet more negative science and wildlife conservation outcomes.

It is notable that while publicly claiming to be champions of the scientific principle of peer review, the Wolfgang Wüster gang of thieves (AKA Kaiser *et al.*) in fact avoid peer review for all their own publications and invariably only publish their acts of pseudo-science and taxonomic vandalism in their own in house "journals" or others in which they are able to actively bypass any form of credible peer review.

Their main vehicle of publication of their acts of taxonomic vandalism has been the PRINO online "journal" *Zootaxa*, which holds the rules of the ICZN in complete contempt (see Hoser 2015a-f for examples and detail).

#### **BRUNNEISSTELLIO KENAPLINI SP. NOV.**

**LSID**Durn:lsid:zoobank.org:act:EE0887F5-B2B5-46A5-8941-E8AA74F3CFC9

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R118758 collected from Wau, in the Morobe Province, Papua New Guinea, Latitude 7.20 S., Longitude 146.43 E. This facility allows access to their holdings.

**Diagnosis:** The putative taxon, *Brunneisstellio jobiensis* (Meyer, 1874), the type species for the genus has long been recognized as a composite species (e.g. Donnellan and Aplin 1989).

Nine species are recognized herein and separated from one another in this description.

All otherwise conform to the genus diagnosis in this paper.

All are separated from one another by the following unique suites of characters:

*B. jobiensis* with a type locality of Jobi (AKA Yapen) Island, West Papua, Indonesia, is separated from the other eight species by having 38 mid-body rows and 20-27 lamellae under toe 4 and a dorsal colouration that is generally light yellowish-brown with irregular and broken darker reddish brown crossbands and large dark brownish-black patches behind the eye and onto the sides of the neck to above the front legs.

*B. rufum* (Boulenger, 1887), with a type locality of Wokam Island, Aru Islands, Indonesia, is separated from the other eight species by having 32-36 midbody rows, 7-8 upper labials, 6-7 lower labials and 19-22 lamellae under the fourth toe and is of similar colouration to *B. jobiensis*.

*B. megaspila* (Günther, 1877) with a type locality of Duke of York Island, East New Britain Province, Papua New Guinea is separated from the other eight species by having 44-48 midbody rows.

*B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* all from New Guinea in a region generally bounded by Morobe province in the east, Jayapura in the West and also south of the central Cordillera in hilly regions, including near the southern coastline are all readily separated from the other four species (3 above and *B. paulwoolfi sp. nov.* described below) by colouration.

All except *B. rosswellingtoni sp. nov.* have a reduced amount of dark pigment behind the eye and above the front leg as compared to the other four species. While this varies between the relevant species and individual specimens, invariably the dark markings range from nothing, to (most commonly) a squareish black patch behind the eye and another smaller patch around and above the tympanum with no significant black patches above the front legs. Exceptional to the preceding is the species, *B. rosswellingtoni sp. nov.* which is unique among all nine species in having a well-defined uninterrupted black dorsolateral stripe running down either side of the body.

The dorsal colouration of the five species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.*, as well as a sixth species, *B. megaspila* while variable, is generally chocolate brown with ill-defined darker and/or lighter crossbands, depending on the species, separating these species from both *B. jobiensis* and *B. rufum* whose colour is already described above.

In all species, crossbands are usually of ill-defined blackish or yellowish bands, also being flecked and of ill-defined shape.

The five species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* are identified by Donnellan and Aplin (1989) as being within four groups of species.

Group one conforms with *B. allengreeri sp. nov.*, group 2 with *B. glennsheai sp. nov.*, group 3 with *B. kenaplina sp. nov.* and group 4 with *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.*. Their group 4 specimens in turn fitted two clades, clade K being that of *B. richardwellsi sp. nov.* and clade L, M, and N being that of *B. rosswellingtoni sp. nov.*.

For further detail or explanation, refer to Donnellan and Aplin (1989), in particular Fig 2. at page 86.

The authors stated that from morphological data presented they were either unable to or had difficulty in differentiating the relevant taxa. However a simple cross-checking of non-overlapping traits and those which did between certain groups, showed it was easily possible to differentiate all five species from one another on the basis of each character suite as given in the relevant table in Donnellan and Aplin (1989), and no other detail was in fact required.

The descriptions below do have some added diagnostic information to make separation of the relevant species even easier.

In turn those species are separated from the other four on the basis on the information given herein.

*B. allengreeri sp. nov.* from the Southern Highlands and Chimbu Provinces, of Papua New Guinea is separated from all of *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 37-41 midbody scale rows, 85-98 paravertebral scales, 23-30 subdigital lamellae, 9-11 supralabials, 4-5 presuboculars, 10-12 supraciliaries.

*B. glennsheai sp. nov.* from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. rosswellingtoni sp. nov.* is separated from the four species *B. allengreeri sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 37-39 midbody scale rows, 74-78 paravertebral scales (alone separating this species from the other four), 27-28 subdigital lamellae, 9-10 supralabials, 3 presuboculars, 9-10 supraciliaries.

*B. kenaplina sp. nov.* from Morobe Province, of Papua New Guinea is readily separated from the four species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 40 midbody scale rows, 84 paravertebral scales, 23 subdigital lamellae, 9 supralabials, 3 presuboculars, 10 supraciliaries.

*B. kenaplina sp. nov.* is further separated from all other eight species by colouration. In this species the dorsum is a deep chocolate brown with reasonably well-defined black crossbands

on the anterior half of the body. The flanks have scattered tiny white spots that are bright and distinct and well spaced, that do not merge to form any sort of markings or bands, or are otherwise marbled in colouration as seen in the other species. In common with *B. paulwoolffi* sp. nov. this species is separated from the other seven by having a particularly strong demarcation between the brown colouration of the upper labials, flanks of neck and upper forelimb, when contrasted with the whitish lower surfaces. *B. kenaplina* sp. nov. is also separated from all other 8 species by having a series of closely spaced black spots running along the upper labials, in a line and running continuously onto the upper flank of the forelimb, terminating at the elbow, whereupon the limb is brownish in colour with small black flecks. The distribution of *B. kenaplina* sp. nov. presumably extends some distance east of the type locality, but the extent is as yet not known.

*B. richardwellsi* sp. nov. from the Torricelli Mountains, Sandaun Province (formerly West Sepik), north-western Papua New Guinea is readily separated from the four species *B. allengreeeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 83-88 paravertebral scales, 25-28 subdigital lamellae, 8 supralabials, 3 presuboculars, 9-10 supraciliaries. The species is also characterised and separated from all others by having an orangeish head with pink upper labials and no obvious spot or bar under the eye, the upper labials being generally peppered as opposed to being punctuated with darker spots or blotches as seen in all the other species. The dorsum and flanks of the body is dark brown with irregular yellow crossbands which become broken near the venter. The dorsum of the (original) tail is brown with well-defined yellow cross bands of irregular shape.

*B. rosswellingtoni* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. glennsheai* sp. nov. is readily separated from the four species *B. allengreeeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. richardwellsi* sp. nov. as well as the other four species in the genus by the presence of an uninterrupted black dorsolateral stripe running down either side of the flanks. *B. rosswellingtoni* sp. nov. is further identified by the following suite of characters: 40-41 midbody scale rows, 80-90 paravertebral scales, 28-30 subdigital lamellae, 9 supralabials, 3-4 presuboculars, 9-10 supraciliaries, giving it a scalation similar to that of the geographically divergent *B. richardwellsi* sp. nov., that also being the species it is most phylogenetically closest to.

*B. paulwoolffi* sp. nov. from the Milne Bay area of Papua New Guinea is separated from all other species by the presence of a significant amount of black behind the eye, around and above the ear and further including a large black square immediately above the front leg on the upper flank, followed by smaller black triangles on the upper flanks, which in some specimens sometimes coalesces with triangles on the sides of the back giving an appearance of having cross-bands centred over the dorsolateral lines. The dorsal colouration is otherwise dark brown and the (original) tail is different in that it is characterised by large but irregular dark blackish or greyish spots or blotches along the top and sides of the anterior half. The upper labials have large areas of black or dark grey, including on the lower parts of the anterior upper labials, separated by light pigment, but not in any even or spotted configuration, the only consistency being that there is invariably a large dark rectangle running from the bottom of an upper labial to the lower part of the eye, the vertical sides being the longer part of the rectangle.

**Distribution:** *B. kenaplina* sp. nov. is known only from the region near the type locality in Morobe Province, Papua New Guinea, north of the main central cordillera. Exact (known) distribution information can be found on page 82 of Donnellan and Aplin (1989).

**Etymology:** Named in honour of Ken Aplin (died 2018) of Australia, in recognition of his significant contributions in

Zoology, in particular with reference to reptiles in Australia and New Guinea and Mammals in New Guinea and nearby regions. Significantly, he was approached by Wolfgang Wüster in 1998 and again a few years later, who begged him to publish a paper renaming the Pilbara Death Adder species *Acanthophis wellsei* Hoser, 1998, with a newly coined name with Wüster to be listed as a co-author. According to Aplin, Wüster told Aplin he would write the entire paper and that he would also shop for and get other co-authors to list on the paper in order to make it harder for myself (Raymond Hoser) to finger blame for the action on any single person as the perpetrator of the act of taxonomic vandalism.

Instead of agreeing to Wüster's nefarious request, Aplin instead phoned myself and told me the details of Wüster's actions. Over a number of years, Aplin also provided myself with access to specimens in his care at both the Western Australian Museum in Perth, Western Australia and again at the Australian National Wildlife Collection in Canberra, ACT, while curator of herpetological collections at both facilities.

Significantly as of 2019, Wüster is still trying to convince people that I, Raymond Hoser am a taxonomic vandal and that the species *Acanthophis wellsei* Hoser, 1998, is nothing more than a mutant Desert Death Adder *Acanthophis pyrrhus* Boulenger, 1898.

This is in spite of significant published genetic work by Aplin and Donnellan and others, dating as far back as 1999 confirming the extreme divergence of the two species.

On the website controlled by his close mate, Peter Uetz, known as "The Reptile Database" at:

<http://reptile-database.reptarium.cz/species?genus=Acanthophis&species=wellsi>

Wüster has made Uetz write the following:

**"Synonymy:** Not listed by COGGER 2000. The name was emended to wellsii as the species was described in honor of Richard Wells. *Acanthophis wellsii* donnellani HOSER 2002 may be a synonym of *A. wellsii* (WÜSTER, pers. comm. 15 Dec 2010)."

This was the exact text on the Uetz site as recently as 22 August 2019, which when it was last checked.

It may be trite to note that five years prior, Cogger (2014) at page 859 not only chose to list *Acanthophis wellsei* Hoser, 1998 as a valid species (and with the scientific name spelt correctly! ... unlike Wüster, who chose to use an incorrect spelling so as to disrupt scientific databases and the like), but Cogger (2014) also made it clear at page 978, that he did not agree with Wüster's improper actions in terms of disrupting the science of herpetology with his Kaiser *et al.* (2013) war cry and their associated acts of taxonomic vandalism.

To that end, Cogger (2014) used the correct ICZN names for relevant reptile species and not those later illegally coined names by Wüster's gang of thieves that they had created in breach of the rules of the ICZN, in breaches of copyright laws and in breach of scientific ethics as well.

In passing, I note that "*Acanthophis wellsii* donnellani HOSER 2002" is also a valid species level taxon in spite of the incessant protestations to the contrary by Wüster, whom it is likely will one day in the future publish *his* alleged discovery of this fact, by once again stealing the work of myself and/or others.

See also Hoser (2016a) in terms of Wüster's illegal renaming of *Acanthophis lancasteri* Wells and Wellington, 1985. Obviously the correct ICZN name *A. lancasteri* Wells and Wellington, 1985 should be used for that taxon.

**BRUNNEISSTELLIO RICHARDWELLSI SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:A5F01B07-A972-4D4D-9337-33119185A4F**

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R119537 collected from Wigote, in the Sandaun Province (formerly the West Sepik Province), Papua New Guinea, Latitude 3.27 S.,

Longitude 142.09 E.

This government owned facility allows access to their holdings.

**Paratypes:** Two preserved specimens at the Australian Museum in Sydney, New South Wales, Australia, specimen numbers R119538 and R119539 collected from Wigote, in the Sandaun Province (formerly the West Sepik Province), Papua New Guinea, Latitude 3.27 S., Longitude 142.09 E.

**Diagnosis:** The putative taxon, *Brunneisstello jobiensis* (Meyer, 1874), the type species for the genus has long been recognized as a composite species (e.g. Donnellan and Aplin 1989).

Nine species are recognized herein and separated from one another in this description.

All otherwise conform to the genus diagnosis in this paper.

All are separated from one another by the following unique suites of characters:

*B. jobiensis* with a type locality of Jobi (AKA Yapen) Island, West Papua, Indonesia, is separated from the other eight species by having 38 mid-body rows and 20-27 lamellae under toe 4 and a dorsal colouration that is generally light yellowish-brown with irregular and broken darker reddish brown crossbands and large dark brownish-black patches behind the eye and onto the sides of the neck to above the front legs.

*B. rufum* (Boulenger, 1887), with a type locality of Wokam Island, Aru Islands, Indonesia, is separated from the other eight species by having 32-36 midbody rows, 7-8 upper labials, 6-7 lower labials and 19-22 lamellae under the fourth toe and is of similar colouration to *B. jobiensis*.

*B. megaspila* (Günther, 1877) with a type locality of Duke of York Island, East New Britain Province, Papua New Guinea is separated from the other eight species by having 44-48 midbody rows.

*B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* all from New Guinea in a region generally bounded by Morobe province in the east, Jayapura in the West and also south of the central Cordillera in hilly regions, including near the southern coastline are all readily separated from the other four species (3 above and *B. paulwoolffi sp. nov.* described below) by colouration.

All except *B. rosswellingtoni sp. nov.* have a reduced amount of dark pigment behind the eye and above the front leg as compared to the other four species. While this varies between the relevant species and individual specimens, invariably the dark markings range from nothing, to (most commonly) a squareish black patch behind the eye and another smaller patch around and above the tympanum with no significant black patches above the front legs. Exceptional to the preceding is the species, *B. rosswellingtoni sp. nov.* which is unique among all nine species in having a well-defined uninterrupted black dorsolateral stripe running down either side of the body.

The dorsal colouration of the five species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.*, as well as a sixth species, *B. megaspila* while variable, is generally chocolate brown with ill-defined darker and/or lighter crossbands, depending on the species, separating these species from both *B. jobiensis* and *B. rufum* whose colour is already described above.

In all species, crossbands are usually of ill-defined blackish or yellowish bands, also being flecked and of ill-defined shape.

The five species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* are identified by Donnellan and Aplin (1989) as being within four groups of species.

Group one conforms with *B. allengreeri sp. nov.*, group 2 with *B. glennsheai sp. nov.*, group 3 with *B. kenaplina sp. nov.* and group 4 with *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.*

Their group 4 specimens in turn fitted two clades, clade K being that of *B. richardwellsi sp. nov.* and clade L, M, and N being that of *B. rosswellingtoni sp. nov.*

For further detail or explanation, refer to Donnellan and Aplin (1989), in particular Fig 2. at page 86.

The authors stated that from morphological data presented they were either unable to or had difficulty in differentiating the relevant taxa. However a simple cross-checking of non-overlapping traits and those which did between certain groups, showed it was easily possible to differentiate all five species from one another on the basis of each character suite as given in the relevant table in Donnellan and Aplin (1989), and no other detail was in fact required.

The descriptions below do have some added diagnostic information to make separation of the relevant species even easier.

In turn those species are separated from the other four on the basis on the information given herein.

*B. allengreeri sp. nov.* from the Southern Highlands and Chimbu Provinces, of Papua New Guinea is separated from all of *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 37-41 midbody scale rows, 85-98 paravertebral scales, 23-30 subdigital lamellae, 9-11 supralabials, 4-5 presuboculars, 10-12 supraciliaries.

*B. glennsheai sp. nov.* from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. rosswellingtoni sp. nov.* is separated from the four species *B. allengreeri sp. nov.*, *B. kenaplina sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 37-39 midbody scale rows, 74-78 paravertebral scales (alone separating this species from the other four), 27-28 subdigital lamellae, 9-10 supralabials, 3 presuboculars, 9-10 supraciliaries.

*B. kenaplina sp. nov.* from Morobe Province, of Papua New Guinea is readily separated from the four species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. richardwellsi sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 40 midbody scale rows, 84 paravertebral scales, 23 subdigital lamellae, 9 supralabials, 3 presuboculars, 10 supraciliaries.

*B. kenaplina sp. nov.* is further separated from all other eight species by colouration. In this species the dorsum is a deep chocolate brown with reasonably well-defined black crossbands on the anterior half of the body. The flanks have scattered tiny white spots that are bright and distinct and well spaced, that do not merge to form any sort of markings or bands, or are otherwise marbled in colouration as seen in the other species. In common with *B. paulwoolffi sp. nov.* this species is separated from the other seven by having a particularly strong demarcation between the brown colouration of the upper labials, flanks of neck and upper forelimb, when contrasted with the whitish lower surfaces. *B. kenaplina sp. nov.* is also separated from all other 8 species by having a series of closely spaced black spots running along the upper labials, in a line and running continuously onto the upper flank of the forelimb, terminating at the elbow, whereupon the limb is brownish in colour with small black flecks. The distribution of *B. kenaplina sp. nov.* presumably extends some distance east of the type locality, but the extent is as yet not known.

*B. richardwellsi sp. nov.* from the Torricelli Mountains, Sandaun Province (formerly West Sepik Province), north-western Papua New Guinea is readily separated from the four species *B. allengreeri sp. nov.*, *B. glennsheai sp. nov.*, *B. kenaplina sp. nov.* and *B. rosswellingtoni sp. nov.* by the following suite of characters: 40 midbody scale rows, 83-88 paravertebral scales, 25-28 subdigital lamellae, 8 supralabials, 3 presuboculars, 9-10 supraciliaries. The species is also characterised and separated from all others by having an orangeish head with pink upper labials and no obvious spot or bar under the eye, the upper labials being generally peppered as opposed to being punctuated with darker spots or blotches as seen in all the other species. The dorsum and flanks of the body is dark brown with irregular yellow crossbands which become broken near the venter. The

dorsum of the (original) tail is brown with well-defined yellow cross bands of irregular shape.

*B. rosswellingtoni* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. glennsheai* sp. nov. is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. richardwellsi* sp. nov. as well as the other four species in the genus by the presence of an uninterrupted black dorsolateral stripe running down either side of the flanks. *B. rosswellingtoni* sp. nov. is further identified by the following suite of characters: 40-41 midbody scale rows, 80-90 paravertebral scales, 28-30 subdigital lamellae, 9 supralabials, 3-4 presuboculars, 9-10 supraciliaries, giving it a scalation similar to that of the geographically divergent *B. richardwellsi* sp. nov., that also being the species it is most phylogenetically closest to.

*B. paulwoolffi* sp. nov. from the Milne Bay area of Papua New Guinea is separated from all other species by the presence of a significant amount of black behind the eye, around and above the ear and further including a large black square immediately above the front leg on the upper flank, followed by smaller black triangles on the upper flanks, which in some specimens sometimes coalesces with triangles on the sides of the back giving an appearance of having cross-bands centred over the dorsolateral lines. The dorsal colouration is otherwise dark brown and the (original) tail is different in that it is characterised by large but irregular dark blackish or greyish spots or blotches along the top and sides of the anterior half. The upper labials have large areas of black or dark grey, including on the lower parts of the anterior upper labials, separated by light pigment, but not in any even or spotted configuration, the only consistency being that there is invariably a large dark rectangle running from the bottom of an upper labial to the lower part of the eye, the vertical sides being the longer part of the rectangle.

**Distribution:** Known only from the region of the Torricelli Mountains in Sandaun Province, north-western Papua New Guinea.

**Etymology:** Named in honour of Richard Wells of Lismore, New South Wales, Australia in recognition of his significant contributions to herpetology in Australia, being best known for the publications Wells and Wellington (1983, 1985a, 1985b), but with numerous major positive contributions in other ways in herpetology in Australia both pre-dating those publications and also post-dating them and continuously to the year 2019.

**BRUNNEISSTELLIO ROSSWELLINGTONI SP. NOV.**  
LSIDurn:lsid:zoobank.org:act:C45E87D7-6562-4583-A201-587CD3B48FDB

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R115391 collected from Haia, in the Chimbu Province, Papua New Guinea, Latitude 6.42 S., Longitude 145.00 E. This facility allows access to their holdings.

**Paratypes:** 1/ A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R118761 collected from Namasado, in the Southern Highlands Province, Papua New Guinea, Latitude 6.15 S., Longitude 142.17 E.

2/ A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R118760 collected from Waro, in the Southern Highlands Province, Papua New Guinea, Latitude 6.32 S., Longitude 143.11 E.

**Diagnosis:** The putative taxon, *Brunneisstellio jobiensis* (Meyer, 1874), the type species for the genus has long been recognized as a composite species (e.g. Donnellan and Aplin 1989).

Nine species are recognized herein and separated from one another in this description.

All otherwise conform to the genus diagnosis in this paper.

All are separated from one another by the following unique suites of characters:

*B. jobiensis* with a type locality of Jobi (AKA Yapen) Island, West

Papua, Indonesia, is separated from the other eight species by having 38 mid-body rows and 20-27 lamellae under toe 4 and a dorsal colouration that is generally light yellowish-brown with irregular and broken darker reddish brown crossbands and large dark brownish-black patches behind the eye and onto the sides of the neck to above the front legs.

*B. rufum* (Boulenger, 1887), with a type locality of Wokam Island, Aru Islands, Indonesia, is separated from the other eight species by having 32-36 midbody rows, 7-8 upper labials, 6-7 lower labials and 19-22 lamellae under the fourth toe and is of similar colouration to *B. jobiensis*.

*B. megaspila* (Günther, 1877) with a type locality of Duke of York Island, East New Britain Province, Papua New Guinea is separated from the other eight species by having 44-48 midbody rows.

*B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. all from New Guinea in a region generally bounded by Morobe province in the east, Jayapura in the West and also south of the central Cordillera in hilly regions, including near the southern coastline are all readily separated from the other four species (3 above and *B. paulwoolffi* sp. nov. described below) by colouration.

All except *B. rosswellingtoni* sp. nov. have a reduced amount of dark pigment behind the eye and above the front leg as compared to the other four species. While this varies between the relevant species and individual specimens, invariably the dark markings range from nothing, to (most commonly) a squareish black patch behind the eye and another smaller patch around and above the tympanum with no significant black patches above the front legs. Exceptional to the preceding is the species, *B. rosswellingtoni* sp. nov. which is unique among all nine species in having a well-defined uninterrupted black dorsolateral stripe running down either side of the body.

The dorsal colouration of the five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov., as well as a sixth species, *B. megaspila* while variable, is generally chocolate brown with ill-defined darker and/or lighter crossbands, depending on the species, separating these species from both *B. jobiensis* and *B. rufum* whose colour is already described above.

In all species, crossbands are usually of ill-defined blackish or yellowish bands, also being flecked and of ill-defined shape.

The five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. are identified by Donnellan and Aplin (1989) as being within four groups of species.

Group one conforms with *B. allengreeri* sp. nov., group 2 with *B. glennsheai* sp. nov., group 3 with *B. kenaplina* sp. nov. and group 4 with *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov..

Their group 4 specimens in turn fitted two clades, clade K being that of *B. richardwellsi* sp. nov. and clade L, M, and N being that of *B. rosswellingtoni* sp. nov..

For further detail or explanation, refer to Donnellan and Aplin (1989), in particular Fig 2. at page 86.

The authors stated that from morphological data presented they were either unable to or had difficulty in differentiating the relevant taxa. However a simple cross-checking of non-overlapping traits and those which did between certain groups, showed it was easily possible to differentiate all five species from one another on the basis of each character suite as given in the relevant table in Donnellan and Aplin (1989), and no other detail was in fact required.

The descriptions below do have some added diagnostic information to make separation of the relevant species even easier.

In turn those species are separated from the other four on the basis on the information given herein.

*B. allengreeri* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea is separated from all of *B.*



*glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-41 midbody scale rows, 85-98 paravertebral scales, 23-30 subdigital lamellae, 9-11 supralabials, 4-5 presuboculars, 10-12 supraciliaries.

*B. glennsheai* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. rosswellingtoni* sp. nov. is separated from the four species *B. allengreeri* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-39 midbody scale rows, 74-78 paravertebral scales (alone separating this species from the other four), 27-28 subdigital lamellae, 9-10 supralabials, 3 presuboculars, 9-10 supraciliaries.

*B. kenaplina* sp. nov. from Morobe Province, of Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 84 paravertebral scales, 23 subdigital lamellae, 9 supralabials, 3 presuboculars, 10 supraciliaries.

*B. kenaplina* sp. nov. is further separated from all other eight species by colouration. In this species the dorsum is a deep chocolate brown with reasonably well-defined black crossbands on the anterior half of the body. The flanks have scattered tiny white spots that are bright and distinct and well spaced, that do not merge to form any sort of markings or bands, or are otherwise marbled in colouration as seen in the other species. In common with *B. paulwoolfi* sp. nov. this species is separated from the other seven by having a particularly strong demarcation between the brown colouration of the upper labials, flanks of neck and upper forelimb, when contrasted with the whitish lower surfaces. *B. kenaplina* sp. nov. is also separated from all other 8 species by having a series of closely spaced black spots running along the upper labials, in a line and running continuously onto the upper flank of the forelimb, terminating at the elbow, whereupon the limb is brownish in colour with small black flecks. The distribution of *B. kenaplina* sp. nov. presumably extends some distance east of the type locality, but the extent is as yet not known.

*B. richardwellsi* sp. nov. from the Torricelli Mountains, Sandaun Province (formerly West Sepik Province), north-western Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 83-88 paravertebral scales, 25-28 subdigital lamellae, 8 supralabials, 3 presuboculars, 9-10 supraciliaries. The species is also characterised and separated from all others by having an orangeish head with pink upper labials and no obvious spot or bar under the eye, the upper labials being generally peppered as opposed to being punctuated with darker spots or blotches as seen in all the other species. The dorsum and flanks of the body is dark brown with irregular yellow crossbands which become broken near the venter. The dorsum of the (original) tail is brown with well-defined yellow cross bands of irregular shape.

*B. rosswellingtoni* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. glennsheai* sp. nov. is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. richardwellsi* sp. nov. as well as the other four species in the genus by the presence of an uninterrupted black dorsolateral stripe running down either side of the flanks. *B. rosswellingtoni* sp. nov. is further identified by the following suite of characters: 40-41 midbody scale rows, 80-90 paravertebral scales, 28-30 subdigital lamellae, 9 supralabials, 3-4 presuboculars, 9-10 supraciliaries, giving it a scalation similar to that of the geographically divergent *B. richardwellsi* sp. nov., that also being the species it is most phylogenetically closest to.

*B. paulwoolfi* sp. nov. from the Milne Bay area of Papua New Guinea is separated from all other species by the presence of a

significant amount of black behind the eye, around and above the ear and further including a large black square immediately above the front leg on the upper flank, followed by smaller black triangles on the upper flanks, which in some specimens sometimes coalesces with triangles on the sides of the back giving an appearance of having cross-bands centred over the dorsolateral lines. The dorsal colouration is otherwise dark brown and the (original) tail is different in that it is characterised by large but irregular dark blackish or greyish spots or blotches along the top and sides of the anterior half. The upper labials have large areas of black or dark grey, including on the lower parts of the anterior upper labials, separated by light pigment, but not in any even or spotted configuration, the only consistency being that there is invariably a large dark rectangle running from the bottom of an upper labial to the lower part of the eye, the vertical sides being the longer part of the rectangle.

**Distribution:** Known only from the type localities in Chimbu and Southern Highlands Provinces, Papua New Guinea, but presumably more widespread south of the central cordillera in New Guinea.

**Etymology:** Named in honour of Cliff Ross Wellington of Ramornie, northern New South Wales, Australia in recognition of his significant contributions to herpetology in Australia, being best known for the publications Wells and Wellington (1983, 1985a, 1985b), in which he was very much an equal partner and contributor, even though listed as second author, but with numerous major positive contributions in other ways in herpetology in Australia both pre-dating those publications and also post-dating them and continuously to the year 2019.

**BRUNNEISSTELLIO PAULWOOLFI SP. NOV.**

LSIDurn:lsid:zoobank.org:act:DACC3083-BDA8-419F-BC04-7420E38B9107

**Holotype:** A preserved specimen at the Bernice P. Bishop Museum, Hawaii, USA, specimen number BPBM 16017, collected from Fergusson Island, Milne Bay Province, Papua New Guinea.

This facility allows access to their holdings.

**Paratypes:** Two preserved specimens at the Bernice P. Bishop Museum, Hawaii, USA, specimen numbers BPBM16020 and BPBM 16022, collected from Fergusson Island, Milne Bay Province, Papua New Guinea.

**Diagnosis:** The putative taxon, *Brunneisstellio jobiensis* (Meyer, 1874), the type species for the genus has long been recognized as a composite species (e.g. Donnellan and Aplin 1989).

Nine species are recognized herein and separated from one another in this description.

All otherwise conform to the genus diagnosis in this paper.

All are separated from one another by the following unique suites of characters:

*B. jobiensis* with a type locality of Jobi (AKA Yapen) Island, West Papua, Indonesia, is separated from the other eight species by having 38 mid-body rows and 20-27 lamellae under toe 4 and a dorsal colouration that is generally light yellowish-brown with irregular and broken darker reddish brown crossbands and large dark brownish-black patches behind the eye and onto the sides of the neck to above the front legs.

*B. rufum* (Boulenger, 1887), with a type locality of Wokam Island, Aru Islands, Indonesia, is separated from the other eight species by having 32-36 midbody rows, 7-8 upper labials, 6-7 lower labials and 19-22 lamellae under the fourth toe and is of similar colouration to *B. jobiensis*.

*B. megaspila* (Günther, 1877) with a type locality of Duke of York Island, East New Britain Province, Papua New Guinea is separated from the other eight species by having 44-48 midbody rows.

*B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. all from New Guinea in a region generally bounded by Morobe province in the east, Jayapura in the West and also south of the

central Cordillera in hilly regions, including near the southern coastline are all readily separated from the other four species (3 above and *B. paulwoolffi* sp. nov. described below) by colouration.

All except *B. rosswellingtoni* sp. nov. have a reduced amount of dark pigment behind the eye and above the front leg as compared to the other four species. While this varies between the relevant species and individual specimens, invariably the dark markings range from nothing, to (most commonly) a squareish black patch behind the eye and another smaller patch around and above the tympanum with no significant black patches above the front legs. Exceptional to the preceding is the species, *B. rosswellingtoni* sp. nov. which is unique among all nine species in having a well-defined uninterrupted black dorsolateral stripe running down either side of the body.

The dorsal colouration of the five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov., as well as a sixth species, *B. megaspila* while variable, is generally chocolate brown with ill-defined darker and/or lighter crossbands, depending on the species, separating these species from both *B. jobiensis* and *B. rufum* whose colour is already described above.

In all species, crossbands are usually of ill-defined blackish or yellowish bands, also being flecked and of ill-defined shape.

The five species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. are identified by Donnellan and Aplin (1989) as being within four groups of species.

Group one conforms with *B. allengreeri* sp. nov., group 2 with *B. glennsheai* sp. nov., group 3 with *B. kenaplina* sp. nov. and group 4 with *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov.. Their group 4 specimens in turn fitted two clades, clade K being that of *B. richardwellsi* sp. nov. and clade L, M, and N being that of *B. rosswellingtoni* sp. nov..

For further detail or explanation, refer to Donnellan and Aplin (1989), in particular Fig 2. at page 86.

The authors stated that from morphological data presented they were either unable to or had difficulty in differentiating the relevant taxa. However a simple cross-checking of non-overlapping traits and those which did between certain groups, showed it was easily possible to differentiate all five species from one another on the basis of each character suite as given in the relevant table in Donnellan and Aplin (1989), and no other detail was in fact required.

The descriptions below do have some added diagnostic information to make separation of the relevant species even easier.

In turn those species are separated from the other four on the basis on the information given herein.

*B. allengreeri* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea is separated from all of *B. glennsheai* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-41 midbody scale rows, 85-98 paravertebral scales, 23-30 subdigital lamellae, 9-11 supralabials, 4-5 presuboculars, 10-12 supraciliaries.

*B. glennsheai* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. rosswellingtoni* sp. nov. is separated from the four species *B. allengreeri* sp. nov., *B. kenaplina* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 37-39 midbody scale rows, 74-78 paravertebral scales (alone separating this species from the other four), 27-28 subdigital lamellae, 9-10 supralabials, 3 presuboculars, 9-10 supraciliaries.

*B. kenaplina* sp. nov. from Morobe Province, of Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. richardwellsi* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 84 paravertebral scales, 23 subdigital

lamellae, 9 supralabials, 3 presuboculars, 10 supraciliaries.

*B. kenaplina* sp. nov. is further separated from all other eight species by colouration. In this species the dorsum is a deep chocolate brown with reasonably well-defined black crossbands on the anterior half of the body. The flanks have scattered tiny white spots that are bright and distinct and well spaced, that do not merge to form any sort of markings or bands, or are otherwise marbled in colouration as seen in the other species. In common with *B. paulwoolffi* sp. nov. this species is separated from the other seven by having a particularly strong demarcation between the brown colouration of the upper labials, flanks of neck and upper forelimb, when contrasted with the whitish lower surfaces. *B. kenaplina* sp. nov. is also separated from all other 8 species by having a series of closely spaced black spots running along the upper labials, in a line and running continuously onto the upper flank of the forelimb, terminating at the elbow, whereupon the limb is brownish in colour with small black flecks. The distribution of *B. kenaplina* sp. nov. presumably extends some distance east of the type locality, but the extent is as yet not known.

*B. richardwellsi* sp. nov. from the Torricelli Mountains, Sandaun Province (formerly West Sepik Province), north-western Papua New Guinea is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. rosswellingtoni* sp. nov. by the following suite of characters: 40 midbody scale rows, 83-88 paravertebral scales, 25-28 subdigital lamellae, 8 supralabials, 3 presuboculars, 9-10 supraciliaries. The species is also characterised and separated from all others by having an orangeish head with pink upper labials and no obvious spot or bar under the eye, the upper labials being generally peppered as opposed to being punctuated with darker spots or blotches as seen in all the other species. The dorsum and flanks of the body is dark brown with irregular yellow crossbands which become broken near the venter. The dorsum of the (original) tail is brown with well-defined yellow cross bands of irregular shape.

*B. rosswellingtoni* sp. nov. from the Southern Highlands and Chimbu Provinces, of Papua New Guinea and sympatric with *B. glennsheai* sp. nov. is readily separated from the four species *B. allengreeri* sp. nov., *B. glennsheai* sp. nov., *B. kenaplina* sp. nov. and *B. richardwellsi* sp. nov. as well as the other four species in the genus by the presence of an uninterrupted black dorsolateral stripe running down either side of the flanks. *B. rosswellingtoni* sp. nov. is further identified by the following suite of characters: 40-41 midbody scale rows, 80-90 paravertebral scales, 28-30 subdigital lamellae, 9 supralabials, 3-4 presuboculars, 9-10 supraciliaries, giving it a scalation similar to that of the geographically divergent *B. richardwellsi* sp. nov., that also being the species it is most phylogenetically closest to.

*B. paulwoolffi* sp. nov. from the Milne Bay area of Papua New Guinea is separated from all other species by the presence of a significant amount of black behind the eye, around and above the ear and further including a large black square immediately above the front leg on the upper flank, followed by smaller black triangles on the upper flanks, which in some specimens sometimes coalesces with triangles on the sides of the back giving an appearance of having cross-bands centred over the dorsolateral lines.

The dorsal colouration is otherwise dark brown and the (original) tail is different in that it is characterised by large but irregular dark blackish or greyish spots or blotches along the top and sides of the anterior half. The upper labials have large areas of black or dark grey, including on the lower parts of the anterior upper labials, separated by light pigment, but not in any even or spotted configuration, the only consistency being that there is invariably a large dark rectangle running from the bottom of an upper labial to the lower part of the eye, the vertical sides being the longer part of the rectangle.

**Distribution:** Known only from Fergusson Island and nearby parts of the Milne Bay Province in Papua New Guinea.

**Etymology:** Named in honour of Paul Woolf of Walloon, Queensland, Australia, foundation president of the Herpetological Society of Queensland Incorporated in recognition for his many contributions to herpetology in Australia spanning more than three decades. In 2015, the Society passed a resolution condemning the acts of taxonomic vandalism by the Wolfgang Wüster gang of thieves and their use of false claims against proper scientists to justify their illegal and unethical acts. This was one of a number of similar resolutions passed by herpetological societies in Australia and elsewhere.

**PARATYTTOSCINCUS GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:57EDD86A-F9B7-4D28-89A9-76D40498C53E**

**Type species:** *Sphenomorphus aesculeticola* Inger, Lian, Lakim and Yambun, 2001.

**Diagnosis:** *Tyttoscincus* Linkem *et al.* 2011 and the new genus *Paratyttoscincus gen. nov.*, can be separated from other similar species, being those species within *Sphenomorphus sensu lato* by the following unique suite of characters: (1) body size diminutive, usually less than 45 mm snout-vent; (2) temporal scales small, same size and shape as the lateral body scales; and (3) digits small, toe four slightly longer than, or equal to toe three (modified from Linkem *et al.* 2011).

*Paratyttoscincus gen. nov.* is in turn separated from *Tyttoscincus* by having short-legs, four supraoculars, fewer than 10 lamellae under the fourth toe; scale rows usually 28-30, and prefrontals not meeting in the midline.

The genus *Paratyttoscincus gen. nov.* is further defined as follows: A small, slender skink, 35-42 mm snout-vent; head not wider than neck or trunk; tail thick, round in cross section; snout obtusely pointed, shorter than eye diameter; lower eyelid scaly; tympanum in shallow, round depression, about

one half area of eye, no lobules; limbs pentadactyl, short, not or barely overlapping; axilla to tip of longest finger about half snout-axilla distance and about one-third axilla-groin distance; hind limb only slightly longer than forelimb.

No frontonasal; rostral wider than tall, dorsal margin convex; frontonasal trapezoidal, in broad contact with nasal, rostral, first loreal, and prefrontal, in narrow contact with frontal; prefrontals separated, in wide contact with frontal, both loreals, and first supraocular; four supraoculars, second largest in transverse axis and first largest in longitudinal axis, first two bordering frontal, second to fourth touching frontoparietal, last touching both frontoparietal and parietal; frontal longer than its distance from tip of snout, longer than frontoparietals; frontoparietals not fused; interparietal shorter than frontoparietals; parietals meeting behind interparietal except in one animal in which they are separated by the first vertebral; parietal bordered laterally by 4-6 scales; no nuchals; nostril in a single nasal; loreals 1+1, first taller than second; second loreal rectangular or subtriangular; two enlarged preoculars, lower one larger; six supralabials, fourth below center of eye; a row of small suboculars above supralabials; 8-10 supraciliaries; two small temporals followed by a large one lateral to the parietal. Five infralabials; mental as wide as rostral; postmental pentagonal, bordering first infralabial; three pairs of enlarged chin shields, the first pair meeting behind postmental. Scales smooth, dorsals slightly smaller than ventrals; 26-32 mid-body scale rows, 60-68 scales from vent to mental; preanals only slightly larger than adjacent ventrals; subcaudals only slightly larger than dorsal caudal scales.

All digits with three dorsolateral scale rows; scales of palm and sole slightly raised, relatively large, subequal, lacking "heel" scale; lamellae smooth, relatively undifferentiated; order of size of fingers 3>4>2>5>1, toes 4=3>5>2>1; fourth finger with 5 or 6 lamellae, rarely 4; fourth toe with 7-10 lamellae, rarely 6.

Males: SVL 34.0-38.9 mm (n=16), axilla-groin (AG) 0.480.60 of SVL (median 0.521, n=13); snout to arm insertion (SNA) 0.33-0.39 of SVL (median 0.365, n=13); snout to ear opening (SNE) 0.17-0.21 of SVL (median 0.189, n=9). Females: SVL 33.3-42.0 (n=20); AG/SVL 0.47-0.59 (median 0.529, n=16); SNA/SVL 0.33-

0.38 (median 0.367, n=16); SNE/SVL 0.17-0.20 (median 0.182, n=14). Seven gravid females measured 37.5-40.0 mm.

Colour (in preservative) top of head and back medium to dark brown; dark spots in centers of many scales, forming an irregular series of thin dark lines or a checkered pattern or no distinct pattern; side of snout and lips dark brown, labial scales with light centers; a dark lateral band beginning as a stripe behind eye and over tympanum, continuing along trunk as a stripe on two or three scale rows, regularly interrupted by small light spots; sides below dark stripe lighter than back, many scales with small, black centers; dorsally limbs spotted black and light tan; pattern of trunk continued on tail;

ventrally head, trunk, and limbs whitish; subcaudal scales with small, dark, centers (the preceding diagnostic information was taken from Inger *et al.* (2001).

**Distribution:** Restricted to higher elevation areas in Sabah, Malaysia.

**Content:** *Paratyttoscincus aesculeticola* (Inger, Lian, Lakim and Yambun, 2001) (type species); *P. fauciummaculosus sp. nov.*

**PARATYTTOSCINCUS FAUCIUMMACULOSUS SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:C2DFFB71-BE1F-4578-83C0-1A3EF564E9C0**

**Holotype:** A preserved specimen at the Field Museum of Natural History, Chicago, Illinois, USA, specimen number: FMNH 152224, collected from Mesilau at an elevation of 1650 metres, Kinabalu Park, Ranau District, Sabah, Malaysia, Latitude 5.59 N., Longitude 116.36 E.

This facility allows access to its holdings.

**Paratypes:** Two preserved specimens at the Field Museum of Natural History, Chicago, Illinois, USA, specimen number: FMNH 152225 and 152226, collected from Mesilau at an elevation of 1650 metres, Kinabalu Park, Ranau District, Sabah, Malaysia, Latitude 5.59 N., Longitude 116.36 E.

**Diagnosis:** *Paratyttoscincus fauciummaculosus sp. nov.* is similar in most respects to *P. aesculeticola* (Inger, Lian, Lakim and Yambun, 2001) and until now has been treated as a northern population of that species. Males of *P. fauciummaculosus sp. nov.* have throats that are heavily spotted with numerous dark spots, whereas in *P. aesculeticola* these spots are scattered and this is a reliable way to separate either species.

*P. fauciummaculosus sp. nov.* is separated from *P. aesculeticola* by having 26-31 midbody rows, versus 29-32 in *P. aesculeticola*. *P. fauciummaculosus sp. nov.* has 3-6 lamellae under the fourth finger, versus 5-6 in *P. aesculeticola*. *P. fauciummaculosus sp. nov.* has 6-8 lamellae under the fourth toes, versus 8-10 (rarely 7), in *P. aesculeticola*.

The two species are geographically disjunct, with *P. fauciummaculosus sp. nov.* occurring on Mount Kinabalu, whereas *P. aesculeticola* is known from Mount Lumaku and Mount Trus Madi further south, with lower elevation hills (below 1000 metres elevation) in the intermediate region.

**Distribution:** *P. fauciummaculosus sp. nov.* is known only from the type locality at Mount Kinabalu, Ranau District, Sabah, Malaysia.

**Etymology:** In Latin "*fauciummaculosus*" means spotted neck, as seen in males of this species.

**GENUS PLENUSSTELLIO GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:5638F6D4-87B0-41ED-846B-EBFDBB8E40A6**

**Type species:** *Lygosoma concinnatus* Boulenger, 1887.

**Diagnosis:** Species within the genus *Plenusstellio gen. nov.* are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato*, by the following combination of characters:

Somewhat stout in build, and tail more-or-less rounded in cross section.

Head shields are not fragmented or partially so.

The distance from the end of the snout to the fore limb is equal to about one and one-fifth to one and one-fourth the distance between the axilla and the groin. Snout is short, obtuse. Supraocular regions swollen. Lower eyelid scaly. Nostril pierced in a single nasal; no supranasal, a single anterior loreal, or a very small shield above it. Rostral forming a broad, straight suture with the frontonasal, which is much broader than long. Prefrontals forming a median suture (in contact). Frontal noticeably narrowed posteriorly, as long as, or shorter than the frontoparietals and interparietal together, in contact with the first and second supraoculars. Four supraoculars, the first is longest. Eight or nine supraciliaries, first largest. Frontoparietals and interparietal distinct, the former longer than the latter. Parietals forming a suture behind the interparietal. No enlarged nuchals. Fifth upper labial largest and situated below the orbit. Ear opening oval, nearly as large as the eye opening, no auricular lobules. Scales smooth, or dorsals and laterals indistinctly pluricarinate (keeled edges), laterals smallest, disposed in 36-47 mid-body rows. A pair of enlarged preanals. The hind limb reaches to the elbow or the axilla of the adpressed fore limb. Digits rather elongate, slightly compressed, subdigital lamellae smooth, 22 to 25 under the fourth toe. Tail about 1.5 times the snout-vent length (averaging 70 mm).

Dark glossy brown dorsum. Back sometimes spotted with black and whitish spots elegantly arranged and othertimes only with indistinct or semi-distinct markings. There is some form of a black band on each side of the head, passing through the eye and sometimes becoming diffused behind the eye or alternatively the reverse, as in diffuse anterior to it. A large and conspicuous white-edged black spot is present on the sides of the neck in some populations of some species. Lower surfaces are brownish white, clouded, or longitudinally streaked with a darker colour. Original tail is not obviously marked, being brownish in colour flecked and mottled with black (modified from Kinghorn 1928a and McCoy 2006 and based on inspection of (live and dead) specimens).

**Distribution:** Islands of the Solomons group bound by Malaita in the east, the Bougainville Group of Islands in the west, New Georgia group in the south-west and Guadalcanal in the south east.

**Etymology:** The name "*Plenusstellio*" in Latin means "stout lizard" and is given with reference to the relative build of the lizard.

**Content:** *Plenusstellio concinnatus* (Boulenger, 1887); *P. fortees sp. nov.*; *Plenusstellio levis sp. nov.*; *P. piscissimilis sp. nov.*; *Plenusstellio wolffi* (Greer and Parker, 1967).

#### **PLENUSSTELLIO LEVIS SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:F3179D28-A7E5-4147-A3FE-4D25CB87E402**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-113492, collected from a small stream on the route to Popomaneseu, Guadalcanal Province, Guadalcanal Island, Solomon Islands.

This facility allows access to its holdings.

**Paratypes:** Five preserved specimens at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen numbers MCZ Herp R-113493, 113494, 113495, 113496 and 113497, collected from a small stream on the route to Popomaneseu, Guadalcanal Province, Guadalcanal Island, Solomon Islands.

**Diagnosis:** *Plenusstellio levis sp. nov.* of Guadalcanal Island, Solomon Islands has until now been treated as a population of *P. concinnatus* (Boulenger, 1887), with a type locality of Faro Island. However it is readily separated from *P. concinnatus* (Boulenger, 1887) by having a dorsum that is a light golden brown with indistinct blackish blotches running down the midline and other even less distinct blotches along either dorso-lateral edge, versus a dorsum that is a more dark or chocolate brown and with a more well-defined pattern of dark blotches and each

also having a whitish spot anterior to the darker one. It also has white spots on the flanks arranged into a series of wavy rows to form variegations.

The species *P. piscissimilis sp. nov.* from the New Georgia Group of islands, Solomon Islands, also until now treated as a population of *P. concinnatus* is separated from both preceding species by being similar in overall dorsal colour and appearance to *P. levis sp. nov.* but with a relatively small or ill-defined black spot on the neck anterior to the front limb axial, versus well-defined and bounded by obvious light flushes in *P. levis sp. nov.* and *P. concinnatus*.

The species *P. fortees sp. nov.* from Malaita Island, Solomon Islands, also previously treated as a population of *P. concinnatus* (Boulenger, 1887), is separated from the three preceding species by being a golden green brown on the dorsum, barely marked on the dorsum or flanks with any black spots or markings and if present, only tiny, and side spotting of white or yellow, that is so faint and diffuse as to be barely noticeable. The spotting is at the centre of most scales on the flanks, but shows faint signs of variegations at the posterior part of the flank only, being caused by a reduced number of scales with a whitish bit in the centre. The dark patch on the neck, anterior to the front limb is faded and relatively indistinct. Light brown spots on the upper surfaces of the limbs are small in this species, versus relatively large in the other three species.

The four preceding species form the entirety of the genus *Plenusstellio gen. nov.* as previously defined in this paper.

**Distribution:** *Plenusstellio levis sp. nov.* appears to be confined to Guadalcanal Island, Solomon Islands.

**Etymology:** The name "*levis*" refers to the relatively light colour of specimens of this species, including those specimens from relatively high altitudes, which for congeners on other islands typically become quite dark in dorsal colouration.

#### **PLENUSSTELLIO PISCISSIMILIS SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:395FDF6B-B539-4127-9EC6-6C990148D553**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-113881 collected from Lambete, New Georgia, Solomon Islands, Latitude -8.3167 S., Longitude 157.2667 E.

This facility allows access to its holdings.

**Paratypes:** 64 preserved specimens at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen numbers MCZ Herp 113883, 113886, 113887, 118934, 113889, 113891, 113892, 113894, 113900, 113901, 113906, 113908, 113913, 113915, 113916, 113922, 113925, 113927, 113928, 113934, 113935, 113938, 113939, 113941, 118942, 118944, 118945, 118946, 118947, 118949, 118952, 118953, 118957, 118958, 118961, 118962, 118963, 118967, 118968, 118971, 118972, 118973, 118974, 118975, 118977, 118978, 118979, 118980, 118981, 118982, 118983, 118986, 118987, 118988, 118989, 118990, 118991, 118998, 119000, 119001, 119004, 119007, 119009 and 119011 all collected from Lambete, New Georgia, Solomon Islands, Latitude -8.3167 S., Longitude 157.2667 E.

**Diagnosis:** *Plenusstellio levis sp. nov.* of Guadalcanal Island, Solomon Islands has until now been treated as a population of *P. concinnatus* (Boulenger, 1887), with a type locality of Faro Island. However it is readily separated from *P. concinnatus* (Boulenger, 1887) by having a dorsum that is a light golden brown with indistinct blackish blotches running down the midline and other even less distinct blotches along either dorso-lateral edge, versus a dorsum that is a more dark or chocolate brown and with a more well-defined pattern of dark blotches and each also having a whitish spot anterior to the darker one. It also has white spots on the flanks arranged into a series of wavy rows to form variegations.

The species *P. piscissimilis sp. nov.* from the New Georgia Group of islands, Solomon Islands, also until now treated as a

population of *P. concinnatus* is separated from both preceding species by being similar in overall dorsal colour and appearance to *P. levis* sp. nov. but with a relatively small or ill-defined black spot on the neck anterior to the front limb axial, versus well-defined and bounded by obvious light flushes in *P. levis* sp. nov. and *P. concinnatus*.

The species *P. fortees* sp. nov. from Malaita Island, Solomon Islands, also previously treated as a population of *P. concinnatus* (Boulenger, 1887), is separated from the three preceding species by being a golden green brown on the dorsum, barely marked on the dorsum or flanks with any black spots or markings and if present, only tiny, and side spotting of white or yellow, that is so faint and diffuse as to be barely noticeable. The spotting is at the centre of most scales on the flanks, but shows faint signs of variegations at the posterior part of the flank only, being caused by a reduced number of scales with a whitish bit in the centre. The dark patch on the neck, anterior to the front limb is faded and relatively indistinct. Light brown spots on the upper surfaces of the limbs are small in this species, versus relatively large in the other three species.

The four preceding species form the entirety of the genus *Plenusstellio* gen. nov. as previously defined in this paper.

**Distribution:** *P. piscissimilis* sp. nov. is confined to the New Georgia Group of islands, Solomon Islands, including Vella Lavella, Mbava, Ranongga and Simbo and otherwise bound by the 200 metre bathymetric (sea depth) contour line.

**Etymology:** The name "*piscissimilis*" refers to the "fish like" appearance of the lizard as it squirms through the ground litter, caused in part by the fish-like shiny scales on the dorsum.

**PLENUSSTELLIO FORTEES SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:8ECB9D6F-C239-4169-842F-6E0A0BC2054E**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-113682 collected from Langwata, Malaita, Solomon Islands, Latitude -9 S., Longitude 161 E.

This facility allows access to its holdings.

**Paratypes:** 28 preserved specimens at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen numbers MCZ Herp R-113684, 113691, 113693, 113694, 113699, 113700, 113702, 113704, 113705, 113706, 113710, 113711, 113719, 113720, 113721, 113724, 13725, 13726, 13728, 13729, 13734, 113737, 113738, 113741, 113742, 113743, 113744 and 113747 all collected from Langwata, Malaita, Solomon Islands, Latitude -9 S., Longitude 161 E.

**Diagnosis:** *Plenusstellio levis* sp. nov. of Guadalcanal Island, Solomon Islands has until now been treated as a population of *P. concinnatus* (Boulenger, 1887), with a type locality of Faro Island. However it is readily separated from *P. concinnatus* (Boulenger, 1887) by having a dorsum that is a light golden brown with indistinct blackish blotches running down the midline and other even less distinct blotches along either dorso-lateral edge, versus a dorsum that is a more dark or chocolate brown and with a more well-defined pattern of dark blotches and each also having a whitish spot anterior to the darker one. It also has white spots on the flanks arranged into a series of wavy rows to form variegations.

The species *P. piscissimilis* sp. nov. from the New Georgia Group of islands, Solomon Islands, also until now treated as a population of *P. concinnatus* is separated from both preceding species by being similar in overall dorsal colour and appearance to *P. levis* sp. nov. but with a relatively small or ill-defined black spot on the neck anterior to the front limb axial, versus well-defined and bounded by obvious light flushes in *P. levis* sp. nov. and *P. concinnatus*.

The species *P. fortees* sp. nov. from Malaita Island, Solomon Islands, also previously treated as a population of *P. concinnatus* (Boulenger, 1887), is separated from the three preceding species

by being a golden green brown on the dorsum, barely marked on the dorsum or flanks with any black spots or markings and if present, only tiny, and side spotting of white or yellow, that is so faint and diffuse as to be barely noticeable. The spotting is at the centre of most scales on the flanks, but shows faint signs of variegations at the posterior part of the flank only, being caused by a reduced number of scales with a whitish bit in the centre. The dark patch on the neck, anterior to the front limb is faded and relatively indistinct. Light brown spots on the upper surfaces of the limbs are small in this species, versus relatively large in the other three species.

The four preceding species form the entirety of the genus *Plenusstellio* gen. nov. as previously defined in this paper.

**Distribution:** *P. fortees* sp. nov. is confined Malaita including Masramasike Island, Solomon Islands

and is otherwise bound by the 200 metre bathymetric (sea depth) contour line.

**Etymology:** The name "*fortees*" comes from the Latin word "fortis" that means sturdy in reflection of the build of the lizard.

The misspelling as "*fortees*" is deliberate so as to remove risk of inadvertently creating a homonym and therefore should not be changed.

**REDACTASQUAMAE GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:546C8C63-92F2-4E26-81C3-FD001703BA61**

**Type species:** *Sphenomorphus fragosus* Greer and Parker, 1967.

**Diagnosis:** The two formally named species in this newly named genus *Redactasquamae* gen. nov. are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of partially fragmented head shields. That is that they are unique in having many of the normally large and symmetrical head scales broken up into a less ordered array of smaller scales, this being most obvious on the dorsal and lateral surfaces of the snout.

Further diagnostic detail for the two relevant species is provided by Greer and Parker, 1967.

**Distribution:** Presently only known from the main island of Bougainville.

**Etymology:** In Latin, "*Redactasquamae*" means "fragmented scales" which is a unique diagnostic trait of the species in this genus.

**Content:** *Redactasquamae fragosus* (Greer and Parker, 1967) (type species); *R. taylori* (Burt, 1930).

**REDACTASQUAMAE FRAGOSUS LINEATENEBRICA SUBSP. NOV.**

**LSIDurn:lsid:zoobank.org:act:1C815F4D-EA6F-43F8-8251-9B11BD8F38C4**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-92268 collected from the Mutahi area (4000 feet ASL), Bougainville, Papua New Guinea, Latitude -5.6659011 S., Longitude 154.9637659 E.

This facility allows access to its holdings.

**Diagnosis:** Until now, *Redactasquamae fragosus lineatenebrica* subsp. nov. has been treated as a northern population of *Redactasquamae fragosus* (Greer and Parker, 1967), (previously *Sphenomorphus fragosus*).

The subspecies is separated from the nominate form by the following suite of unique characters:

46 midbody rows, the black dorsolateral band becomes less distinct on the posterior half of the body and the light throat and chest are reticulated with black. In addition there is a dark midventral line (Greer and Parker, 1967).

The two preceding taxa are separated from the morphologically similar, closely related and sympatric *R. taylori* (Burt, 1930) by having no enlarged paired nuchals, 42-46 mid-body rows; and a snout-vent length to 72 mm, versus 1 or 2 pairs of enlarged

nuchals; 53-60 mid-body rows and up to 160 mm in snout-vent length.

The preceding two species and single subspecies form the entirety of the genus *Redactasquamae* gen. nov. and are easily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of partially fragmented head shields. That is that they are unique in having many of the normally large and symmetrical head scales broken up into a less ordered array of smaller scales, this being most obvious on the dorsal and lateral surfaces of the snout.

Further diagnostic detail for the two relevant species is provided by Greer and Parker, 1967.

**Distribution:** This subspecies is presently only known from the type locality of the Mutahi area (4000 feet ASL), Bougainville Island, Papua New Guinea

**Etymology:** In Latin "*lineatenebrica*" means "dark line" in reflection of the dark midventral line which appears to be unique to this subspecies.

**MARMORATASTELLIO GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:9F0D57AF-4853-4DBD-AC83-791E451BA0F8**

**Type species:** *Lygosoma (Hinulia) sima* Sauvage, 1879.

**Diagnosis:** The genus *Marmoratastellio* gen. nov. type species *Lygosoma (Hinulia) sima* Sauvage, 1879 is formally erected to accommodate three (and possibly more) divergent New Guinea species, for which names may already be available. These species are readily separated from all other species (and genera) within of *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters:

No conspicuous black patch on the nape; lamellae under fourth toe 23-29; back rarely bordered by a conspicuous, cream-colored, dorso-lateral line; size small being under 50-80 mm snout-vent; midbody scale rows 42-46; two superposed loreals; 6-8 supraoculars, the first three or four in contact with the frontal. There is very little black on the flanks.

**Distribution:** West New Guinea region, including near islands.

**Etymology:** *Marmoratastellio* gen. nov. is named in reflection of the Latin words "*marmorata stellio*" meaning marbled lizard, in reflection of the colouration of specimens.

**Content:** *Marmoratastellio sima* (Sauvage, 1879) (type species); *M. Stickeli* (Loveridge, 1948); *M. totocarينات* (Mittleman, 1952).

**BREVICURASTELLIO GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:E0F4AFFA-BE8E-46A7-8584-9258ADDDAE5B**

**Type species:** *Lygosoma woodfordii* Boulenger, 1887.

**Diagnosis:** The four species in the genus *Brevicrurastellio* gen. nov., are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters:

Smooth shiny scales; body elongate, with original tail being longer than the body; limbs rather short; the distance between the end of the snout and the fore limb is contained once and three fifths in the distance between axilla and groin. Snout moderately elongate, truncate. Lower eyelid scaly. Nostril pierced in a single nasal; no supranasal; a single anterior loreal; rostral forms a broad straight suture with the frontonasal, which is broader than long; prefrontals forming a short median suture; frontal as long as frontoparietals and interparietal together, in contact with the first supraciliary and the two anterior supraoculars; four supraoculars, followed by a very small fifth, first is longest; about ten supraciliaries, first largest; frontoparietals and interparietal distinct, former much larger than latter; parietals forming a suture behind the interparietal; no nuchals; nine upper labials, seventh below the centre of the eye; a series of rather large suborbitals separates the orbit from the labials. Ear-opening oval, a little smaller than the eye-opening; no auricular lobules. 33-38 mid-body rows; dorsals largest, laterals very small. A pair of enlarged preanals. The adpressed limbs just meet. Digits rather short, sometimes

slightly compressed; 15-20 smooth lamellae under the fourth toe. Colouration ranges from banded to unbanded above, with strong metallic gloss; sides with or without curved or oblique black bars; lower surfaces yellowish (modified from Boulenger 1897).

**Distribution:** Solomon Islands including the islands of Bougainville, Shortland, Fauro; Choiseul, Nggela and San Cristobal.

**Etymology:** The Latin words "*Brevi crura stellio*" means "short legged lizard", which, relatively speaking in terms of other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* is descriptive of the species in this newly named genus.

**Content:** *Brevicrurastellio woodfordii* (Boulenger, 1887) (type species); *B. brunneiscorpus* sp. nov.; *B. neglectus* sp. nov.; *B. transversus* (Greer and Parker, 1971).

**BREVICURASTELLIO BRUNNEISCORPUS SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:3F5E3C0E-4A11-4327-A1C7-037CC74111E8**

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R.93032 collected from Boromole, Nggela, Solomon Islands, Latitude -9.05 S., Longitude 160.3 E.

This government-owned facility allows access to its holdings.

**Diagnosis:** Previously treated as a population of *Brevicrurastellio woodfordii* (Boulenger, 1887), type locality of Fauro Island, Solomon Islands and also common on nearby Bougainville, *B. brunneiscorpus* sp. nov. of the Nggela Islands is readily separated from *B. woodfordii* by colouration. *B. woodfordii* is dark brown above with curved or oblique black bars on the flanks. By contrast *B. brunneiscorpus* sp. nov. is medium brown on top and flanks, with barely distinct darker brown flecks on both top and sides of the body. There is no obvious bars on the flanks. It also has obvious darkening on the dorsal surface of the head and area around the dorsum at the pelvis and upper surface of the anterior tail.

*B. neglectus* sp. nov. a taxon confined to San Cristobal Island, is similar in most respects to *B. brunneiscorpus* sp. nov. but is separated from that species by having a light brownish-grey dorsum, slight greying of the head and no obvious darkening at the upper pelvic region.

The other species in the genus, *B. transversus* (Greer and Parker, 1971), is readily separated by its strongly contrasting dorsal colouration incorporating near black and near white on the dorsum and flanks and an obvious transverse barred pattern across the body.

The four species in the genus *Brevicrurastellio*, are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: Smooth shiny scales; body elongate, with original tail being longer than the body; limbs rather short; the distance between the end of the snout and the fore limb is contained once and three fifths in the distance between axilla and groin. Snout moderately elongate, truncate. Lower eyelid scaly. Nostril pierced in a single nasal; no supranasal; a single anterior loreal; rostral forms a broad straight suture with the frontonasal, which is broader than long; prefrontals forming a short median suture; frontal as long as frontoparietals and interparietal together, in contact with the first supraciliary and the two anterior supraoculars; four supraoculars, followed by a very small fifth, first is longest; about ten supraciliaries, first largest; frontoparietals and interparietal distinct, former much larger than latter; parietals forming a suture behind the interparietal; no nuchals; nine upper labials, seventh below the centre of the eye; a series of rather large suborbitals separates the orbit from the labials. Ear-opening oval, a little smaller than the eye-opening; no auricular lobules. 33-38 mid-body rows; dorsals largest, laterals very small. A pair of enlarged preanals. The adpressed limbs just meet. Digits rather short, sometimes slightly compressed; 15-20 smooth lamellae under the fourth toe. Colouration ranges from banded to unbanded above, with strong

metallic gloss; sides with or without curved or oblique black bars; lower surfaces yellowish (modified from Boulenger 1897).

*B. brunneiscorpus* sp. nov. is depicted in life in McCoy (2006) in plate 84.

**Distribution:** Only known from the Nggela Island group in the Solomon Islands.

**Etymology:** The Latin words "*brunneis corpus*" means "brown bodied", which, relatively speaking in terms of other species within this genus, aptly describes adults of this species.

**BREVICRURASTELLIO NEGLECTUS SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:F26188E3-39BB-40AB-BBFB-2CAB16D73A7A**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-14357 collected from Waimone Bay, San Cristobal Island, Solomon Islands, Latitude -10.4667 S., Longitude 162 E.

This facility allows access to their holdings.

**Paratypes:** Four preserved specimens at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen numbers MCZ Herp R-14353, R-14355, R-14356 and 14358 all collected from Waimone Bay, San Cristobal Island, Solomon Islands, Latitude -10.4667 S., Longitude 162 E.

**Diagnosis:** Previously treated as a population of *Brevicrurastellio woodfordii* (Boulenger, 1887), type locality of Fauro Island, Solomon Islands and also common on nearby Bougainville, *B. brunneiscorpus* sp. nov. of the Nggela Islands is readily separated from *B. woodfordi* by colouration. *B. woodfordi* is dark brown above with curved or oblique black bars on the flanks. By contrast *B. brunneiscorpus* sp. nov. is medium brown on top and flanks, with barely distinct darker brown flecks on both top and sides of the body. There is no obvious bars on the flanks. It also has obvious darkening on the dorsal surface of the head and area around the dorsum at the pelvis and upper surface of the anterior tail.

*B. neglectus* sp. nov. a taxon confined to San Cristobal Island, is similar in most respects to *B. brunneiscorpus* sp. nov. but is separated from that species by having a light brownish-grey dorsum, slight greying of the head and no obvious darkening at the upper pelvic region.

The other species in the genus, *B. transversus* (Greer and Parker, 1971), is readily separated by its strongly contrasting dorsal colouration incorporating near black and near white on the dorsum and flanks and an obvious transverse barred pattern across the body.

The four species in the genus *Brevicrurastellio*, are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: Smooth shiny scales; body elongate, with original tail being longer than the body; limbs rather short; the distance between the end of the snout and the fore limb is contained once and three fifths in the distance between axilla and groin. Snout moderately elongate, truncate. Lower eyelid scaly. Nostril pierced in a single nasal; no supranasal; a single anterior loreal; rostral forms a broad straight suture with the frontonasal, which is broader than long; prefrontals forming a short median suture; frontal as long as frontoparietals and interparietal together, in contact with the first supraciliary and the two anterior supraoculars; four supraoculars, followed by a very small fifth, first is longest; about ten supraciliaries, first largest; frontoparietals and interparietal distinct, former much larger than latter; parietals forming a suture behind the interparietal; no nuchals; nine upper labials, seventh below the centre of the eye; a series of rather large suborbitals separates the orbit from the labials. Ear-opening oval, a little smaller than the eye-opening; no auricular lobules. 33-38 mid-body rows; dorsals largest, laterals very small. A pair of enlarged preanals. The adpressed limbs just meet. Digits rather short, sometimes

slightly compressed; 15-20 smooth lamellae under the fourth toe. Colouration ranges from banded to unbanded above, with strong metallic gloss; sides with or without curved or oblique black bars; lower surfaces yellowish (modified from Boulenger 1897).

*B. brunneiscorpus* sp. nov. is depicted in life in McCoy (2006) in plate 84.

**Distribution:** Only known from San Cristobal Island in the Solomon Islands.

**Etymology:** The Latin word "*neglectus*" refers to the species being overlooked by science, or "neglected" in that specimens have been in the custody of scientists for over a century (Barbour, 1921) and yet have managed to evade being formally named as a new taxon.

**QUASIPISCISSCINCUS GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:132635B3-E07E-4733-BFB9-7096896F2E09**

**Type species:** *Sphenomorphus bignelli* Schmidt, 1932

**Diagnosis:** The species in the genus *Quasipiscisscincus* gen. nov. are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: no fragmented head shields, fish-like scales; body is only slightly elongated; tail slightly flattened anteriorly, vertically flattened further down and about the same as the snout-vent length (original tails) or slightly longer; supranasals absent; a single anterior and posterior loreal; enlarged paired nuchal scales; prefrontals are well developed, usually separated, but sometimes in narrow contact; prefrontals are about twice as long as wide and in contact with the first and second of four supraoculars; scaly lower eyelid; interparietal is distinct; limbs are moderate and only just meet when adpressed; 18-25 midbody scale rows; 18-25 lamellae under the fourth toes; prelocaal slightly enlarged; small size with an average adult snout vent length of just 35 mm.

Colour is earthy (brown to black), with flecks and spots, blotches or lines, but rarely giving the appearance of having distinctive pattern or markings. There is a border between the dorsal and lateral surface, sometimes well defined, other times not.

Eye is orange. Flanks are typically spotted, blotched or even with semi-distinct darker lines created by strokes of dark pigment over a light background. Venter is grey to cream. Darker spots may be present under the tail (largely modified from McCoy 2006).

**Distribution:** Native to the main Solomon Island groups of New Georgia, Russell Islands, Guadalcanal, Nggela and Malaita as well as New Guinea and potentially intervening areas.

**Etymology:** The genus name "*Quasipiscisscincus*" is Latin for "fish like skink".

**Content:** *Quasipiscisscincus bignelli* (Schmidt, 1932) (type species); *Q. funibus* sp. nov.; *Q. minutus* (Meyer, 1874); *Q. utrimquepunctata* sp. nov..

**QUASIPISCISSCINCUS UTRIMQUEPUNCTATA SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:9DEA6B83-974A-4417-89BB-97696B912938**

**Holotype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R.81774 collected from Mboromole Village, Nggela Sule (Big Gela), Florida Gap, Solomon Islands, Latitude 9.05 S., Longitude 160.15 E.

This government-owned facility allows access to its holdings.

**Paratype:** A preserved specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number R.91237 collected from Mboromole Village, Nggela Sule (Big Gela), Florida Gap, Solomon Islands, Latitude 9.03 S., Longitude 160.18 E.

**Diagnosis:** *Quasipiscisscincus utrimquepunctata* sp. nov. from Nggela Sule (Big Gela), Florida Gap, Solomon Islands and *Q. funibus* sp. nov. from Guadalcanal, Solomon Islands, have until now been treated as populations of *Quasipiscisscincus bignelli* (Schmidt, 1932) (previously placed in the genus *Sphenomorphus*

Fitzinger, 1843), with a type locality of Kulambangara in the New Georgia group of the Solomon Islands.

The three species are readily separated from one another by the following unique character combinations:

*Q. bignelli* has a general color of a dark reddish brown above, pale yellow beneath; a somewhat ill-defined narrow black dorsolateral line that is bordered above between the hind limbs by a sharply defined lighter band, as wide as a scale-row (this not being seen in either of the other species); the flanks below the dorsolateral band have scattered light spots occupying, usually, a single scale (seen also in *Q. utrimquepunctata* sp. nov.); the labial border has alternate brown and pale yellow spots; a fairly well-defined brown latero-ventral line separates the pale under side of the tail from the spotted sides.

*Q. utrimquepunctata* sp. nov. is a very dark brown to blackish coloured lizard with no well defined dorso-lateral line, but a series of about ten small white spots along the line between fore and hind limbs, these spots continuing to run in the line down the upper flanks of the original tail.

The flanks below the dorsolateral band have scattered light spots occupying, usually, a single scale; head is mainly an even black colour; upper labials are also mainly dark, only being punctuated by small triangular intrusions from the base and below the eye that are a dull cream in colour.

*Q. funibus* sp. nov. is a reddish brown lizard, notable for an absence of obvious white spots or specks on the flanks. If present in some specimens, they are invariably dulled and barely noticeable.

*Q. funibus* sp. nov. has a dorsum with two semi-broken but reasonably thick, dark lines running down either side of the mid-dorsal line. On the dorsolateral line on each side is another similar line, which may or may not be brown. There are 3 to 4 thinner semi-broken brown lines running along either flank over a lighter brown surface. Anterior of the head is mainly dark blackish in colour and the upper labials are also mainly dark blackish in colour and the two triangular intrusions below the eye are brown and not cream or white. Tail has striping at the anterior end only. The related species *S. minutus* (Meyer, 1874) from New Guinea is separated from the preceding three species by having fewer mid-body rows (18-20, versus 21-25), a more pointed snout, larger prefrontals, and a larger number of subdigital lamellae (23-25 versus 18-22).

The preceding four species in the genus *Quasipisciscincus* gen. nov. being the entirety of the genus are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: no fragmented head shields, fish-like scales; body is only slightly elongated; tail slightly flattened anteriorly, vertically flattened further down and about the same as the snout-vent length (original tails) or slightly longer; supranasals absent; a single anterior and posterior loreal; enlarged paired nuchal scales; prefrontals are well developed, usually separated, but sometimes in narrow contact; prefrontals are about twice as long as wide and in contact with the first and second of four supraoculars; scaly lower eyelid; interparietal is distinct; limbs are moderate and only just meet when adpressed; 18-25 midbody scale rows; 18-25 lamellae under the fourth toes; precloacal slightly enlarged; small size with an average adult snout vent length of just 35 mm.

Colour is earthy (brown to black), with flecks and spots, blotches or lines, but rarely giving the appearance of having distinctive pattern or markings. There is a border between the dorsal and lateral surface, sometimes well defined, other times not.

Eye is orange. Flanks are typically spotted, blotched or even with semi-distinct darker lines created by strokes of dark pigment over a light background. Venter is grey to cream. Darker spots may be present under the tail (largely modified from McCoy 2006).

*Q. utrimquepunctata* sp. nov. is depicted in life in plate 72 of McCoy (2006).

*Q. funibus* sp. nov. is depicted in life in plate 71 of McCoy (2006).

**Distribution:** *Q. utrimquepunctata* sp. nov. is restricted to the Nggela Island group in the Solomon Islands.

**Etmology:** The Latin word "*utrimquepunctata*" means "specked sides".

**QUASIPISCISCINCUS FUNIBUS SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:79520FA4-3FC5-4608-8E99-A13B8D9CED54**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-112808 collected from Mbuluminjua, Guadalcanal, Solomon Islands, Latitude -9.5167 S. Longitude 160.0667 E.

This facility allows access to its holdings.

**Paratype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-104560 collected from Mataruka, Guadalcanal Province, Solomon Islands, Latitude -9.5 S., Longitude 160.0667 E.

**Diagnosis:** *Quasipisciscincus utrimquepunctata* sp. nov. from Nggela Sule (Big Gela), Florida Gap, Solomon Islands and *Q. funibus* sp. nov. from Guadalcanal, Solomon Islands, have until now been treated as populations of *Quasipisciscincus bignelli* (Schmidt, 1932) (previously placed in the genus *Sphenomorphus* Fitzinger, 1843), with a type locality of Kulambangara in the New Georgia group of the Solomon Islands.

The three species are readily separated from one another by the following unique character combinations:

*Q. bignelli* has a general color of a dark reddish brown above, pale yellow beneath; a somewhat ill-defined narrow black dorsolateral line that is bordered above between the hind limbs by a sharply defined lighter band, as wide as a scale-row (this not being seen in either of the other species); the flanks below the dorsolateral band have scattered light spots occupying, usually, a single scale (seen also in *Q. utrimquepunctata* sp. nov.); the labial border has alternate brown and pale yellow spots; a fairly well-defined brown latero-ventral line separates the pale under side of the tail from the spotted sides.

*Q. utrimquepunctata* sp. nov. is a very dark brown to blackish coloured lizard with no well defined dorso-lateral line, but a series of about ten small white spots along the line between fore and hind limbs, these spots continuing to run in the line down the upper flanks of the original tail.

The flanks below the dorsolateral band have scattered light spots occupying, usually, a single scale; head is mainly an even black colour; upper labials are also mainly dark, only being punctuated by small triangular intrusions from the base and below the eye that are a dull cream in colour.

*Q. funibus* sp. nov. is a reddish brown lizard, notable for an absence of obvious white spots or specks on the flanks. If present in some specimens, they are invariably dulled and barely noticeable.

*Q. funibus* sp. nov. has a dorsum with two semi-broken but reasonably thick, dark lines running down either side of the mid-dorsal line. On the dorsolateral line on each side is another similar line, which may or may not be brown. There are 3 to 4 thinner semi-broken brown lines running along either flank over a lighter brown surface. Anterior of the head is mainly dark blackish in colour and the upper labials are also mainly dark blackish in colour and the two triangular intrusions below the eye are brown and not cream or white. Tail has striping at the anterior end only.

The related species *S. minutus* (Meyer, 1874) from New Guinea is separated from the preceding three species by having fewer mid-body rows (18-20, versus 21-25), a more pointed snout, larger prefrontals, and a larger number of subdigital lamellae (23-25 versus 18-22).

The preceding four species in the genus *Quasipisciscincus* gen. nov. being the entirety of the genus are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: no fragmented



head shields, fish-like scales; body is only slightly elongated; tail slightly flattened anteriorly, vertically flattened further down and about the same as the snout-vent length (original tails) or slightly longer; supranasals absent; a single anterior and posterior loreal; enlarged paired nuchal scales; prefrontals are well developed, usually separated, but sometimes in narrow contact; prefrontals are about twice as long as wide and in contact with the first and second of four supraoculars; scaly lower eyelid; interparietal is distinct; limbs are moderate and only just meet when adpressed; 18-25 midbody scale rows; 18-25 lamellae under the fourth toes; precloacal slightly enlarged; small size with an average adult snout vent length of just 35 mm.

Colour is earthy (brown to black), with flecks and spots, blotches or lines, but rarely giving the appearance of having distinctive pattern or markings. There is a border between the dorsal and lateral surface, sometimes well defined, other times not.

Eye is orange. Flanks are typically spotted, blotched or even with semi-distinct darker lines created by strokes of dark pigment over a light background. Venter is grey to cream. Darker spots may be present under the tail (largely modified from McCoy 2006).

*Q. utrimquepunctata* sp. nov. is depicted in life in plate 72 of McCoy (2006).

*Q. funibus* sp. nov. is depicted in life in plate 71 of McCoy (2006).

**Distribution:** *Q. funibus* sp. nov. is restricted to Guadalcanal in the Solomon Islands.

**Etymology:** The Latin word “*funibus*” means “cords” in reflection of the subtle cord like markings on the flanks.

#### OFILLABIIREATUM GEN. NOV.

LSIDurn:lsid:zoobank.org:act:E9E45CD1-B9E8-457C-8B63-51CD04402572

**Type species:** *Ofillabiireatum abscondeetus* sp. nov. (this paper).

**Diagnosis:** Treated as the so-called “*Sphenomorphus maindroni* group” by Greer and Shea (2004) and flagged as genus-level distinct by numerous authors, including Pyron *et al.* (2013), species within this new genus *Ofillabiireatum* gen. nov. are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of “a postsupraocular”, being a small oblique scale just posterior to the supraoculars and medial to the pretemporal scales (Greer and Shea 2004).

Alternatively it can be described as the presence of a small scale just posterior to the supraocular scales and just medial to the two pretemporal scales and which from its position can be called the postsupraocular scale.

Species groups within this assemblage are placed within subgenera as detailed below.

The species within the subgenus *Cryptozoscincus* subgen. nov. are readily separated from those in the nominate subgenus of *Ofillabiireatum* gen. nov. by the following unique combination of characters:

Prefrontals separated; supralabials seven, fifth is subocular; at most a dark aggregation of pigment in upper the lateral area of the shoulder, but not an obvious dark lateral stripe; subdigital lamellae 12-20; size is relatively large (maximum snout-vent length of smallest species is 79 mm).

The species within the subgenus *Minimascincus* subgen. nov. are readily separated from the other subgenera within *Ofillabiireatum* gen. nov. (being the nominate genus and subgenus) and the subgenus *Cryptozoscincus* subgen. nov. by the following unique combination of characters:

The species have similar body proportions, including relatively longer limbs and a shorter trunk than those in the the other subgenera; they also have seven supralabials, grooved subdigital lamellae (in line with others in the same genus); undivided temporal scales and modally lack nuchal scales (occasionally having one nuchal unilaterally); numerous subdigital lamellae (20-24); and midbody scales (30-35), paravertebral scales (50-60); no division of either of the last two

supralabials, 10-11 supraciliaries; a more strongly and evenly defined dorsal pattern of dark markings on the body and flanks, with a generally transverse orientation (adapted from Shea, 2017 and inspection of specimens of the relevant species).

**Distribution:** *Ofillabiireatum* gen. nov. occur from the southern Philippine Islands, through Borneo and east Indonesia, New Guinea to the Solomon Islands, with the bulk of species within the Papuan realm.

**Etymology:** In Latin “*Ofillabiireatum*” sometimes refers to the white-spotted lips (or labial scales in the case of these lizards), which is a common character state in many species in the genus.

**Content:** *Ofillabiireatum abscondeetus* sp. nov. (type species); *O. anotus* (Greer, 1973); *O. brunneus* (Greer and Parker, 1974); *O. buettikoferi* (Lidth de Jeude, 1905); *O. capitolythos* (Shea and Michels, 2009); *O. cinereus* (Greer and Parker, 1974); *O. consobrinus* (Peters and Doria, 1878); *O. cranei* (Schmidt, 1932); *O. dekkeriae* (Shea, 2017); *O. derooyae* (De Jong, 1927); *O. fasciatus* (Gray, 1845); *O. forbesi* (Boulenger, 1888); *O. fragilis* (Macleay, 1877); *O. fuscolineatus* (Greer and Shea, 2004); *O. leptofasciatus* (Greer and Parker, 1974); *O. longicaudatus* (De Rooij, 1915); *O. loriae* (Boulenger, 1897); *O. maindroni* (Sauvage, 1879) *O. microtympanus* (Greer, 1973); *O. nigriventris* (De Rooij, 1915); *O. nigrolineatus* (Boulenger, 1897); *O. nonvidetur* sp. nov.; *O. oligolepis* (Boulenger, 1914); *O. tanneri* (Greer and Parker, 1967); *O. papuae* (Kinghorn, 1928); *O. rufus* (Boulenger, 1887); *O. sanana* (Kopstein, 1926); *O. scutatus* (Peters, 1867); *O. solomonis* (Boulenger, 1887); *O. undulatus* (Peters and Doria, 1878).

#### OFILLABIIREATUM ABSCONDEETUS SP. NOV.

LSIDurn:lsid:zoobank.org:act:CBEFBC7A-9E29-4C36-B835-F03E17B4AC97

**Holotype:** A preserved specimen, Benoit Mys specimen 9298 (see Mys, 1988:143, as *Laticincus fuscolineatus*) deposited in the Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgique, collected from Miringi (400-480 m ASL), East Sepik Province, Papua New Guinea.

**Diagnosis:** Until now *Ofillabiireatum abscondeetus* sp. nov. from north of the New Guinea central cordillera, has been treated as a population of putative “*Sphenomorphus fuscolineatus* Greer and Shea, 2004”, with a type locality of Tifalmin, West Sepik Province, Papua New Guinea, Latitude -5.8079 S., Longitude 141.8249 E, being a taxon from basins flowing south of the main central cordillera in the central highlands region of the island of New Guinea.

*O. abscondeetus* sp. nov. is readily separated from the species now known as *O. fuscolineatus* (Greer and Shea, 2004) by having more midbody scale rows (35 versus 28-32) and more subdigital lamellae (20 versus 13-18) (Greer and Shea 2004).

The other newly named species in the group, *O. nonvidetur* sp. nov. from Efogi in the Central Province of Papua New Guinea is separated from both preceding species by the fact that it lacks the dark dorsolateral stripe of the other two species and has the pale and dark markings of the

dorsum orientated linearly over the anterior part of the body.

The three species *O. nonvidetur* sp. nov., *O. abscondeetus* sp. nov. and *O. fuscolineatus* are separated from all other species in the genus *Ofillabiireatum* gen. nov. by the following unique characters: longitudinal scale rows at midbody 28-35; only the anteriormost pair of chin scales in medial contact; presuboculars modally three; supralabials seven, fifth below center of eye; paravertebrals 59-74; size small to medium (snout-vent is 59 mm).

In addition, the dorsal coloration is brown and in two of three species, with a dark brown dorsolateral stripe extending from snout to the posterior trunk.

Treated as the so-called “*Sphenomorphus maindroni* group” by Greer and Shea (2004) and flagged as genus-level distinct by numerous authors, including Pyron *et al.* (2013), species within this new genus *Ofillabiireatum* gen. nov. are readily separated

from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of “a postsupraocular”, being a small oblique scale just posterior to the supraoculars and medial to the pretemporal scales (Greer and Shea 2004).

Alternatively it can be described as the presence of a small scale just posterior to the supraocular scales and just medial to the two pretemporal scales and which from its position can be called the postsupraocular scale.

Species groups within this assemblage are placed within subgenera, although the three species *O. nonvidetur sp. nov.*, *O. abscondeetus sp. nov.* and *O. fuscolineatus* are all within the nominate subgenus.

**Distribution:** *O. abscondeetus sp. nov.* is only known from the type locality being Miringi (400-480 m ASL), East Sepik Province, Papua New Guinea.

**Etymology:** The Latin “*absconditus*” means “hidden”, which refers to this species not being visible as a species, when first inspected by herpetologists Allen Greer and Glenn Shea of Australia. The spelling used for this description “*abscondeetus*” is deliberate and not to be changed as it has been done to avoid any potential homonymy.

#### **OFILLABIIREATUM NONVIDETUR SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:050F1DBD-39F4-490F-9DC8-341363CE9D59**

**Holotype:** A preserved specimen at the University of Papua New Guinea, Papua New Guinea, specimen number UPNG 1033 collected from Efogi, Central Province, Papua New Guinea.

**Diagnosis:** Until now *Ofillabiireatum abscondeetus sp. nov.* from north of the New Guinea central cordillera, has been treated as a population of putative “*Sphenomorphus fuscolineatus* Greer and Shea, 2004”, with a type locality of Tifalmin, West Sepik Province, Papua New Guinea, Latitude -5.8079 S., Longitude 141.8249 E, being a taxon from basins flowing south of the main central cordillera in the central highlands region of the island of New Guinea.

*O. abscondeetus sp. nov.* is readily separated from the species now known as *O. fuscolineatus* (Greer and Shea, 2004) by having more midbody scale rows (35 versus 28-32) and more subdigital lamellae (20 versus 13-18) (Greer and Shea 2004).

The other newly named species in the group, *O. nonvidetur sp. nov.* from Efogi in the Central Province of Papua New Guinea is separated from both preceding species by the fact that it lacks the dark dorsolateral stripe of the other two species and has the pale and dark markings of the

dorsum orientated linearly over the anterior part of the body.

The three species *O. nonvidetur sp. nov.*, *O. abscondeetus sp. nov.* and *O. fuscolineatus* are separated from all other species in the genus *Ofillabiireatum gen. nov.* by the following unique characters: longitudinal scale rows at midbody 28-35; only the anteriormost pair of chin scales in medial contact; presuboculars modally three; supralabials seven, fifth below center of eye; paravertebrals 59-74; size small to medium (snout-vent is 59 mm).

In addition, the dorsal coloration is brown and in two of three species, with a dark brown dorsolateral stripe extending from snout to the posterior trunk.

Treated as the so-called “*Sphenomorphus maindroni* group” by Greer and Shea (2004) and flagged as genus-level distinct by numerous authors, including Pyron *et al.* (2013), species within this new genus *Ofillabiireatum gen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of “a postsupraocular”, being a small oblique scale just posterior to the supraoculars and medial to the pretemporal scales (Greer and Shea 2004).

Alternatively it can be described as the presence of a small scale just posterior to the supraocular scales and just medial to the two pretemporal scales and which from its position can be called the postsupraocular scale.

Species groups within this assemblage are placed within subgenera, although the three species *O. nonvidetur sp. nov.*, *O. abscondeetus sp. nov.* and *O. fuscolineatus* are all within the nominate subgenus.

**Distribution:** *O. nonvidetur sp. nov.* is only known from the type locality being Efogi in the Central Province of Papua New Guinea.

**Etymology:** The Latin “*nonvidetur*” means “hidden”, which refers to this species not being visible as a species or “hidden”, when first inspected by herpetologists Allen Greer and Glenn Shea of Australia.

#### **CRYPTOZOSCINCUS SUBGEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:81D21736-0D3B-47BC-B1F6-B268FAAA6D97**

**Type species:** *Lygosoma solomonis* Boulenger, 1887.

**Diagnosis:** The species within the subgenus *Cryptozoscincus subgen. nov.* are readily separated from those in the nominate subgenus of *Ofillabiireatum gen. nov.* by the following unique combination of characters:

Prefrontals separated; supralabials seven, fifth is subocular; at most a dark aggregation of pigment in upper the lateral area of the shoulder, but not an obvious dark lateral stripe; subdigital lamellae 12-20; size is relatively large (maximum snout-vent length of smallest species is 79 mm).

The species within the subgenus *Minimascincus subgen. nov.* are readily separated from the other subgenera within *Ofillabiireatum gen. nov.* (being the nominate genus and subgenus) and the subgenus *Cryptozoscincus subgen. nov.* by the following unique combination of characters:

The species have similar body proportions, including relatively longer limbs and a shorter trunk than those in the the other subgenera; they also have seven supralabials, grooved subdigital lamellae (in line with others in the same genus); undivided temporal scales and modally lack nuchal scales (occasionally having one nuchal unilaterally); numerous subdigital lamellae (20-24); and midbody scales (30-35), paravertebral scales (50-60); no division of either of the last two supralabials, 10-11 supraciliaries; a more strongly and evenly defined dorsal pattern of dark markings on the body and flanks, with a generally transverse orientation (adapted from Shea, 2017 and inspection of specimens of the relevant species).

Treated as the so-called “*Sphenomorphus maindroni* group” by Greer and Shea (2004) and flagged as genus-level distinct by numerous authors, including Pyron *et al.* (2013), species within this new genus *Ofillabiireatum gen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of “a postsupraocular”, being a small oblique scale just posterior to the supraoculars and medial to the pretemporal scales (Greer and Shea 2004).

Alternatively it can be described as the presence of a small scale just posterior to the supraocular scales and just medial to the two pretemporal scales and which from its position can be called the postsupraocular scale.

**Distribution:** New Guinea and Solomon Islands groups.

**Etymology:** The Latin name “*Cryptozoscincus*” literally means “cryptozoic skink”, thereby describing the species.

**Content:** *Ofillabiireatum (Cryptozoscincus) solomonis* (Boulenger, 1887) (type species); *O. (Cryptozoscincus) anotus* (Greer, 1973); *O. (Cryptozoscincus) brunneus* (Greer and Parker, 1974); *O. (Cryptozoscincus) forbesi* (Boulenger, 1888); *O. (Cryptozoscincus) fragilis* (Macleay, 1877); *O. (Cryptozoscincus) lorae* (Boulenger, 1897); *O. (Cryptozoscincus) microtympanus* (Greer, 1973); *O. (Cryptozoscincus) nigrolineatus* (Boulenger, 1897); *O. (Cryptozoscincus) oligolepis* (Boulenger, 1914); *O. (Cryptozoscincus) scutatus* (Peters, 1867); *O. (Cryptozoscincus) tanneri* (Greer and Parker, 1967).

**MINIMASCINKUS SUBGEN. NOV.**

LSIDurn:lsid:zoobank.org:act:8136FFF7-AF74-4055-9FE0-F989FE8B0E1B

**Type species:** *Lygosoma (Hinulia) consobrinum* Peters and Doria, 1878.

**Diagnosis:** The species within the subgenus *Minimascinkus subgen. nov.* are readily separated from the other subgenera within *Ofillabiireatum gen. nov.* (being the nominate genus and subgenus) and the subgenus *Cryptozoscincus subgen. nov.* by the following unique combination of characters:

The species have similar body proportions, including relatively longer limbs and a shorter trunk than those in the other subgenera; they also have seven supralabials, grooved subdigital lamellae (in line with others in the same genus); undivided temporal scales and modally lack nuchal scales (occasionally having one nuchal unilaterally); numerous subdigital lamellae (20-24); and midbody scales (30-35), paravertebral scales (50-60); no division of either of the last two supralabials, 10-11 supraciliaries; a more strongly and evenly defined dorsal pattern of dark markings on the body and flanks, with a generally transverse orientation (adapted from Shea, 2017 and inspection of specimens of the relevant species).

The species within the subgenus *Cryptozoscincus subgen. nov.* are readily separated from those in the nominate subgenus of *Ofillabiireatum gen. nov.* by the following unique combination of characters: Prefrontals separated; supralabials seven, fifth is subocular; at most a dark aggregation of pigment in upper the lateral area of the shoulder, but not an obvious dark lateral stripe; subdigital lamellae 12-20; size is relatively large (maximum snout-vent length of smallest species is 79 mm).

Treated as the so-called "*Sphenomorphus maindroni* group" by Greer and Shea (2004) and flagged as genus-level distinct by numerous authors, including Pyron *et al.* (2013), species within this new genus *Ofillabiireatum gen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the presence of "a postsupraocular", being a small oblique scale just posterior to the supraoculars and medial to the pretemporal scales (Greer and Shea 2004).

Alternatively it can be described as the presence of a small scale just posterior to the supraocular scales and just medial to the two pretemporal scales and which from its position can be called the postsupraocular scale.

**Distribution:** West New Guinea and islands generally west of there to Borneo (essentially East Indonesia).

**Etymology:** In Latin, "*Minimascinkus*" literally means "small skink", as befits the size of the species in the subgenus.

**Content:** *Ofillabiireatum (Minimascinkus) consobrinus* (Peters and Doria, 1878) (type species); *O. (Minimascinkus) buettikoferi* (Lidith De Juede, 1905); *O. (Minimascinkus) capitolythos* (Shea and Michels, 2009); *O. (Minimascinkus) dekkeriae* (Shea, 2017); *O. (Minimascinkus) sanana* (Kopstein, 1926).

**ARIETESVARIOUS GEN. NOV.**

LSIDurn:lsid:zoobank.org:act:3E658907-637F-4F33-8FA7-36F2C3090EFA

**Type species:** *Tropidophorus darlingtoni* Loveridge, 1945.

**Diagnosis:** Species within *Arietesvarious gen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: Prefrontals meet medially; supralabials modally six, fourth is subocular.

**Distribution:** Central highlands of New Guinea and north of there on the main island.

**Etymology:** In Latin "*Arietesvarius*" means "speckled" which refers to the colouration on the relevant species. The "*varius*" part of the name is deliberately misspelt as "*various*" to ensure that the subgenus has no potential homonym issues and so the spelling of "*Arietesvarious*" should not be changed.

**Content:** *Arietesvarious darlingtoni* (Loveridge, 1945) (type species); *A. schultzei* (Vogt, 1911).

**CAUDADENSISSIMA SUBGEN. NOV.**

LSIDurn:lsid:zoobank.org:act:73C5C902-9286-454C-B0BA-87B2B48DA975

**Type species:** *Lygosoma (Hinulia) schultzei* Vogt, 1911.

**Diagnosis:** The sole species within the monotypic subgenus *Caudadensissima subgen. nov.* is defined and separated from the sole species within the nominate and monotypic subgenus *Arietesvarious gen. nov.*, (AKA in this instance as *subgen. nov.*) by having the nasal scale and first supralabial fused, as well as having 20-26 dorsal midbody rows, versus nasal and first supralabial being separate and distinct and 33-36 dorsal midbody scale rows in the nominate subgenus of *Arietesvarious gen. nov.* The species within the subgenus *Caudadensissima subgen. nov.*, being *A. schultzei* (Vogt, 1911) is further defined and diagnosed by the following characters:

Snout pointed; lower eyelid scaly; ear-opening almost as large as the eye, no lobules. Nostril in the nasal; no supranasals; a single anterior loreal; frontonasal broadly in contact with the rostral, which reaches far posteriorly; praefrontals forming a suture; frontal longer than the interparietal, pointed

posteriorly; five supraoculars; seven supraciliaries; frontoparietals a little shorter than the interparietal; parietals in contact; four pair of nuchals; six upper labials, fourth below the eye, five lower labials. Body slender, with 20-26 dorsal midbody scale rows, the two vertebral series largest; praeanal scales strongly enlarged. Tail thick, a little longer than the head and body. Limbs short, not meeting when adpressed; digits well developed; fourth toe with 12 lamellae below (modified from de Rooij 1915). Species within *Arietesvarious gen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters:

Prefrontals meet medially; supralabials modally six, fourth is subocular.

**Distribution:** *A. schultzei* (Vogt, 1911) the sole member of the subgenus is known only from northern New Guinea including both Papua New Guinea (Sepik Basin) and also Irian Jaya further west. The Irian Jaya form described as *Lygosoma beauforti* De Jong, 1927 is herein regarded as a junior subjective synonym of *A. schultzei* (Vogt, 1911).

**Etymology:** In Latin, the words "*cauda densissima*" means "thick tail" with reference to the relatively thick tail seen in this species as compared to near relatives.

**Content:** *Arietesvarious (Caudadensissima) schultzei* (Vogt, 1911) (type species) (monotypic).

**BREVINNARIBUSSIUS GEN. NOV.**

LSIDurn:lsid:zoobank.org:act:9AED767F-63D1-43DE-9548-0B82D14EE3A2

**Type species:** *Lygosoma louisadense* Boulenger, 1903.

**Diagnosis:** The species within the subgenus *Brevinnaribussius subgen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination/s of characters:

No auricular lobules; five or more supraoculars; one anterior loreal and one or other of:

24-26 mid-body scale rows; three or four pairs of nuchals; 36-39 lamellae under the fourth toe; no enlarged preanals (nominate subgenus) or:

30-32 mid-body scale rows; no nuchals; five supraoculars; 30-42 lamellae under the fourth toe; preanals enlarged (*Fortiscurascincus subgen. nov.*).

**Distribution:** East New Guinea including offshore islands.

**Etymology:** In Latin "*Brevi naribussius*" means "short snout". The extra "n" has been added to the genus name "*Brevinnaribussius*" to ensure that there are no homonyms and so the spelling should not be altered.

**Content:** *Brevinnaribussius louisadense* (Boulenger, 1903) (type species); *B. aignanus* (Boulenger, 1898); *B. milnense* (Boulenger, 1903).

**FORTISCRURASCINCUS SUBGEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:FB2203B2-1B75-4315-9EB1-10883633BD70**

**Type species:** *Lygosoma aignanum* Boulenger, 1898.

**Diagnosis:** The species within the subgenus *Fortiscurascincus* subgen. nov. are separated from those within the nominate subgenus *Brevinnaribussuis* gen. nov. (subgen. nov. in this case by direct inference), by the following suite of characters:

30-32 mid-body scale rows; no nuchals; five supraoculars; 30-42 lamellae under the fourth toe; preanals enlarged, versus

24-26 mid-body scale rows; three or four pairs of nuchals; 36-39 lamellae under the fourth toe; no enlarged preanals in the nominate subgenus.

In addition to the preceding character suites, the relevant species are separated from all others within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following combination of characters:

No auricular lobules; five or more supraoculars; one anterior loreal.

**Distribution:** East New Guinea (Papua New Guinea in the far south-east).

**Etymology:** In Latin the words "*Fortiscurra scincus*" means "strong limbed skink" in reflection of the physical form of the relevant species.

**Content:** *Brevinnaribussuis* (*Fortiscurascincus*) *aignanus* (Boulenger, 1898) (type species); *B.* (*Fortiscurascincus*) *milnense* (Boulenger, 1903).

**SILVALIZARD GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:AA076E7C-F2D9-4EA5-829E-DE4CD9F46217**

**Type species:** *Hinulia indica* Gray, 1853.

**Diagnosis:** The species within the genus *Silvalizard* gen. nov. are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following suite of characters:

Limbs well developed, pentadactyle; the length of the hind limb exceeds the distance between the centre of the eye and the fore limb. Lower eyelid scaly. Tympanum distinct.

No supranasals. Frontal not broader than the supraocular region. Frontoparietals distinct. A pair of enlarged preanals. Habit lacertiform and scales smooth; the distance between the end of the snout and the fore limb is contained once and two fifths to once and three fifths in the distance between axilla and groin. Snout short, obtuse; loreal region nearly vertical. Lower eyelid scaly. Nostril pierced in a single nasal, or between a nasal and a postnasal; no supranasal; rostral convex, largely in contact with the frontonasal, which is broader than long, and forms a narrow suture with the frontal; latter as long as the frontoparietal and parietals together, in contact with the first, second, and third supraoculars; four large supraoculars, followed by two very small ones; first supraocular not much longer than second; nine or ten supraciliaries, first largest; frontoparietals and interparietal distinct, former a little longer than latter; parietals forming a short suture behind the interparietal; no nuchals; fifth and sixth upper labials largest and below the eye. Ear-opening oval, smaller than the eye-opening; no auricular lobules. 30 to 38 midbody scale rows, laterals are the smallest. A pair of large preanals. When the limbs are adpressed against the body, the hind limb reaches the elbow or not quite as far. Digits rather elongate, compressed; subdigital lamellae smooth or obtusely keeled, 17 to 20 under the fourth toe (largely derived from Boulenger, 1887).

The species within this genus can be separated from species within the closely related and morphologically similar genus *Lissonota*, Blyth, 1853 (type species, *Lissonota maculata* Blyth, 1853) by the fact that that species complex have the alternative suite of characters of:

38 to 40 midbody scale rows; rostral is flat or concave above (versus convex); the hind limb

does not reach beyond the axilla; five or more supraoculars and a single anterior loreal.

**Distribution:** Southern Asia, including India, China, the Himalayas, Indochina and Peninsula Malaysia.

**Etymology:** In Latin, the words "*Silva lizard*" means "forest lizard" which accurately sums up where most species are found.

**Content:** *Silvalizard indicus* (Gray, 1853) (type species); *S. formosensis* (Thompson, 1912); *S. lineopunctulatus* (Taylor, 1962); *S. lovelinayi* sp. nov.; *S. scotophilus* (Boulenger, 1900); *S. sungaicolus* (Sumarli, Grismer, Wood, Ahmad, Rizal, Ismail, Izam, Ahmad and Linkem, 2016); *S. tersus* (Smith, 1916).

**SILVALIZARD LOVELINAYI SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:52497DEE-F6EE-4745-95DD-E61E58DC6BF2**

**Holotype:** A preserved specimen at the National Museum of Natural History, Smithsonian Institution, Washington, DC, USA, specimen number USNM Amphibians and Reptiles 24031 collected from Trang, Thailand, Latitude 7.5645 N., Longitude 99.6239 E.

This facility allows access to its holdings.

**Diagnosis:** The species *S. lovelinayi* sp. nov. was originally identified by Taylor (1963) as being of the species "*Sphenomorphus scotophilus* (Boulenger, 1900)". However, the specimen in question is clearly of a separate species.

*S. lovelinayi* sp. nov. is separated from *S. scotophilus* by the following characters:

1/ Four (instead of five) supraoculars.

2/ Frontal is shorter than the combined parietals versus same length in *S. scotophilus*.

3/ 34 midbody rows versus 30-32 in *S. scotophilus*.

4/ 19 lamellae under the fourth toe, versus 22-23 in *S. scotophilus*.

On the dorsum of *S. scotophilus* are moderately sized and moderately defined blackish spots or smudges running (mainly) along the midline. These are reduced to smallish spots in *S. lovelinayi* sp. nov. as depicted in the photo of the holotype in Taylor (1963).

The holotype of *S. lovelinayi* sp. nov. also appears to be a more stoutly built lizard than type *S. scotophilus*, which may also explain the greater number of mid-body rows, assuming that there has been no other relative expansion in size of the scales.

The two preceding species are separated from all others within *Silvalizard* gen. nov. by the following unique character suite:

Four or five supraoculars; no supranasals; lower eyelid scaly; limbs well developed; leg reaching between elbow and axilla when limbs are adpressed; frontal is distinctly shorter than combined

parietals or equal to it, not especially narrowed posteriorly; no nuchals; 30-34 midbody rows; subcaudals widened.

The species within the genus *Silvalizard* gen. nov. are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following suite of characters:

Limbs well developed, pentadactyle; the length of the hind limb exceeds the distance between the centre of the eye and the fore limb. Lower eyelid scaly. Tympanum distinct. No supranasals. Frontal not broader than the supraocular region. Frontoparietals distinct. A pair of enlarged preanals. Habit lacertiform and scales smooth; the distance between the end of the snout and the fore limb is contained once and two fifths to once and three fifths in the distance between axilla and groin.

Snout short, obtuse; loreal region nearly vertical. Lower eyelid scaly. Nostril pierced in a single nasal, or between a nasal and a postnasal; no supranasal; rostral convex, largely in contact with the frontonasal, which is broader than long, and forms a narrow suture with the frontal; latter as long as the frontoparietal and parietals together, in contact with the first, second, and third supraoculars; four large supraoculars, followed by two very small ones; first supraocular not much longer than second; nine or ten supraciliaries, first largest; frontoparietals and interparietal distinct, former a little longer than latter; parietals forming a short

suture behind the interparietal; no nuchals; fifth and sixth upper labials largest and below the eye. Ear-opening oval, smaller than the eye-opening; no auricular lobules. 30 to 38 midbody scale rows, laterals are the smallest. A pair of large preanals. When the limbs are adpressed against the body, the hind limb reaches the elbow or not quite as far. Digits rather elongate, compressed; subdigital lamellae smooth or obtusely keeled, 17 to 20 under the fourth toe (largely derived from Boulenger, 1887).

The species within this genus can be separated from species within the closely related and morphologically similar genus *Lissonata*, Blyth, 1853 (type species, *Lissonata maculata* Blyth, 1853) by the fact that that species complex have the alternative suite of characters of:

38 to 40 midbody scale rows; rostral is flat or concave above (versus convex); the hind limb

does not reach beyond the axilla; five or more supraoculars and a single anterior loreal.

**Distribution:** *S. lovelinayi* sp. nov. is known only from the holotype collected at or near to Trang, southern Thailand.

**Etymology:** Named in honour of Tony Love-Linay, owner of Reconnect communications, NSW and Victoria, Australia (a highly successful mobile phone retail outlet with multiple store locations) in recognition of his enormous amount of charitable work in relieving the crushing poverty seen in parts of Thailand, as well as for his services to herpetology over some decades, including the urgent rebuilding of dead motor vehicles and providing logistical support for various important fieldwork projects.

**LISSONATA MACULATA VELOXMOVENS SUBSP. NOV.**

**LSIDurn:lsid:zoobank.org:act:EA7FFE0C-8BCA-451C-94AE-5CD9424EA66C**

**Holotype:** A preserved specimen at the Museum of Vertebrate Zoology, University of California, Berkeley, California, USA, specimen number MVZ:Herp:258402 collected from Koh Khlee-ay Island, Mekong River, Sambour District, Kratie Province, Cambodia, Latitude 13.196325 N., Longitude 106.028915 E.

This facility allows access to its holdings.

**Paratype:** A preserved specimen at the Museum of Vertebrate Zoology, University of California, Berkeley, California, USA, specimen number MVZ:Herp:258403 collected from Koh Khlee-ay Island, Mekong River, Sambour District, Kratie Province, Cambodia, Latitude 13.196325 N., Longitude 106.028915 E.

**Diagnosis:** The distribution of *Lissonata maculata* Blyth, 1853 appears to be tied to the major river basins in south-east Asia, although the species is evidently adept at expanding distribution through man-made habitats.

Notwithstanding this recent expansion in the distribution of this common species, it became evident on inspection of specimens from across the known natural range, that morphologically divergent specimens appeared to occupy the main drainage basins.

The form from the Mekong drainage is herein formally named as *Lissonata maculata veloxmovens* subsp. nov., while the divergent form from the drainages of Central, southern Thailand is herein formally named as *Lissonata maculata currax* subsp. nov.

"*Sphenomorphus maculatus mitanensis* Annandale, 1905", with a type locality of Meetan, South Burma (now Myanmar), is also herein resurrected from synonymy as a valid subspecies occupying the Irawaddy River basin.

The four forms are separated from one another as follows:

*Lissonata maculata veloxmovens* subsp. nov. is separated from the nominate form of the species with a type locality of India and divergent specimens herein identified as *L. maculata currax* subsp. nov. by having a dorsum consisting of a light golden coloured back with one or two rows of well-defined roundish black spots, no stripe anterior to the nose from the snout, or if well defined, it is not distinct, and well-spaced but distinctive white dots or spots on the dark black coloured upper flank, this

band also being wide. At the lower edge of the black of the flank is a thick whitish-cream bar without dark intrusions, below that being an area of white with black mottling.

By contrast, specimens of *L. maculata currax* subsp. nov. from southern Thailand have a narrower black band along the upper flank, without distinctive white dots or spots on the dark black coloured upper flank.

The immaculate cream or white bar on the lower edge of the black of the flank is either thin or absent and the blackish spots on the dorsum are more obviously squarish in shape. It also has a distinctive black bar running from snout, through the eye and this is the stripe that runs along the upper flank.

In *L. maculata veloxmovens* subsp. nov., this black band invariably forms posterior to the eye and sometimes even posterior to the ear.

In the nominate form of *L. maculata*, from Assam in eastern India, while distributionally distant from *L. maculata veloxmovens* subsp. nov., it is morphologically more similar to it than the southern Thailand specimens (*L. maculata currax* subsp. nov.). However it is separated from *L. maculata veloxmovens* subsp. nov. by having semi-distinct spots on the back as opposed to distinct ones, faded white or yellow spots on the black of the flank (versus obvious in *L. maculata veloxmovens* subsp. nov.) and a prominent black bar running from the snout, through the eye and along the upper flank.

*L. maculata mitanensis* is readily separated from the three above-named subspecies by having lighter as well as darker spots, specks or markings on the dorsum of the back, this being a unique identifier of this taxon. Otherwise it is in many ways intermediate in appearance between nominate *L. maculata* and *L. maculata currax* subsp. nov.

The four preceding subspecies, as *L. maculata sensu lato* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato*, by the following unique combination of characters:

Habit lacertiform; dorsal scales small and smooth, the distance between the end of the snout and the forelimb equals once and one fifth to once and a half the distance between axilla and groin. Snout short, obtuse; loreal region nearly vertical. Lower eyelid scaly; nostril pierced in a single nasal; no supranasal; rostral perfectly flat or a little concave above, largely in contact with the frontonasal, which is broader than long, and forms a narrow suture with the frontal latter shield as long as frontoparietals and parietals together, in contact with the two or three anterior supraoculars; five large supraoculars, first much longer than second, fifth smallest; nine or ten supraciliaries, first and last largest; frontoparietals and interparietal distinct, former a little longer than latter; parietals forming a short suture behind the interparietal; no nuchals; fifth and sixth upper labials largest and below the eye. Ear-opening oval, smaller than the eye-opening; no auricular lobules. 38 to 40 mid-body rows; dorsals largest, laterals smallest. A pair of large preanals. The hind limb reaches the elbow or the axilla. Digits long, compressed; subdigital lamellae feebly uncarinate, 16 to 21 under the fourth toe.

Tail is almost twice as long as head and body, more-or less round in cross section although vertically flattened slightly on the sides of the base. Brown or olive-brown dorsally, usually with two dorsal series of small dark brown or black spots; a dark brown/black lateral band, sometimes spotted with whitish and edged below with white, extending from the snout, nostril, or just posterior to the eye to the tail, passing through the eye and above the ear; lower surfaces usually white (modified from Boulenger, 1887).

**Distribution:** *Lissonata maculata veloxmovens* subsp. nov. is apparently confined to the lower Mekong River drainage basin, including Vietnam, Cambodia, Thailand and Laos.

**Etymology:** In Latin, the words "*velox movens*" means fast moving, which accurately describes the movement of these lizards in warm weather when approached by humans.

**LISSONATA MACULATA CURRAX SUBSP. NOV.**

**LSIDurn:lsid:zoobank.org:act:C9D3386C-54A3-4258-BCA2-0AA5E4F13CDB**

**Holotype:** A preserved specimen at the National Museum of Natural History, Smithsonian Institution, Washington, DC, USA, specimen number USNM Amphibians and Reptiles 70259 collected from Lam Ton Lang (= Ban Lam Thong Lang), west north-west of Pak Chong, Nakhon Ratchasima Province, Thailand, Latitude 14.74 N, Longitude 101.304 E.

This facility allows access to its holdings.

**Paratype:** A preserved specimen at the National Museum of Natural History, Smithsonian Institution, Washington, DC, USA, specimen number USNM Amphibians and Reptiles 72170 collected from Pak Chong, Nakhon Ratchasima Province, Thailand, Latitude 14.7125 N, Longitude 101.422 E.

**Diagnosis:** The distribution of *Lissonata maculata* Blyth, 1853 appears to be tied to the major river basins in south-east Asia, although the species is evidently adept at expanding distribution through man-made habitats.

Notwithstanding this recent expansion in the distribution of this common species, it became evident on inspection of specimens from across the known natural range, that morphologically divergent specimens appeared to occupy the main drainage basins.

The form from the Mekong drainage is herein formally named as *Lissonata maculata veloxmovens subsp. nov.*, while the divergent form from the drainages of Central, southern Thailand is herein formally named as *Lissonata maculata currax subsp. nov.*

"*Sphenomorphus maculatus mitanensis* Annandale, 1905", with a type locality of Meetan, South Burma (now Myanmar), is also herein resurrected from synonymy as a valid subspecies occupying the Irawaddy River basin.

The four forms are separated from one another as follows:

*Lissonata maculata veloxmovens subsp. nov.* is separated from the nominate form of the species with a type locality of India and divergent specimens herein identified as *L. maculata currax subsp. nov.* by having a dorsum consisting of a light golden coloured back with one or two rows of well-defined roundish black spots, no stripe anterior to the nose from the snout, or if well defined, it is not distinct, and well-spaced but distinctive white dots or spots on the dark black coloured upper flank, this band also being wide. At the lower edge of the black of the flank is a thick whitish-cream bar without dark intrusions, below that being an area of white with black mottling.

By contrast, specimens of *L. maculata currax subsp. nov.* from southern Thailand have a narrower black band along the upper flank, without distinctive white dots or spots on the dark black coloured upper flank. The immaculate cream or white bar on the lower edge of the black of the flank is either thin or absent and the blackish spots on the dorsum are more obviously squarish in shape. It also has a distinctive black bar running from snout, through the eye and this is the stripe that runs along the upper flank.

In *L. maculata veloxmovens subsp. nov.*, this black band invariably forms posterior to the eye and sometimes even posterior to the ear.

In the nominate form of *L. maculata*, from Assam in eastern India, while distributionally distant from *L. maculata veloxmovens subsp. nov.*, it is morphologically more similar to it than the southern Thailand specimens (*L. maculata currax subsp. nov.*). However it is separated from *L. maculata veloxmovens subsp. nov.* by having semi-distinct spots on the back as opposed to distinct ones, faded white or yellow spots on the black of the flank (versus obvious in *L. maculata veloxmovens subsp. nov.*) and a prominent black bar running from the snout, through the eye and along the upper flank.

*L. maculata mitanensis* is readily separated from the three above-named subspecies by having lighter as well as darker

spots, specks or markings on the dorsum of the back, this being a unique identifier of this taxon. Otherwise it is in many ways intermediate in appearance between nominate *L. maculata* and *L. maculata currax subsp. nov.*

The four preceding subspecies, as *L. maculata sensu lato* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato*, by the following unique combination of characters:

Habit lacertiform; dorsal scales small and smooth, the distance between the end of the snout and the forelimb equals once and one fifth to once and a half the distance between axilla and groin. Snout short, obtuse; loreal region nearly vertical. Lower eyelid scaly; nostril pierced in a single nasal; no supranasal; rostral perfectly flat or a little concave above, largely in contact with the frontonasal, which is broader than long, and forms a narrow suture with the frontal latter shield as long as frontoparietals and parietals together, in contact with the two or three anterior supraoculars; five large supraoculars, first much longer than second, fifth smallest; nine or ten supraciliaries, first and last largest; frontoparietals and interparietal distinct, former a little longer than latter; parietals forming a short suture behind the interparietal; no nuchals; fifth and sixth upper labials largest and below the eye. Ear-opening oval, smaller than the eye-opening; no auricular lobules. 38 to 40 mid-body rows; dorsals largest, laterals smallest. A pair of large preanals. The hind limb reaches the elbow or the axilla. Digits long, compressed; subdigital lamellae feebly uncarinate, 16 to 21 under the fourth toe. Tail is almost twice as long as head and body, more-or less round in cross section although vertically flattened slightly on the sides of the base. Brown or olive-brown dorsally, usually with two dorsal series of small dark brown or black spots; a dark brown/black lateral band, sometimes spotted with whitish and edged below with white, extending from the snout, nostril, or just posterior to the eye to the tail, passing through the eye and above the ear; lower surfaces usually white (modified from Boulenger, 1887).

**Distribution:** *Lissonata currax subsp. nov.* is apparently confined to the drainages of the main central Thailand basin that ultimately flow through the Bangkok area to the upper Gulf of Thailand.

**Etymology:** In Latin, the word "*currax*" means "rapid" or "fast", which usually accurately describes the movement of these lizards in warm weather when approached by humans.

**INVALUERUNTSCINCUS GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:F656F424-3A19-4900-BAA8-15EA4E33898B**

**Type species:** *Lygosoma (Hinulia) variegatum* Peters, 1867.

**Diagnosis:** Species within the genus *Invalueruntscincus gen. nov.* are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters: Frontoparietal double; nostril pierced in a single nasal; no supranasal; two superimposed loreal shields behind the nasal; 5-7 supraoculars; 10-16 supraciliaries, usually the first is largest; 38-40 midbody rows, dorsals larger than laterals; a pair of enlarged pre-anal scales; The hind limb reaches the axilla or a little beyond the shoulder. Ear-opening large, oval, smaller than the eye opening; no aurioalar lobules. Digits elongate, compressed; 18 to 25 smooth or feebly carinate lamellae under the fourth toe. Snout short, obtuse; supraocular region much swollen.

Colouration brownish on the dorsum, variously spotted or marbled with darker colours; frequently a dorso-lateral series of light spots; sides of neck sometimes with a large black spot; sides of body are light-spotted; lower surfaces brownish white. Tail (original) is about 1.5 times the length of the snout-vent (modified from Boulenger 1887 and inspection of further specimens).

**Distribution:** Southern Philippines, Borneo and Sulawesi.

A specimen ostensibly from Mindoro Oriental Province, Philippines held at the California Academy of Sciences, lodged as CAS SUR 25754 is out of the expected range for the genus

and biogeographically unlikely, though not impossible and should be investigated. If it is in fact a wild specimen from a functioning indigenous population at that location, it will almost certainly represent an undescribed species.

**Etymology:** In Latin, the words “*invaluerunt scincus*” means “stout skink” in reflection of the relative build of adults of these lizards.

**Content:** *Invalueruntscincus variegatus* (Peters, 1867); (type species); *I. cyanolaemus* (Inger and Hosmer); *I. multisquamatus* (Inger, 1958); *I. sabanus* (Inger, 1958); *I. sarasinorum* (Boulenger, 1897); *I. zimmeri* (Ahl, 1933).

**MACROOCULAR SUBGEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:0DCC4AF0-E1A5-4E59-9A2E-A6F6F65359D3**

**Type species:** *Sphenomorphus sabanus* Inger, 1958.

**Diagnosis:** The species within *Macroocular subgen. nov.* are readily separated from those in the nominate subgenus of *Invalueruntscincus gen. nov.* by the following unique combination of characters:

- 1/ The absence of a black spot on the side of the neck and extending from behind the upper corner of the tympanum to above the insertion of the arm.
- 2/ 15-16 supraciliaries (versus 10-13 in the nominate subgenus).
- 3/ 18-22 lamellae under toe four (versus 18-25 in the nominate subgenus).
- 4/ 7 supraoculars (versus 5 in the nominate subgenus).

Species within the genus *Invalueruntscincus gen. nov.* are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters: Frontoparietal double; nostril pierced in a single nasal; no supranasal; two superimposed loreal shields behind the nasal; 5-7 supraoculars; 10-16 supraciliaries, usually the first is largest; 38-40 midbody rows, dorsals larger than laterals; a pair of enlarged pre-anal scales; The hind limb reaches the axilla or a little beyond the shoulder. Ear-opening large, oval, smaller than the eye opening; no auricular lobules. Digits elongate, compressed; 18 to 25 smooth or feebly carinate lamellae under the fourth toe.

Snout short, obtuse; supraocular region much swollen.

Colouration brownish on the dorsum, variously spotted or marbled with darker colours; frequently a dorso-lateral series of light spots; sides of neck sometimes with a large black spot; sides of body are light-spotted; lower surfaces brownish white. Tail (original) is about 1.5 times the length of the snout-vent (modified from Boulenger 1887 and inspection of further specimens).

**Distribution:** *Macroocular subgen. nov.* species occur in Borneo only.

**Etymology:** In Latin the words “*macro ocular*” means large eye, which reflects the state in juveniles within this subgenus. An “o” has been removed from the subgenus name and this is deliberate, to make it “*Macroocular*” and so should not be changed.

**Content:** *Invalueruntscincus (Macroocular) sabanus* (Inger, 1958) (type species); *I. (Macroocular) cyanolaemus* (Inger and Hosmer, 1965).

**GENUS PIERSONSTELLIO GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:220A1C7A-BB1E-4971-8841-D7B754D94A2C**

**Type species:** *Piersonstellio charlespiersoni sp. nov.* (this paper).

**Diagnosis:** The two species in this genus are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters: Scales smooth; no supranasals present; lower eyelid scaly; parietals form suture behind interparietal; three pairs of nuchals; auricular opening nearly as large as eye-opening, without lobules; a pair of enlarged preanals; 20 lamellae under the fourth toe.

Further diagnostic characters for this genus are found in Taylor (1963) pages 1005-1007 under the heading “*Sphenomorphus praesignis* (Boulenger)”.

These divergent species from the Malay Peninsula region, have been shown in various phylogenetic studies, including Honda *et al.* (2000) and Pyron *et al.* (2013) to be not a part of other putative “*Sphenomorphus*” Fitzinger, 1843 species groups.

**Distribution:** Mountainous parts of the Malay Peninsula from the vicinity of Fraser’s Hill, Malaysia in the south to the Tamarat Mountains, Peninsula Thailand.

**Etymology:** Both genus and species, *Piersonstellio charlespiersoni sp. nov.* are named in honour of Charles Pierson, book publisher of Moss Vale, New South Wales, Australia. For detail see Hoser (1996).

**Content:** *Piersonstellio charlespiersoni sp. nov.* (type species) (this paper); *P. praesignis* (Boulenger, 1900).

**PIERSONSTELLIO CHARLESPIERSONI SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:2B019DA7-97F9-43D3-B61E-E32DD5F3CCC1**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA, specimen number MCZ Herp R-39310 collected from Khao Wang Hip, Nakhon, Nakron Sri, Tamarat Mountains, Peninsula Thailand, Asia,

**Diagnosis:** *Piersonstellio charlespiersoni sp. nov.* is readily separated from the morphologically similar species *P. praesignis* (Boulenger, 1900) by the presence of a small extra shield interposed between the frontals and frontoparietals, this condition not present in specimens of *P. praesignis* of the type form and subspecies *P. praesignis divergens subsp. nov.* from Fraser’s Hill, Malaysia.

The two species in this genus are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters: Scales smooth; no supranasals present; lower eyelid scaly; parietals form suture behind interparietal; three pairs of nuchals; auricular opening nearly as large as eye-opening, without lobules; a pair of enlarged preanals; 20 lamellae under the fourth toe.

Further diagnostic characters for this genus are found in Taylor (1963) pages 1005-1007 under the heading “*Sphenomorphus praesignis* (Boulenger)”.

These divergent species from the Malay Peninsula region, have been shown in various phylogenetic studies, including Honda *et al.* (2000) and Pyron *et al.* (2013) to be not a part of other putative “*Sphenomorphus*” Fitzinger, 1843 species groups.

**Distribution:** *Piersonstellio charlespiersoni sp. nov.* is endemic to the Tamarat Mountains, Peninsula Thailand, Asia.

**Etymology:** Both genus and species, *Piersonstellio charlespiersoni sp. nov.* are named in honour of Charles Pierson, book publisher of Moss Vale, New South Wales, Australia. For detail see Hoser (1996).

**PIERSONSTELLIO PRAESIGNIS DIVERGANS SUBSP. NOV.**

**LSIDurn:lsid:zoobank.org:act:FE28340B-91F5-4236-8496-6816AA71C2C8**

**Holotype:** A preserved specimen at the La Sierra University, Department of Biology, Riverside, California, USA, specimen number LSUHC 9095 collected from Fraser’s Hill, 1456 M ASL, Pahang, Peninsula Malaysia, Asia, Latitude 3.7119 N. Longitude 101.7366 E.

This facility allows access to its holdings.

**Diagnosis:** *P. praesignis divergens subsp. nov.* from the Fraser’s Hill area of Pahang, Malaysia is separated from the nominate form of *P. praesignis* (Boulenger, 1900), with a type locality of Larut Hills, 4000 ft. [= 1312 m elevation], Perak, Malaya [West Malaysia], by the absence of a large rectangular shaped (long side running anterior-posterior) black patch on the neck, anterior to the axial of the front limb, the similar marking/s in *P. praesignis divergens subsp. nov.* being wider than long or

alternatively more-or-less square only; *P. praesignis divergens* subsp. nov. also lacks the distinctive white spotting on a brown background seen in the nominate form of *P. praesignis divergens* subsp. nov., which is either absent or faded in *P. praesignis divergens* subsp. nov. (note that we are talking about mature adult specimens here).

*Piersonstellio charlespiersoni* sp. nov. is readily separated from the morphologically similar species *P. praesignis* (Boulenger, 1900) by the presence of a small extra shield interposed between the frontals and frontoparietals, this condition not present in specimens of *P. Praesignis* of the type form and the subspecies *P. praesignis divergens* subsp. nov. from Fraser's Hill, Pahang, Malaysia.

The two species in this genus are separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters: Scales smooth; no supranasals present; lower eyelid scaly; parietals form suture behind interparietal; three pairs of nuchals; auricular opening nearly as large as eye-opening, without lobules; a pair of enlarged preanals; 20 lamellae under the fourth toe.

Further diagnostic characters for this genus are found in Taylor (1963) pages 1005-1007 under the heading "*Sphenomorphus praesignis* (Boulenger)".

These divergent species from the Malay Peninsula region, have been shown in various phylogenetic studies, including Honda *et al.* (2000) and Pyron *et al.* (2013) to be not a part of other putative "*Sphenomorphus*" Fitzinger, 1843 species groups.

**Distribution:** *P. praesignis divergens* subsp. nov. is only known from Fraser's Hill, Pahang, Malaysia.

**Etymology:** The subspecies is named in reflection of the fact it is divergent from the nominate form.

#### LINEAATRO GEN. NOV.

LSIDurn:lsid:zoobank.org:act:E4D28FAD-D058-4F41-957E-06E6EA1C0568

**Type species:** *Sphenomorphus diwata* Brown and Rabor, 1967.

**Diagnosis:** The genus, *Lineaatro* gen. nov. monotypic for the species originally described as "*Sphenomorphus diwata* Brown and Rabor, 1967" from north Mindanao Island, Philippines, is readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters:

A moderate-sized (snout-vent about 54 mm) smooth skink with 40 midbody scale rows; about 93 middorsal scale rows between parietals and tail base about; 15 lamellae beneath the fourth toe; 5 supraoculars, plus a small, divided scale posteriorly, anterior 2 supraoculars in contact with frontal; an irregularly margined, blackish band from ear to basal part of the tail.

The genus and species within it are further defined as follows: Slender build, head not strongly depressed; head and snout tapering; snout round, pointed, its length about half the head length; rostral narrowly in contact with prefrontal; frontonasals narrowly in contact; frontal tapering to a sharp point posteriorly; frontoparietals not fused; interparietal large but not completely separating parietals; anterior frontal reduced to small triangular shield widely separated from upper labials; fifth upper labial beneath center of the orbit; 5 elongate supraoculars, followed by sixth, which is transversely divided; no nuchals; eye moderate, its diameter about 75 percent snout length and 37 percent head breadth; ear large, its diameter about 75 percent eye diameter; 40 midbody scale rows; 93 scale rows along middorsal line between parietals and tail base; 15 lamellae beneath the fourth toe on the hind limb; limbs pentadactyl, well developed, length of hind limb about 37 percent of the snout-vent length and a slightly greater than distance from fore limb to snout tip.

Color (in preservative): Dorsum dark reddish brown blotched or suffused with blackish-brown, but lacking one or more rows of distinct blackish spots typical of other morphologically similar and sympatric taxa; dorsolateral region with an irregularly margined, broad, blackish band or series of blotches from region of the

ear to basal half of the tail; lower lateral surfaces and under surface of the head and throat are marked by blackish, broken, longitudinal lines; rest of venter uniformly light; limbs heavily mottled with blackish brown (taken from Brown and Rabor, 1967).

**Distribution:** *Lineaatro* gen. nov. is restricted to the hilly areas north and east of Batuan City, north Mindanao, Philippines, is range restricted and must therefore be regarded as vulnerable.

**Etymology:** In Latin, the genus name "*Lineaatro*" means "blackish line" in reflection of the ones running down each flank from the eye to the tail.

**Content:** *Lineaatro diwata* (Brown and Rabor, 1967) (monotypic).

#### BRUNNEISMACULIS GEN. NOV.

LSIDurn:lsid:zoobank.org:act:F09DAC85-49F3-4B95-87E2-103A7A5E51BD

**Type species:** *Lygosoma (Hinulia) acutum* Peters, 1864.

**Diagnosis:** *Brunneismaculis* gen. nov. monotypic for the Philippine species *B. acutus* (Peters, 1864), is readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique suite of characters:

1/ Frontoparietal single.

2/ Two loreals superimposed.

3/ Six supraoculars.

4/ 26 to 30 midbody scale rows.

5/ 32 to 34 subdigital lamellae on the fourth toe.

6/ Adult size averages about 180 millimeters in length and tail is about two thirds of that.

**Distribution:** Mindanao and immediately north small islands in the Philippines, in a relatively small area, but where they occur they are in massive numbers.

**Etymology:** In Latin, the words "*Brunneismaculis*" means brown spots on dorsum, effectively describing the colouration of the species as detailed by Taylor (1922).

**Content:** *Brunneismaculis acutus* (Peters, 1864) (monotypic).

#### OTOSAURUS LATERIBUSFULVIS SP. NOV.

LSIDurn:lsid:zoobank.org:act:86E3015E-CD1D-45E1-A9E4-062B8D79EBCC

**Holotype:** A preserved specimen at the United States National Museum (now National Museum of Natural History; Smithsonian Institution; Washington, DC), USA, specimen number USNM 498904, collected at Cagayan Province, Luzon Island, Philippines. This facility allows access to its holdings.

**Paratype:** A preserved specimen at the University of Texas at Austin, Texas, USA, Texas Natural History Collection, specimen number TNHC Herpetology 62749, collected from Zambales Province, Luzon Island, Philippines.

**Diagnosis:** Until now the genus *Otosaurus* Gray, 1845 has been treated as monotypic for the species *O. cumingi* Gray, 1845, herein regarded as a species complex, restricted to the Philippines. Two species are formally named for the first time in this paper.

*O. cumingi* Gray, 1845 is diagnosed as for the genus in both Gray (1845) and Boulenger (1887), and this definition applies to all three species, except where otherwise indicated herein (as below).

*O. cumingi* Gray, 1845 from Mindanao and nearby islands is separated from the two newly described species *O. lateribusfulvis* sp. nov. and *O. cinereocauda* sp. nov. by having 46-56 midbody rows, 12-14 supraciliaries and a small triangular interparietal.

*O. lateribusfulvis* sp. nov. from Luzon Island is separated from *O. cinereocauda* sp. nov. and *O. cumingi* by having sixteen to eighteen superciliaries, small interparietal and 58-60 midbody rows.

*O. cinereocauda* sp. nov. from Mindoro is separated from *O. lateribusfulvis* sp. nov. and *O. cumingi* by having a very large



interparietal, the parietals form no suture; eight upper labials; 46-56 midbody rows; and the prefrontal and supraocular are in contact.

*O. lateribusfulvis* sp. nov. in life is depicted in Brown *et al.* (2013) at page 64 bottom (juvenile) and page 65 top, (adult male).

The three described species in the genus *Otosaurus* are further defined and diagnosed as follows:

Habit lacertiform; the distance between the end of the snout and the fore limb equals, or nearly equals, the distance between axilla and groin. Snout short, obtuse. Lower eyelid scaly. Nostril pierced in a single nasal; a large supranasal, forming a suture with its fellow; frontonasal very small, scarcely broader than long, and forming a suture with the frontal; latter as long as or slightly shorter than the frontoparietals and parietals together, in contact with the four anterior supraoculars; eight supraoculars, last very small, first twice as long as second; 12 to 18 supraciliaries; frontoparietals and interparietal distinct, subequal in length; parietals forming a very short suture behind the interparietal; no nuchals; sixth and seventh labials below the eye. Ear-opening very large,

oval, nearly as large as the eye-opening; tympanum scarcely sunk; no auricular lobules. Scales smooth, with 46 to 60 midbody rows, laterals smallest. A pair of enlarged preanals. The hind limb reaches the shoulder or halfway between the latter and the ear. Digits elongate, compressed; subdigital lamellae uncarinate, divided, 22 to 24 under the fourth toe. Tail about one and a half times the length of head and body. Reddish brown to chocolate brown above, spotted with semidistinct and regular black blotches; upper half of the lateral surface is black, or with blackish spots, bordered with small white or yellowish spots, which in some specimens are larger on the sides of the neck; lips light in colour with small dark brown spots; lower surfaces yellowish white, throat sometimes with small brown spots (modified from Boulenger 1887).

**Distribution:** *O. lateribusfulvis* sp. nov. is known only from Luzon Island, Philippines.

**Eymology:** In Latin, "*lateribus fulvis*" means, yellow spots on side, in reflection of the yellow spots arranged in about six bands on the upper flanks of this species.

#### **OTOSAURUS CINEREOCAUDA SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:2D657F61-BCE4-4DA7-BA13-4874480C0DEC**

**Holotype:** A preserved specimen at the University of Kansas Biodiversity Institute, Kansas, USA, . specimen number KU KUH 335924, collected at an elevation of 2000-2200 metres on forest floor adjacent to a steep, rocky stream in the Municipality of Sablayan, Occidental Mindoro Province, Mindoro Island, Philippines. This facility allows access to its holdings.

**Diagnosis:** Until now the genus *Otosaurus* Gray, 1845 has been treated as monotypic for the species *O. cumingi* Gray, 1845, herein regarded as a species complex, restricted to the Philippines. Two species are formally named for the first time in this paper.

*O. cumingi* Gray, 1845 is diagnosed as for the genus in both Gray (1845) and Boulenger (1887), and this definition applies to all three species, except where otherwise indicated herein (as below).

*O. cumingi* Gray, 1845 from Mindanao and nearby islands is separated from the two newly described species *O. lateribusfulvis* sp. nov. and *O. cinereocauda* sp. nov. by having 46-56 midbody rows and a small triangular interparietal.

*O. cinereocauda* sp. nov. from Mindoro is separated from *O. lateribusfulvis* sp. nov. and *O. cumingi* by having a very large interparietal, the parietals form no suture; eight upper labials; 46-56 midbody rows; and the prefrontal and supraocular are in contact.

*O. lateribusfulvis* sp. nov. from Luzon Island is separated from *O. cinereocauda* sp. nov. and *O. cumingi* by having sixteen to eighteen superciliaries, small interparietal and 58-60 midbody

rows.

The three described species in the genus *Otosaurus* are further defined and diagnosed as follows:

Habit lacertiform; the distance between the end of the snout and the fore limb equals, or nearly equals, the distance between axilla and groin. Snout short, obtuse. Lower eyelid scaly. Nostril pierced in a single nasal; a large supranasal, forming a suture with its fellow; frontonasal very small, scarcely broader than long, and forming a suture with the frontal; latter as long as or slightly shorter than the frontoparietals and parietals together, in contact with the four anterior supraoculars; eight supraoculars, last very small, first twice as long as second; 12 to 18 supraciliaries; frontoparietals and interparietal distinct, subequal in length; parietals forming a very short suture behind the interparietal; no nuchals; sixth and seventh labials below the eye. Ear-opening very large,

oval, nearly as large as the eye-opening; tympanum scarcely sunk; no auricular lobules. Scales smooth, with 46 to 60 midbody rows, laterals smallest. A pair of enlarged preanals. The hind limb reaches the shoulder or halfway between the latter and the ear. Digits elongate, compressed; subdigital lamellae uncarinate, divided, 22 to 24 under the fourth toe. Tail about one and a half times the length of head and body. Reddish brown to chocolate brown above, spotted with semidistinct and regular black blotches; upper half of the lateral surface is black, or with blackish spots, bordered with small white or yellowish spots, which in some specimens are larger on the sides of the neck; lips light in colour with small dark brown spots; lower surfaces yellowish white, throat sometimes with small brown spots (modified from Boulenger 1887).

**Distribution:** *O. cinereocauda* sp. nov. is known only from Mindoro Island, Philippines.

**Eymology:** In Latin, "*cinereocauda*" means, greyish tail, in reflection of greyish or brown markings on tails of the species.

#### **ALBUMMENTUM GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:DBF7EAC1-E555-47E9-A8A5-EE29D6DCA172**

**Type species:** *Sphenomorphus apalpebratus* Datta-Roy, Das, Bauer, Lyngdoh-Tron and Karanth, 2013.

**Diagnosis:** Lizards in the genus *Albummentum* gen. nov. are separated from all other species within *Sphenomorphus* Fitzinger, 1834 *sensu lato* and other related Asian skink genera by the following unique combination of characters:

Small body size (anout-vent to 42.0 mm); moveable eyelids absent; an immovable clear spectacle permanently covers the eye, and no palpebral slit is evident; auricular opening is scaleless, situated in a shallow depression; dorsal scales show a line of demarcation along the posterior edge of ventral pes; 27-28 midbody scale rows; 62-64 longitudinal scale rows between the parietals and base of tail; 8-9 lamellae under the fourth toe; 5 supraoculars; 5-6 supralabials; 4-5 infralabials; about 92 subcaudals; dorsum golden brown, except at the dorsal margin of the lateral line, which is lighter, with four faintly spotted lines, two along each side of the vertebral row of scales, that extend to the tail base.

In common with other species within *Sphenomorphus* Fitzinger, 1834 *sensu lato* this genus and species has the following traits: parietals meet behind interparietals; median preanals overlap outer preanals; and iris is dark as the pupil, no supranasals; five digits on fore and hindlimbs, limbs well developed, and body is elongated, but non-vermiform (modified from Datta Roy *et al.* 2013).

**Disribution:** Known only from the sacred forests of Mawphlang, in Meghalaya, northeastern India.

**Eymology:** In Latin, the words "*Album mentum*" means "white chin" in reflection of the character state of the adults in this species in that the underside of the anterior of the head is white.

**Content:** *Albummentum apalpebratus* (Datta-Roy, Das, Bauer, Lyngdoh-Tron and Karanth, 2013) (monotypic).

**TENEBRISSPINA GEN. NOV.**

LSIDurn:lsid:zoobank.org:act:563025CF-3854-4168-AEE3-5978868B8A1B

**Type species:** *Sphenomorphus cryptotis* Darevsky, Orlov and Cuc, 2004.

**Diagnosis:** The distinctive species in the new genus *Tenebrisspina gen. nov.* is readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters:

Moderate-sized *Sphenomorphus*, male snout-vent about 66 mm, Tail length (original tail) about 166 mm; female snout-vent about 51-69 mm, tail length 147-166 mm; head longer than wide; rostral wider than high; supranasals absent; prefrontals in contact with each other; parietals in contact posteriorly; 2 loreals; 3 supraoculars, anterior one divided; 1 or 2 primary temporals; 2 secondary temporals, upper very large and overlapped by lower one; lower eyelid scaly; 7 supralabials, the fifth and sixth below the eye, separated from the eye by one row of small scales; external ear openings superficial, without lobules; mental wider than long; 7 infralabials; postmental undivided; 32-34 midbody scale rows; 73-80 paravertebral scales; 72-78 transverse rows of ventrals; 2 preloacals, enlarged; medial subcaudals widened; limbs short, pentadactyl; fingers and toes meeting when adpressed; subdigital lamellae smooth, numbering 12-13 under the fourth finger and 18-19 under the fourth toe.

Coloration in life: Dorsum and tail base yellowish brown with a vertebral row of large black spots; numerous indistinct white spots on the labials; lateral zone with a distinct dark stripe from behind the eye to tail base, with white spots; neck and throat white, with black dots; venter and underside anterior part of tail white, posterior part of tail yellowish brown (Modified from Darevsky *et al.* 2004 and Linh *et al.* 2019).

**Distribution:** *Tenebrisspina gen. nov.* are known from northern Vietnam only.

**Etymology:** In Latin, the words "*tenebris spina*" means black spine, which refers to the blackish darkening along the spinal area of the dorsum in adult lizards.

**Content:** *Tenebrisspina cryptotis* (Darevsky, Orlov and Cuc, 2004) (monotypic).

**TENUISFODIENS GEN. NOV.**

LSIDurn:lsid:zoobank.org:act:863593A3-2A33-4CAA-B2FC-21B3138D5043

**Type species:** *Sphenomorphus sheai* Nguyen, Nguyen, Van Devender, Bonkowski and Ziegler, 2013.

**Diagnosis:** The distinctive species in the new genus *Tenuisfodiens gen. nov.* is readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: An extremely elongated head, neck and body, with a moderate-sized bulge in the head immediately above the eye; size small (snout-vent length 35.2 mm); prefrontals separated from each other; four supraoculars; two pairs of enlarged nuchals; lower eyelid scaly; six supralabials, first fused with the nasal; one or two primary temporals; one or two loreals; external ear openings absent; 20 midbody scale rows; dorsal scales smooth, 53-38 paravertebral scales, not widened; pentadactyl limbs short, scales on the dorsal surface of the base of fourth toe are in three rows; 6-9 lamellae under the fourth toe; free margins of upper and lower eyelids are not edged in white; dorsum and tail base bronze brown with dark dots; dorsolateral light stripe present on neck, shoulder and anterior part of dorsum; upper zone of lateral head and flank is with a narrow black stripe (Modified from Darevsky *et al.* 2004 and Le *et al.* 2020).

Further descriptive detail relevant to the monotypic genus is within Nguyen *et al.* (2013).

**Distribution:** Known only from the general region of the type locality being the Kontum Plateau, south-central Vietnam.

**Etymology:** In Latin, the words "*Tenuis fodiens*" means "*slender burrower*", which fits the habits of this monotypic genus.

**Content:** *Tenuisfodiens cryptotis* (Darevsky, Orlov and Cuc, 2004 (monotypic).

**ABSCONDITAAUREM GEN. NOV.**

LSIDurn:lsid:zoobank.org:act:3179F4CF-3FD1-42B2-9291-06F8F414B8DB

**Type species:** *Leptoseps tetradactylus* Darevsky and Orlov, 2005.

**Diagnosis:** The species within *Abconditaaurem gen. nov.* is readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* and *Leptoseps* Greer, 1997 by the following unique combination of characters:

Parietal eye spot absent; supranasals absent; prefrontals weakly marked; loreal single; frontal somewhat larger than the interparietal; nuchals present; four supraoculars; lower eyelid scaly; ear opening secretive; dorsal scales smooth in 20 longitudinal rows at midbody; four fingers and five toes (modified from Darevsky and Orlov, 2005).

**Distribution:** A Vietnam endemic.

**Etymology:** The Latin words "*abcondita aurem*" means "hidden ear", which refers to the effectively concealed ear opening in the species in this genus.

**Content:** *Abconditaaurem tetradactylus* (Darevsky and Orlov, 2005) (monotypic).

**TUMESSUPEROCULUM GEN. NOV.**

LSIDurn:lsid:zoobank.org:act:DCDAE431-7F34-4AF0-A9E3-018EC723E105

**Type species:** *Siaphos tridigitus* Bourett, 1939.

**Diagnosis:** The divergent taxon "*Siaphos tridigitus* Bourett, 1939" of Vietnam, assigned to *Sphenomorphus* by Greer *et al.* (2006) is herein assigned to the new genus *Tumessuperoculum gen. nov.* along with a second species *T. patrickdavidii sp. nov.*, being a population from the Bolovens Plateau, until now treated as conspecific.

This taxon differs from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by having the upper temporal scale overlapping the lower one (instead of the opposite condition).

Rare exceptions to this condition in some Vietnamese specimens is known.

The two species in the genus *Tumessuperoculum gen. nov.* are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: Small-sized skink (snout-vent length up to 47.2 mm); limbs short, adpressed limbs separated, hindlimb pentadactyl, forelimb tridactyl; rostral concave, in broad contact with the frontonasal; prefrontals separated from one another; enlarged nuchals in two or three pairs; four supraoculars; six supralabials, the sixth largest, the first fused with nasal; five infralabials; one or two primary temporals; two secondary temporals, the lower scale overlapping or overlapped by the upper one; external ear openings absent; 20 mid-body scale rows, all smooth; 51-63 paravertebral scales, slightly larger than the lateral ones; two enlarged preloacal shields; six to nine lamellae beneath the fourth toe; tail longer than the snout-vent length (Tail (original)/SVL = 1.6), 87 transversally enlarged subcaudals; a dorsolateral black stripe extending continuously from posterior margin of the eye to tail base (modified from Le *et al.* 2020 and Bourett, 1939).

**Distribution:** Thua Thien-Hue Province, Central Vietnam and Boloven Highlands, southern Laos.

**Etymology:** In Latin the words "*Tumessuperoculum*" means "*bulging above the eye*" with reference to the slight but still noticeable bulge under the scales immediately above the eye.

**Content:** *Tumessuperoculum tridigitus* (Bourett, 1939) (type species). *T. patrickdavidii sp. nov.* (this paper).

**TUMESSUPEROCULUM PATRICKDAVIDI SP. NOV.**

**LSIDurn:lsid:zoobank.org:act:B41E12C7-6397-4A51-BAE5-DE06D5B3F782**

**Holotype:** A preserved specimen at the French National Museum of Natural History, known in French as the Muséum national d'histoire naturelle, Paris, France, specimen number MNHN 2003.3367 collected from Sepian, Boloven Highlands, Champasak Province, Laos, at about 1200-1250 metres above sea level.

This facility allows access to its holdings.

**Diagnosis:** *Tumessuperoculum patrickdavidii* sp. nov. from the Boloven Highlands, southern Laos, has until now been treated as a western population of *T. tridigitus* (Bourett, 1939) from elevated locations within the Thua Thien-Hue Province, Central Vietnam. However it is morphologically divergent and separated by a zone of relatively low altitude east of Saravan Laos, effectively cutting the Boloven Highlands animals off from those to the nearest and most closely connected hills to the north east.

*T. patrickdavidii* sp. nov. is readily separated from *T. tridigitus* by the following character combination: Having six pairs of subcaudals basally (versus 1-2 in *T. tridigitus*); 50 paravertebral scale rows (versus 51-56); 18 midbody scale rows (versus 20 in *T. tridigitus*).

Le *et al.* (2020) noted the invariability of midbody scale rows as a character in similar taxa.

The two species in the genus *Tumessuperoculum* gen. nov. (*T. tridigitus* and *T. patrickdavidii* sp. nov.) are readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters: Small-sized skink (snout-vent length up to 47.2 mm); limbs short, adpressed limbs separated, hindlimb pentadactyl, forelimb tridactyl; rostral concave, in broad contact with the frontonasal; prefrontals separated from one another; enlarged nuchals in two or three pairs; four supraoculars; six supralabials, the sixth largest, the first fused with nasal; five infralabials; one or two primary temporals; two secondary temporals, the lower scale overlapping or overlapped by the upper one; external ear openings absent; 20 mid-body scale rows, all smooth; 51-63 paravertebral scales, slightly larger than the lateral ones; two enlarged preloacal shields; six to nine lamellae beneath the fourth toe; tail longer than the snout-vent length (Tail (original)/SVL = 1.6), 87 transversally enlarged subcaudals; a dorsolateral black stripe extending continuously from posterior margin of the eye to tail base (modified from Le *et al.* 2020 and Bourett, 1939).

**Distribution:** *T. patrickdavidii* sp. nov. is presumed to be endemic to the Boloven Highlands, southern Laos. Based on this finding and the description of this new species, it is reasonable to infer a high level of endemism in similar kinds of small upland vertebrate species around the same eco-zone.

*T. tridigitus* in turn is restricted to the Mountains that straddle the Vietnam border with Laos and Thailand.

**Etymology:** Named in honour of Patric David at the Muséum national d'histoire naturelle, Paris, France in recognition of his contributions to herpetology.

**DUMPEDES GEN. NOV.**

**LSIDurn:lsid:zoobank.org:act:63DE668E-D6F2-4937-B346-8037A79D913C**

**Type species:** *Lygosoma dussumieri* Duméril and Bibron, 1839.

**Diagnosis:** The species in the genus *Dumpepes* gen. nov. is readily separated from all other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following unique combination of characters:

- 1/ Body not elongate, limbs well developed.
- 2/ The adpressed limbs easily overlap. The leg reaches to the shoulder or beyond.
- 3/ Rostral flat or concave.
- 4/ 38 to 42 midbody scale rows.

The species in the genus *Dumpepes* gen. nov. are further

separated from other species within *Sphenomorphus* Fitzinger, 1843 *sensu lato* by the following combination of characters:

Prefrontals often in good contact with one another; 4 or 5 supraoculars, when only four it is due to fusion of the first and second shields; ear-opening smaller, with a few granules on its anterior margin; dorsal scales only a little larger than the lateral, 38 to 42 midbody scale rows, the dorsals very finely striated; the leg reaches to the shoulder or nearly to the tympanum; 20 to 25 lamellae beneath the fourth toe. Pale olive or bronzy green on the dorsum, with a light dorso-lateral streak starting from above the eye and edged on its inner side with a dark brown streak spotted with white; a broad dark brown lateral stripe edged below with white, which in its turn is edged with brown; throat and belly white; tail yellowish-brown. Fully-grown individuals have the dorsal markings much less distinct, and may be of an almost uniform colour above, with or without small light spots. The tail of adult males is bright orange-red in life, while that of females is usually brownish (adapted mainly from Smith 1935).

**Distribution:** South-west India, as in coastal Kerala, where the sole species in the genus is very common.

**Etymology:** In Latin, the words "*dum pedes*" means "long legs".

**Content:** *Dumpepes dussumieri* (Duméril and Bibron, 1839) (monotypic).

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**BELOW - Peter Uetz's "The reptile database" deleting over 1,000 scientific papers by Russian authors in a warped form of censorship. Google cache screen shot.**

Reptile Database News

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## What's new? (March 2022)

Sign up for our mailing list for updates by [clicking here](#) (just send us an empty email).

### 10 March 2022 -- New Release!

Usually we don't get political in this newsletter, but with the invasion of Ukraine we feel we should. We have an estimated 50-100 Russians on this mailing list and we very much respect them as colleagues. However, Vladimir Putin and the Kremlin have gone too far with the invasion of Ukraine. **As sign of protest, we have removed more than 1000 Russian papers from this release of the Reptile Database, mostly papers by Russian authors and publishers** (there will be some collateral damage to people outside Russia who co-authored these papers, sorry). No, we don't want to "punish" our fellow Russian colleagues, but we want to remind them that this war may only be stopped from within Russia. All the boycotts world-wide make it clear that Russia is rapidly isolating itself on the world stage.

Banning papers will be highly controversial and the scientific community is divided about which actions should be taken. See these reports in [Nature](#) (or [this](#)), in [Science](#), [The Times of Higher Education](#), [Science Business](#), and many others.

However, please consider that the world is mostly united in the opposition to Russia's invasion. **141 countries have opposed the Russian war in the UN General Assembly** (with only 5 countries supporting Russia, including North Korea and Belarus). Nevertheless, **60-70% of Russians appear to support the invasion** (which is neither called "invasion" nor "war" in Russian media). These numbers prove that Putin is running a massive mis-information campaign to mislead his own fellow countrymen and -women. Accordingly, protests within Russia are swiftly put down by the police, with over 13,000 protesters reportedly arrested just over the past few weeks. Hence we don't blame anybody who does not take to the streets. However, we do hope that the Russian intelligentsia (including their herpetologists) will communicate to their fellow Russians and the political elite that this invasion is causing global Russophobia and thus will backfire on a massive scale. Russia must retreat from Ukraine. (If you want to comment on this please see our [Facebook page](#)).

#### Taxonomic news

Given the global turmoil, we may have missed a few taxonomic papers and data points, but we still have a pretty long list of updates as far as reptile taxonomy is concerned. With this release, we have reached 11,733 reptile species (up from 11,690 in our last release, Nov 2021). In fact, we have 134 changes on the level of species, with 41 new species, 12 species revalidated from synonymy and 23 species elevated from subspecies level. Somewhat unusually, we also have 31 synonymized or downgraded species, which has become less common, given the unabated species splitting in the reptile world. A third of those cases involves Galapagos tortoises of the genus *Chelonoidis*, most of which have been downgraded to subspecies level based on recent genetic studies ([Kehring et al. 2021](#), [Poulakis et al. 2021](#)) that showed their close relationship.

Overall, we have updated about 3000 species with new information during the past year. Nevertheless, there are a number of placeholder entries in the database, representing new species that still need to have details added. We will fill them in until our next release. In any case, you can [download the latest checklist](#) with all changes since the last release (as Excel spreadsheet) from our website.

#### Turtle update

Network 3  
Internet access