

**A further break-up of the Australian gecko genus *Oedura* Gray, 1842 *sensu lato* as currently recognized, from four to seven genera, with two new subgenera defined, description of fourteen new species, four new subspecies and formalising of one tribe and five subtribes.**

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**ABSTRACT**

The genus *Oedura* Gray, 1842 *sensu lato* has been the subject of numerous taxonomic reviews in recent years.

These have resulted in division of the genus into deeply divergent, but distantly related groups at the genus level as well as numerous new species being formally named.

In light of the preceding and including results of molecular studies indicating significant divergence between species groups within *Oedura* as recognized in 2012 and 2016, the genus as recognized prior to 2012 is further divided to become seven (from four in 2016). These all have known divergences well in excess of 15 MYA, making genus-level subdivision inevitable.

Divergent subgenera with divergences in the order of 13-15 MYA are also formally named for the first time.

Within this new generic arrangement, fourteen new species are formally described for the first time in accordance with the *International Code of Zoological Nomenclature* (Ride *et al.* 1999) on the basis of obvious morphological differences from similar species, which they have been treated as until now and also based on the known genetic divergences ascertained from earlier cited literature, all of which are measured in the millions of years (2.5 MYA or more).

Four distinctive and allopatric populations of widespread species are also given formal subspecies-level recognition for the first time.

There is no doubt that many more species await formal description, even after the publication of this paper naming fourteen.

The genus *Oedura*, as most commonly defined prior to the publication of Wells and Wellington (1985) is herein placed in a tribe with five defined subtribes, including genera defined here and the species within *Strophurus* Fitzinger, 1843 as generally defined to date.

**Keywords:** Taxonomy; lizards; Australia; Gecko; *Oedura*; *Hesperoedura*; *Nebulifera*; *Amalasia*; new tribe; *Fiacumminggecko*; new subtribe; *Fiacumminggecko*; *Celertenuina*; *Hesperoedurina*; *Nebuliferina*; *Strophuriina*; new genus; *Marlenegecko*; *Fiacumminggecko*; *Celertenues*; new subgenus *Fereoedura*; *Robwatsongeecko*; new species; *bulliardii*; *rentonorum*; *fiacummingae*; *richardwellsi*; *rosswellingtoni*; *charlespiersoni*; *matteoae*; *dorisioi*; *julianfordi*; *shireenhoserae*; *bobbottomi*; *evanwhittoni*; *helengrasswillae*; *alexanderdudleyi*; new subspecies; *whartoni*; *eungellaensis*; *davidcharitoni*; *merceicai*; Warrumbungle Ranges; NSW; New South Wales; Pilbara; Groote Eylandt; Northern Territory; Western Australia; Kimberley Ranges; Fortescue River, Queensland.

## INTRODUCTION

The genus *Oedura* Gray, 1842 as recognized for most of the past 150 years has long been viewed as containing so-called cryptic species.

In modern herpetology, cryptic species are usually not so much defined as being hard to find or distinguish, so much as being overlooked or not found due to simple disinterest by zoologists rather than any innate difficulty in defining such species.

In the case of the genus *Oedura sensu lato* new species have been described at an accelerating pace since the mid 1980's as a result of renewed interest in the taxonomy of Australian lizards combined with better forensic methods (read molecular methods), leading to 20 species being reported on Peter Uetz's "The Reptile Database" as of 1 May 2017, within four genera (all formerly *Oedura*), these being, *Oedura* Gray, 1842, *Amalosa* Wells and Wellington, 1984, *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012, and *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012.

That list apparently ignores three apparently valid taxa described by Wells and Wellington, 1984 namely "*Amalosa phillipsi*" Wells and Wellington, 1984, "*Oedura attenboroughi*" and "*Oedura derilecta*", while a fourth "*Oedura greeri*" is in fact a subjective senior synonym of Uetz's "*Oedura luritja* Oliver and McDonald, 2016".

Of the 23 validly named species recognized by most competent authorities to date (2017), no less than five have been described and named for the first time in the period from 2000 to 2017, none were named in the 1990's and 7 in the 1980's.

Having inspected in the field and elsewhere many hundreds of living, dead and photographs of specimens within *Oedura sensu lato* over a period in excess of three decades, I had intended publishing descriptions of several species in the period postdating mid 2011. However this project was effectively scuttled when Glenn Sharp and Emily Gibson of the Victorian Department of Sustainability and Environment (DSE) conducted a violent illegal armed raid on my facility at Park Orchards, Melbourne, Victoria, Australia, unlawfully stealing files, disks and the like containing irreplaceable data.

Ultimately some material was returned, but degraded and unusable.

While some of the taxa I had intended naming have since been formally described by other people, some others remain unnamed.

As failure to describe unnamed taxa may lead to them being potentially threatened with extinction due to benign neglect by wildlife agencies, I have made the decision to publish descriptions of the more obvious unnamed species for which there is already extensive data and easily verifiable corroborating material in the public domain.

As a result, some further species I am aware of are not formally named in this paper, even though fourteen are formally named in this paper, as are four subspecies.

The most important results published herein as formal descriptions have arisen from an audit of all relevant published literature, including molecular data that has come to hand over the last decade via the published literature.

In combination it has shown that the genus level and species level diversity of *Oedura sensu lato* has been grossly underestimated.

Combination of the published record with inspections of specimens of relevant taxa have shown fourteen easily identified and unnamed species level taxa, all of which are formally named below.

In terms of the genus level classification, the dismemberment of the genus *Oedura* was commenced by Wells and Wellington in 1984 who split it two ways (excluding *Strophurus* Fitzinger, 1843, also recognized as distinct by them). Two further (currently monotypic) genera were also created by Oliver *et al.* (2012).

However a review of their data and that published in 2016 by Oliver and Doughty (2016) shows that the Oliver *et al.* (2012) taxonomy is too conservative and that *Oedura* as recognized by them contains other species groups worthy of recognition at the genus level.

To that effect, three new genera are named, as well as subgenera.

*Strophurus* Fitzinger, 1843 is not dealt with by this paper, but is covered in another paper published at the same time as this one (Hoser, 2017a).

(*Strophurus* Fitzinger, 1843 is in that paper divided four ways, with three genus names available and a fourth erected for a single divergent taxon, which diverged about 20 MYA from its nearest relative and that paper also defines, diagnoses and names two new subgenera, nine new species, two new subspecies as well as resurrecting some other previously little used names for taxon groups).

Hoser (2017b) deals with the genus *Diplodactylus* Gray 1832 *sensu lato*, with the formal naming of a new subgenus for the *Diplodactylus byrnei* Lucas and Frost, 1896 species group and two new species within this subgenus.

Having worked with large numbers of the subject taxa within *Oedura sensu lato* over more than three decades, the results as published herein are a mere formalisation of what is already shown in the evidence of the publications of Oliver *et al.* (2012), Oliver and Doughty (2016) and other recent publications on this genus as cited herein.

Hence it is not necessary for me to separately quantify in detail the evidentiary basis for the taxonomy and nomenclature within this paper as this has previously been done and is in turn self evident in the formal descriptions in any event.

In terms of the nomenclature used, it all follows on from the well-established rules of the *International Code for Zoological Nomenclature* Fourth Edition (Ride *et al.* 1999).

The most significant feature of this paper is in fact the quantification by description of the (in hindsight obvious) differences between species formally named for the first time in this paper as compared to their closest already named congeners.

Information relevant to specific taxonomic and nomenclatural judgements that may not be self-evident, is given after the materials and methods, in the results section.

## MATERIALS AND METHODS

The identification of the relevant genus and species groups was easily achieved by simple inspection of relevant specimens, live in the field, in museums and via images sent to me by others with accurate locality and other data. In terms of species level groups, biological barriers were identified by combining known locality data with known geographical barriers, most of which have become well known to myself in my various researches on other reptile groups inhabiting the same regions.

The formal naming exercises are a direct result of a review of the relevant literature to identify all previously named groups at both species and genus level, including known synonyms and potentially available names according to the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999).

As mentioned already, names coined in non peer reviewed or PRINO (peer reviewed in name only) online journals (e.g. *Zootaxa*) are available under the relevant rules of the *International Code of Zoological Nomenclature* and so are treated as valid and used when appropriate herein.

This assumes that the names are not junior synonyms of earlier properly proposed names, which also happens to be a common problem in online PRINO journals such as *Zootaxa* (as detailed by Hoser 2015a-f and this paper).

Available names are used as appropriate (in the paper below) and where none was available the relevant entities are named

according to the provisions of the *International Code of Zoological Nomenclature*.

While the species, genera and subgenera diagnosed herein are done so on the basis of their own physical characters, it is important to note the guidance given by relevant earlier publications (quoted herein), which in combination show that the taxonomic conclusions within this paper are not only logical, but are in fact a mere statement of the obvious.

Divergence times of species or genus level groups are taken from the published literature as cited herein.

How long it will take other herpetologists to adopt and use the taxonomy within this paper will not depend on the merits of what is published herein, so much as how willing they are to brave the hatred and harassment from a group known as the Wüster gang, who will seek to do all they can to stop others from using any taxonomy or nomenclature formally proposed by myself as detailed by Hoser (2015a-f and sources cited therein).

Their actions are dictated by personal hatred and an illegal desire to steal the intellectual property of others rather than any scientific arguments they may allege.

The unscientific and highly illegal actions of this group have been documented in detail in the papers of Hoser (2015a-f) and sources cited therein and even publicly condemned by judges in law courts (Court of Appeal 2014, Victorian Civil and Administrative Tribunal (VCAT) 2015).

Key publications relevant to the genus *Oedura* Gray, 1842 *sensu lato*, and all the taxonomic judgements and conclusions herein as well as the legal nomenclature that follows on from this, include: Bauer (1994), Bauer and Henle (1994), Bedford and Christian (1998), Boulenger (1885), Bourke *et al.* (2016), Broom (1898), Brown *et al.* (2014), Bustard (1966, 1969, 1970a, 1970b, 1971), Cogger (1975, 1983, 2000, 2014), Cogger *et al.* (1983), Colgan *et al.* (2009), Cope (1869), Couper *et al.* (2017), De Vis (1884a, 1884b, 1888), Duméril and Bibron (1836), Fallend (2007), Ford (1983), Fry (1915), Garman (1901), Gray (1842, 1845, 1867), Han *et al.* (2004), Hoehn and Sarre (2005), Holfert (1996), Hoser (1989, 2007, 2017a, 2017b), Hoskin and Higgie (2008), ICZN (1991), Kay *et al.* (2013), King (1985), King and Gow (1983), Kluge (1967), Laube (1994, 2001), Laube and Langner (2007a, 2007b), Longman (1915), Maryan *et al.* (2014), Nielsen *et al.* (2016), Oliver and Bauer (2011), Oliver and Doughty (2016), Oliver and McDonald (2016), Oliver *et al.* (2010, 2012, 2014a, 2014b), Pianka (1986), Porter (2002), Ride *et al.* (1999), Rosauer *et al.* (2016), Rösler (1995, 2000), Sarre (1996), Schmida (2000, 2007), Shea and Sadlier (1999), Sistrom *et al.* (2013), Smith and Johnstone (1981), Thominot (1889), Ulber and Ulber (1987), Wilson and Knowles (1988), Wells and Wellington (1984, 1985), Wilson and Knowles (1988), Wilson and Swan (2013) and sources cited therein.

Some material within descriptions below may be repeated for different described taxa and this is in accordance with the provisions of the *International Code of Zoological Nomenclature* and the legal requirements for each description. I make no apologies for this.

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.

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.

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

I also note the abysmal environmental record of various

Australian National, State and Local governments in the relevant Australian region over the past 200 years as detailed by Hoser (1989, 1991, 1993 and 1996).

## RESULTS

An audit of the relevant literature identified well over a dozen unnamed species within *Oedura sensu lato*, of which fourteen are formally named for the first time herein.

These fourteen were selected on the basis of material available to me and general ease with which each taxon could be identified and separated from similar species as done within this paper.

With both a molecular and morphological basis to identify each species as separate from congeners, one assumes recognition of each by other herpetologists will be immediate.

The unnamed species identified in the literature cited herein will no doubt be formally named by others at some stage in the future.

At the genus level, it seems that in herpetology groups diverged more than ten million years before present are being regularly placed in their own genus groupings.

With species groups within *Oedura sensu lato* shown to have diverged well prior to the ten million year level as detailed by Oliver *et al.* (2012), it made sense to formalise this separation by naming the relevant groups for the first time.

New genera named for the first time in this paper diverged from other related groups from 15-20 MYA (Oliver *et al.* 2012) and subgeneric groupings from 13-15 MYA (Oliver *et al.* 2012).

As the genus level groupings are based simply on monophyly of each group relevant to the time period, not much more needs to be said and for the purposes of the immediately following discussion on species there are some points that need to be raised or explained, and these will be discussed on the basis that all are within *Oedura sensu lato*, so that readers familiar with the taxa will not be confused by the new generic placements, made later in this paper.

A logical question to be asked by readers is how as of 2017, some fourteen (in hindsight obvious) unnamed species can be undescribed?

The answer appears to be a general apathy among a number of herpetologists and/or an overly conservative view taken by the limited number of taxonomists who have worked with the relevant species.

Other issues arose in terms of the species involved which are explained below.

The wide-ranging northern Australian species "*Amalosia rhombifer* Gray, 1845" was first recognized as a species complex by two pioneers of Australian herpetology, Wells and Wellington, (1985) at page 10.

Following on from this view, Couper, Keim and Hoskin (2007) named a south-east Queensland population *Amalosia jacovae*.

I should also note that the divergent genus *Amalosia* was also a Wells and Wellington creation a year earlier, the type species being *Phyllodactylus lesueurii* Duméril and Bibron, 1836.

The molecular data of Oliver *et al.* (2012) clearly showed that *O. rhombifer* as recognized then to be a complex of several species, but in spite of this, nothing further progressed.

An explanation may be that there was doubt as to the exact provenance of the holotype (see for example Cogger *et al.* 1983) and quite simply, as of 2012, no one had set about either working out from where the holotype came from, working out how to separate the regional forms identified in the molecular analysis of Oliver *et al.* (2012) or somehow marrying the two together.

In terms of this paper, I did all the above.

In the first instance, I inspected hundreds of specimens, live, dead and in photos to ascertain consistent differences between the regional populations identified by the molecular analysis of

Oliver *et al.* (2012).

This was a simple exercise and one that can be easily duplicated (in part and yet sufficiently to establish obvious facts) by anyone as the website "Flickr.com" has images of all the relevant taxa and large numbers of them.

In terms of the provenance of the original holotype, this was easily ascertained by reading Gray (1854) and matching it with the available animals from across the range.

Gray 1845 wrote for the species he first described as *O. rhombifer*:

"The Lozenge-spotted *Oedura*. *Oedura rhombifer*. Gray, *Zool. Erebus and Terror, I. Phyllodactylus Lesueurii*, Dum. *et* Bib. E. G. iii. 392??

Pale brown, back and tail paler, with a zigzag brown line on each side, as if formed by a series of pale confluent rhombic spots, a brown streak on the temple from the back of the eye; tail as long as the body, cylindrical, tapering or fusiform.

a-c. In spirits. W. Australia."

The pattern described does not match any form of "*Oedura rhombifer*" except for the North Kimberley population, thereby confirming its provenance.

The "pale confluent rhombic spots" is only found in this population. The "brown streak on the temple from the back of the eye" is absent from the top end of the Northern Territory population, while the species described as "*Oedura obscura* King, 1984", is characterised by dorsal cross bands and not the "zigzag brown line on each side".

Queensland animals also lack "pale confluent rhombic spots" or anything like them.

With the type form now identified, the remainder became available to formally name and so this is what is done herein.

For the widespread taxon, "*O. monilis* De Vis, 1888", it has been long accepted that there are several forms. These however have not been generally confirmed by any molecular data.

Again provenance of the type specimen (reported merely as "Queensland" in Cogger *et al.* 1983) has caused issues for taxonomists and made them reluctant to name new forms.

There appears to be a difference between north and south Queensland animals, with the exact boundary of difference not known, however this did not stop Wells and Wellington (1985) naming the northern form as "*Oedura attenboroughi*", which is provisionally recognized herein as distinct from "*O. monilis*".

Of course there remains a possibility that the taxon "*Oedura attenboroughi*" is a junior synonym of "*O. monilis*".

I also note that Oliver and Doughty (2016) were correct when they wrote:

"*Oedura attenboroughi* Wells & Wellington, 1985 (holotype: NTM R4816) has been referred to *O. marmorata* by Shea & Sadlier (1999), however, the type specimen has distinctive dark-edged dorsal

ocelli and is relatively small, indicating that it is part of the *O. monilis* de Vis, 1888 species complex from eastern Australia."

This is confirmed in the original description of Wells and Wellington (for those who have bothered to read it, before launching into a criticism of it) and further confirmed by its habit as being tree dwelling and not saxicoline.

Oliver *et al.* (2014) showed quite emphatically, that the taxon identified as "*O. monilis*" from the Warrumbungle Mountains of New South Wales, were a different species to that from south-east Queensland, but with the issue of provenance of the holotype not known, they made a point of not attempting to describe either as a new species.

These authors obviously did not know if their Warrumbungle specimen was of a form that had a range that potentially went into southern Queensland and therefore may have been the same species as the holotype.

This is where being a field herpetologist with hands-on

experience with the relevant taxa does become a significant advantage when it comes to identifying and naming potentially unnamed species.

I have known for more than three decades that the population of "*O. monilis*" from the Warrumbungles in New South Wales is disjunct from that from southern Queensland and that this disjuncture is from absence of animals and not a lack of collecting.

This immediately made it likely that the Warrumbungles lizards were not of the type form of "*O. monilis*".

Significantly and even more importantly, a read of the original description by De Vis (1888) described an animal with 8 or more ocelli or pairs on the back of body. While such a description conforms to specimens from many parts of Queensland, it does not conform to the Warrumbungle Ranges animals which have far less ocelli or pairs, the maximum number seen by myself being (rarely) seven.

Hence it became clear that the Warrumbungle Ranges "*O. monilis*" were the undescribed species and so they are formally named herein.

The numerous lineages of "*Oedura gracilis*" identified by Oliver *et al.* (2014) are easily separated by distribution (various separated mountain ranges or outcrops or islands or island groups, isolated by flat rockless terrain) and colouration (when specimens are actually examined) and so seven most obvious and divergent forms are herein named as new species, noting that all have divergences from one another of well over 4 mya and that all are herein placed in a new genus (*Fiacumminggecko* *gen. nov.*) on the basis of an 18 MYA divergence from others within the type *Oedura marmorata* group.

A number of other obvious island forms remain unnamed and await formal description.

The original description of *Oedura fimbria* Oliver and Doughty, 2016 notes colouration differences in populations, in fact mirrored in the molecular results of Oliver *et al.* (2014), indicative of two species not one.

The obvious barrier involved is the Fortescue River basin which also features ingressions of numerous non-saxicoline species, which as a barrier also appears to have separated a number of similarly confined rock-dwelling species as seen for example in *Odatria (Pilbaravaranus) hamersleyensis* Maryan, Oliver, Fitch and O'Connell, 2014. Hence the unnamed northern taxon is named herein.

The molecular results of Oliver *et al.* (2014) also confirm the existence of two taxa within the group later described as *Oedura bella* Oliver and Doughty, 2016. Analysis of available specimens showed two very different colour morphs corresponding to the molecular differences.

These in turn conformed to distinct and separated regions, divided by a riverine biogeographical barrier. As a result the northern taxon is formally named herein.

In both the preceding cases, we are talking about evolutionary units with a divergence of 2.5 MYA or more and therefore obviously both groups being different species.

The species described as *Oedura luritja* Oliver and McDonald, 2016, is a junior subjective synonym of *Oedura greeri* Wells and Wellington, 1985. In their 2016 paper, Oliver and McDonald allege that the Wells and Wellington name is "*nomen nudum*".

The basis for this claim is an uncritical rehash of what was written by Shea and Sadlier (1999).

Oliver and McDonald alleged "*Oedura greeri* Wells & Wellington [37] (holotype: AMS R87677, Mt Doreen) was described without diagnosis and is regarded as a *nomen nudum* [38].

Repeating the same claim in 2016, Oliver and Doughty wrote: "*Oedura greeri* Wells & Wellington, 1985 (holotype: AMS R87677) was described without diagnosis and is regarded as a *nomen nudum*

(Shea & Sadlier 1999)."

A read of the original Wells and Wellington (1985) description confirms that this is not the case.

This remains so, whether one relies on the conditions set by the second or third editions of the *International Code of Zoological Nomenclature*, or for that matter the currently applicable fourth edition!

So while three separate publications by a small group of authors has repeated the claim that "*Oedura greeri* Wells & Wellington, 1985 (holotype: AMS R87677) was described without diagnosis and is regarded as a *nomen nudum*" the claim quite simply is not true.

For what it is worth, Wells and Wellington (1985) directs readers to a photo of their species *O. greeri* at "Cogger (1983 plate 461, cited as *Oedura marmorata*)". On the same page of this publication by Wells and Wellington (at page 14) they also refer to comparative photos of others in what they describe as the "*Oedura marmorata* complex", including "Cogger (1983: plate 460" which they cite as its "congener *Oedura marmorata*", and Bustard (1970: plate 24), which is cited as their species *Oedura derelicta*.

While it is entirely reasonable to argue that the original descriptions of all the relevant geckos by Wells and Wellington are lousy and ambiguous, there is no doubt at all that they identify specific taxa (or alleged taxa) and by way of comparison with others.

Therefore the names are not *nomen nudum* as defined in the current or past editions of the *International Code of Zoological Nomenclature* and like it or not are "available" within the meaning of every relevant edition of the *International Code of Zoological Nomenclature*.

I need not mention that Doughty at least is a card-carrying member of the Wüster gang of thieves, who also recently attempted to steal name authority for another Wells and Wellington species, this one being *Acanthophis lancasteri* Wells and Wellington (1985), by falsely claiming it too was a *nomen nudum*. Their allegedly newly discovered species was named by them in the online PRINO journal *Zootaxa* as *Acanthophis cryptamydros* Maddock, Ellis, Doughty, Smith and Wüster, 2015, which they then advertised to a global audience online and elsewhere as some kind of amazing new scientific discovery by the gang (e.g. Arnold 2015, Fang 2015, Mundy 2015).

This big lie was refuted in the first instance by Hoser (2016a) and then in more detail later in 2016 by Wellington (2016).

I needn't mention the time-wasting and instability of nomenclature caused by the introduction of an illegal dual nomenclature by Wüster, Doughty and others in their gang of thieves.

Now if one were to (validly) accuse Wells and Wellington of having (at times) substandard scientific descriptions, the same could be said for many other "great" herpetologists including such names as Cope, Storr, Gray and Fitzinger, but if their names are available under to rules of the ICZN, they are used and no matter how "unscientific" their first descriptions were.

In terms of the preceding, this is why in this paper, the correct nomen, *Oedura greeri* Wells and Wellington, 1985 is used instead of the junior synonym *O. lurtija* Oliver and McDonald, 2016, although I should make it clear I have no vested interest in terms of these or any other authors, my only concern being that the correct names are used.

I must also mention the species described as *Amalosia phillipsi* Wells and Wellington, 1985, one of the many dozens of ICZN code compliant and valid species and genera named in the publication of Wells and Wellington (1985), that has without a single valid scientific reason been effectively ignored by all published herpetologists since!

As one who is familiar with both *A. lesueurii* Duméril and Bibron, 1836 from the Sydney basin, this being the species *A. phillipsi* has always been treated as being, and living *A. phillipsi* from far northern New South Wales, having caught and inspected

hundreds of each in the 1970's and 1980's I am astounded at the reckless ignoring of the latter described taxon.

Both are morphologically very different as inferred by the description of Wells and Wellington and although they did not directly quantify the differences between each species, the differences are self-evident to anyone who looks where they directed.

In any event, anyone who tries to allege that description is a *nomen nudum* is either delusional or a fraud!

Just so that no one can have a shred of doubt that the two species are different taxa, I make mention of a few obvious points. There is no sympatry between either form and both are distributionally disjunct, with one in northern NSW and the other around Sydney and nearby escarpments.

Significantly, the molecular results of Oliver *et al.* (2012) not only confirmed the existence of *A. phillipsi* as a valid taxon, but their results also showed that the New England population, until now treated as synonymous with *A. lesueurii*, are in fact two separate species.

The divergence between the two is measurable at several millions of years!

Furthermore all three species are easily distinguished from one another on the basis of appearance as well!

Museum records indicate a significant gap in the distribution of "*Amalosia lesueurii*", in a general line across the New England region of NSW between the towns of Inverell and Glen Innes (running west to east), of a distance of at least 25 km north-south in a straight line at the narrowest point, across a zone of flattish and apparently unsuitable, unrocky habitat, confirming that *A. phillipsi* is the name assignable to the northern population, while the unnamed southern population is formally named for the first time herein as *A. alexanderdudleyi* sp. nov.. It is significant to note that this same barrier also affects other reptile genera and species.

Molecular evidence showed the until recently monotypic genus *Uvidicolus* Oliver and Bauer, 2011 previously treated as a single species with a similar distribution to both *A. phillipsi* and *A. alexanderdudleyi* sp. nov. was in fact two species (Hoser 2016b).

These are now known as *U. sphyrurus* (Ogilby, 1892) for the southern population and *U. covacevichae* Hoser, 2016 for the northern population.

In terms of Eastern Australian species within *Oedura sensu lato* with disjunct populations, two regionally variable taxa have until now been treated as single species. These are "*Oedura tryoni* De Vis, 1888" and "*Oedura robusta* Boulenger, 1885".

For these species I make the following comments.

The holotype of the species until now known as *O. tryoni* comes from Stanthorpe in Queensland, which is regarded herein as the typical form of the lizard.

It ranges from North of the Hunter Valley in New South Wales, into southern Queensland, and is characterised by numerous small yellow spots on the neck, body and limbs. Molecular data also implies minimal divergence between relevant populations in New South Wales and southern Queensland and that no populations within this zone need any form of taxonomic recognition.

In terms of the species described as *Oedura ocellata*, by Boulenger (1885), which had a given type locality of "Australia", I can say that based on the nature of the yellow spots depicted on the body and limbs and their relative size in the image with the description (plate ix Fig. 1), it is clear that it is a specimen of the typical form of *O. tryoni*.

Hence "*O. ocellata*" is a subjective junior synonym of "*O. tryoni*" and therefore at the present time not an available name for other morphologically divergent populations.

The two divergent populations are those north in the range of

the species, being that from the region of Mackay in Queensland and the other from south-west of Rockhampton.

Both populations have lizards that are reddish brown in dorsal colour as opposed to mainly greyish brown.

Both populations are also readily distinguished from other "*O. tryoni*" by the relatively larger light spots or ocelli on the upper body, these being by far the largest in the Eungella (Mackay) population.

The Eungella (Mackay) specimens are also readily separated from the other two populations by a general absence of whitish spots or ocelli on any of the limbs, which is the standard condition in all other populations, being most prevalent on the limbs in New South Wales lizards.

In the absence of any molecular data or comparative molecular data from other species affected by similar distributional factors that could be readily transposed to this species, I do not have the confidence to describe these forms as full species and so instead give them taxonomic recognition at the subspecies level.

Similar applies in terms of the north-western population of the species originally described as "*Oedura robusta*" by Boulenger (1885).

While no exact type locality is given for the species other than "Australia", the lizard depicted with the original description is of the typical form and most readily aligned with those specimens from the south of the range in near coastal New South Wales (Wattagan Ranges area north to about Grafton). That is the mid dorsal surface is characterised by large irregular and ovoid light coloured blotches, surrounded by a tight, narrow and well defined area of dark pigment, in turn surrounded by a reasonably well defined lighter area on the flanks.

Specimens from south-east Queensland are more variable in terms of dorsal colouration, with the ovoid blotches becoming irregular in shape (but of similar general size and shape), often merging to form either a continuous or broken light zone running down the centre of the back.

There is significant variation between regions and within regions to assume that all form a single population and gene pool.

However in the northwest of the range of the species, most notably in the Blackdown Tableland National Park specimens assigned to this species are of significantly different appearance.

Instead of a preponderance of light blotching on the middle of the back as seen in other specimens, there is an even amount of dark, blackish pigment between the very well separated smaller light blotches running down the back.

In the typical form of the species, the lighter blotches are only tightly separated by very thin darker sections (as depicted in the original description by Boulenger in 1885), if at all.

Furthermore, the flanks of Blackdown Tableland National Park specimens are characterised by a gradual zone where the darker dorsal pigment fades to the lighter ventral pigment.

On the basis of these differences and disjunct distribution, these specimens are formally named below as a new subspecies.

At the genus level, as already mentioned, the divisions follow on from those invoked by Oliver *et al.* (2012) and before them Wells and Wellington (1985), in that all four genera recognized and/or erected by these authors are recognized herein as valid.

The currently monotypic genera of Oliver *et al.* (2012) *Hesperoedura* and *Nebulifera* are obviously not touched in any way in terms of genus level divisions.

However as just mentioned the species *Nebulifera robusta* (Boulenger, 1885) is divided into two easily separated subspecies.

However both *Oedura* Gray, 1842 and *Amalosia* Wells and Wellington, 1985 are divided.

*Oedura* is divided into three genera.

The divergent species *O. gracilis* King, 1985 and seven similar

and newly described species are placed in a new genus *Fiacumminggecko* *gen. nov.*. I note that these lizards diverged from the main *Oedura marmorata* Gray, 1842 lineage about 15 MYA.

Description of seven new species associated with *F. gracilis* (King, 1985), all from the Kimberley region of Western Australia and not including all within this complex, underlines the significant as yet largely underestimated herpetological biodiversity of this region.

The East Australian grouping consisting of the better known *O. monilis* De Vis, 1888, *O. castlenau* (Thomson, 1889) and closely related species is placed in the new genus *Marlenegecko* *gen. nov.*

These species have a divergence of about 20 MYA from both other genera (*Fiacumminggecko* *gen. nov.* and *Oedura*).

*Amalosia* Wells and Wellington, 1985 is divided into two along obvious phylogenetic and morphological lines.

The eastern Australian species complex until now lumped within *Oedura lesueurii* (Duméril and Bibron, 1836), and defined by a noticeably flattened tail remains as *Amalosia*. In this paper, the type species *O. lesueurii* is formally divided into three well defined species, using one available name and assigning a new one to the third species.

*Amalosia jacovae* (Couper, Keim and Hoskin, 2007) is also treated as being within this genus.

The various species from northern Australia with tails that are essentially rounded in cross section, generally typically until now assigned to the species *A. rhombifer* Gray, 1845 are herein placed in the new genus *Celertenues* *gen. nov.*. The two species groups diverged from one another more than 20 MYA making a genus-level split well overdue.

Beyond these genus level splits, two additional subgenera are also erected, (as separate from the nominate groups).

The two divergent West Australian species *Oedura filicipoda* King, 1985 and *O. murrumanu* Oliver, Laver, Melville and Doughty, 2014 are placed in a new subgenus *Fereoedura* *subgen. nov.*

The east Australian genus *Marlenegecko* *gen. nov.* is further subdivided along obvious phylogenetic and morphological lines. The forms with a distribution centred on northern New South Wales and southern Queensland remain in the genus, while the north Queensland forms *M. castelnau* (Thomson, 1889), *M. coggeri* (Bustard, 1966) and *M. jowalbinna* (Hoskin and Higgie, 2008) are all placed in a new subgenus *Robwatsongeecko* *subgen. nov.*. The two species groups diverged more than 13 MYA.

All relevant species groups (genera) are in turn placed in an appropriate tribe and subtribe arrangement as detailed below. This incorporates species within the genus group *Strophurus* Fitzinger, 1843, as generally recognized in texts such as Cogger (2014), which is otherwise ignored for the purposes of this paper, but dealt with in detail in another paper published at the same time as this one (Hoser 2017a).

That paper formally names for the first time, one new genus (and resurrecting two others), two new subgenera, nine new easily defined species and two new subspecies.

#### NOTES ON THE DESCRIPTIONS FOR ANY POTENTIAL REVISORS

Unless mandated by the rules of the *International Code of Zoological Nomenclature*, none of the spellings of the newly proposed names should be altered in any way. The names created herein have also been created with a view to avoiding any potential homonymy with earlier established names. Should one or more newly named taxa be merged by later authors to be treated as a single entity, the order of priority of retention of names should be the order (page priority) of the descriptions within this text (which is the same as that listed in the abstract).

Below are the appropriate tribe, then subtribe, genus (and subgenus) level descriptions followed by the (new) species and subspecies descriptions.

In terms of the latter, they are placed within the genera as outlined in the following section of this paper, this being the new taxonomy and nomenclature for the relevant group/s of reptiles.

Characters used to identify each genus described below are largely derived from the standardized accounts given in Cogger (2014) or Oliver *et al.* (2012, 2014b) as they are all simple and can be employed easily in the field.

Latitude and Longitude information is given in degrees (first two digits) and minutes (second two digits after the period).

Immediately below are descriptions (or redescriptions) of all now recognized genera within what used to be *Oedura sensu lato*, now formally named as the tribe Fiacumminggeckoini tribe nov. This includes the four groups identified by Oliver *et al.* (2012), excluding the fifth group known widely as *Strophurus* Fitzinger, 1843 and in general usage since that date as well as those formally named and identified within this paper.

A total of three new genera and four new subgenera (including nominate ones) are formally defined within this paper. All are herein placed in the new tribe named Fiacumminggeckoini tribe nov. defined first, in turn subdivided into five subtribes.

These subtribes correspond to Lineages A-D in Oliver *et al.* (2012), and *Strophurus* Fitzinger, 1843 as generally defined in texts such as Cogger (2014) although the component genera of two subtribes is enlarged to accommodate the newly named genera within this paper.

#### TRIBE FIACUMMINGGECKOINI TRIBE NOV.

**(Terminal taxon: *Fiacumminggecko fiacummingae* sp. nov.) (this paper).**

**Diagnosis:** The tribe Fiacumminggeckoini tribe nov. is the group of species that was interpreted as the genus *Oedura* Gray, 1842 in texts such as Cogger (1975) and other texts of that time as well as the group of lizards more recently placed in the genus *Strophurus* Fitzinger, 1843.

The genus *Oedura* as now recognized is one of the component genera in this newly erected tribe.

While the number of recognized species has greatly increased since the 1970's, the diagnosis of the group of species as a means to separate them from other Australian Diplodactylidae remains the same.

Fiacumminggeckoini tribe nov. can therefore all be readily diagnosed from all other genera in the Diplodactylidae by the following diagnostic features: A combination of greatly enlarged apical plates and enlarged transverse lamellae, paired distally and single proximally. They can be specifically diagnosed from *Diplodactylus* Gray, 1832, *Lucasium* Wermuth, 1965 and *Rhynchoedura* Günther, 1867 by the presence of greatly enlarged subdigital lamellae and apical plates, and an absence of medial cloacal bones in males.

The subtribe Strophuriina subtribe nov. is separated from the other four subtribes by presence of caudal glands and associated ejection mechanisms, and transversely enlarged (as opposed to rounded and paired) proximal subdigital lamellae.

All species within Fiacumminggeckoini tribe nov. have an average adult SVL of between 60 to over 100 mm.

**Distribution:** Found throughout most parts of continental Australia.

**Content:** *Fiacumminggecko* gen. nov.; *Amalosia* Wells and Wellington, 1984; *Celertenues* gen. nov.; *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012; *Marlenegecko* gen. nov.; *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012; *Oedura* Gray, 1842; *Strophurus* Fitzinger, 1843 (as defined in Cogger, 2014, but split into four genera (one named as new) in a paper published simultaneous to this one) (Hoser 2017a).

#### SUBTRIBE FIACUMMINGGECKOINA SUBTRIBE NOV.

**(Terminal taxon: *Fiacumminggecko fiacummingae* sp. nov.) (this paper).**

**Diagnosis:** Fiacumminggeckoina subtribe nov. is a subtribe within the Diplodactylidae (*sensu* Han *et al.* 2004) and is distinguished from all related genera within Fiacumminggeckoini tribe nov. by the possession of enlarged juxtaposed dorsal scales approximately the same size as the ventrals (versus much smaller in related genera). Further distinguished from the other taxa now placed in one of three other subtribes by the combination of:

1/ moderate to large size (60-110 + mm),

2/ karyotypic complement of  $2n = 38$ ,

3/ possession of one or more cloacal spurs, and,

4/ a dorsal pattern generally including a weak to bold series of transverse bands or disjunct blotches or spots with no evidence of a single well-defined vertebral stripe.

**Distribution:** Most parts of continental Australia except for the coldest and wettest parts of the south-east and the most arid areas of inland Australia away from hills or rocky areas.

**Content:** *Fiacumminggecko* gen. nov.; *Marlenegecko* gen. nov.; *Oedura* Gray, 1842.

#### SUBTRIBE CELERTENUINA SUBTRIBE NOV.

**(Terminal taxon: *Celertenues bobbottomi* sp. nov.) (this paper).**

**Diagnosis:** Celertenuina subtribe nov. is a subtribe within the Diplodactylidae (*sensu* Han *et al.* 2004) that is distinguished from all other genera within Fiacumminggeckoini tribe nov. by the combination of:

1/ an adult size of less than 62 mm (snout-vent),

2/ dorsal scales that are minute, granular and much smaller than the ventrals,

3/ karyotype of  $2n = 36$ ,

4/ a dorsal pattern generally including at least a broken vertebral stripe or similar, and,

5/ more than one enlarged cloacal spur,

The first four characters all separate this subtribe from Fiacumminggeckoina subtribe nov..

**Distribution:** Coastal and near coastal parts of northern and eastern Australia.

**Content:** *Celertenues* gen. nov.; *Amalosia* Wells and Wellington, 1984.

#### SUBTRIBE HESPEROEDURINA SUBTRIBE NOV.

**(Terminal taxon: *Oedura reticulata* Bustard, 1969)**

**Diagnosis:** Hesperoedurina subtribe nov. is a subtribe within the Diplodactylidae (*sensu* Han *et al.* 2004) and is distinguished from all related genera within Fiacumminggeckoini tribe nov. by the combination of:

1/ minute granular dorsal scales much smaller than ventrals,

2/ dorsal pattern consisting of a broad brown pale edged vertebral stripe,

3/ up to 70 mm SVL,

4/ single cloacal spur, and,

5/ a long, slender and only slightly horizontally flattened tail.

Characters 1-2 specifically separate this subtribe from Fiacumminggeckoina subtribe nov., characters 3-4 separate this subtribe from Celertenuina subtribe nov., and characters 3-5 separate this subtribe from the genus *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012, which is monotypic within the subtribe Nebuliferina subtribe nov..

The tribe Hesperoedurina subtribe nov. is monotypic for the genus *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012, which in turn is monotypic for the species currently known as *Hesperoedura reticulata* (Bustard, 1969).

**Distribution:** South-western Western Australia.

**Content:** *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012.

**SUBTRIBE NEBULIFERINA SUBTRIBE NOV.**

**(Terminal taxon: *Oedura robusta* Boulenger, 1885)**

**Diagnosis:** Nebuliferina subtribe nov. is a monotypic subtribe, for the genus *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012. It is within the Diplodactylidae (*sensu* Han *et al.* 2004) and is distinguished from all related genera within Fiacumminggeckoini tribe nov. by the combination of;

- 1/ minute granular dorsal scales much smaller than the ventrals,
- 2/ a relatively simple dorsal pattern consisting of large light grey blotches on a dark brown background or variations of this,
- 3/ two to five cloacal spurs,
- 4/ no evidence of a well defined vertebral stripe,
- 5/ up to 80 mm snout-vent, and,
- 6/ a strongly horizontally flattened and widened tail (as opposed to being relatively narrow and more-or-less round in cross section).

Characters 1-2 specifically separate this subtribe from Fiacumminggeckoina subtribe nov., while characters 4-6 specifically separate this subtribe from Celertenuina subtribe nov..

**Distribution:** North-east New South Wales and south-east Queensland generally near the coast and nearby uplands and slopes.

**Content:** *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012.

**SUBTRIBE STROPHURIINA SUBTRIBE NOV.**

**(Terminal taxon: *Phyllodactylus strophurus* Duméril and Bibron, 1836).**

**Diagnosis:** The tribe Fiacumminggeckoini tribe nov. is the group of species that was interpreted as the genus *Oedura* Gray, 1842 in texts such as Cogger (1975) and other texts of that time as well as the group of lizards more recently placed in the genus *Strophurus* Fitzinger, 1843.

The genus *Oedura* as now recognized is one of the component genera in this newly erected tribe.

While the number of recognized species has greatly increased since the 1970's, the diagnosis of the group of species as a means to separate them from other Australian Diplodactylidae remains the same.

Fiacumminggeckoini tribe nov. can therefore all be readily diagnosed and separated from all other genera in the Diplodactylidae by the following diagnostic features: A combination of greatly enlarged apical plates and enlarged transverse lamellae, paired distally and single proximally. They can be specifically diagnosed and separated from *Diplodactylus* Gray, 1832, *Lucasium* Wermuth, 1965 and *Rhynchoedura* Günther, 1867 by the presence of greatly enlarged subdigital lamellae and apical plates, absence of medial cloacal bones in males,

The subtribe Strophuriini subtribe nov. is separated from the other four subtribes by presence of caudal glands and associated ejection mechanisms, and transversely enlarged (as opposed to rounded and paired) proximal subdigital lamellae.

All species within Fiacumminggeckoini tribe nov. have an average adult SVL of between 60 to over 100 mm.

**Distribution:** Found throughout most parts of continental Australia, except extremely cold parts and Tasmania.

**Content:** *Strophurus* Fitzinger, 1843 (as defined in Cogger, 2014, but split into four genera in a paper published simultaneous to this one) (Hoser 2017a).

**GENUS FIACUMMINGECKO GEN. NOV.**

**Type species:** *Fiacumminggecko fiacummingae* sp. nov. (this paper).

**Diagnosis:** All species within the genus *Fiacumminggecko* gen.

nov. have until now been treated as the single species *Oedura gracilis* King, 1984 and until now treated as *Oedura* Gray, 1842. However several species have been lumped within the single taxonomic entity and therefore seven more are formerly named in this paper.

They are sufficiently differentiated from all other *Oedura* Gray, 1842, and the divergent eastern Australian species, herein placed in a new genus (*Marlenegecko* gen. nov.) to warrant being placed in their own genus.

*Fiacumminggecko* gen. nov. as defined and diagnosed herein are separated from all other geckos in *Oedura sensu lato* as in all species in the tribe Fiacumminggeckoini tribe nov. by the following suite of characters:

The hind limbs are mottled, spotted or variegated above, but without regular pale dark-edged ocelli; the dorsal pattern consists of cross-bands, irregular mottling or ocelli; the latter if present are larger than the eye and tend to occur in pairs; the digits lack conspicuous fringes; the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

Oliver *et al.* (2014b) give a divergence of this genus from its nearest relatives (*Oedura* Gray, 1842 as defined herein) at about 18 MYA making generic division of the two a common sense proposition.

**Distribution:** Restricted to the Kimberley Ranges in north-west Western Australia to adjacent hilly and rocky parts of the Northern Territory, near the West Australian border.

**Etymology:** Named in honour of the investigative journalist Fia Cumming, of Lyons, ACT, Australia in recognition of her services to wildlife conservation in Australia. For details of some of her stellar work, see the account of her role in getting the book *Smuggled: The Underground Trade in Australia's Wildlife* (Hoser, 1993) unbanned in May/June 1993 and how the publication of that book in 1993, which ultimately became a best seller, led to a rewrite of Australia's anti-conservation wildlife laws shortly thereafter as outlined in detail in the book *Smuggled-2: Wildlife trafficking, crime and corruption in Australia* (Hoser, 1996).

**Content:** *Fiacumminggecko fiacummingae* sp. nov. (Type species); *F. dorisioi* sp. nov.; *F. gracilis* (King, 1985); *F. julianfordi* sp. nov.; *F. mattheoae* sp. nov.; *F. richardwellsi* sp. nov.; *F. rosswellingtoni* sp. nov.; *F. charlespiersoni* sp. nov..

**GENUS MARLENEGECKO GEN. NOV.**

**Type species:** *Marlenegecko shireenhoserae* sp. nov. (Described in this paper).

**Diagnosis:** *Marlenegecko* gen. nov. is an assemblage of species restricted to the east coast of Australia and nearby areas in New South Wales and Queensland, but not extending to arid areas. They are sufficiently divergent from other species placed in *Oedura* Gray, 1842, including *Fiacumminggecko* gen. nov. as described within this paper to warrant being placed in their own genus. This assemblage of species diverged from their nearest relatives (*Oedura* and *Fiacumminggecko* gen. nov.) about 20 MYA according to Oliver *et al.* (2014b).

*Marlenegecko* gen. nov. are readily separated from both *Fiacumminggecko* gen. nov. and *Oedura* Gray, 1842 by one or other of the following four suites of characters:

1/ Digits do not have conspicuous lateral fringes; the hindlimbs usually but not always have regular small, pale, dark edged ocelli; the dorsal pattern consists of regular small spots or ocelli, each smaller than the eye or at most the same size as the eye, with ocelli that may coalesce to form rectangular spots or irregular broken cross bands, or rarely smallish blotches, (*M. tryoni*, *M. cogger*), or:

2/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the fourth toes is followed by three or more pairs of large, divided lamellae; body with three to 10 (usually 6 to 9) pairs of dark



ocellate markings having a dark edge and being noticeably larger than the eye; some specimens may have odd numbers of ocelli or with pairs of ocelli coalescing; the dark streaks through each eye never meet on the nape to form an occipital band, (*M. shireenhoserae* sp. nov., *M. attenboroughi*, *M. monilis*),

or:

3/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the fourth toe is followed by three or more pairs of large, divided lamellae; body with a series of five pale cross-bands between the snout and the vent; the bands are almost invariably sharp in outline and almost as wide as the darker interspaces; the bands extend to the white ventral surface on each side, where they are broken up and the resulting patches having no regular shape or size; the head lacks numerous white flecks and the dark streak through each eye tends to meet on the nape to form a dark collar, (*M. castelnaui*) or:

4/ The dorsal surface of the body, head and limbs are pale pinkish grey with faint freckling, and the only distinct markings are two pale, dark-edged bands, one across the neck, the other across the base of the tail. The original tail is yellow with small dark spots (*M. jowalbinna*).

**Distribution:** The genus *Marlenegecko* gen. nov. is restricted to the east coast of Australia and nearby areas in New South Wales and Queensland, from the Hunter region in the south to most of Cape York in the north.

**Etymology:** Named in honour of Marlene Swile of Mitchell's Plain, Cape Town, South Africa, mother of my wife, Shireen, in recognition for her services to wildlife conservation in Africa.

**Content:** *Marlenegecko shireenhoserae* sp. nov. (Type species); *M. attenboroughi* (Wells and Wellington, 1985); *M. castelnaui* (Thominot, 1889); *M. coggeri* (Bustard, 1966); *M. jowalbinna* (Hoskin and Higgie, 2008); *M. monilis* (De Vis, 1888); *M. tryoni* (De Vis, 1884).

#### SUBGENUS ROBWATSONGECKO SUBGEN. NOV.

**Type species:** *Phyllodactylus (Oedura) castelnaui* Thominot, 1889.

**Diagnosis:** The genus *Marlenegecko* gen. nov. consists of two distinct species groups. One has a centre of distribution in northern New South Wales and South-east Queensland (this being the nominate group), while the other group consists of a cluster of three species whose distribution is centred on Cape York, Queensland and nearby areas. This latter group is the subgenus *RobwatsongECKO* subgen. nov.. The two subgenera diverged some 13 MYA according to Oliver *et al.* (2014b).

The subgenus *RobwatsongECKO* subgen. nov. is diagnosed and separated from the nominate subgenus and also *Fiacumminggecko* gen. nov. and *Oedura* Gray, 1842 by one or other of the following three suites of characters:

1/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the fourth toe is followed by three or more pairs of large, divided lamellae; body with a series of five pale cross-bands between the snout and the vent; the bands are almost invariably sharp in outline and almost as wide as the darker interspaces; the bands extend to the white ventral surface on each side, where they are broken up and the resulting patches having no regular shape or size; the head lacks numerous white flecks and the dark streak through each eye tends to meet on the nape to form a dark collar, (*M. castelnaui*) or:

2/ Digits do not have conspicuous lateral fringes; the dorsal surface of the body, head and limbs are pale pinkish grey with faint freckling, and the only distinct markings are two pale, dark-edged bands, one across the neck, the other across the base of the tail. The original tail is yellow with small dark spots (*M. jowalbinna*), or:

3/ Digits do not have conspicuous lateral fringes; the hindlimbs usually but not always have regular small, pale, dark edged ocelli; the dorsal pattern consists of regular small spots or ocelli, each smaller than the eye or at most the same size as the eye, with ocelli that may coalesce to form rectangular spots or irregular broken cross bands, or rarely smallish blotches; interorbitals 18 or less and there are less than 95 mid body scale rows and only rarely will one or other of the counts exceed those cited (*M. coggeri*).

**Distribution:** Cape York Queensland, south to approximately a line extending from Townsville to Charters Towers.

**Etymology:** Named in honour of Rob Watson a snake catcher from Stafford, Brisbane, Queensland, Australia, running a business called South-eastern Reptiles, Brisbane Northside, who over many years has saved the lives of many snakes and potentially a few people as well.

**Content:** *Marlenegecko (RobwatsongECKO) castelnaui* (Thominot, 1889) (Type species); *M. (RobwatsongECKO) coggeri* (Bustard, 1966); *M. (RobwatsongECKO) jowalbinna* (Hoskin and Higgie, 2008).

#### SUBGENUS MARLENEGECKO SUBGEN. NOV.

**Type species:** *Marlenegecko shireenhoserae* sp. nov. (This paper).

**Diagnosis:** *Marlenegecko* gen. nov. is an assemblage of species restricted to the east coast of Australia and nearby areas in New South Wales and Queensland, but not extending to arid areas. They are sufficiently divergent from other species placed in *Oedura* Gray, 1842, including *Fiacumminggecko* gen. nov. as described within this paper to warrant being placed in their own genus. This assemblage of species diverged from their nearest relatives (*Oedura* and *Fiacumminggecko* gen. nov.) about 20 MYA according to Oliver *et al.* (2014b).

The subgenus *Marlenegecko* subgen. nov. diverged from the other subgenus *RobwatsongECKO* subgen. nov. some 13 MYA according to Oliver *et al.* (2014).

The subgenus *Marlenegecko* subgen. nov. is diagnosed and separated from the other subgenus *RobwatsongECKO* subgen. nov. and also *Fiacumminggecko* gen. nov. and *Oedura* Gray, 1842 by one or other of the following two suites of characters:

1/ Digits do not have conspicuous lateral fringes; the hind limbs usually but not always have regular small, pale, dark edged ocelli; the dorsal pattern consists of regular small spots or ocelli, each smaller than the eye or at most the same size as the eye, with ocelli that may coalesce to form rectangular spots or irregular broken cross bands, or rarely smallish blotches; 18-19 or more interorbitals and 95 or more mid body scale rows and only rarely will one or other count be lower than those cited (*M. tryoni*), or:

2/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the fourth toes is followed by three or more pairs of large, divided lamellae; body with three to 10 (usually 6 to 9) pairs of dark ocellate markings having a dark edge and being noticeably larger than the eye; some specimens may have odd numbers of ocelli or with pairs of ocelli coalescing; the dark streaks through each eye never meet on the nape to form an occipital band, (*M. shireenhoserae* sp. nov., *M. attenboroughi*, *M. monilis*).

**Distribution:** The subgenus *Marlenegecko* subgen. nov. is restricted to north-east New South Wales and South-east Queensland, extending north near the coast to around Mackay.

**Etymology:** Named in honour of Marlene Swile of Mitchell's Plain, Cape Town, South Africa, mother of my wife, Shireen, in recognition for her services to wildlife conservation in Africa.

**Content:** *Marlenegecko shireenhoserae* sp. nov. (Type species); *M. attenboroughi* (Wells and Wellington, 1985); *M. castelnaui* (Thominot, 1889); *M. coggeri* (Bustard, 1966); *M. jowalbinna* (Hoskin and Higgie, 2008); *M. monilis* (De Vis, 1888); *M. tryoni* (De Vis, 1884).

**GENUS OEDURA GRAY, 1842**

**Type species:** *Oedura marmorata* Gray, 1842 (Type species).

**Diagnosis:** The genus *Oedura* is similar in many respects to the genera *Fiacumminggecko* *gen. nov.* and *Marlenegecko* *subgen. nov.*, both split from this genus in this paper.

All three genera share the following suite of characters:

They are a group of Diplodactylidae lizards (*sensu* Han *et al.* 2004) distinguished from all related genera by the possession of enlarged juxtaposed dorsal scales approximately the same size as the ventrals (versus much smaller in related genera). Further distinguished from other taxa formerly placed in *Oedura* by the combination of:

- 1/ Karyotypic complement of  $2n = 38$ :
- 2/ Possession of one or more cloacal spurs:
- 3/ Dorsal pattern generally including a weak to bold series of transverse bands or disjunct blotches with no evidence of a well defined vertebral stripe.
- 4/ 60-110 + mm snout-vent.

The genus *Oedura* is best defined by diagnosing and defining each species or species groups as is done here. The genus is therefore defined and diagnosed as being one or other of the following two suites of characters:

1/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the fourth toes is followed by three or more pairs of large, divided lamellae; body with a series of five or six pale cross-bands between the snout and the vent; the bands are either sharp and regular in outline, or may be broken up into a series of spots in a curved line, but are only about a quarter of the width of the darker interspaces; or alternatively with white or yellow flecks over the back and no dark bars over the occiput and nape; the head is usually peppered with numerous white specks (*O. marmorata*, *O. bella*, *O. bulliardi* *sp. nov.*, *O. cincta*, *O. derelicta*, *O. fimbria*, *O. gemmata*, *O. greeri*, *O. rentonorum* *sp. nov.*) (subgenus *Oedura*) or:

2/ Digits have conspicuous lateral fringes caused by laterally expanded subdigital lamellae, (*O. filicipoda*, *O. murrumanu*) (subgenus *Fereoedura* *subgen. nov.*).

According to Oliver *et al.* (2014) the two subgenera as defined herein diverged about 15 MYA.

**Distribution:** Most of continental Australia except for the far south-east and east.

**Content:** *Oedura marmorata* Gray, 1842 (Type species); *O. bella* Oliver and Doughty, 2016; *O. bulliardi* *sp. nov.*; *O. cincta* De Vis, 1888; *O. derelicta* Wells and Wellington, 1985; *O. filicipoda* King, 1985; *O. fimbria* Oliver and Doughty, 2016; *O. gemmata* King and Gow, 1983; *O. greeri* Wells and Wellington, 1985 (*Oedura luriŋa* Oliver and McDonald, 2016 is a junior synonym of this); *O. murrumanu* Oliver, Laver, Melville and Doughty, 2014; *O. rentonorum* *sp. nov.*

**SUBGENUS FEREOEDURA SUBGEN. NOV.**

**Type species:** *Oedura filicipoda* King, 1985.

**Diagnosis:** This subgenus within *Oedura* Gray, 1842 contains the two most divergent species from the Kimberley region in Western Australia that are readily separated from all others in the genus by the presence of digits with conspicuous lateral fringes caused by laterally expanded subdigital lamellae. This feature alone separates and diagnoses these two species as being within this genus.

The genus *Oedura* is similar in many respects to the genera *Fiacumminggecko* *gen. nov.* and *Marlenegecko* *subgen. nov.*, both split from this genus in this paper.

All three genera share the following suite of characters:

They are a group of Diplodactylidae lizards (*sensu* Han *et al.* 2004) distinguished from all related genera by the possession of enlarged juxtaposed dorsal scales approximately the same size

as the ventrals (versus much smaller in related genera). Further distinguished from other taxa formerly placed in *Oedura* by the combination of:

- 1/ Karyotypic complement of  $2n = 38$ :
- 2/ Possession of one or more cloacal spurs:
- 3/ Dorsal pattern generally including a weak to bold series of transverse bands or disjunct blotches with no evidence of a well defined vertebral stripe.
- 4/ 60-110 + mm snout-vent.

The genus *Oedura* is best defined by diagnosing and defining each species or species groups as is done here. The genus is therefore defined and diagnosed as being one or other of the following two suites of characters:

1/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the fourth toes is followed by three or more pairs of large, divided lamellae; body with a series of five or six pale cross-bands between the snout and the vent; the bands are either sharp and regular in outline, or may be broken up into a series of spots in a curved line, but are only about a quarter of the width of the darker interspaces; or alternatively with white or yellow flecks over the back and no dark bars over the occiput and nape; the head is usually peppered with numerous white specks (*O. marmorata*, *O. bella*, *O. bulliardi* *sp. nov.*, *O. cincta*, *O. derelicta*, *O. fimbria*, *O. gemmata*, *O. greeri*, *O. rentonorum* *sp. nov.*) (subgenus *Oedura*) or:

2/ Digits have conspicuous lateral fringes caused by laterally expanded subdigital lamellae, (*O. filicipoda*, *O. murrumanu*) (subgenus *Fereoedura* *subgen. nov.*).

According to Oliver *et al.* (2014) the two subgenera as defined herein diverged about 15 MYA.

**Distribution:** Known only from the West Kimberley region in Western Australia.

**Etymology:** *Fere* means "not quite" or "almost" in Latin and so *Fereoedura* effectively means, "not quite an *Oedura*", which accurately sums up these lizards and their taxonomic status.

**Content:** *Oedura (Fereoedura) filicipoda* King, 1985 (Type species); *O. (Fereoedura) murrumanu* Oliver, Laver, Melville and Doughty, 2014.

**SUBGENUS OEDURA GRAY, 1842**

**Type species:** *Oedura marmorata* Gray, 1842 (Type species).

**Diagnosis:** The genus *Oedura* is similar in many respects to the genera *Fiacumminggecko* *gen. nov.* and *Marlenegecko* *subgen. nov.*, both split from this genus in this paper.

All three genera share the following suite of characters:

They are a group of Diplodactylidae lizards (*sensu* Han *et al.* 2004) distinguished from all related genera by the possession of enlarged juxtaposed dorsal scales approximately the same size as the ventrals (versus much smaller in related genera). Further distinguished from other taxa formerly placed in *Oedura* by the combination of:

- 1/ Karyotypic complement of  $2n = 38$ :
- 2/ Possession of one or more cloacal spurs:
- 3/ Dorsal pattern generally including a weak to bold series of transverse bands or disjunct blotches with no evidence of a well defined vertebral stripe.
- 4/ 60-110 + mm snout-vent.

The genus *Oedura* is best defined by diagnosing and defining each species or species groups as is done here. The genus is therefore defined and diagnosed as being one or other of the following two suites of characters, each representing and diagnosing one of the two subgenera:

1/ Digits do not have conspicuous lateral fringes; the hind limbs are mottled, spotted or variegated above, but lack regular pale, dark edged ocelli or dots; the enlarged apical lamellae of the

fourth toes is followed by three or more pairs of large, divided lamellae; body with a series of five or six pale cross-bands between the snout and the vent; the bands are either sharp and regular in outline, or may be broken up into a series of spots in a curved line, but are only about a quarter of the width of the darker interspaces; or alternatively with white or yellow flecks over the back and no dark bars over the occiput and nape; the head is usually peppered with numerous white specks (*O. marmorata*, *O. bella*, *O. bulliardi* sp. nov., *O. cincta*, *O. derelicta*, *O. fimbria*, *O. gemmata*, *O. greeri*, *O. rentonorum* sp. nov.) (subgenus *Oedura*) or:

2/ Digits have conspicuous lateral fringes caused by laterally expanded subdigital lamellae, (*O. filicipoda*, *O. murrumanu*) (subgenus *Fereoedura* subgen. nov.).

According to Oliver *et al.* (2014) the two subgenera as defined herein diverged about 15 MYA.

**Distribution:** Most of continental Australia except for the far south-east and east.

**Content:** *Oedura marmorata* Gray, 1842 (Type species); *O. bella* Oliver and Doughty, 2016; *O. bulliardi* sp. nov.; *O. cincta* De Vis, 1888; *O. derelicta* Wells and Wellington, 1985; *O. fimbria* Oliver and Doughty, 2016; *O. gemmata* King and Gow, 1983; *O. greeri* Wells and Wellington, 1985 (*Oedura luritja* Oliver and McDonald, 2016 is a junior synonym of this); *O. rentonorum* sp. nov.

**GENUS HESPEROEDURA OLIVER, BAUER, GREENBAUM, JACKMAN AND HOBBIE, 2012.**

**Type species:** *Oedura reticulata* Bustard, 1969.

**Diagnosis:** The genus *Hesperoedura* as diagnosed by Oliver *et al.* 2012 is the same as for the monotypic subtribe *Hesperoedurina* subtribe nov. as formally named in this paper.

*Hesperoedura* is diagnosed and defined as follows:

*Hesperoedura* is a monotypic genus within the Diplodactylidae (sensu Han *et al.* 2004) and is distinguished from all related genera within *Fiacumminggecko* tribe nov. by the combination of;

- 1/ minute granular dorsal scales much smaller than ventrals,
- 2/ dorsal pattern consisting of a broad brown pale edged vertebral stripe,
- 3/ up to 70 mm SVL,
- 4/ single cloacal spur, and,
- 5/ a long, slender and only slightly horizontally flattened tail.

Characters 1-2 specifically separate this subtribe from *Fiacumminggecko* subtribe nov., characters

3-4 separate this subtribe from *Celertenuina* subtribe nov., and characters 3-5 separate this genus from the genus *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012, which is monotypic within the subtribe *Nebuliferina* subtribe nov..

**Distribution:** South-western Western Australia.

**Content:** *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012.

**GENUS NEBULIFERA OLIVER, BAUER, GREENBAUM, JACKMAN AND HOBBIE, 2012.**

**Type species:** *Oedura robusta* Boulenger, 1885.

**Diagnosis:** *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012 is a monotypic genus and subtribe within the Diplodactylidae (sensu Han *et al.* 2004) and is distinguished from all related genera within *Fiacumminggecko* tribe nov. by the combination of;

- 1/ minute granular dorsal scales much smaller than the ventrals,
- 2/ a relatively simple dorsal pattern consisting of large light grey blotches on a dark brown background or variations of this,
- 3/ two to five cloacal spurs,
- 4/ no evidence of a well defined vertebral stripe,
- 5/ up to 80 mm snout-vent, and,
- 6/ a strongly horizontally flattened and widened tail (as opposed

to being relatively narrow and more-or-less round in cross section).

Characters 1-2 specifically separate this genus from *Fiacumminggecko* subtribe nov., while characters 4-6 specifically separate this genus from *Celertenuina* subtribe nov..

**Distribution:** North-east New South Wales and south-east Queensland generally near the coast and nearby uplands and slopes.

**Content:** *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012.

**GENUS AMALOSIA WELLS AND WELLINGTON, 1984.**

**Type species:** *Phyllodactylus lesueurii* Duméril and Bibron, 1836.

**Diagnosis:** The diagnosis for the genus *Amalosia* Wells and Wellington, 1984 within the subtribe *Celertenuina* subtribe nov. is as follows: It is a genus of the Diplodactylidae (sensu Han *et al.* 2004) distinguished from all genera in the tribe *Fiacumminggecko* tribe nov. (these being: *Fiacumminggecko* gen. nov.; *Celertenues* gen. nov.; *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012; *Marlenegecko* gen. nov.; *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012; *Oedura* Gray, 1842), by the following combination of characters:

- 1/ size of less than 62 mm snout-vent,
- 2/ dorsal scales are minute, granular and much smaller than the ventrals,
- 3/ more than one enlarged cloacal spur,
- 4/ karyotype of  $2n = 36$ ,
- 5/ dorsal pattern generally including at least a broken vertebral stripe or similar, and,
- 6/ base of tail is strongly horizontally flattened.

Characters 1-2 and 4-5 all specifically diagnose this genus from all others within *Fiacumminggecko* tribe nov., except for the newly named genus *Celertenues* gen. nov. which is separated from *Amalosia* by having a tail that is either not strongly horizontally flattened or only slightly so.

**Distribution:** Eastern New South Wales and Southern Queensland, Australia.

**Content:** *Amalosia lesueurii* (Duméril and Bibron, 1836) (Type species); *A. alexanderdudleyi* sp. nov.; *A. jacobae* (Couper, Keim and Hoskin, 2007); *A. phillipsi* Wells and Wellington, 1984.

**GENUS CELERTENUES GEN. NOV.**

**Type species:** *Celertenues bobbottomi* sp. nov. (described in this paper).

**Diagnosis:** The diagnosis for the genus *Celertenues* gen. nov. within the subtribe *Celertenuina* subtribe nov. is as follows: It is a genus of the Diplodactylidae (sensu Han *et al.* 2004) distinguished from all genera in the tribe *Fiacumminggecko* tribe nov. (these being: *Amalosia* Wells and Wellington, 1984; *Fiacumminggecko* gen. nov.; *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012; *Marlenegecko* gen. nov.; *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012; *Oedura* Gray, 1842), by the following combination of characters;

- 1/ size of less than 60 mm snout-vent,
- 2/ dorsal scales are minute, granular and much smaller than the ventrals,
- 3/ more than one enlarged cloacal spur,
- 4/ karyotype of  $2n = 36$ ,
- 5/ dorsal pattern generally including at least a broken vertebral stripe or similar, and,
- 6/ base of tail is generally circular in cross section, or only slightly flattened.

Characters 1-2 and 4-5 all specifically diagnose this genus from all others within *Fiacumminggecko* tribe nov., except for *Amalosia* Wells and Wellington, 1984 which is separated from

*Celertenues gen. nov.* by having a tail that is strongly horizontally flattened as opposed to not being flattened, or only slightly so in *Celertenues gen. nov.*

**Distribution:** Tropical Australia from the Kimberley district in Western Australia, across Australia's top end to Queensland and south along the east coast of that State.

**Etymology:** The genus is named in reflection of the Latin words "Celer" which means quick or swift and the word "Tenues" which means fine or thin, (a variant of "Tenuis"), both of which is the general nature of the species within this genus.

**Content:** *Celertenues bobbottomi sp. nov.* (Type species); *C. evanwhittoni sp. nov.*; *C. helengrasswillae sp. nov.*; *C. obscura* (King, 1984); *C. rhombifer* (Gray, 1845).

#### **OEDURA BULLIARDI SP. NOV.**

**Holotype:** A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number: R.138727, collected from Groote Eylandt, Northern Territory, Australia, Latitude -13.83 S., Longitude 136.42 E.

The Australian Museum in Sydney, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Northern Territory Museum, Northern Territory, Australia, specimen number R7494, collected at Umbakumba Road, Groote Eylandt, Northern Territory, Australia, Latitude -13.88 S., Longitude 136.50 E.

**Diagnosis:** *Oedura bulliardi sp. nov.* has until now been treated as an isolated population of *O. bella* Oliver and McDonald, 2016. Before this, it was treated as a population of *O. marmorata* Gray, 1842.

However the species *Oedura bulliardi sp. nov.*, while similar in most respects to *O. bella* can be readily separated from it by the following suite of characters: *Oedura bulliardi sp. nov.* has scattered spots on the limbs or alternatively large well defined patches, or even bands, versus numerous well-defined spots on the limbs in *O. bella* which is seen as a pattern of spotting on the limbs.

*Oedura bulliardi sp. nov.* is further separated from *O. bella* by having very well-defined and distinct cross bands on the tail (original tails), versus one in *O. bella* that is flecked or spotted or with indistinct alternating dark and light crossbands created by spotting and flecking.

The entire dorsal surface of the head in *O. bella* is covered with well-defined yellow spots, including anterior to the eyes. This contrasts with *O. bulliardi sp. nov.* which while having yellow pigment on the head, is mainly purplish anterior to the eyes (the yellow being in indistinct patches) and only having well-defined yellow spots at the rear of the crown.

The subspecies *O. bulliardi whartoni subsp. nov.* from the general region north-west of the Gregory River, Queensland, including those populations from Lawn Hill in Queensland and the McArthur River in the Northern Territory are separated from the nominate form *O. bulliardi bulliardi sp. nov.* by the configuration of dark and light cross-bands on the dorsal surface of the back. In both subspecies there are four well-defined and reasonably well defined thick light crossbands, edged with yellow, running across the back between the front and hind limbs. Between these are indistinct crossbands of similar diameter. In *O. bulliardi bulliardi subsp. nov.* these crossbands are formed by irregular patches of merged flecks, interspersed slightly with otherwise darker pigment. By contrast in *O. bulliardi whartoni subsp. nov.* the same less distinct crossbands are formed by distinct pattern of relatively even spots or spot-like flecks.

In terms of the light dorsal crossband between that of the back of the head and that between the front limbs, this is largely absent in *O. bulliardi whartoni subsp. nov.*, at best appearing as irregular and scattered small spots, in a somewhat linear fashion. By contrast in *O. bulliardi bulliardi subsp. nov.* this crossband is either continuous or nearly so, and when not so, by

being formed by large patches of lighter pigment, with minor intrusions of dark from surrounding parts of the dorsum.

Both *O. bulliardi sp. nov.* and *O. bella* are separated from all other *Oedura* (including *Cumminggecko gen. nov.* by the following suite of characters: These two species are medium in size (SVL: mean 78 mm, max 92 mm) species in the *O. marmorata* Gray, 1842 complex with a wide (HW/SVL 0.19-0.23) and moderately deep head (HD/SVL 0.10-0.12), short body (Trk/SVL 0.41-0.49), short original tail (TL/SVL 0.49-0.65) that is narrower than the head and slightly depressed; rostral usually less than half divided, terminal lamellae moderately wide (ToeW/SVL 0.021-0.030), proximal subdigital lamellae of all fingers not wider than apical pair, 12-17 precloacal pores in males and base colouration usually dark purplish brown with 5 distinct to faint light dorsal bands from nape to hindlimbs, sometimes as spots. *O. bulliardi sp. nov.* and *O. bella* differ in external morphology to *O. marmorata* by possessing an original or regrown tail that is much narrower (TW/SVL 0.10-0.15 versus 0.19-0.24) and generally less than the width of head, and *O. bulliardi sp. nov.* and *O. bella* also reaches a smaller maximum size, although adult sizes overlap (adult SVL usually 77-92 mm versus 77-97 mm).

*O. bulliardi sp. nov.* and *O. bella* differs from *O. cincta* De Vis, 1888, *O. greeri* Wells and Wellington, 1985 and *O. derelicta* Wells and Wellington, 1985 by the combination of its smaller maximum size (SVL 64-92 mm versus 77-106 mm), shorter original tail (TL/SVL 0.49-0.65 versus 0.58-0.80), and its narrower terminal lamellae (0.21-0.30 versus 0.23-0.36) and narrower lamellae series on the fingers (not wider than terminal lamellae versus wider on digits 3 and 4). It further differs from the geographically proximate *O. cincta*, *O. fimbria* Oliver and Doughty, 2016 and *O. rentonorum sp. nov.* by generally having a rostral partially divided by a crease (versus usually fully divided).

*O. bulliardi sp. nov.* and *O. bella* can be distinguished from the species of *Oedura* and *Fiacumminggecko gen. nov.* in the Kimberley region in Western Australia by having subdigital lamellae that are slightly expanded around the midpoint of the digit (versus strongly tapering in *F. gracilis* (King, 1984), *F. fiacummingae sp. nov.*, *F. dorisioi sp. nov.*, *F. richardwellsi sp. nov.*, *F. julianfordi sp. nov.*, *F. matteoae sp. nov.*, *F. rosswellingtoni sp. nov.* and *F. charlespiersoni sp. nov.*), or obviously flared and often as wider or wider than the apical lamellae in *O. filicipoda* King, 1984 and *O. murrumanu* Oliver, Laver, Melville and Doughty, 2014), and its moderately long and slightly swollen tail (versus very long [approaching length of body] and tapering in *F. gracilis* (King, 1984), *F. fiacummingae sp. nov.*, *F. dorisioi sp. nov.*, *F. richardwellsi sp. nov.*, *F. julianfordi sp. nov.*, *F. matteoae sp. nov.*, *F. rosswellingtoni sp. nov.* and *F. charlespiersoni sp. nov.*), or greatly flattened and wider than body in *O. filicipoda* and *O. murrumanu*). With a maximum SVL of 92 mm, *O. bulliardi sp. nov.* and *O. bella* is also smaller than *O. filicipoda* and *O. murrumanu* (which both regularly exceed 100 mm).

*O. bulliardi sp. nov.* and *O. bella* differs from all *Marlenegecko gen. nov.* in eastern Australia by possessing more than one postcloacal tubercle and in having a base colouration of five relatively thin dorsal bands. The latter character distinguishes it from two other small saxicoline *Marlenegecko gen. nov.* in eastern Australia: *M. coggeri* has large ocelli on limbs and torso and the similar *M. jowalbinna* has a pale pinkish gray dorsum with distinct dark-edged bands across the neck and base of tail and a plain yellow original tail (Hoskin and Higgie, 2008). All other *Marlenegecko gen. nov.* in eastern Australia tend to be larger (SVL > 90 mm) and also have dorsal patterns that do not feature thin light bands; specifically, *M. castelnaui* has wide bands, *M. monilis* and *M. shireenhoserae sp. nov.* has blotches or ocelli, and *M. tryoni* has dense small spots (adapted and modified from Oliver and Doughty, 2016).

**Distribution:** Known only from the sandstone rock formations of Groote Eylandt, Northern Territory, as well as the rocky areas

around the south-west edge of the Gulf of Carpentaria, generally north and west of the Gregory River and Lawn Hill Creek, including Lawn Hill (Queensland) and the McCarthur River (Northern Territory). South of here in the main Selwyn Range (Queensland), one finds the similar and related species, *O. bella*.

**Etymology:** Named in honour of Kaj-Erik (Kai) Bulliard of Perth, Western Australia, formerly of Sydney, New South Wales, for his contributions to herpetology in Australia.

**OEDURA BULLIARDI WHARTONI SUBSP. NOV.**

**Holotype:** A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number: R34188, collected from the McArthur River Station, Northern Territory, Australia, Latitude 16.40 S., Longitude 135.51 E. The South Australian Museum, Adelaide, South Australia, Australia, is a government-owned facility that allows access to its holdings.

**Paratypes:** Two preserved specimens at the Australian Museum in Sydney, Australia, specimen numbers: R.53437 and R53438 collected at 37km north of the McArthur River Camp on Borrooloola Road, Northern Territory, Australia, Latitude 16.10 S., Longitude 136.12 E.

**Diagnosis:** *Oedura bulliardii sp. nov.* has until now been treated as an isolated population of *O. bella* Oliver and McDonald, 2016. Before this, it was treated as a population of *O. marmorata* Gray, 1842.

However the species *Oedura bulliardii sp. nov.*, while similar in most respects to *O. bella* can be readily separated from it by the following suite of characters: *Oedura bulliardii sp. nov.* has scattered spots on the limbs or alternatively large well defined patches, or even bands, versus numerous well-defined spots on the limbs in *O. bella* which is seen as a pattern of dense spotting on the limbs. *Oedura bulliardii sp. nov.* is further separated from *O. bella* by having very well-defined and distinct cross bands on the tail (original tails), versus a tail in *O. bella* that is flecked or spotted or with indistinct alternating dark and light crossbands created by spotting and flecking as opposed to well defined bands of alternating darker and lighter pigment.

The entire dorsal surface of the head in *O. bella* is covered with well-defined yellow spots, including anterior to the eyes. This contrasts with *O. bulliardii sp. nov.* which while having yellow pigment on the head, is mainly purplish anterior to the eyes (the yellow being in indistinct patches) and only having well-defined yellow spots at the rear of the crown.

The subspecies *O. bulliardii whartoni subsp. nov.* from the general region north-west of the Gregory River, and Lawn Hill Creek, Queensland, including those populations from Lawn Hill in Queensland and the McCarthur River in the Northern Territory are separated from the nominate form *O. bulliardii bulliardii sp. nov.* by the configuration of dark and light cross-bands on the dorsal surface of the back. In both subspecies there are four well-defined and reasonably well defined thick light crossbands, edged with yellow, running across the back between the front and hind limbs. Between these are indistinct crossbands of similar diameter. In *O. bulliardii bulliardii subsp. nov.* these crossbands are formed by irregular patches of merged flecks, interspersed slightly with otherwise darker pigment. By contrast in *O. bulliardii whartoni subsp. nov.* the same less distinct crossbands are formed by distinct pattern of relatively even spots or spot-like flecks.

In terms of the light dorsal crossband between that of the back of the head and that between the front limbs, this is largely absent in *O. bulliardii whartoni subsp. nov.*, at best appearing as irregular and scattered small spots, in a somewhat linear fashion. By contrast in *O. bulliardii bulliardii subsp. nov.* this crossband is either continuous or nearly so, (and immediately obvious as such) and when not continuous is formed by large patches of lighter pigment, with minor intrusions of dark from surrounding parts of the dorsum.

**Distribution:** *O. bulliardii whartoni subsp. nov.* is known only rocky areas around the south-west edge of the Gulf of Carpentaria, generally north and west of the Gregory River and Lawn Hill Creek, including Lawn Hill (Queensland) and the McCarthur River (Northern Territory). The subspecies *O. bulliardii bulliardii subsp. nov.* is from the sandstone rock formations of Groote Eylandt, Northern Territory.

**Etymology:** Named in honour of Shannon Wharton of Sydney, New South Wales, for his contributions to herpetology in Australia.

**OEDURA BULLIARDI BULLIARDI SUBSP. NOV.**

**Holotype:** A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number: R.138727, collected from Groote Eylandt, Northern Territory, Australia, Latitude -13.83 S., Longitude 136.42 E.

The Australian Museum in Sydney, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Northern Territory Museum, Northern Territory, Australia, specimen number R7494, collected at Umbakumba Road, Groote Eylandt, Northern Territory, Australia, Latitude -13.88 S., Longitude 136.50 E.

**Diagnosis:** *Oedura bulliardii sp. nov.* has until now been treated as an isolated population of *O. bella* Oliver and McDonald, 2016. Before this, it was treated as a population of *O. marmorata* Gray, 1842.

However the species *Oedura bulliardii sp. nov.*, while similar in most respects to *O. bella* can be readily separated from it by the following suite of characters: *Oedura bulliardii sp. nov.* has scattered spots on the limbs or alternatively large well defined patches, or even bands, versus numerous well-defined spots on the limbs in *O. bella* which is seen as a pattern of spotting on the limbs.

*Oedura bulliardii sp. nov.* is further separated from *O. bella* by having very well-defined and distinct cross bands on the tail (original tails), versus one in *O. bella* that is flecked or spotted or with indistinct alternating dark and light crossbands created by spotting and flecking.

The entire dorsal surface of the head in *O. bella* is covered with well-defined yellow spots, including anterior to the eyes. This contrasts with *O. bulliardii sp. nov.* which while having yellow pigment on the head, is mainly purplish anterior to the eyes (the yellow being in indistinct patches) and only having well-defined yellow spots at the rear of the crown.

The subspecies *O. bulliardii whartoni subsp. nov.* from the general region north-west of the Gregory River, and Lawn Hill Creek, Queensland, including those populations from Lawn Hill in Queensland and the McCarthur River in the Northern Territory are separated from the nominate form *O. bulliardii bulliardii sp. nov.* by the configuration of dark and light cross-bands on the dorsal surface of the back. In both subspecies there are four well-defined and reasonably well defined thick light crossbands, edged with yellow, running across the back between the front and hind limbs. Between these are indistinct crossbands of similar diameter. In *O. bulliardii bulliardii subsp. nov.* these crossbands are formed by irregular patches of merged flecks, interspersed slightly with otherwise darker pigment. By contrast in *O. bulliardii whartoni subsp. nov.* the same less distinct crossbands are formed by distinct pattern of relatively even spots or spot-like flecks.

In terms of the light dorsal crossband between that of the back of the head and that between the front limbs, this is largely absent in *O. bulliardii whartoni subsp. nov.*, at best appearing as irregular and scattered small spots, in a somewhat linear fashion. By contrast in *O. bulliardii bulliardii subsp. nov.* this crossband is either continuous or nearly so, (and immediately obvious as such) and when not continuous is formed by large patches of lighter pigment, with minor intrusions of dark from surrounding parts of the dorsum.

**Distribution:** *O. bulliardii bulliardii subsp. nov.* is known only from

the sandstone rock formations of Groote Eylandt, Northern Territory.

The subspecies *O. bulliardi whartoni* subsp. nov., is found in the rocky areas around the south-west edge of the Gulf of Carpentaria, generally north and west of the Gregory River and Lawn Hill Creek, including Lawn Hill (Queensland) and the McCarthur River (Northern Territory).

**Etymology:** Named in honour of Kaj-Erik (Kai) Bulliard of Perth, Western Australia, formerly of Sydney, New South Wales, for his contributions to herpetology in Australia.

**OEDURA RENTONORUM SP. NOV.**

**Holotype:** A preserved specimen in the Western Australian Museum, Perth, Western Australia, specimen number: R160074 collected at 32.5 KM, East South-east of Meetheena Outcamp, Western Australia, Australia. Latitude -21.33 S., Longitude 120.75 E. The Western Australian Museum is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen in the Western Australian Museum, Perth, Western Australia, specimen number: R160066 collected at 58 KM, East South-east of Meetheena Outcamp, Western Australia, Australia. Latitude -21.19 S., Longitude 120.00 E.

**Diagnosis:** Although *Oedura fimbria* Oliver and Doughty, 2016 is recently described, it has been evident for some time that this species as recognized by Oliver and Doughty, 2016 consists of two morphologically and specifically distinct populations.

These are separated by the Fortescue River basin, in line with other splits in similarly confined species across this barrier (as seen for example in *Odatria (Pilbaravaranus) hamersleyensis* Maryan, Oliver, Fitch and O'Connell, 2014).

As *Oedura fimbria* Oliver and Doughty, 2016 comes from south of this basin, it is the northern population, until now treated as *O. fimbria* which is formally described herein as *O. rentonorum* sp. nov..

*O. rentonorum* sp. nov. are most easily separated from *O. fimbria* by colouration.

Adult *O. fimbria* have 5-6 distinct to somewhat indistinct pale light transverse dorsal bands with wide brown central regions, with a further 5-8 similar bands on the tail. The anterior (nuchal) light band generally joins or approaches a light lateral stripe that extends from the labial scales and above the tympanum.

However in *O. rentonorum* sp. nov. the bands are typically very faded and indistinct on adults, and this contrasts with the more conspicuous banding in specimens of all sizes of *O. fimbria*.

In both *O. rentonorum* sp. nov. and *O. fimbria* there is extensive further light flecking and blotches present between the bands and elsewhere on the dorsal and lateral surfaces of the head, torso and limbs.

*O. rentonorum* sp. nov. has many smaller flecks, while *O. fimbria* have fewer larger flecks or reticulate blotches. In both *O. rentonorum* sp. nov. and *O. fimbria* the venter is plain light buff, sometimes with faint brownish tinge on the throat and the terminal lamellae. Regrown tails are dark brown with varying amounts of light flecking, but no clear bands.

*O. fimbria* and *O. rentonorum* are most similar to *O. cincta* De Vis, 1888, *O. derelicta* Wells and Wellington, 1985 and *O. greeri* Wells and Wellington, 1985, and shares a moderately large size (SVL > 100 mm) and a moderately long tail which tends towards rounded in cross-section and is not wider than the head, wide flared subdigital lamellae, dorsal pattern usually consisting of numerous poorly-defined light flecks and blotches and often thin light bands. The most obvious diagnostic morphological character between the two groups of species are an incomplete rostral crease on *Oedura fimbria* and *O. rentonorum* (25-60% versus 60 [rarely]-100% [usually] of the rostral height in the other species (Oliver and Doughty 2016).

Oliver and Doughty (2016) also provide a diagnosis to separate *Oedura fimbria* and *O. rentonorum* (which they treat as the

single species *O. fimbria*), from all other species of *Oedura*, therein including species herein treated as being within the genera *Fiacumminggecko* gen. nov. and *Marlenegecko* gen. nov..

**Distribution:** The Pilbara Region of Western Australia, north of the Fortescue River drainage. Populations south of this basin are referred to *O. fimbria* Oliver and Doughty, 2016.

**Etymology:** Named in honour of Ian Renton and his son Corey Renton of Snake-away services, Adelaide, South Australia in recognition of their services to herpetology and public safety spanning some decades.

**FIACUMMINGECKO FIACUMMINGAE SP. NOV.**

**Holotype:** A preserved specimen at the Western Australian Museum, Perth Western Australia, specimen number: R171670, collected from Lachlan Island, Western Australia, Latitude -16.62 S., Longitude 123.47 E.

The Western Australian Museum is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Western Australian Museum, Perth Western Australia, specimen number: R171673, collected from Long Island, Western Australia, Latitude -16.56 S., Longitude 123.36 E.

**Diagnosis:** *Fiacumminggecko fiacummingae* sp. nov. has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae* sp. nov. which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough or night-time colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae* sp. nov. from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae* sp. nov. is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae* sp. nov. differs from *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov. and *F. charlespiersoni* sp. nov. by having a generally dark purple dorsal

surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other species except for *F. julianfordi* sp. nov. which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae* sp. nov. is by far the most distinct species in the complex.

*F. matteoae* sp. nov. is similar in most respects to *F. fiacummingae* sp. nov. and would be separated from the other six species in the genus by the same criteria. However it differs from *F. fiacummingae* sp. nov. by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae* sp. nov..

*F. matteoae* sp. nov. also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi* sp. nov. which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi* sp. nov. from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae* sp. nov. (generally fitting the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow cross-bands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni* sp. nov., the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni* sp. nov. from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi* sp. nov., this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment

within these bands.

Both *F. richardwellsi* sp. nov. and *F. rosswellingtoni* sp. nov. are characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov..

*F. richardwellsi* sp. nov. has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni* sp. nov. has upper limbs characterised by dark flecks concentrated to form obvious bands across otherwise lighter pigment.

*F. charlespiersoni* sp. nov. of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-west) is similar in most respects to *F. richardwellsi* sp. nov. as described herein and separated from the other species by the same criteria.

*F. charlespiersoni* sp. nov. is separated from *F. richardwellsi* sp. nov. by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi* sp. nov.. *F. charlespiersoni* sp. nov. is further separated from *F. richardwellsi* sp. nov. by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi* sp. nov..

*F. dorisioi* sp. nov. can be separated from the other species as for *F. rosswellingtoni* sp. nov.. However *F. dorisioi* sp. nov. can be separated from *F. rosswellingtoni* sp. nov. by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi* sp. nov. has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni* sp. nov..

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi* sp. nov. but this is not the case in *F. rosswellingtoni* sp. nov. or any other species except for *F. fiacummingae* sp. nov..

In the other six species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, for all other species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae* sp. nov., *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov., *F. matteoae* sp. nov., *F. julianfordi* sp. nov., *F. dorisioi* sp. nov. and *F. charlespiersoni* sp. nov. form the total of *Fiacummingecko* gen. nov.. These eight species are readily separated from both *Marlenegecko* gen. nov. and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus of *Oedura*, *Fereoedura* subgen. nov.); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *F. fiacummingae* sp. nov. is known only from the near coastal region of Walcott Inlet and further south in Western Australia in the lower Kimberley, including adjacent offshore islands, one of which is the type locality.

**Etymology:** Named in honour of leading Australian journalist Fia Cumming, who over a 20 year period through the 1980's and 1990's was often the only news reporter employed with the mainstream media with the courage to take on the corruption

and lies from government officials who had at the time successfully sought to outlaw all private ownership of reptiles in Australia.

Without her efforts, including her being the first and main reporter to break the news story of the illegal banning of the book *Smuggled: The Underground Trade in Australia's Wildlife* (Hoser 1993) in May 1993, there would be no person in Australia allowed to have contact with reptiles in any way, save for a handful of privileged and corruptly protected persons, most often within the domain of government run zoos and the like.

That was the legal situation in most of Australia before the publication of the *Smuggled* books in 1993 and 1996 (Hoser 1993, 1996).

Every man, woman and child in Australia who in 2017 enjoys the legal right to keep live reptiles as pets in their home, or who sees a mobile reptile or wildlife display at their school, event or party owes Fia Cumming an eternal debt of gratitude, as without her courageous efforts, that right would not exist in Australia.

#### **FIACUMMINGECKO RICHARDWELLSI SP. NOV.**

**Holotype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, specimen number: R156724 collected at Piccaninny Massif, Western Australia, Latitude -17.40 S., Longitude 128.41 E.

The Western Australian Museum is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, specimen number: R151005 collected at Warmun, Western Australia Latitude -16.75 S., Longitude 128.29 E.

**Diagnosis:** *Fiacummingecko richardwellsi* sp. nov. has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae* sp. nov. which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae* sp. nov. from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae* sp. nov. is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae* sp. nov. differs from *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov. and *F. charlespiersoni* sp. nov. by having a generally dark purple dorsal surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other species except for *F. julianfordi* sp. nov. which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae* sp. nov. is by far the most distinct species in the complex.

*F. matteoae* sp. nov. is similar in most respects to *F. fiacummingae* sp. nov. and would be separated from the other six species in the genus by the same criteria. However it differs from *F. fiacummingae* sp. nov. by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae* sp. nov..

*F. matteoae* sp. nov. also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi* sp. nov. which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi* sp. nov. from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae* sp. nov. (generally fitting the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow cross-bands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni*



*sp. nov.*, the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni sp. nov.* from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi sp. nov.*, this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment within these bands.

Both *F. richardwellsi sp. nov.* and *F. rosswellingtoni sp. nov.* are characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi sp. nov.*, *F. matteoae sp. nov.* and *F. fiacummingae sp. nov.*

*F. richardwellsi sp. nov.* has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni sp. nov.* has upper limbs characterised by dark flecks concentrated to form obvious bands across otherwise lighter pigment.

*F. charlespiersoni sp. nov.* of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-west) is similar in most respects to *F. richardwellsi sp. nov.* as described herein and separated from the other species by the same criteria.

*F. charlespiersoni sp. nov.* is separated from *F. richardwellsi sp. nov.* by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi sp. nov.*. *F. charlespiersoni sp. nov.* is further separated from *F. richardwellsi sp. nov.* by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi sp. nov.*

*F. dorisioi sp. nov.* can be separated from the other species as for *F. rosswellingtoni sp. nov.*. However *F. dorisioi sp. nov.* can be separated from *F. rosswellingtoni sp. nov.* by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi sp. nov.* has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni sp. nov.*

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi sp. nov.* but this is not the case in *F. rosswellingtoni sp. nov.* or any other species except for *F. fiacummingae sp. nov.*

In the other six species besides *F. dorisioi sp. nov.* and *F. fiacummingae sp. nov.* the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, for all other species besides *F. dorisioi sp. nov.* and *F. fiacummingae sp. nov.* this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae sp. nov.*, *F. gracilis*, *F. richardwellsi sp. nov.*, *F. rosswellingtoni sp. nov.*, *F. matteoae sp. nov.*, *F. julianfordi sp. nov.*, *F. dorisioi sp. nov.* and *F. charlespiersoni sp. nov.* form the total of *Fiacummingecko gen. nov.*. These eight species are readily separated from both *Marlenegecko gen. nov.* and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus of *Oedura*, *Fereodura subgen. nov.*); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *F. richardwellsi sp. nov.* has a distribution centred

in the various major hills near Turkey Creek in Western Australia, including the Durack Range, Carr Boyd Range and outliers.

**Etymology:** Named in honour of Richard Wells of New South Wales, Australia and who is one of the leading lights in Australian herpetology spanning many decades. He is best known to many as a co-author of papers with Cliff Ross Wellington, but whose massive contributions to herpetology go well beyond this.

**FIACUMMINGECKO ROSSWELLINGTONI SP. NOV.**

**Holotype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, specimen number: R156728 collected at Tunnel Creek, Oscar Range, in the King Leopold Ranges, Western Australia Latitude -17.64 S., Longitude 125.17 E.

The Western Australian Museum is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Museum of Victoria, Melbourne, Australia, specimen number: D77024, collected at McSherry Gap, Western Australia, Latitude -17.56 S., Longitude 125.10 E.

**Diagnosis:** *Fiacummingecko rosswellingtoni sp. nov.* has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae sp. nov.* which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae sp. nov.* from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae sp. nov.* is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae sp. nov.* differs from *F. gracilis*, *F. richardwellsi sp. nov.*, *F. rosswellingtoni sp. nov.* and *F. charlespiersoni sp. nov.* by having a generally dark purple dorsal surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other

species except for *F. julianfordi* sp. nov. which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae* sp. nov. is by far the most distinct species in the complex.

*F. matteoae* sp. nov. is similar in most respects to *F. fiacummingae* sp. nov. and would be separated from the other six species in the genus by the same criteria. However it differs from *F. fiacummingae* sp. nov. by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae* sp. nov..

*F. matteoae* sp. nov. also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi* sp. nov. which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi* sp. nov. from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae* sp. nov. (generally fitting the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow cross-bands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni* sp. nov., the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni* sp. nov. from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi* sp. nov., this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment within these bands.

Both *F. richardwellsi* sp. nov. and *F. rosswellingtoni* sp. nov. are

characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov.. *F. richardwellsi* sp. nov. has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni* sp. nov. has upper limbs characterised by dark flecks concentrated to form obvious bands across otherwise lighter pigment.

*F. charlespiersoni* sp. nov. of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-west) is similar in most respects to *F. richardwellsi* sp. nov. as described herein and separated from the other species by the same criteria. *F. charlespiersoni* sp. nov. is separated from *F. richardwellsi* sp. nov. by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi* sp. nov.. *F. charlespiersoni* sp. nov. is further separated from *F. richardwellsi* sp. nov. by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi* sp. nov..

*F. dorisioi* sp. nov. can be separated from the other species as for *F. rosswellingtoni* sp. nov.. However *F. dorisioi* sp. nov. can be separated from *F. rosswellingtoni* sp. nov. by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi* sp. nov. has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni* sp. nov..

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi* sp. nov. but this is not the case in *F. rosswellingtoni* sp. nov. or any other species except for *F. fiacummingae* sp. nov..

In the other six species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, for all other species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae* sp. nov., *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov., *F. matteoae* sp. nov., *F. julianfordi* sp. nov., *F. dorisioi* sp. nov. and *F. charlespiersoni* sp. nov. form the total of *Fiacummingecko* gen. nov.. These eight species are readily separated from both *Marlenegecko* gen. nov. and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus of *Oedura*, *Fereoeadura* subgen. nov.); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *F. rosswellingtoni* sp. nov. has a distribution centred on the south eastern King Leopold Ranges of Western Australia, away from the coast.

**Etymology:** Named in honour of Cliff Ross Wellington of New South Wales, Australia and who is one of the leading lights in Australian herpetology spanning many decades. He is best known to many as a co-author of papers with Richard Wells also of New South Wales, but whose massive contributions to herpetology go well beyond this and are ongoing, including defending the science of herpetology from the unscientific and unlawful taxonomic vandalism of Wolfgang Wüster and his gang of thieves.

**FIACUMMINGECKO CHARLESPIERSONI SP. NOV.**

**Holotype:** A preserved specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number: R75096, collected at Bullo River, Northern Territory, Australia, Latitude -15.42 S., Longitude 129.38 E.

The Australian Museum in Sydney is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, specimen number: R60329, collected at Bullo River, Northern Territory, Australia, Latitude -15.37 S., Longitude 129.40 E.

**Diagnosis:** *Fiacummingecko charlespiersoni* sp. nov. has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae* sp. nov. which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae* sp. nov. from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae* sp. nov. is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae* sp. nov. differs from *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov. and *F. charlespiersoni* sp. nov. by having a generally dark purple dorsal surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other species except for *F. julianfordi* sp. nov. which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae* sp. nov. is by far the most distinct species in the complex.

*F. matteoae* sp. nov. is similar in most respects to *F. fiacummingae* sp. nov. and would be separated from the other six species in the genus by the same criteria. However it differs

from *F. fiacummingae* sp. nov. by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae* sp. nov..

*F. matteoae* sp. nov. also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi* sp. nov. which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi* sp. nov. from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae* sp. nov. (generally fitting the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow cross-bands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni* sp. nov., the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni* sp. nov. from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi* sp. nov., this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment within these bands.

Both *F. richardwellsi* sp. nov. and *F. rosswellingtoni* sp. nov. are characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov..

*F. richardwellsi* sp. nov. has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni* sp. nov. has upper limbs characterised by dark flecks concentrated to form obvious bands across otherwise lighter pigment.

*F. charlespiersoni* sp. nov. of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-

west) is similar in most respects to *F. richardwellsi* sp. nov. as described herein and separated from the other species by the same criteria.

*F. charlespiersoni* sp. nov. is separated from *F. richardwellsi* sp. nov. by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi* sp. nov.. *F. charlespiersoni* sp. nov. is further separated from *F. richardwellsi* sp. nov. by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi* sp. nov..

*F. dorisioi* sp. nov. can be separated from the other species as for *F. rosswellingtoni* sp. nov.. However *F. dorisioi* sp. nov. can be separated from *F. rosswellingtoni* sp. nov. by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi* sp. nov. has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni* sp. nov..

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi* sp. nov. but this is not the case in *F. rosswellingtoni* sp. nov. or any other species except for *F. fiacummingae* sp. nov..

In the other six species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, for all other species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae* sp. nov., *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov., *F. matteoae* sp. nov., *F. julianfordi* sp. nov., *F. dorisioi* sp. nov. and *F. charlespiersoni* sp. nov. form the total of *Fiacummingecko* gen. nov..

These eight species are readily separated from both *Marlenegecko* gen. nov. and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus *Oedura*, *Fereoeodura* subgen. nov.); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *F. charlespiersoni* sp. nov. is known only from the Bullo River area in the Northern Territory, in particular the large rock formation immediately to the south-west of the drainage (including the Keep River area).

**Etymology:** Named in honour of book publisher, Charles Pierson of Moss Vale, in New South Wales, Australia in recognition of his massive contribution to herpetology and wildlife conservation in Australia for courageously publishing numerous titles on herpetology and wildlife conservation in the 1980's and 1990's which was at a time when neither was of concern to the Australian public.

He also aggressively lobbied politicians on both sides of politics, including Ian McLachlan (Liberals) and Graeme Richardson (Labor Party) about the importance of the environment and wildlife conservation in particular, the result being that for the first time ever, governments in Australia began to take environmental management and wildlife conservation seriously.

Notwithstanding Pierson's successes, the ongoing environmental destruction within Australia continues.

#### **FIACUMMINGECKO MATTEOAE SP. NOV.**

**Holotype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number: R168565, collected at Augustus Island, West Kimberley Region, Western Australia, Australia, Latitude, -15.35 S., Longitude 124.53 E.

The Western Australian Museum, Perth, Western Australia, Australia is a government-owned facility that allows access to its holdings.

**Paratypes:** Four preserved specimens at the Western Australian Museum, Perth, Western Australia, specimen numbers: R168566, R171205, R40403, R40442 all collected at Augustus Island, West Kimberley Region, Western Australia, Australia, Latitude, -15.35 S., Longitude 124.53 E.

**Diagnosis:** *Fiacummingecko matteoae* sp. nov. has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae* sp. nov. which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae* sp. nov. from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae* sp. nov. is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae* sp. nov. differs from *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov. and *F. charlespiersoni* sp. nov. by having a generally dark purple dorsal surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other species except for *F. julianfordi* sp. nov. which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae* sp. nov. is by far the most distinct species in the complex.

*F. matteoae* sp. nov. is similar in most respects to *F. fiacummingae* sp. nov. and would be separated from the other six species in the genus by the same criteria. However it differs from *F. fiacummingae* sp. nov. by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae* sp. nov..

*F. matteoae* sp. nov. also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi* sp. nov. which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi* sp. nov. from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae* sp. nov. (generally fitting the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow cross-bands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni* sp. nov., the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni* sp. nov. from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi* sp. nov., this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment within these bands.

Both *F. richardwellsi* sp. nov. and *F. rosswellingtoni* sp. nov. are characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov..

*F. richardwellsi* sp. nov. has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni* sp. nov. has upper limbs characterised by dark flecks concentrated to

form obvious bands across otherwise lighter pigment.

*F. charlespiersoni* sp. nov. of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-west) is similar in most respects to *F. richardwellsi* sp. nov. as described herein and separated from the other species by the same criteria.

*F. charlespiersoni* sp. nov. is separated from *F. richardwellsi* sp. nov. by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi* sp. nov.. *F. charlespiersoni* sp. nov. is further separated from *F. richardwellsi* sp. nov. by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi* sp. nov..

*F. dorisioi* sp. nov. can be separated from the other species as for *F. rosswellingtoni* sp. nov.. However *F. dorisioi* sp. nov. can be separated from *F. rosswellingtoni* sp. nov. by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi* sp. nov. has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni* sp. nov..

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi* sp. nov. but this is not the case in *F. rosswellingtoni* sp. nov. or any other species except for *F. fiacummingae* sp. nov..

In the other six species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, for all other species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae* sp. nov., *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov., *F. matteoae* sp. nov., *F. julianfordi* sp. nov., *F. dorisioi* sp. nov. and *F. charlespiersoni* sp. nov. form the total of *Fiacummingecko* gen. nov.. These eight species are readily separated from both *Marlenegecko* gen. nov. and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus of *Oedura*, *Fereoedura* subgen. nov.); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *F. matteoae* sp. nov. is known only from Augustus Island in the Kimberley District of Western Australia.

**Etymology:** Named in honour of Cathryn Matteo of Hawthorn, (Melbourne), Victoria, Australia who has assisted this author with various research and successful wildlife conservation projects over some decades, including through assistances with computers, IT and the like and other important logistical work.

**FIACUMMINGECKO DORISIOI SP. NOV.**

**Holotype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number: R172341, collected at Theda Station, in the North Kimberley Region of Western Australia, Australia, Latitude -14.81 S., Longitude 126.51 E.

The Western Australian Museum, Perth, Western Australia, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Australian National Wildlife Collection in Canberra, ACT, Australia, owned by the (Commonwealth Scientific and Industrial Research Organisation AKA CSIRO), specimen number: R10209 collected at Monorromboora Hill, Theda in the North Kimberley Region of Western Australia, Australia, Latitude -14.77 S., Longitude 126.58 E.

**Diagnosis:** *Fiacummingecko dorisioi* sp. nov. has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae* sp. nov. which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae* sp. nov. from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae* sp. nov. is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae* sp. nov. differs from *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov. and *F. charlespiersoni* sp. nov. by having a generally dark purple dorsal surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other species except for *F. julianfordi* sp. nov. which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae* sp. nov. is by far the most distinct species in the complex.

*F. matteoae* sp. nov. is similar in most respects to *F. fiacummingae* sp. nov. and would be separated from the other six species in the genus by the same criteria. However it differs from *F. fiacummingae* sp. nov. by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae* sp. nov..

*F. matteoae* sp. nov. also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi* sp. nov. which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi* sp. nov. from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae* sp. nov. (generally fitting the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow crossbands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni* sp. nov., the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni* sp. nov. from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi* sp. nov., this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment within these bands.

Both *F. richardwellsi* sp. nov. and *F. rosswellingtoni* sp. nov. are characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov..

*F. richardwellsi* sp. nov. has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni* sp. nov. has upper limbs characterised by dark flecks concentrated to form obvious bands across otherwise lighter pigment.

*F. charlespiersoni* sp. nov. of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-west) is similar in most respects to *F. richardwellsi* sp. nov. as described herein and separated from the other species by the same criteria.

*F. charlespiersoni* sp. nov. is separated from *F. richardwellsi* sp.

*nov.* by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi sp. nov.*. *F. charlespiersoni sp. nov.* is further separated from *F. richardwellsi sp. nov.* by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi sp. nov.*.

*F. dorisioi sp. nov.* can be separated from the other species as for *F. rosswellingtoni sp. nov.*. However *F. dorisioi sp. nov.* can be separated from *F. rosswellingtoni sp. nov.* by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi sp. nov.* has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni sp. nov.*.

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi sp. nov.* but this is not the case in *F. rosswellingtoni sp. nov.* or any other species except for *F. fiacummingae sp. nov.*.

In the other six species besides *F. dorisioi sp. nov.* and *F. fiacummingae sp. nov.* the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, with all other species besides *F. dorisioi sp. nov.* and *F. fiacummingae sp. nov.* this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae sp. nov.*, *F. gracilis*, *F. richardwellsi sp. nov.*, *F. rosswellingtoni sp. nov.*, *F. matteoae sp. nov.*, *F. julianfordi sp. nov.*, *F. dorisioi sp. nov.* and *F. charlespiersoni sp. nov.* form the total of *Fiacummingecko gen. nov.*. These eight species are readily separated from both *Marlenegecko gen. nov.* and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus of *Oedura*, *Fereoeadura subgen. nov.*); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *F. dorisioi sp. nov.* is known only from the general vicinity of Theda Station in the Kimberley District of Western Australia.

**Etymology:** Named in honour of Morrie Dorisio of Bulleen, (Melbourne), Victoria, Australia (most recently of Reservoir, Victoria) who has assisted this author with various scientific research projects and successful wildlife conservation initiatives over some decades, including through assistances with computers, IT and the like and other important logistical work.

#### **FIACUMMINGECKO JULIANFORDI SP. NOV.**

**Holotype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number: R168903, collected at Bigge Island, in the Kimberley Region of Western Australia, Australia, Latitude -14.60 S., Longitude 125.12 E.

The Western Australian Museum, Perth, Western Australia, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen at the Western Australian Museum, Perth, Western Australia, Australia, specimen number: R168904, collected at Bigge Island, in the Kimberley Region of Western Australia, Australia, Latitude -14.60 S., Longitude 125.12 E.

**Diagnosis:** *Fiacummingecko julianfordi sp. nov.* has until now been treated as a population of *F. gracilis* King, 1985 (until now known as *Oedura gracilis*). Because seven new species similar to and closely related to *F. gracilis* are described within this paper (making a total of eight), with all until now having been treated as being of the taxon *F. gracilis*, all eight are separated from one another in each description by the suites of characters described below.

All eight species are from the Kimberley district in north-west Western Australia, including immediately adjacent islands or just across the Northern Territory border, in adjacent hilly country.

*F. gracilis* from the west Kimberley in the Mitchell Plateau area is readily separated from the other seven species by the fact that the latter part of the tail (original tail) in specimens is not characterised by alternating dark and light crossbands, instead consisting of lighter pigment only (which in other species would otherwise be at least six alternating crossbands, except in *F. fiacummingae sp. nov.* which effectively lacks any crossbands on any part of the tail). The second half of the tail in *F. gracilis* does not have any crossbands on it. The dorsal pattern of *F. gracilis* also has a faded whitish sheen (not just the pre-slough colouration) versus a darker and better defined colouration in all the other seven species. In *F. gracilis*, yellow dorsal crossbands do not have any darker or purplish pigment within, although they are moderately thick and up to two-thirds the thickness of the darker yellowish purple pigment between these bands. There is limited purplish pigment anterior to the eye in the upper labial area.

*F. gracilis* are the only species in the complex that lacks any distinctive spots, obvious flecks or markings on the limbs.

*F. fiacummingae sp. nov.* from the near coastal region of Walcott Inlet and further south in Western Australia in the hills and islets along the coast in the lower Kimberley is characterised by a generally dark purple dorsal colouration (as opposed to purple and yellow), characterised by very thin yellow dorsal crossbands, better described as thin, well defined lines (as opposed to bands), rather than the moderately thick dorsal crossbands seen in all other species in the complex (none of which are narrow enough to be classed as "lines").

The tail of the species *F. fiacummingae sp. nov.* is unusual in not having any crossbands, best described instead as having an irregular reticulated or somewhat mottled pattern of purple and yellow in similar amounts and for the entire length of the tail (original tails). *F. fiacummingae sp. nov.* differs from *F. gracilis*, *F. richardwellsi sp. nov.*, *F. rosswellingtoni sp. nov.* and *F. charlespiersoni sp. nov.* by having a generally dark purple dorsal surface of the head with a few distinct and well-defined yellow lines or spots, versus a mottled purplish yellow head on all other species except for *F. julianfordi sp. nov.* which also has a generally mottled head, except for the rear of the head and crown, which is characterised by being brown in colour with a series of well-defined bold yellow spots, which may or may not be merged.

In terms of dorsal colouration, *F. fiacummingae sp. nov.* is by far the most distinct species in the complex.

*F. matteoae sp. nov.* is similar in most respects to *F. fiacummingae sp. nov.* and would be separated from the other six species in the genus by the same criteria. However it differs from *F. fiacummingae sp. nov.* by having slightly wider light dorsal crossbands and some of these are irregular as in either broken at the middle, or run into the other side off centre, which is not seen in *F. fiacummingae sp. nov.*.

*F. matteoae sp. nov.* also differs from the other species in having significant whitening on the end of the tail to an extent not seen in the other named species in this genus, except for *F. julianfordi sp. nov.* which unlike all others in the genus has over 50% of the tail (the posterior end) all white in colour.

*F. julianfordi sp. nov.* from Bigge Island and Prudhoe Island, is similar in many respects to *F. matteoae sp. nov.* (generally fitting

the diagnostic features of that species just given), except for the obvious differences that follow below.

*F. julianfordi* sp. nov. differs from all seven other species by having an all white end of the tail, being more than 50% of the length, but also differs from *F. matteoae* sp. nov. in particular by having well-defined yellow crossbands on the upper part of each limb, versus indistinct in *F. matteoae* sp. nov..

*F. julianfordi* sp. nov. is the only species in the genus with dark grey toes on all (four) feet. These are dark purple in *F. fiacummingae* sp. nov. and whitish purple in all the other species.

*F. fiacummingae* sp. nov. also has well-defined yellow crossbands on the upper part of each limb, but additionally has well-defined yellow blotches on the purple lower limbs, the latter of which is not the case in any of the other seven species. *F. fiacummingae* sp. nov. has pink as opposed to white, flecks or small blotches on the toes.

*F. julianfordi* sp. nov. is also further separated from all other species in the genus by having brown as opposed to purple (darker) dorsal crossbands (purple being the all-over dominant colouration for *F. fiacummingae* sp. nov.), with the yellow crossbands in *F. julianfordi* sp. nov. not having any dark pigment, shading or flecks within them. These yellow crossbands are narrower for this species than in all others except for *F. fiacummingae* sp. nov. and *F. matteoae* sp. nov. as described above.

*F. julianfordi* sp. nov. also differs from the other seven species in the genus in that the darker dorsal crossbands have obvious black pigment at the boundaries to the yellow cross-bands.

*F. richardwellsi* sp. nov. from the Carr Boyd and nearby ranges in the East Kimberley differs from *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov. by having yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones (as opposed to narrower yellow bands). The yellow crossbands have some purple pigment within and the reverse applies to the purplish crossbands. This is not the case in *F. gracilis*, and *F. fiacummingae* sp. nov. and while a similar colouration configuration is seen on the dorsal surface of *F. rosswellingtoni* sp. nov., the intermingling of purple and yellow pigment in the crossbands is not seen to the same obvious extent.

*F. rosswellingtoni* sp. nov. from the south-west Kimberley also has yellow dorsal crossbands of similar thickness to the intervening purplish coloured ones, but unlike *F. richardwellsi* sp. nov., this taxon's bands are well defined and the yellow bands in particular are a rich yellow with no or very little purple pigment within these bands.

Both *F. richardwellsi* sp. nov. and *F. rosswellingtoni* sp. nov. are characterised by regular well-defined alternating dark and light crossbands running to the end of the tail. This is not the case in *F. gracilis*, *F. julianfordi* sp. nov., *F. matteoae* sp. nov. and *F. fiacummingae* sp. nov..

*F. richardwellsi* sp. nov. has limbs characterised by a mottled or spotted pattern, whereas the limbs in *F. rosswellingtoni* sp. nov. has upper limbs characterised by dark flecks concentrated to form obvious bands across otherwise lighter pigment.

*F. charlespiersoni* sp. nov. of the hills in the Bullo River area in the Northern Territory (mainly those immediately to the south-west) is similar in most respects to *F. richardwellsi* sp. nov. as described herein and separated from the other species by the same criteria.

*F. charlespiersoni* sp. nov. is separated from *F. richardwellsi* sp. nov. by a preponderance of yellow on the dorsal surface of the head, versus an approximately equal amount of purple and yellow in *F. richardwellsi* sp. nov.. *F. charlespiersoni* sp. nov. is further separated from *F. richardwellsi* sp. nov. by the flecks on the front limbs, versus a more-or-less mottled appearance in *F. richardwellsi* sp. nov..

*F. dorisioi* sp. nov. can be separated from the other species as

for *F. rosswellingtoni* sp. nov.. However *F. dorisioi* sp. nov. can be separated from *F. rosswellingtoni* sp. nov. by the fact that the lighter crossbands are a rich dark yellow, as opposed to a light yellow. Furthermore *F. dorisioi* sp. nov. has nine or less well defined light crossbands on the body from the back of the neck to the hindlimbs versus eleven or more well-defined light crossbands on the body from the back of the neck to the hindlimbs in *F. rosswellingtoni* sp. nov..

The yellow line running from the top of the eye to the tip of the snout, along the dorsolateral ridge of the snout is completely broken in *F. dorisioi* sp. nov. but this is not the case in *F. rosswellingtoni* sp. nov. or any other species except for *F. fiacummingae* sp. nov..

In the other six species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. the yellow line running from the top of the eye to the tip of the snout fades anteriorly, sometimes appearing as a yellow smudge, but is not obviously broken.

As already inferred, for all other species besides *F. dorisioi* sp. nov. and *F. fiacummingae* sp. nov. this line while reducing near the snout, remains (but fades somewhat) and does not break to form a distinctive purplish gap.

There are numerous photos of each of the above species on the internet on sites such as "Flickr", clearly identifiable as the relevant species based on the descriptions above and the location information given.

All of *F. fiacummingae* sp. nov., *F. gracilis*, *F. richardwellsi* sp. nov., *F. rosswellingtoni* sp. nov., *F. matteoae* sp. nov., *F. julianfordi* sp. nov., *F. dorisioi* sp. nov. and *F. charlespiersoni* sp. nov. form the total of *Fiacummingecko* gen. nov.. These eight species are readily separated from both *Marlenegecko* gen. nov. and *Oedura* Gray, 1842 by the following suite of characters: The hindlimbs are mottled, spotted or variegated above, but not having any regular pale, dark edged ocelli; the dorsal pattern consists of some sort of cross bands or similar, but not ocelli of any form; the digits lack conspicuous lateral fringes (as seen in the subgenus of *Oedura*, *Fereoedura* subgen. nov.); the enlarged apical lamellae of the fourth toe are followed by only two pairs of large divided lamellae.

**Distribution:** *Fiacummingecko julianfordi* sp. nov. is known only from Bigge Island and Prudhoe Island in the west Kimberley district of Western Australia.

**Etymology:** Named in honour of the late Dr. Julian Ford of the Western Australian Museum for services to Ornithology. Since his untimely death caused by a corrupt wildlife department in Australia (Queensland) in the 1980's, not much has changed in the following 3 decades, with recent wildlife department caused deaths including that of Nathan Garrod, also in Queensland, who committed suicide in April 2015 following a raid by the QNPWS and unlawful attacks and harassment by ruthless money-hungry rivals in the "reptile business", Mike Cermac and Tony Harrison.

The following is taken from the book *Smuggled: The Underground Trade in Australia's Wildlife* (Hoser, 1993):

#### "THE CASE OF JULIAN FORD"

Perhaps the most widely publicised case occurred in 1985-87. Perth scientist and ornithologist, Dr Julian Ford, applied for a permit to collect native birds in North Queensland as part of a federally funded research project. He lodged a 13-page application with the Queensland N.P.W.S. in November 1985 and also paid them the relevant fee for the permit. In due course Ford's cheque was cashed by the N.P.W.S. and he believed that the relevant permit had been issued.

The following October, while completing his field trip in North Queensland, he was raided by N.P.W.S. officials and all his collected birds were confiscated. What N.P.W.S. officials actually did with those birds after their seizure was never revealed to the public.

When Ford complained to the media about what had happened,



Queensland N.P.W.S. repeatedly denied ever receiving an application from him. Ford then faced some 60 separate charges laid by N.P.W.S. officials for illegally capturing fauna, which carried possible fines totaling \$100,000. The Ford case attracted attention but not because Ford was wrongly charged or unduly harassed by fauna authorities. The case received nation-wide media attention, including a feature story on *60 Minutes* only after he died of a massive heart attack early in 1987, which his wife said was caused by the incident with N.P.W.S.

After Ford's widow, Jennifer, produced evidence in her dead husband's favor, the N.P.W.S. admitted that in fact they had acknowledged his licence application and cashed his cheque.

*60 Minutes* alleged corruption within the Queensland N.P.W.S., but this was denied by the director. (Don't they always?)

It also became clear that the pattern of wildlife permit being granted, followed by a raid and seizure of wildlife and a denial by officials of a permit having been issued, was not the first such case to occur in Queensland.

Fauna researchers, breeders and others, in particular bird and reptile keepers, have had so much trouble with belligerent wildlife authority officials that numerous submissions, some longer than 100 pages, have been made to these departments to try and change the prevailing attitudes of enforcement officials and in some cases the laws themselves. These lengthy submissions are produced only at great cost, using funds that otherwise would have been spent on the animals themselves."

#### **MARLENEGECKO SHIREENHOSERAE SP. NOV.**

**Holotype:** A preserved specimen in the Australian Museum in Sydney, New South Wales, Australia, specimen number: R.15180, collected at the Warrumbungle Ranges, NSW, Australia, Latitude -31.43 S., Longitude 149.60 E.

The Australian Museum in Sydney, New South Wales, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen in the Australian Museum in Sydney, New South Wales, Australia, specimen number: R.18925, also collected at the Warrumbungle Ranges, NSW, Australia.

**Diagnosis:** *Marlenegecko shireenhoserae sp. nov.* from the Warrumbungle Ranges, NSW are readily separated from *M. monilis* (De Vis, 1888) and *M. attenboroughi* (Wells and Wellington, 1985), the latter being tentatively treated as a separate and valid species-level taxon to *M. monilis*, by the presence of 7 (rarely), six or less large ocelli or pairs of smaller (sometimes merged) ocelli running down the mid body, versus 8 or more in *M. monilis* and *M. attenboroughi*.

*M. shireenhoserae sp. nov.* is characterised by limited flecking on the front limbs, versus lots of flecking on the limbs of *M. monilis* and *M. attenboroughi*.

The description of De Vis (1888) for the taxon "*Oedura monilis*" matches that of the south Queensland taxon in that it has "eight pairs of large round well-defined paler spots on the vertebral line".

This confirms that until now the Warrumbungles population was the unnamed taxon within the species complex.

**Distribution:** *Marlenegecko shireenhoserae sp. nov.* is restricted to the Warrumbungle Ranges of New South Wales, Australia and immediately adjacent localities in New South Wales. *M. monilis* De Vis, 1888 is herein treated as being restricted to Queensland, from the far south-east and south and north of there. This paper makes the provisional belief that *M. attenboroughi* constitutes a distinctive more northern species found west of Rockhampton, Queensland and further north based based on colour differences, which is a similar view to that of Dr. Danny Brown of Queensland (see for example his webpage at: <http://www.geckodan.com/reptiles/geckos-and-pygopods/>).

I further note an apparent break in the distribution between the

south Queensland and Capricornia/Townsville populations until now assigned to *M. monilis*.

Speculation that *M. attenboroughi* is a variant of *O. marmorata* is largely refuted by the tree-dwelling as opposed to saxicoline habit of the holotype as detailed by Wells and Wellington in 1985.

#### **CELERTUNUES BOBBOTTOMI SP. NOV.**

**Holotype:** A specimen in the Northern Territory Museum at Darwin, NT, Australia, specimen number: 22222 collected at Litchfield National Park, Latitude -13.40 S., Longitude 130.89 E. The Northern Territory Museum at Darwin, NT, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A specimen in the Northern Territory Museum at Darwin, NT, Australia, specimen number: R37097, collected at Dorat Road, some 6 km from the Stuart Hwy, Adelaide River region, Northern Territory, Australia, Latitude -13.28 S., Longitude 131.12 E.

**Diagnosis:** The species *Celertenues bobbottomi sp. nov.* has until now been treated as a regional population of *C. rhombifer* (Gray, 1854) and the proper diagnosis of this taxon must be in the context of separating all five relevant species as formally defined within this paper.

These are species all formerly treated as being within the genus *Oedura* Gray, 1842, or more recently, *Amalosia* Wells and Wellington, 1984. Prior to this date, two were formally named and recognized, while three new to science are formally named herein.

In total the five species are: *Celertenues rhombifer* (Gray, 1845), *C. bobbottomi sp. nov.*, *C. evanwhittoni sp. nov.*, *C. helengrasswillae sp. nov.* and *C. obscura* (King, 1984).

From Gray's original description of *C. rhombifer* (Gray, 1854) it is self-evident that the specimen's provenience was the Kimberley division of Western Australia as this population alone fits the description.

All five species of *Celertenues* can be readily separated from one another on the basis of consistent colour differences, even though otherwise all are morphologically similar and otherwise hard to separate from one another based on hasty external observation without knowledge of the various forms.

*C. rhombifer* (Gray, 1845) as defined herein and generally confined to Kimberley division of Western Australia is readily separated from all other taxa in the genus by a distinct pattern of large light coloured rhomboidal blotches running down the middle of the back. With the exception of *C. obscura* (King, 1984), and (the morphologically similar) *Amalosia jacovae* (Couper, Keim and Hoskin, 2007), in all other species in this genus lighter blotches down the back are always joined to become merged. In *C. rhombifer* (Gray, 1845) at least some of the blotches in the middle of the back are separated by thin sections of darkened pigment, this being unique to the species. *Celertenues obscura* (King, 1984) from north-west Western Australia is the only taxon in the genus with a dorsal pattern of alternating dark and light cross bands that are distinct and well-defined. The (original) tail of *C. obscura* is unique among the species in that it is brilliant deep yellow in colour with limited darker flecks or patches of small size.

*Celertenues helengrasswillae sp. nov.* from Queensland in the coastal and near coastal region south of the Paluma Range in the North to Kroombit Tops in the south is readily separated from the other five species by the following combination of traits: A lighter mid dorsal stripe bounded by dark pigment and with regular jagged edges, dark coloured (blackish) limbs with irregular brown and/or light brown flecks or patches and a distinctive characteristic dark patch of large size surrounded by pale pigment at the rear of the crown, not seen in any other species with the occasional exception of some specimens of *Amalosia jacovae* (Couper, Keim and Hoskin, 2007), being a species morphologically similar to this genus.

*Celertenues helengrasswillae sp. nov.* from Queensland in the coastal and near coastal region south of the Paluma Range in the North to Kroombit Tops in the south is readily separated from the other five species by the following combination of traits: A lighter mid dorsal stripe bounded by dark pigment and with regular jagged edges, dark coloured (blackish) limbs with irregular brown and/or light brown flecks or patches and a distinctive characteristic dark patch of large size surrounded by pale pigment at the rear of the crown, not seen in any other species with the occasional exception of some specimens of *Amalosia jacovae* (Couper, Keim and Hoskin, 2007), being a species morphologically similar to this genus.

*Amalasia jacobae* (Couper, Keim and Hoskin, 2007) from south-east Queensland, generally south of Fraser Island is readily separated from all other species in *Celertenues gen. nov.* by the presence of broken light coloured spots on the dorsal surface of the back with obscure boundaries.

*Celertenues evanwhittoni sp. nov.* found generally from the Atherton Tableland and north in far north Queensland, is readily separated from the other five species by the following suite of characters: A continuous jagged lighter line running down the middle of the back with obvious white spots on the jagged edges; an absence of a conspicuous dark patch posterior to the crown, dense and even spotting or flecks on the limbs, mild yellowing in the colour of the tail (original tails).

*Celertenues bobbottomi sp. nov.* from the tropical top end of the Northern Territory, is readily separated from the five other species by the following suite of characters: The jagged light line running down the centre of the back is punctuated by strong darker intrusions, the tail has a weak yellowish tinge, and in common with *C. obscura* but no other species, the dark line running from the eye along the back of the head and neck, is not distinct and well defined, but instead is an obscure and irregular zone of mottled dark and light pigment.

*C. obscura* is readily separated from *C. bobbottomi sp. nov.* by dorsal pattern, the former having a pattern of distinctive dorsal crossbands, not seen in the latter.

The other species formerly placed in the genus *Amalasia*, that are all now placed in the genus *Celertenues gen. nov.* are all readily separated from *Amalasia* including *A. jacobae* by having a tail that is cylindrical in cross section as opposed to being noticeably depressed.

**Distribution:** *Celertenues bobbottomi sp. nov.* occurs in the tropical top end of the Northern Territory, Australia.

**Etymology:** Named in honour of crime journalist, Bob Bottom, formerly of New South Wales, and more recently of Queensland, Australia, who has authored more than 30 definitive books detailing organised crime and corruption in Australia, including such titles as the following:

*Behind the Barrier.* Gareth Powell Associates, Gladesville, N.S.W. in 1969.

*The Godfather in Australia: Organised Crime's Australian Connections.* A. H. and A. W. Reed, Terrey Hills, N.S.W. in 1979.

*Without Fear or Favour.* Sun Books South Melbourne, in 1984.

*Connections: Crime Rackets and Networks of Influence Down-Under.* Sun Books, South Melbourne in 1985.

*Connections II: Crime Rackets and Networks of Influence in Australia.* Sun Books, South Melbourne in 1987.

*Shadow of Shame: How the Mafia Got Away with the Murder of Donald Mackay.* Sun Books, South Melbourne, 1988.

*Bugged! Legal Police Telephone Taps Expose the Mr Bigs of Australia's Drug Trade.* Sun Books, South Melbourne, in 1989.

*Inside Victoria: A chronicle of scandal.* Pan Macmillian, Sydney, NSW, Australia, in 1991.

*Fighting Organised Crime: Triumph and Betrayal in a Lifelong Campaign.* BBP, Nelson Bay, published in 2009.

#### **CELERTUNUES EVANWHITTONI SP. NOV.**

**Holotype:** A preserved specimen in the Australian Museum, Sydney, New South Wales, Australia specimen number: R142587 collected at: Lamb Range, North Queensland, Australia, Latitude -17.11 S., Longitude 145.54 E. The Australian Museum, Sydney, New South Wales, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen in the Australian Museum, Sydney, New South Wales, Australia specimen number: R80530, collected at: between Walkamin and Rocky Creek on the Atherton Tablelands, North Queensland, Australia. Latitude -17.15 S., Longitude 145.45 E.

**Diagnosis:** The species *Celertenues evanwhittoni sp. nov.* has until now been treated as a regional population of *C. rhombifer* (Gray, 1854) and the proper diagnosis of this taxon must be in the context of separating all five relevant species as formally defined within this paper.

These are species all formerly treated as being within the genus *Oedura* Gray, 1842, or more recently, *Amalasia* Wells and Wellington, 1984. Prior to this date, two were formally named and recognized, while three new to science are formally named herein.

In total the five species are: *Celertenues rhombifer* (Gray, 1845), *C. bobbottomi sp. nov.*, *C. evanwhittoni sp. nov.*, *C. helengrasswillae sp. nov.* and *C. obscura* (King, 1984).

From Gray's original description of *C. rhombifer* (Gray, 1845), it is self-evident that the specimen's provenance was the Kimberley division of Western Australia as this population alone fits the description.

All five species of *Celertenues* can be readily separated from one another on the basis of consistent colour differences, even though otherwise all are morphologically similar and otherwise hard to separate from one another based on hasty external observation.

*C. rhombifer* (Gray, 1845) as defined herein and generally confined to Kimberley division of Western Australia is readily separated from all other taxa in the genus by a distinct pattern of large light coloured rhomboidal blotches running down the middle of the back. With the exception of *C. obscura* (King, 1984), and the morphologically similar *Amalasia jacobae* (Couper, Keim and Hoskin, 2007), in all other species in this genus lighter blotches down the back are always joined to become merged. In *C. rhombifer* (Gray, 1845) at least some of the blotches in the middle of the back are separated by thin sections of darkened pigment, this being unique to the species. *Celertenues obscura* (King, 1984) from north-west Western Australia is the only taxon in the genus with a dorsal pattern of alternating dark and light cross bands that are distinct and well-defined. The (original) tail of *C. obscura* is unique among the species in that it is brilliant deep yellow in colour with limited darker flecks or patches of small size.

*Celertenues helengrasswillae sp. nov.* from Queensland in the coastal and near coastal region south of the Paluma Range in the North to Kroombit Tops in the south is readily separated from the other five species by the following combination of traits: A lighter mid dorsal stripe bounded by dark pigment and with regular jagged edges, dark coloured (blackish) limbs with irregular brown and/or light brown flecks or patches and a distinctive characteristic dark patch of large size surrounded by pale pigment at the rear of the crown, not seen in any other species with the occasional exception of some specimens of *Amalasia jacobae* (Couper, Keim and Hoskin, 2007), being a species morphologically similar to this genus.

*Amalasia jacobae* (Couper, Keim and Hoskin, 2007) from south-east Queensland, generally south of Fraser Island is readily separated from all other species in *Celertenues gen. nov.* by the presence of broken light coloured spots on the dorsal surface of the back with obscure boundaries.

*Celertenues evanwhittoni sp. nov.* found generally from the Atherton Tableland and north in far north Queensland, is readily separated from the other five species by the following suite of characters: A continuous jagged lighter line running down the middle of the back with obvious white spots on the jagged edges; an absence of a conspicuous dark patch posterior to the crown, dense and even spotting or flecks on the limbs, mild yellowing in the colour of the tail (original tails).

*Celertenues bobbottomi sp. nov.* from the tropical top end of the Northern Territory, is readily separated from the five other species by the following suite of characters: The jagged light line running down the centre of the back is punctuated by strong darker intrusions, the tail has a weak yellowish tinge, and in

common with *C. obscura* but no other species, the dark line running from the eye along the back of the head and neck, is not distinct and well defined, but instead is an obscure and irregular zone of mottled dark and light pigment.

*C. obscura* is readily separated from *C. bobbottomi* sp. nov. by dorsal pattern, the former having a pattern of distinctive dorsal crossbands, not seen in the latter.

The other species formerly placed in the genus *Amalosis*, that are all now placed in the genus *Celertenues* gen. nov. are all readily separated from *Amalosis* including *A. jacobae* by having a tail that is cylindrical in cross section as opposed to being noticeably depressed.

**Distribution:** *Celertenues evanwhittoni* sp. nov. is found from the Atherton Tableland in the south northwards to far north Queensland

**Etymology:** Named in honour of Evan Whitton of Sydney, New South Wales, Australia in recognition of his significant contributions to the exposure of organised crime in Australia, including through his many definitive books. As of early 2017, he is a columnist with the online legal journal *Justinian*. A summary of his books and other relevant publications (many of which can be downloaded in full), can be found at: <http://netk.net.au/whittonhome.asp>.

#### **CELERTUNUES HELENGRASSWILLAE SP. NOV.**

**Holotype:** A preserved specimen in the South Australian Museum in Adelaide, South Australia, Australia, specimen number: R55604 collected at Gladstone in Eastern Queensland, Australia, Latitude -24.33 S., Longitude 150.94 E. The South Australian Museum in Adelaide, South Australia, Australia is a government-owned facility that allows access to its holdings.

**Paratype:** A preserved specimen in the South Australian Museum in Adelaide, South Australia, Australia, specimen number: R34513 collected at James Cook University, Townsville, Queensland, Australia, Latitude -19.27 S., Longitude 146.82 E.

**Diagnosis:** The species *Celertenues helengrasswillae* sp. nov. has until now been treated as a regional population of *C. rhombifer* (Gray, 1854) and the proper diagnosis of this taxon must be in the context of separating all five relevant species as formally defined within this paper.

These are species all formerly treated as being within the genus *Oedura* Gray, 1842, or more recently, *Amalosis* Wells and Wellington, 1984. Prior to this date, two were formally named and recognized, while three new to science are formally named herein.

In total the five species are: *Celertenues rhombifer* (Gray, 1845), *C. bobbottomi* sp. nov., *C. evanwhittoni* sp. nov., *C. helengrasswillae* sp. nov. and *C. obscura* (King, 1984).

From Gray's original description of *C. rhombifer* (Gray, 1845), it is self-evident that the specimen's provenience was the Kimberley division of Western Australia as this population alone fits the description.

All five species of *Celertenues* can be readily separated from one another on the basis of consistent colour differences, even though otherwise all are morphologically similar and otherwise hard to separate from one another based on hasty external observation.

*C. rhombifer* (Gray, 1845) as defined herein and generally confined to Kimberley division of Western Australia is readily separated from all other taxa in the genus by a distinct pattern of large light coloured rhomboidal blotches running down the middle of the back. With the exception of *C. obscura* (King, 1984), and the morphologically similar *Amalosis jacobae* (Couper, Keim and Hoskin, 2007), in all other species in this genus lighter blotches down the back are always joined to become merged. In *C. rhombifer* (Gray, 1845) at least some of the blotches in the middle of the back are separated by thin sections of darkened pigment, this being unique to the species. *Celertenues obscura* (King, 1984) from north-west Western

Australia is the only taxon in the genus with a dorsal pattern of alternating dark and light cross bands that are distinct and well-defined. The (original) tail of *C. obscura* is unique among the species in that it is brilliant deep yellow in colour with limited darker flecks or patches of small size.

*Celertenues helengrasswillae* sp. nov. from Queensland in the coastal and near coastal region south of the Paluma Range in the North to Kroombit Tops in the south is readily separated from the other five species by the following combination of traits: A lighter mid dorsal stripe bounded by dark pigment and with regular jagged edges, dark coloured (blackish) limbs with irregular brown and/or light brown flecks or patches and a distinctive characteristic dark patch of large size surrounded by pale pigment at the rear of the crown, not seen in any other species with the occasional exception of some specimens of the morphologically similar *Amalosis jacobae* (Couper, Keim and Hoskin, 2007).

The morphologically similar *Amalosis jacobae* (Couper, Keim and Hoskin, 2007) from south-east Queensland, generally south of Fraser Island is readily separated from all other species in *Celertenues* gen. nov. by the presence of broken light coloured spots on the dorsal surface of the back with obscure boundaries.

*Celertenues evanwhittoni* sp. nov. found generally from the Atherton Tableland and north in far north Queensland, is readily separated from the other five species by the following suite of characters: A continuous jagged lighter line running down the middle of the back with obvious white spots on the jagged edges; an absence of a conspicuous dark patch posterior to the crown, dense and even spotting or flecks on the limbs, mild yellowing in the colour of the tail (original tails).

*Celertenues bobbottomi* sp. nov. from the tropical top end of the Northern Territory, is readily separated from the five other species by the following suite of characters: The jagged light line running down the centre of the back is punctuated by strong darker intrusions, the tail has a weak yellowish tinge, and in common with *C. obscura* but no other species, the dark line running from the eye along the back of the head and neck, is not distinct and well defined, but instead is an obscure and irregular zone of mottled dark and light pigment.

*C. obscura* is readily separated from *C. bobbottomi* sp. nov. by dorsal pattern, the former having a pattern of distinctive dorsal crossbands, not seen in the latter.

The other species formerly placed in the genus *Amalosis*, that are all now placed in the genus *Celertenues* gen. nov. are all readily separated from *Amalosis* including *A. jacobae* by having a tail that is cylindrical in cross section as opposed to being noticeably depressed.

**Distribution:** *Celertenues helengrasswillae* sp. nov. is found in Queensland, Australia in the coastal and near coastal region south of the Paluma Range in the North to Kroombit Tops in the south.

**Etymology:** Named in honour of Helen Grasswill, of Sydney, New South Wales, Australia, being ABC TV journalist with a career spanning four decades in honour of her significant contributions to wildlife conservation and journalism as outlined in the book *Smuggled-2: Wildlife Trafficking, Crime and Corruption in Australia* (Hoser, 1996).

#### **AMALOSIA ALEXANDERDUDLEYI SP. NOV.**

**Holotype:** A preserved specimen in the Australian Museum, Sydney, NSW, Australia, specimen number: R.159546, collected at the Moonbi Lookout, Moonbi Ranges, New South Wales, Australia, Latitude -30.99 S., Longitude 151.08 E.

The Australian Museum, Sydney, NSW, Australia is a government-owned facility that allows access its holdings.

**Paratype:** A preserved specimen in the Australian Museum, Sydney, NSW, Australia, specimen number: R.159547, collected at the Moonbi Lookout, Moonbi Ranges, New South Wales, Australia, Latitude -30.99 S., Longitude 151.08 E.

**Diagnosis:** Until now, all of *Amalosia alexanderdudleyi* sp. nov., *A. phillipsi* Wells and Wellington, 1984 and *A. lesueurii* Duméril and Bibron, 1836 have been treated as being of the one species by all authors except for Wells and Wellington, who recognized two of the three species.

All are separated by allopatric distributions and can be differentiated by their DNA.

All can be readily separated from one another the following suites of characters: *A. lesueurii* Duméril and Bibron, 1836 has a generally greyish ground colour as opposed to brownish grey in both *A. phillipsi* and *A. alexanderdudleyi* sp. nov.. *A. alexanderdudleyi* sp. nov. and *A. lesueurii* have distinctive white patches on the upper labials which are absent in *A. phillipsi*. *A. phillipsi* is characterised by a dorsal pattern of large pale heart shaped blotches running down the middle of the back, most if not all separated from one another and prominently bounded by dark pigment. By contrast in *A. alexanderdudleyi* sp. nov. these mid-dorsal blotches are shrunken in size, being medium, with distinct brownish centres and all or mainly joined to give a distinct vertebral zig-zag pattern. In *A. lesueurii* the dorsal blotches are small to medium and lack any brown in the centres of them.

The flanks of *A. phillipsi* are characterised by a noticeable pattern of irregular whiteish squares or whitish blotches or large spots and without dark centres. In *A. alexanderdudleyi* sp. nov. the flanks are characterised by white ocelli with some or most being characterised by dark blackish-grey spots of varying size in the centre of each, as in one dark spot in the centre of the relevant ocelli. In *A. lesueurii* the flanks consist of a relatively indistinct flecked appearance being composed of dark grey and light grey flecking but without any obvious pattern.

Most of the upper surface of the head of *A. phillipsi* is covered in lighter pigment, even when including dark pigment concentrated near the centre of the dorsal surface. *A. alexanderdudleyi* sp. nov. has more dark pigment than light on the upper surface of the head. In *A. lesueurii* pigment on the head varies widely with locality and within locality, but usually hovers in the range of about half dark and half light pigment.

All three species are characterised as having vertebral zone characterised by pale blotches, zig-zag or similar, edged with dark brown or black running in combination more or less continuously. The tail is noticeably depressed. The species *A. jacovae* Couper, Keim and Hoskin, 2007 is most similar to *A. phillipsi* for which there has been speculation that it may be conspecific, but it is separated from the latter taxon by an absence of irregular whiteish squares or whitish blotches or large spots, being without dark centres on the flanks. The flanks of *A. jacovae* merely grade from dark grey to light and without any obvious spots or markings. The other species formerly placed in the genus *Amalosia*, that are all now placed in the genus *Celertenues* gen. nov. are all readily separated from *Amalosia* including *A. jacovae* by having a tail that is cylindrical in cross section as opposed to being noticeably depressed.

In the unlikely event that a later author finds *A. phillipsi* Wells and Wellington, 1984 and *A. jacovae* Couper, Keim and Hoskin, 2007 to be conspecific, it is the earlier name that takes priority and must be used.

**Distribution:** *Amalosia alexanderdudleyi* sp. nov. is found in the lower New England Tableland in New South Wales, Australia in a region generally bounded by the Hunter Valley in the south and a broad line running from Inverell in the West, across to Glen Innes in the east. The uplands region north of here has the morphologically similar *A. phillipsi* Wells and Wellington, 1985, while *A. lesueurii* is confined to the sandstone regions of Sydney, including the mountains to the west and south of Sydney.

**Etymology:** The taxon *Amalosia alexanderdudleyi* sp. nov. is named after Alexander Dudley, originally of Kenthurst, NSW, Australia but who has since moved to various locations, in recognition of more than 4 decades of herpetological work

across Australia, including significant fieldwork on geckos within *Oedura sensu lato*.

**MARLENEGECKO TRYONI EUNGELLAENSIS SUBSP. NOV.**

**Holotype:** A preserved specimen in the Queensland Museum, Brisbane, Queensland, Australia, specimen number: J60613, collected at the Eungella township, Queensland, Australia, Latitude -21.13 S., Longitude 148.48 E.

The Queensland Museum, Brisbane, Queensland, Australia, is a government-owned facility that allows access to its holdings by scientists.

**Paratypes:** 1/ A preserved specimen in the Queensland Museum, Brisbane, Queensland, Australia, specimen number: J71507, collected at the picnic ground shed at Eungella National Park, Queensland, Australia, Latitude -21.17 S., Longitude 148.50 E.

2/ A preserved specimen in the Queensland Museum, Brisbane, Queensland, Australia, specimen number: J71216, collected at the Eungella National Park, Queensland, Australia, Latitude -21.17 S., Longitude 148.50 E.

**Diagnosis:** Until now *Marlenegecko tryoni eungellaensis* subsp. nov. from the Mackay region in north Queensland has been treated as an outlier population of the species *Marlenegecko tryoni* (De Vis, 1884) (formerly known as *Oedura tryoni* De Vis, 1884), as has another subspecies described herein, namely *Marlenegecko tryoni davidcharitoni* subsp. nov. from the escarpments west and south-west of Rockhampton, Queensland.

The nominate form of the species, namely *Marlenegecko tryoni tryoni* comes from Stanthorpe in Queensland, which is regarded herein as the typical form of the species.

This form ranges from North of the Hunter Valley in New South Wales, into southern Queensland, north to about Pine Creek and Bilolela and in various other locations southwest of Bilolela. Morphologically specimens throughout this range share a number of consistent traits.

Molecular data also implies minimal divergence between relevant populations in New South Wales and southern Queensland (Moonbi Range and Tenterfield diverged at less than 2 MYA) and that in the absence of an obvious barrier between those populations, none within this zone currently require any form of taxonomic recognition.

In terms of the species described as *Oedura ocellata*, by Boulenger (1885), which had a given type locality of "Australia", I can say that based on the nature of the yellow spots depicted on the body and limbs and their relative size in the image with the description (plate ix Fig. 1), it is clear that it is a specimen of the typical form of *M. tryoni tryoni*.

Hence "*O. ocellata*" is a subjective junior synonym of "*O.* (or *M.*) *tryoni*" and therefore at the present time is not an available name for other morphologically divergent populations described herein.

In terms of separating the three relevant taxa, the following traits are relevant.

Nominate *M. tryoni tryoni* is readily characterised by having numerous small yellow or white spots on the neck, body and limbs. The dorsal colour is mainly greyish brown.

By contrast both *M. tryoni eungellaensis* subsp. nov. and *Marlenegecko tryoni davidcharitoni* subsp. nov. are characterised by being reddish brown in dorsal colour as opposed to mainly greyish brown.

Both populations are also readily distinguished from *M. tryoni tryoni* by the relatively larger light spots or ocelli on the upper body, these being by far the largest in the Eungella (Mackay) population, herein identified as *M. tryoni eungellaensis* subsp. nov.

*M. tryoni eungellaensis* subsp. nov. specimens are also readily separated from the other two populations by a general absence

of whitish spots or ocelli on the any of the limbs, which is the standard condition in all other populations, being most prevalent on the limbs in New South Wales lizards.

*M. tryoni eungellaensis* subsp. nov. is unique among the trio in having the region between the eye and the nostril on each side being a uniform dark brown colour as opposed to light brown or mottled in the other two subspecies.

In *M. tryoni eungellaensis* subsp. nov. the oversized light ocelli adorning the dorsal surface, besides being large as opposed to smaller in both other subspecies are invariably a faint greyish-salmon-yellow colour as opposed to being bright yellow or cream in the other subspecies. The limbs of *M. tryoni eungellaensis* subsp. nov. have dark brown and light brown pigment on them, but no white or yellow spots or ocelli as seen in the other subspecies.

In both *M. tryoni eungellaensis* subsp. nov. and *M. tryoni davidcharitoni* subsp. nov. more than half the bright spots or ocelli on the back merge in some way, versus less than half in *M. tryoni tryoni*.

While *M. tryoni eungellaensis* subsp. nov. lacks white or yellow spots or ocelli on any of the limbs, in *M. tryoni davidcharitoni* subsp. nov. there are a small number of such spots on the forelimbs and they are numerous on the hindlimbs. These spots are numerous on both fore and hindlimbs in nominate *M. tryoni tryoni*.

Both *M. tryoni eungellaensis* subsp. nov. and *M. tryoni davidcharitoni* subsp. nov. are characterised by significant whitening of the toes, versus purplish brown toes in *M. tryoni tryoni*.

The general nature of the lighter spotting on the back of each subspecies readily separates them. While these are variable in all subspecies, in *M. tryoni tryoni* the majority present as small white spots, with a significant number either merged or presenting as oval shaped or vaguely rectangular. In *M. tryoni davidcharitoni* subsp. nov., besides being larger than mere "dots" most dots or ocelli are joined to be either rectangular or ovoid. In *M. tryoni eungellaensis* subsp. nov. the same pale spots are enlarged to be of generally ovoid, but irregular shape and unlike the other two subspecies, in this subspecies light dorsal patches are of similar size (surface area) to the eye.

The species *M. tryoni* is readily separated from all other *Oedura*, *Fiacumminggecko* gen. nov. and *Marlenegecko* gen. nov. species by the following characters: Dorsal pattern of ocelli, these being generally smaller than the eye or if the same size as the eye, not noticeably larger than the eye, and not in a paired configuration down the back, although sometimes spots or ocelli may form broken crossbands, interorbitals 18-19 or more and mid body scale rows exceed 95, and while rarely one or other count may be lower than these, the other will not be.

**Distribution:** *Marlenegecko tryoni eungellaensis* subsp. nov. is found within the Eungella National Park, Queensland, Australia and immediately adjacent areas, near the township of Mackay in Queensland, Australia only. The known southern limit for this taxon is Cameron Ck, South-west of Sarina, Queensland, Latitude -21.59 S., Longitude 149.18 E.

**Etymology:** Named in reflection of where the holotype was collected and in recognition of the relatively restricted range of this taxon in that it is found within the Eungella National Park, Queensland, Australia and immediately adjacent areas, near the township of Mackay in Queensland, Australia only.

**MARLENEGECKO TRYONI DAVIDCHARITONI SUBSP. NOV.**

**Holotype:** A preserved specimen in the Queensland Museum, Brisbane, Queensland, Australia, specimen number: J38742, collected at Mimosas at the Blackdown Tableland, Queensland, Australia, Latitude -23.80 S., Longitude 149.13 E.

The Queensland Museum, Brisbane, Queensland, Australia, is a government-owned facility that allows access to its holdings by scientists.

**Paratypes:** Three more preserved specimens in the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers: J34211, J28499 and J65591 also collected at the Blackdown Tableland, Queensland, Australia, Latitude -23.80 S., Longitude 149.13 E.

**Diagnosis:** Until now *Marlenegecko tryoni davidcharitoni* subsp. nov. from the escarpments west and south-west of Rockhampton, Queensland has been treated as an outlier population of the species *Marlenegecko tryoni* (De Vis, 1884) (formerly known as *Oedura tryoni* De Vis, 1884), as has another subspecies described herein, namely *Marlenegecko tryoni eungellaensis* subsp. nov. from the Mackay region in north Queensland.

The nominate form of the species, namely *Marlenegecko tryoni tryoni* comes from Stanthorpe in Queensland, which is regarded herein as the typical form of the species.

This form ranges from North of the Hunter Valley in New South Wales, into southern Queensland, north to about Pine Creek and Bilolela and in various other locations southwest of Bilolela. Morphologically specimens throughout this range share a number of consistent traits and so are treated herein as a single subspecies level taxon.

Nominate *M. tryoni tryoni* is readily characterised by having numerous small yellow or white spots on the neck, body and limbs. The dorsal colour is mainly greyish brown.

By contrast both *M. tryoni eungellaensis* subsp. nov. and *Marlenegecko tryoni davidcharitoni* subsp. nov. are characterised by being reddish brown in dorsal colour as opposed to mainly greyish brown.

Both populations are also readily distinguished from *M. tryoni tryoni* by the relatively larger light spots or ocelli on the upper body, these being by far the largest in the Eungella (Mackay) population, herein identified as *M. tryoni eungellaensis* subsp. nov..

*M. tryoni eungellaensis* subsp. nov. specimens are also readily separated from the other two populations by a general absence of whitish spots or ocelli on the any of the limbs, which is the standard condition in all other populations, being most prevalent on the limbs in New South Wales lizards.

*M. tryoni eungellaensis* subsp. nov. is unique among the trio in having the region between the eye and the nostril on each side being a uniform dark brown colour as opposed to light brown or mottled in the other two subspecies.

In *M. tryoni eungellaensis* subsp. nov. the oversized light ocelli adorning the dorsal surface, besides being large as opposed to smaller in both other subspecies are invariably a faint greyish-salmon-yellow colour as opposed to being bright yellow or cream in the other subspecies. The limbs of *M. tryoni eungellaensis* subsp. nov. have dark brown and light brown pigment on them, but no white or yellow spots or ocelli as seen in the other subspecies.

In both *M. tryoni eungellaensis* subsp. nov. and *M. tryoni davidcharitoni* subsp. nov. more than half the bright spots or ocelli on the back merge in some way, versus less than half in *M. tryoni tryoni*.

While *M. tryoni eungellaensis* subsp. nov. lacks white or yellow spots or ocelli on any of the limbs, in *M. tryoni davidcharitoni* subsp. nov. there are a small number of such spots on the forelimbs and they are numerous on the hindlimbs. These spots are numerous on both fore and hindlimbs in nominate *M. tryoni tryoni*.

Both *M. tryoni eungellaensis* subsp. nov. and *M. tryoni davidcharitoni* subsp. nov. are characterised by significant whitening of the toes, versus purplish brown toes in *M. tryoni tryoni*.

The general nature of the lighter spotting on the back of each subspecies readily separates them. While these are variable in all subspecies, in *M. tryoni tryoni* the majority present as small

white spots, with a significant number either merged or presenting as oval shaped or vaguely rectangular. In *M. tryoni davidcharitoni* subsp. nov., besides being larger than mere "dots" most dots or ocelli are joined to be either rectangular or ovoid. In *M. tryoni eungellaensis* subsp. nov. the same pale spots are further enlarged to be of generally ovoid, but irregular in shape and unlike the other two subspecies, in this subspecies numerous light dorsal patches are of similar size (surface area) to the eye (which incidentally contradicts the diagnosis for the species "*Oedura tryoni*" in Cogger (2014).

The species *M. tryoni* is readily separated from all other *Oedura*, *Fiacumminggecko* gen. nov. and *Marlenegecko* gen. nov. species by the following characters: Dorsal pattern of ocelli, these being generally smaller than the eye or if the same size as the eye, not noticeably larger than the eye, and not in a paired configuration down the back, although sometimes spots or ocelli may form broken crossbands, interorbitals 18-19 or more and mid body scale rows exceed 95, and while rarely one or other count may be lower than these, the other will not be (adapted and modified from Cogger (2014).

**Distribution:** *Marlenegecko tryoni davidcharitoni* subsp. nov. is found within the region encompassed by the escarpments west and south-west of Rockhampton, Queensland, in particular the Blackdown Tableland about 50 km in a straight line west, south-west of Rockhampton.

Specimens from north of Cameron Ck, South-west of Sarina, Queensland, Latitude -21.59 S., Longitude 149.18 E. are referable to the subspecies *M. tryoni eungellaensis* subsp. nov. while those found south of Pine Creek and Bilolela and through south-east Queensland and into northern New South Wales, north of the Hunter River Valley are referable to the subspecies *M. tryoni tryoni*.

**Etymology:** Named in honour of David Chariton of Sydney, New South Wales, Australia who in the 1970's and early 1980's assisted me with some very intensive herpetological fieldwork in the greater Sydney region.

#### **NEBULIFERA ROBUSTA MERCEICAI SUBSP. NOV.**

**Holotype:** A preserved specimen in the Queensland Museum, Brisbane, Queensland, Australia, specimen number: J44338, collected at the Blackdown Tableland, Queensland, Australia, Latitude -23.80 S., Longitude 149.13 E.

The Queensland Museum, Brisbane, Queensland, Australia, is a government-owned facility that allows access to its holdings by scientists.

**Paratypes:** Three more preserved specimens in the Queensland Museum, Brisbane, Queensland, Australia, specimen numbers: J44339, J80446, J34210, all collected in the same general vicinity of the Blackdown Tableland, Queensland, Australia, Latitude -23.80 S., Longitude 149.13 E.

**Diagnosis:** *Nebulifera robusta merceicai* subsp. nov. has until now been treated as a population of *Nebulifera robusta* (Boulenger, 1885), which it would otherwise be identified as.

*N. robusta merceicai* subsp. nov. is separated from *N. robusta robusta* by the following characters: In *N. robusta merceicai* subsp. nov. the dorsal pattern is one of largeish creamy blotches separated by large areas of dark brown pigment. The light blotches of irregular shape are well separated by darker pigment, with dark pigment occupying about half the upper surface of the medial line of the back. By contrast in *N. robusta robusta* the pattern along the medial line of the back is one of very large irregular ovoid blotches tightly bounded by dark brown or blackish pigment. In some specimens of *N. robusta robusta* these blotches merge to give a zig-zag appearance, this trait being most common in specimens from near the coast in south-east Queensland and far northern New South Wales, but is seen throughout much of the range of the nominate subspecies.

In *N. robusta robusta* the mid and lower flanks of the body are generally whiteish, with the boundary from the dark pigment completely surrounding the lighter blotches on the upper body

(as a thickened line) being well defined. By contrast in *N. robusta merceicai* subsp. nov. the transition from the dark pigment on the upper surface to the lighter flanks is not well defined or obvious. Furthermore, in *N. robusta merceicai* subsp. nov. the middle and lower flanks are strongly peppered, pretty much to the belly and with occasional dark flecks or spots, neither trait of which is seen in the nominate subspecies.

*N. robusta robusta* has minimal dark or dark brown pigment on the dorsal surface of the snout anterior to the eyes, whereas the reverse is the case in *N. robusta merceicai* subsp. nov. which has 50 per cent or more dark brown pigment in that area.

The dark streak running from the eye to the back of the head is usually straight in *N. robusta robusta* and invariably of even thickness along its length, even if interrupted or bent. By contrast the same line in *N. robusta merceicai* subsp. nov. is punctuated by indentations of light pigment or general inflections and is of uneven thickness along its length, becoming wider posteriorly, and this widening is before this streak joins and merges with a dark crossband running across the back of the skull (an occipital band).

The genus *Nebulifera* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012 which includes only the species *N. robusta* is separated from all other Australian geckos by the following suite of characters: The digits have two pairs on enlarged subdigital lamellae (excluding enlarged apical plates); at least some digits have claws, a distal pair of enlarged plates on the lower surface of each digit, quite distinct from and discontinuous with the remaining subdigital lamellae or tubercles; dorsal scales are minute, granular and noticeably smaller than the ventrals; two or more enlarged post-anal tubercles on each side; A dark dorsolateral zone or band on each side of the body commencing as a line from the rear of the eye, extending to the beginning of the tail, forming a distinctive zone of dark pigment on the upper flanks, the two bands more-or less joined by a series of partial or complete transverse bars (the first usually complete across the occiput), so as to enclose a series of irregular greyish pale coloured dorsal blotches that may be rhomboidal, ovoid or irregular in shape and are usually large with their boundaries either close to one another and sometimes connecting or fusing to merge; there is a usually complete dark occipital band; the tail is depressed being noticeably wider than deep and the size attained is up to about 110 mm snout vent length and the build is stout making the lizards appear larger and more robust than their snout-vent measurements would indicate.

**Distribution:** *Nebulifera robusta merceicai* subsp. nov. is apparently restricted to the Blackdown Tableland National Park situated about 80 km straight line west, south west of Rockhampton in Queensland and areas immediately to the south in nearby parts of Queensland, Australia.

**Etymology:** Named in honour of David Merceica, formerly of Victoria and now of the Sunshine Coast in Queensland, Australia in recognition of some decades of excellent captive breeding work with Australian reptiles.

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**CONFLICT OF INTEREST**

The author has no known conflicts of interest in terms of this paper and conclusions within.

## New arrangement in tribe Fiacummingeckoini tribe nov.

**Genus *Oedura* Gray, 1842**

*Oedura marmorata* Gray, 1842 (Type species)

*Oedura bella* Oliver and Doughty, 2016

*Oedura bulliardi* sp. nov.

*Oedura cincta* De Vis, 1888

*Oedura derelicta* Wells and Wellington, 1985

*Oedura fimbria* Oliver and Doughty, 2016

*Oedura gemmata* King and Gow, 1983

*Oedura greeri* Wells and Wellington, 1985 (*Oedura lurtija* Oliver and McDonald, 2016 is an illegally coined junior synonym of this)

*Oedura rentonorum* sp. nov.

**Subgenus *Fereoedura* subgen. nov.**

*Oedura (Fereoedura) filicipoda* King, 1985 (Type species)

*Oedura (Fereoedura) murrumanu* Oliver, Laver, Melville and Doughty, 2014

**Genus *Fiacummingecko* gen. nov.**

*Fiacummingecko fiacummingae* sp. nov. (Type species)

*Fiacummingecko charlespiersoni* sp. nov.

*Fiacummingecko dorisioi* sp. nov.

*Fiacummingecko gracilis* (King, 1985)

*Fiacummingecko julianfordi* sp. nov.

*Fiacummingecko matteoae* sp. nov.

*Fiacummingecko richardwellsi* sp. nov.

*Fiacummingecko rosswellingtoni* sp. nov.

**Genus *Marlenegecko* gen. nov.**

*Marlenegecko shireenhoserae* sp. nov. (Type species)

*Marlenegecko attenboroughi* (Wells and Wellington, 1985)

*Marlenegecko monilis* (De Vis, 1888)

*Marlenegecko tryoni* (De Vis, 1884)

**Subgenus *Robwatsongecko* subgen. nov.**

*Marlenegecko (Robwatsongecko) castelnaui* (Thominot, 1889) (Type species)

*Marlenegecko (Robwatsongecko) coggeri* (Bustard, 1966)

*Marlenegecko (Robwatsongecko) jowalbinna* (Hoskin and Higgie, 2008)

**Genus *Amalosis* Wells and Wellington, 1984.**

*Amalosis lesueurii* (Duméril and Bibron, 1836) (Type species)

*Amalosis alexanderdudleyi* sp. nov.

*Amalosis jacovae* (Couper, Keim and Hoskin, 2007)

*Amalosis phillipsi* Wells and Wellington, 1984

***Celertenues* gen. nov. (Fast and thin in latin)**

*Celertenues bobbottomi* sp. nov. (Type species)

*Celertenues evanwhittoni* sp. nov.

*Celertenues helengrasswillae* sp. nov.

*Celertenues obscura* (King, 1984)

*Celertenues rhombifer* (Gray, 1845)

**Genus *Hesperoedura* Oliver, Bauer, Greenbaum, Jackman and Hobbie, 2012.**

*Hesperoedura reticulata* (Bustard, 1969) (Monotypic)